



748 Park Ave.  
Huntington, NY 11743

877.ICC.8788



**Red Light Green Light™ Product Quality Timer™**

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**PROGRAMMING  
HOLD TIMES, COOK TIMES  
AND  
PAN LINKING  
WITH  
DIGITAL KEYBOARDS/DAYPART  
FOR  
1 HIGH X 4-WIDE DOWN ONLY WARMERS**

157530A

## Operation Guide

The HOLD time is the specified time a cooked product may be held in the warmer.

The COOK time is the specified time it takes to cook a product.

“Use first indicators” apply to products in LINKed pans.

When freshly cooked product is placed in a warmer, touch the corresponding button on the Pan Status Keyboard. The light will turn GREEN and the display will show the HOLD time.

**GREEN = Use this product first. This product will expire first.**

When freshly cooked product is placed in a LINKed pan (see programming guide), press the corresponding button and the light will first turn GREEN, then YELLOW, and the display will show the HOLD time.

**YELLOW = Newer product in pan; use other pan first.**

When the HOLD time reaches the COOK time the light and display will flash, and an audible alarm will sound. Press the corresponding button to stop flashing display and audible alarm. The light will continue to flash GREEN or YELLOW. If the same button is pressed again, the light will turn RED and the time will reset to 0.

**FLASHING GREEN or YELLOW = Start cooking; product is about to expire.**

When the HOLD time reaches 0 the light will flash RED and an audible alarm will sound.

Discard the appropriate product in the waste pail and press the corresponding button. The light will turn RED and the audible alarm will stop.

**FLASHING RED = Product is expired.**

**RED = No product present in this pan.**

**NO LIGHT = No product required in this pan. No product should be placed in this pan. If this button is pressed, the light will turn RED for 2 seconds and then go out (see programming guide, hold time is 0).**

## Daypart Function

The Product Quality Timer system can store and recall up to three Daypart Menus. The Menus are stored in the memory of the Station Interface Unit and are NOT lost when the Unit is powered down.

To program the Menus, simply press the Daypart Button on the Keyboard on one of the warmers until the desired indicator is displayed (I, II, or III). When you change Dayparts on one warmer, all warmers connected will change and all Keyboards will indicate such. Program the HOLD times, COOK times and pan LINK settings using the Keyboard or Palm Pilot, as outlined in the Programming Guide.

To change Dayparts during normal operation, press the Daypart Button and the Indicator will advance. All times for existing Product will continue to count down based on the previous Daypart. Once the Product is used or expired, the new Daypart times and LINK settings are used.

# Manual Programming Guide

The buttons, lights (LEDs), and displays on the Pan Status Keyboards of the warmer can be used to modify the HOLD time, COOK time, and pan LINK settings. HOLD time, COOK time, and pan LINK settings can also be modified using a Palm PDA.

Using the keyboard, you can set the HOLD times in each pan between 5 minutes and 9½ hours in 5-minute increments up to 4 hours and in 30-minute increments after 4 hours. You can set the COOK times in each pan up to 9½ hours, in 1-minute increments up to 10 minutes, in 5-minute increments between 10 minutes and 4 hours, and in 30-minute increments after 4 hours. Additionally, you can change which pans are LINKed with regard to “use first indicators.”

In order to program HOLD or COOK times and change which pans are LINKed, you must be on the front side of the warmer.

**NOTE: While programming, only one person may press buttons on the warmer, and all timers will be turned off.**

## **A. Programming HOLD Times:**

1. Stand on the front side of the warmer you desire to program. Make sure the unit is in the Daypart that you want to program. Simultaneously press the **leftmost and 2<sup>nd</sup> from left** buttons on the keyboard (see Figure 1). Notice that the leftmost light on the keyboard is FLASHING RED. The leftmost digital display will indicate the current HOLD time for this pan, alternating between hours and minutes if the HOLD time is greater than 95 minutes. All other displays will be blank. This indicates you are programming pan 1.

To modify the HOLD time:

The **2<sup>nd</sup> from right** button on the keyboard - **Increases** the HOLD time by 5 minutes up to 4 hours, and by 30 minutes above 4 hours.

The **rightmost** button on the keyboard - **Decreases** the HOLD time by 5 minutes up to 4 hours, and by 30 minutes above 4 hours.

2. To advance to the next pan, press the **leftmost** button on the keyboard. The next pan's light will be FLASHING RED and the corresponding digital display will indicate the HOLD time. All other displays will be blank.
3. To exit the HOLD time programming mode, press the **leftmost and 2<sup>nd</sup> from left** buttons on the keyboard simultaneously and release. All pans with HOLD times greater than ZERO will display 0 and a RED light. Pans with a HOLD time equal to ZERO have a blank display and do not light. Product should not be placed in those pans.

## **B. Programming COOK Times:**

1. Stand on the front side of the warmer you desire to program. Make sure the unit is in the Daypart that you want to program. Simultaneously press the **leftmost and 2<sup>nd</sup> from right** buttons on the keyboard (see Figure 1). Notice that the leftmost light on the keyboard is FLASHING RED. The leftmost digital display will indicate the current COOK time for this pan, alternating between hours and minutes if the COOK time is greater

than 95 minutes. All other displays will be blank. This indicates you are programming pan 1.

To modify the COOK time:

The **2<sup>nd</sup> from right** button on the keyboard - **Increases** the COOK time by 1 minute between 0 and 10 minutes, by 5 minutes between 10 minutes and 4 hours, and by 30 minutes above 4 hours.

The **rightmost** button on the keyboard - **Decreases** the COOK time by 1 minute between 0 and 10 minutes, by 5 minutes between 10 minutes and 4 hours, and by 30 minutes above 4 hours.

2. To advance to the next pan, press the **leftmost** button on the keyboard. The next pan's light will be FLASHING RED and the corresponding digital display will indicate the COOK time. All other displays will be blank.
3. To exit the COOK time programming mode, first press and hold the **leftmost** button, then press and hold the **2<sup>nd</sup> from right** button and release both simultaneously. All pans with HOLD times greater than ZERO will display 0 and a RED light. Pans with a HOLD time equal to ZERO have a blank display and do not light. Product should not be placed in those pans.

### C. LINK Pans Configuration:

LINKing pans allows the "use first indicators" to display properly.

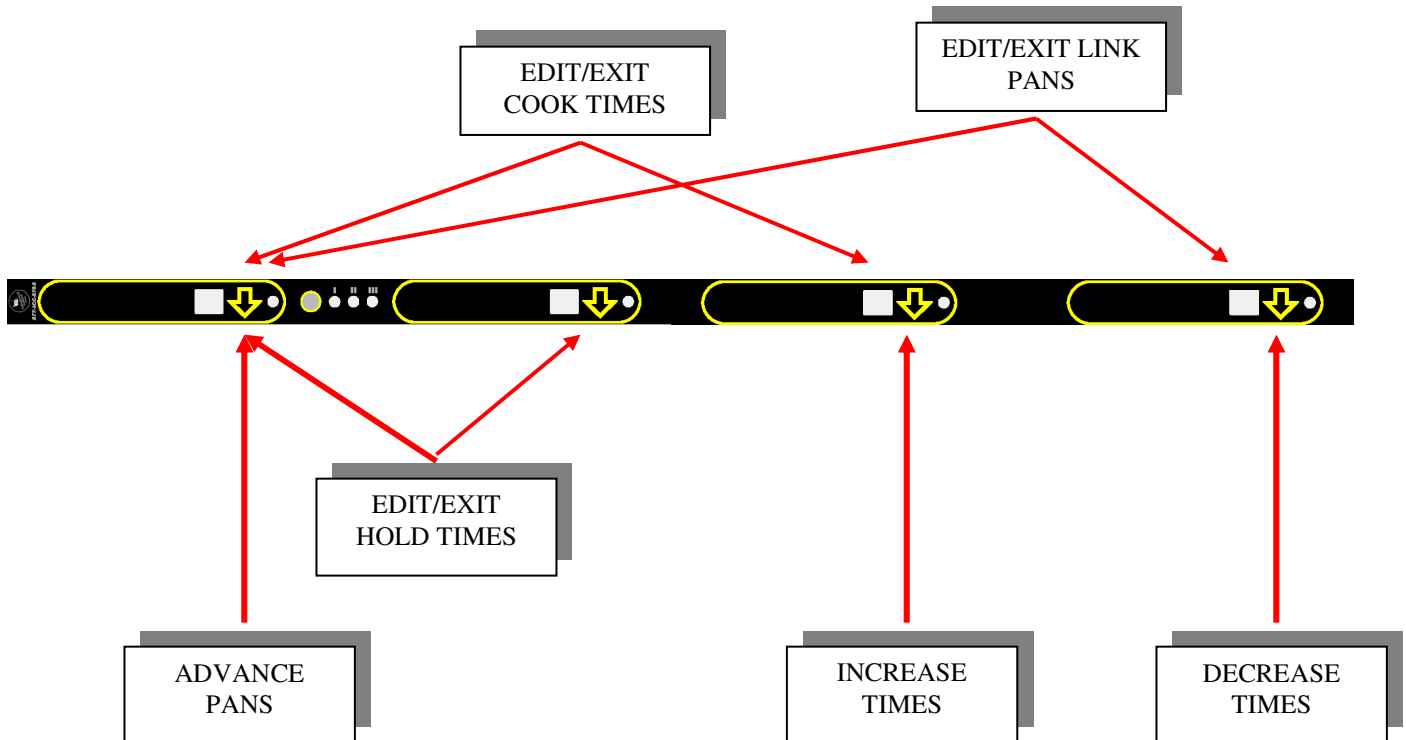
1. Stand on the front side of the warmer you desire to program. Make sure the unit is in the Daypart that you want to program. Simultaneously press the **leftmost and rightmost** buttons on the keyboard (see Figure 1). Notice that the leftmost light on the keyboard is RED and that all four displays are blank. This indicates you are in pan LINKing mode and that the current pan to be linked with is pan 1. The other lights turn GREEN for pans on the keyboard that are linked with pan 1. The lights for pans not linked with pan 1 will be OFF.
2. To LINK to the current pan, press the button corresponding to a light that is OFF. The light will turn GREEN and that pan will be LINKed to the current active pan. To unLINK from the current pan, press the button corresponding to a GREEN light. The light will go out and that pan will be unLINKed from the current active pan.
3. To advance to the next pan, press the **leftmost** button on the keyboard. The next pan's light will be RED and the other lights turn GREEN for pans on the keyboard that are LINKed with that pan. The lights for pans not LINKed with that pan will be OFF.

**Note:** Since the **leftmost** button is used to advance pans, you cannot LINK or unLINK the **leftmost** pan from any other pan. To LINK or unLINK the first pan, you must LINK or unLINK other pans to or from it when programming the first pan.

4. To exit the pan LINKing mode, first press and hold the **leftmost** button, then press and hold the **rightmost** button and release both simultaneously.



**Figure 1 – Editing Mode Button Sequences**



## Default Settings

1. To revert to the defaults for HOLD time, COOK time and pan LINKing:
  - a. Power down the Station Interface Unit.
  - b. Stand on the front side of Warmer 1.
  - c. Simultaneously press and hold **all 4** buttons on the front Warmer 1 keyboard.
  - d. Power up the Station Interface Unit.
  - e. Release the buttons.
2. The default settings are the same for every pan in all three warmers in all three Dayparts.
  - a. HOLD time: 20 minutes.
  - b. COOK time: 5 minutes.
  - c. Pan LINKing: No pans are LINKed.

## Palm Pilot Programming Guide

A Palm Pilot may be used with the ICC Hold Set-up software program and a special data cable.

The Hold Setup program is a very powerful tool and easy to use. In less than a minute, you can change the Product Name, and the HOLD and COOK times and then transfer the data into the Station Interface Units.

Products may be edited using cut and paste. HOLD and COOK times may be adjusted in 1-minute increments. The updated data is then sent to the Station Interface Unit via the cable.

Multiple configurations can be stored, recalled and deleted by long file names. These records can also be beamed between Palm Pilots if your Palm models have the IR feature.

This option is the most time-efficient way to maintain the system configuration, especially for multiple restaurants.

**Figure 2 – Palm Pilot Programming Software**



### **A. Palm Hold Setup Program installation:**

If a Palm Pilot was shipped with your system, it will have the Hold Setup Program preloaded. If you have an existing Palm and a diskette was shipped with your system or you received an e-mail with the program attached, please follow these installation instructions.

1. Using Windows Explorer double-click on the file **ICC\_Hold\_Setup\_Pgm.prc**
2. A window will pop-up prompting you to select a user. Select a user and click OK
3. A window will pop-up informing you the next time you perform a Hot-Sync the ICC Hold Setup Program will be transferred to your Palm. Click Done.
4. A window will pop-up with a similar message. Click OK.

5. Perform a Palm Hot-Sync as normal and the Hold Setup Program will be transferred to your Palm Pilot.

## B. Palm Pilot Programming:

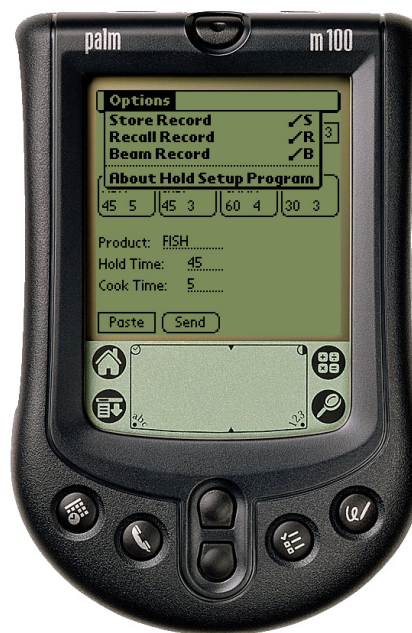
1. Execute the ICC Hold Setup Program on the Palm Pilot. Observe the Main Screen (see Figure 3) with the four (4) "pans" displaying Product Names and HOLD and COOK times. The 4 "pans" represent the pans in a Warmer referenced from the **front** of the Warmer.

Note: You may also use the ICC Hold Setup Program for the 4-wide x 2-high keyboard to program the 4-wide down only keyboard. To do this, program the bottom four pans only.

**Figure 3 – Main Screen**



**Figure 4 – Menu Pull-down**



2. The Warmer numbers are indicated on the top right portion of the screen and can be changed by touching 1, 2 or 3 as desired. As you touch each Warmer number, the Product Name, HOLD and COOK times change in the pans. Three warmers can be connected together.
3. To change the Product Name, HOLD time, or COOK time simply touch a pan and the data will be copied to the editing fields. Change the data, touch PASTE, and then touch the new pan location.
4. To LINK pans, use the same Product Name for the pans you want LINKed.

## C. Data transfer:

When the Send function is performed, the data is transferred to the Station Interface Unit. The Daypart that the unit is currently in is the one that will be programmed. It does

not matter what warmer is visible on the Palm screen when sending data; all warmers for the current Daypart will be programmed.

1. Attach the Hold Timer System cable to the Palm Pilot and plug the 8-pin telephone type cable into the port marked PROGRAM on the back side of the master unit. Make sure the unit is in the Daypart that you want to program. Touch the Send button displayed in the Main Screen. After a few seconds, "Send OK" will be displayed next to the Send button.

Troubleshooting:

If an error message appears, check cable connection at the Palm and the Station Interface Unit.

**Warning:** When transferring data using the PALM M100 model, DO NOT press the Hot Sync button on the cable. The Station Interface Unit will lock up and you will need to reset it by powering off and then back on.

#### **D. To Store, Recall and Delete records:**

All of the timer data may be stored, recalled and deleted. These functions are very useful for saving different promotional menus.

- a. To Store a record, touch the Menu icon to display the Menu Pull-down (see Figure 4). Touch Store Record. Enter a name for the new record or touch an existing record to overwrite. Touch Store to save the data **OR** touch Close to return to the Main screen without saving any data.
- b. To Recall a record, touch the Menu icon and then touch Recall Record. Touch an existing record to recall, then touch the Recall button **OR** touch Close to return to the Main screen without recalling any data.
- c. To Delete a record, touch the Menu icon and then touch Delete Record. Touch an existing record to delete, then touch the Delete button **OR** touch Close to return to the Main screen without deleting any data.

**Warning:** Once you touch Delete, the record will be deleted without any warning prompts.

## Testing and Troubleshooting Guide

### **Pan Status Keyboard Test:**

- a. Press a pan button once. The corresponding light turns green. Press the same button again. The corresponding light turns red. Repeat for every button on all keyboards.

#### Troubleshooting:

1. If the light turns red, and then turns off, the HOLD time is equal to 0. Program a new HOLD time for that pan.
2. If the Keyboard test fails, plug the keyboard into a different Warmer jack on the Station Unit and repeat the test on that keyboard. If the keyboard continues to fail the test, the keyboard is suspect. If the keyboard passes the test when plugged into a different Warmer jack, the Station Unit is suspect.

### **Station Interface Unit Power:**

- a. Power up the Warmer unit.
- b. Observe that the keyboard lights illuminate yellow, then red or go out depending on the programmed hold times.

#### Troubleshooting:

1. Check that the Warmer control powers up and the Warmer heats up. If not, call Duke Mfg. for Warmer service at 314-231-1130 or 800-735-3853.

### **Service Hot-Line:**

If you believe that you have a **Product Quality Timer System** service issue, perform the steps outlined above. If a test fails, perform the troubleshooting steps to see if this resolves the problem. Continue the remainder of the testing, if possible, to uncover any additional problems and document the symptoms and results. Please have this data handy before calling the ICC troubleshooting Hot Line listed below. **For optimum support, please be near the suspect units with a cordless phone, if available, when calling our Technicians.**

**877.ICC.8788 M-F 8:30am - 4:30pm Eastern Time**

## Installation Guide

The Station Interface Units are integrated into Duke Warmer Units, making the installation very simple. The power for the Product Quality Timer System is shared by the Warmer Unit power supply.

**TABLE 1 - DIGITAL WARMER DISPLAYS**

| <b>KEYPRESS / MINUTES TABLE</b> |                               |                                               |                               |     |
|---------------------------------|-------------------------------|-----------------------------------------------|-------------------------------|-----|
| TIME                            | PALM VALUE                    | EDITING MODE<br><i>ALTERNATING</i><br>DISPLAY | NORMAL<br>MODE<br>DISPLAY     |     |
| 0                               | 0                             | Display Does Not Alternate                    | 00                            | 00  |
| 1-4<br>(COOK<br>MODE<br>ONLY)   | 1-4<br>(COOK<br>MODE<br>ONLY) |                                               | 1-4<br>(COOK<br>MODE<br>ONLY) | 1-4 |
| 5                               | 5                             |                                               | 05                            | 05  |
| 6-9<br>(COOK<br>MODE<br>ONLY)   | 6-9<br>(COOK<br>MODE<br>ONLY) |                                               | 6-9<br>(COOK<br>MODE<br>ONLY) | 6-9 |
| 10                              | 10                            |                                               | 10                            | 10  |
| 15                              | 15                            |                                               | 15                            | 15  |
| 20                              | 20                            |                                               | 20                            | 20  |
| 25                              | 25                            |                                               | 25                            | 25  |
| 30                              | 30                            |                                               | 30                            | 30  |
| 35                              | 35                            |                                               | 35                            | 35  |
| 40                              | 40                            |                                               | 40                            | 40  |
| 45                              | 45                            |                                               | 45                            | 45  |
| 50                              | 50                            |                                               | 50                            | 50  |
| 55                              | 55                            |                                               | 55                            | 55  |
| 60                              | 60                            |                                               | 60                            | 60  |
| 65                              | 65                            |                                               | 65                            | 1H  |
| 70                              | 70                            |                                               | 70                            | 1H  |
| 75                              | 75                            |                                               | 75                            | 1H  |
| 80                              | 80                            |                                               | 80                            | 1H  |
| 85                              | 85                            |                                               | 85                            | 1H  |
| 90                              | 90                            |                                               | 90                            | 1H  |
| 95                              | 95                            |                                               | 95                            | 1H  |
| 100                             | 100                           |                                               | 1H                            | 40  |
| 105                             | 105                           |                                               | 1H                            | 45  |
| 110                             | 110                           |                                               | 1H                            | 50  |
| 115                             | 115                           |                                               | 1H                            | 55  |
| 120                             | 120                           |                                               | 2H                            | 00  |
| 125                             | 125                           |                                               | 2H                            | 05  |

|     |     |    |    |    |
|-----|-----|----|----|----|
| 130 | 130 | 2H | 10 | 2H |
| 135 | 135 | 2H | 15 | 2H |
| 140 | 140 | 2H | 20 | 2H |
| 145 | 145 | 2H | 25 | 2H |
| 150 | 150 | 2H | 30 | 2H |
| 155 | 155 | 2H | 35 | 2H |
| 160 | 160 | 2H | 40 | 2H |
| 165 | 165 | 2H | 45 | 2H |
| 170 | 170 | 2H | 50 | 2H |
| 175 | 175 | 2H | 55 | 2H |
| 180 | 180 | 3H | 00 | 3H |
| 185 | 185 | 3H | 05 | 3H |
| 190 | 190 | 3H | 10 | 3H |
| 195 | 195 | 3H | 15 | 3H |
| 200 | 200 | 3H | 20 | 3H |
| 205 | 205 | 3H | 25 | 3H |
| 210 | 210 | 3H | 30 | 3H |
| 215 | 215 | 3H | 35 | 3H |
| 220 | 220 | 3H | 40 | 3H |
| 225 | 225 | 3H | 45 | 3H |
| 230 | 230 | 3H | 50 | 3H |
| 235 | 235 | 3H | 55 | 3H |
| 240 | 240 | 4H | 00 | 4H |
| 270 | 241 | 4H | 30 | 4H |
| 300 | 242 | 5H | 00 | 5H |
| 330 | 243 | 5H | 30 | 5H |
| 360 | 244 | 6H | 00 | 6H |
| 390 | 245 | 6H | 30 | 6H |
| 420 | 246 | 7H | 00 | 7H |
| 450 | 247 | 7H | 30 | 7H |
| 480 | 248 | 8H | 00 | 8H |
| 510 | 249 | 8H | 30 | 8H |
| 540 | 250 | 9H | 00 | 9H |
| 570 | 251 | 9H | 30 | 9H |



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## Operation Guide

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The COOK time is the specified time it takes to cook a product.

“Use first indicators” apply to products in LINKed pans.

When freshly cooked product is placed in a warmer, touch the corresponding button on the Pan Status Keyboard. The light will turn GREEN and the display will show the HOLD time.

**GREEN = Use this product first. This product will expire first.**

When freshly cooked product is placed in a LINKed pan (see programming guide), press the corresponding button and the light will first turn GREEN, then YELLOW, and the display will show the HOLD time.

**YELLOW = Newer product in pan; use other pan first.**

When the HOLD time reaches the COOK time the light and display will flash, and an audible alarm will sound. Press the corresponding button to stop flashing display and audible alarm. The light will continue to flash GREEN or YELLOW. If the same button is pressed again, the light will turn RED and the time will reset to 0.

**FLASHING GREEN or YELLOW = Start cooking; product is about to expire.**

When the HOLD time reaches 0 the light will flash RED and an audible alarm will sound. If the button was not pressed when the HOLD time reached the COOK time, the display will also be flashing. Discard the appropriate product in the waste pail and press the corresponding button. The light will turn RED and the audible alarm will stop.

**FLASHING RED = Product is expired.**

**RED = No product present in this pan.**

**NO LIGHT = No product required in this pan. No product should be placed in this pan. If this button is pressed, the light will turn RED for 2 seconds and then go out (see programming guide, hold time is 0).**

## Daypart Function

The Product Quality Timer system can store and recall up to three Daypart Menus. The Menus are stored in the memory of the Station Interface Unit and are NOT lost when the Unit is powered down.

To program the Menus, simply press the Daypart Button on the Keyboard on one of the warmers until the desired indicator is displayed (I, II, or III). When you change Dayparts on one warmer, all warmers connected will change and all Keyboards will indicate such. Program the HOLD times, COOK times and pan LINK settings using the Keyboard or Palm Pilot, as outlined in the Programming Guide.

To change Dayparts during normal operation, press the Daypart Button and the Indicator will advance. All times for existing Product will continue to count down based on the previous Daypart. Once the Product is used or expired, the new Daypart times and LINK settings are used.



# Manual Programming Guide

The buttons, lights (LEDs), and displays on the Pan Status Keyboards of the warmer can be used to modify the HOLD time, COOK time, and pan LINK settings. HOLD time, COOK time, and pan LINK settings can also be modified using a Palm PDA.

Using the keyboard, you can set the HOLD times in each pan between 5 minutes and 9½ hours in 5-minute increments up to 4 hours and in 30-minute increments after 4 hours. You can set the COOK times in each pan up to 9½ hours, in 1-minute increments up to 10 minutes, in 5-minute increments between 10 minutes and 4 hours, and in 30-minute increments after 4 hours. Additionally, you can change which pans are LINKed with regard to “use first indicators.”

In order to program HOLD or COOK times and change which pans are LINKed, you must be on the front side of the warmer.

**NOTE: While programming, only one person may press buttons on the warmer, and all timers will be turned off.**

## **A. Programming HOLD Times:**

1. Stand on the front side of the warmer you desire to program. Make sure the unit is in the Daypart that you want to program. Simultaneously press the **4 leftmost pan buttons (skipping the Daypart button)** on the keyboard (see Figure 1). Notice that the leftmost light on the keyboard is FLASHING RED. The leftmost digital display pair will indicate the current HOLD time for this pan. All other displays will be blank. This indicates you are programming pan 1.

To modify the HOLD time:

The **2<sup>nd</sup> from right** button on the keyboard - **Increases** the HOLD time by 5 minutes up to 4 hours, and by 30 minutes above 4 hours.

The **rightmost** button on the keyboard - **Decreases** the HOLD time by 5 minutes up to 4 hours, and by 30 minutes above 4 hours.

2. To advance to the next pan, press the **leftmost** button on the keyboard. The next pan's light will be FLASHING RED and the corresponding digital display pair will indicate the HOLD time. All other displays will be blank.
3. To exit the HOLD time programming mode, press the **4 leftmost pan buttons (skipping the Daypart button)** on the keyboard simultaneously and release. All pans with HOLD times greater than ZERO will display 0 and a RED light. Pans with a HOLD time equal to ZERO have a blank display and do not light. Product should not be placed in those pans.

## **B. Programming COOK Times:**

1. Stand on the front side of the warmer you desire to program. Make sure the unit is in the Daypart that you want to program. Simultaneously press the **4 middle pan buttons** on the keyboard (see Figure 1). Notice that the leftmost light on the keyboard is FLASHING RED. The leftmost digital display pair will indicate the current COOK time for this pan. All other displays will be blank. This indicates you are programming pan 1.

To modify the COOK time:

The **2<sup>nd</sup> from right** button on the keyboard - **Increases** the COOK time by 1 minute between 0 and 10 minutes, by 5 minutes between 10 minutes and 4 hours, and by 30 minutes above 4 hours.

The **rightmost** button on the keyboard - **Decreases** the COOK time by 1 minute between 0 and 10 minutes, by 5 minutes between 10 minutes and 4 hours, and by 30 minutes above 4 hours.

2. To advance to the next pan, press the **leftmost** button on the keyboard. The next pan's light will be FLASHING RED and the corresponding digital display pair will indicate the COOK time. All other displays will be blank.
3. To exit the COOK time programming mode, press the **4 middle pan buttons** on the keyboard simultaneously and release. All pans with HOLD times greater than ZERO will display 0 and a RED light. Pans with a HOLD time equal to ZERO have a blank display and do not light. Product should not be placed in those pans.

### C. LINK Pans Configuration:

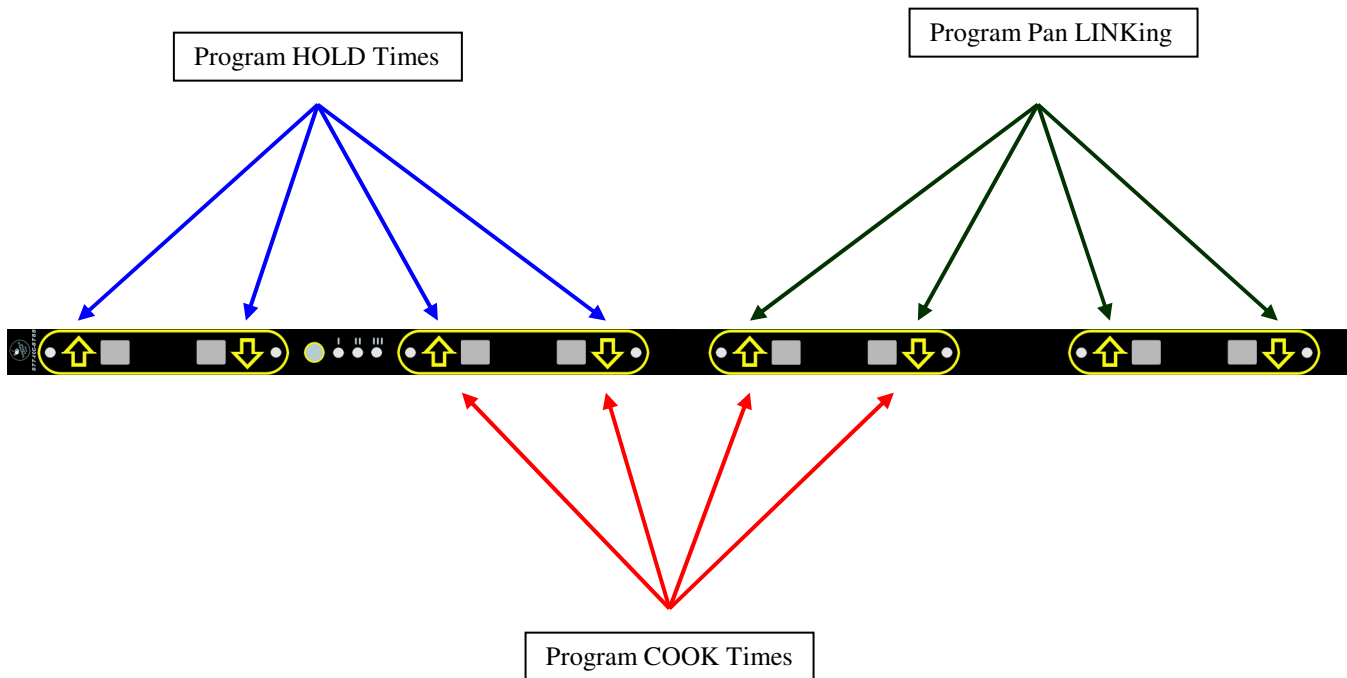
LINKing pans allows the "use first indicators" to display properly.

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2. To LINK to the current pan, press the button corresponding to a light that is OFF. The light will turn GREEN and that pan will be LINKed to the current active pan. To unLINK from the current pan, press the button corresponding to a GREEN light. The light will go out and that pan will be unLINKed from the current active pan.
3. To advance to the next pan, press the **leftmost** button on the keyboard. The next pan's light will be RED and the other lights turn GREEN for pans on the keyboard that are LINKed with that pan. The lights for pans not LINKed with that pan will be OFF.

**Note:** Since the **leftmost** button is used to advance pans, you cannot LINK or unLINK the **leftmost** pan from any other pan. To LINK or unLINK the first pan, you must LINK or unLINK other pans to or from it when programming the first pan.

4. To exit the pan LINKing mode, simultaneously press the **4 rightmost pan buttons** on the keyboard and release.

**Figure 1 – Editing Mode Button Sequences**



## Default Settings

1. To revert to the defaults for HOLD time, COOK time and pan LINKing:
  - a. Power down the Station Interface Unit.
  - b. Stand on the front side of Warmer 1.
  - c. Simultaneously press and hold the **4 rightmost** buttons on the front Warmer 1 keyboard.
  - d. Power up the Station Interface Unit.
  - e. Release the buttons.
2. The default settings are the same for every pan in all three warmers in all three Dayparts.
  - a. HOLD time: 20 minutes.
  - b. COOK time: 5 minutes.
  - c. Pan LINKing: No pans are LINKed.

## Palm Pilot Programming Guide

A Palm Pilot may be used with the ICC Hold Setup software program (see Figure 2) and a special data cable. The Hold Setup program for both the 2-High x 3-Wide and the 2-High x 2-Wide Warmers are shown in Figure 2. Though Figures 3 and 4 show only the 2-High x 3-Wide Hold Setup program, the functionality is the same for the 2-High x 2-Wide Hold Setup program.

The Hold Setup program is a very powerful tool and easy to use. In less than a minute, you can change the Product Name, the HOLD and COOK times, and the pan LINK settings and then transfer the data into the Station Interface Units.

Products may be edited using cut and paste. HOLD and COOK times may be adjusted in 1-minute increments. The updated data is then sent to the Station Interface Unit via the cable.

Multiple configurations can be stored, recalled and deleted by long file names. These records can also be beamed between Palm Pilots if your Palm models have the IR feature.

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**Figure 2 – Palm Pilot Programming Software**



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2. A window will pop-up prompting you to select a user. Select a user and click OK.

3. A window will pop-up informing you the next time you perform a Hot-Sync the ICC Hold Setup Program will be transferred to your Palm. Click Done.
4. A window will pop-up with a similar message. Click OK.
5. Perform a Palm Hot-Sync as normal and the Hold Setup Program will be transferred to your Palm Pilot.

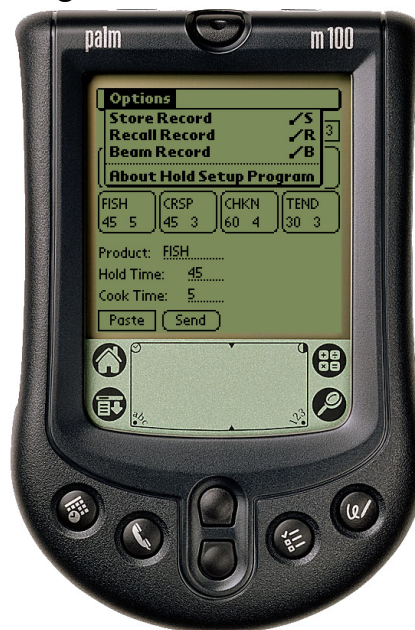
## B. Palm Pilot Programming:

1. Execute the ICC Hold Setup Program on the Palm Pilot. Observe the Main Screen (see Figure 3) displaying Product Names and HOLD and COOK times. The “pans” represent the pans in a Warmer referenced from the **front** of the Warmer.

**Figure 3 – Main Screen**



**Figure 4 – Menu Pull-down**



2. The Warmer numbers are indicated on the top right portion of the screen and can be changed by touching 1,2 or 3 as desired. As you touch each Warmer number, the Product Name, HOLD and COOK times change in the pans. Three warmers can be connected together.
3. To change the 4-character Product Name, HOLD time, or COOK time simply touch a pan and the data will be copied to the editing fields. Change the data, touch the Paste button, and then touch the new pan location.

For HOLD and COOK times, you may enter values in 1-minute increments up to 4 hours (240 minutes). For values between 241 and 251, each 1-minute increment is equal to 30 minutes (see Table 1). Any value above 251 will be interpreted as 9 hours and 30 minutes, and any value above 255 will be displayed as 255 when pasted to the pan.

4. To LINK pans, use the same Product Name for the pans you want LINKed.

### C. Data transfer:

When the Send function is performed, the data is transferred to the Station Interface Unit. The Daypart that the unit is currently in is the one that will be programmed. It does not matter what warmer is visible on the Palm screen when sending data; all warmers for the current Daypart will be programmed.

1. Attach the Hold Timer System cable to the Palm Pilot and plug the 8-pin telephone type cable into the port marked PROGRAM on the back side of the master unit. Make sure the unit is in the Daypart that you want to program. Touch the Send button displayed in the Main Screen. After a few seconds, "Send OK" will be displayed next to the Send button.

Troubleshooting: If an error message appears, check cable connection at the Palm and the Station Interface Unit.

**Warning:** When transferring data using the PALM M100 model, DO NOT press the Hot Sync button on the cable. The Station Interface Unit will lock up and you will need to reset it by powering off and then back on.

### D. To Store, Recall and Delete records:

All of the timer data may be stored, recalled and deleted. These functions are very useful for saving different promotional menus.

- a. To Store a record, touch the Menu icon to display the Menu Pull-down (see Figure 4). Touch Store Record. Enter a name for the new record or touch an existing record to overwrite. Touch Store to save the data **OR** touch Close to return to the Main screen without saving any data.
- b. To Recall a record, touch the Menu icon and then touch Recall Record. Touch an existing record to recall, then touch the Recall button **OR** touch Close to return to the Main screen without recalling any data.
- c. To Delete a record, touch the Menu icon and then touch Delete Record. Touch an existing record to delete, then touch the Delete button **OR** touch Close to return to the Main screen without deleting any data.

**Warning:** Once you touch Delete, the record will be deleted without any warning prompts.

## Testing and Troubleshooting Guide

### **Pan Status Keyboard Test:**

- a. Press a pan button once. The corresponding light turns green and the display shows the programmed HOLD time. Press the same button again. The corresponding light turns red and the display shows 0. Repeat for every button on all keyboards.

#### Troubleshooting:

1. If the light turns red, and then turns off and the display is blank, the HOLD time is equal to 0. Program a new HOLD time for that pan.
2. If the Keyboard test fails, plug the keyboard into a different Warmer jack on the Station Unit and repeat the test on that keyboard. If the keyboard continues to fail the test, the keyboard is suspect. If the keyboard passes the test when plugged into a different Warmer jack, the Station Interface Unit is suspect.

### **Station Interface Unit Power:**

- a. Power up the Station Interface Unit. The audible alarm should sound briefly.
- b. Observe that the keyboard lights illuminate yellow and the displays turn on, then the lights turn red or go out and the displays show 0 or go out depending on the programmed HOLD times.

#### Troubleshooting:

1. Check that the Warmer control powers up and the Warmer heats up. If not, call Duke Mfg. for Warmer service at 314-231-1130 or 800-735-3853.

### **Service Hot-Line:**

If you believe that you have a **Product Quality Timer System** service issue, perform the steps outlined above. If a test fails, perform the troubleshooting steps to see if this resolves the problem. Continue the remainder of the testing, if possible, to uncover any additional problems and document the symptoms and results. Please have this data handy before calling the ICC troubleshooting Hot Line listed below. **For optimum support, please be near the suspect units with a cordless phone, if available, when calling our Technicians.**

**877-ICC-8788 M-F 8:30am - 4:30pm Eastern Time**

## Installation Guide

The Station Interface Units are integrated into Duke Warmer Units, making the installation very simple. The power for the Product Quality Timer System is shared by the Warmer Unit power supply.

**TABLE 1 - DIGITAL WARMER DISPLAYS**

| <b>KEYPRESS / MINUTES TABLE</b> |                         |                      |                         |                     |
|---------------------------------|-------------------------|----------------------|-------------------------|---------------------|
| TIME                            | PALM VALUE              | EDITING MODE DISPLAY |                         | NORMAL MODE DISPLAY |
| 0                               | 0                       | 00                   | 00                      | 00                  |
| 1-4<br>(COOK MODE ONLY)         | 1-4<br>(COOK MODE ONLY) | 00                   | 1-4<br>(COOK MODE ONLY) | 1-4                 |
| 5                               | 5                       | 00                   | 05                      | 05                  |
| 6-9<br>(COOK MODE ONLY)         | 6-9<br>(COOK MODE ONLY) | 00                   | 6-9<br>(COOK MODE ONLY) | 6-9                 |
| 10                              | 10                      | 00                   | 10                      | 10                  |
| 15                              | 15                      | 00                   | 15                      | 15                  |
| 20                              | 20                      | 00                   | 20                      | 20                  |
| 25                              | 25                      | 00                   | 25                      | 25                  |
| 30                              | 30                      | 00                   | 30                      | 30                  |
| 35                              | 35                      | 00                   | 35                      | 35                  |
| 40                              | 40                      | 00                   | 40                      | 40                  |
| 45                              | 45                      | 00                   | 45                      | 45                  |
| 50                              | 50                      | 00                   | 50                      | 50                  |
| 55                              | 55                      | 00                   | 55                      | 55                  |
| 60                              | 60                      | 00                   | 60                      | 1H                  |
| 65                              | 65                      | 00                   | 65                      | 1H                  |
| 70                              | 70                      | 00                   | 70                      | 1H                  |
| 75                              | 75                      | 00                   | 75                      | 1H                  |
| 80                              | 80                      | 00                   | 80                      | 1H                  |
| 85                              | 85                      | 00                   | 85                      | 1H                  |
| 90                              | 90                      | 00                   | 90                      | 1H                  |
| 95                              | 95                      | 00                   | 95                      | 1H                  |
| 100                             | 100                     | 1H                   | 40                      | 1H                  |
| 105                             | 105                     | 1H                   | 45                      | 1H                  |
| 110                             | 110                     | 1H                   | 50                      | 1H                  |
| 115                             | 115                     | 1H                   | 55                      | 1H                  |
| 120                             | 120                     | 2H                   | 00                      | 2H                  |
| 125                             | 125                     | 2H                   | 05                      | 2H                  |

|     |     |    |    |    |
|-----|-----|----|----|----|
| 130 | 130 | 2H | 10 | 2H |
| 135 | 135 | 2H | 15 | 2H |
| 140 | 140 | 2H | 20 | 2H |
| 145 | 145 | 2H | 25 | 2H |
| 150 | 150 | 2H | 30 | 2H |
| 155 | 155 | 2H | 35 | 2H |
| 160 | 160 | 2H | 40 | 2H |
| 165 | 165 | 2H | 45 | 2H |
| 170 | 170 | 2H | 50 | 2H |
| 175 | 175 | 2H | 55 | 2H |
| 180 | 180 | 3H | 00 | 3H |
| 185 | 185 | 3H | 05 | 3H |
| 190 | 190 | 3H | 10 | 3H |
| 195 | 195 | 3H | 15 | 3H |
| 200 | 200 | 3H | 20 | 3H |
| 205 | 205 | 3H | 25 | 3H |
| 210 | 210 | 3H | 30 | 3H |
| 215 | 215 | 3H | 35 | 3H |
| 220 | 220 | 3H | 40 | 3H |
| 225 | 225 | 3H | 45 | 3H |
| 230 | 230 | 3H | 50 | 3H |
| 235 | 235 | 3H | 55 | 3H |
| 240 | 240 | 4H | 00 | 4H |
| 270 | 241 | 4H | 30 | 4H |
| 300 | 242 | 5H | 00 | 5H |
| 330 | 243 | 5H | 30 | 5H |
| 360 | 244 | 6H | 00 | 6H |
| 390 | 245 | 6H | 30 | 6H |
| 420 | 246 | 7H | 00 | 7H |
| 450 | 247 | 7H | 30 | 7H |
| 480 | 248 | 8H | 00 | 8H |
| 510 | 249 | 8H | 30 | 8H |
| 540 | 250 | 9H | 00 | 9H |
| 570 | 251 | 9H | 30 | 9H |





**Product Quality Timer™**

# **System Manual Supplement**

## **Manually Programming 2-High x 4-Wide Alphanumeric Keyboards**

**Integrated Control Corp.  
748 Park Ave.  
Huntington, NY. 11743**

**631-673-5100    Fax: 631-673-6756    [www.goicc.com](http://www.goicc.com)**

## **Product Quality Timer- 2H x 4W Alphanumeric Keyboards**

### **Manual Programming**

The buttons, lights and displays on the alphanumeric Pan Status Keyboards are used to modify the NAME, HOLD and COOK times and view the PANS LINKED settings for each of the three (3) Dayparts. NAMES, HOLD times and COOK times can be modified, and the PANS LINKED configuration viewed, using the manual programming method described below. These settings may also be changed using the ICC Hold Setup PALM Application described separately in the Red Light Green Light™, Product Quality Timer System Manual.

Product NAMES consisting of four (4) characters; including, upper and lower case letters, numbers and special symbols; can be programmed, as described in Section 1 below.

You can set the HOLD time in each pan between 5 minutes and 10 hours in 5-minute increments up to 4 hours and after 4 hours, in ½ hour increments; see chart on page 5. You can set the COOK time in each pan between 1 minute and 10 hours in 1-minute increments up to 10 minutes, in 5-minute increments up to 4 hours and after 4 hours, in ½ hour increments. To manually program HOLD and COOK times see Sections 2 and 3 respectively.

LINKing pans with identical NAMES allows the “use first indicators” to display properly. Product names changed using the manual method described in Section 1 will be used to establish PANS LINKED configurations with products of the same NAME. The PANS LINKED configuration can be viewed using the manual method described below in Section 4.

In order to program NAME, HOLD or COOK times, or to view the PANS LINKED configuration for the current selected Daypart, you must be in front of the Warmer to be programmed.

**NOTE: Only one person may press keys on the station being programmed.**

#### **1 - Programming Product NAMES:**

- a - Stand directly in front of the warmer you desire to program. Simultaneously press **the leftmost pair and the rightmost pair of pan buttons on the keyboard** and release them all; see Figure 1 on the last page. Each pan's alphanumeric display will show that pan's current product NAME. Notice that the leftmost light on the keyboard is RED and that the far left display of the keyboard shows the current 4-character product name with its leftmost character blinking. This

indicates you are programming PAN 1 and the blinking character indicates the current cursor position within the 4-character NAME.

- b - To change the character at the current cursor position, press the **rightmost button (Down Arrow)** on the keyboard to change to the preceding character value and the **2<sup>nd</sup> button from the right (Up Arrow)** to change to the next character value from the following list:

<space>! " # \$ % & ' ( ) \* + , - . / 0 1 2 3 4 5 6 7 8 9 : ; < = > ? @ A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ \ ] ^ \_ ` a b c d e f g h i j k l m n o p q r s t u v w x y z

To advance the cursor within the current name, press the **2<sup>nd</sup> button from the left** on the keyboard. See Figure 2 on the last page.

- c - To advance to the next pan, press the **far left button on the keyboard**. The next pan's light will become RED and its display will show its current name with its leftmost character blinking as the current cursor position. All other lights will be off.
- d - To **EXIT** the NAME programming mode, simultaneously press and hold the **leftmost pair and the rightmost pair of pan buttons on the keyboard** and release them all. *It is recommended that you press and hold the leftmost pair of pan buttons first to avoid inadvertent character changes when pressing the rightmost pair.*

***You should check your PANS LINKED configuration after editing product NAMES to assure they are linked as desired.***

## 2 - Programming HOLD Times:

- a - Stand directly in front of the warmer you desire to program. Simultaneously press the **leftmost 2 pair of pan buttons (4 buttons) on the keyboard (skip the Daypart button)**, and release them all, see Figure 1 on the last page. The alphanumeric display for each pan will show its current HOLD time in minutes (see the table on page 5). Notice that the leftmost light on the keyboard is FLASHING RED; this indicates you are programming PAN 1. Also the remaining lights will be illuminated to indicate the current HOLD time as described in Section 5.
- b - To modify the HOLD time:
  - The **2<sup>nd</sup> from right button on the keyboard** - **Increases** the HOLD time by 5 minutes or 30 minutes if the HOLD time is 240 minutes or greater.
  - The **far right button on the keyboard** - **Decreases** the HOLD time by 5 minutes or 30 minutes if the HOLD time is greater than 240 minutes.

- c - To advance to the next pan, press the **far left button on the keyboard**. The next pan's light will be FLASHING RED.
- d - To **EXIT** the HOLD time programming mode, simultaneously press the **leftmost 2 pair of pan buttons (4 buttons) on the keyboard (skip the Daypart button)**, and release them all. The NAME of each pan will appear in the alphanumeric displays. The lights of all pans with HOLD times greater than ZERO will be RED. The lights of pans with a HOLD time equal to ZERO will be off and product should not be placed in those pans.

### 3 - Programming COOK Times:

- a - Stand directly in front of the warmer you desire to program. Simultaneously press the **middle four buttons on the keyboard** and release them all, see Figure 1 on the last page. The alphanumeric display for each pan will show its current COOK time in minutes (see the table on page 5). Notice that the leftmost light on the keyboard is FLASHING RED; this indicates you are programming PAN 1. Also the remaining lights will be illuminated to indicate the current COOK time as described in Section 5.
- b - To modify the COOK time:
  - The **2<sup>nd</sup> from right button on the keyboard** - **Increases** the COOK time by 5 minutes, or by 1 minute if the COOK time is less than 10 minutes, or 30 minutes if the COOK time is 240 minutes or greater.
  - The **far right button on the keyboard** - **Decreases** the COOK time by 5 minutes, or by 1 minute if the COOK time is 10 minutes or less, or 30 minutes if the COOK time is greater than 240 minutes.
- c - To advance to the next pan, press the **far left button on the keyboard**. The next pan's light will be FLASHING RED.
- d - To **EXIT** the COOK time programming mode, simultaneously press **the middle four buttons on the keyboard** and release them all. The NAME of each pan will appear in the alphanumeric displays. The lights of all pans with HOLD times greater than ZERO will be RED. The lights of pans with a HOLD time equal to ZERO will be off and product should not be placed in those pans.

### 4 - Viewing PANS LINKED:

- a - Stand directly in front of the warmer you desire to view. Simultaneously press **rightmost 2 pair of pan buttons (4 buttons) on the keyboard**

**(skip the Transfer button)**, and release them all, see Figure 1 on the last page. Notice that the far left light on the keyboard is RED and that all displays show product NAME. This indicates you are viewing PAN 1. Other lights indicate in GREEN which pans are linked with PAN 1.

- b - To advance to the next pan, press the **far left button on the keyboard**. The next pan's light will turn RED and the other lights indicate in GREEN which pans are linked.
- c - To **EXIT** link viewing, simultaneously press **rightmost 2 pair of pan buttons (4 buttons) on the keyboard (skip the Transfer button)**, and release them all.

## 5 - Using Lights to Indicate Time:

In addition to the times shown in the alphanumeric displays, the colors of the lights for the pans not currently being programmed (i.e. the pans whose light is not FLASHING RED) also indicate the current time as follows.

Each YELLOW light = 20 minutes.

Each GREEN light = 5 minutes.

Each FLASHING GREEN light = 30 minutes if time is over 120 minutes.

Each RED light = 60 minutes.

Each FLASHING YELLOW light = 120 minutes.

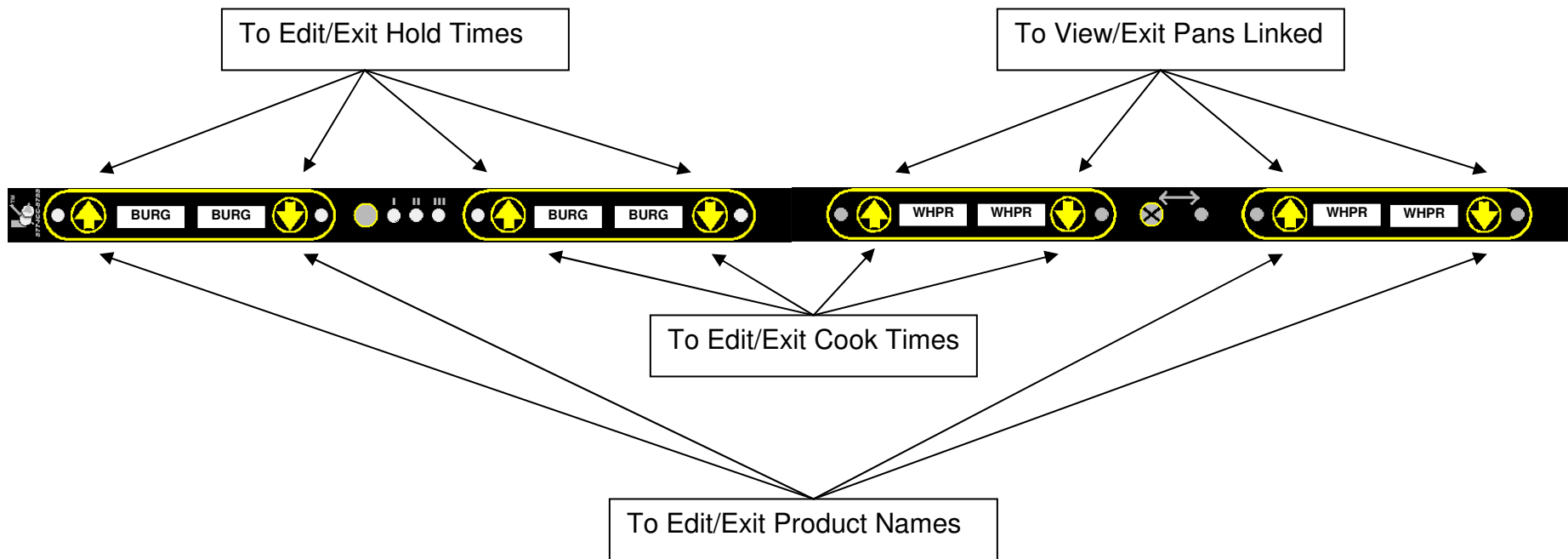
To determine the time setting, multiply:

- the number of YELLOW lights by 20
  - the number of GREEN lights by 5
  - the number of FLASHING GREEN lights by 30
  - the number of RED lights by 60 (exclude the FLASHING RED light that indicates the current pan), and
  - the number of FLASHING YELLOW lights by 120,
- and add the two numbers together.

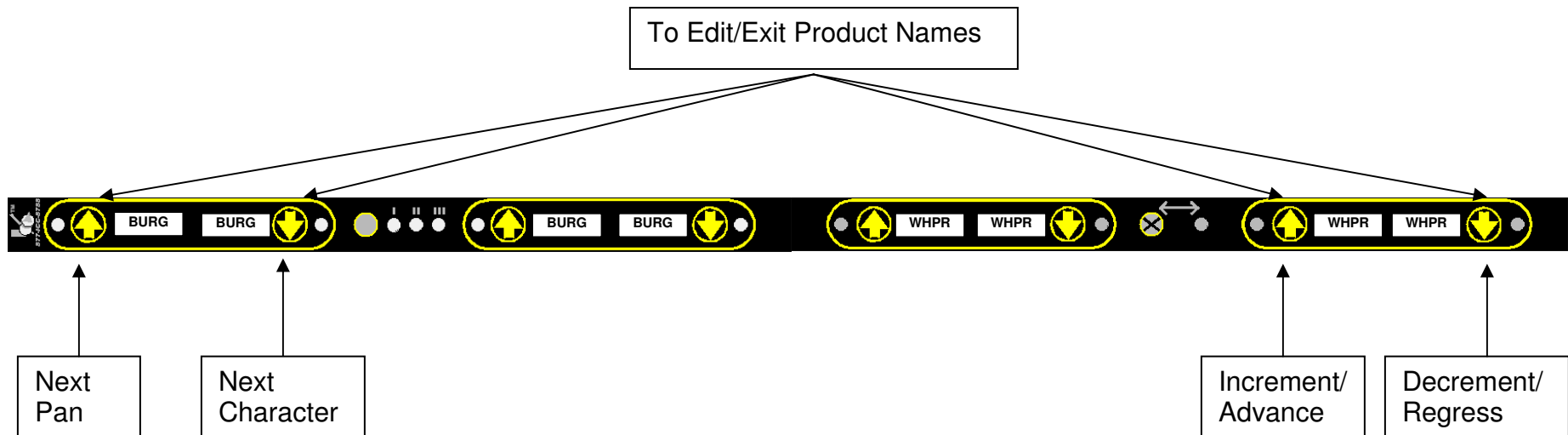
For example, 2 YELLOW lights and 1 GREEN light indicate a time of 45 minutes.

| KEYPRESS / MINUTES<br>TABLE   |                               |                               |                                       |
|-------------------------------|-------------------------------|-------------------------------|---------------------------------------|
| TIME<br>(MINUTES)             | PALM<br>VALUE                 | EDITING<br>MODE<br>DISPLAY    | NORMAL<br>MODE<br>DISPLAY             |
| 0                             | 0                             | 0                             | 4-Character Alphanumeric Product Name |
| 1-4<br>(COOK<br>MODE<br>ONLY) | 1-4<br>(COOK<br>MODE<br>ONLY) | 1-4<br>(COOK<br>MODE<br>ONLY) |                                       |
| 5                             | 5                             | 5                             |                                       |
| 6-9<br>(COOK<br>MODE<br>ONLY) | 6-9<br>(COOK<br>MODE<br>ONLY) | 6-9<br>(COOK<br>MODE<br>ONLY) |                                       |
| 10                            | 10                            | 10                            |                                       |
| 15                            | 15                            | 15                            |                                       |
| 20                            | 20                            | 20                            |                                       |
| 25                            | 25                            | 25                            |                                       |
| 30                            | 30                            | 30                            |                                       |
| 35                            | 35                            | 35                            |                                       |
| 40                            | 40                            | 40                            |                                       |
| 45                            | 45                            | 45                            |                                       |
| 50                            | 50                            | 50                            |                                       |
| 55                            | 55                            | 55                            |                                       |
| 60                            | 60                            | 60                            |                                       |
| 65                            | 65                            | 65                            |                                       |
| 70                            | 70                            | 70                            |                                       |
| 75                            | 75                            | 75                            |                                       |
| 80                            | 80                            | 80                            |                                       |
| 85                            | 85                            | 85                            |                                       |
| 90                            | 90                            | 90                            |                                       |
| 95                            | 95                            | 95                            |                                       |
| 100                           | 100                           | 100                           |                                       |
| 105                           | 105                           | 105                           |                                       |
| 110                           | 110                           | 110                           |                                       |

|     |     |     |                                       |
|-----|-----|-----|---------------------------------------|
| 115 | 115 | 115 | 4-Character Alphanumeric Product Name |
| 120 | 120 | 120 |                                       |
| 125 | 125 | 125 |                                       |
| 130 | 130 | 130 |                                       |
| 135 | 135 | 135 |                                       |
| 140 | 140 | 140 |                                       |
| 145 | 145 | 145 |                                       |
| 150 | 150 | 150 |                                       |
| 155 | 155 | 155 |                                       |
| 160 | 160 | 160 |                                       |
| 165 | 165 | 165 |                                       |
| 170 | 170 | 170 |                                       |
| 175 | 175 | 175 |                                       |
| 180 | 180 | 180 |                                       |
| 185 | 185 | 185 |                                       |
| 190 | 190 | 190 |                                       |
| 195 | 195 | 195 |                                       |
| 200 | 200 | 200 |                                       |
| 205 | 205 | 205 |                                       |
| 210 | 210 | 210 |                                       |
| 215 | 215 | 215 |                                       |
| 220 | 220 | 220 |                                       |
| 225 | 225 | 225 |                                       |
| 230 | 230 | 230 |                                       |
| 235 | 235 | 235 |                                       |
| 240 | 240 | 240 |                                       |
| 270 | 241 | 270 |                                       |
| 300 | 242 | 300 |                                       |
| 330 | 243 | 330 |                                       |
| 360 | 244 | 360 |                                       |
| 390 | 245 | 390 |                                       |
| 420 | 246 | 420 |                                       |
| 450 | 247 | 450 |                                       |
| 480 | 248 | 480 |                                       |
| 510 | 249 | 510 |                                       |
| 540 | 250 | 540 |                                       |
| 570 | 251 | 570 |                                       |
| 600 | 252 | 600 |                                       |



**Figure 1 - Entering/Exiting Available Manual Programming Modes**



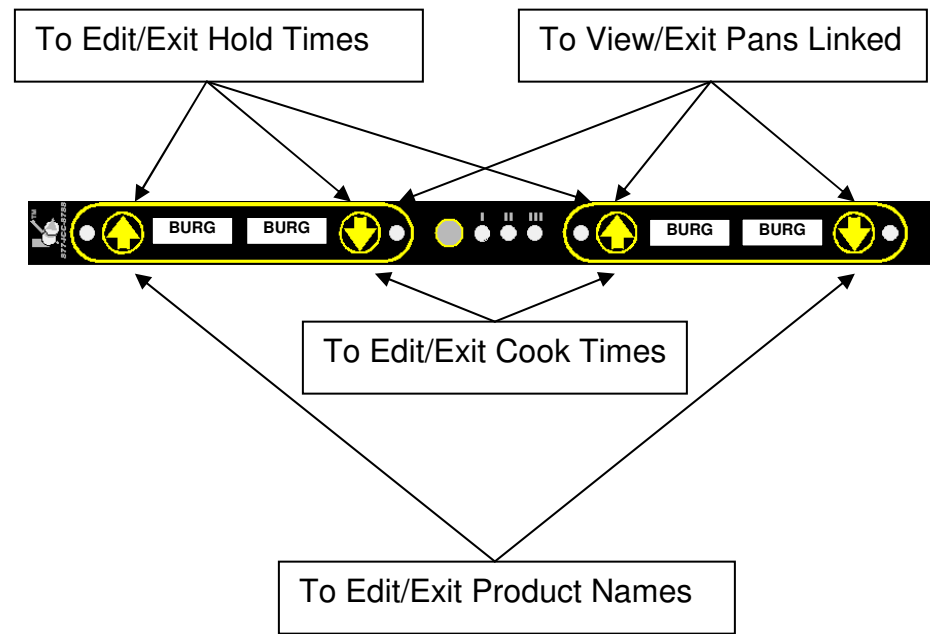
**Figure 2 - Product Name Manual Programming Mode**

# **APPENDIX**

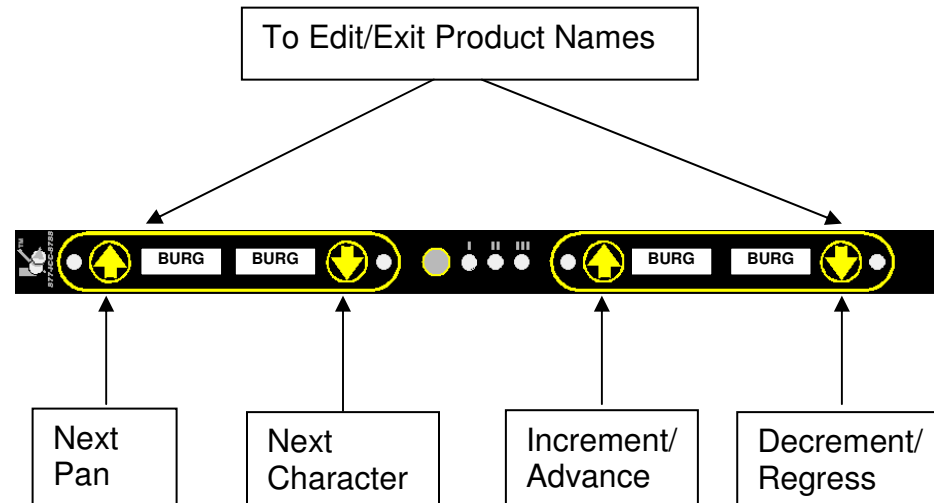
## **Manual Edit Keys for Other Alphanumeric Keyboard Configurations**



## Manual Editing Keys for 2-High x 2-Wide Alphanumeric Keyboards

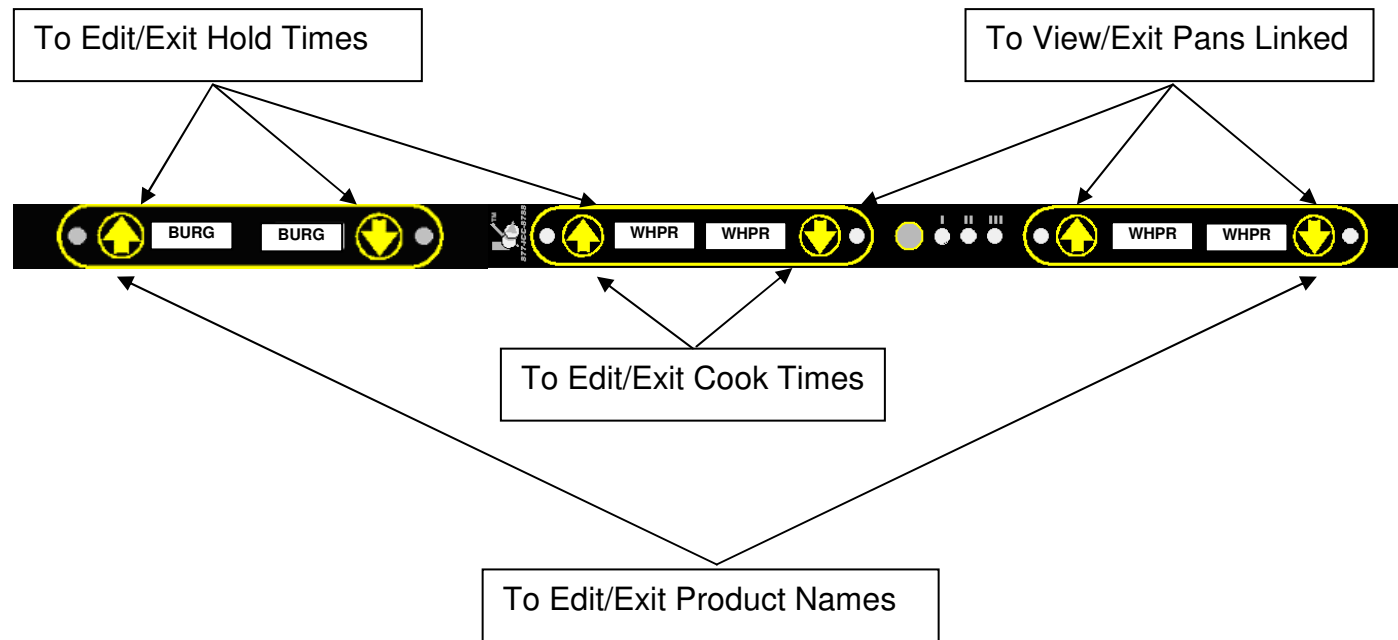


**Figure 3 - Entering/Exiting Available Manual Programming Modes**

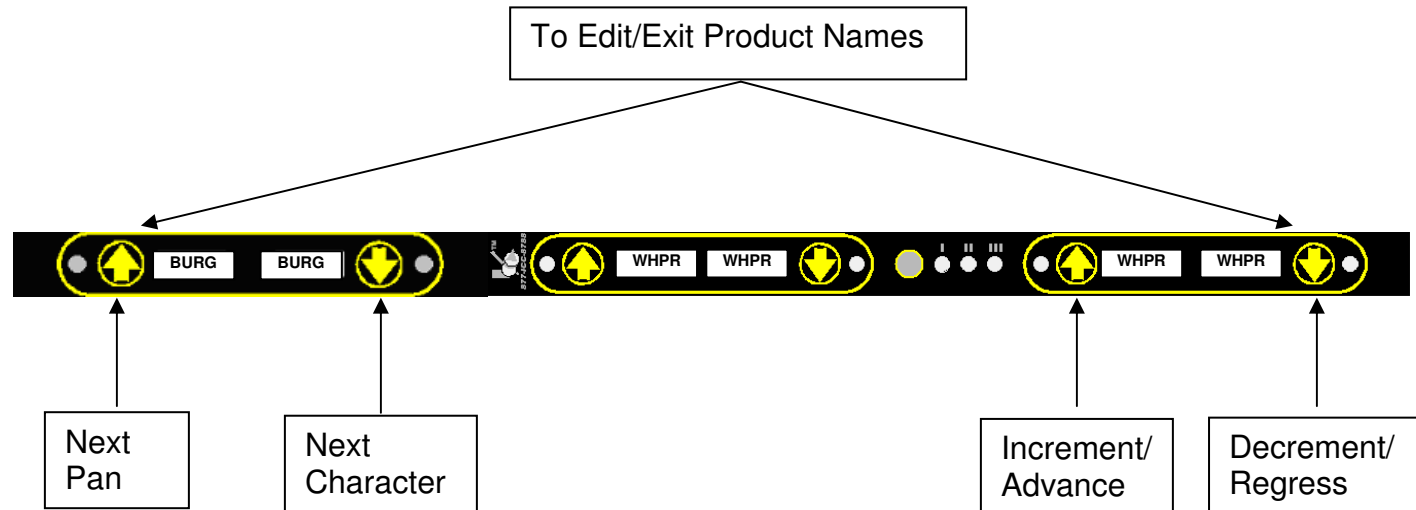


**Figure 4 - Product Name Manual Programming Mode**

## Manual Editing Keys for 2-High x 3-Wide Alphanumeric Keyboards

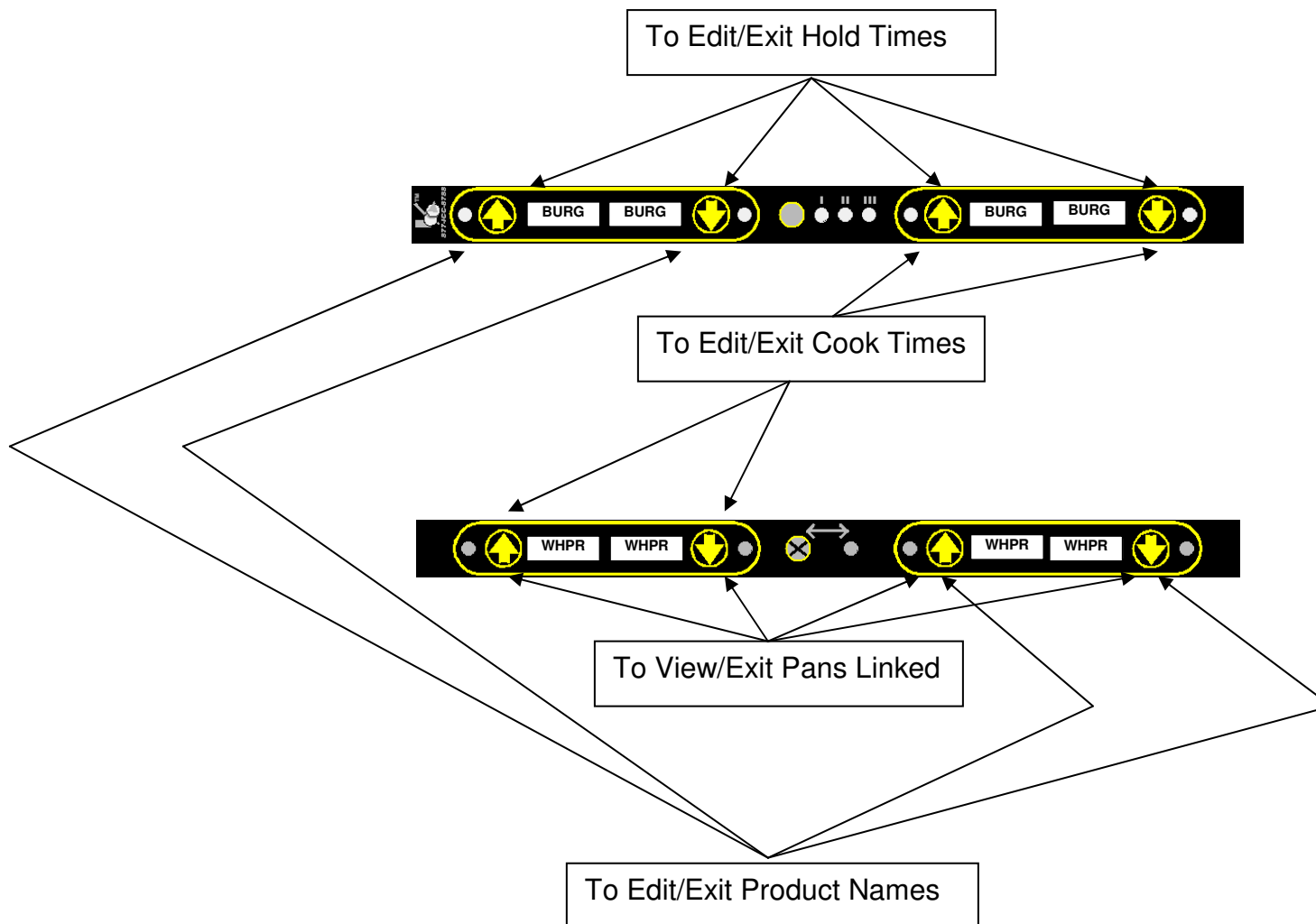


**Figure 5 - Entering/Exiting Available Manual Programming Modes**



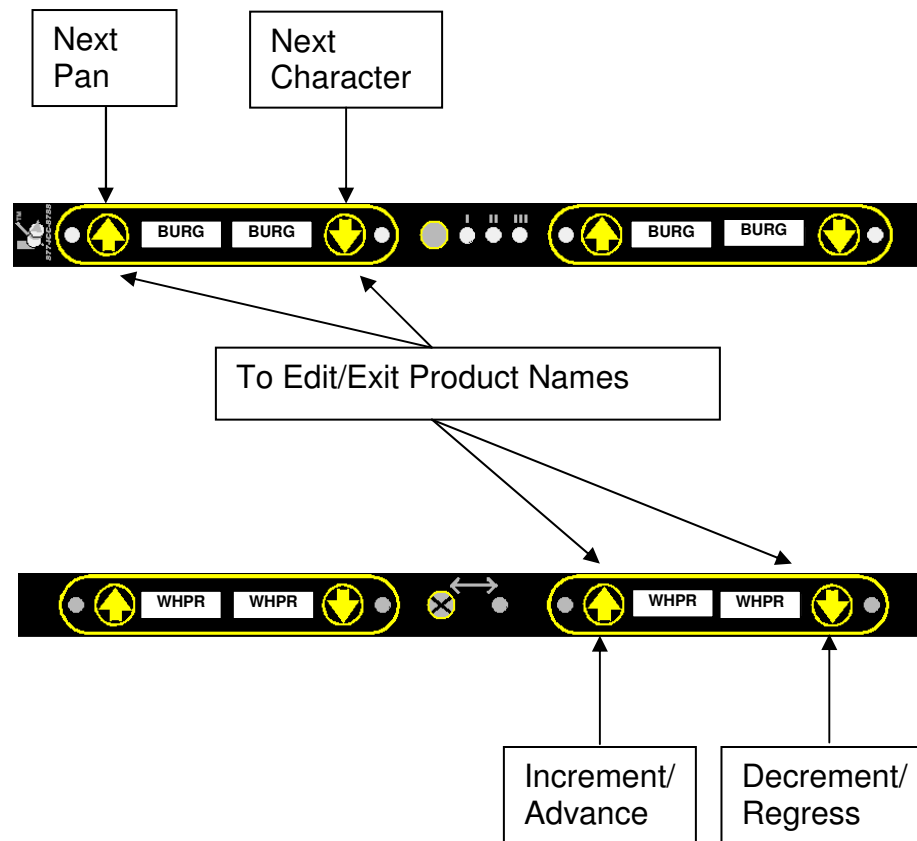
**Figure 6 - Product Name Manual Programming Mode**

## Manual Editing Keys for 4-High x 2-Wide Alphanumeric Keyboards



**Figure 7 - Entering/Exiting Available Manual Programming Modes**

## Manual Editing Keys for 4-High x 2-Wide Alphanumeric Keyboards (Continued)



**Figure 8 - Product Name Manual Programming Mode**



Product Quality Timer™

# Nachtrag zum Systemhandbuch

## Manuelle Programmierung 2 x 4 Alphanumerische Tastatur

Integrated Control Corp.  
748 Park Ave.  
Huntington, NY. 11743

631-673-5100 Fax: 631-673-6756 [www.goicc.com](http://www.goicc.com)

## **Product Quality Timer- 2 x 4 Alphanumerische Tastatur**

### **Manuelle Programmierung**

Die Tasten, Lichter und Anzeigen auf den alphanumerischen Pan-Status-Tastaturen werden verwendet, um sowohl den Namen als auch die Halte- und Kochzeiten zu ändern und die PANS LINKED-Einstellungen für die drei Tageszeiten anzuzeigen. Mit der im Folgenden beschriebenen manuellen Programmierung können Sie die Namen, Halte- und Kochzeiten ändern und die PANS LINKED-Konfiguration überprüfen. Sie können diese Einstellungen auch mit der ICC Hold Setup PALM Application ändern, die im Systemhandbuch Red Light Green Light™, Product Quality Timer beschrieben ist.

Produktnamen, die aus vier Zeichen bestehen, einschließlich Groß-/Kleinbuchstaben, Zahlen und Sonderzeichen, können wie in Abschnitt 1 beschrieben, programmiert werden.

Sie können in jedem Pan die Haltezeit zwischen 5 Minuten und 10 Stunden in Intervallen von 5 Minuten bis zu 4 Stunden und nach 4 Stunden in halbstündigen Intervallen festlegen (siehe Diagramm). Außerdem können Sie die Kochzeit zwischen 1 Minute und 10 Stunden in Intervallen von 1 Minute bis zu 10 Minuten, in Intervallen von 5 Minuten bis zu 4 Stunden und nach 4 Stunden in halbstündigen Intervallen festlegen. Anweisungen zum manuellen Programmieren der Halte- und Kochzeiten finden Sie in Abschnitt 2 und 3.

Das Verknüpfen von Pans mit identischen Namen ermöglicht die richtige Anzeige der "ersten Indikatoren". Produktnamen, die mit der in Abschnitt 1 beschriebenen manuellen Methode geändert werden, können für PANS LINKED-Konfigurationen mit Produkten mit dem gleichen Namen verwendet werden. Die PANS LINKED-Konfiguration kann mit der in Abschnitt 4 beschriebenen Methode angezeigt werden.

Um Namen, Halte- und Kochzeiten zu programmieren oder die PANS LINKED-Konfiguration für die aktuelle Tageszeit anzuzeigen, ist die zu programmierende Wärmeplatte erforderlich.

**HINWEIS: Nur jeweils eine Person sollte die gewünschte Station programmieren.**

#### **1 - Programmieren der Produktnamen:**

- a - Stellen Sie sich vor die zu programmierende Wärmeplatte. Drücken Sie gleichzeitig die beiden linken und rechten Tasten auf der Tastatur (siehe Abbildung 1). Die alphanumerische Anzeige gibt den aktuellen Produktnamen der Pans an. Beachten Sie, dass das linke Licht auf der

Tastatur Rot ist und die linke Anzeige der Tastatur den aktuellen vier Zeichen langen Produktnamen angibt (das linke Zeichen blinkt). Das heißt, Sie programmieren PAN1 und der Cursor befindet sich im Namen.

- b - Um das Zeichen an der aktuellen Cursorposition zu ändern, drücken Sie die rechte Taste (Pfeil nach unten) auf der Tastatur. Um zum nächsten Zeichen in folgender Liste zu wechseln, drücken Sie die zweite Taste von rechts (Pfeil nach oben):

<Leerzeichen>!\"#\$%&'()\*+,-  
./0123456789:;<=>?@ABCDEFGHIJKLMN OPQRSTUVWXYZ[\]^\_`abcdefghijklmnopqrstuvwxyz

Um den Cursor im aktuellen Namen weiter zu bewegen, drücken Sie die zweite Taste von links (siehe Abbildung 2).

- c - Um zum nächsten Pan zu wechseln, drücken Sie die linke Taste auf der Tastatur. Das Licht des nächsten Pans ist Rot und der aktuelle Name wird angezeigt. Das linke Zeichen blinkt an der aktuellen Cursorposition. Alle anderen Lichter sind aus.
- d - Um den Namen-Programmiermodus zu beenden, drücken Sie gleichzeitig die beiden linken Tasten und die beiden rechten der Pan-Tasten auf der Tastatur. ***Es wird empfohlen, die beiden linken Pan-Tasten zuerst zu drücken, um versehentliche Zeichenänderungen beim Drücken der rechten Taste zu verhindern.***

***Überprüfen Sie die PANS LINKED-Konfiguration, nachdem Sie die Produktnamen geändert haben, um sicherzustellen, dass diese richtig verknüpft sind.***

## 2 - Programmieren der Haltezeiten:

- a - Stellen Sie sich vor die zu programmierende Wärmeplatte. Drücken Sie gleichzeitig die beiden linken Pan-Tasten auf der Tastatur (siehe Abbildung 1). Die alphanumerische Anzeige der Pans gibt die aktuelle Haltezeit in Minuten an (siehe Tabelle). Beachten Sie, dass das linke Licht auf der Tastatur Rot blinkt. Dies zeigt an, dass Sie PAN 1 programmieren. Die anderen Lichter sind an, um die aktuelle Haltezeit wie in Abschnitt 5 beschrieben anzugeben.
- b - So ändern Sie die Haltezeit:
  - Die zweite Taste von rechts auf der Tastatur: Verlängert die Haltezeit um 5 oder 30 Minuten, wenn die Haltezeit mindestens 240 Minuten beträgt.

- Die rechte Taste auf der Tastatur: Verringert die Haltezeit um 5 oder 30 Minuten, wenn die Haltezeit mindestens 240 Minuten beträgt.
- c - Um zum nächsten Pan zu wechseln, drücken Sie die linke Taste auf der Tastatur. Das Licht für den nächsten Pan blinkt Rot.
- d - Um den Programmiermodus für die Haltezeit zu beenden, drücken Sie gleichzeitig die beiden linken Pan-Tasten auf der Tastatur. Der Name der Pans wird in der alphanumerischen Anzeige angegeben. Die Lichter der Pans mit Haltezeiten größer als Null sind Rot. Die Lichter der Pans mit Haltezeiten von Null sind aus und das Produkt sollte sich nicht in diesen Pans befinden.

### **3 - Programmieren der Kochzeiten:**

- a - Stellen Sie sich vor die zu programmierende Wärmeplatte. Drücken Sie gleichzeitig die mittleren vier Tasten auf der Tastatur (siehe Abbildung 1). Die alphanumerische Anzeige der Pans gibt die aktuelle Kochzeit in Minuten an (siehe Tabelle). Beachten Sie, dass das linke Licht auf der Tastatur Rot blinkt. Dies zeigt an, dass Sie PAN 1 programmieren. Die anderen Lichter sind an, um die aktuelle Kochzeit wie in Abschnitt 5 beschrieben anzugeben.
- b - So ändern Sie die Kochzeit:
- Die zweite Taste von rechts auf der Tastatur: Verlängert die Kochzeit um 5 Minuten, oder um 1 Minute, wenn die Kochzeit weniger als 10 Minuten beträgt, oder um 30 Minuten, wenn die Kochzeit mindestens 240 Minuten beträgt.
  - Die rechte Taste auf der Tastatur: Verringert die Kochzeit um 5 Minuten, oder um 1 Minute, wenn die Kochzeit weniger als 10 Minuten beträgt, oder um 30 Minuten, wenn die Kochzeit mindestens 240 Minuten beträgt.
- c - Um zum nächsten Pan zu wechseln, drücken Sie die linke Taste auf der Tastatur. Das Licht für den nächsten Pan blinkt Rot.
- d - Um den Kochmodus zu beenden, drücken Sie gleichzeitig die vier mittleren Tasten auf der Tastatur. Der Name der Pans wird in der alphanumerischen Anzeige angegeben. Die Lichter der Pans mit Haltezeiten größer als Null sind Rot. Die Lichter der Pans mit Haltezeiten von Null sind aus und das Produkt sollte sich nicht in diesen Pans befinden.



#### **4 - Anzeigen verknüpfter Pans:**

- a - Stellen Sie sich vor die zu anzuzeigende Wärmeplatte. Drücken Sie gleichzeitig die beiden rechten Pan-Tasten auf der Tastatur (siehe Abbildung 1). Beachten Sie, dass das linke Licht auf der Tastatur Rot blinkt und der Produktname angezeigt wird. Dies zeigt an, dass Sie PAN 1 überprüfen. Die anderen Lichter zeigen in Grün an, welche Pans mit PAN 1 verknüpft sind.
- c – Um zum nächsten Pan zu wechseln, drücken Sie die linke Taste auf der Tastatur. Das Licht des nächsten Pan ist Rot und die anderen Lichter zeigen in Grün an, welche Pans verknüpft sind.
- c - Um die Anzeige zu beenden, drücken Sie gleichzeitig die beiden rechten Pan-Tasten auf der Tastatur.

#### **5 - Anzeigen der Zeit**

Zusätzlich zu den Zeiten in der alphanumerischen Anzeige, geben die Farben der Lichter für die nicht programmierten Pans (z.B. die Pans, deren Licht nicht Rot blinkt) die aktuelle Zeit an.

Jedes gelbe Licht = 20 Minuten

Jedes grüne Licht = 5 Minuten

Jedes blinkende grüne Licht = 30 Minuten, wenn die Zeitdauer länger als 120 Minuten ist

Jedes rote Licht = 60 Minuten

Jedes blinkende gelbe Licht = 120 Minuten

Um die Zeiteinstellung zu bestimmen, multiplizieren Sie:

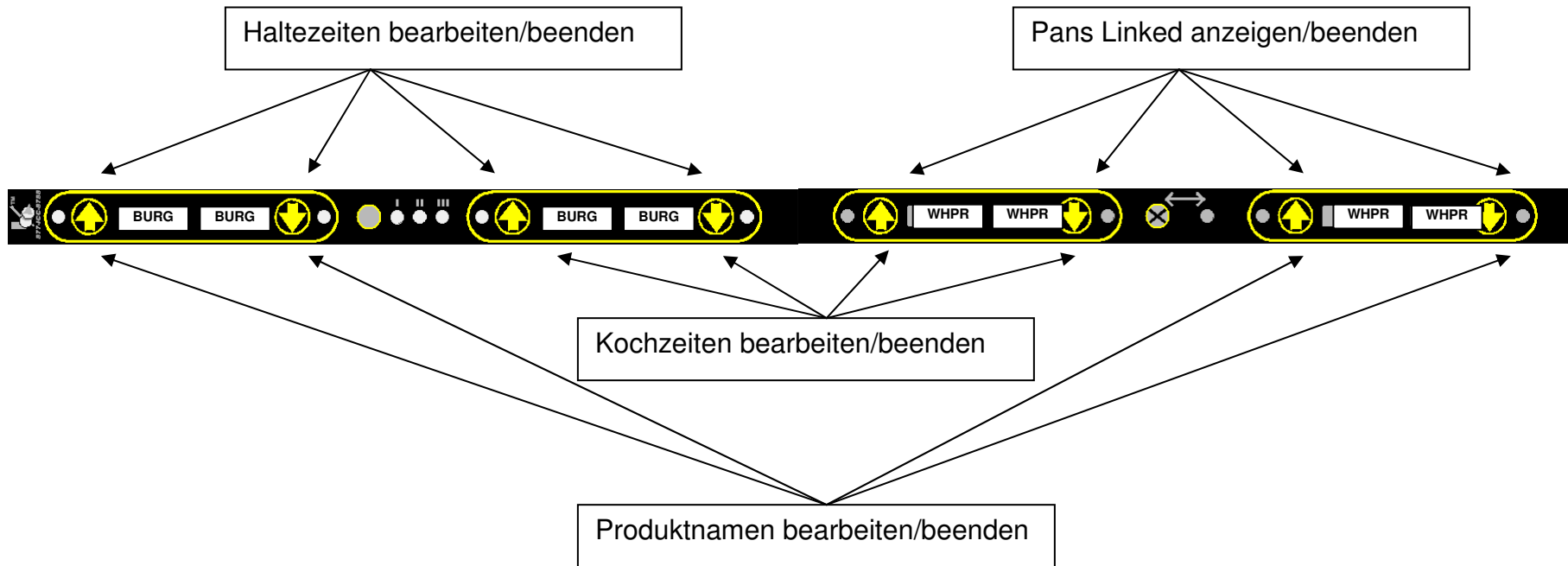
- die Anzahl der gelben Lichter mit 20
- die Anzahl der grünen Lichter mit 5
- die Anzahl der blinkenden grünen Lichter mit 30
- die Anzahl der roten Lichter mit 60 (ausschließlich des blinkenden roten Lichts, das den aktuellen Pan anzeigt)
- die Anzahl der blinkenden gelben Lichter mit 120

und addieren Sie die beiden Zahlen.

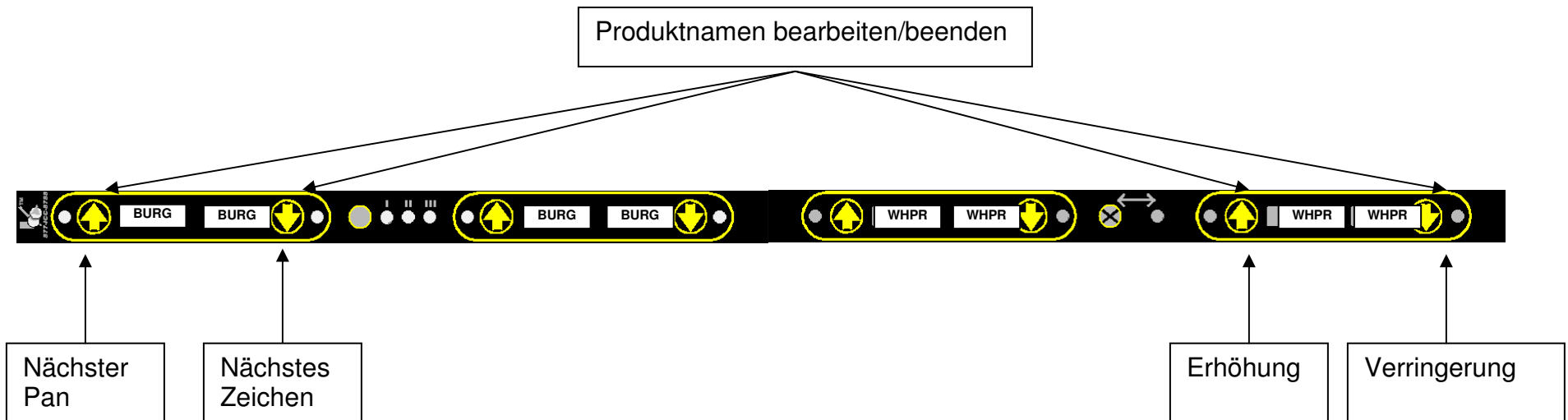
Beispielsweise zeigen zwei gelbe und ein grünes Licht eine Zeitdauer von 45 Minuten an.

| TASTENDRUCK / MINUTEN<br>TABELLE |                               |                               |                                               |
|----------------------------------|-------------------------------|-------------------------------|-----------------------------------------------|
| ZEIT<br>(MINUTEN)                | PALM-<br>WERT                 | BEARBE<br>ITUNGS<br>MODUS     | NORMAL<br>ER<br>MODUS                         |
| 0                                | 0                             | 0                             | 4 Zeichen langer alphanumerischer Produktname |
| 1-4<br>(NUR<br>KOCHMOD<br>US)    | 1-4<br>(NUR<br>KOCHM<br>ODUS) | 1-4<br>(NUR<br>KOCHM<br>ODUS) |                                               |
| 5                                | 5                             | 5                             |                                               |
| 6-9<br>(NUR<br>KOCHMOD<br>US)    | 6-9<br>(NUR<br>KOCHM<br>ODUS) | 6-9<br>(NUR<br>KOCHM<br>ODUS) |                                               |
| 10                               | 10                            | 10                            |                                               |
| 15                               | 15                            | 15                            |                                               |
| 20                               | 20                            | 20                            |                                               |
| 25                               | 25                            | 25                            |                                               |
| 30                               | 30                            | 30                            |                                               |
| 35                               | 35                            | 35                            |                                               |
| 40                               | 40                            | 40                            |                                               |
| 45                               | 45                            | 45                            |                                               |
| 50                               | 50                            | 50                            |                                               |
| 55                               | 55                            | 55                            |                                               |
| 60                               | 60                            | 60                            |                                               |
| 65                               | 65                            | 65                            |                                               |
| 70                               | 70                            | 70                            |                                               |
| 75                               | 75                            | 75                            |                                               |
| 80                               | 80                            | 80                            |                                               |
| 85                               | 85                            | 85                            |                                               |
| 90                               | 90                            | 90                            |                                               |
| 95                               | 95                            | 95                            |                                               |
| 100                              | 100                           | 100                           |                                               |
| 105                              | 105                           | 105                           |                                               |
| 110                              | 110                           | 110                           |                                               |

|     |     |     |                                               |
|-----|-----|-----|-----------------------------------------------|
| 115 | 115 | 115 | 4 Zeichen langer alphanumerischer Produktname |
| 120 | 120 | 120 |                                               |
| 125 | 125 | 125 |                                               |
| 130 | 130 | 130 |                                               |
| 135 | 135 | 135 |                                               |
| 140 | 140 | 140 |                                               |
| 145 | 145 | 145 |                                               |
| 150 | 150 | 150 |                                               |
| 155 | 155 | 155 |                                               |
| 160 | 160 | 160 |                                               |
| 165 | 165 | 165 |                                               |
| 170 | 170 | 170 |                                               |
| 175 | 175 | 175 |                                               |
| 180 | 180 | 180 |                                               |
| 185 | 185 | 185 |                                               |
| 190 | 190 | 190 |                                               |
| 195 | 195 | 195 |                                               |
| 200 | 200 | 200 |                                               |
| 205 | 205 | 205 |                                               |
| 210 | 210 | 210 |                                               |
| 215 | 215 | 215 |                                               |
| 220 | 220 | 220 |                                               |
| 225 | 225 | 225 |                                               |
| 230 | 230 | 230 |                                               |
| 235 | 235 | 235 |                                               |
| 240 | 240 | 240 |                                               |
| 270 | 241 | 270 |                                               |
| 300 | 242 | 300 |                                               |
| 330 | 243 | 330 |                                               |
| 360 | 244 | 360 |                                               |
| 390 | 245 | 390 |                                               |
| 420 | 246 | 420 |                                               |
| 450 | 247 | 450 |                                               |
| 480 | 248 | 480 |                                               |
| 510 | 249 | 510 |                                               |
| 540 | 250 | 540 |                                               |
| 570 | 251 | 570 |                                               |
| 600 | 252 | 600 |                                               |



**Abbildung 1: Manuelle Programmiermodi starten/beenden**



**Abbildung 2: Manueller Programmiermodus für Produktnamen**

# **ANHANG**

## **Manuelle Bearbeitungstasten für alphanumerische Tastaturen Konfigurationen**

## Manuelle Bearbeitungstasten für alphanumerische 2x2 Tastaturen

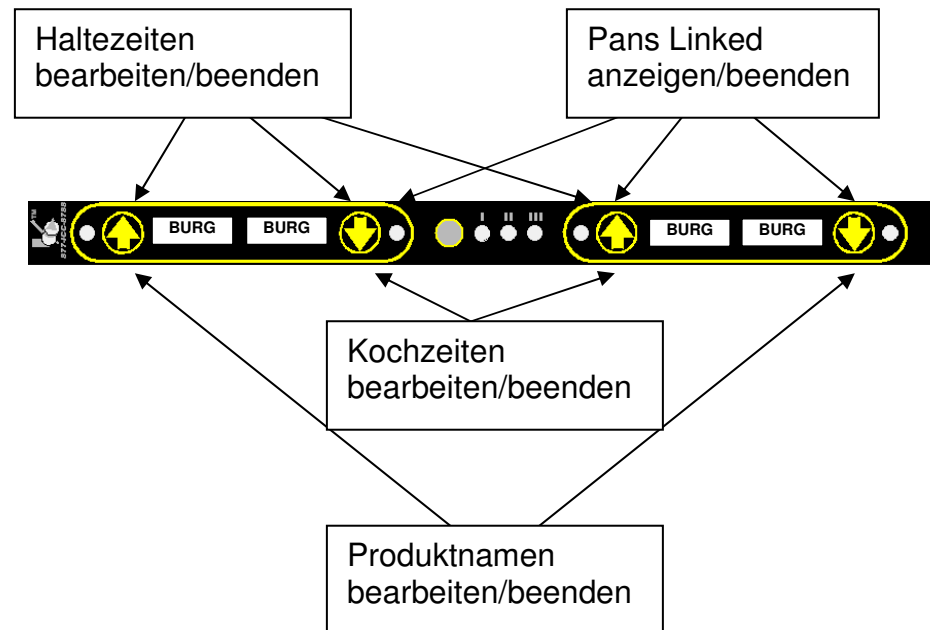


Abbildung 3: Manuelle Programmiermodi starten/beenden

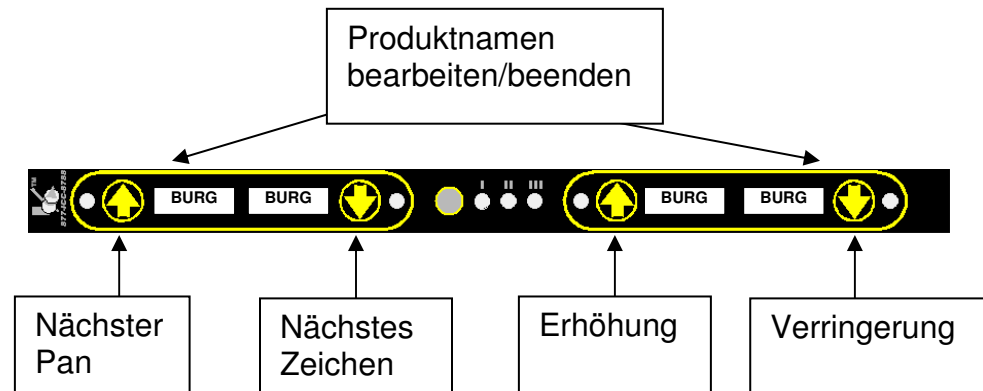


Abbildung 4: Manueller Programmiermodus für Produktnamen

## Manuelle Bearbeitungstasten für alphanumerische 2x3 Tastaturen

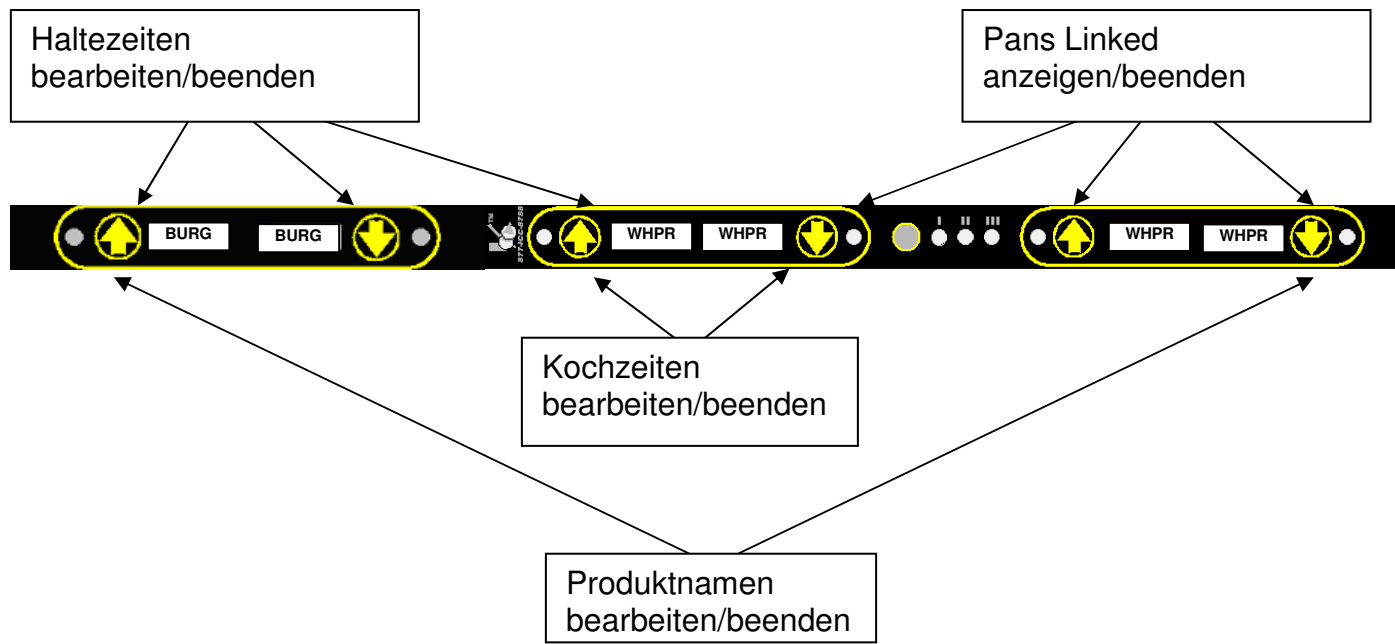


Abbildung 5: Manuelle Programmiermodi starten/beenden

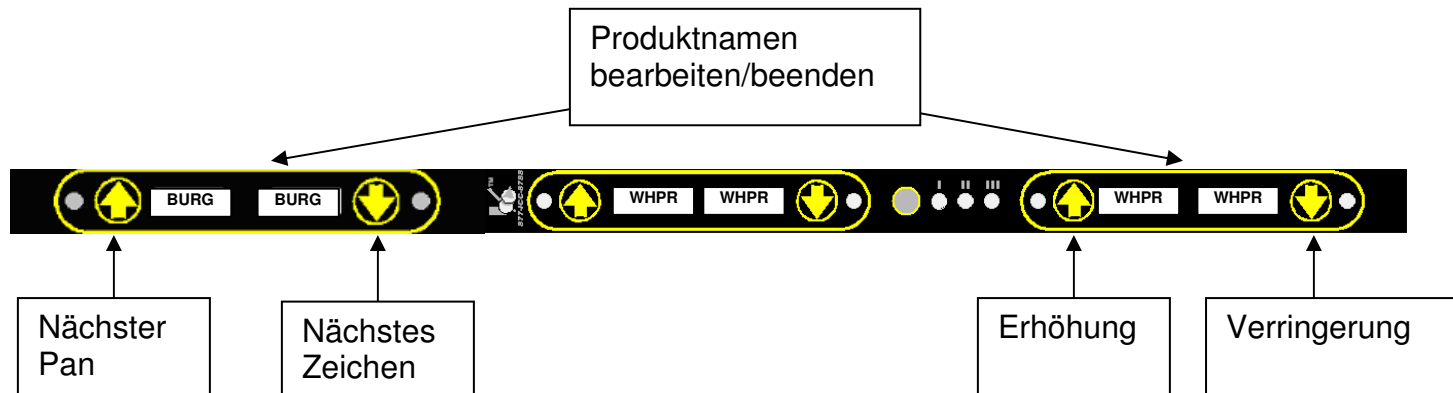


Abbildung 6: Manueller Programmiermodus für Produktnamen

## Manuelle Bearbeitungstasten für alphanumerische 4x2 Tastaturen

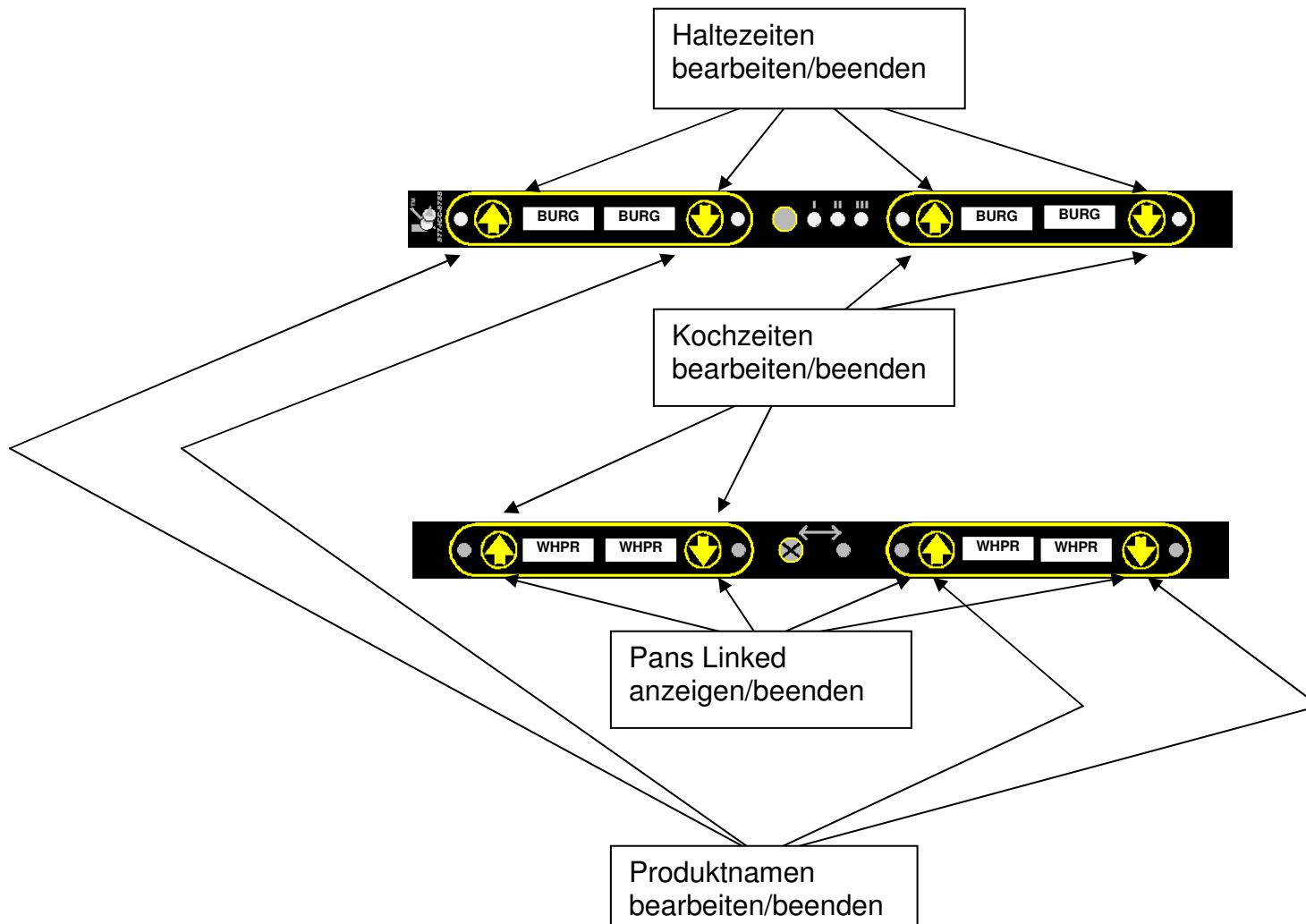


Abbildung 7: Manuelle Programmiermodi starten/beenden

## Manuelle Bearbeitungstasten für alphanumerische 4x2 Tastaturen (fortgesetzt)

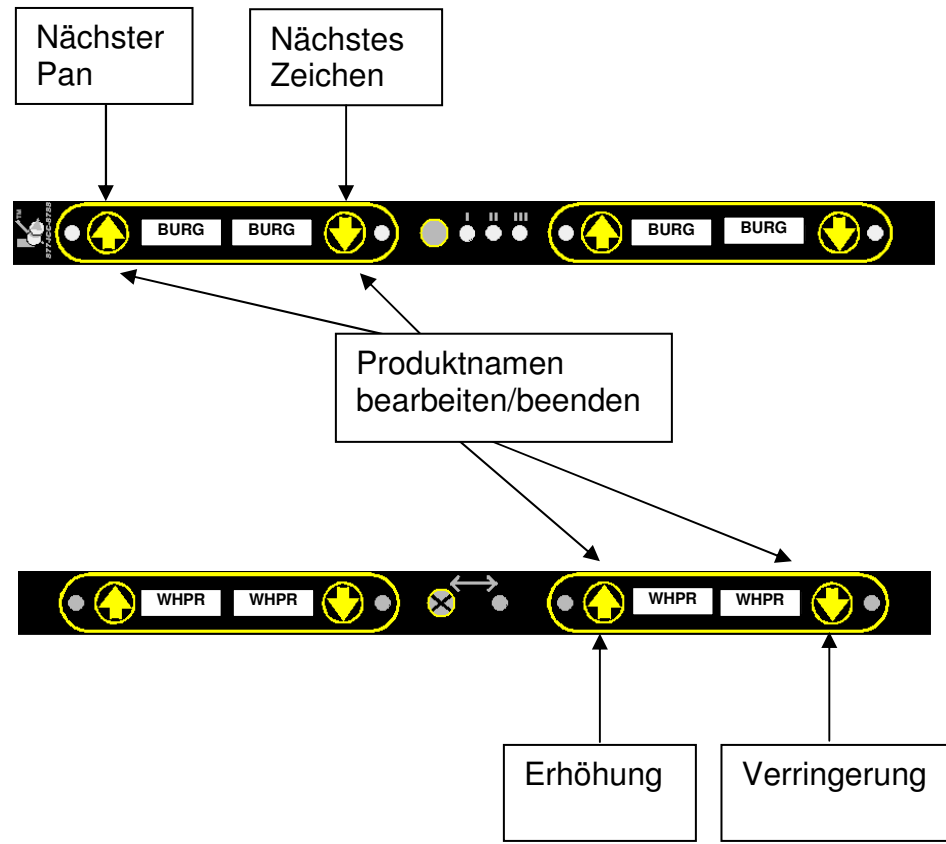


Abbildung 8: Manueller Programmiermodus für Produktnamen





**Product Quality Timer™**

# **Manual del sistema Suplemento**

**Programación manual  
Teclados alfanuméricos de  
doble altura y cuádruple anchura**

**Integrated Control Corp.  
748 Park Ave.  
Huntington, NY. 11743**

**631-673-5100    Fax: 631-673-6756    [www.goicc.com](http://www.goicc.com)**

## **Temporizador de calidad del producto – Teclados alfanuméricos de doble altura y cuádruple anchura**

### **Programación manual**

Los botones, las luces y pantallas de los teclados alfanuméricos de estado de los fogones se utilizan para modificar el NOMBRE y los tiempos de MANTENIMIENTO Y COCINADO, así como para visualizar los valores de los FOGONES CONECTADOS de cada una de las tres (3) partes del día. Mediante el método de programación manual descrito a continuación se pueden modificar los NOMBRES, tiempos de MANTENIMIENTO y COCINADO, así como la configuración mostrada de FOGONES CONECTADOS. Estos ajustes también se pueden cambiar mediante la aplicación ICC Hold Setup PALM descrita aparte en el manual de sistema Red Light Green Light™ del temporizador de calidad de productos.

Los NOMBRES de los productos consisten de cuatro (4) caracteres, incluyendo letras mayúsculas y minúsculas, así como símbolos especiales, se pueden programar tal y como se describe a continuación en la sección 1.

Puede definir el tiempo de MANTENIMIENTO en cada fogón entre 5 minutos y 10 horas a incrementos de 5 minutos hasta 4 horas y, a partir de ahí, en incrementos de ½ hora —véase el gráfico de la página 5—. Puede definir el tiempo de COCINADO en cada fogón entre 1 minuto y 10 horas en incrementos de 1 minuto hasta 10 minutos, en incrementos de 5 minutos hasta 4 horas y, a partir de ahí, en incrementos de ½ hora. Para programar manualmente los tiempos de MANTENIMIENTO y COCINADO, consulte —respectivamente— las secciones 2 y 3.

La conexión de fogones con nombres idénticos permite “utilizar primero indicadores” para obtener una visualización adecuada. Los nombres de los productos cambiados mediante el método manual descrito en la sección 1, se utilizarán para establecer configuraciones de FOGONES CONECTADOS con los productos de igual NOMBRE. La configuración FOGONES CONECTADOS se puede ver mediante el método manual descrito en la sección 4.

Para programar el NOMBRE, así como los tiempos de MANTENIMIENTO o COCINADO, o para ver la configuración de FOGONES CONECTADOS para la parte del día seleccionada, ha de estar en frente del calentador que se va a programar.

**NOTA: Sólo una persona debe pulsar las teclas de la estación que se está programando.**

## 1 – Programación de los NOMBRES de los productos:

- a – Colóquese de pie en frente de la estación que desea programar. Pulse a la vez el **par de botones de fogones situados en el extremo izquierdo y derecho del teclado** y suéltelos —véase la figura 1 en la última página—. Cada pantalla alfanumérica de fogón mostrará el NOMBRE de producto actual de ese fogón. Compruebe que la luz más a la izquierda del teclado es ROJA y que el visualizador más a la izquierda del teclado muestra parpadeante el nombre de 4 caracteres del producto actual. Esto indica que está programando el FOGÓN 1 y el carácter parpadeante indica la posición actual de cursor dentro del NOMBRE de 4 caracteres.
- b – Para cambiar el carácter situado en la posición actual del cursor, pulse el **botón situado en el extremo derecho (flecha hacia abajo)** del teclado para cambiar al carácter anterior y el **2º botón desde la derecha (flecha hacia arriba)** para cambiar al carácter siguiente de los que se encuentran en la siguiente lista:

<space>!"#\$%&'()\*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^\_`abcdefghijklmnopqrstuvwxyz

Para mover el cursor al carácter siguiente del nombre, pulse el **2º botón desde la izquierda** del teclado. Véase la figura 2 en la última página.

- c – Para avanzar al siguiente fogón, pulse el **botón más a la izquierda del teclado**. La luz del siguiente fogón se volverá ROJA y su visualizador mostrará el nombre actual con su carácter más a la izquierda parpadeante, indicando la posición actual del cursor. El resto de las luces estarán apagadas,
- d – Para **SALIR** del modo de programación del NOMBRE, mantenga pulsados simultáneamente el **par de botones de fogones más a la izquierda y más a la derecha del teclado** y suéltelos. **Se recomienda mantener pulsado los pares de botones más a la izquierda y más a la derecha para evitar cambios inadvertidos de caracteres realizados al pulsar el par de botones más a la derecha.**

***Debería comprobar la configuración de FOGONES CONECTADOS tras modificar los NOMBRES de productos para asegurarse de que se han conectado como se deseaba.***

## 2 – Programación de los tiempos de MANTENIMIENTO:

- a – Colóquese de pie en frente de la estación que desea programar. Pulse a la vez **los 2 pares de botones de fogones más a la izquierda del teclado (4 botones) (omite el botón de parte del día)** y suéltelos —véase la figura 1 en la última página—. La pantalla alfanumérica de cada fogón mostrará el tiempo actual de MANTENIMIENTO en minutos (véase la tabla de la página 5). Compruebe que la luz más a la izquierda del teclado es ROJA PARPADEANTE, lo que indica que está programando el FOGÓN 1. Asimismo, las luces restantes se iluminarán para indicar el tiempo actual de MANTENIMIENTO tal y como se describe en la sección 5.
- b – Para modificar el tiempo de MANTENIMIENTO:
- el **2º botón desde la derecha del teclado aumenta** el tiempo de MANTENIMIENTO a intervalos de 5 minutos o a intervalos de 30 si el tiempo de MANTENIMIENTO es igual o superior a 240 minutos.
  - el **botón más a la derecha del teclado reduce** el tiempo de MANTENIMIENTO a intervalos de 5 minutos o a intervalos de 30 si el tiempo de MANTENIMIENTO es igual o superior a 240 minutos.
- c – Para avanzar al siguiente fogón, pulse el **botón más a la izquierda del teclado**. La luz del siguiente fogón será ROJA PARPADEANTE.
- d - Para **SALIR** del modo de programación de tiempo de MANTENIMIENTO, pulse a la vez los **2 pares de botones más a la izquierda del teclado (4 botones) (omite el botón de parte del día)**, y suéltelos. El NOMBRE de cada fogón aparecerá en las pantallas alfanuméricas. Las luces de todos los fogones con tiempos de MANTENIMIENTO superiores a CERO serán ROJAS. Las luces de fogones con un tiempo de MANTENIMIENTO igual a CERO se apagarán y no debería colocarse ningún producto sobre ese fogón.

## 3 – Programación de los tiempos de COCINADO:

- a – Colóquese de pie en frente de la estación que desea programar. Pulse simultáneamente los **cuatro botones del medio del teclado** y suéltelos —véase la figura 1 de la última página—. La pantalla alfanumérica de cada fogón mostrará el tiempo actual de COCINADO en minutos (véase la tabla de la página 5). Compruebe que la luz más a la izquierda del teclado es ROJA PARPADEANTE, lo que indica que está programando el FOGÓN 1. Asimismo, las luces restantes se iluminarán para indicar el tiempo actual de COCINADO tal y como se describe en la sección 5.

- b – Para modificar el tiempo de COCINADO:
- El **2º botón desde la derecha del teclado: aumenta** el tiempo de COCINADO a intervalos a 10 minutos o a intervalos de 30 minutos si el tiempo de COCINADO es igual o superior a 240 minutos.
  - El **botón más a la derecha del teclado: reduce** el tiempo de COCINADO a intervalos de 5 minutos o a intervalos de 1 minuto si el tiempo de COCINADO es igual o inferior a 10 minutos o a intervalos de 30 minutos si el tiempo de COCINADO es igual o superior a 240 minutos.
- c – Para avanzar al siguiente fogón, pulse el **botón más a la izquierda del teclado**. La luz del siguiente fogón será ROJA PARPADEANTE.
- d – Para **SALIR** del modo de programación del tiempo de cocinado, pulse simultáneamente los **cuatro botones del medio del teclado** y suéltelos. El NOMBRE de cada fogón aparecerá en las pantallas alfanuméricas. Las luces de todos los fogones con tiempos de MANTENIMIENTO superiores a CERO serán ROJAS. Las luces de fogones con un tiempo de MANTENIMIENTO igual a CERO se apagarán y no debería colocarse ningún producto sobre ese fogón.

#### 4 – Visualización de FOGONES CONECTADOS:

- a – Colóquese de pie en frente de la estación que desea ver. Pulse a la vez **los 2 pares de botones de fogones más a la derecha del teclado (4 botones) (omite el botón Transferir)** y suéltelos —véase la figura 1 en la última página—. Compruebe que la luz más a la izquierda del teclado está ROJA y que todas las pantallas muestran un NOMBRE de producto. Esto indica que está viendo el FOGÓN 1. Otras luces de color VERDE indican qué fogones están conectados con el FOGÓN 1.
- b – Para avanzar al siguiente fogón, pulse el **botón más a la izquierda del teclado**. La luz del siguiente fogón se volverá ROJA y el resto de luces indicarán en VERDE qué fogones están conectados.
- c - Para **SALIR** de la visualización de conexiones, pulse a la vez los **2 pares de botones más a la derecha del teclado (4 botones) (omite el botón Transferir)**, y suéltelos.

## 5 – Uso de luces para indicar el tiempo:

Además de los tiempos que se muestran en las pantallas alfanuméricas, los colores de las luces de los fogones que no están programadas actualmente (es decir, los fogones que no muestran una luz ROJA PARPADEANTE) también indican el tiempo actual de la siguiente manera:

Cada luz AMARILLA = 20 minutos.

Cada luz VERDE = 5 minutos.

Cada luz VERDE PARPADEANTE = 30 minutos si el tiempo es superior a 120 minutos.

Cada luz ROJA = 60 minutos.

Cada luz AMARILLA PARPADEANTE = 120 minutos.

Para determinar el ajuste del tiempo, multiplique:

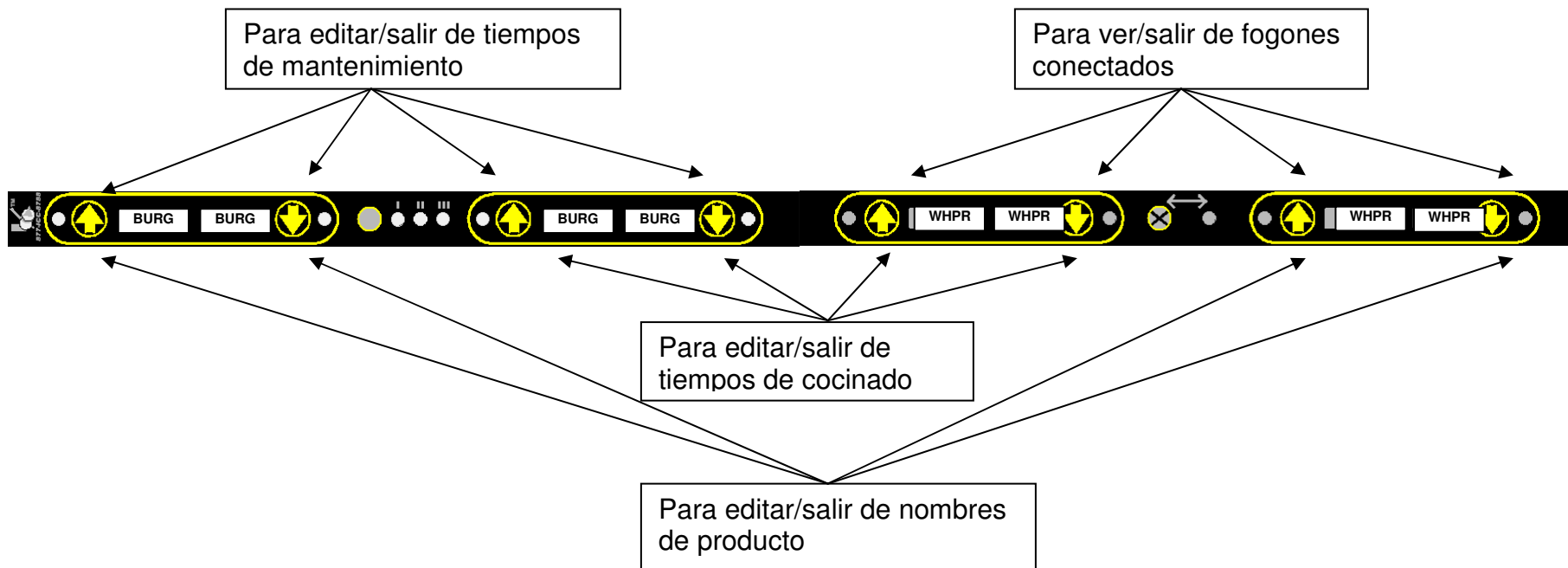
- el número de luces AMARILLAS por 20
- el número de luces VERDES por 5
- el número de luces VERDES PARPADEANTES por 30
- el número de luces ROJAS por 60 (excluya la luz ROJA PARPADEANTE que indica el fogón actual), y
- el número de luces AMARILLAS PARPADEANTES por 120

y añada los dos números juntos.

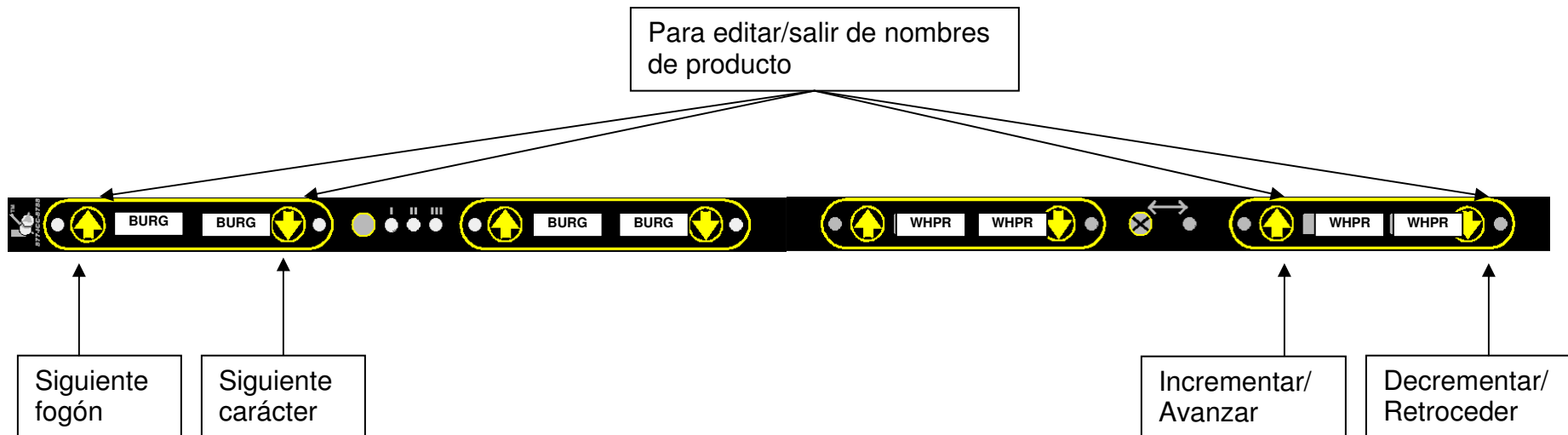
Por ejemplo, 2 luces AMARILLAS y 1 luz VERDE indican un tiempo de 45 minutos.

| TABLA DE MINUTOS /<br>PULSACIÓN DE TECLAS |                                       |                                       |                                                |
|-------------------------------------------|---------------------------------------|---------------------------------------|------------------------------------------------|
| TIEMPO<br>(MINUTOS)                       | VALOR<br>DE<br>PALMA                  | PANTALLA DE<br>MODO<br>DE<br>EDICIÓN  | PANTALLA DE<br>MODO<br>NORMAL                  |
| 0                                         | 0                                     | 0                                     | 4 caracteres alfanuméricos- Nombre de producto |
| 1-4<br>(SÓLO<br>MODO<br>COCINADO<br>)     | 1-4<br>(SÓLO<br>MODO<br>COCINA<br>DO) | 1-4<br>(SÓLO<br>MODO<br>COCINA<br>DO) |                                                |
| 5                                         | 5                                     | 5                                     |                                                |
| 6-9<br>(COOK<br>MODE<br>ONLY)             | 6-9<br>(COOK<br>MODE<br>ONLY)         | 6-9<br>(COOK<br>MODE<br>ONLY)         |                                                |
| 10                                        | 10                                    | 10                                    |                                                |
| 15                                        | 15                                    | 15                                    |                                                |
| 20                                        | 20                                    | 20                                    |                                                |
| 25                                        | 25                                    | 25                                    |                                                |
| 30                                        | 30                                    | 30                                    |                                                |
| 35                                        | 35                                    | 35                                    |                                                |
| 40                                        | 40                                    | 40                                    |                                                |
| 45                                        | 45                                    | 45                                    |                                                |
| 50                                        | 50                                    | 50                                    |                                                |
| 55                                        | 55                                    | 55                                    |                                                |
| 60                                        | 60                                    | 60                                    |                                                |
| 65                                        | 65                                    | 65                                    |                                                |
| 70                                        | 70                                    | 70                                    |                                                |
| 75                                        | 75                                    | 75                                    |                                                |
| 80                                        | 80                                    | 80                                    |                                                |
| 85                                        | 85                                    | 85                                    |                                                |
| 90                                        | 90                                    | 90                                    |                                                |
| 95                                        | 95                                    | 95                                    |                                                |
| 100                                       | 100                                   | 100                                   |                                                |
| 105                                       | 105                                   | 105                                   |                                                |
| 110                                       | 110                                   | 110                                   |                                                |

|     |     |     |                                                |
|-----|-----|-----|------------------------------------------------|
| 115 | 115 | 115 | 4 caracteres alfanuméricos- Nombre de producto |
| 120 | 120 | 120 |                                                |
| 125 | 125 | 125 |                                                |
| 130 | 130 | 130 |                                                |
| 135 | 135 | 135 |                                                |
| 140 | 140 | 140 |                                                |
| 145 | 145 | 145 |                                                |
| 150 | 150 | 150 |                                                |
| 155 | 155 | 155 |                                                |
| 160 | 160 | 160 |                                                |
| 165 | 165 | 165 |                                                |
| 170 | 170 | 170 |                                                |
| 175 | 175 | 175 |                                                |
| 180 | 180 | 180 |                                                |
| 185 | 185 | 185 |                                                |
| 190 | 190 | 190 |                                                |
| 195 | 195 | 195 |                                                |
| 200 | 200 | 200 |                                                |
| 205 | 205 | 205 |                                                |
| 210 | 210 | 210 |                                                |
| 215 | 215 | 215 |                                                |
| 220 | 220 | 220 |                                                |
| 225 | 225 | 225 |                                                |
| 230 | 230 | 230 |                                                |
| 235 | 235 | 235 |                                                |
| 240 | 240 | 240 |                                                |
| 270 | 241 | 270 |                                                |
| 300 | 242 | 300 |                                                |
| 330 | 243 | 330 |                                                |
| 360 | 244 | 360 |                                                |
| 390 | 245 | 390 |                                                |
| 420 | 246 | 420 |                                                |
| 450 | 247 | 450 |                                                |
| 480 | 248 | 480 |                                                |
| 510 | 249 | 510 |                                                |
| 540 | 250 | 540 |                                                |
| 570 | 251 | 570 |                                                |
| 600 | 252 | 600 |                                                |



**Figura 1. Entrada y salida de los modos disponibles de programación manual**



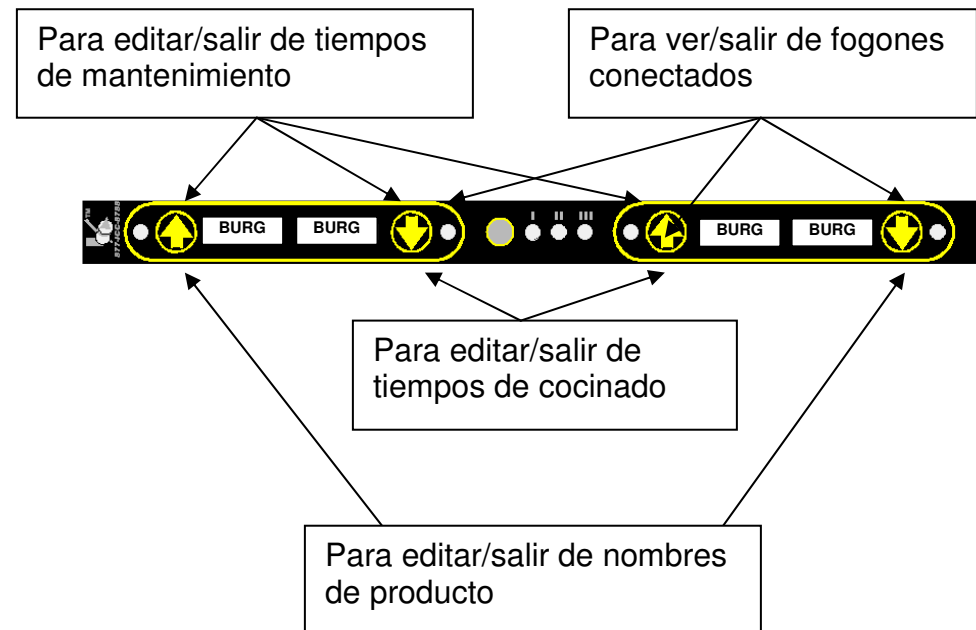
**Figura 2. Modo de programación manual del nombre de producto**



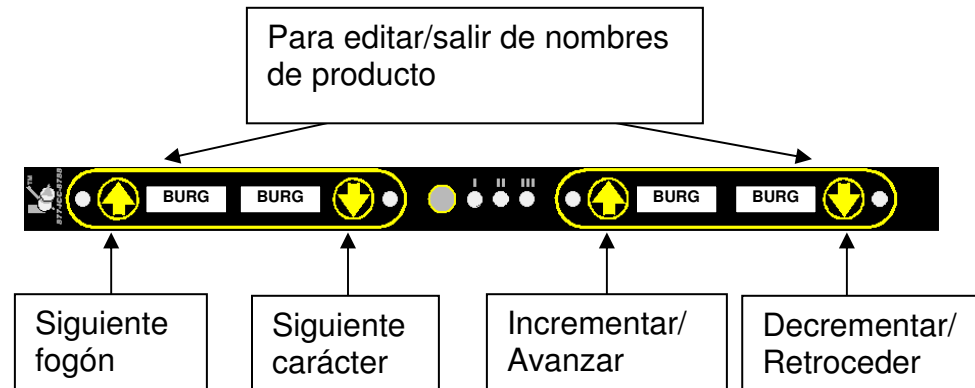
# **APÉNDICE**

## **Teclas de edición manual para otras configuraciones de teclado alfanumérico**

## Tecclas de edición manual para teclados alfanuméricos de doble altura y doble anchura

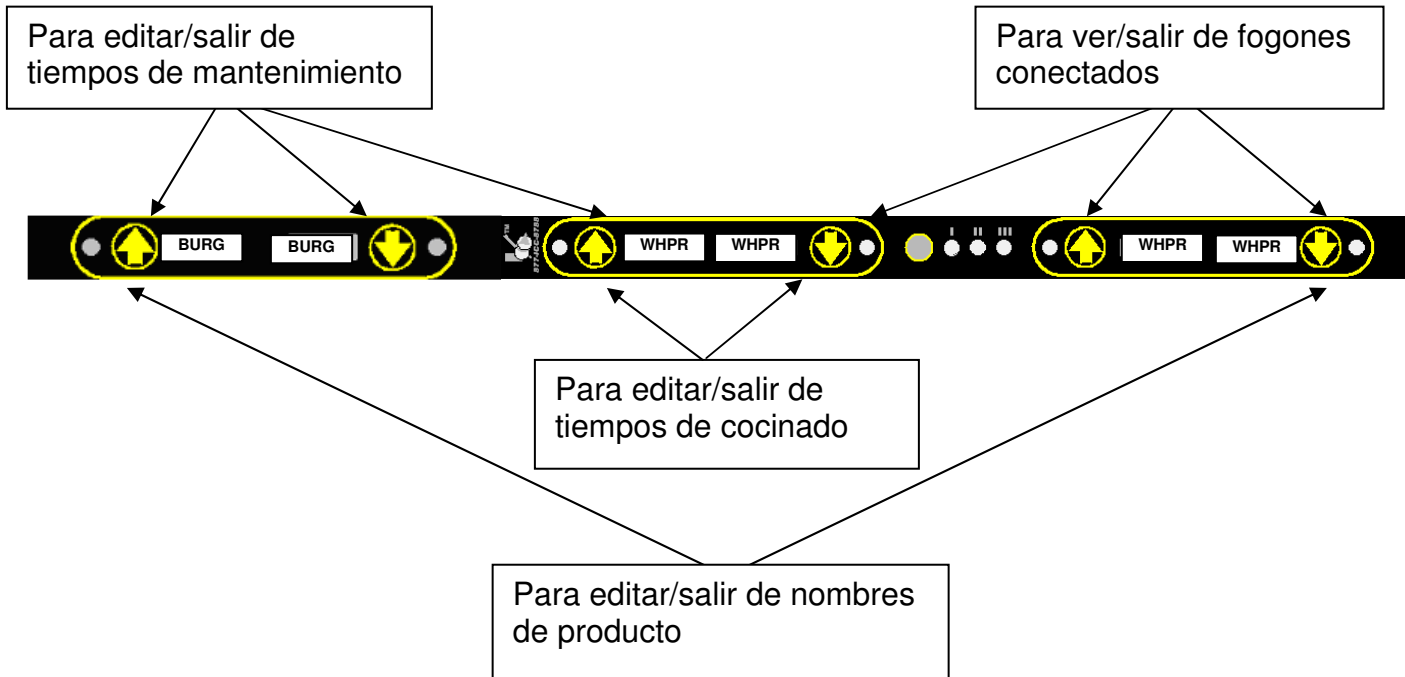


**Figura 3 - Entrada y salida de los modos disponibles de programación manual**



**Figura 4 - Modo de programación manual del nombre de producto**

## Teclas de edición manual para teclados alfanuméricos de doble altura y triple anchura

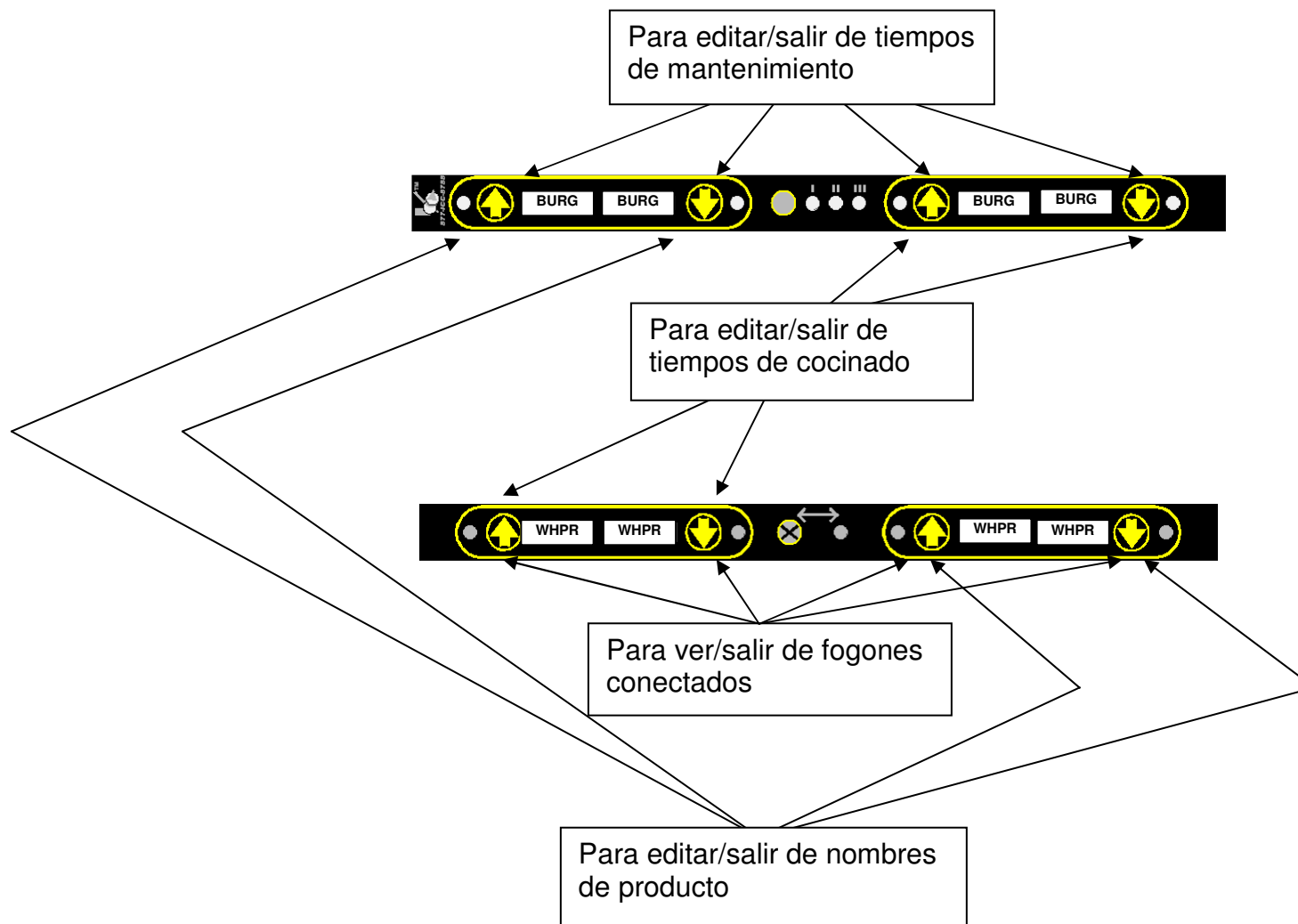


**Figura 5 - Entrada y salida de los modos disponibles de programación manual**



**Figura 6 - Modo de programación manual del nombre de producto**

## Teclas de edición manual para teclados alfanuméricos de cuádruple altura y doble anchura



**Figura 7 - Entrada y salida de los modos disponibles de programación manual**

## Teclas de edición manual para teclados alfanuméricos de cuádruple altura y doble anchura (continuación)

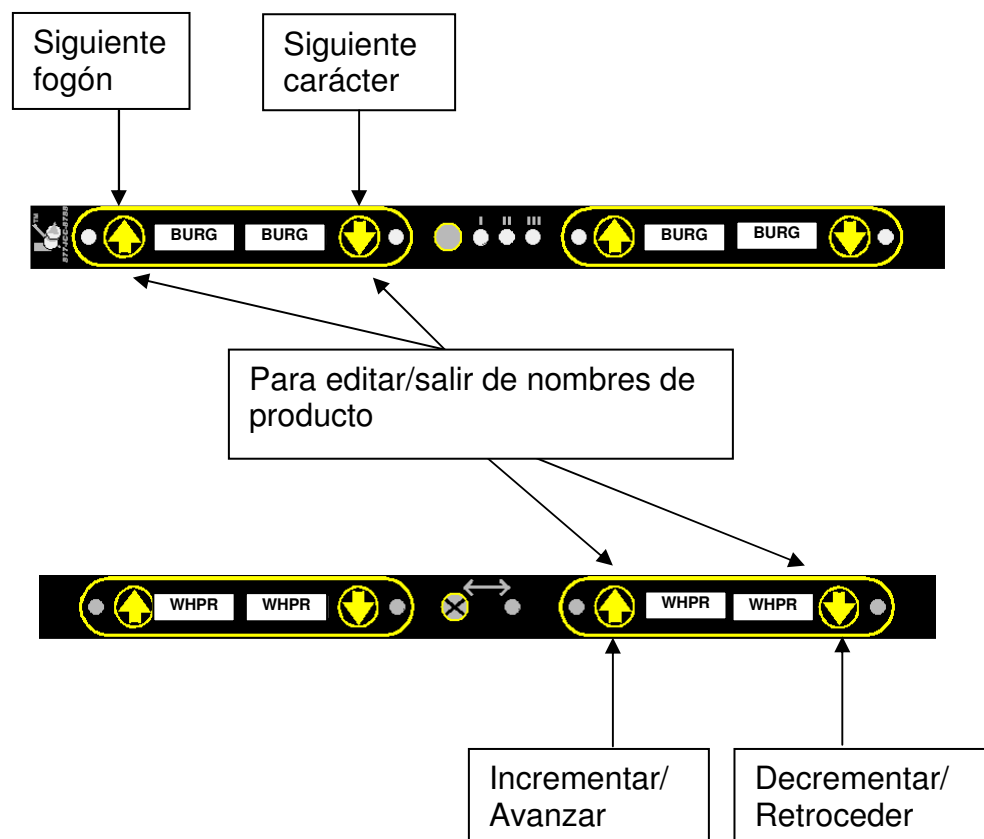


Figura 8 - Modo de programación manual del nombre de producto



**Product Quality Timer™**

# **Supplemento del Manuale di Sistema**

**Programmazione manuale tastiere alfanumeriche  
2-Alti x 4-Larghi**

**Integrated Control Corp.  
748 Park Ave.  
Huntington, NY. 11743**

**631-673-5100    Fax: 631-673-6756    [www.goicc.com](http://www.goicc.com)**

## **Temporizzatore Qualità Prodotto - Tastiere alfanumeriche 2A x 4L**

### **Programmazione Manuale**

I pulsanti, le luci e gli schermi sulle tastiere alfanumeriche Stato Teglia sono usati per modificare Nome (Name), Ritenzione (Hold), i tempi di Cottura (Cook), e per controllare le impostazioni Teglie Collegate (Pans Linked) per ogniuna delle tre (3) parti della giornata (Dayparts). NOMI, tempi di RITENZIONE e tempi di COTTURA possono essere modificati, e la configurazione TEGLIE COLLEGATE può essere osservata seguendo il metodo di programmazione dettagliato nel seguente. Queste impostazioni possono anche essere cambiate usando il programma per PALM ICC Hold Setup (ICC Imposto Ritenzione) spiegato in sede separata nel Manuale di Sistema Qualità del Prodotto Luce Rossa Luce Verde (marca registrata).

Si possono programmare i Nomi dei prodotti usando quattro simboli grafici, che possono includere lettere maiuscole o minuscole, numeri e simboli speciali come descritto nella sezione 1 che segue.

Il tempo di RITENZIONE può essere impostato per ogni teglia tra 5 minuti e 10 ore incrementalmente da 5 minuti sino a 4 ore e dopo 4 ore, in incrementi di 1/2 ora; riferirsi alla tabella di pagina 5. Il tempo di COTTURA di ogni teglia può essere impostato tra 1 minuto e 10 ore in incrementi da 1 minuto di durata sino a 10 minuti, in incrementi da 5 minuti sino a 4 ore e, dopo quattro ore in incrementi di 1/2 ora. Per programmare manualmente i tempi di RITENZIONE e di COTTURA riferirsi rispettivamente alle sezioni 2 e 3.

Il COLLEGAMENTO di teglie con NOMI identici permette il funzionamento adeguato degli "indicatori usare prima". I nomi dei prodotti cambiati usando il metodo di configurazione manuale descritto nella sezione 1 si usano nell'imposto della configurazione per TEGLIE COLLEGATE dei prodotti con lo stesso Nome. La configurazione impostata per TEGLIE COLLEGATE può essere controllata con il metodo descritto nella sezione 4 che segue.

Per programmare NOME, RITENZIONE o tempi di COTTURA, o per vedere la configurazione delle TEGLIE COLLEGATE per la parte del giorno (Daypart) attualmente selezionata, bisogna posizionarsi davanti al riscaldatore da impostare

**NOTARE BENE: Solo una persona alla volta può premere i tasti della stazione che si sta programmando.**

## 1 - Programmazione dei Nomi del Prototipo:

- a - Piazzarsi direttamente di fronte al riscaldatore che si desidera impostare. Lo schermo alfanumerico di ogni teglia mostrerà il Nome del prodotto in teglia. Notare bene che ora la luce della tastiera più a sinistra è Rossa e che lo schermo più lontano a sinistra mostra i 4 simboli per il nome del prodotto attuale mentre il simbolo più a sinistra del nome lampeggia. Questo indica che si sta programmando Teglia 1 e il simbolo lampeggiante indica la posizione attuale del cursore entro il Nome composto di 4 simboli.
- b - Per cambiare il simbolo al punto di posizione attuale del cursore, premere il **pulsante sulla destra (freccia in giù)** della tastiera per impostare valore di simbolo precedente e il **secondo bottone dalla destra (freccia in su)** per avanzare al prossimo simbolo nell'ordine della lista seguente:

<space>! " # \$ % & ' ( ) \* + , - . / 0 1 2 3 4 5 6 7 8 9 ; < = > ? @ A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ \ ] ^ \_ ` a b c d e f g h i j k l m n o p q r s t u v w x y z

Per fare avanzare il cursore entro il nome attuale, premere il **secondo pulsante di sinistra** della tastiera. Riferirsi a figura 2 dell'ultima pagina.

- c - Per avanzare alla prossima teglia, premere il **tasto più a sinistra della tastiera**. La luce della prossima teglia diventerà ROSSA e lo schermo mostrerà il nome in uso attuale con il simbolo a sinistra che lampeggia come indicatore della posizione attuale del cursore. Tutte le altre luci saranno spente.
- d - Per **USCIRE** dal modulo di impostato del NOME, premere simultaneamente e mantenere la pressione sulle **coppie di tasti estremi di sinistra e destra** poi rilasciarli tutti. **Si raccomanda di premere e tenere premuti prima i tasti estremi a sinistra per evitare di cambiare accidentalmente i simboli quando si premono i tasti a destra.**

**Bisogna controllare la configurazione di Collegamento Teglie dopo avere effettuato la modificazione per assicurarsi che siano state impostate nel modo desiderato.**



## 2- Programmazione dei tempi di RITENZIONE:

- a - Piazzarsi direttamente di fronte al riscaldatore che si desidera impostare. Premere simultaneamente la **coppia di tasti di teglia più a sinistra sulla tastiera (4 pulsanti) (omettere il pulsante per il tempo del giorno)**, e rilasciarli tutti, riferirsi alla figura 1 dell'ultima pagina. Lo schermo alfanumerico di ogni teglia mostrerà il tempo di RITENZIONE attualmente programmato in minuti (riferirsi alla tabella du pagina 5). Notare bene che la luce più a sinistra LAMPEGGIA ROSSA; questo significa che si stà impostando **TEGLIA 1**. Anche notare che le altre luci saranno illuminate indicando il tempo di RITENZIONE come descritto in Sezione 5.
- b - Per modificare il tempo di RITENZIONE:
- Il **secondo tasto dalla destra della tastiera - Aumenta** il tempo di RITENZIONE in incrementi di 5 minuti o 30 minuti se il tempo di ritenzione è impostato a o al di sopra di 240 minuti.
  - Il **secondo tasto dall'estremità destra della tastiera - Diminuisce** il tempo di RITENZIONE ad intervalli di 5 minuti o 30 minuti se il tempo di RITENZIONE è impostato per essere al di sopra di 240 minuti.
- c - Per avanzare alla prossima teglia, premere il **tasto più a sinistra della tastiera**. La luce della prossima teglia LAMPEGGIA ROSSA.
- d - Per **USCIRE** dal modulo di imposto del tempo di RITENZIONE, premere simultaneamente la coppia dei **2 tasti estremi di sinistra sulla tastiera (4 pulsanti) (omettendo il pulsante di tempo del Giorno)**, e poi rilasciarli tutti. Il NOME di ogni teglia comparirà negli schermi alfanumerici. Le luci di tutte le teglie con tempi di Ritenzione programmati al di sopra di ZERO saranno ROSSE. Le luci delle teglie con tempi di Ritenzione equivalenti a ZERO saranno spente e non si deve mettere alcun prodotto in queste teglie.

## 3 - Programmazione dei tempi di COTTURA:

- a - Piazzarsi direttamente di fronte al riscaldatore che si desidera impostare. Premere simultaneamente i **quattro tasti nel mezzo della tastiera** e rilasciarli tutti, riferirsi a Figura 1 dell'ultima pagina. Lo schermo alfanumerico di ogni teglia mostrerà il tempo di COTTURA attualmente programmato in minuti (riferirsi alla tabella du pagina 5). Notare bene che la luce più a sinistra LAMPEGGIA ROSSA; questo significa che si stà impostando Teglia 1. Anche notare che le altre luci saranno illuminate indicando il tempo di COTTURA come descritto in Sezione 5.

- b - Per modificare il tempo di COTTURA:
- Il **secondo tasto dalla destra sulla tastiera** - **Aumenta** il tempo di COTTURA da 5 minuti, o da 1 minuto se il tempo di COTTURA è impostato a meno di 10 minuti, o 30 minuti se il tempo di COTTURA è a o al di sopra di 240 minuti.
  - Il **tasto più a destra sulla tastiera** - **Diminuisce** il tempo di COTTURA da 5 minuti, o da 1 minuto se il tempo di COTTURA è impostato a o a meno di 10 minuti, o 30 minuti se il tempo di COTTURA è a o al di sopra di 240 minuti.
- c - Per avanzare alla prossima teglia, premere il **tasto più a sinistra della tastiera**. La luce della prossima teglia LAMPEGGIA ROSSA.
- d - Per **USCIRE** dal modulo di impostazione del tempo di COTTURA premere simultaneamente i **quattro tasti nel mezzo della tastiera** e rilasciarli tutti, riferirsi a Figura 1 dell'ultima pagina. Il NOME di ogni teglia comparirà negli schermi alfanumerici. Le luci di tutte le teglie con tempi di Ritenzione programmati al di sopra di ZERO saranno ROSSE. Le luci delle teglie con tempi di Ritenzione equivalenti a ZERO saranno spente e non si deve mettere alcun prodotto in queste teglie.

#### 4 - Visualizzazione delle TEGLIE COLLEGATE

- a - Piazzarsi direttamente di fronte al riscaldatore che si desidera impostare. Premere simultaneamente i **due tasti di teglia più a destra sulla tastiera (4 pulsanti) (omettere il pulsante di Trasferimento)**, e rilasciarli tutti, riferirsi alla figura 1 dell'ultima pagina. Notare bene che la luce più a sinistra della tastiera è ROSSA e che tutti gli schermi mostrano il NOME del prodotto. Questo significa che si sta visualizzando Teglia 1. Luci verdi accese mostrano le teglie collegate a Teglia 1.
- b - Per avanzare alla prossima teglia, premere il **tasto più a sinistra della tastiera**. La luce della prossima teglia diventerà ROSSA e le altre luci saranno verdi per indicare le teglie che sono collegate.
- c - Per concludere il controllo di collegamento, premere simultaneamente i **due tasti di teglia più a destra sulla tastiera (4 pulsanti) (omettere il pulsante di Trasferimento)**, e rilasciarli tutti.

## **5 - Uso delle Luci per Indicare Tempo:**

I tempi mostrati sugli schermi alfanumerici sono ulteriormente riflessi nella colorazione delle luci per le teglie che non si stà attualmente impostando (per esempio le teglie la cui luce non LAMPEGGIA ROSSA) come segue:

Ogni luce GIALLA = 20 minuti

Ogni luce VERDE = 5 minuti

Ogni luce VERDE LAMPEGGIANTE = 30 minuti se temporizzato oltre a 120 minuti.

Ogni luce ROSSA = 60 minuti

Ogni luce GIALLA LAMPEGGIANTE = 120 minuti

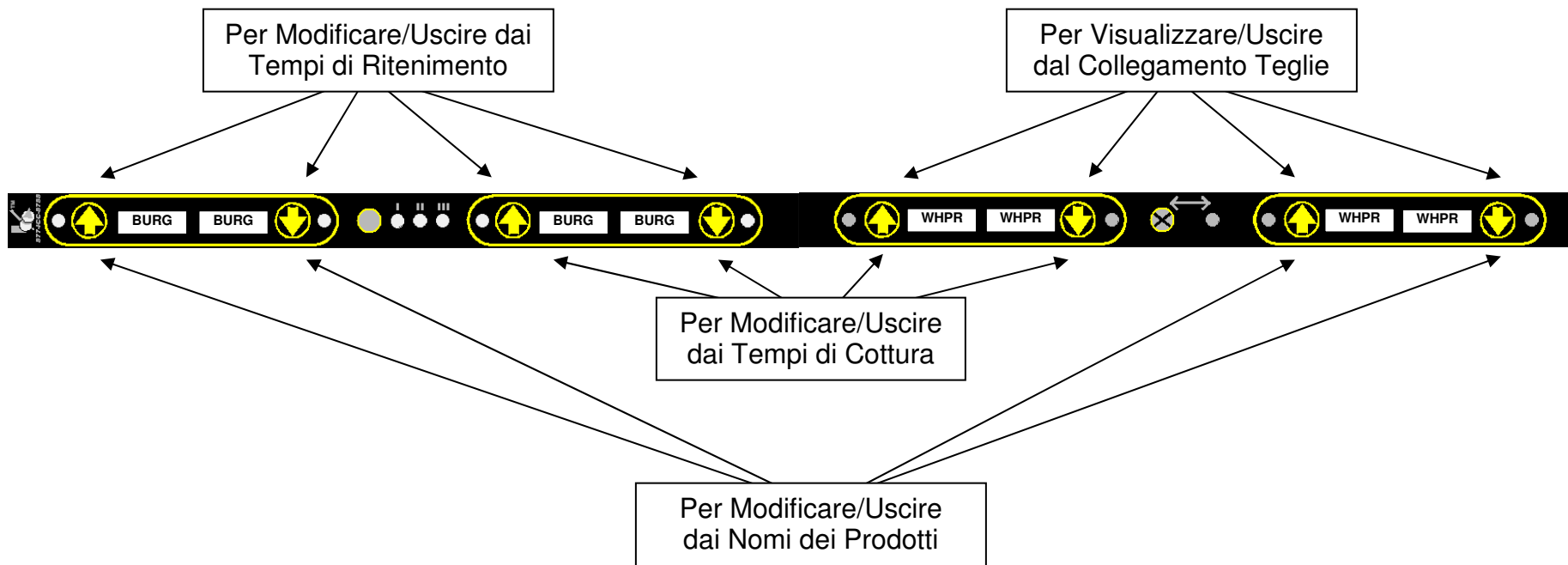
Per determinare il tempo di impostazione, moltiplicare:

- il numero di luci GIALLE per 20
- il numero di luci Verdi per 5
- il numero di luci VERDI LAMPEGGIANITI per 30
- il numero di luci ROSSE a 60 (escludere la luce ROSSA LAMPEGGIANTE che indica la teglia attuale), e
- il numero di luci GIALLE LAMPEGGIANTI per 120

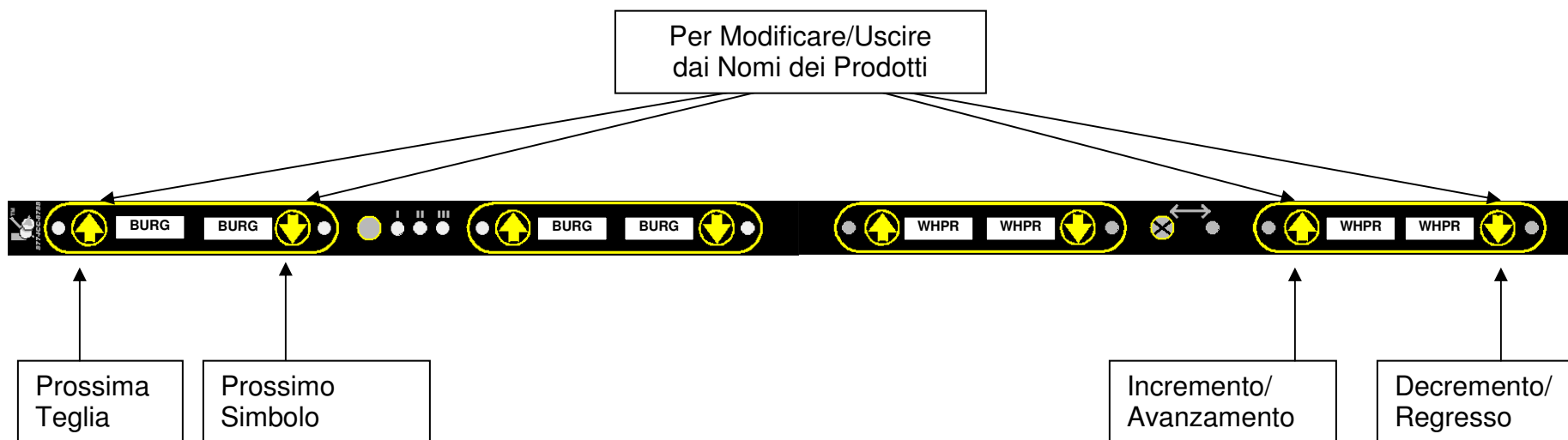
e fare l'addizione dei due numeri.

Per esempio, 2 luci GIALLE e una luce VERDE indica un tempo di 45 minuti.





**Figura 1 - Entrare/Uscire da Moduli di Programmazione Manuale esistenti**

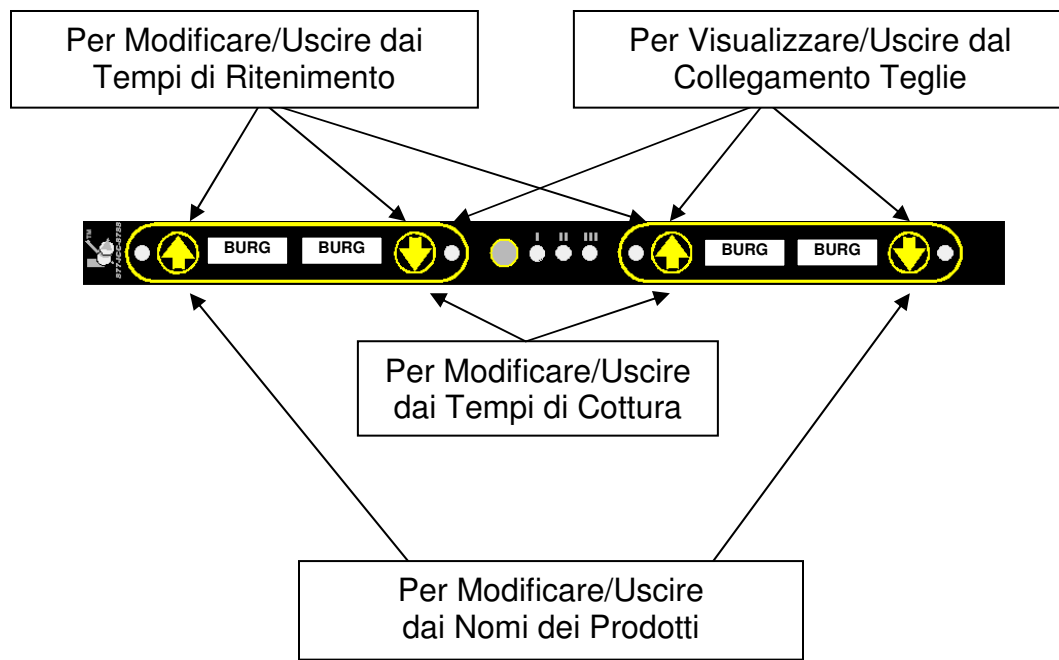


**Figura 2 - Modulo di Programmazione Manuale del Nome del Prodotto**

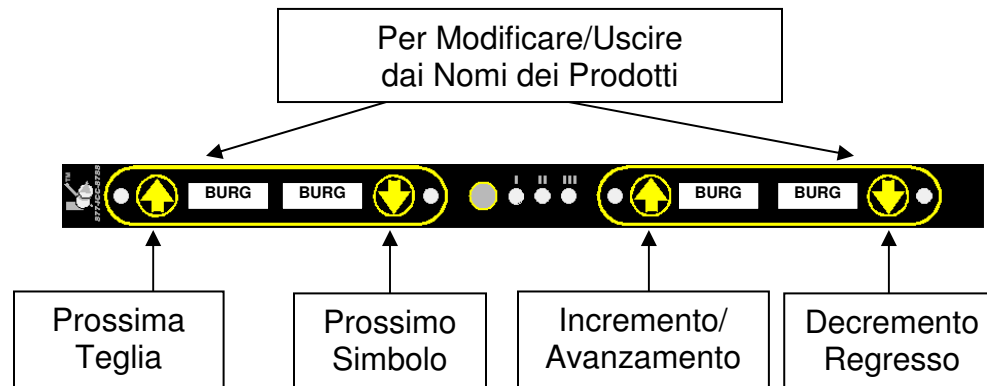
# **APPENDICE**

## **Tasti per Modificazione Manuale Di Altre Configurazioni di Tastiera Alfanumerica**

## Tasti per Modificazione Manuale per Tastiere Afla numeriche 2-alte x 2-larghe

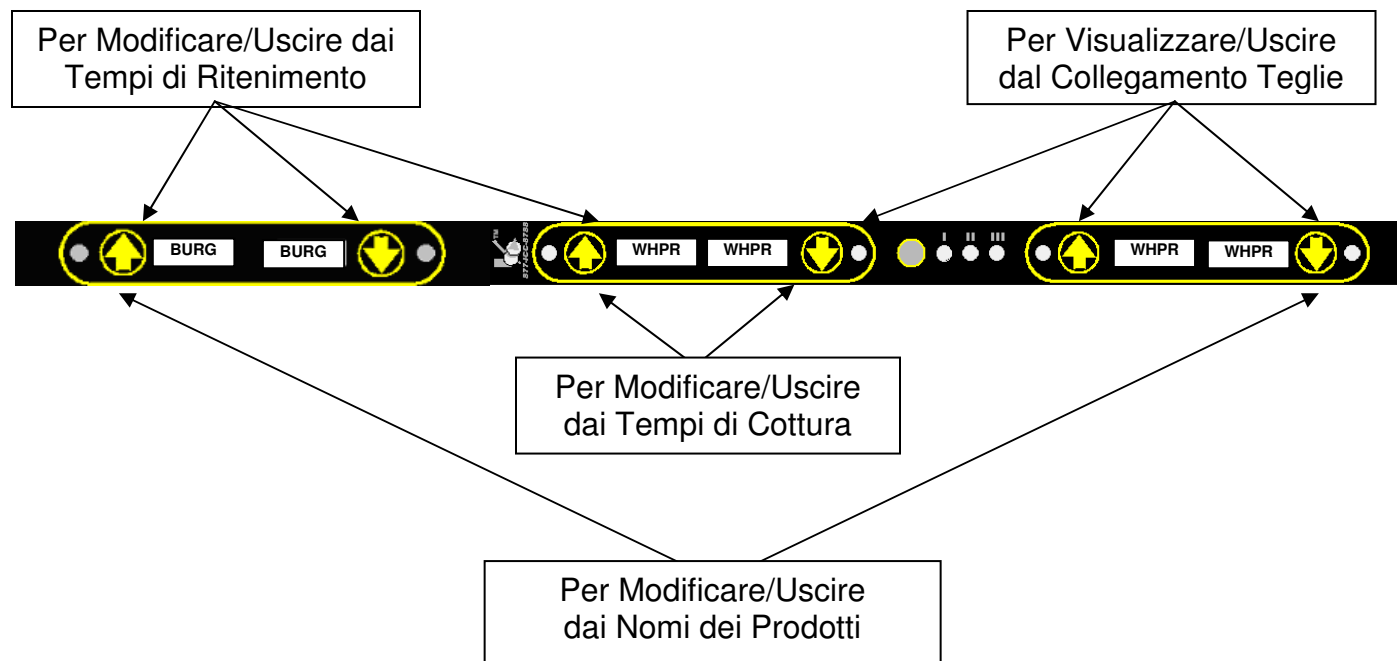


**Figura 3 - Entrare/Uscire da Moduli di Programmazione Manuale esistenti**

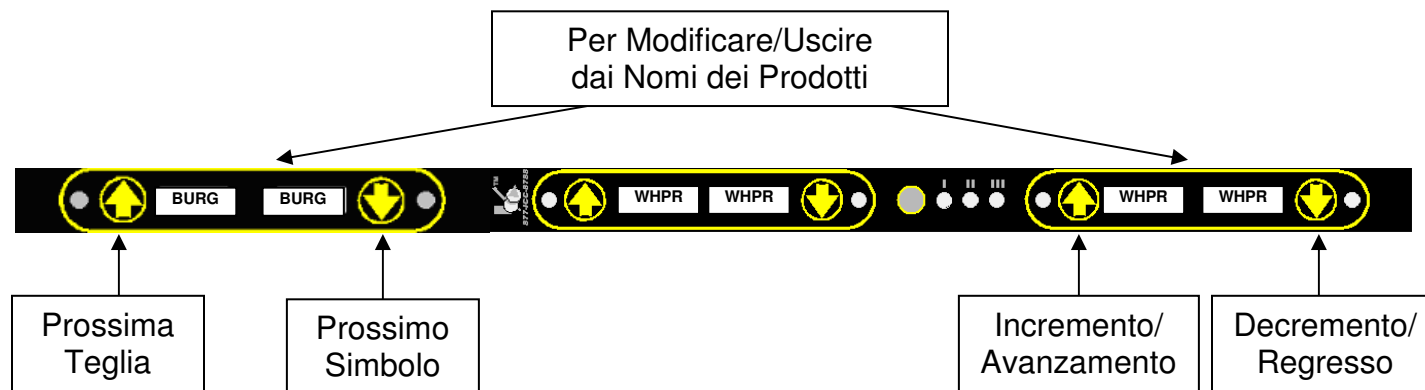


**Figura 4 - Modulo di Programmazione Manuale del Nome del Prodotto**

## Tasti per Modificazione Manuale per Tastiere Aflanumeriche 2-alte x 3-larghe



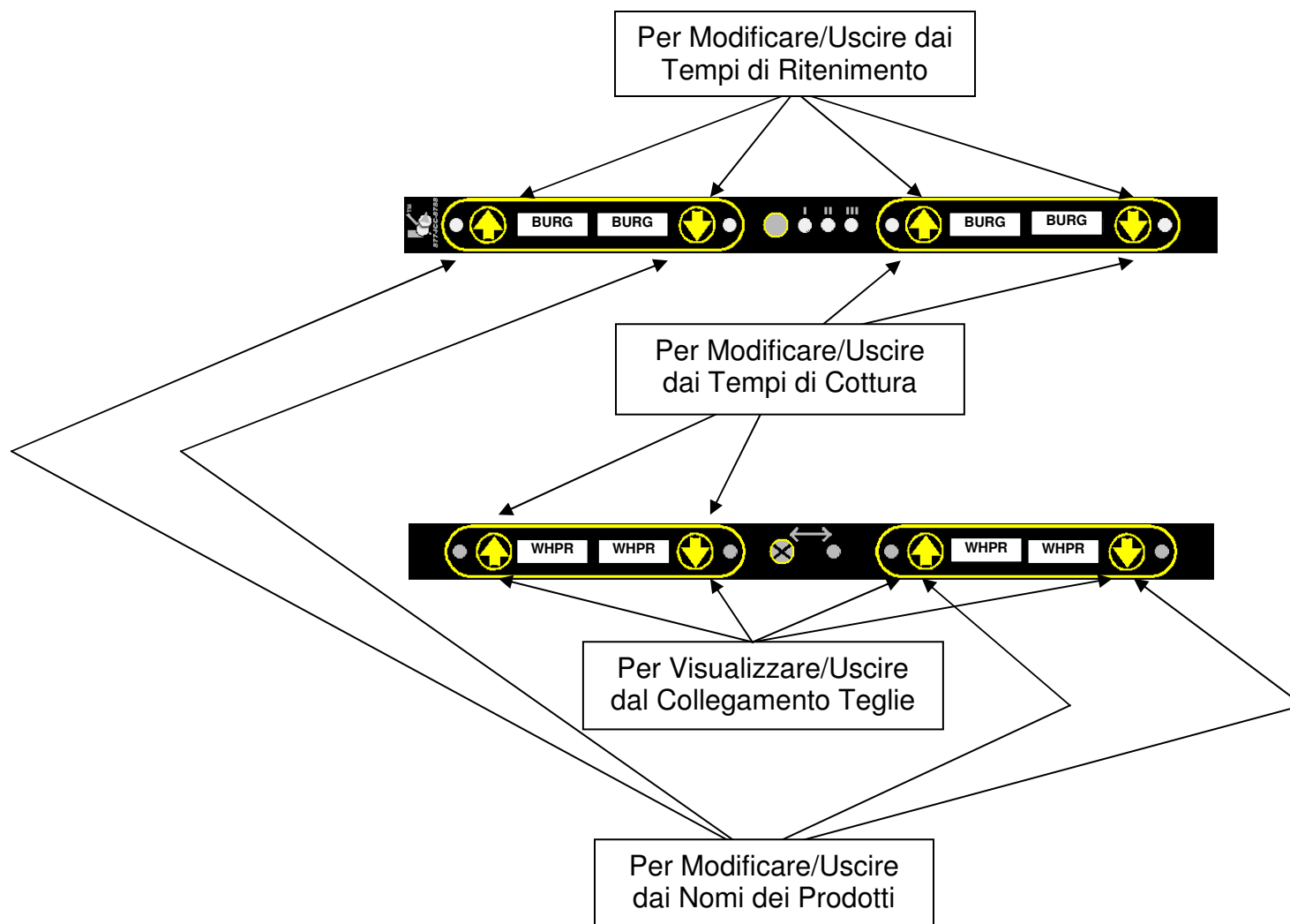
**Figura 5 - Entrare/Uscire da Moduli di Programmazione Manuale esistenti**



**Figura 6 - Modulo di Programmazione Manuale del Nome del Prodotto**



## Tasti per Modificazione Manuale per Tastiere Aflanumeriche 4-alte x 2-larghe



**Figura 7 - Entrare/Uscire da Moduli di Programmazione Manuale esistenti**

## Tasti per Modificazione Manuale per Tastiere Aflanumeriche 4-alte x 2-larghe (Continuato)

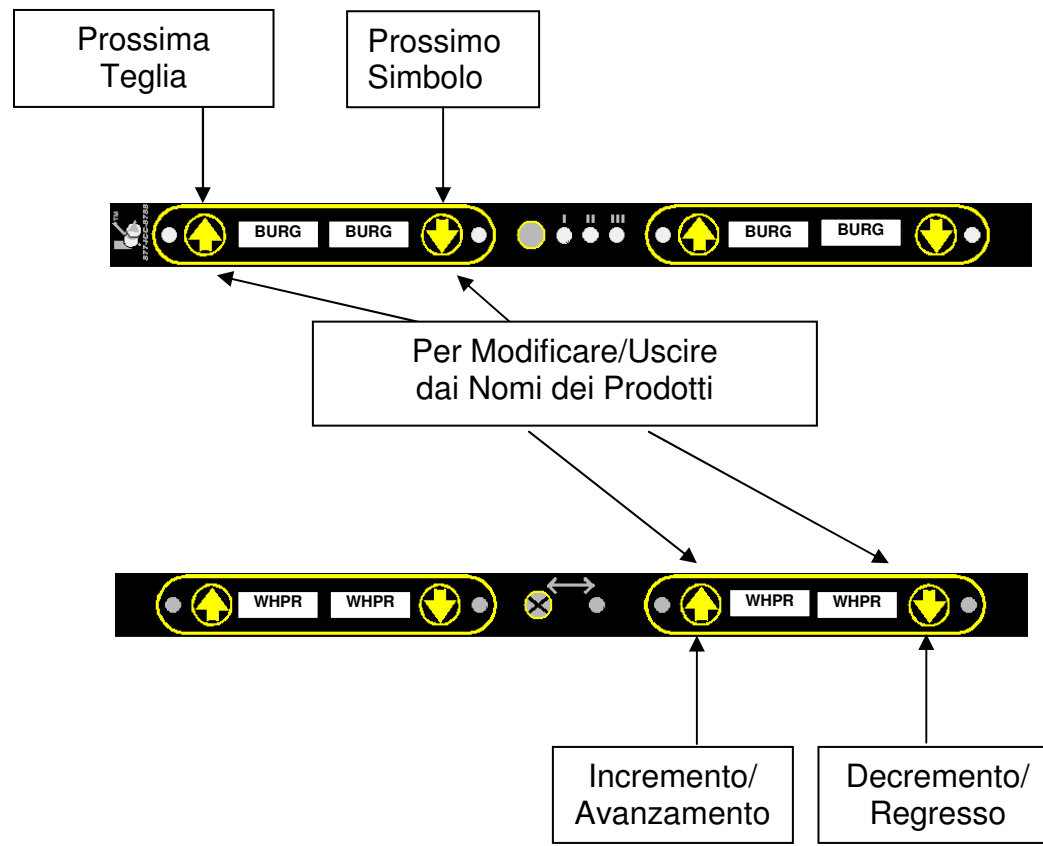


Figura 8 - Modulo di Programmazione Manuale del Nome del Prodotto

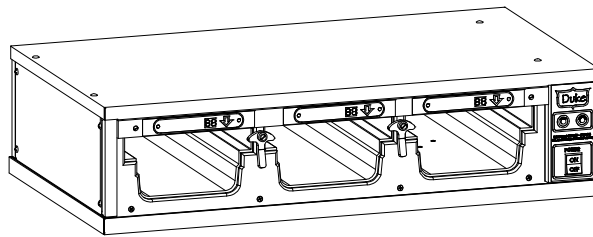
# Operators and Service Manual



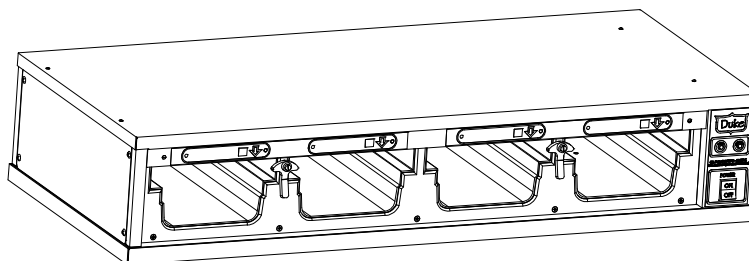
## Product Holding Cabinet

U.S. Patent 6175099, 6262394

Other U.S. and Foreign Patents Pending



**FWM3-13**



**FWM3-14**

For information or technical assistance, call:

**TOLL FREE**

(800) 735-DUKE (3853)

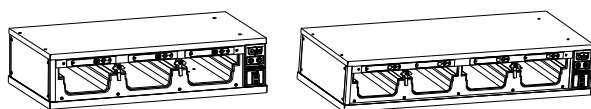
or

(314) 231-1130

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## Manufacturer's Introduction

The Duke Product Holding Cabinet was developed in response to need for extended food-holding capabilities to provide consistently high, "just cooked" food quality.

The Duke Product Holding Cabinet utilizes Duke's patented "heat sink" holding technology that provides even heat distribution to food pans through the bottom and sides. This allows pre-cooked foods to be held for extended periods without noticeable degradation of quality, reducing food scrap/waste.

The self contained, individually formed, sealed compartments of the Duke Product Holding Cabinet eliminates food odor and taste transfer. Because the compartments are sealed and formed to the shape of the pan, no disassembly is required for cleaning and product changes.

The unique design of the Duke Product Holding Cabinet allows single temperature operation for all existing product groups. This 190° F approved temperature is preset at the factory. This reduces the likelihood of inconsistent performance between locations.

The Duke Product Holding Cabinet was also designed to rethermalize food product. A thermostat setting of 200°F minimum is required for rethermalization. See instructions on page 8 for thermostat adjustment. **NOTE:** Only qualified service persons should modify control temperature presets.

Supplier Name: **Duke Manufacturing Co.**  
Address: 2305 N. Broadway  
St. Louis, MO 63102

Model #: FWM3-13-120  
FWM3-13-208  
FWM3-13-230  
FWM3-13-240

FWM3-14-120  
FWM3-14-208  
FWM3-14-230  
FWM3-14-240

Serial #: \_\_\_\_\_  
Date Received: \_\_\_\_\_  
Date Installed: \_\_\_\_\_  
Telephone: (800) 735-DUKE (3853)  
(314) 231-1130  
Fax: (314) 231-5074  
Service Referral #: \_\_\_\_\_  
Local Service  
Name \_\_\_\_\_

Local Service # \_\_\_\_\_

### Installation requirements

**Power Connection:** See diagrams on pages 3.

### !CAUTION!

**Risk of fire or electric shock. Replace only with Manufacturer's cord set or equivalent.**



# PRODUCT HOLDING CABINET

## RESTAURANT EQUIPMENT MANUAL

### Model FWM3-13YM1

|                         |                  |                               |
|-------------------------|------------------|-------------------------------|
| <b>Shipping Weight:</b> | 75lbs/34.1 Kg    |                               |
| <b>Shipping Cube:</b>   | 33"X20"X12"      |                               |
| <b>Electrical</b>       | FWM3-13YM1-120   | 120 V, 5 A, 600 W, 50/60 Hz   |
|                         | FWM3-13YM1-208   | 208 V, 4.3 A, 900 W, 50/60 Hz |
|                         | FWM3-13YM1-230CE | 230 V, 3.9 A, 900 W, 50/60 Hz |
|                         | FWM3-13YM1-240   | 240 V, 3.8 A, 900 W, 50/60 Hz |



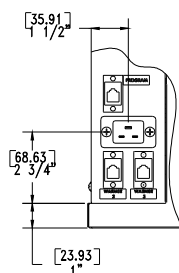
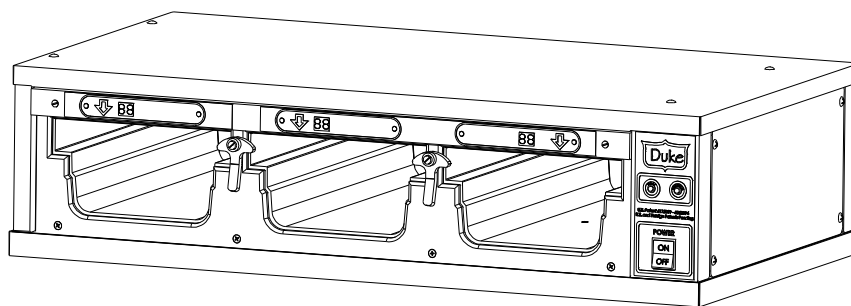
LISTED  
COMMERCIAL  
COOKING  
APPLIANCE



INDEXER  
COMMERCIAL  
APPAREIL  
DE CUISINE

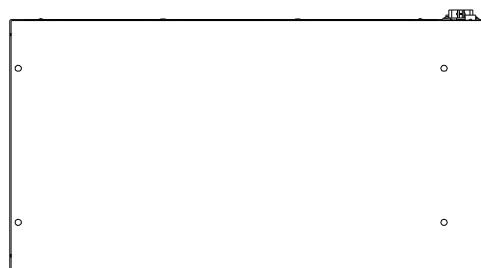


CLASSIFIED  
ALSO CLASSIFIED BY  
UNDERWRITERS LABORATORIES INC.  
IN ACCORDANCE WITH  
NSF NO. 4 1999

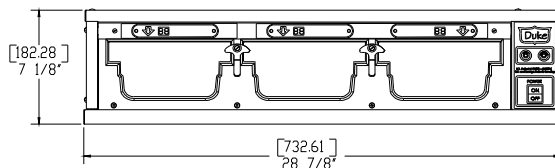


APPLIANCE INLET DETAIL

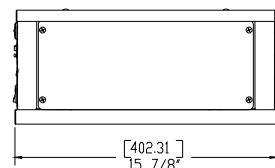
| POWER SUPPLY END        |                           |                    | APPLIANCE END |
|-------------------------|---------------------------|--------------------|---------------|
|                         |                           |                    |               |
| NEMA 5-15P<br>120 VAC   | NEMA 6-15P<br>208/240 VAC | CEE 7/7<br>230 VAC | IEC 60320-C20 |
| 6 FT. POWER CORD DETAIL |                           |                    |               |



TOP VIEW



FRONT VIEW



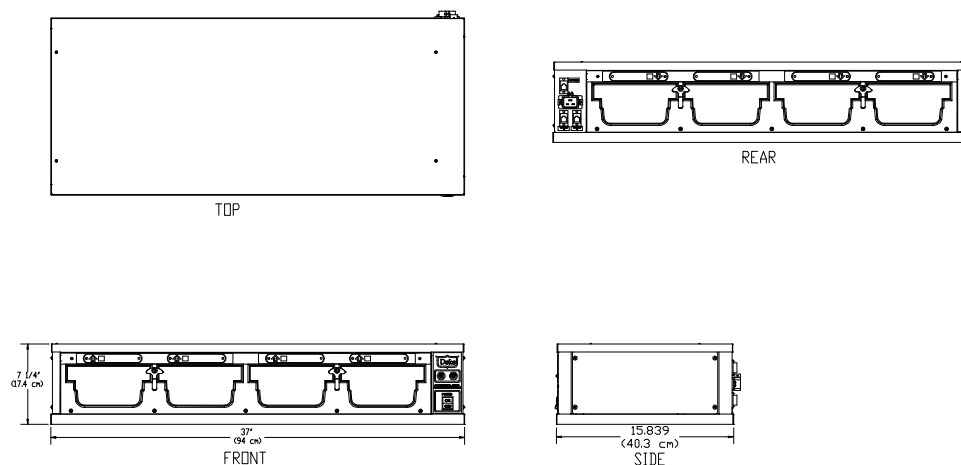
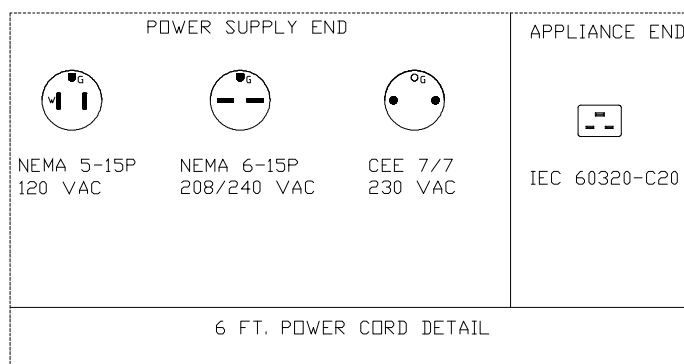
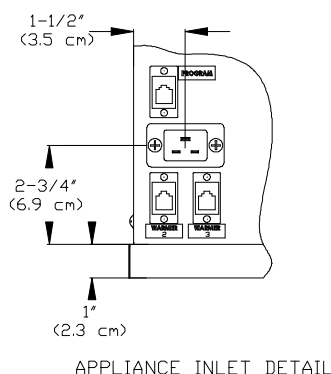
SIDE VIEW

U.S. Patent 6175099, 6262394  
Other U.S. and Foreign Patents Pending  
DUKE MANUFACTURING CO.  
TOLL FREE 800-735-DUKE (3853)  
314-231-1130



## Figure 1 FWM Specification Sheet Model FWM3-14

|                         |                                                          |                                                                                                                                     |
|-------------------------|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <b>Shipping Weight:</b> | 92 lbs/41.7 Kg                                           |                                                                                                                                     |
| <b>Electrical:</b>      | FWM3-14-120<br>FWM3-14-208<br>FWM3-14-230<br>FWM3-14-240 | 120 V, 6.7 A, 800 W, 50/60 Hz<br>208 V, 5.8 A, 1200 W, 50/60 Hz<br>230 V, 5.2 A, 1200 W, 50/60 Hz<br>240 V, 5.0 A, 1200 W, 50/60 Hz |



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COMMERCIAL  
COOKING  
APPLIANCE



INDEXER  
COMMERCIAL  
APPAREIL  
DE CUISINE



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NSF NO. 4 1999

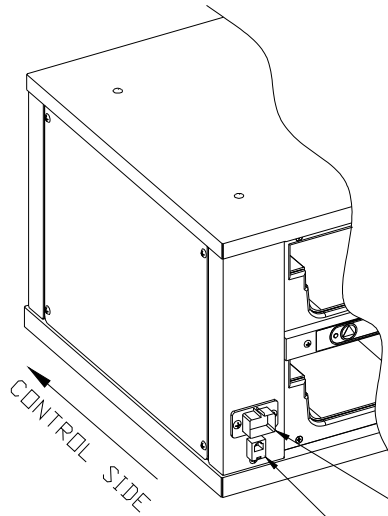


U.S. Patent 6175099, 6262394  
Other U.S. and Foreign Patents Pending  
DUKE MANUFACTURING CO.  
TOLL FREE 800-735-DUKE (3853)  
314-231-1130



## Installation Instructions

1. Place warmer module onto stable surface.
2. **Attach power supply cord to IEC 60320 C20 using approved cordset.**
3. Follow instructions in the Operators Manual PERIODIC MAINTENANCE, CHECKLIST AND CLEANING GUIDE.



### !CAUTION!

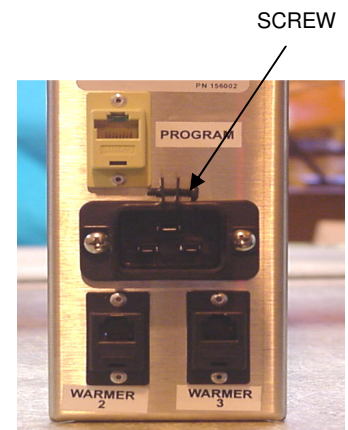
Risk of fire or electric shock. Replace cord with the following Duke cordsets only:

P/N 156533 Cordset, NEMA 5-15P, 120V  
 P/N 156205 Cordset, NEMA 6-15P, 208/240 V  
 P/N 156400 Cordset, NEMA 230 CE

IEC 60320-C20 (DUKE P/N 155741) POWER INLET  
 WITH 156332 CORD CLAMP

RJ-12 DATA CONNECTION

The proper way to connect the power cord is to loosen the screw, push the cord fully into the holder and then retighten the screw.

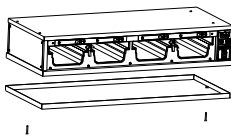


## Stacking Units

The FWM3-13 & FWM3-14 Product Holding Cabinet is designed to allow limited stacking capabilities. This section outlines how to safely stack the holding cabinet.

Step

1

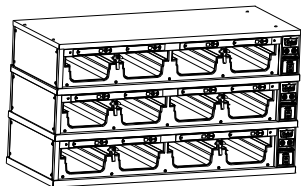


Remove the base pan from all holding cabinets, except for bottom unit, that are to be stacked. The pan is held in place by two screws on the bottom of the unit.

Step

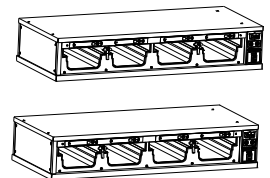
2

Place bottom unit into position then stack the next unit on top. The top of the lower holding cabinet rests inside of the base of the upper unit.



### WARNING!

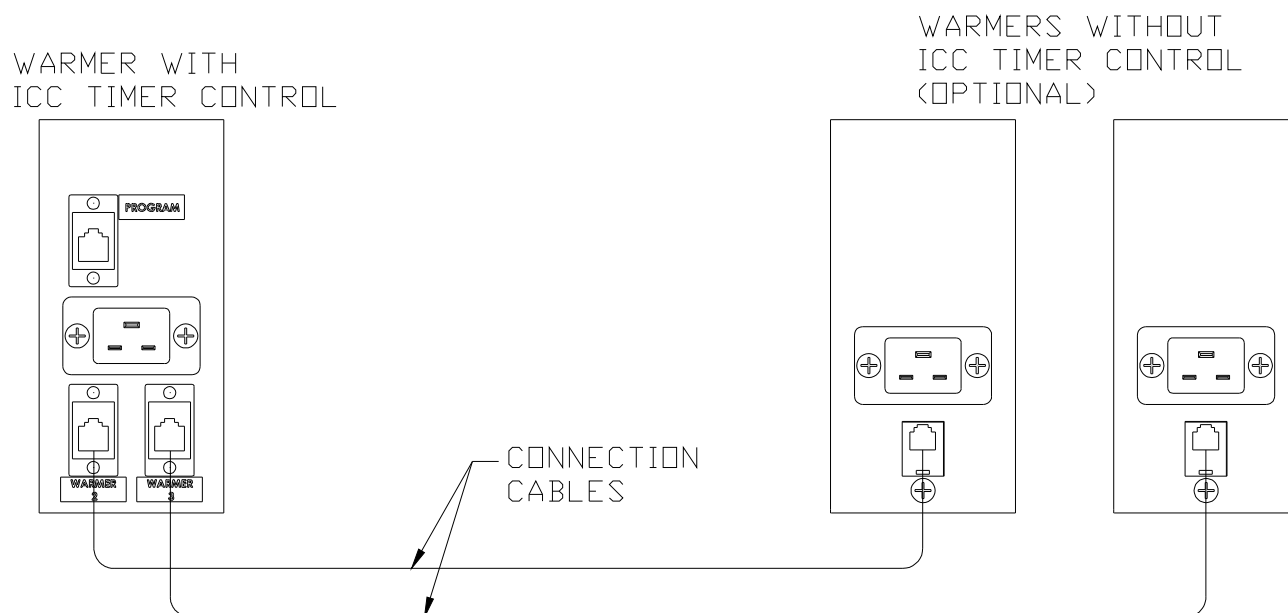
**TIP HAZARD!** Do not exceed 3 holding cabinets per stack. Do not place holding cabinet stacks on surfaces that may easily tip over.





## Unit to Unit Communication Connections

Each unit with an ICC Timer Control can control up to two additional units (those without ICC Timer Control). The following are the field connections for these units. The program connection is used with the ICC provided Palm Pilot programming device.



**Figure 2**

## Periodic Maintenance, Checklist And Cleaning Guide

### DAILY



#### Opening Checklist

1. Ensure proper **Pan Covers** are inserted into the correct locations for fried and broiled products.
2. Place the **Power Switch**, located on the front of the Product Holding Cabinet, to the ON position.
3. Ensure both top and bottom **HEAT Lights** are illuminated.
4. Allow the Product Holding Cabinet to heat for at least 20 min. or until the **HEAT Lights** cycle off.



#### Operation Instructions/Adjustments

1. If the **SERVICE Light** illuminates during operation of the Product Holding Cabinet, discontinue use of the affected shelf until the module is serviced.
2. Operate using Menu Bar as outlined in the Menu Scoreboard Operators Manual.



#### Closing Checklist

1. Turn power switch OFF.
2. Remove all pans and pan covers.
3. Allow to cool for approximately 30 minutes.
4. Clean Product Holding Cabinet as outline in the Daily Cleaning Instructions.



#### Cleaning Instructions

1. Wipe down the interior and exterior of the Product Holding Cabinet with warm water and mild detergent using a soft cloth. Do not use excessive amounts of water.
2. Clean pans and pan covers using mild detergent and warm water. Ensure all soap is rinsed from plastic pans and pan covers.

### Caution!

**Electrical shock hazard. Do not wash with water jet or hose.**  
**Do not use caustic cleaners, acids, ammonia products or abrasive cleaners or**  
**abrasive cloths. These can damage the stainless steel and plastic surfaces.**

### **!Warning!**

**Bottom and sides of warmer wells are very hot and cool slowly.**



## Troubleshooting

There are no user serviceable parts on the Duke Product Holding Cabinet. If a malfunction occurs, ensure unit is plugged in then check all switches and circuit breakers. If the malfunction still exists, contact your Duke Manufacturing Company authorized service agent or call 1-800-735-3853.

## Electronic Control Fault Indications

The Service Light is located on the front of the control next to the heat light (see Figure 3). It provides an indication to alert the operator to failures in the heater circuit. When a Service Light is on, the unit should not be used until the cause of the fault is corrected by a qualified service technician. The fault conditions that could cause the control to turn the service light on are as follows:

1. **Over – Temperature Fault** - An over-temperature fault occurs when the control senses that the temperature is higher than the specified factory preset temperature. This occurs when the power is not removed from the heating element after the has achieved the preset temperature, causing the control to turn on the service light. The auxiliary thermostat prevents the temperature from exceeding safe levels by regulating the temperature to a maximum of 250° F.
2. **Under – Temperature Fault** - An under-temperature fault occurs when the control senses that the unit temperature is lower than the specified factory preset temperature for more than 30 minutes continuously. This occurs when heating element circuit opens or the RTD Feedback signal is faulty, causing the control to turn on the service light.

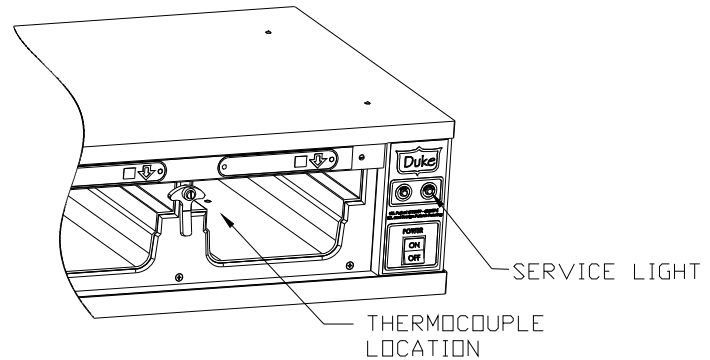


Figure 3

## Temperature Check Procedure

1. A digital temperature meter that has been calibrated must be used to get an accurate temperature reading. Use a thermocouple surface temperature probe to measure temperatures.
2. **No pans should be in wells during the pre-heat and temperature check.** Pre-heat the warmer for 30 minutes before taking any temperature readings. Do not take readings unless the cavity has been empty for 30 minutes. This will allow the temperature to stabilize and will prevent false readings.
3. The warmer cavity should be cleaned and empty before the temperature is checked. Avoid any air drafts that might flow through the cavity.
4. Locate the surface temperature probe on the bottom of the first cavity in the geometric center. The first cavity is the one closest to the control panel (see Figure 3). Make sure the probe is making good contact with the surface while taking readings.
5. All temperature controls exhibit a swing in temperature as the control cycles on and off while regulating to the set point. The correct calibration temperature is the average of several readings taken over a period of 20 minutes after the warmer has been pre-heated. The average temperature should be  $\pm 5^{\circ}\text{F}$  from the set point.

## Control Programming

The electronic temperature control is pre-set at the factory to maintain the temperature at the bottom center of the pan cavity at 190° F +/- 5° F. This temperature is the result of many hours of laboratory food testing. There are no operator temperature adjustments that can be made. Because the electronic control uses a platinum type RTD sensor, routine calibration is not required.

**!DANGER!**  
**LIVE ELECTRICAL COMPONENTS.**  
**ONLY QUALIFIED SERVICE PERSONS SHOULD MODIFY CONTROL**  
**TEMPERATURE PRESETS.**

### Temperature Programming

1. Remove cover from control side of the Holding Cabinet and turn the Holding Cabinet on.
2. Locate the pushbutton S1 and S2 on the rear of the control. (see Figure 4.1)
3. Press and hold S1 until any LED on the rear of the control illuminates. (approximately 5 seconds)
4. Observe the LEDs on the front of the unit, (Figure 4.2). Press and release S1 on the back of the control until the heat light on the front of the unit flashes.

NOTE: To comply with NSF sanitation requirements, do not set the control preset temperature below 190° F.

5. Press and release S2 until the sum of the LED values illuminated on the rear of the board match the desired pre-set temperature.
6. Press and hold S1 until no LED on the rear of the control is illuminated and the lights on the front of the board no longer flash.
7. Replace cover on control side of the Holding Cabinet.

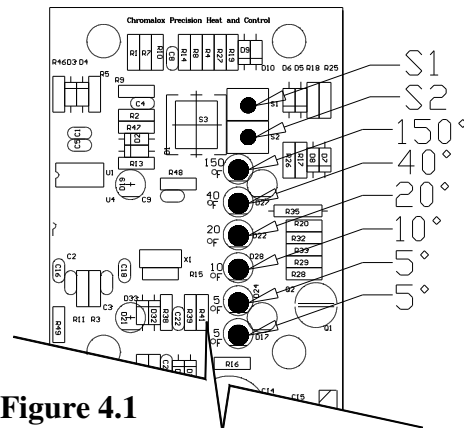


Figure 4.1

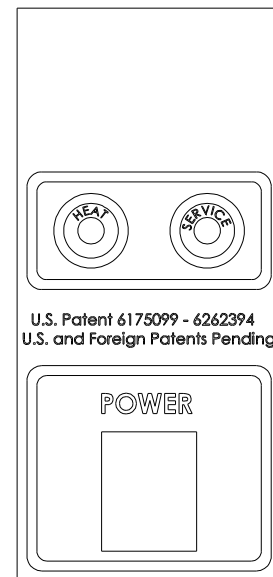


Figure 4.2

## Parts Lists and Illustrations

| Locator | P/N     | Description                                                 | Qty Per 1x3 | Qty Per 1x4 |
|---------|---------|-------------------------------------------------------------|-------------|-------------|
| 1       | 157501  | PAN STATUS KEYBOARD FWM3-13, DIGITAL, FRONT                 | 1           |             |
|         | 157502  | PAN STATUS KEYBOARD FWM3-13, DIGITAL, BACK                  | 1           |             |
|         | 156348  | PAN STATUS KEYBOARD FWM3-14, DIGITAL, FRONT                 |             | 1           |
|         | 157524  | PAN STATUS KEYBOARD FWM3-14, DIGITAL/DAYPART, FRONT         |             | 1           |
|         | 156349  | PAN STATUS KEYBOARD FWM3-14, DIGITAL, BACK                  |             | 1           |
|         | 157525  | PAN STATUS KEYBOARD FWM3-14, DIGITAL/DAYPART, BACK          |             | 1           |
| 2       | 600109  | KIT, FWM CONTROLLER                                         | 1           | 1           |
| 3       | 155749  | TRANSFORMER 208/240 VAC                                     | 1           | 1           |
|         | 156838  | TRANSFORMER 230 VAC                                         |             |             |
|         | 156316  | TRANSFORMER 120 VAC                                         |             |             |
| 4       | 155741  | RECEPTACLE ELECTRIC                                         | 1           | 1           |
| 5       | 156616  | COUPLER 6X6 RJ12                                            | 2           | 2           |
| 6       | 156617  | COUPLER, 8X8 RJ45                                           | 1           | 1           |
| 7       | 156059  | CONNECTOR SPECIAL T                                         | 1           | 1           |
| 8       | 156527  | SWITCH, LIGHTED, DPST, 16A                                  | 1           | 1           |
| * 9     | 157503  | CONTROL, ICC TIMER, DIGITAL, W/LOUD SOUNDER FWM3-13         | 1           |             |
|         | 157526  | CONTROL, ICC TIMER, DIGITAL/DAYPART, W/LOUD SOUNDER FWM3-14 |             | 1           |
| 10      | 157506  | FACE PLATE WITH GASKET, FWM3-13                             | 2           |             |
|         | 156854  | FACE PLATE WITH GASKET, FWM3-14                             |             | 2           |
| 11      | 156285  | LATCH,PAN                                                   | 4           | 4           |
| 12      | 156288  | SCREW SHOULDER                                              | 4           | 4           |
| 13      | 0653638 | SCREW 1/4-20 X 3/4                                          | 4           | 4           |
| 14      | 155750  | RTD 1K OHM THIN                                             | 1           | 1           |
| 15      | 156564  | ELEMENT FOIL HEAT FWM3-13-120                               | 3           |             |
|         | 156301  | ELEMENT FOIL HEAT FWM3-13-208                               | 3           |             |
|         | 156611  | ELEMENT FOIL HEAT FWM3-13-230CE                             | 3           |             |
|         | 156565  | ELEMENT FOIL HEAT FWM3-13-240                               | 3           |             |
|         | 156566  | ELEMENT FOIL HEAT FWM3-14-120                               |             | 4           |
|         | 156752  | ELEMENT FOIL HEAT FWM3-14-208                               |             | 4           |
|         | 156318  | ELEMENT FOIL HEAT FWM3-14-230CE                             |             | 4           |
|         | 155755  | ELEMENT FOIL HEAT FWM3-14-240                               |             | 4           |
| 16      | 155753  | THERMOSTAT AUXILIARY                                        | 1           | 1           |
| 17      | 155680  | NUT #8-32 KEPS                                              | 2           | 2           |
| 18      | 155873  | LID, FOODWARMER VENTED (FRIED)(GRAY)                        | AR          | AR          |
| 19      | 155876  | LID,FOODWARMER SOLID (BROILED)(BLACK)                       | AR          | AR          |
| 20      | 156666  | CABLE, 26 IN., (FOR INTERCONNECTING UNITS)(NOT SHOWN)       | AR          | AR          |
| 21      | 156533  | CORDSET, NEMA 5-15P, 120V (NOT SHOWN)                       | 1           | 1           |
|         | 156421  | CORDSET, NEMA 6-15P, 208/240V (NOT SHOWN)                   |             |             |
|         | 156400  | CORDSET, 230V CE (NOT SHOWN)                                |             |             |
| 22      | 156938  | TERMINAL BLOCK                                              | 1           | 1           |

\* Note: These ICC Timer Controls will need to be manually programmed at the time of installation.



## Parts Lists and Illustrations (Continued)

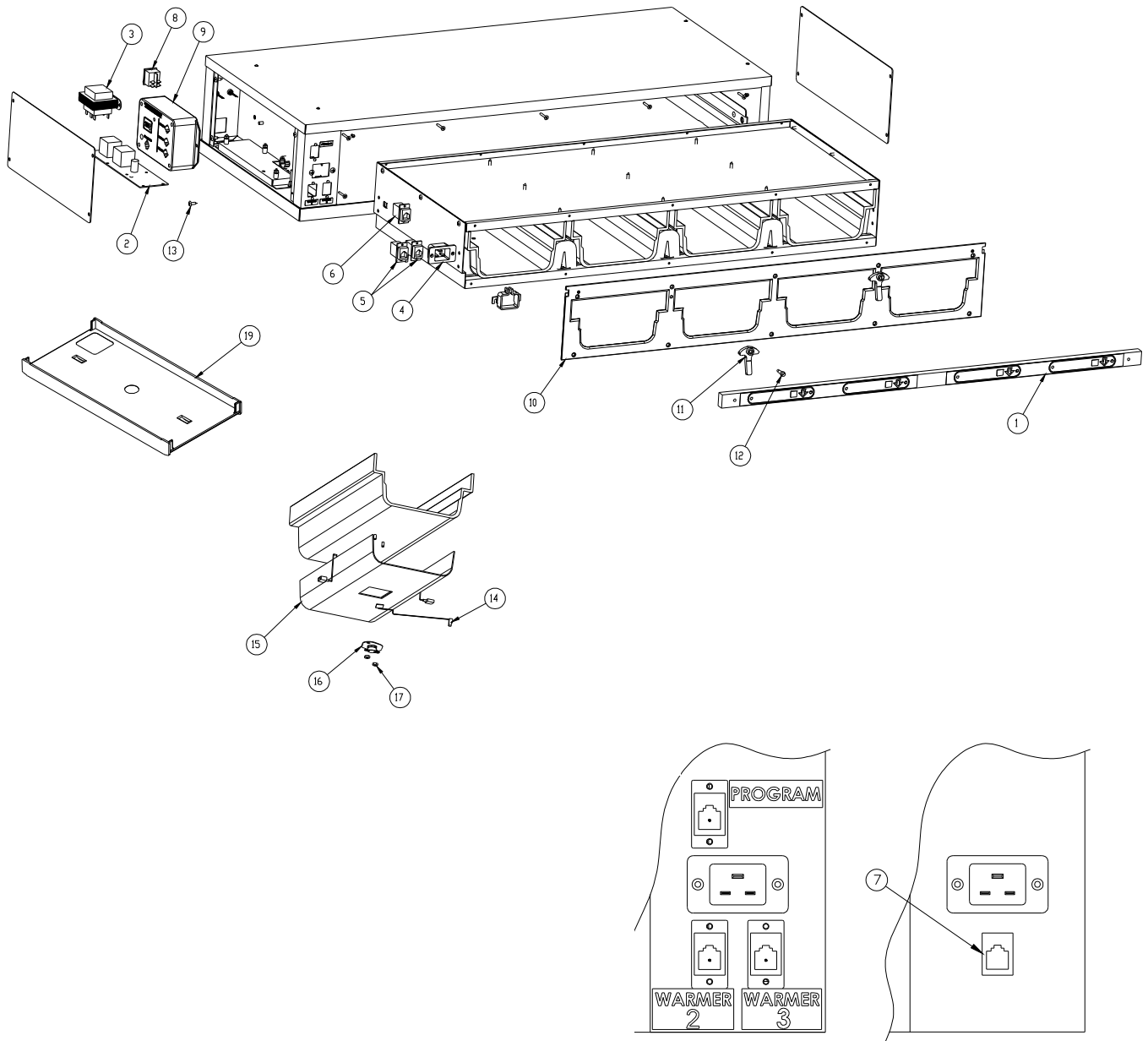
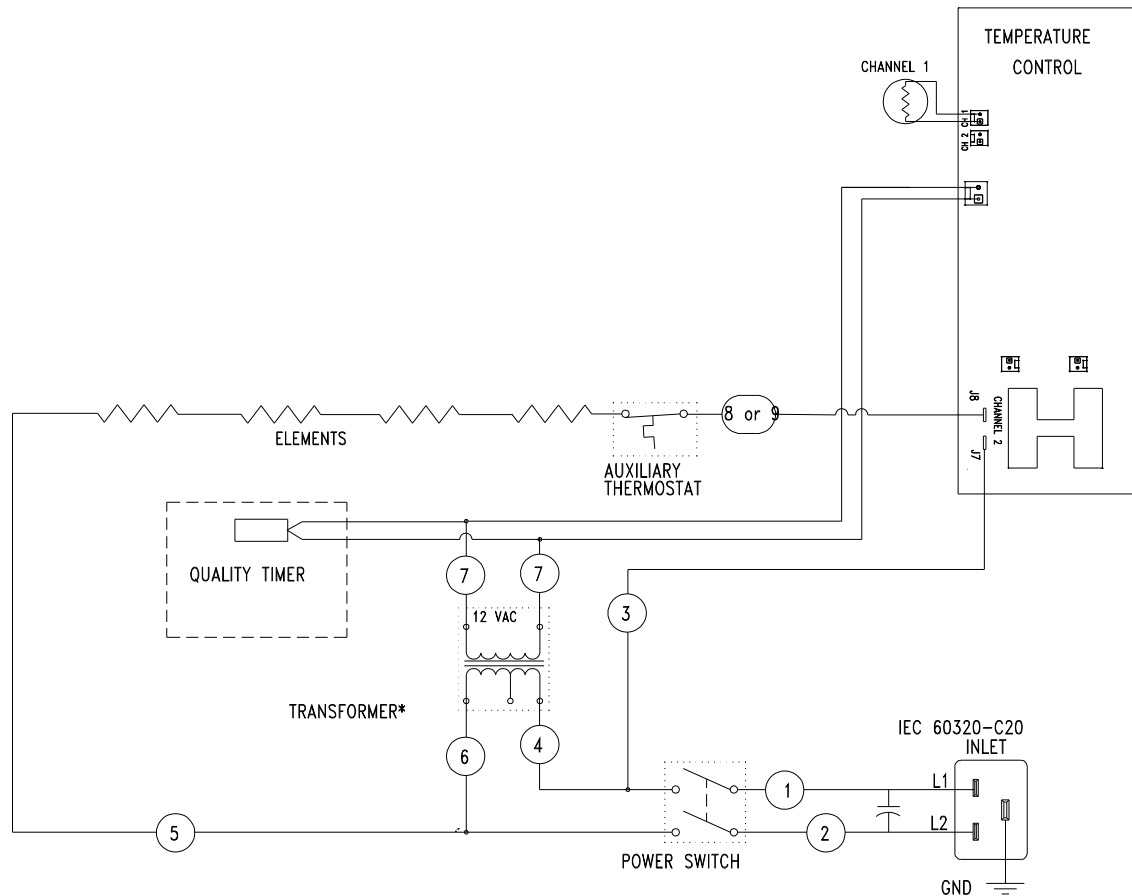


Figure 5, FWM Product Holding Cabinet Exploded View

## Wiring Schematics

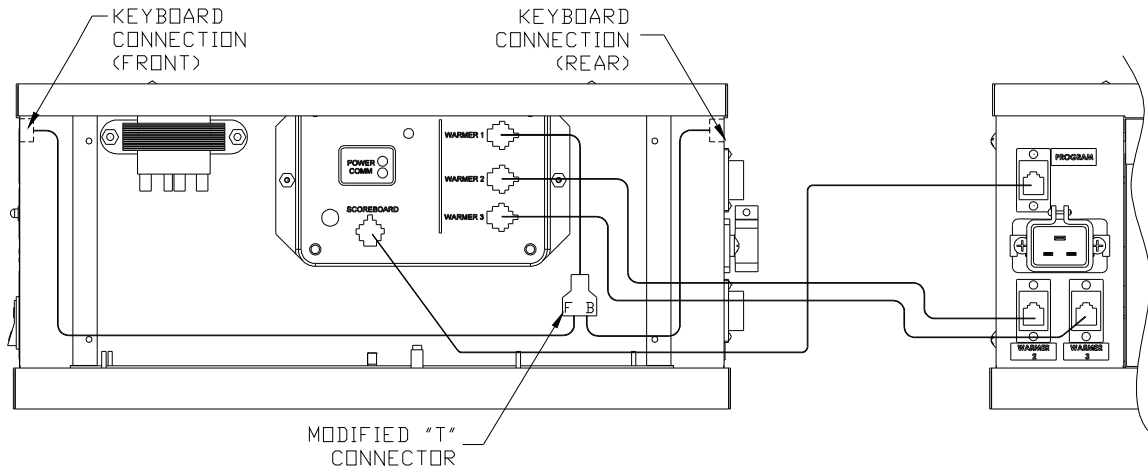


\* CONNECT WIRE #4 TO 240V TERMINAL FOR 240VAC AND 230VAC CE UNITS (SHOWN)  
CONNECT WIRE #4 TO 208V TERMINAL FOR 208 VAC UNITS  
120 VAC UNITS USE A 120V TRANSFORMER

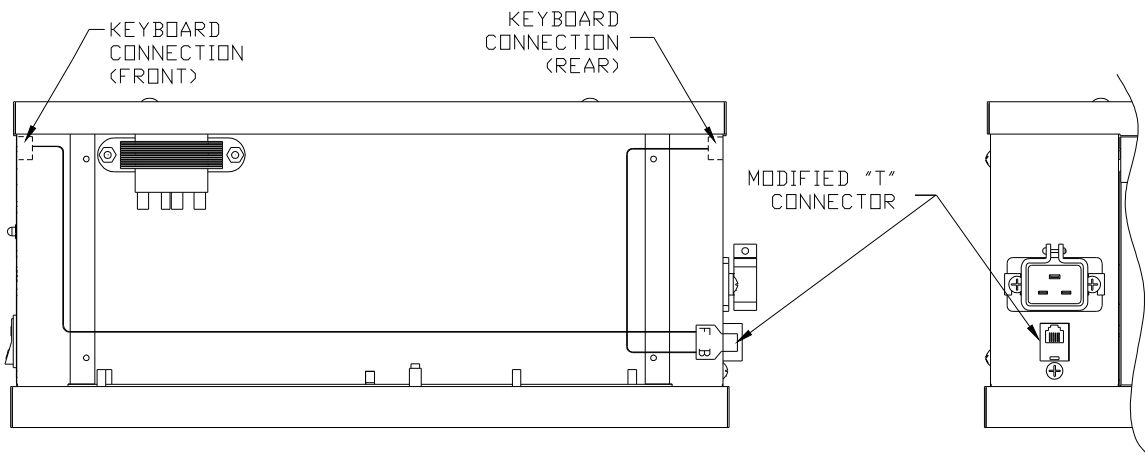
Figure 6, FWM Internal Wiring Schematic



## Wiring Schematics (Continued)



**Figure 7.1, Interface Cable Schematic with ICC Timer Control**



**Figure 7.2, Interface Cable Schematic without ICC Timer Control**



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# FWM3-14 Temperature Controller Troubleshooting Checklist

**Important:** This work must be performed by Duke authorized service personnel. This checklist must be properly filled out and returned with defective board for proper credit in your account.

Date: \_\_\_\_\_

Model No.: \_\_\_\_\_

Unit Serial No.: \_\_\_\_\_

Store Number: \_\_\_\_\_

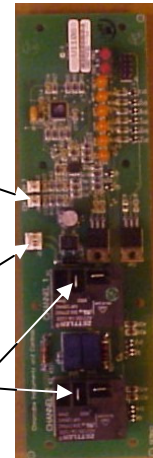
City/State: \_\_\_\_\_

Service Agency: \_\_\_\_\_

Temperature  
Sensor Connections

Power Connection

Relay Connections



Symptoms (As described by store personnel) \_\_\_\_\_

1. Are other pieces of equipment in store currently experiencing electrical problems?

No ☐ Yes ☐ If so what: \_\_\_\_\_

2. Confirm that transformer secondary voltage is 10-15 volts AC.

Yes ☐ No ☐ Note Voltage: \_\_\_\_\_

\*3. Turn unit off then on and confirm that all lights (red/amber service light & green heat light) came on at startup for 3-5 seconds?

Yes ☐ No ☐ Comments: \_\_\_\_\_

4. Confirm that the Temperature Sensor on this unit was hooked up correctly? (RTD to CH 1)

Yes ☐ No ☐ Comments: \_\_\_\_\_

5. Check control temperature settings (See instructions on back of page). The temperature setting for the deck should be set at 190°F? (Top two lights on when in programming mode)

Yes ☐ No ☐ Comments: \_\_\_\_\_

Reset temperature setting to 190°F for the deck, if it is not already there and exit temperature programming mode (See instructions on back of page).

\*6. After exiting temperature programming mode the red/amber light should go off while the green light remains on. Confirm that this occurs.

Yes ☐ No ☐ Comments: \_\_\_\_\_

\*7. Remove connections to board mounted relays. Using an Ohmmeter, confirm that relay contacts close when green heat lights are on.

Yes ☐ No ☐ Comments: \_\_\_\_\_

\*8. Turn unit off. Using an Ohmmeter confirm that relay contacts open.

Yes ☐ No ☐ Comments: \_\_\_\_\_

Reconnect relays.

**\* Note: If the answer to any of the above questions with an asterisk is "NO", proceed with replacing the control board. If the answers to all these questions are "YES" please contact the Duke Service Department (800-735-3853) for additional technical support.**



# FWM3-51 Temperature Controller Troubleshooting Checklist

**Important:** This work must be performed by Duke authorized service personnel. This checklist must be properly filled out and returned with defective board for proper credit in your account.

Date: \_\_\_\_\_

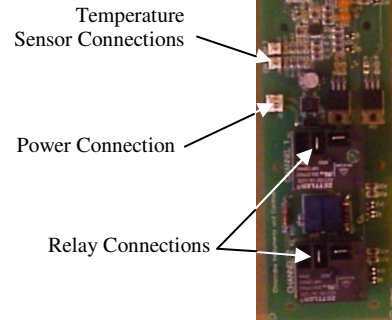
Model No.: \_\_\_\_\_

Unit Serial No.: \_\_\_\_\_

Store Number: \_\_\_\_\_

City/State: \_\_\_\_\_

Service Agency: \_\_\_\_\_



Symptoms (As described by store personnel) \_\_\_\_\_

1. Are other pieces of equipment in store currently experiencing electrical problems?  
No ☐ Yes ☐ If so what: \_\_\_\_\_

2. Confirm that transformer secondary voltage is 10-15 volts AC.  
Yes ☐ No ☐ Note Voltage: \_\_\_\_\_

\*3. Turn unit off then on and confirm that all lights (red/amber service light & green heat light) came on at startup for 3-5 seconds?  
Yes ☐ No ☐ Comments: \_\_\_\_\_

4. Confirm that the Temperature Sensors on this unit were hooked up correctly? (Upper RTD to CH 1 and Lower RTD to CH 2)  
Yes ☐ No ☐ Comments: \_\_\_\_\_

5. Check control temperature settings (See instructions on back of page). The temperature setting should be set at 190°F? (Top two lights on when in programming mode)  
Yes ☐ No ☐ Comments: \_\_\_\_\_

Reset temperature setting to 190°F, if it is not already there and exit temperature programming mode (See instructions on back of page).

\*6. After exiting temperature programming mode the red/amber light should go off while the green light remains on. Confirm that this occurs.  
Yes ☐ No ☐ Comments: \_\_\_\_\_

\*7. Remove connections to board mounted relays. Using an Ohmmeter, confirm that relay contacts close when green heat lights are on.  
Yes ☐ No ☐ Comments: \_\_\_\_\_

\*8. Turn unit off. Using an Ohmmeter confirm that relay contacts open.  
Yes ☐ No ☐ Comments: \_\_\_\_\_

Reconnect relays.

**\* Note: If the answer to any of the above questions with an asterisk is "NO", proceed with replacing the control board. If the answers to all these questions are "YES" please contact the Duke Service Department (800-735-3853) for additional technical support.**



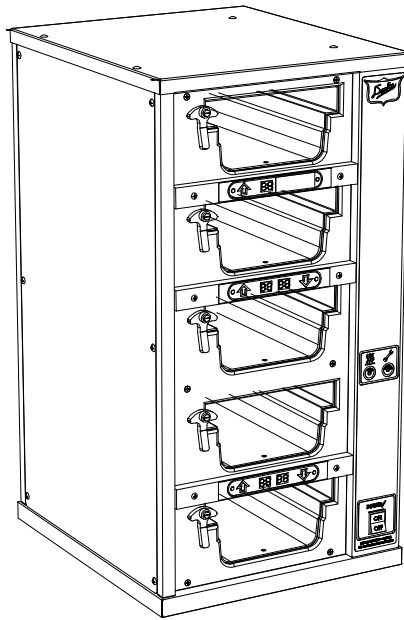
# Operators and Service Manual



## Product Holding Cabinet

U.S. Patent 6175099, 6262394

Other U.S. and Foreign Patents Pending



**FWM3-51**

For information or technical assistance, call:

**TOLL FREE**

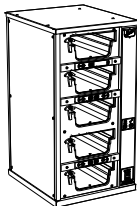
(800) 735-DUKE (3853)

or

(314) 231-1130

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## Manufacturer's Introduction

The Duke Product Holding Cabinet was developed in response to need for extended food-holding capabilities to provide consistently high, "just cooked" food quality.

The Duke Product Holding Cabinet utilizes Duke's patented "heat sink" holding technology that provides even heat distribution to food pans through the bottom and sides. This allows pre-cooked foods to be held for extended periods without noticeable degradation of quality, reducing food scrap/waste.

The self contained, individually formed, sealed compartments of the Duke Product Holding Cabinet eliminate food odor and taste transfer. Because the compartments are sealed and formed to the shape of the pan, no disassembly is required for cleaning and product changes.

The unique design of the Duke Product Holding Cabinet allows single temperature operation for all existing product groups. This 190° F approved temperature is preset at the factory. This reduces the likelihood of inconsistent performance between locations.

The Duke Product Holding Cabinet was also designed to rethermalize food product. A thermostat setting of 200° F minimum is required for rethermalization. See instructions on page 6 for thermostat adjustment. **NOTE: Only qualified service persons should modify control temperature presets.**

Supplier Name: **Duke Manufacturing Co.**  
Address: 2305 N. Broadway  
St. Louis, MO 63102

Model #: FWM3-51 100  
FWM3-51-120  
FWM3-51-208  
FWM3-51-230  
FWM3-51-240

Serial #: \_\_\_\_\_  
Date Received: \_\_\_\_\_  
Date Installed: \_\_\_\_\_  
Telephone : (800) 735-DUKE (3853)  
(314) 231-1130  
Fax: (314) 231-5074  
Service Referral #: \_\_\_\_\_  
Local Service Name \_\_\_\_\_  
Local Service # \_\_\_\_\_

### Installation requirements

**Power Connection:** See diagrams on page 4.

### !CAUTION!

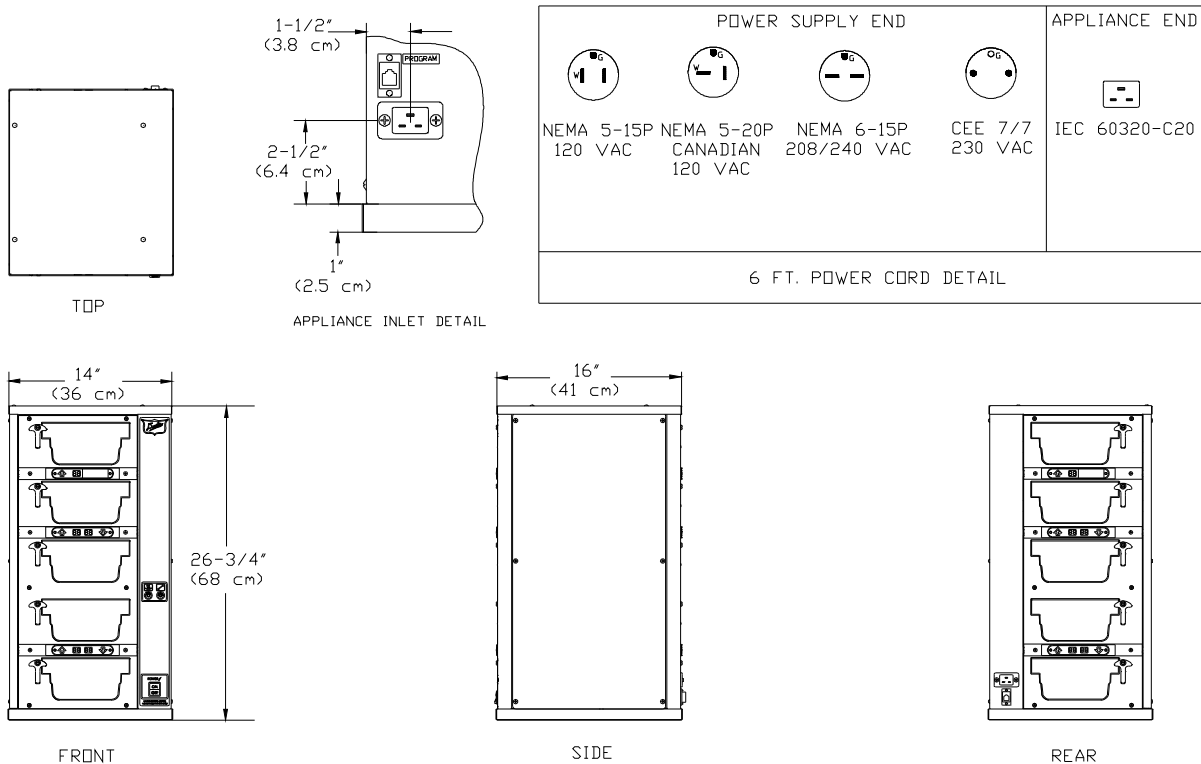
**Risk of fire or electric shock. Replace only with Manufacturer's cord set or equivalent.**





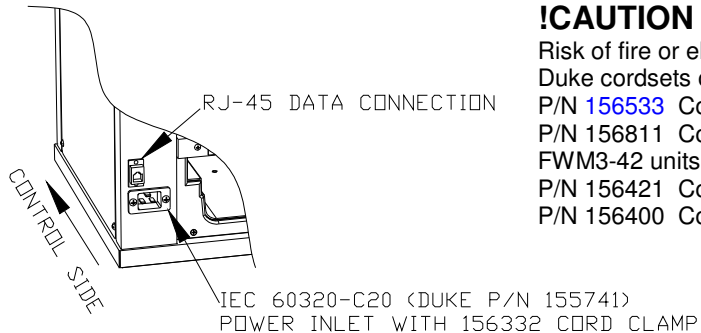
**Figure 1.1, FWM Specification Sheet  
Model FWM3-51**

|                         |               |                                |
|-------------------------|---------------|--------------------------------|
| <b>Shipping Weight:</b> | 110 lbs/50 Kg |                                |
| <b>Electrical</b>       | FWM3-51-100   | 100V, 10 A, 1000 W, 50/60 Hz   |
|                         | FWM3-51-120   | 120 V, 8.3 A, 1000 W, 50/60 Hz |
|                         | FWM3-51-208   | 208 V, 7.2 A, 1500 W, 50/60 Hz |
|                         | FWM3-51-230CE | 230 V, 6.5 A, 1500 W, 50/60 Hz |
|                         | FWM3-51-240   | 240 V, 6.3 A, 1500 W, 50/60 Hz |



## Installation Instructions

1. Place warmer module onto stable surface.
2. Attach power supply cord to IEC 60320 C20 using approved cordset.
3. Follow instructions in the Operators Manual PERIODIC MAINTENANCE, CHECKLIST AND CLEANING GUIDE.



### !CAUTION

Risk of fire or electric shock. Replace cord with one of the following Duke cordsets only:

P/N 156533 Cordset, NEMA 5-15P, 120 V

P/N 156811 Cordset, NEMA 5-20P, 120 V Canadian FWM3-24 & FWM3-42 units

P/N 156421 Cordset, NEMA 6-15P, 208/240 V

P/N 156400 Cordset, 230 V CE

The proper way to connect the power cord is to loosen the screw, push the cord fully into the holder and then retighten the screw.



## Stacking Units

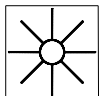
### WARNING!

TIP HAZARD! Do not stack FWM3-51 units.



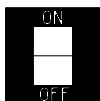
## Periodic Maintenance, Checklist And Cleaning Guide

### DAILY



#### Opening Checklist

1. Ensure proper **Pan Covers** are inserted into the correct locations for fried and broiled products.
2. Place the **Power Switch**, located on the front of the Product Holding Cabinet, to the ON position.
3. Ensure both top and bottom **HEAT Lights** are illuminated.
4. Allow the Product Holding Cabinet to heat for at least 20 min. or until the **HEAT Lights** cycle off.



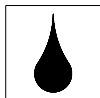
#### Operation Instructions/Adjustments

1. If the **SERVICE Light** illuminates during operation of the Product Holding Cabinet, discontinue use of the affected shelf until the module is serviced.
2. Operate using Menu Bar as outlined in the Menu Scoreboard Operators Manual.



#### Closing Checklist

1. Turn power switch OFF.
2. Remove all pans and pan covers.
3. Allow to cool for approximately 30 minutes.
4. Clean Product Holding Cabinet as outline in the Daily Cleaning Instructions.



#### Cleaning Instructions

1. Wipe down the interior and exterior of the Product Holding Cabinet with warm water and mild detergent using a soft cloth. Do not use excessive amounts of water.
2. Clean pans and pan covers using mild detergent and warm water. Ensure all soap is rinsed from plastic pans and pan covers.

### Caution!

**Electrical shock hazard. Do not wash with water jet or hose.**  
**Do not use caustic cleaners, acids, ammonia products or abrasive cleaners or**  
**abrasive cloths. These can damage the stainless steel and plastic surfaces.**

### **!Warning!**

**Bottom and sides of warmer wells are very hot and cool slowly.**



## Troubleshooting

There are no user serviceable parts on the Duke Product Holding Cabinet. If a malfunction occurs, ensure unit is plugged in then check all switches and circuit breakers. If the malfunction still exists, contact your Duke Manufacturing Company authorized service agent or call 1-800-735-3853.

### Electronic Control Fault Indications

The Service Light is located on the front of the control next to the heat light (see Figure 3). It provides an indication to alert the operator to failures in the heater circuit. When a Service Light is on, the affected unit should not be used until the cause of the fault is corrected by a qualified service technician. The fault conditions that could cause the control to turn the service light on are as follows:

1. **Over – Temperature Fault** - An over-temperature fault occurs when the control senses that the shelf temperature is higher than the specified factory preset temperature. This occurs when the power is not removed from the heating element after the shelf has achieved the preset temperature, causing the control to turn on the service light. The auxiliary thermostat prevents the temperature from exceeding safe levels by regulating the temperature to a maximum of 250° F.
2. **Under – Temperature Fault** - An under-temperature fault occurs when the control senses that the shelf temperature is lower than the specified factory preset temperature for more than 30 minutes continuously. This occurs when heating element circuit opens or the RTD Feedback signal is faulty, causing the control to turn on the service light.

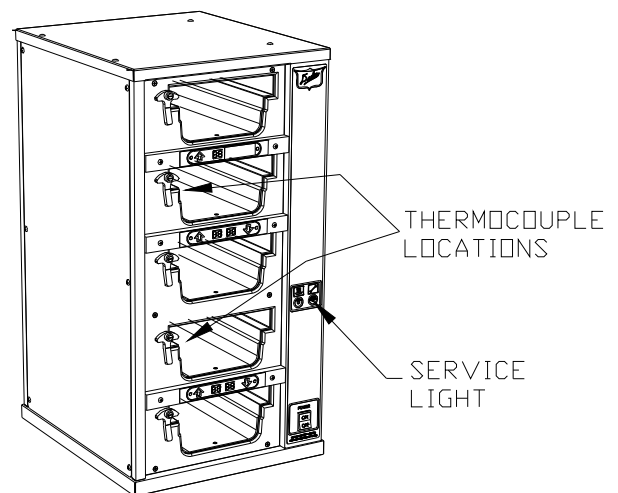


Figure 3

### Temperature Check Procedure

1. A digital temperature meter that has been calibrated must be used to get an accurate temperature reading. Use a thermocouple surface temperature probe to measure temperatures.
2. **No pans should be in wells during the pre-heat and temperature check.** Pre-heat the warmer for 30 minutes before taking any temperature readings. Do not take readings unless the cavity has been empty for 30 minutes. This will allow the temperature to stabilize and will prevent false readings.
3. The warmer cavity should be cleaned and empty before the temperature is checked. Avoid any air drafts that might flow through the cavity.
4. Locate the surface temperature probe on the bottom of any cavity in the geometric center. Make sure the probe is making good contact with the surface while taking readings.
5. All temperature controls exhibit a swing in temperature as the control cycles on and off while regulating to the set point. The correct calibration temperature is the average of several readings taken over a period of 20 minutes after the warmer has been pre-heated. The average temperature should be  $\pm 15^{\circ}\text{F}$  from the set point.

## Control Programming

The electronic temperature control is pre-set at the factory to maintain the temperature at the bottom center of the pan cavity at 190° F +/- 15° F. This temperature is the result of many hours of laboratory food testing. There are no operator temperature adjustments that can be made. Because the electronic control uses a platinum type RTD sensor, routine calibration is not required.

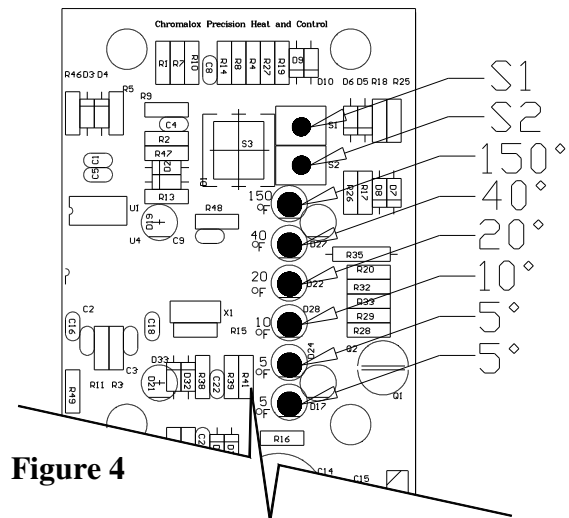
**!DANGER!  
LIVE ELECTRICAL COMPONENTS.  
ONLY QUALIFIED SERVICE PERSONS SHOULD MODIFY CONTROL  
TEMPERATURE PRESETS.**

### Temperature Programming

1. Remove cover from control side of the Holding Cabinet and turn the Holding Cabinet on.
2. Locate the pushbutton S1 and S2 on the rear of the control. (see Figure 4)
3. To program press and hold S1 until any LED on the rear of the control illuminates. (approximately 5 seconds)

NOTE: To comply with NSF sanitation requirements, do not set the control preset temperature below 190° F.

4. Press and release S2 until the sum of the LED values illuminated on the rear of the board match the desired pre-set temperature.
5. Press and hold S1 until no LED on the rear of the control is illuminated.
6. Replace cover on control side of the Holding Cabinet.



**Figure 4**

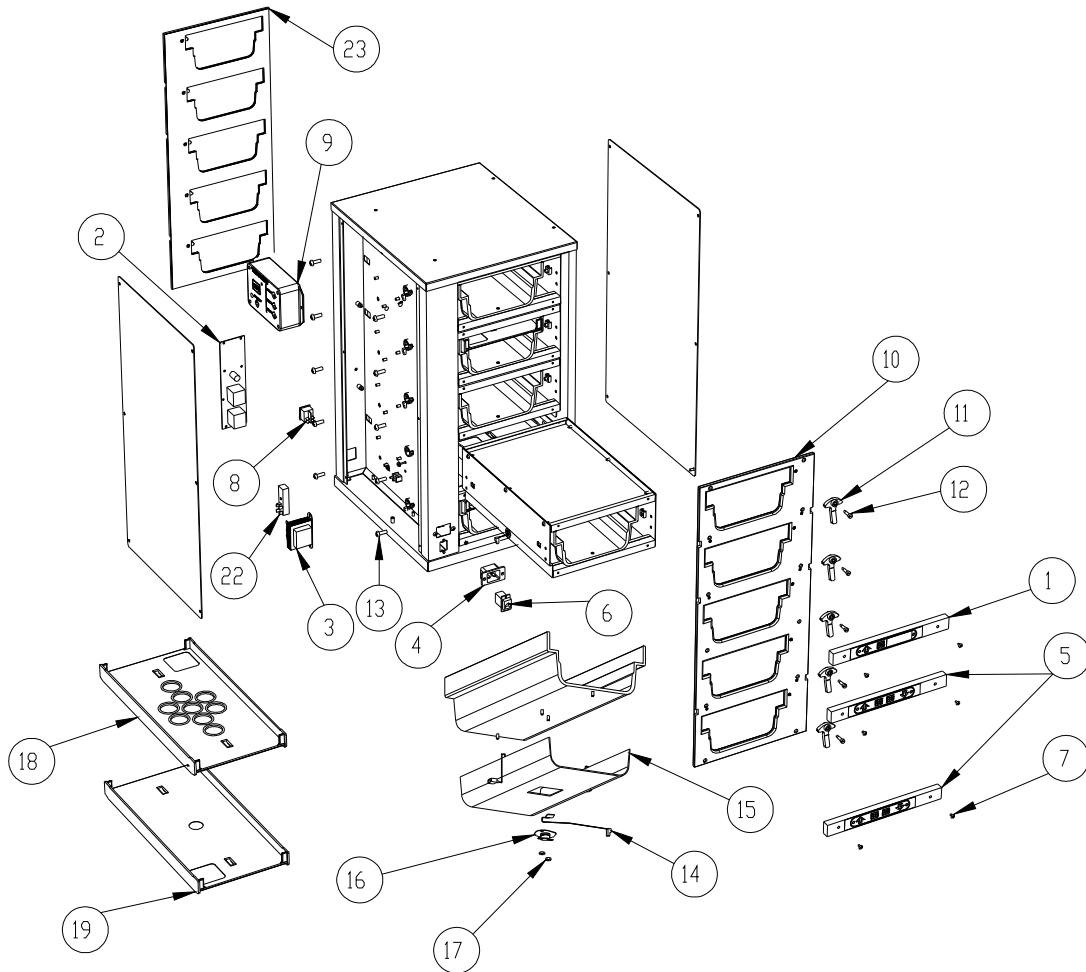
## Parts Lists and Illustrations

| Locator | P/N     | Description                                                 | Qty Per Unit |
|---------|---------|-------------------------------------------------------------|--------------|
| 1       | 156094  | PAN STATUS KEYBOARD FWM3-51, DIGITAL, SINGLE (Front)        | 1            |
|         | 156125  | PAN STATUS KEYBOARD FWM3-51, DIGITAL, SINGLE (Rear)         | 1            |
| 2       | 600110  | KIT, FWM CONTROLLER                                         | 1            |
| 3       | 155749  | TRANSFORMER 208/240 VAC                                     | 1            |
|         | 156838  | TRANSFORMER 230 VAC                                         |              |
|         | 156316  | TRANSFORMER 120 VAC                                         |              |
| 4       | 155741  | RECEPTACLE ELECTRIC                                         | 1            |
| 5       | 156093  | PAN STATUS KEYBOARD FWM3-51, DIGITAL, DUAL                  | 4            |
| 6       | 156617  | COUPLER, 8X8 RJ45 (MB1 & SB1 UNITS ONLY)                    | 1            |
| 7       | 155948  | SCREW, #6-32 X 3/4                                          | 12           |
| 8       | 156527  | SWITCH, LIGHTED, DPST, 16A                                  | 1            |
| 9       | 156095  | CONTROL, ICC TIMER, W/ SOUNDER, FWM3-51                     | 1            |
| 10      | 156114  | FACE PLATE WITH GASKET, REAR, FWM3-51                       | 1            |
| 11      | 156285  | LATCH,PAN                                                   | 10           |
| 12      | 156288  | SCREW SHOULDER                                              | 10           |
| 13      | 0653638 | SCREW 1/4-20 X 3/4                                          | 20           |
| 14      | 155750  | RTD 1K OHM THIN                                             | 2            |
| 15      | 157558  | ELEMENT FOIL HEAT 100V (FOR UPPER 3 WELLS)                  | 3            |
|         | 156564  | ELEMENT FOIL HEAT 102V (FOR UPPER 3 WELLS)                  | 3            |
|         | 156301  | ELEMENT FOIL HEAT 208V                                      | 3            |
|         | 156565  | ELEMENT FOIL HEAT 240V                                      | 3            |
|         | 156611  | ELEMENT FOIL HEAT 230V                                      | 3            |
|         | 156994  | ELEMENT FOIL HEAT 100V (FOR LOWER 2 WELLS)                  | 2            |
|         | 156483  | ELEMENT FOIL HEAT 102V (FOR LOWER 2 WELLS)                  | 2            |
|         | 156539  | ELEMENT FOIL HEAT 208V                                      | 2            |
|         | 156540  | ELEMENT FOIL HEAT 240V                                      | 2            |
|         | 156632  | ELEMENT FOIL HEAT 230V                                      | 2            |
| 16      | 155753  | THERMOSTAT AUXILIARY                                        | 2            |
| 17      | 155680  | NUT #8-32 KEPS                                              | 4            |
| 18      | 155873  | LID,FOODWARMER VENTED (FRIED)(GRAY)                         | AR           |
| 19      | 155876  | LID,FOODWARMER SOLID (BROILED)(BLACK)                       | AR           |
| 21      | 156533  | CORDSET, NEMA 5-15P, 120V (NOT SHOWN)                       | 1            |
|         | 156811  | CORDSET, NEMA 5-20P, 120V, CANADIAN FWM3-24,-42 (NOT SHOWN) |              |
|         | 156421  | CORDSET, NEMA 6-15P, 208/240V (NOT SHOWN)                   |              |
|         | 156400  | CORDSET, 230V CE (NOT SHOWN)                                |              |
| 22      | 156938  | TERMINAL BLOCK                                              | 1            |
| 23      | 156113  | FACE PLATE WITH GASKET, FRONT, FWM3-51                      | 1            |

**\* Note: ICC Timer Control will need to be manually programmed at the time of installation.**

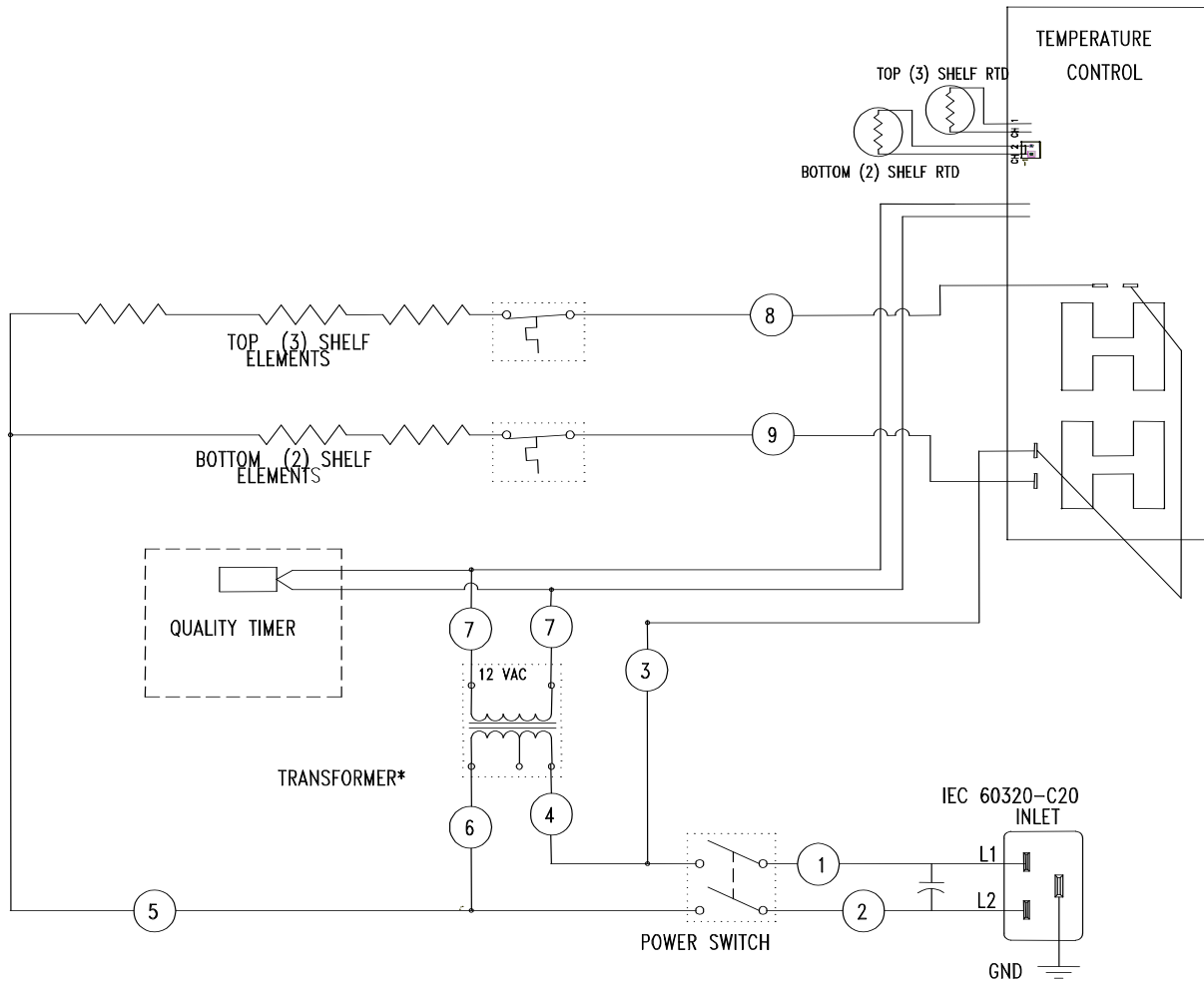


## Parts Lists and Illustrations (Continued)



**Figure 5, FWM3-51 Product Holding Cabinet Exploded View**

## Wiring Schematics

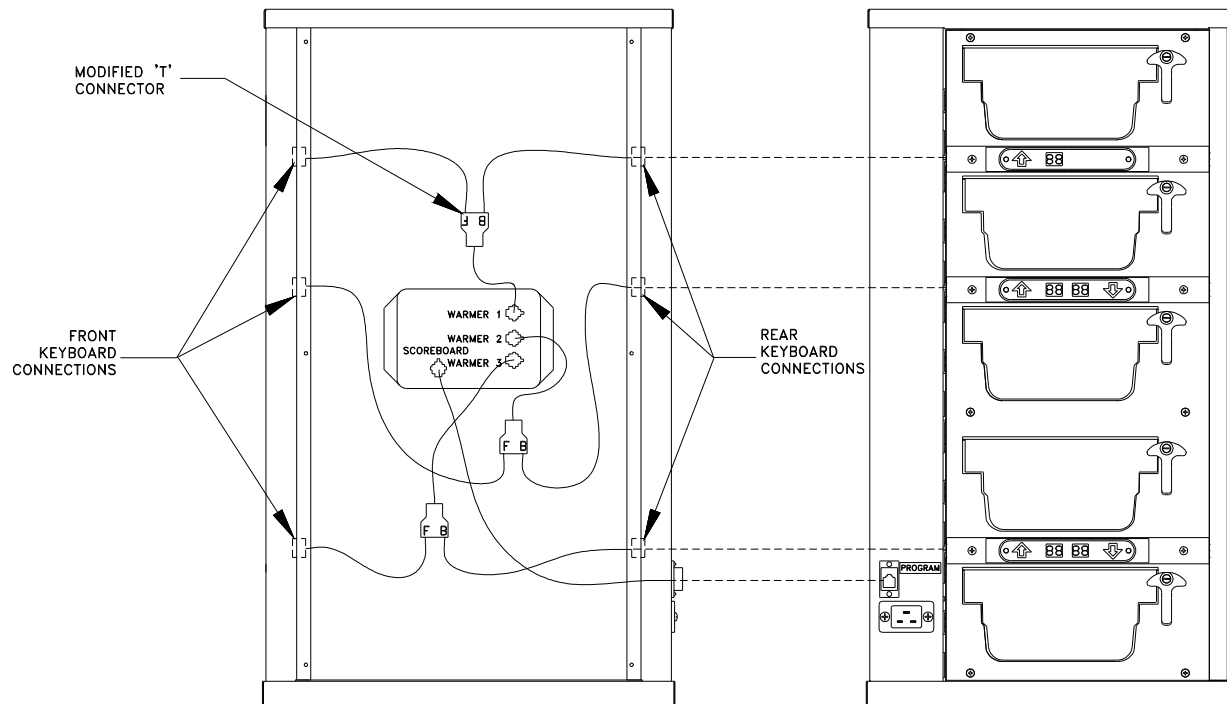


\*CONNECT WIRE #4 TO 240V TERMINAL FOR 240VAC AND 230VAC CE UNITS (SHOWN)  
CONNECT WIRE #4 TO 208V TERMINAL FOR 208VAC UNITS  
100/120 VAC UNITS USE A 120V TRANSFORMER

Figure 6, FWM3-51 Internal Wiring Schematic



## Interface Cable Connection







*Your Solutions Partner*

# **BEDIENUNGSANLEITUNG**

## **WARMHALTESCHRANK**

US-Patent 6175099, 6262394  
Andere US- und ausländische  
Patente beantragt

### **MODELLE**

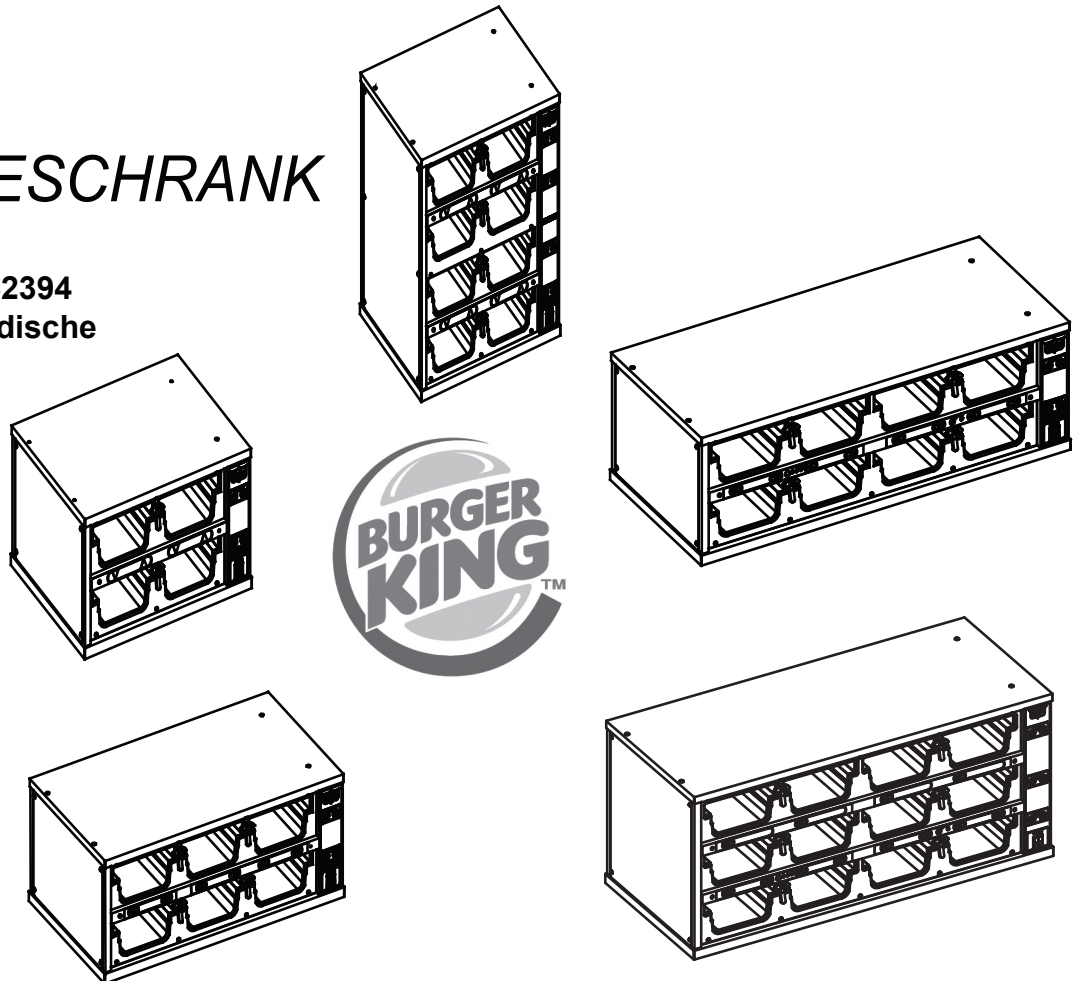
**FWM3-22**

**FWM3-23**

**FWM3-24**

**FWM3-34**

**FWM3-42**



**WICHTIGE INFORMATIONEN. VOR INBETRIEBNAHME LESEN.  
BEWAHREN SIE DIESE ANWEISUNGEN BITTE AUF.**

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**Telefax: +1-314-231-5074**

**[www.dukemfg.com](http://www.dukemfg.com)**

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Informationen und technische Unterstützung zum ICC Produktqualitäts-  
Timersystem erhalten Sie telefonisch unter: +1-(877) 422-8788

**Best.-Nr. 156893  
REV AR 02/13/2019**



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## Einführung

Der Warmhalteschrank von Duke wurde auf Anforderungen von Burger King entwickelt, um Nahrungsmittelprodukte über längere Zeit warmzuhalten und dabei eine hochwertige „ofenfrische“ Qualität in einem HIYW-Restaurant (Have It Your Way) zu erhalten.

Der Warmhalteschrank verfügt über die von Duke patentierte „Wärmesenke“-Haltetechnologie, die eine gleichmäßige Wärmeverteilung über den Boden und die Seiten der Nahrungsmittelwannen bietet. Diese Technologie ermöglicht das Warmhalten von vorgekochten Nahrungsmitteln über längere Zeit ohne merkliche Beeinträchtigung der Qualität und reduziert damit Lebensmittelreste/-abfälle.

Die in sich geschlossenen, separaten, abgedichteten Fächer des Warmhalteschranks von Duke verhindern das Entstehen und Übertragen von Lebensmittelgeruch. Da die Fächer abgedichtet und wie eine Wanne geformt sind, müssen Sie zur Reinigung und zum Produktwechsel nicht zerlegt werden.

Die einzigartige Konstruktion des Warmhalteschranks von Duke ermöglicht den Betrieb mit einer einzigen Temperatur für alle bestehenden Produktgruppen. Diese genehmigte Temperatur von 87,8 °C (190 °F) wird werkseitig eingestellt. Dies reduziert die Wahrscheinlichkeit von uneinheitlichem Betrieb zwischen unterschiedlichen Burger King Restaurantstandorten.

Der Warmhalteschrank von Duke wurde außerdem so konstruiert, dass er das Wiederaufwärmen von Nahrungsmittelprodukten ermöglicht. Das Wiederaufwärmen erfordert eine Thermostateinstellung von mindestens 93,3 °C (200 °F). Die Einstellanweisungen des Thermostats sind im Abschnitt „Programmierung der Temperatur“ zu finden.

**HINWEIS: Voreingestellte Temperaturwerte dürfen nur von qualifiziertem Servicepersonal geändert werden.**

**Die folgenden Sicherheitswörter und -symbole, die in diesem Handbuch zu finden sind, weisen auf wichtige Sicherheitsaspekte hinsichtlich des Betriebs und der Wartung der Geräte hin.**



**WARNUNG!**

**ALLGEMEINE WARNUNG:** Enthält Informationen, die für die ordnungsgemäße Bedienung des Geräts wichtig sind. Die Nichteinhaltung der angegebenen Anweisungen kann zu Sachschäden und/oder schweren oder tödlichen Verletzungen führen.



**WARNUNG!**



**ELEKTRIK-WARNUNG:** Enthält Informationen, die vor möglichen Elektroschocks warnen. Die Nichteinhaltung der angegebenen Anweisungen kann zu Sachschäden und/oder schweren oder tödlichen Verletzungen führen.



**VORSICHT!**

**ALLGEMEINE VORSICHTSMASSNAHME:** Enthält Informationen, die für die ordnungsgemäße Bedienung des Geräts wichtig sind. Die Nichteinhaltung der angegebenen Anweisungen kann zu Sachschäden führen.



**WARNUNG!**

**HEISSE OBERFLÄCHE:** Enthält Informationen, die für die Handhabung des Geräts wichtig sind. Die Nichteinhaltung der Vorsichtsmaßnahme kann zu Verletzungen führen.

Beachten Sie neben den in diesem Handbuch enthaltenen Warn- und Vorsichtshinweisen die folgenden Richtlinien, um den sicheren Betrieb des Geräts zu gewährleisten.

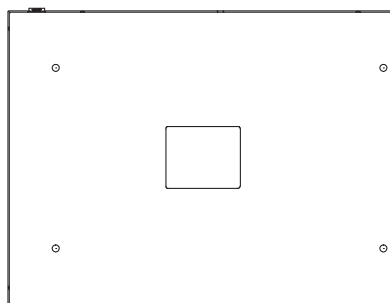
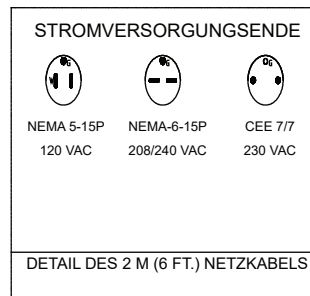
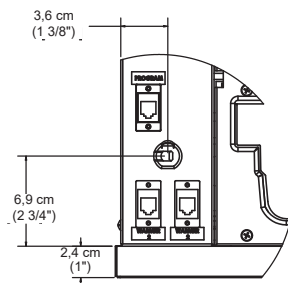
- Lesen Sie vor Inbetriebnahme des Geräts alle Anweisungen.
- Das Gerät ist mit einem ordnungsgemäß geerdeten Schukostecker ausgestattet, um die Sicherheit des Bedieners zu gewährleisten. Versuchen Sie nicht, den Schukostecker zu umgehen.
- Installieren bzw. verwenden Sie dieses Gerät nur für den in diesem Handbuch beschriebenen Zweck.
- Verwenden Sie keine ätzenden Chemikalien in diesem Gerät.
- Betreiben Sie dieses Gerät nicht, wenn Netzkabel oder -stecker beschädigt sind, das Gerät nicht ordnungsgemäß funktioniert oder es beschädigt oder fallengelassen wurde.
- Reparaturen an diesem Gerät dürfen nur von qualifiziertem Personal durchgeführt werden. Wenden Sie sich bezüglich Einstell- oder Reparaturarbeiten an die nächstgelegene Duke Vertragswerkstatt.
- Blockieren oder bedecken Sie keine Öffnungen am Gerät.
- Tauchen Sie Netzkabel oder -stecker nicht in Wasser.
- Halten Sie das Netzkabel von beheizten Flächen fern.
- Lassen Sie das Netzkabel nicht über die Tisch- oder Arbeitsplattenkante hängen.

Die folgenden Warn- und Vorsichtshinweise sind in diesem Handbuch enthalten und müssen strikt befolgt werden.

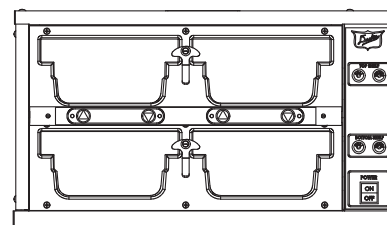
- Schalten Sie das Gerät aus, trennen Sie das Gerät von der Stromquelle und lassen Sie das Gerät abkühlen, bevor Sie Service- oder Wartungsarbeiten vornehmen.
- Die in diesem Handbuch beschriebenen Verfahren können die Verwendung von Chemikalienprodukten umfassen. Sie müssen vor Verwendung dieser Produkte das entsprechende Materialsicherheitsdatenblatt lesen.
- Das Gerät muss gemäß lokal geltender Elektroinstallationsvorschriften geerdet werden, um die Gefahr von Elektroschocks zu vermeiden. Es erfordert eine Schukosteckdose mit separaten Netzleitungen, die durch korrekt ausgelegte Sicherungen oder einen Unterbrecher geschützt sind.
- Das Gerät muss in Übereinstimmung mit lokalen Umweltvorschriften und/oder anderen einschlägigen Vorschriften entsorgt werden.
- Dieses Gerät darf nicht von Personen (einschließlich Kindern) mit eingeschränkten körperlichen, sensorischen oder geistigen Fähigkeiten bzw. fehlender Erfahrung oder mangelndem Wissen benutzt werden, außer wenn diese Personen von einer für ihre Sicherheit verantwortlichen Person beaufsichtigt bzw. in die Bedienung des Geräts eingewiesen wurden.

**Abbildung 1.1, FWM Technisches Datenblatt**  
**Modell FWM3-22**

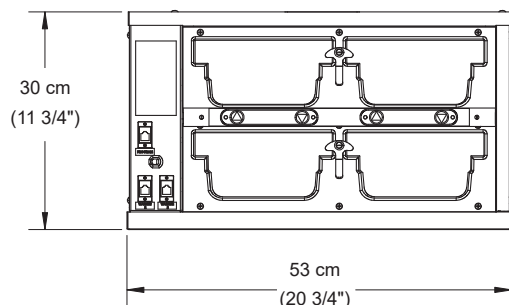
|                        |                  |                                |
|------------------------|------------------|--------------------------------|
| <b>Versandgewicht:</b> | 27.7 kg (61 lbs) |                                |
| <b>Netzdaten:</b>      | FWM3-22-120      | 120 V, 6,7 A, 800 W, 50/60 Hz  |
|                        | FWM3-22-208      | 208 V, 5,8 A, 1200 W, 50/60 Hz |
|                        | FWM3-22-230      | 230 V, 5,2 A, 1200 W, 50/60 Hz |
|                        | FWM3-22-240      | 240 V, 5,0 A, 1200 W, 50/60 Hz |



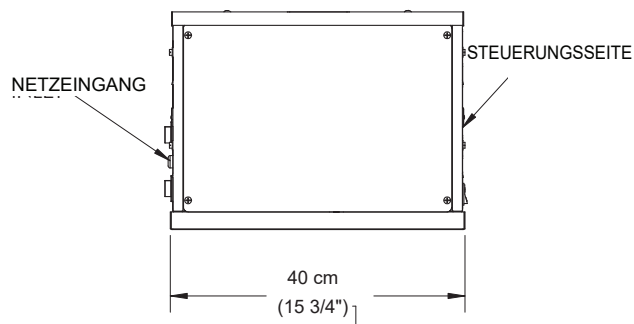
OBERSEITE



VORNE



HINTEN



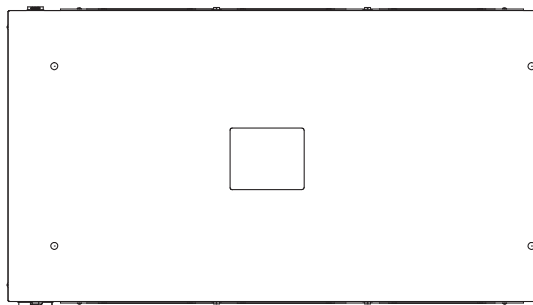
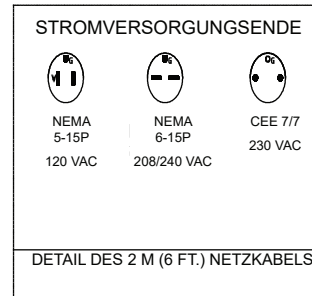
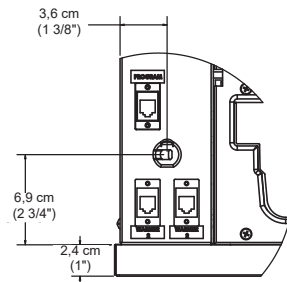
ENDE



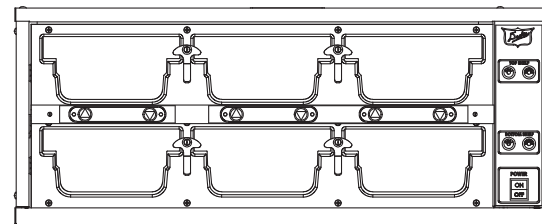


**Abbildung 1.2, FWM Technisches Datenblatt**  
**Modell FWM3-23**

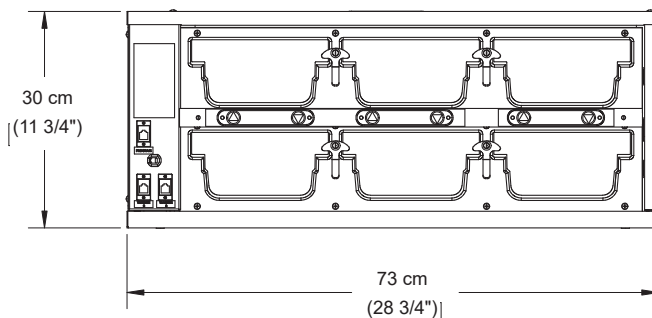
|                        |                    |                                 |
|------------------------|--------------------|---------------------------------|
| <b>Versandgewicht:</b> | 37.9 kg (83.5 lbs) |                                 |
| <b>Netzdaten:</b>      | FWM3-23-120        | 120 V, 10,0 A, 1200 W, 50/60 Hz |
|                        | FWM3-23-208        | 208 V, 8,7 A, 1800 W, 50/60 Hz  |
|                        | FWM3-23-230        | 230 V, 7,8 A, 1800 W, 50/60 Hz  |
|                        | FWM3-23-240        | 240 V, 7,5 A, 1800 W, 50/60 Hz  |



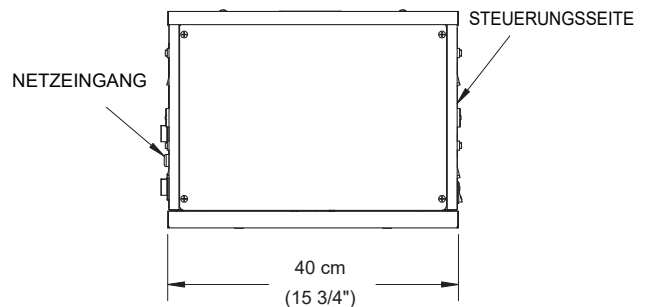
OBERSEITE



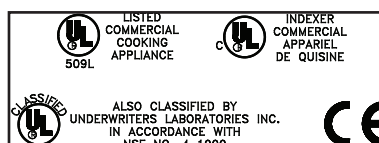
VORNE



HINTEN

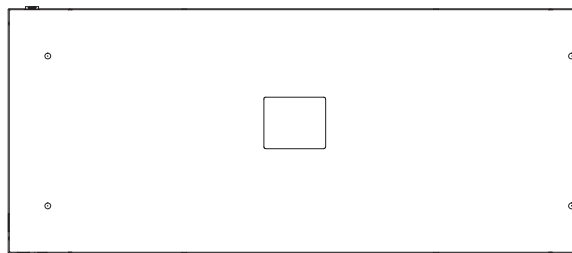
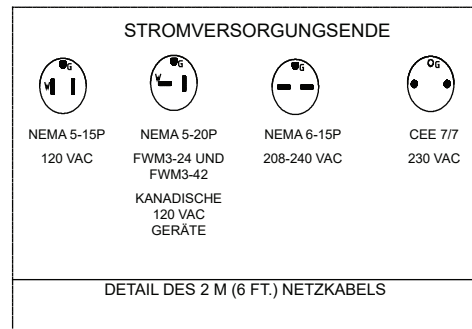
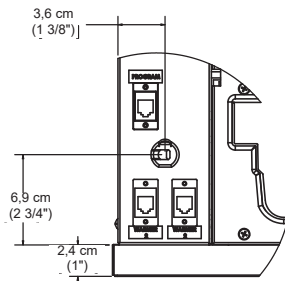


ENDE

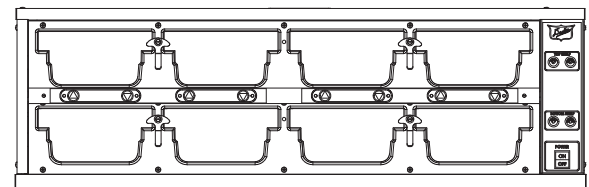


**Abbildung 1.3, FWM Technisches Datenblatt**  
**Modell FWM3-24**

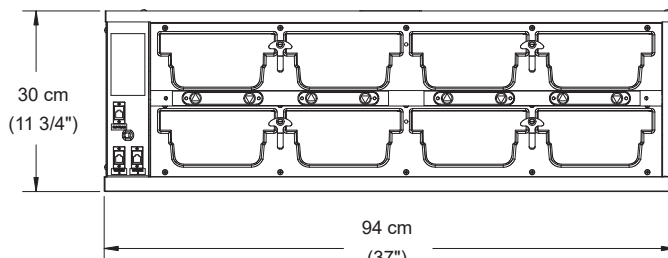
|                        |                |                                 |
|------------------------|----------------|---------------------------------|
| <b>Versandgewicht:</b> | 45 kg (100 lb) |                                 |
| <b>Netzdaten:</b>      | FWM3-24-120    | 120 V, 13,3 A, 1600 W, 50/60 Hz |
|                        | FWM3-24-208    | 208 V, 11,5 A, 2400 W, 50/60 Hz |
|                        | FWM3-24-230    | 230 V, 10,4 A, 2400 W, 50/60 Hz |
|                        | FWM3-24-240    | 240 V, 10,0 A, 2400 W, 50/60 Hz |



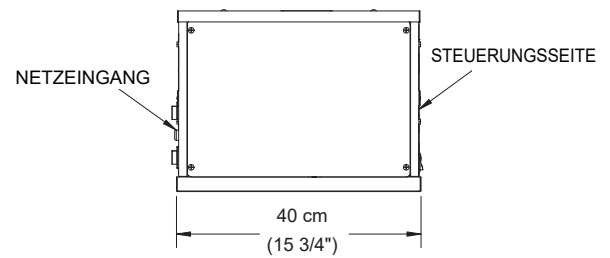
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VORNE



HINTEN

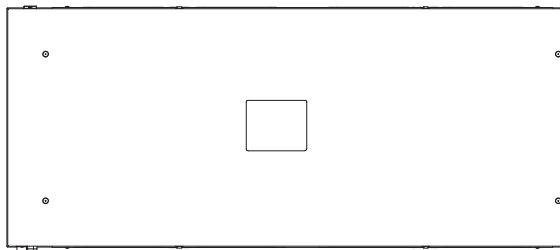
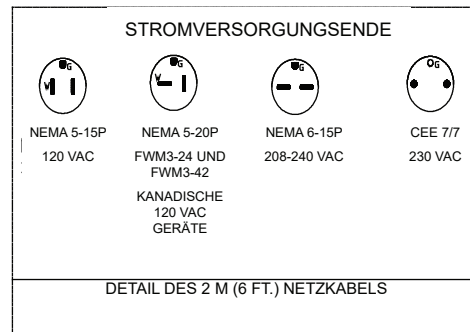
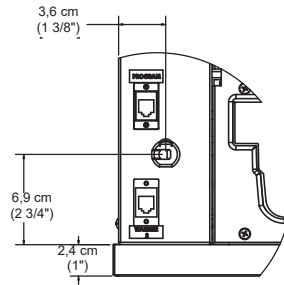


ENDE

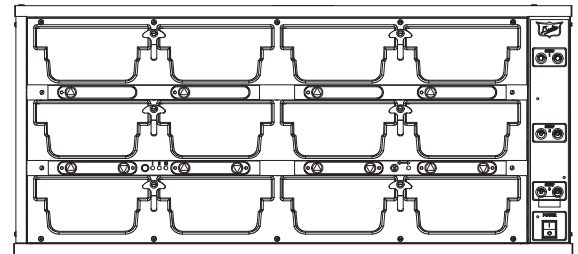


**Abbildung 1.4, FWM Technisches Datenblatt**  
**Modell FWM3-34**

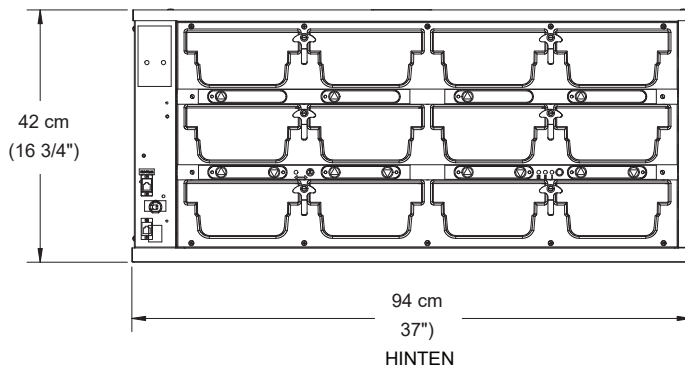
|                        |                |                                 |
|------------------------|----------------|---------------------------------|
| <b>Versandgewicht:</b> | 75 kg (165 lb) |                                 |
| <b>Netzdaten:</b>      | FWM3-34-208    | 208 V, 11,5 A, 2400 W, 50/60 Hz |
|                        | FWM3-34-230    | 230 V, 10,4 A, 2400 W, 50/60 Hz |
|                        | FWM3-34-240    | 240 V, 10,0 A, 2400 W, 50/60 Hz |



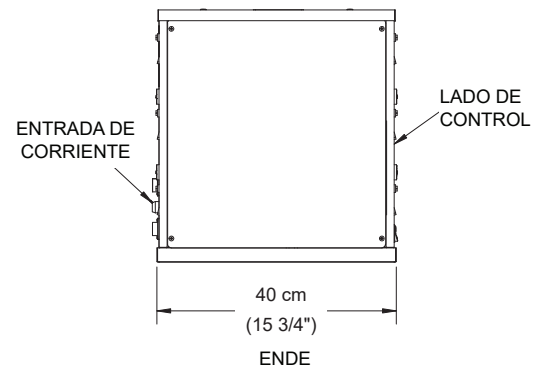
OBERSEITE



VORNE



HINTEN

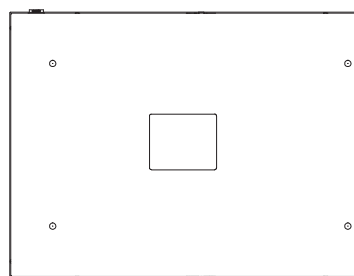
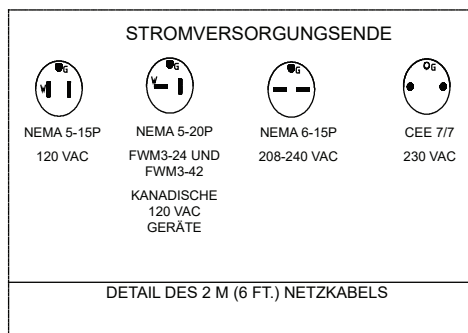
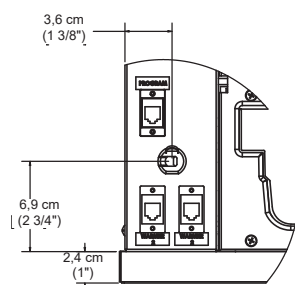


ENDE

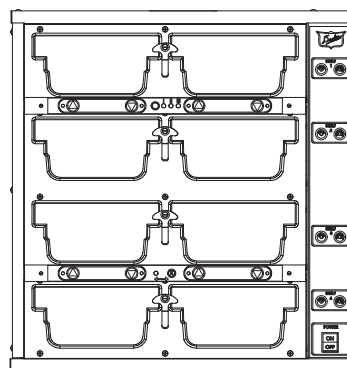


**Abbildung 1.5, FWM Technisches Datenblatt**  
**Modell FWM3-42**

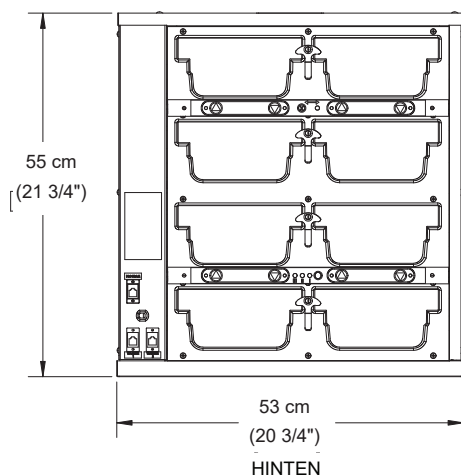
|                        |                 |                                 |
|------------------------|-----------------|---------------------------------|
| <b>Versandgewicht:</b> | 45 k g (100 lb) |                                 |
| <b>Netzdaten:</b>      | FWM3-42-120     | 120 V, 13,3 A, 1600 W, 50/60 Hz |
|                        | FWM3-42-208     | 208 V, 11,5 A, 2400 W, 50/60 Hz |
|                        | FWM3-42-230     | 230 V, 10,4 A, 2400 W, 50/60 Hz |
|                        | FWM3-42-240     | 240 V, 10,0 A, 2400 W, 50/60 Hz |



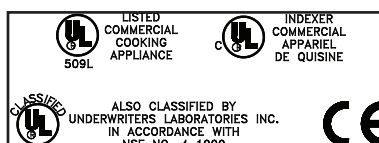
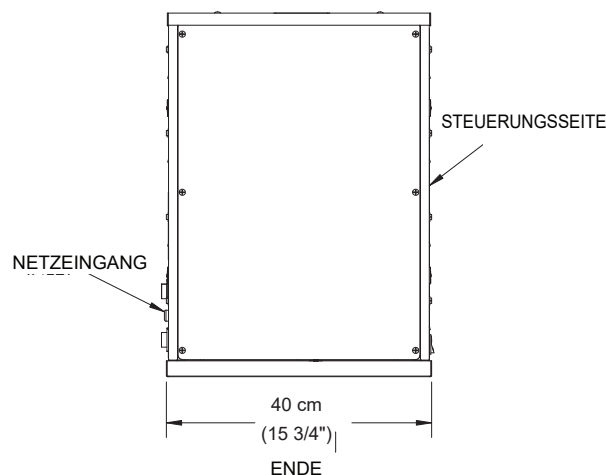
OBERSEITE



VORNE



HINTEN



## Auspacken des Geräts

- Inspizieren Sie den Versandkarton und/oder -container und notieren Sie jegliche äußere Schäden sorgfältig auf dem Lieferschein. Packen Sie das Gerät aus und prüfen Sie es auf Schäden, die ggf. nicht von außen sichtbar waren (verdeckte Schäden). Beschädigungen müssen notiert und umgehend der Lieferfirma mitgeteilt werden, damit eine Schadensforderung eingereicht werden kann. Bewahren Sie im Falle einer Schadensforderung das Verpackungsmaterial auf. Schadensforderungen für Versandschäden liegen in der Verantwortung des Käufers und sind nicht von der Garantie gedeckt.
- Prüfen Sie das Gerät auf Schäden wie Glasscherben usw.
- Melden Sie Beulen oder Bruchschäden unverzüglich dem Lieferanten.

### Verwenden Sie das Gerät nicht, wenn es beschädigt ist.

- Entfernen Sie jegliches Material aus dem Inneren des Geräts.
- Wenn das Gerät unter extrem kalten Bedingungen gelagert wurde, warten Sie einige Stunden, bevor Sie die Stromversorgung anschließen.

### Aufstellen des Geräts

- Stellen Sie das Gerät nicht in der Nähe von oder über einer Wärmequelle wie einem Herd oder einer Friteuse auf.
- Stellen Sie das Gerät auf einer stabilen, ebenen Arbeitsplatte auf.
- Die Steckdose sollte so angeordnet sein, dass der Netzstecker des aufgestellten Geräts zugänglich ist.
- Zwischen dem Warmhalteschrank und brennbarem bzw. nicht brennbarem Material muss der folgende Mindestabstand eingehalten werden:

| Modell       | Abstand    |
|--------------|------------|
| Rechte Seite | 0          |
| Linke Seite  | 0          |
| Rückseite    | 20 cm (8") |
| Boden        | 0          |

Der ordnungsgemäße Luftstrom um das Gerät kühlt die elektrischen Bauteile. Bei eingeschränktem Luftstrom funktioniert das Gerät ggf. nicht ordnungsgemäß bzw. die Lebensdauer der elektrischen Bauteile kann reduziert werden.

## INSTALLATIONSANWEISUNGEN

Stellen Sie den Warmhalteschrank auf einer stabilen Fläche auf.

Schließen Sie das Netzkabel unter Verwendung des zugelassenen Kabelsatzes gemäß IEC 60320 C20 an.

Befolgen Sie die Anweisungen im Abschnitt REGELMÄSSIGE WARTUNG, CHECKLISTE UND REINIGUNGSANWEISUNGEN in dieser Anleitung.

### WARNUNG!

**Um Elektroschocks und tödliche Verletzungen zu vermeiden, muss das Gerät geerdet werden und darf der Netzstecker nicht modifiziert werden.**

### Erdungsanweisungen

**Das Gerät MUSS ordnungsgemäß geerdet werden.**

Im Falle eines elektrischen Kurzschlusses reduziert die Erdung das Risiko eines Stromschlags, indem sie einen Ableiter für den Strom liefert. Dieses Gerät ist mit einem Netzkabel ausgestattet, das über einen Schutzleiter und Schukostecker verfügt. Der Netzstecker muss an eine korrekt installierte und geerdete Steckdose angeschlossen werden.

Wenden Sie sich an einen qualifizierten Elektriker oder Servicetechniker, wenn Sie sich über die Erdungsanweisungen nicht sicher sind oder zweifeln, ob das Gerät ordnungsgemäß geerdet ist.

Kein Verlängerungskabel verwenden. Wenn das Netzkabel zu kurz ist, lassen Sie von einem qualifizierten Elektriker eine Schukosteckdose in der Nähe des Geräts installieren. Dieses Gerät sollte an einen separaten Stromkreis angeschlossen werden, dessen Netzdaten mit den auf den Seiten mit den Datenblättern angegeben Daten übereinstimmen.

### Externer Potenzialausgleich

**Erdungsklemme** (nur Exportmodelle)

Dieses Gerät verfügt über eine sekundäre Erdungsklemme.

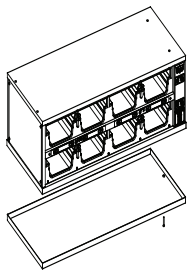
Die Klemme bietet einen externen Erdungsanschluss, der zusätzlich zum Erdleiter des Schukosteckers verwendet wird. Die Klemme ist an der Rückseite des Geräts zu finden und ist mit dem Erdungssymbol markiert.



## Stapeln von Geräten

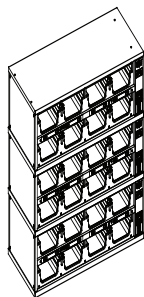
Der Warmhalteschrank Modell FWM3 kann im begrenzten Umfang gestapelt aufgestellt werden. Zum sicheren Stapeln des Geräts die folgenden Anweisungen verwenden.

### Schritt 1

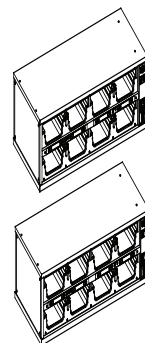


Bauen Sie die Basiswanne aller zu stapelnden Warmhalteschränke mit Ausnahme des unteren Geräts aus. Die Wanne ist durch zwei Schrauben am Boden des Geräts befestigt.

### Schritt 2



Positionieren Sie das untere Gerät am Aufstellungsort und stellen Sie das nächste Gerät darauf auf. Die Oberseite des unteren Warmhalteschranks liegt an der Innenseite des Sockels des oberen Geräts an.



## WARNUNG!

### GEFAHR VON UMKIPPEN!

**Das Modell FWM3-42 nicht stapeln.**  
Nicht mehr als drei Geräte stapeln. Die Warmhalteschränke nicht auf Oberflächen aufstellen, die leicht umkippen können.

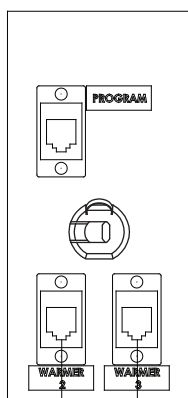
## Anschluss der Kommunikationsleitungen zwischen Geräten

### Alphanumerische Kommunikationsanschlüsse

Jedes Gerät, das über ein ICC Timersystem verfügt, kann bis zu zwei weitere Geräte (nur ein Modell FWM3-34) (Geräte ohne ICC Timersystem) steuern. Die Anschlüsse dieser Geräte anhand der folgenden Abbildungen vornehmen. Der Programmierungsanschluss wird für das von ICC gelieferte Palm Pilot Programmiergerät verwendet.

HINWEIS: Für Warmhalteschränke, die mit einem Timersystem mit digitalem Tastenfeld ausgestattet sind, stehen nur maximal vier digitale Tastenkombinationen zur Verfügung.

WARMHALTESCHRANK  
MIT  
ICC TIMERSYSTEM



WARMHALTESCHRANK OHNE  
ICC TIMERSYSTEM  
(SONDERAUSSTATTUNG)

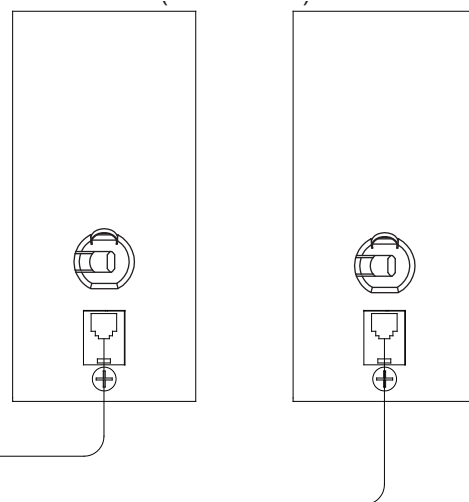


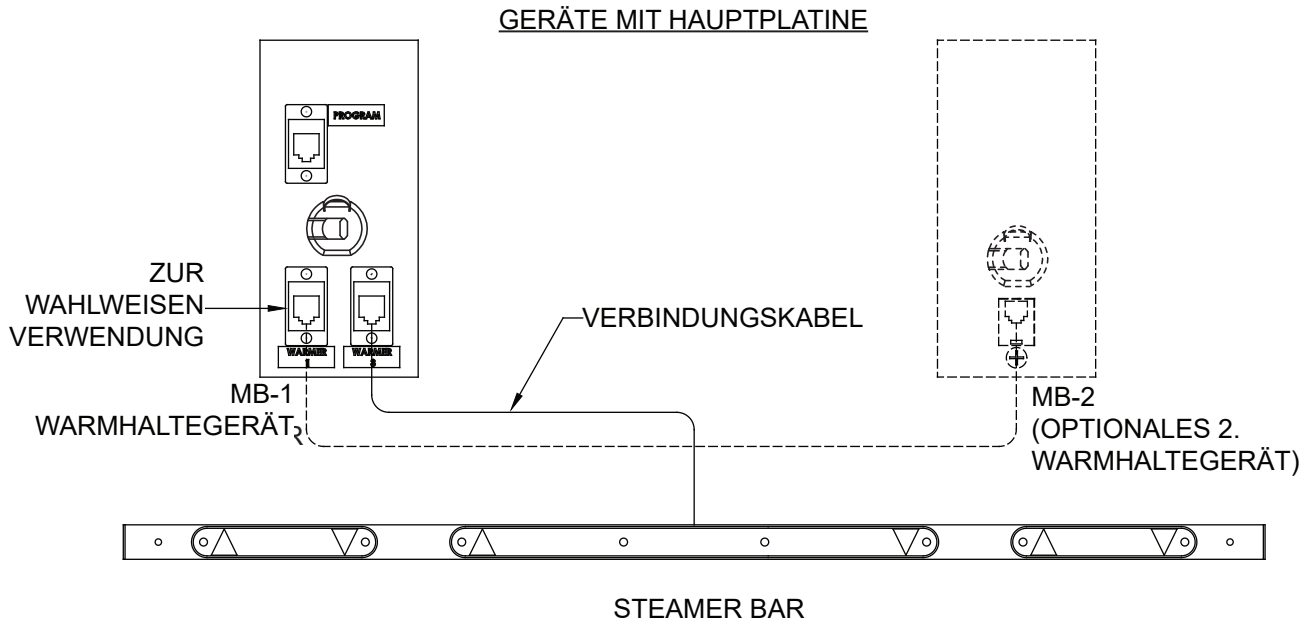
Abbildung 2.1

## Kommunikationsanschlüsse mit roter/grüner Kontrollleuchte

### Hauptplatten-Feldanschlüsse

Das Gerät mit der MB-1 Hauptplatte, das über die intern montierte ICC Blackbox verfügt, kann anhand der Timerleisten auf beiden Seiten des Warmhaltegeräts und der Steckanschlüsse mit den Bezeichnungen „Warmer #1“ und „Warmer #3“ identifiziert werden (siehe Abbildung 2.1). Dieses Gerät ist intern verdrahtet und betriebsbereit. Wenn Restaurants über zwei Geräte verfügen, die an die Hauptplatte angeschlossen sind, kann das zweite Gerät als das Warmhaltegerät mit Timerleisten auf jeder Seite und einem Steckanschluss identifiziert werden (siehe Abbildung 2.2). Zur Inbetriebnahme dieses zweiten Geräts schließen Sie das mitgelieferte Verbindungskabel zwischen dem Steckanschluss #1 am MB-1 Gerät und dem einzelnen Steckanschluss am MB-2 Gerät an.

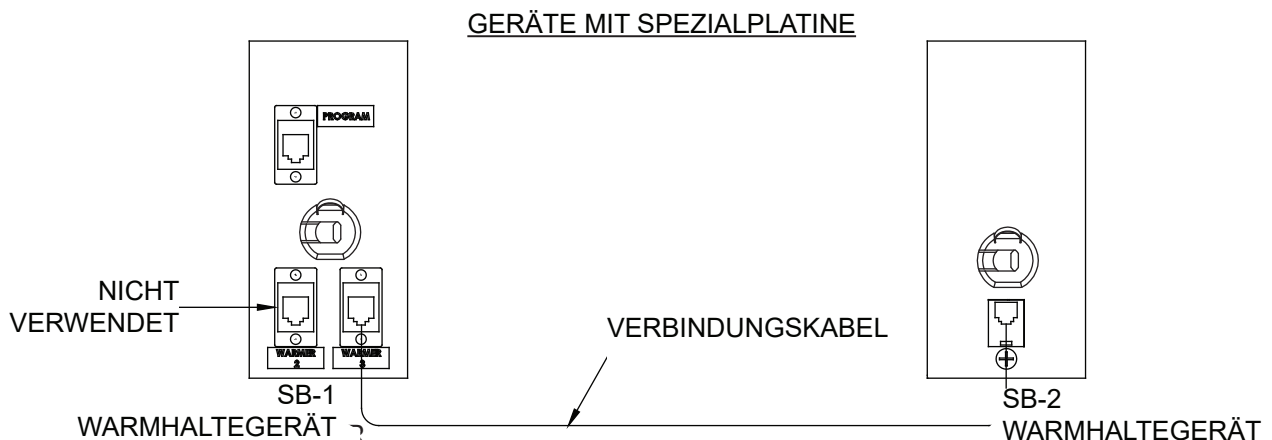
Die/das von ICC gelieferte Steamer Bar und Kabel wird an den Steckanschluss #3 des MB-1 Geräts angeschlossen (siehe Abbildung 2.1). Der Programmierungsanschluss wird für das von ICC gelieferte Palm Pilot Programmiergerät verwendet.



**Abbildung 2.2**

### Spezialplatten-Feldanschlüsse

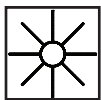
Das Gerät mit der SB-1 Spezialplatte, das über die intern montierte ICC Blackbox verfügt, kann anhand einer Timerleiste und der Steckanschlüsse mit den Bezeichnungen „Warmer #2“ und „Warmer #3“ identifiziert werden (siehe Abbildung 2.2). Dieses Gerät ist intern verdrahtet und betriebsbereit. Das Gerät mit SB-2 Spezialplatte verfügt über eine Timerleiste und einen Steckanschluss (siehe Abbildung 2.2). Zur Inbetriebnahme dieses Geräts schließen Sie das mitgelieferte Verbindungskabel zwischen dem Steckanschluss #3 am SB-1 Gerät und dem einzelnen Steckanschluss am SB-2 Gerät an. Der Steckanschluss #2 wird NICHT verwendet. Der Programmierungsanschluss wird für das von ICC gelieferte Palm Pilot Programmiergerät verwendet.



**Abbildung 2.3**

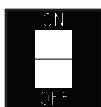
## Regelmäßige Wartung, Checkliste und Reinigungsanweisungen

### TÄGLICH



#### Checkliste für das Öffnen

1. Stellen Sie sicher, dass die entsprechenden Wannenabdeckungen an den richtigen Stellen für frittierte und gebratene Produkte eingesetzt sind.
2. Schalten Sie den Netzschalter an der Vorderseite des Warmhalteschranks ein (ON).
3. Achten Sie darauf, dass sowohl die obere als auch die untere **WÄRME-Leuchte** leuchtet.
4. Lassen Sie den Warmhalteschrank mindestens 20 Minuten vorheizen bzw. bis die **WÄRME-Leuchten** ausgehen.



#### Betriebsanweisungen und Einstellungen

1. Wenn die **SERVICE-Leuchte** während des Betriebs des Warmhalteschranks aufleuchtet, nehmen Sie das betroffene Fach außer Betrieb, bis das Modul repariert werden kann.
2. Verwenden Sie die Menüleiste gemäß den Anweisungen in der Anzeigetafel-Bedienungsanleitung.



#### Checkliste für das Schließen

1. Schalten Sie den Netzschalter aus (OFF).
2. Entfernen Sie alle Wannen und Wannenabdeckungen.
3. Lassen Sie den Schrank ca. 30 Minuten abkühlen.
4. Reinigen Sie den Warmhalteschrank gemäß den Anweisungen im nächsten Abschnitt.



#### Reinigungsanweisungen

1. Waschen Sie die Innen- und Außenflächen des Warmhalteschranks mit warmem Wasser und milder Reinigungslösung und einem weichen Lappen. Verwenden Sie nicht übermäßig viel Wasser.
2. Reinigen Sie die Wannen und Wannenabdeckungen mit einer milden Reinigungslösung und warmem Wasser. Stellen Sie sicher, dass die Seife vollständig von den Wannen und Wannenabdeckungen abgespült wird.

### VORSICHT!

**Gefahr von Elektroschocks. Den Schrank nicht mit einem Wasserstrahl oder Druckschlauch waschen. Keine ätzenden, säurebasierten, ammoniakhaltigen oder scheuernden Reinigungsmittel bzw. Scheuertücher verwenden, da diese die Edelstahl- und Kunststoffflächen beschädigen können.**

### WARNUNG!

**Der Boden und die Seiten der Warmhaltefächer sind äußerst heiß und kühlen nur langsam ab.**



## FEHLERSUCHE

Der Duke Warmhalteschrank enthält keine vom Benutzer zu wartenden Teile. Bei einer Störung sollten Sie sicherstellen, dass das Gerät an die Stromversorgung angeschlossen ist. Überprüfen Sie dann alle Schalter und Unterbrecher. Wenn die Störung dadurch nicht beseitigt werden kann, wenden Sie sich an Ihren autorisierten Servicetechniker der Duke Manufacturing Company oder telefonisch an Duke unter 1-800-735-3853.

### Fehleranzeigen der elektronischen Steuerung

Die Service-Leuchte befindet sich an der Vorderseite des Bedienfelds neben der Wärme-Leuchte (siehe Abbildung 3). Sie zeigt dem Bediener an, wenn ein Fehler im Heizungskreis des Geräts vorliegt. Wenn eine Service-Leuchte aufleuchtet, darf das betroffene Fach erst dann wieder verwendet werden, nachdem die Störung von einem qualifizierten Servicetechniker behoben wurde. Die Service-Leuchte kann durch folgende Fehlerbedingungen von der Steuerung aktiviert werden:

- 1. Übertemperatur** – Dieser Fehler tritt auf, wenn die Steuerung erkennt, dass die Wannentemperatur 30 Minuten lang höher lag als die werkseitig voreingestellte Temperatur. Dies tritt auf, wenn die Stromversorgung des Heizelements nicht abgeschaltet wird, nachdem die Wanne die voreingestellte Temperatur erreicht hat und dadurch die Service-Leuchte von der Steuerung aktiviert wurde. Der Zusatzthermostat verhindert, dass die Temperatur einen sicheren Wert überschreitet, indem er die Temperatur auf max. 121 °C (250 °F) begrenzt.
- 2. Untertemperatur** – Dieser Fehler tritt auf, wenn die Steuerung erkennt, dass die Wannentemperatur mehr als 30 Minuten lang ununterbrochen niedriger lag als die werkseitig voreingestellte Temperatur. Dies tritt auf, wenn der Heizelement-Stromkreis unterbrochen wird oder wenn das Widerstandstemperaturfühler-Feedbacksignal (RTD Feedback) fehlerhaft ist und dadurch die Service-Leuchte von der Steuerung aktiviert wurde.

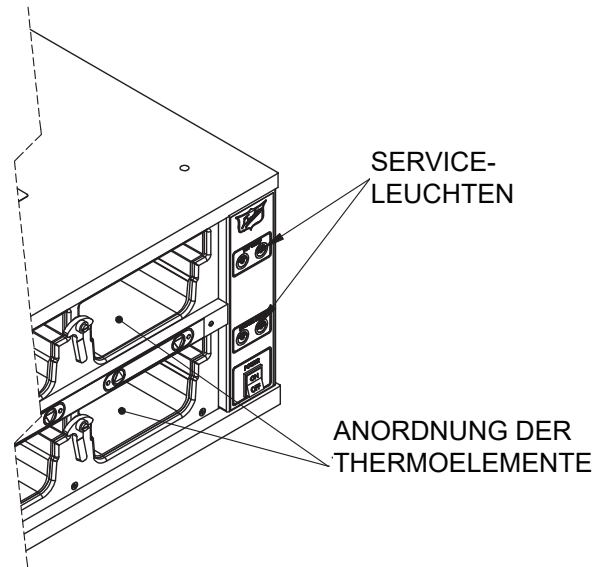


Abbildung 3

### Temperaturprüfung

- Um die genaue Temperaturmessung zu gewährleisten, muss ein kalibriertes digitales Temperaturmessgerät verwendet werden. Verwenden Sie zur Messung der Temperaturen ein Oberflächentemperatur-Thermoelement.
- Während des Vorheizens und der Temperaturprüfung sollten sich keine Wannen in den Fächern befinden.** Heizen Sie den Warmhalteschrank 30 Minuten lang vor, bevor Sie Temperaturmessungen durchführen. Das Fach muss 30 Minuten lang leer sein, bevor Sie Messungen vornehmen. Dadurch kann sich die Temperatur stabilisieren und falsche Messwerte werden verhindert.
- Das wärmere Fach sollte gereinigt und entleert werden, bevor die Temperatur geprüft wird. Vermeiden Sie Luftzug durch das Fach.
- Bringen Sie das Oberflächentemperatur-Thermoelement am Boden des ersten Fachs in der geometrischen Mitte der Einheit an. Das erste Fach ist das Fach, das der Bedieneinheit am nächsten liegt (siehe Abbildung 3). Stellen Sie sicher, dass das Thermoelement während der Aufzeichnung der Messwerte über guten Kontakt mit der Oberfläche verfügt.
- Alle Temperaturregler weisen eine Temperaturschwankung auf, wenn die Einheit während der Regelung auf den Sollwert ein- und ausgeschaltet wird. Die korrekte Kalibriertemperatur ist der Durchschnitt mehrerer Messwerte, die über einen Zeitraum von 20 Minuten nach dem Vorheizen des Warmhalteschranks aufgezeichnet wurden. Die durchschnittliche Temperatur sollte  $\pm 5$  °F innerhalb des Sollwerts liegen.

## Programmierung der Steuerung

Die elektronische Temperaturregelung ist werkseitig so eingestellt, dass die Temperatur unten in der Mitte der Wannenöffnung bei 87,8 °C (190 °F) +/- 5 °F beibehalten wird. Diese Temperatur ist das Ergebnis vieler Stunden von Nahrungsmitteltests im Testlabor von Burger King. Der Bediener kann keine Temperatureinstellungen vornehmen. Da die elektronische Regelung mit einem Platin-Widerstandsthermometer ausgestattet ist, ist keine routinemäßige Kalibrierung erforderlich.

### **GEFAHR!**

**STROMFÜHRENDE ELEKTRISCHE BAUTEILE.**

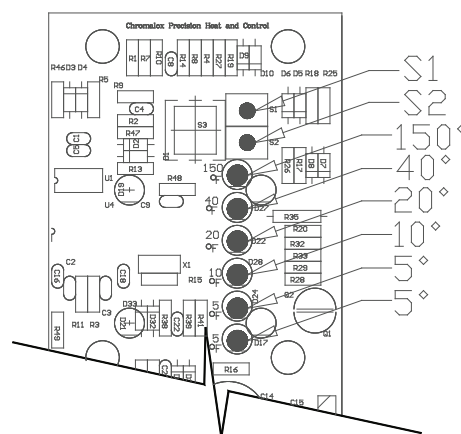
**VOREINGESTELLTE TEMPERATURWERTE DÜRFEN NUR VON QUALIFIZIERTEM SERVICEPERSONAL GEÄNDERT WERDEN.**

## Programmierung der Temperatur

1. Entfernen Sie die Abdeckung von der Steuerungsseite des Warmhalteschranks und schalten Sie den Schrank ein (ON).
2. Suchen Sie die Drucktasten S1 und S2 an der Rückseite der Steuerung (siehe Abbildung 4.1).
3. Drücken Sie die Taste S1, bis eine LED an der Rückseite der Steuerung aufleuchtet (ca. 5 Sekunden).
4. Schauen Sie auf die Vorderseite der Steuerung (Abbildung 4.2). Drücken Sie die Taste S1 an der Rückseite der Steuerung und lassen Sie die Taste los, bis die gewünschte Leuchte an der Vorderseite der Steuerung blinkt (siehe Tabelle 1).

**HINWEIS:** Die voreingestellte Temperatur darf nicht unter 87,8 °C (190 °F) eingestellt werden, um die NSF-Hygieneanforderungen zu erfüllen.

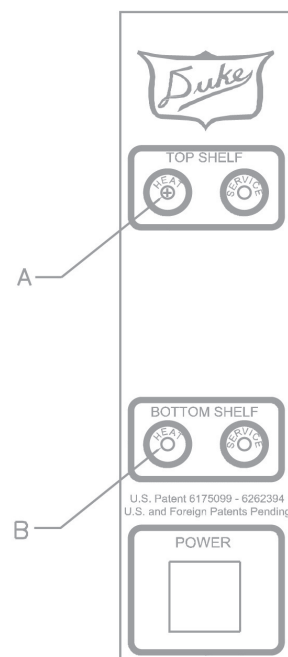
5. Drücken Sie die Taste S2 und lassen Sie die Taste los, bis die Summe der LED-Werte, die an der Rückseite der Platine aufleuchtet, mit der voreingestellten Temperatur übereinstimmt.
6. Wiederholen Sie die Schritte 4 und 5 für jede voreingestellte Temperatur und drücken Sie dann die Taste S1 und lassen Sie die Taste los, bis keine der LEDs an der Rückseite der Steuerung mehr aufleuchten und die Leuchten an der Vorderseite der Platine nicht mehr blinken.
7. Bringen Sie die Abdeckung auf der Steuerungsseite des Warmhalteschranks wieder an.



**Abbildung 4.1**

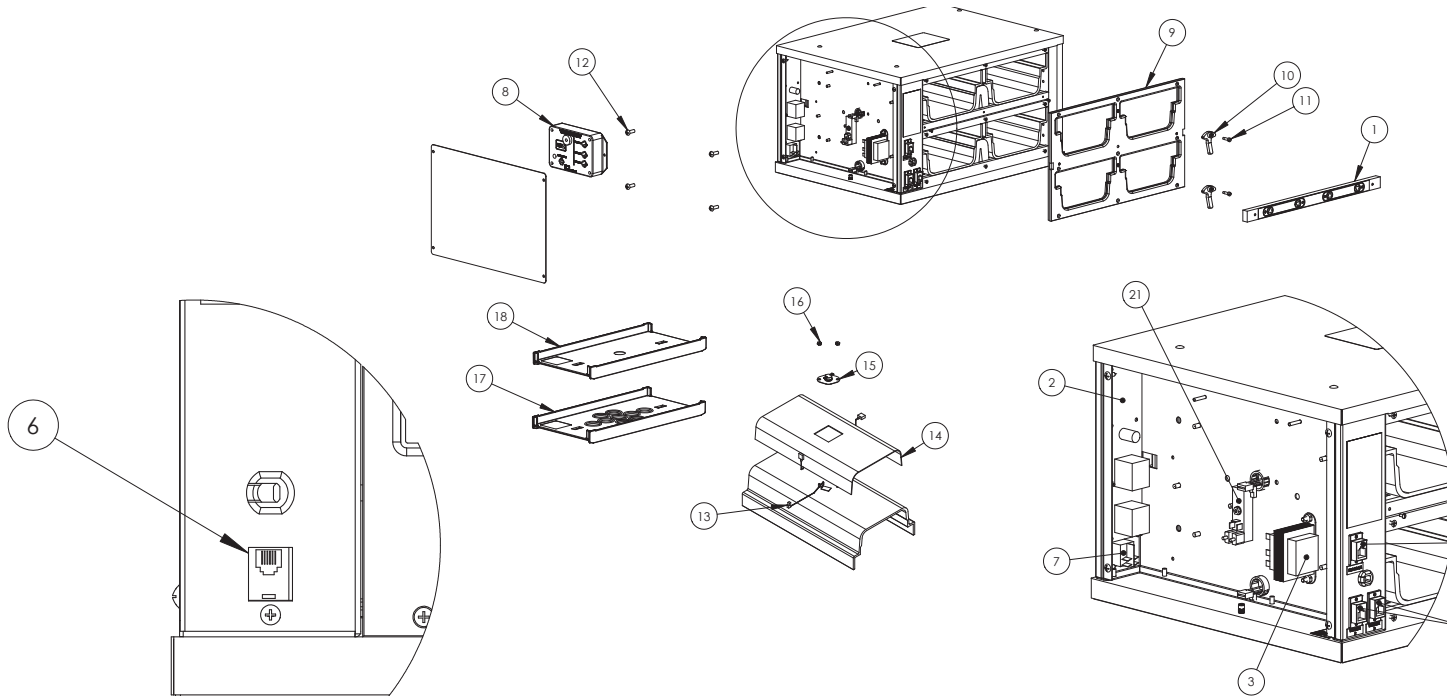
| Blinkende Leuchten |   |   |
|--------------------|---|---|
|                    | A | B |
| Oberes Fach        | X |   |
| Unteres Fach       |   | X |

**Tabelle 1**



**Abbildung 4.2**

# ERSATZTEILLISTEN UND ILLUSTRATIONEN



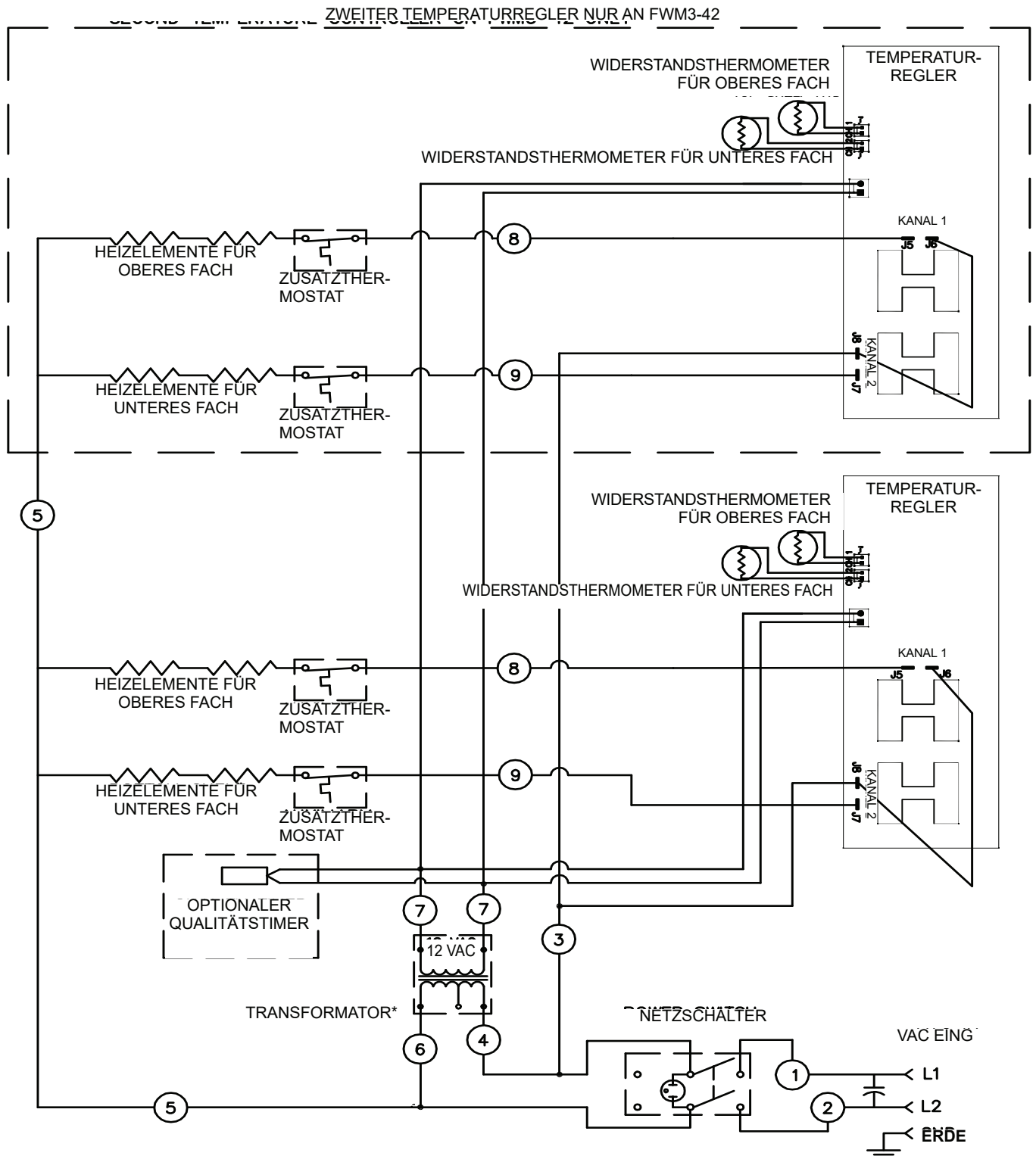
|      |                                               |                                                           | Menge je Gerät |          |          |          |          |
|------|-----------------------------------------------|-----------------------------------------------------------|----------------|----------|----------|----------|----------|
| Pos. | TEILNR                                        | Beschreibung                                              | FWM3-22        | FWM3-23  | FWM3-24  | FWM3-34  | FWM3-42  |
| 1    | TIMERLEISTEN MIT ROTER/GRÜNER KONTROLLLEUCHTE |                                                           |                |          |          |          |          |
|      | 156672                                        | TASTENFELD FWM3-24, DAYPART/TRANSFER                      |                |          | 1 oder 2 | 1 oder 2 |          |
|      | 156857                                        | TASTENFELD FWM3-24, DAYPART/TRANSFER AUFWÄRTSPFEIL VORNE  |                |          |          | 1        |          |
|      | 156858                                        | TASTENFELD FWM3-24, DAYPART/TRANSFER AUFWÄRTSPFEIL HINTEN |                |          |          | 1        |          |
|      | 156807                                        | TASTENFELD FWM3-22, DAYPART                               | 1 oder 2       |          |          |          |          |
|      | 156808                                        | TASTENFELD FWM3-23, DAYPART                               |                | 1 oder 2 |          |          |          |
|      | 156756                                        | TASTENFELD FWM3-42, DAYPART                               |                |          |          |          | 1 oder 2 |
|      | TIMERLEISTEN MIT ALPHANUMERISCHEN TASTEN      |                                                           |                |          |          |          |          |
|      | 160416                                        | TASTENFELD - AN                                           |                |          | 1 oder 2 | 1 oder 2 |          |
|      | 160417                                        | TASTENFELD - AN OBERSEITE                                 |                |          |          | 1 oder 2 |          |
|      | 160512                                        | TASTENFELD - AN                                           |                | 1 oder 2 |          |          |          |
|      | 160511                                        | TASTENFELD - AN                                           | 1 oder 2       |          |          |          |          |
|      | 160510                                        | TASTENFELD - AN                                           |                |          |          |          | 1 oder 2 |
| 2    | 600106                                        | SATZ, FWM STEUERMODUL                                     | 1              | 1        | 1        | 2        | 2        |
| 3    | 155749                                        | TRANSFORMATOR, 208/240 VAC                                | 1              | 1        | 1        | 1        | 1        |
|      | 156838                                        | TRANSFORMATOR, 230 VAC (CE)                               | 1              | 1        | 1        |          | 1        |
|      | 156316                                        | TRANSFORMATOR, 120 VAC                                    | 1              | 1        | 1        |          | 1        |
|      | 160985                                        | TRANSFORMATOR, 16 VAC/230 VAC (AUS/NZ)                    | 1              | 1        | 1        | 1        | 1        |
| 4    | 156616                                        | VERBINDUNGSTÜCK, 6X6 RJ12 (NUR MB1 UND SB1 GERÄTEN)       | 2              | 2        | 2        | 1        | 2        |
| 5    | 156617                                        | VERBINDUNGSTÜCK, 8X8 RJ45 (NUR MB1 UND SB1 GERÄTEN)       | 1              | 1        | 1        | 1        | 1        |
| 6    | 156059                                        | T-SPEZIALSTECKVERBINDER                                   | 1              | 1        | 1        | 1 oder 2 | 1        |
|      | 157449                                        | T-STECKVERBINDER, (NUR MB2 UND SB2 GERÄTEN)               |                |          |          | 2        |          |
| 7    | 600261                                        | SCHALTER, MIT LEUCHTE, DPST, 16 A, 250 V                  | 1              | 1        | 1        | 1        | 1        |
|      | 600228                                        | SCHALTER, MIT LEUCHTE, DPST, 20 A, 120 V                  |                |          |          |          |          |

|        |                                               |                                                                 | Menge je Gerät                    |         |         |         |         |
|--------|-----------------------------------------------|-----------------------------------------------------------------|-----------------------------------|---------|---------|---------|---------|
| Pos.   | TEILNR                                        | Beschreibung                                                    | FWM3-22                           | FWM3-23 | FWM3-24 | FWM3-34 | FWM3-42 |
| 8      | STEUERMODULE MIT ROTER/GRÜNER KONTROLLLEUCHTE |                                                                 |                                   |         |         |         |         |
|        | 156868                                        | STEUERUNG, ICC TIMER, DAYPART OHNE SOUNDER 34                   |                                   |         |         | 1       |         |
|        | 156819                                        | STEUERUNG, ICC TIMER, DAYPART OHNE SOUNDER 22, 23               | 1                                 | 1       |         |         |         |
|        | 156409                                        | STEUERUNG, ICC TIMER, DAYPART OHNE SOUNDER 24, 42               |                                   |         | 1       |         | 1       |
|        | STEUERMODULE MIT ALPHANUMERISCHEN TASTEN      |                                                                 |                                   |         |         |         |         |
|        | 160418                                        | STEUERUNG, ICC TIMER, ALPHANUMERISCH OHNE SOUNDER 34            |                                   |         |         | 1       |         |
|        | 160415                                        | STEUERUNG, ICC TIMER, ALPHANUMERISCH 24, 42                     |                                   |         | 1       |         | 1       |
|        | 160509                                        | STEUERUNG, ICC TIMER, ALPHANUMERISCH 22, 23                     | 1                                 | 1       |         |         |         |
|        | 157454                                        | NETZTEIL, ALPHANUMERISCH (NUR MB2 UND SB2)                      | 1                                 | 1       | 1       | 1       | 1       |
|        | 9                                             | 156485                                                          | FRONTPLATTE MIT DICHTUNG, FWM3-22 | 2       |         |         |         |
| 156558 |                                               | FRONTPLATTE MIT DICHTUNG, FWM3-23                               |                                   | 2       |         |         |         |
| 155849 |                                               | FRONTPLATTE MIT DICHTUNG, FWM3-24                               |                                   |         | 2       |         |         |
| 156548 |                                               | FRONTPLATTE MIT DICHTUNG, FWM3-42                               |                                   |         |         |         | 2       |
| 156837 |                                               | FRONTPLATTE MIT DICHTUNG, FWM3-34                               |                                   |         |         | 2       |         |
| 10     | 156285                                        | RIEGEL, WANNE                                                   | 4                                 | 8       | 8       | 12      | 8       |
| 11     | 156288                                        | ANSATZSCHRAUBE                                                  | 4                                 | 8       | 8       | 12      | 8       |
| 12     | 0653638                                       | SCHRAUBE 1/4-20 X 3/4                                           | 8                                 | 8       | 8       | 16      | 16      |
| 13     | 155750                                        | WIDERSTANDSTHERMOMETER 1K OHM, DÜNN                             | 2                                 | 2       | 2       | 3       | 4       |
| 14     | 156994                                        | FOLIENHEIZELEMENT FWM3-22-100 UND FWM3-42-100                   | 4                                 |         |         |         | 8       |
|        | 156483                                        | FOLIENHEIZELEMENT FWM3-22-120 UND FWM3-42-120                   | 4                                 |         |         |         | 8       |
|        | 156539                                        | FOLIENHEIZELEMENT FWM3-22-208, FWM3-22-200 UND FWM3-42-208      | 4                                 |         |         |         | 8       |
|        | 156632                                        | FOLIENHEIZELEMENT FWM3-22-230CE UND FWM3-42-230CE               | 4                                 |         |         |         | 8       |
|        | 156540                                        | FOLIENHEIZELEMENT FWM3-22-240 UND FWM3-42-240                   | 4                                 |         |         |         | 8       |
|        | 156564                                        | FOLIENHEIZELEMENT FWM3-23-120                                   |                                   | 6       |         |         |         |
|        | 156301                                        | FOLIENHEIZELEMENT FWM3-23-208 UND FWM3-23-200                   |                                   | 6       |         |         |         |
|        | 156611                                        | FOLIENHEIZELEMENT FWM3-23-230CE                                 |                                   | 6       |         |         |         |
|        | 156565                                        | FOLIENHEIZELEMENT FWM3-23-240                                   |                                   | 6       |         |         |         |
|        | 157520                                        | FOLIENHEIZELEMENT FWM3-24-100                                   |                                   |         | 8       |         |         |
|        | 156566                                        | FOLIENHEIZELEMENT FWM3-24-120                                   |                                   |         | 8       |         |         |
|        | 155752                                        | FOLIENHEIZELEMENT FWM3-24-208                                   |                                   |         | 8       |         |         |
|        | 156318                                        | FOLIENHEIZELEMENT FWM3-24-230CE                                 |                                   |         | 8       |         |         |
|        | 155755                                        | FOLIENHEIZELEMENT FWM3-24-240                                   |                                   |         | 8       |         |         |
|        | 156856                                        | FOLIENHEIZELEMENT FWM3-34-208                                   |                                   |         |         | 12      |         |
|        | 157887                                        | FOLIENHEIZELEMENT FWM3-34-230 UND FWM3-34-240                   |                                   |         |         | 12      |         |
| 15     | 155753                                        | ZUSATZTHERMOSTAT                                                | 2                                 | 2       | 2       | 3       | 4       |
| 16     | 155680                                        | MUTTER #8-32 KEPS                                               | 4                                 | 4       | 4       | 6       | 8       |
| 17     | 155873                                        | DECKEL, WARMHALTEWANNE ENTLÜFTET (FRITTIERTE PRODUKTE)(GRAU)    | AR                                | AR      | AR      | AR      | AR      |
| 18     | 155876                                        | DECKEL, WARMHALTEWANNE VOLLWANDIG (GEBRATENE PRODUKTE)(SCHWARZ) | AR                                | AR      | AR      | AR      | AR      |
| *19    | 156491                                        | KABEL, 8 FT (FÜR KOMMUNIKATIONSFÄHIGE GERÄTE)                   | AR                                | AR      | AR      | AR      | AR      |
|        | 156666                                        | KABEL, 26 IN (FÜR KOMMUNIKATIONSFÄHIGE DIGITALE GERÄTE)         |                                   |         |         |         |         |
| *20    | 156603                                        | NETZKABEL, NEMA 5-15P, 120 V                                    | 1                                 | 1       | 1       | 1       | 1       |
|        | 156621                                        | NETZKABEL, NEMA 5-20P, 120 V, KANADA                            |                                   |         |         |         |         |
|        | 156624                                        | NETZKABEL, NEMA 6-15P, 208/240 V                                |                                   |         |         |         |         |
|        | 156631                                        | NETZKABEL, 230 V CE                                             |                                   |         |         |         |         |
|        | 175887                                        | NETZKABEL, AUS/NZ                                               |                                   |         |         |         |         |
|        | 161069                                        | NETZKABEL, 16A, 230V, BRASILIE                                  |                                   |         |         |         |         |
| 21     | 156938                                        | KLEMMENBLOCK                                                    | 1                                 | 1       | 1       | 1       | 1       |
| *22    | 600328                                        | SATZ, TIMERLEISTEN-ABSTANDSSTÜCK, VORN                          |                                   |         | 1       |         |         |

| Pos. | TEILNR                 | Beschreibung                                          | Menge je Gerät |          |          |          |          |
|------|------------------------|-------------------------------------------------------|----------------|----------|----------|----------|----------|
|      |                        |                                                       | FWM3-22        | FWM3-23  | FWM3-24  | FWM3-34  | FWM3-42  |
| *23  | 600329                 | SATZ, TIMERLEISTEN-ABSTANDSSTÜCK, HINTEN              |                |          | 1        |          |          |
| *24  | <a href="#">600121</a> | KIT, TAGESZEIT/WÄRMETRÄGER MYLAR, 2X2 UND 2X3         | 1 oder 2       | 1 oder 2 |          |          |          |
|      | <a href="#">600122</a> | KIT, TAGESZEIT/WÄRMETRÄGER MYLAR, 2X4 UND 4X2         |                |          | 1 oder 2 |          | 1 oder 2 |
|      | <a href="#">600318</a> | KIT, TAGESZEIT/WÄRMETRÄGER MYLAR, 1X4 UND 3X4         |                |          |          | 1 oder 2 |          |
|      | <a href="#">600124</a> | KIT, DIGITAL MYLAR, 2X2 UND 2X3                       | 1 oder 2       | 1 oder 2 |          |          |          |
|      | <a href="#">600129</a> | KIT, STANDARD MYLAR 2X2 UND 2X3                       | 1 oder 2       | 1 oder 2 |          |          |          |
|      | 600385                 | KIT, ALPHANUMERISCH MYLAR, 2X2 UND 4X2                | 1              |          |          |          | 1 oder 2 |
|      | 600386                 | KIT, ALPHANUMERISCH MYLAR, 2X3                        |                | 1        |          |          |          |
|      | <a href="#">600387</a> | KIT, ALPHANUMERISCH MYLAR, 2X4                        |                |          | 1        | 1        |          |
|      | 600388                 | KIT, ALPHANUMERISCH MYLAR, 1X4                        |                |          |          | 1        |          |
|      | 600389                 | KIT, ALPHANUMERISCH ÄLTERES SYSTEM MYLAR, 2X2         | 1 oder 2       |          |          |          |          |
|      | 600390                 | KIT, ALPHANUMERISCH ÄLTERES SYSTEM MYLAR, 2X3         |                | 1 oder 2 |          |          |          |
|      | 600391                 | KIT, ALPHANUMERISCH ÄLTERES SYSTEM MYLAR, 2X4 UND 4X2 | 1              |          |          |          | 1 oder 2 |
|      | 600392                 | KIT, ALPHANUMERISCH ÄLTERES SYSTEM MYLAR, 1X4         |                |          |          |          | 2 oder 4 |
| *25  | <a href="#">600399</a> | KIT, SS FRONTPLATTE, FWM3-24SB                        |                |          | 1        |          |          |
|      | <a href="#">600400</a> | KIT, SS FRONTPLATTE, FWM3-24MB                        |                |          | 1        |          |          |
|      | <a href="#">600401</a> | KIT, SS FRONTPLATTE, FWM3-34SB                        |                |          |          | 1        |          |
|      | <a href="#">600402</a> | KIT, SS FRONTPLATTE, FWM3-34MB                        |                |          |          | 1        |          |
|      | <a href="#">600468</a> | KIT, SS FACEPLATE ICC FWM3-42 SB                      |                |          |          |          | 1        |
|      | <a href="#">600469</a> | KIT, SS FACEPLATE ICC FWM3-42 MB                      |                |          |          |          | 1        |

\* Nicht abgebildet

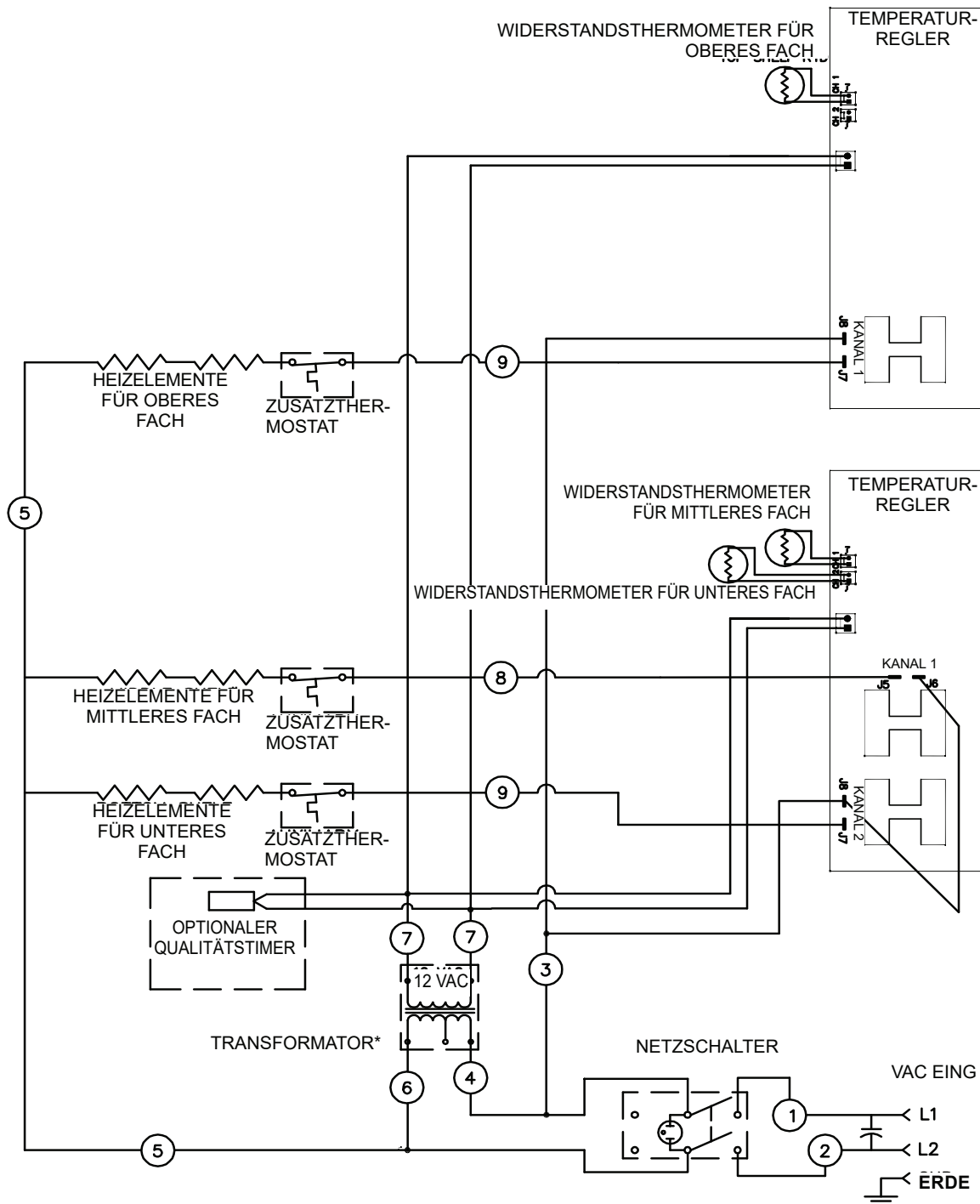
# SCHALTPLÄNE



- \* KABEL NR. 4 BEI 240 VAC UND 230 VAC CE GERÄTEN AN 240 V KLEMME ANSCHLIESSEN (ABGEBILDET)  
KABEL NR. 4 BEI 208 VAC GERÄTEN AN 208 V KLEMME ANSCHLIESSEN  
120 VAC GERÄTE VERFÜGEN ÜBER EINEN 120 V TRANSFORMATOR

**Abbildung 5.1: FWM 2 Hoch/4 Hoch Interner Schaltplan**

## Schaltpläne



\* KABEL NR. 4 BEI 240 VAC UND 230 VAC CE GERÄTEN AN 240 V KLEMME ANSCHLIESSEN (ABGEBILDET)

KABEL NR. 4 BEI 208 VAC GERÄTEN AN 208 V KLEMME ANSCHLIESSEN

Abbildung 5.2: FWM3-34 Interner Schaltplan

## Verbindungskabel-Schaltpläne

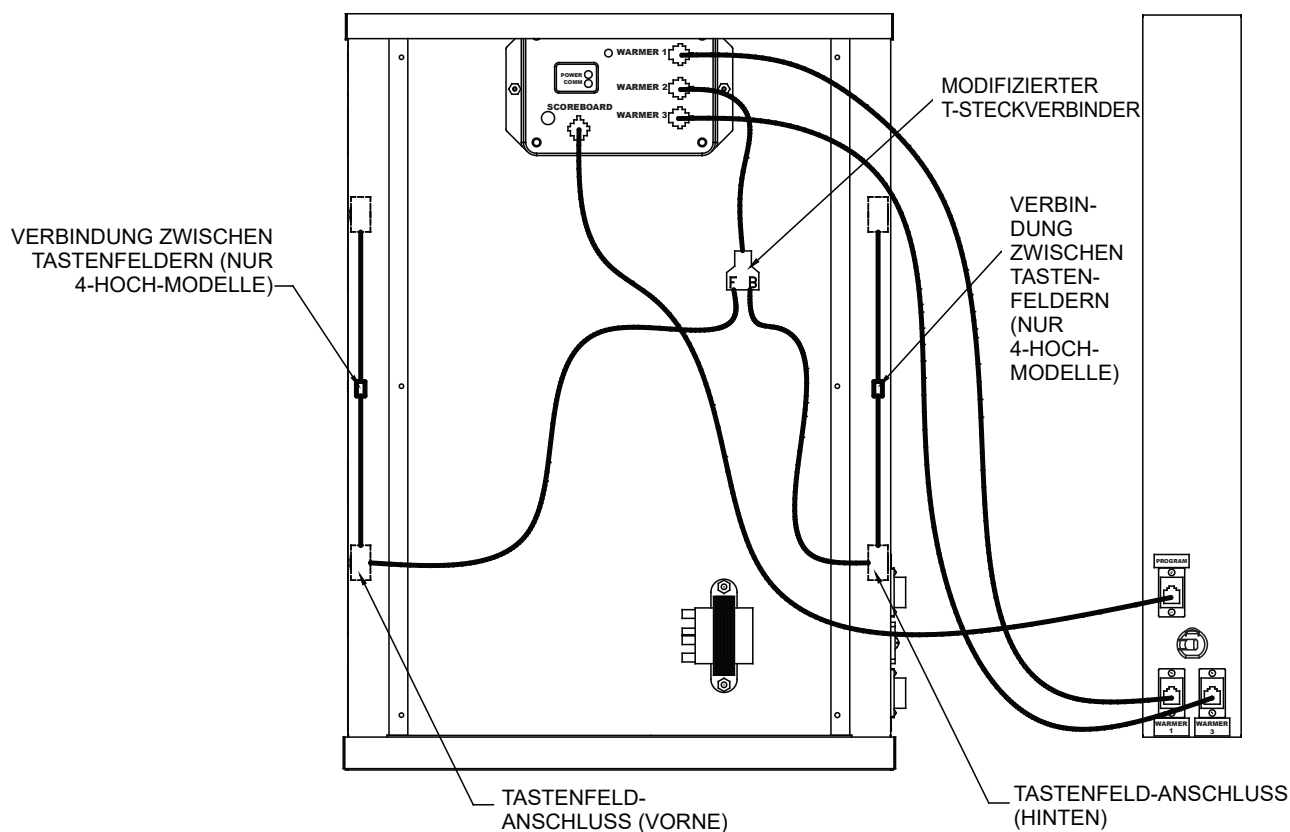


Abbildung 6.1: FWM3 - 2 Hoch/4 Hoch MB1 Verbindungskabel-Schaltplan

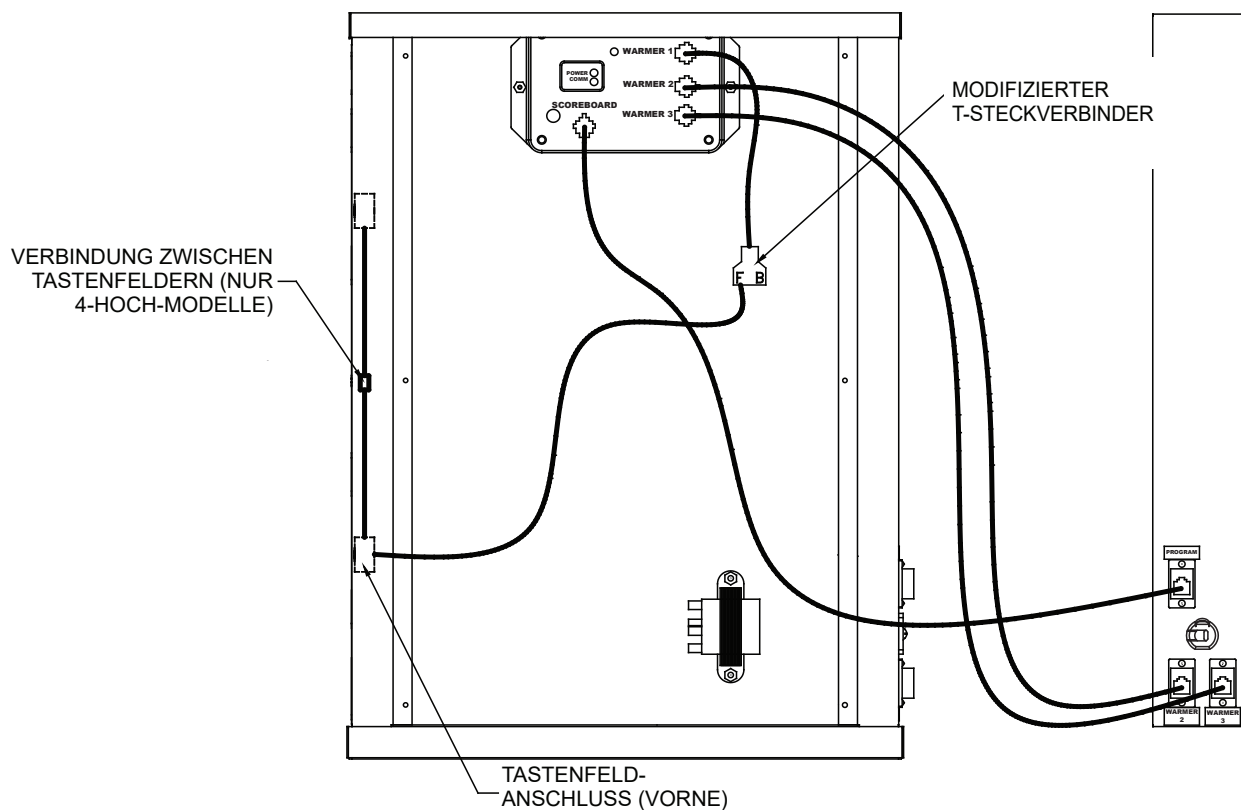


Abbildung 6.2: FWM3 - 2 Hoch/4 Hoch SB1 Verbindungskabel-Schaltplan



## Diagramas de conexiones de cables de interfaz

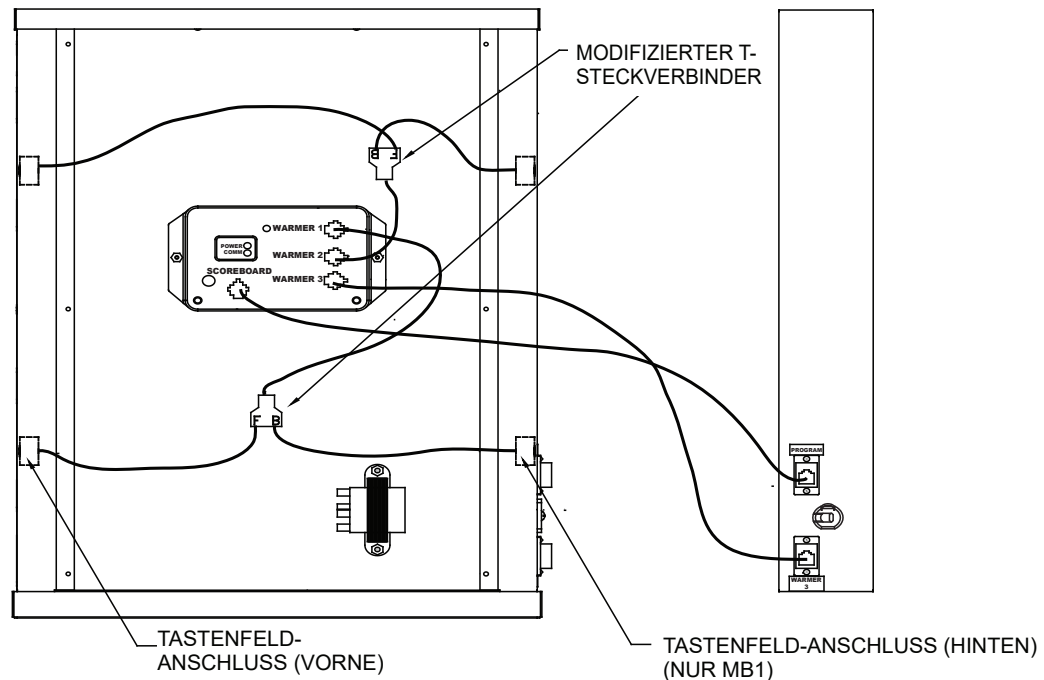


Abbildung 6.3: FWM3-34 TASTENFELD-ANSCHLUSS (VORNE) Verbindungskabel-Schaltplan

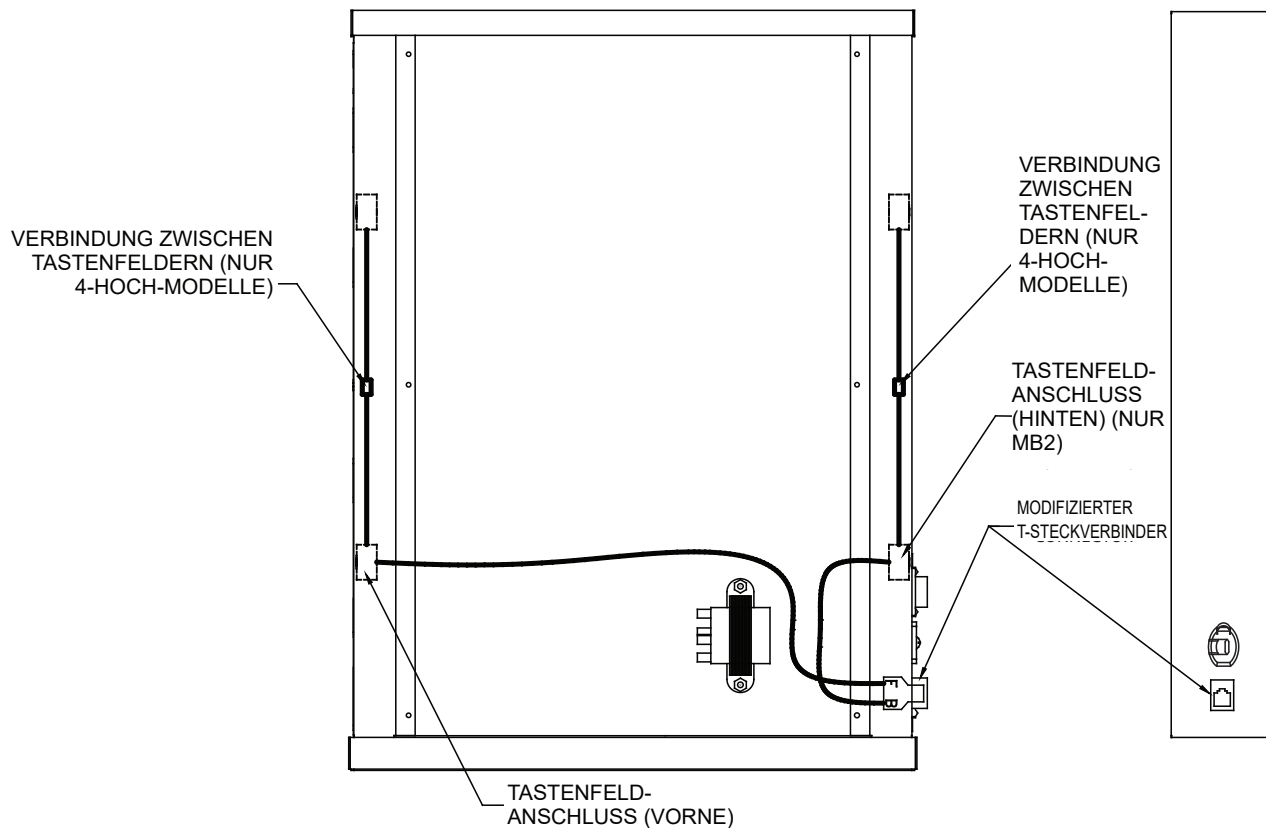


Abbildung 6.4: FWM3 - 2 Hoch/3 Hoch/4 Hoch MB2 und SB2 Verbindungskabel-Schaltplan



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## **Duke Manufacturing Co.**

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St. Louis, MO 63102  
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Huntington, NY 11743

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**Red Light Green Light™ Product Quality Timer™**

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**PROGRAMMING  
HOLD TIMES, COOK TIMES  
AND  
PAN LINKING  
WITH  
DIGITAL KEYBOARDS  
FOR  
4-WIDE DOWN ONLY WARMERS**

156360A

## Operation Guide

The HOLD time is the specified time a cooked product may be held in the warmer.

The COOK time is the specified time it takes to cook a product.

“Use first indicators” apply to products in LINKed pans.

When freshly cooked product is placed in a warmer, touch the corresponding button on the Pan Status Keyboard. The light will turn GREEN and the display will show the HOLD time.

**GREEN** = Use this product first. This product will expire first.

When freshly cooked product is placed in a LINKed pan (see programming guide), press the corresponding button and the light will first turn GREEN, then YELLOW, and the display will show the HOLD time.

**YELLOW** = Newer product in pan; use other pan first.

When the HOLD time reaches the COOK time the light and display will flash, and an audible alarm will sound. Press the corresponding button to stop flashing display and audible alarm. The light will continue to flash GREEN or YELLOW. If the same button is pressed again, the light will turn RED and the time will reset to 0.

**FLASHING GREEN or YELLOW** = Start cooking; product is about to expire.

When the HOLD time reaches 0 the light will flash RED and an audible alarm will sound.

Discard the appropriate product in the waste pail and press the corresponding button.

The light will turn RED and the audible alarm will stop.

**FLASHING RED** = Product is expired.

**RED** = No product present in this pan.

**NO LIGHT** = No product required in this pan. No product should be placed in this pan. If this button is pressed, the light will turn RED for 2 seconds and then go out (see programming guide, hold time is 0).

## Manual Programming Guide

The buttons, lights (LEDs), and displays on the Pan Status Keyboards of the warmer can be used to modify the HOLD time, COOK time, and pan LINK settings. HOLD time, COOK time, and LINKing can also be modified using a Palm PDA.

Using the keyboard, you can set the HOLD times in each pan between 5 minutes and 9 ½ hours in 5-minute increments up to 4 hours and in 30-minute increments after 4 hours. You can set the COOK times in each pan up to 9 ½ hours, in 1-minute increments up to 10 minutes, in 5-minute increments between 10 minutes and 4 hours, and in 30-minute increments after 4 hours. Additionally, you can change which pans are LINKed with regard to “use first indicators.”

In order to program HOLD or COOK times and change which pans are LINKed, you must be on the front side of the warmer.

**NOTE: While programming, only one person may press buttons on the warmer, and all timers will be turned off.**

### **A. Programming HOLD Times:**

1. Stand on the front side of the warmer you desire to program. Simultaneously press the **leftmost and 2<sup>nd</sup> from left** buttons on the keyboard (see Figure 1). Notice that the leftmost light on the keyboard is FLASHING RED. The leftmost digital display will indicate the current HOLD time for this pan, alternating between hours and minutes if the HOLD time is greater than 95 minutes. All other displays will be blank. This indicates you are programming pan 1.

To modify the HOLD time:

The **2<sup>nd</sup> from right** button on the keyboard - **Increases** the HOLD time by 5 minutes up to 4 hours, and by 30 minutes above 4 hours.

The **rightmost** button on the keyboard - **Decreases** the HOLD time by 5 minutes up to 4 hours, and by 30 minutes above 4 hours.

2. To advance to the next pan, press the **leftmost** button on the keyboard. The next pan's light will be FLASHING RED and the corresponding digital display will indicate the HOLD time. All other displays will be blank.
3. To exit the HOLD time programming mode, press the **leftmost and 2<sup>nd</sup> from left** buttons on the keyboard simultaneously and release. All pans with HOLD times greater than ZERO will display 0 and a RED light. Pans with a HOLD time equal to ZERO have a blank display and do not light. Product should not be placed in those pans.

### **B. Programming COOK Times:**

1. Stand on the front side of the warmer you desire to program. Simultaneously press the **leftmost and 2<sup>nd</sup> from right** buttons on the keyboard (see Figure 1).

Notice that the leftmost light on the keyboard is FLASHING RED. The leftmost digital display will indicate the current COOK time for this pan, alternating between hours and minutes if the COOK time is greater than 95 minutes. All other displays will be blank. This indicates you are programming pan 1.

To modify the COOK time:

The **2<sup>nd</sup> from right** button on the keyboard - **Increases** the COOK time by 1 minute between 0 and 10 minutes, by 5 minutes between 10 minutes and 4 hours, and by 30 minutes above 4 hours.

The **rightmost** button on the keyboard - **Decreases** the COOK time by 1 minute between 0 and 10 minutes, by 5 minutes between 10 minutes and 4 hours, and by 30 minutes above 4 hours.

2. To advance to the next pan, press the **leftmost** button on the keyboard. The next pan's light will be FLASHING RED and the corresponding digital display will indicate the COOK time. All other displays will be blank.
3. To exit the COOK time programming mode, first press and hold the **leftmost** button, then press and hold the **2<sup>nd</sup> from right** button and release both simultaneously. All pans with HOLD times greater than ZERO will display 0 and a RED light. Pans with a HOLD time equal to ZERO have a blank display and do not light. Product should not be placed in those pans.

### C. LINK Pans Configuration:

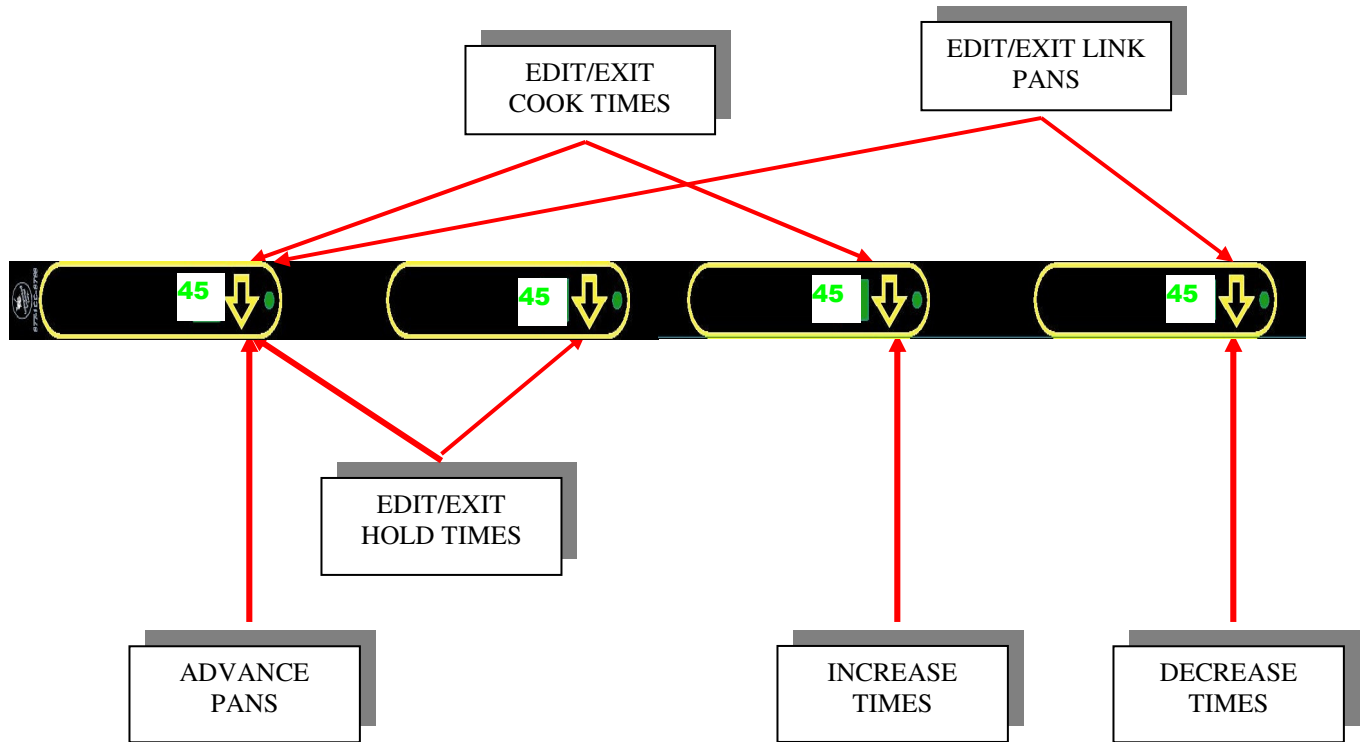
LINKing pans allows the "use first indicators" to display properly.

1. Stand on the front side of the warmer you desire to program. Simultaneously press the **leftmost and rightmost** buttons on the keyboard (see Figure 1). Notice that the leftmost light on the keyboard is RED and that all four displays are blank. This indicates you are in pan LINKing mode and that the current pan to be linked with is pan 1. The other lights turn GREEN for pans on the keyboard that are linked with pan 1. The lights for pans not linked with pan 1 will be OFF.
2. To LINK to the current pan, press the button corresponding to a light that is OFF. The light will turn GREEN and that pan will be LINKed to the current active pan. To unLINK from the current pan, press the button corresponding to a GREEN light. The light will go out and that pan will be unLINKed from the current active pan.
3. To advance to the next pan, press the **leftmost** button on the keyboard. The next pan's light will be RED and the other lights turn GREEN for pans on the keyboard that are LINKed with that pan. The lights for pans not LINKed with that pan will be OFF.

**Note:** Since the **leftmost** button is used to advance pans, you cannot LINK or unLINK the **leftmost** pan from any other pan. To LINK or unLINK the first pan, you must LINK or unLINK other pans to or from it when programming the first pan.

4. To exit the pan LINKing mode, first press and hold the **leftmost** button, then press and hold the **rightmost** button and release both simultaneously.

**Figure 1 – Editing Mode Button Sequences**



## Default Settings

1. To revert to the defaults for HOLD time, COOK time and pan LINKing:
  - a. Power down the Station Interface Unit.
  - b. Stand on the front side of Warmer 1.
  - c. Simultaneously press and hold **all 4** buttons on the front Warmer 1 keyboard.
  - d. Power up the Station Interface Unit.
  - e. Release the buttons.
2. The default settings are the same for every pan in all three warmers in all three Dayparts.
  - a. HOLD time: 20 minutes.
  - b. COOK time: 5 minutes.
  - c. Pan LINKing: No pans are LINKed.

## Palm Pilot Programming Guide

A Palm Pilot may be used with the ICC Hold Set-up software program and a special data cable.

The Hold Setup program is a very powerful tool and easy to use. In less than a minute, you can change the Product Name, and the HOLD and COOK times and then transfer the data into the Station Interface Units.

Products may be edited using cut and paste. HOLD and COOK times may be adjusted in 1-minute increments. The updated data is then sent to the Station Interface Unit via the cable.

Multiple configurations can be stored, recalled and deleted by long file names. These records can also be beamed between Palm Pilots if your Palm models have the IR feature.

This option is the most time-efficient way to maintain the system configuration, especially for multiple restaurants.

**Figure 2 – Palm Pilot Programming Software**



### **A. Palm Hold Setup Program installation:**

If a Palm Pilot was shipped with your system, it will have the Hold Setup Program preloaded. If you have an existing Palm and a diskette was shipped with your system or you received an e-mail with the program attached, please follow these installation instructions.

1. Using Windows Explorer double-click on the file **ICC\_Hold\_Setup\_Pgm.prc**
2. A window will pop-up prompting you to select a user. Select a user and click OK



3. A window will pop-up informing you the next time you perform a Hot-Sync the ICC Hold Setup Program will be transferred to your Palm. Click Done.
4. A window will pop-up with a similar message. Click OK.
5. Perform a Palm Hot-Sync as normal and the Hold Setup Program will be transferred to your Palm Pilot.

## B. Palm Pilot Programming:

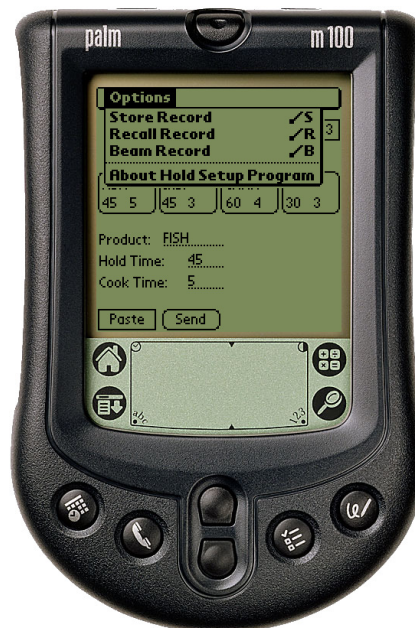
1. Execute the ICC Hold Setup Program on the Palm Pilot. Observe the Main Screen (see Figure 3) with the four (4) “pans” displaying Product Names and HOLD and COOK times. The 4 “pans” represent the pans in a Warmer referenced from the **front** of the Warmer.

Note: You may also use the ICC Hold Setup Program for the 4-wide x 2-high keyboard to program the 4-wide down only keyboard. To do this, program the bottom four pans only.

**Figure 3 – Main Screen**



**Figure 4 – Menu Pull-down**



2. The Warmer numbers are indicated on the top right portion of the screen and can be changed by touching 1,2 or 3 as desired. As you touch each Warmer number, the Product Name, HOLD and COOK times change in the pans. Three warmers can be connected together.
3. To change the Product Name, HOLD time, or COOK time simply touch a pan and the data will be copied to the editing fields. Change the data, touch PASTE, and then touch the new pan location.
4. To LINK pans, use the same Product Name for the pans you want LINKed.

### C. Data transfer:

When the Send function is performed, the data is transferred to the Station Interface Unit.

1. Attach the Hold Timer System cable to the Palm Pilot and plug the 8-pin telephone type cable into the port marked PROGRAM on the back side of the master unit. Touch the Send button displayed in the Main Screen. After a few seconds, "Send OK" will be displayed next to the Send button.

#### Troubleshooting:

If an error message appears, check cable connection at the Palm and the Station Interface Unit.

**Warning:** When transferring data using the PALM M100 model, DO NOT press the Hot Sync button on the cable. The Station Interface Unit will lock up and you will need to reset it by powering off and then back on.

### D. To Store, Recall and Delete records:

All of the timer data may be stored, recalled and deleted. These functions are very useful for saving different promotional menus.

- a. To Store a record, touch the Menu icon to display the Menu Pull-down (see Figure 4). Touch Store Record. Enter a name for the new record or touch an existing record to overwrite. Touch Store to save the data **OR** touch Close to return to the Main screen without saving any data.
- b. To Recall a record, touch the Menu icon and then touch Recall Record. Touch an existing record to recall, then touch the Recall button **OR** touch Close to return to the Main screen without recalling any data.
- c. To Delete a record, touch the Menu icon and then touch Delete Record. Touch an existing record to delete, then touch the Delete button **OR** touch Close to return to the Main screen without deleting any data.

**Warning:** Once you touch Delete, the record will be deleted without any warning prompts.

## Testing and Troubleshooting Guide

### **Pan Status Keyboard Test:**

- a. Press a pan button once. The corresponding light turns green. Press the same button again. The corresponding light turns red. Repeat for every button on all keyboards.

#### Troubleshooting:

1. If the light turns red, and then turns off, the HOLD time is equal to 0. Program a new HOLD time for that pan.
2. If the Keyboard test fails, plug the keyboard into a different Warmer jack on the Station Unit and repeat the test on that keyboard. If the keyboard continues to fail the test, the keyboard is suspect. If the keyboard passes the test when plugged into a different Warmer jack, the Station Unit is suspect.

### **Station Interface Unit Power:**

- a. Power up the Warmer unit.
- b. Observe that the keyboard lights illuminate yellow, then red or go out depending on the programmed hold times.

#### Troubleshooting:

1. Check that the Warmer control powers up and the Warmer heats up. If not, call Duke Mfg. for Warmer service at 314-231-1130 or 800-735-3853.

### **Service Hot-Line:**

If you believe that you have a **Product Quality Timer System** service issue, perform the steps outlined above. If a test fails, perform the troubleshooting steps to see if this resolves the problem. Continue the remainder of the testing, if possible, to uncover any additional problems and document the symptoms and results. Please have this data handy before calling the ICC troubleshooting Hot Line listed below. **For optimum support, please be near the suspect units with a cordless phone, if available, when calling our Technicians.**

**877.ICC.8788 M-F 8:30am - 4:30pm Eastern Time**

## Installation Guide

The Station Interface Units are integrated into Duke Warmer Units, making the installation very simple. The power for the Product Quality Timer System is shared by the Warmer Unit power supply.

**TABLE 1 - DIGITAL WARMER DISPLAYS**

| <b>KEYPRESS / MINUTES TABLE</b> |                               |                                               |                               |     |
|---------------------------------|-------------------------------|-----------------------------------------------|-------------------------------|-----|
| TIME                            | PALM VALUE                    | EDITING MODE<br><b>ALTERNATING</b><br>DISPLAY | NORMAL<br>MODE<br>DISPLAY     |     |
| 0                               | 0                             | Display Does Not Alternate                    | 00                            | 00  |
| 1-4<br>(COOK<br>MODE<br>ONLY)   | 1-4<br>(COOK<br>MODE<br>ONLY) |                                               | 1-4<br>(COOK<br>MODE<br>ONLY) | 1-4 |
| 5                               | 5                             |                                               | 05                            | 05  |
| 6-9<br>(COOK<br>MODE<br>ONLY)   | 6-9<br>(COOK<br>MODE<br>ONLY) |                                               | 6-9<br>(COOK<br>MODE<br>ONLY) | 6-9 |
| 10                              | 10                            |                                               | 10                            | 10  |
| 15                              | 15                            |                                               | 15                            | 15  |
| 20                              | 20                            |                                               | 20                            | 20  |
| 25                              | 25                            |                                               | 25                            | 25  |
| 30                              | 30                            |                                               | 30                            | 30  |
| 35                              | 35                            |                                               | 35                            | 35  |
| 40                              | 40                            |                                               | 40                            | 40  |
| 45                              | 45                            |                                               | 45                            | 45  |
| 50                              | 50                            |                                               | 50                            | 50  |
| 55                              | 55                            |                                               | 55                            | 55  |
| 60                              | 60                            |                                               | 60                            | 60  |
| 65                              | 65                            |                                               | 65                            | 1H  |
| 70                              | 70                            |                                               | 70                            | 1H  |
| 75                              | 75                            |                                               | 75                            | 1H  |
| 80                              | 80                            |                                               | 80                            | 1H  |
| 85                              | 85                            |                                               | 85                            | 1H  |
| 90                              | 90                            |                                               | 90                            | 1H  |
| 95                              | 95                            |                                               | 95                            | 1H  |
| 100                             | 100                           | 1H                                            | 40                            | 1H  |
| 105                             | 105                           | 1H                                            | 45                            | 1H  |
| 110                             | 110                           | 1H                                            | 50                            | 1H  |
| 115                             | 115                           | 1H                                            | 55                            | 1H  |
| 120                             | 120                           | 2H                                            | 00                            | 2H  |
| 125                             | 125                           | 2H                                            | 05                            | 2H  |

|     |     |    |    |    |
|-----|-----|----|----|----|
| 130 | 130 | 2H | 10 | 2H |
| 135 | 135 | 2H | 15 | 2H |
| 140 | 140 | 2H | 20 | 2H |
| 145 | 145 | 2H | 25 | 2H |
| 150 | 150 | 2H | 30 | 2H |
| 155 | 155 | 2H | 35 | 2H |
| 160 | 160 | 2H | 40 | 2H |
| 165 | 165 | 2H | 45 | 2H |
| 170 | 170 | 2H | 50 | 2H |
| 175 | 175 | 2H | 55 | 2H |
| 180 | 180 | 3H | 00 | 3H |
| 185 | 185 | 3H | 05 | 3H |
| 190 | 190 | 3H | 10 | 3H |
| 195 | 195 | 3H | 15 | 3H |
| 200 | 200 | 3H | 20 | 3H |
| 205 | 205 | 3H | 25 | 3H |
| 210 | 210 | 3H | 30 | 3H |
| 215 | 215 | 3H | 35 | 3H |
| 220 | 220 | 3H | 40 | 3H |
| 225 | 225 | 3H | 45 | 3H |
| 230 | 230 | 3H | 50 | 3H |
| 235 | 235 | 3H | 55 | 3H |
| 240 | 240 | 4H | 00 | 4H |
| 270 | 241 | 4H | 30 | 4H |
| 300 | 242 | 5H | 00 | 5H |
| 330 | 243 | 5H | 30 | 5H |
| 360 | 244 | 6H | 00 | 6H |
| 390 | 245 | 6H | 30 | 6H |
| 420 | 246 | 7H | 00 | 7H |
| 450 | 247 | 7H | 30 | 7H |
| 480 | 248 | 8H | 00 | 8H |
| 510 | 249 | 8H | 30 | 8H |
| 540 | 250 | 9H | 00 | 9H |
| 570 | 251 | 9H | 30 | 9H |



748 Park Ave.  
Huntington, NY 11743

877-ICC-8788



**Red Light Green Light™ Product Quality Timer™**

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**PROGRAMMING  
HOLD TIMES, COOK TIMES  
AND  
PAN LINKING  
WITH  
DIGITAL KEYBOARDS  
FOR  
1-WIDE x 5-HIGH WARMERS**

Duke Part Number 156142A

The buttons, lights (LED's) and displays on the Pan Status Keyboards of the warmer can be used to modify the HOLD, COOK and pan LINK settings. HOLD, COOK and LINKING can also be modified using a PALM PDA.

Using the keyboard, you can set the HOLD times in each pan between 5 minutes to 9 ½ hours in 5-minute increments up to 2 hours and after 2 hours, in ½ hour increments. You can set the COOK times in each pan up to 9 ½ hours – in 1 minute increments up to 10 minutes, then in 5-minute increments up to 2 hours, and after 2 hours, in ½ hour increments. The COOK time has a 3-minute default COOK time from the factory. Additionally, you can change which pans are LINKED with regard to “use first indicators.”

In order to program HOLD or COOK times and change which pans are LINKED, you must be on the front side of the warmer.

**NOTE: Only one person may press keys on the warmer while it is being programmed and all timers will be turned off.**

#### **A. Programming HOLD Times:**

1. Stand on the front side of the warmer you desire to program. Simultaneously press the 2 buttons on the bottom keyboard, see Figure 1(on page 5). Notice that the LED on the top keyboard is RED FLASHING. This indicates you are programming PAN 1. The digital display on the bottom keyboard will indicate the current HOLD time for this PAN.

To modify the HOLD time:

The **UP** arrow key on the middle keyboard - **Increases** the HOLD time by 5 minutes. Times above 2 hours are increased in 30 minute steps.

The **DOWN** arrow key on the middle keyboard - **Decreases** the HOLD time by 5 minutes. Times above 2 hours are decreased in 30 minute steps.

2. To advance to the next pan, press the key on the top keyboard. That pan's HOLD time will be displayed on the bottom keyboard digital display. The RED FLASHING LED will indicate the current active pan.
3. To exit the time programming mode, press the two bottom keys buttons simultaneously and release. All pans with HOLD times greater than ZERO will display a RED light. Pan lights with a HOLD time equal to ZERO do not light and product should not be placed in those pans.

#### **B. Programming COOK Times:**

1. Stand on the front side of the warmer you desire to program. Simultaneously press the 2 buttons on the middle keyboard; see Figure 1. Notice that the LED on the top keyboard is RED FLASHING. This indicates you are programming PAN 1. The digital display on the middle keyboard will indicate the current COOK time for this PAN.

To modify the COOK time:

The **UP** arrow key on the bottom keyboard - **Increases** the COOK time by 1 minute between 0 and 10 minutes; above 10 minutes, time is increased in 5 minute steps. Times above 2 hours are increased in 30 minute steps.

The **DOWN** arrow key on the bottom keyboard - **Decreases** the COOK time by 1 minute between 0 and 10 minutes; above 10 minutes, time is decreased in 5 minute steps. Times above 2 hours are decreased in 30 minute steps.

2. To advance to the next pan, press the key on the top keyboard. That pan's COOK time will be displayed on the middle keyboard digital display. The RED FLASHING LED will indicate the current active pan.
3. To exit the time programming mode, press the two middle key buttons simultaneously and release. All pans with HOLD times greater than ZERO will display a RED light. Pan lights with a HOLD time equal to ZERO do not light and product should not be placed in those pans.

### C. **LINKING Pans for 1-Wide x 5-High Configuration:**

Linking pans allows the "use first indicators" to display properly.

1. Simultaneously press the LEFT button on the middle and bottom keyboards, see Figure 1. Notice the top keyboard LED is RED FLASHING and all of the digital displays are blank. This indicates you are in PAN LINKING MODE and that the current pan to be linked with is PAN 1. The other lights turn GREEN for pans on any keyboard that are linked with PAN 1. The lights for pans not linked with PAN 1 will be OFF.
2. To advance to the next pan, press the key on the top keyboard. That pan's light will turn RED FLASHING and the other lights turn GREEN for pans on any keyboard that are linked with that pan. The lights for pans not linked with that pan will be OFF.
3. For any selected pan, the PANS LINKED Configuration is defined for the other four (4) pans. These four pans can be thought of as being numbered 1, 2, 3 and 4 from top of warmer advancing right to left and top to bottom (and skipping the selected pan).

A GREEN light indicates the pan is linked with the selected pan.

A light that is OFF indicates the pan is NOT linked with the selected pan.

To modify the PANS LINKED configuration for the selected pan:

The **UP** arrow key on the bottom keyboard - **Advances** the PANS LINKED configuration one step forward through the PANS LINKED Progression shown on page 4.

The **DOWN** arrow key on the bottom keyboard - **Regresses** the PANS LINKED configuration one step backward through the PANS LINKED Progression shown on page 4.

In general for any current pan, no more than 15 presses of either the UP or DOWN arrow keys on the bottom keyboard are required to set the desired PANS LINKED Configuration of any pan.

The PANS LINKED Progression, described in the following table, cycles at the top and bottom.

| Other Pan 1 | Other Pan 2 | Other Pan 3 | Other Pan 4 |
|-------------|-------------|-------------|-------------|
| OFF         | OFF         | OFF         | OFF         |
| GREEN       | OFF         | OFF         | OFF         |
| OFF         | GREEN       | OFF         | OFF         |
| GREEN       | GREEN       | OFF         | OFF         |
| OFF         | OFF         | GREEN       | OFF         |
| GREEN       | OFF         | GREEN       | OFF         |
| OFF         | GREEN       | GREEN       | OFF         |
| GREEN       | GREEN       | GREEN       | OFF         |
| OFF         | OFF         | OFF         | GREEN       |
| GREEN       | OFF         | OFF         | GREEN       |
| OFF         | GREEN       | OFF         | GREEN       |
| GREEN       | GREEN       | OFF         | GREEN       |
| OFF         | OFF         | GREEN       | GREEN       |
| GREEN       | OFF         | GREEN       | GREEN       |
| OFF         | GREEN       | GREEN       | GREEN       |
| GREEN       | GREEN       | GREEN       | GREEN       |

4. To exit the PAN LINKING MODE, simultaneously press the LEFT and RIGHT buttons on the middle keyboard (see Figure 1 – *note that this is a different key combination from that used to enter PAN LINKING MODE*).

It is suggested that you review the PANS LINKED Configuration for all pans before exiting the PAN LINKING MODE.



**Figure 1 – Editing Mode Key Sequences**



WARMER No. 1

Press this key to select the next pan in HOLD or COOK time editing modes or PAN LINKING MODE.



WARMER No. 2

Press these keys to enter and exit COOK time programming mode. This display will show COOK time.

Press these keys to increase or decrease the HOLD time and to exit PAN LINKING MODE.

Press these keys to enter PAN LINKING MODE.

Press these keys to increase or decrease the COOK time.



WARMER No. 3

Press these keys to enter and exit HOLD time programming mode. This display will show HOLD time.

Press these keys to advance or regress the PAN LINKING configuration for the selected pan.



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**Red Light Green Light™ Product Quality Timer™**

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**Programming  
Hold Times, Cook Times  
And  
Pan Linking  
With  
Digital Keyboards  
For  
1-High x 3-Wide Down Only Warmers**

**DUKE PART NUMBER 157518A**

## Operation Guide

The HOLD time is the specified time a cooked product may be held in the warmer.

The COOK time is the specified time it takes to cook a product.

“Use first indicators” apply to products in LINKed pans.

When freshly cooked product is placed in a warmer, touch the corresponding button on the Pan Status Keyboard. The light will turn GREEN and the display will show the HOLD time.

**GREEN** = Use this product first. This product will expire first.

When freshly cooked product is placed in a LINKed pan (see programming guide), press the corresponding button and the light will first turn GREEN, then YELLOW, and the display will show the HOLD time.

**YELLOW** = Newer product in pan; use other pan first.

When the HOLD time reaches the COOK time the light and display will flash, and an audible alarm will sound. Press the corresponding button to stop flashing display and audible alarm. The light will continue to flash GREEN or YELLOW. If the same button is pressed again, the light will turn RED and the time will reset to 0.

**FLASHING GREEN or YELLOW** = Start cooking; product is about to expire.

When the HOLD time reaches 0 the light will flash RED and an audible alarm will sound. If the button was not pressed when the HOLD time reached the COOK time, the display will also be flashing. Discard the appropriate product in the waste pail and press the corresponding button. The light will turn RED and the audible alarm will stop.

**FLASHING RED** = Product is expired.

**RED** = No product present in this pan.

**NO LIGHT** = No product required in this pan. No product should be placed in this pan. If this button is pressed, the light will turn RED for 2 seconds and then go out (see programming guide, hold time is 0).

## Manual Programming Guide

The buttons and displays on the Pan Status Keyboards of the warmer can be used to modify the HOLD time, COOK time, and pan LINK settings. HOLD time, COOK time, and pan LINK settings can also be modified using a Palm PDA.

Using the keyboard, you can set the HOLD times in each pan between 5 minutes and 9½ hours in 5-minute increments up to 4 hours and in 30-minute increments above 4 hours. You can set the COOK times in each pan up to 9½ hours, in 1-minute increments up to 10 minutes, in 5-minute increments between 10 minutes and 4 hours, and in 30-minute increments above 4 hours. Additionally, you can change which pans are LINKed with regard to “use first indicators.”

In order to program HOLD or COOK times and change which pans are LINKed, you must be on the front side of the warmer.

**Note:** While programming, only one person may press buttons on the warmer, and **all timers will be turned off.**

### **A. Programming HOLD Times:**

1. Stand on the front side of the warmer you desire to program. Simultaneously press the **left and middle** buttons on the keyboard (see Figure 1). Notice that the left light on the keyboard is FLASHING RED. The left digital display will indicate the current HOLD time for this pan, alternating between hours and minutes if the HOLD time is greater than 95 minutes. All other displays will be blank. This indicates you are programming pan 1.

To modify the HOLD time:

The **middle** button on the keyboard - **Increases** the HOLD time by 5 minutes up to 4 hours, and by 30 minutes above 4 hours.

The **right** button on the keyboard - **Decreases** the HOLD time by 5 minutes up to 4 hours, and by 30 minutes above 4 hours.

2. To advance to the next pan, press the **left** button on the keyboard. The next pan's light will be FLASHING RED and the corresponding digital display will indicate the HOLD time. All other displays will be blank.
3. To exit the HOLD time programming mode, press the **left and middle** buttons on the keyboard simultaneously and release. All pans with HOLD times greater than ZERO will display 0 and a RED light. Pans with a HOLD time equal to ZERO have a blank display and do not light. Product should not be placed in those pans.

### **B. Programming COOK Times:**

1. Stand on the front side of the warmer you desire to program. Simultaneously press the **left and right** buttons on the keyboard (see Figure 1). Notice that the left light on the keyboard is FLASHING RED. The left digital display will indicate the current COOK time for this pan, alternating between hours and minutes if the HOLD time is. All other displays will be blank. This indicates you are programming pan 1.

To modify the COOK time:

The **middle** button on the keyboard - **Increases** the COOK time by 1 minute between 0 and 10 minutes, by 5 minutes between 10 minutes and 4 hours, and by 30 minutes above 4 hours.

The **right** button on the keyboard - **Decreases** the COOK time by 1 minute between 0 and 10 minutes, by 5 minutes between 10 minutes and 4 hours, and by 30 minutes above 4 hours.

2. To advance to the next pan, press the **left** button on the keyboard. The next pan's light will be FLASHING RED and the corresponding digital display will indicate the COOK time. All other displays will be blank.
3. To exit the COOK time programming mode, press the **left and right** buttons on the keyboard simultaneously and release. All pans with HOLD times greater than ZERO will display 0 and a RED light. Pans with a HOLD time equal to ZERO have a blank display and do not light. Product should not be placed in those pans.

### C. LINK Pans Configuration:

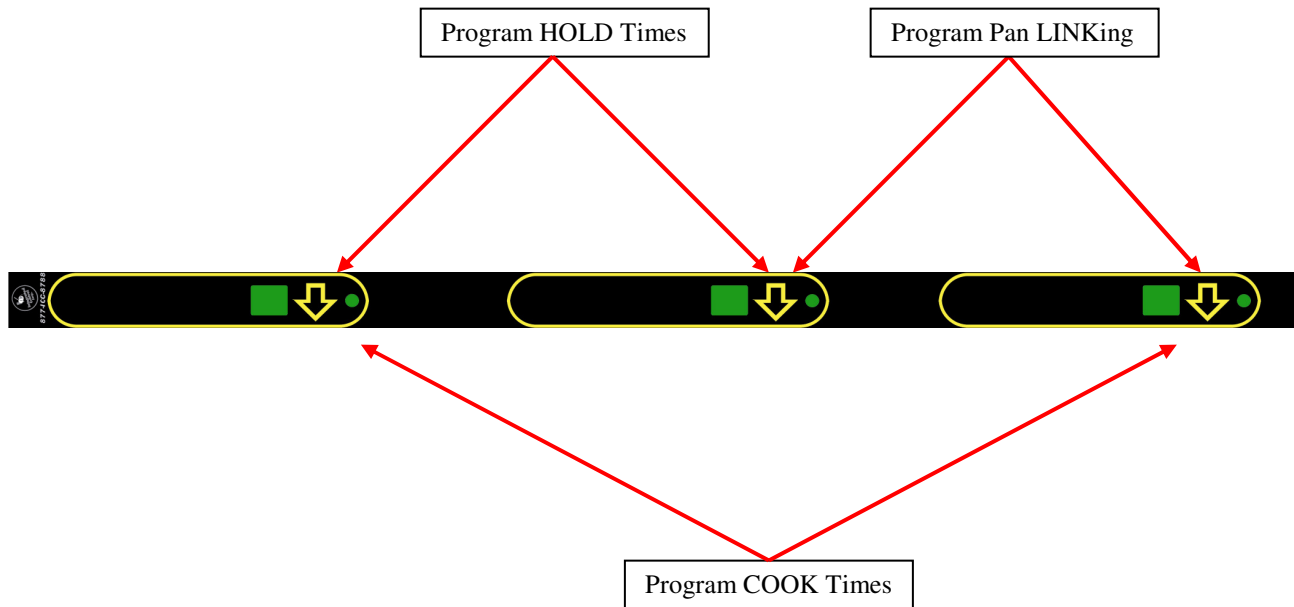
LINKing pans allows the "use first indicators" to display properly.

1. Stand on the front side of the warmer you desire to program. Simultaneously press the **middle and right** buttons on the keyboard (see Figure 1). Notice that the left light on the keyboard is RED and that all displays are blank. This indicates you are in pan LINKing mode and that the current pan to be linked with is pan 1. The other lights turn GREEN for pans on the keyboard that are linked with pan 1. The lights for pans not linked with pan 1 will be OFF.
2. To LINK to the current pan, press the button corresponding to a light that is OFF. The light will turn GREEN and that pan will be LINKed to the current active pan. To unLINK from the current pan, press the button corresponding to a GREEN light. The light will go out and that pan will be unLINKed from the current active pan.
3. To advance to the next pan, press the **left** button on the keyboard. The next pan's light will be RED and the other lights turn GREEN for pans on the keyboard that are LINKed with that pan. The lights for pans not LINKed with that pan will be OFF.

**Note:** Since the **left** button is used to advance pans, you cannot LINK or unLINK the **left** pan from any other pan. To LINK or unLINK the first pan, you must LINK or unLINK other pans to or from it when programming the first pan.

4. To exit the pan LINKing mode, simultaneously press the **middle and right** buttons on the keyboard and release.

**Figure 1 – Editing Mode Button Sequences**



## Default Settings

1. To revert to the defaults for HOLD time, COOK time and pan LINKing:
  - a. Power down the Station Interface Unit.
  - b. Stand on the front side of Warmer 1.
  - c. Simultaneously press and hold **all three** buttons on the front Warmer 1 keyboard.
  - d. Power up the Station Interface Unit.
  - e. Release the buttons.
2. The default settings are the same for every pan in all three warmers in all three Dayparts.
  - a. HOLD time: 20 minutes.
  - b. COOK time: 5 minutes.
  - c. Pan LINKing: No pans are LINKed.

## Palm Pilot Programming Guide

A Palm Pilot may be used with the ICC Hold Set-up software program and a special data cable.

The Hold Setup program is a very powerful tool and easy to use. In less than a minute, you can change the Product Name, the HOLD and COOK times, and the pan LINK settings and then transfer the data into the Station Interface Units.

Products may be edited using cut and paste. HOLD and COOK times may be adjusted in 1-minute increments. The updated data is then sent to the Station Interface Unit via the cable.

Multiple configurations can be stored, recalled and deleted by long file names. These records can also be beamed between Palm Pilots if your Palm models have the IR feature.

This option is the most time-efficient way to maintain the system configuration, especially for multiple restaurants.

**Figure 2 – Palm Pilot Programming Software**



### **A. Palm Hold Setup Program installation:**

If a Palm Pilot was shipped with your system, it will have the Hold Setup Program preloaded. If you have an existing Palm and a diskette was shipped with your system or you received an e-mail with the program attached, please follow these installation instructions.

1. Using Windows Explorer double-click on the file **ICC\_Hold\_Setup\_Pgm.prc**
2. A window will pop-up prompting you to select a user. Select a user and click OK
3. A window will pop-up informing you the next time you perform a Hot-Sync the ICC Hold Setup Program will be transferred to your Palm. Click Done.
4. A window will pop-up with a similar message. Click OK.

5. Perform a Palm Hot-Sync as normal and the Hold Setup Program will be transferred to your Palm Pilot.

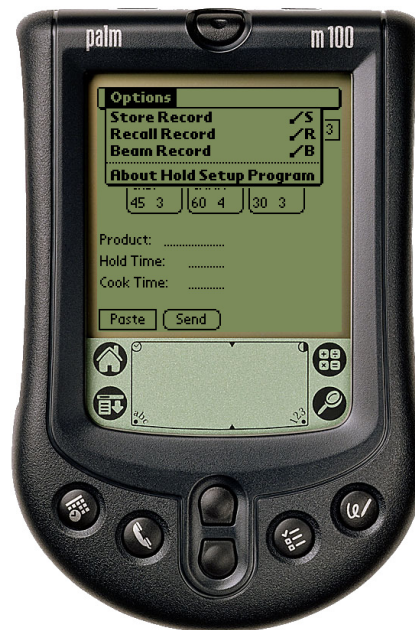
## B. Palm Pilot Programming:

1. Execute the ICC Hold Setup Program on the Palm Pilot. Observe the Main Screen (see Figure 3) displaying Product Names and HOLD and COOK times. The “pans” represent the pans in a Warmer referenced from the **front** of the Warmer.

**Figure 3 – Main Screen**



**Figure 4 – Menu Pull-down**



2. The Warmer numbers are indicated on the top right portion of the screen and can be changed by touching 1,2 or 3 as desired. As you touch each Warmer number, the Product Name, HOLD and COOK times change in the pans. Three warmers can be connected together.
3. To change the 4-character Product Name, HOLD time, or COOK time simply touch a pan and the data will be copied to the editing fields. Change the data, touch the Paste button, and then touch the new pan location.

For HOLD and COOK times, you may enter values in 1-minute increments up to 4 hours (240 minutes). For values between 241 and 251, each 1-minute increment is equal to 30 minutes (see Table 1). Any value above 251 will be interpreted as 9 hours and 30 minutes, and any value above 255 will be displayed as 255 when pasted to the pan.

4. To LINK pans, use the same Product Name for the pans you want LINKed.

## C. Data transfer:



When the Send function is performed, the data is transferred to the Station Interface Unit. It does not matter what warmer is visible on the Palm screen when sending data; all warmers will be programmed.

1. Attach the Hold Timer System cable to the Palm Pilot and plug the 8-pin telephone type cable into the port marked PROGRAM on the back side of the master unit. Touch the Send button displayed in the Main Screen. After a few seconds, "Send OK" will be displayed next to the Send button.

**Troubleshooting:**

If an error message appears, check cable connection at the Palm and the Station Interface Unit.

**Warning:** When transferring data using the PALM M100 model, DO NOT press the Hot Sync button on the cable. The Station Interface Unit will lock up and you will need to reset it by powering off and then back on.

**D. To Store, Recall and Delete records:**

All of the timer data may be stored, recalled and deleted. These functions are very useful for saving different promotional menus.

- a. To Store a record, touch the Menu icon to display the Menu Pull-down (see Figure 4). Touch Store Record. Enter a name for the new record or touch an existing record to overwrite. Touch Store to save the data **OR** touch Close to return to the Main screen without saving any data.
- b. To Recall a record, touch the Menu icon and then touch Recall Record. Touch an existing record to recall, then touch the Recall button **OR** touch Close to return to the Main screen without recalling any data.
- c. To Delete a record, touch the Menu icon and then touch Delete Record. Touch an existing record to delete, then touch the Delete button **OR** touch Close to return to the Main screen without deleting any data.

**Warning:** Once you touch Delete, the record will be deleted without any warning prompts.

## Testing and Troubleshooting Guide

### **Pan Status Keyboard Test:**

- a. Press a pan button once. The corresponding light turns green and the display shows the programmed HOLD time. Press the same button again. The corresponding light turns red and the display shows 0. Repeat for every button on all keyboards.

#### **Troubleshooting:**

1. If the light turns red, and then turns off and the display is blank, the HOLD time is equal to 0. Program a new HOLD time for that pan.
2. If the Keyboard test fails, plug the keyboard into a different Warmer jack on the Station Unit and repeat the test on that keyboard. If the keyboard continues to fail the test, the keyboard is suspect. If the keyboard passes the test when plugged into a different Warmer jack, the Station Interface Unit is suspect.

### **Station Interface Unit Power:**

- a. Power up the Station Interface Unit. The audible alarm should sound briefly.
- b. Observe that the keyboard lights illuminate yellow and the displays turn on, then the lights turn red or go out and the displays show 0 or go out depending on the programmed HOLD times.

#### **Troubleshooting:**

1. Check that the Warmer control powers up and the Warmer heats up. If not, call Duke Mfg. for Warmer service at 314-231-1130 or 800-735-3853.

### **Service Hot-Line:**

If you believe that you have a **Product Quality Timer System** service issue, perform the steps outlined above. If a test fails, perform the troubleshooting steps to see if this resolves the problem. Continue the remainder of the testing, if possible, to uncover any additional problems and document the symptoms and results. Please have this data handy before calling the ICC troubleshooting Hot Line listed below. **For optimum support, please be near the suspect units with a cordless phone, if available, when calling our Technicians.**

**877-ICC-8788 x.106 M-F 8:30am - 4:30pm Eastern Time**

## **Installation Guide**

The Station Interface Units are integrated into Duke Warmer Units, making the installation very simple. The power for the Product Quality Timer System is shared by the Warmer Unit power supply.

**TABLE 1 - DIGITAL WARMER DISPLAYS**

| <b>KEYPRESS / MINUTES TABLE</b> |                               |                                               |                               |     |
|---------------------------------|-------------------------------|-----------------------------------------------|-------------------------------|-----|
| TIME                            | PALM VALUE                    | EDITING MODE<br><b>ALTERNATING</b><br>DISPLAY | NORMAL<br>MODE<br>DISPLAY     |     |
| 0                               | 0                             | Display Does Not Alternate                    | 00                            | 00  |
| 1-4<br>(COOK<br>MODE<br>ONLY)   | 1-4<br>(COOK<br>MODE<br>ONLY) |                                               | 1-4<br>(COOK<br>MODE<br>ONLY) | 1-4 |
| 5                               | 5                             |                                               | 05                            | 05  |
| 6-9<br>(COOK<br>MODE<br>ONLY)   | 6-9<br>(COOK<br>MODE<br>ONLY) |                                               | 6-9<br>(COOK<br>MODE<br>ONLY) | 6-9 |
| 10                              | 10                            |                                               | 10                            | 10  |
| 15                              | 15                            |                                               | 15                            | 15  |
| 20                              | 20                            |                                               | 20                            | 20  |
| 25                              | 25                            |                                               | 25                            | 25  |
| 30                              | 30                            |                                               | 30                            | 30  |
| 35                              | 35                            |                                               | 35                            | 35  |
| 40                              | 40                            |                                               | 40                            | 40  |
| 45                              | 45                            |                                               | 45                            | 45  |
| 50                              | 50                            |                                               | 50                            | 50  |
| 55                              | 55                            |                                               | 55                            | 55  |
| 60                              | 60                            |                                               | 60                            | 1H  |
| 65                              | 65                            |                                               | 65                            | 1H  |
| 70                              | 70                            |                                               | 70                            | 1H  |
| 75                              | 75                            |                                               | 75                            | 1H  |
| 80                              | 80                            |                                               | 80                            | 1H  |
| 85                              | 85                            |                                               | 85                            | 1H  |
| 90                              | 90                            |                                               | 90                            | 1H  |
| 95                              | 95                            |                                               | 95                            | 1H  |
| 100                             | 100                           | 1H                                            | 40                            | 1H  |
| 105                             | 105                           | 1H                                            | 45                            | 1H  |
| 110                             | 110                           | 1H                                            | 50                            | 1H  |
| 115                             | 115                           | 1H                                            | 55                            | 1H  |
| 120                             | 120                           | 2H                                            | 00                            | 2H  |
| 125                             | 125                           | 2H                                            | 05                            | 2H  |

|     |     |    |    |    |
|-----|-----|----|----|----|
| 130 | 130 | 2H | 10 | 2H |
| 135 | 135 | 2H | 15 | 2H |
| 140 | 140 | 2H | 20 | 2H |
| 145 | 145 | 2H | 25 | 2H |
| 150 | 150 | 2H | 30 | 2H |
| 155 | 155 | 2H | 35 | 2H |
| 160 | 160 | 2H | 40 | 2H |
| 165 | 165 | 2H | 45 | 2H |
| 170 | 170 | 2H | 50 | 2H |
| 175 | 175 | 2H | 55 | 2H |
| 180 | 180 | 3H | 00 | 3H |
| 185 | 185 | 3H | 05 | 3H |
| 190 | 190 | 3H | 10 | 3H |
| 195 | 195 | 3H | 15 | 3H |
| 200 | 200 | 3H | 20 | 3H |
| 205 | 205 | 3H | 25 | 3H |
| 210 | 210 | 3H | 30 | 3H |
| 215 | 215 | 3H | 35 | 3H |
| 220 | 220 | 3H | 40 | 3H |
| 225 | 225 | 3H | 45 | 3H |
| 230 | 230 | 3H | 50 | 3H |
| 235 | 235 | 3H | 55 | 3H |
| 240 | 240 | 4H | 00 | 4H |
| 270 | 241 | 4H | 30 | 4H |
| 300 | 242 | 5H | 00 | 5H |
| 330 | 243 | 5H | 30 | 5H |
| 360 | 244 | 6H | 00 | 6H |
| 390 | 245 | 6H | 30 | 6H |
| 420 | 246 | 7H | 00 | 7H |
| 450 | 247 | 7H | 30 | 7H |
| 480 | 248 | 8H | 00 | 8H |
| 510 | 249 | 8H | 30 | 8H |
| 540 | 250 | 9H | 00 | 9H |
| 570 | 251 | 9H | 30 | 9H |



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2-High x 2-Wide Warmers**

156979B

## Operation Guide

The HOLD time is the specified time a cooked product may be held in the warmer.

The COOK time is the specified time it takes to cook a product.

“Use first indicators” apply to products in LINKed pans.

When freshly cooked product is placed in a warmer, touch the corresponding button on the Pan Status Keyboard. The light will turn GREEN and the display will show the HOLD time.

**GREEN = Use this product first. This product will expire first.**

When freshly cooked product is placed in a LINKed pan (see programming guide), press the corresponding button and the light will first turn GREEN, then YELLOW, and the display will show the HOLD time.

**YELLOW = Newer product in pan; use other pan first.**

When the HOLD time reaches the COOK time the light and display will flash, and an audible alarm will sound. Press the corresponding button to stop flashing display and audible alarm. The light will continue to flash GREEN or YELLOW. If the same button is pressed again, the light will turn RED and the time will reset to 0.

**FLASHING GREEN or YELLOW = Start cooking; product is about to expire.**

When the HOLD time reaches 0 the light will flash RED and an audible alarm will sound. If the button was not pressed when the HOLD time reached the COOK time, the display will also be flashing. Discard the appropriate product in the waste pail and press the corresponding button. The light will turn RED and the audible alarm will stop.

**FLASHING RED = Product is expired.**

**RED = No product present in this pan.**

**NO LIGHT = No product required in this pan. No product should be placed in this pan. If this button is pressed, the light will turn RED for 2 seconds and then go out (see programming guide, hold time is 0).**

## Daypart Function

The Product Quality Timer system can store and recall up to three Daypart Menus. The Menus are stored in the memory of the Station Interface Unit and are NOT lost when the Unit is powered down.

To program the Menus, simply press the Daypart Button on the Keyboard on one of the warmers until the desired indicator is displayed (I, II, or III). When you change Dayparts on one warmer, all warmers connected will change and all Keyboards will indicate such. Program the HOLD times, COOK times and pan LINK settings using the Keyboard or Palm Pilot, as outlined in the Programming Guide.

To change Dayparts during normal operation, press the Daypart Button and the Indicator will advance. All times for existing Product will continue to count down based on the previous Daypart. Once the Product is used or expired, the new Daypart times and LINK settings are used.

## Manual Programming Guide

The buttons, lights (LEDs), and displays on the Pan Status Keyboards of the warmer can be used to modify the HOLD time, COOK time, and pan LINK settings. HOLD time, COOK time, and pan LINK settings can also be modified using a Palm PDA.

Using the keyboard, you can set the HOLD times in each pan between 5 minutes and 9½ hours in 5-minute increments up to 4 hours and in 30-minute increments after 4 hours. You can set the COOK times in each pan up to 9½ hours, in 1-minute increments up to 10 minutes, in 5-minute increments between 10 minutes and 4 hours, and in 30-minute increments after 4 hours. Additionally, you can change which pans are LINKed with regard to “use first indicators.”

In order to program HOLD or COOK times and change which pans are LINKed, you must be on the front side of the warmer.

**Note:** While programming, only one person may press buttons on the warmer, and **all timers will be turned off.**

### **A. Programming HOLD Times:**

1. Stand on the front side of the warmer you desire to program. Make sure the unit is in the Daypart that you want to program. Simultaneously press the **3 leftmost** buttons on the keyboard (see Figure 1). Notice that the leftmost light on the keyboard is FLASHING RED. The leftmost digital display pair will indicate the current HOLD time for this pan. All other displays will be blank. This indicates you are programming pan 1.

To modify the HOLD time:

The **2<sup>nd</sup> from right** button on the keyboard - **Increases** the HOLD time by 5 minutes up to 4 hours, and by 30 minutes above 4 hours.

The **rightmost** button on the keyboard - **Decreases** the HOLD time by 5 minutes up to 4 hours, and by 30 minutes above 4 hours.

2. To advance to the next pan, press the **leftmost** button on the keyboard. The next pan's light will be FLASHING RED and the corresponding digital display pair will indicate the HOLD time. All other displays will be blank.
3. To exit the HOLD time programming mode, press the **3 leftmost** buttons on the keyboard simultaneously and release. All pans with HOLD times greater than ZERO will display 0 and a RED light. Pans with a HOLD time equal to ZERO have a blank display and do not light. Product should not be placed in those pans.

### **B. Programming COOK Times:**

1. Stand on the front side of the warmer you desire to program. Make sure the unit is in the Daypart that you want to program. Simultaneously press the **2 middle** buttons on the keyboard (see Figure 1). Notice that the leftmost light on the keyboard is FLASHING RED. The leftmost digital display pair will indicate the

current COOK time for this pan. All other displays will be blank. This indicates you are programming pan 1.

To modify the COOK time:

The **2<sup>nd</sup> from right** button on the keyboard - **Increases** the COOK time by 1 minute between 0 and 10 minutes, by 5 minutes between 10 minutes and 4 hours, and by 30 minutes above 4 hours.

The **rightmost** button on the keyboard - **Decreases** the COOK time by 1 minute between 0 and 10 minutes, by 5 minutes between 10 minutes and 4 hours, and by 30 minutes above 4 hours.

2. To advance to the next pan, press the **leftmost** button on the keyboard. The next pan's light will be FLASHING RED and the corresponding digital display pair will indicate the COOK time. All other displays will be blank.
3. To exit the COOK time programming mode, press the **2 middle** buttons on the keyboard simultaneously and release. All pans with HOLD times greater than ZERO will display 0 and a RED light. Pans with a HOLD time equal to ZERO have a blank display and do not light. Product should not be placed in those pans.

### C. LINK Pans Configuration:

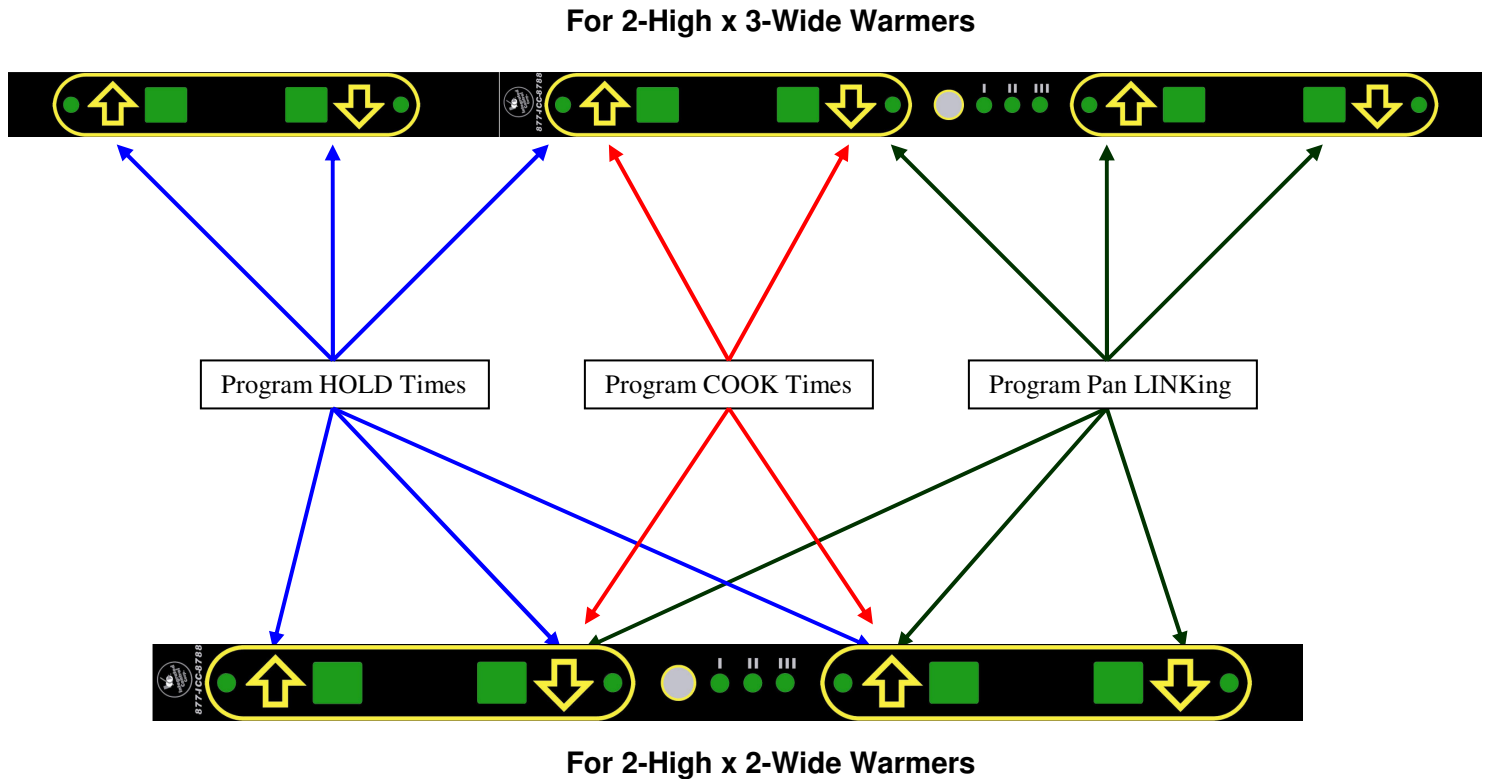
LINKing pans allows the "use first indicators" to display properly.

1. Stand on the front side of the warmer you desire to program. Make sure the unit is in the Daypart that you want to program. Simultaneously press the **3 rightmost** buttons on the keyboard (see Figure 1). Notice that the leftmost light on the keyboard is RED and that all displays are blank. This indicates you are in pan LINKing mode and that the current pan to be linked with is pan 1. The other lights turn GREEN for pans on the keyboard that are linked with pan 1. The lights for pans not linked with pan 1 will be OFF.
2. To LINK to the current pan, press the button corresponding to a light that is OFF. The light will turn GREEN and that pan will be LINKed to the current active pan. To unLINK from the current pan, press the button corresponding to a GREEN light. The light will go out and that pan will be unLINKed from the current active pan.
3. To advance to the next pan, press the **leftmost** button on the keyboard. The next pan's light will be RED and the other lights turn GREEN for pans on the keyboard that are LINKed with that pan. The lights for pans not LINKed with that pan will be OFF.

**Note:** Since the **leftmost** button is used to advance pans, you cannot LINK or unLINK the **leftmost** pan from any other pan. To LINK or unLINK the first pan, you must LINK or unLINK other pans to or from it when programming the first pan.

4. To exit the pan LINKing mode, simultaneously press the **3 rightmost** buttons on the keyboard and release.

Figure 1 – Editing Mode Button Sequences



## Default Settings

1. To revert to the defaults for HOLD time, COOK time and pan LINKing:
  - a. Power down the Station Interface Unit.
  - b. Stand on the front side of Warmer 1.
  - c. Simultaneously press and hold the **4 rightmost** buttons on the front Warmer 1 keyboard.
  - d. Power up the Station Interface Unit.
  - e. Release the buttons.
2. The default settings are the same for every pan in all three warmers in all three Dayparts.
  - a. HOLD time: 20 minutes.
  - b. COOK time: 5 minutes.
  - c. Pan LINKing: No pans are LINKed.



## Palm Pilot Programming Guide

A Palm Pilot may be used with the ICC Hold Setup software program (see Figure 2) and a special data cable. The Hold Setup program for both the 2-High x 3-Wide and the 2-High x 2-Wide Warmers are shown in Figure 2. Though Figures 3 and 4 show only the 2-High x 3-Wide Hold Setup program, the functionality is the same for the 2-High x 2-Wide Hold Setup program.

The Hold Setup program is a very powerful tool and easy to use. In less than a minute, you can change the Product Name, the HOLD and COOK times, and the pan LINK settings and then transfer the data into the Station Interface Units.

Products may be edited using cut and paste. HOLD and COOK times may be adjusted in 1-minute increments. The updated data is then sent to the Station Interface Unit via the cable.

Multiple configurations can be stored, recalled and deleted by long file names. These records can also be beamed between Palm Pilots if your Palm models have the IR feature.

This option is the most time-efficient way to maintain the system configuration, especially for multiple restaurants.



### **A. Palm Hold Setup Program installation:**

If a Palm Pilot was shipped with your system, it will have the Hold Setup Program preloaded. If you have an existing Palm and a diskette was shipped with your system or you received an e-mail with the program attached, please follow these installation instructions.

1. Using Windows Explorer double-click on the file **ICC\_Hold\_Setup\_Pgm.prc**

2. A window will pop-up prompting you to select a user. Select a user and click OK.
3. A window will pop-up informing you the next time you perform a Hot-Sync the ICC Hold Setup Program will be transferred to your Palm. Click Done.
4. A window will pop-up with a similar message. Click OK.
5. Perform a Palm Hot-Sync as normal and the Hold Setup Program will be transferred to your Palm Pilot.

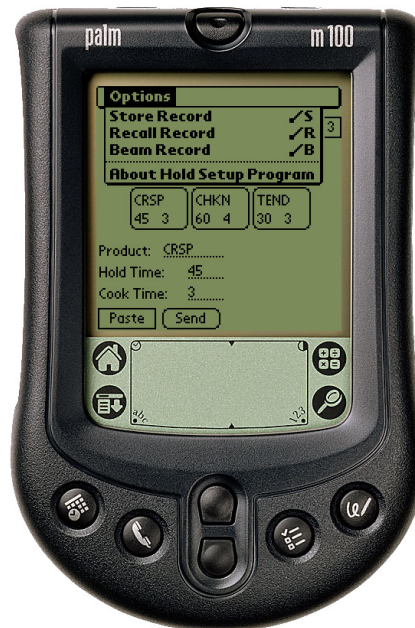
## B. Palm Pilot Programming:

1. Execute the ICC Hold Setup Program on the Palm Pilot. Observe the Main Screen (see Figure 3) displaying Product Names and HOLD and COOK times. The “pans” represent the pans in a Warmer referenced from the **front** of the Warmer.

**Figure 3 – Main Screen**



**Figure 4 – Menu Pull-down**



2. The Warmer numbers are indicated on the top right portion of the screen and can be changed by touching 1,2 or 3 as desired. As you touch each Warmer number, the Product Name, HOLD and COOK times change in the pans. Three warmers can be connected together.
3. To change the 4-character Product Name, HOLD time, or COOK time simply touch a pan and the data will be copied to the editing fields. Change the data, touch the Paste button, and then touch the new pan location.

For HOLD and COOK times, you may enter values in 1-minute increments up to 4 hours (240 minutes). For values between 241 and 251, each 1-minute increment is equal to 30 minutes (see Table 1). Any value above 251 will be

interpreted as 9 hours and 30 minutes, and any value above 255 will be displayed as 255 when pasted to the pan.

4. To LINK pans, use the same Product Name for the pans you want LINKed.

### C. Data transfer:

When the Send function is performed, the data is transferred to the Station Interface Unit. The Daypart that the unit is currently in is the one that will be programmed. It does not matter what warmer is visible on the Palm screen when sending data; all warmers for the current Daypart will be programmed.

1. Attach the Hold Timer System cable to the Palm Pilot and plug the 8-pin telephone type cable into the port marked PROGRAM on the back side of the master unit. Make sure the unit is in the Daypart that you want to program. Touch the Send button displayed in the Main Screen. After a few seconds, "Send OK" will be displayed next to the Send button.

Troubleshooting: If an error message appears, check cable connection at the Palm and the Station Interface Unit.

**Warning:** When transferring data using the PALM M100 model, DO NOT press the Hot Sync button on the cable. The Station Interface Unit will lock up and you will need to reset it by powering off and then back on.

### D. To Store, Recall and Delete records:

All of the timer data may be stored, recalled and deleted. These functions are very useful for saving different promotional menus.

- a. To Store a record, touch the Menu icon to display the Menu Pull-down (see Figure 4). Touch Store Record. Enter a name for the new record or touch an existing record to overwrite. Touch Store to save the data **OR** touch Close to return to the Main screen without saving any data.
- b. To Recall a record, touch the Menu icon and then touch Recall Record. Touch an existing record to recall, then touch the Recall button **OR** touch Close to return to the Main screen without recalling any data.
- c. To Delete a record, touch the Menu icon and then touch Delete Record. Touch an existing record to delete, then touch the Delete button **OR** touch Close to return to the Main screen without deleting any data.

**Warning:** Once you touch Delete, the record will be deleted without any warning prompts.

## Testing and Troubleshooting Guide

### **Pan Status Keyboard Test:**

- a. Press a pan button once. The corresponding light turns green and the display shows the programmed HOLD time. Press the same button again. The corresponding light turns red and the display shows 0. Repeat for every button on all keyboards.

#### Troubleshooting:

1. If the light turns red, and then turns off and the display is blank, the HOLD time is equal to 0. Program a new HOLD time for that pan.
2. If the Keyboard test fails, plug the keyboard into a different Warmer jack on the Station Unit and repeat the test on that keyboard. If the keyboard continues to fail the test, the keyboard is suspect. If the keyboard passes the test when plugged into a different Warmer jack, the Station Interface Unit is suspect.

### **Station Interface Unit Power:**

- a. Power up the Station Interface Unit. The audible alarm should sound briefly.
- b. Observe that the keyboard lights illuminate yellow and the displays turn on, then the lights turn red or go out and the displays show 0 or go out depending on the programmed HOLD times.

#### Troubleshooting:

1. Check that the Warmer control powers up and the Warmer heats up. If not, call Duke Mfg. for Warmer service at 314-231-1130 or 800-735-3853.

### **Service Hot-Line:**

If you believe that you have a **Product Quality Timer System** service issue, perform the steps outlined above. If a test fails, perform the troubleshooting steps to see if this resolves the problem. Continue the remainder of the testing, if possible, to uncover any additional problems and document the symptoms and results. Please have this data handy before calling the ICC troubleshooting Hot Line listed below. **For optimum support, please be near the suspect units with a cordless phone, if available, when calling our Technicians.**

**877-ICC-8788 M-F 8:30am - 4:30pm Eastern Time**

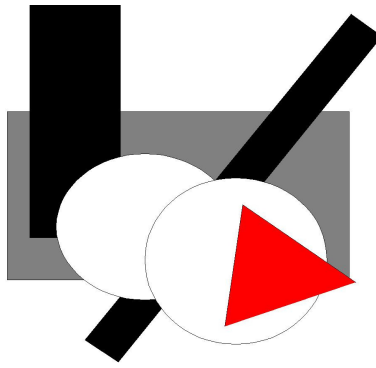
## Installation Guide

The Station Interface Units are integrated into Duke Warmer Units, making the installation very simple. The power for the Product Quality Timer System is shared by the Warmer Unit power supply.

**TABLE 1 - DIGITAL WARMER DISPLAYS**

| <b>KEYPRESS / MINUTES TABLE</b> |                         |                      |                         |                     |
|---------------------------------|-------------------------|----------------------|-------------------------|---------------------|
| TIME                            | PALM VALUE              | EDITING MODE DISPLAY |                         | NORMAL MODE DISPLAY |
| 0                               | 0                       | 00                   | 00                      | 00                  |
| 1-4<br>(COOK MODE ONLY)         | 1-4<br>(COOK MODE ONLY) | 00                   | 1-4<br>(COOK MODE ONLY) | 1-4                 |
| 5                               | 5                       | 00                   | 05                      | 05                  |
| 6-9<br>(COOK MODE ONLY)         | 6-9<br>(COOK MODE ONLY) | 00                   | 6-9<br>(COOK MODE ONLY) | 6-9                 |
| 10                              | 10                      | 00                   | 10                      | 10                  |
| 15                              | 15                      | 00                   | 15                      | 15                  |
| 20                              | 20                      | 00                   | 20                      | 20                  |
| 25                              | 25                      | 00                   | 25                      | 25                  |
| 30                              | 30                      | 00                   | 30                      | 30                  |
| 35                              | 35                      | 00                   | 35                      | 35                  |
| 40                              | 40                      | 00                   | 40                      | 40                  |
| 45                              | 45                      | 00                   | 45                      | 45                  |
| 50                              | 50                      | 00                   | 50                      | 50                  |
| 55                              | 55                      | 00                   | 55                      | 55                  |
| 60                              | 60                      | 00                   | 60                      | 1H                  |
| 65                              | 65                      | 00                   | 65                      | 1H                  |
| 70                              | 70                      | 00                   | 70                      | 1H                  |
| 75                              | 75                      | 00                   | 75                      | 1H                  |
| 80                              | 80                      | 00                   | 80                      | 1H                  |
| 85                              | 85                      | 00                   | 85                      | 1H                  |
| 90                              | 90                      | 00                   | 90                      | 1H                  |
| 95                              | 95                      | 00                   | 95                      | 1H                  |
| 100                             | 100                     | 1H                   | 40                      | 1H                  |
| 105                             | 105                     | 1H                   | 45                      | 1H                  |
| 110                             | 110                     | 1H                   | 50                      | 1H                  |
| 115                             | 115                     | 1H                   | 55                      | 1H                  |
| 120                             | 120                     | 2H                   | 00                      | 2H                  |
| 125                             | 125                     | 2H                   | 05                      | 2H                  |

|     |     |    |    |    |
|-----|-----|----|----|----|
| 130 | 130 | 2H | 10 | 2H |
| 135 | 135 | 2H | 15 | 2H |
| 140 | 140 | 2H | 20 | 2H |
| 145 | 145 | 2H | 25 | 2H |
| 150 | 150 | 2H | 30 | 2H |
| 155 | 155 | 2H | 35 | 2H |
| 160 | 160 | 2H | 40 | 2H |
| 165 | 165 | 2H | 45 | 2H |
| 170 | 170 | 2H | 50 | 2H |
| 175 | 175 | 2H | 55 | 2H |
| 180 | 180 | 3H | 00 | 3H |
| 185 | 185 | 3H | 05 | 3H |
| 190 | 190 | 3H | 10 | 3H |
| 195 | 195 | 3H | 15 | 3H |
| 200 | 200 | 3H | 20 | 3H |
| 205 | 205 | 3H | 25 | 3H |
| 210 | 210 | 3H | 30 | 3H |
| 215 | 215 | 3H | 35 | 3H |
| 220 | 220 | 3H | 40 | 3H |
| 225 | 225 | 3H | 45 | 3H |
| 230 | 230 | 3H | 50 | 3H |
| 235 | 235 | 3H | 55 | 3H |
| 240 | 240 | 4H | 00 | 4H |
| 270 | 241 | 4H | 30 | 4H |
| 300 | 242 | 5H | 00 | 5H |
| 330 | 243 | 5H | 30 | 5H |
| 360 | 244 | 6H | 00 | 6H |
| 390 | 245 | 6H | 30 | 6H |
| 420 | 246 | 7H | 00 | 7H |
| 450 | 247 | 7H | 30 | 7H |
| 480 | 248 | 8H | 00 | 8H |
| 510 | 249 | 8H | 30 | 8H |
| 540 | 250 | 9H | 00 | 9H |
| 570 | 251 | 9H | 30 | 9H |



**Integrated Control Corp. ®**

**877-ICC-8788**



**Red Light Green Light ™ Product Quality Timer™**

# **System Manual**



**“Your Solutions Partner”**

## **2-Wide and 3-Wide Warmers**

**Integrated Control Corp.  
748 Park Ave., Huntington, NY. 11743**

**631-673-5100 Fax: 631-673-6756 [www.goicc.com](http://www.goicc.com)**

Duke Part # 156810A

## Section 1 - Operation Guide

### 1 – Use 1<sup>st</sup> Indicator

When freshly cooked product is placed in the warmer, touch the corresponding button on the Pan Status Keyboard. The light will turn GREEN.

**GREEN = Use this product first.**

This product will expire first.

When freshly cooked product is placed in the second linked pan, (see programming guide) press the button and the light will turn GREEN, THEN YELLOW.

**YELLOW = Newer product in pan, use other pan first.**



2-Wide Warmer



3-Wide Warmer

When the hold time reaches the cook time the indicator will flash. All audible alarm will sound on timers with this option.

**FLASHING GREEN or YELLOW = Start cooking, product is about to expire.**

The Hold time is the specified time a cooked product may be held in the warmer. The indicator will FLASH RED when the hold time is reached.

**FLASHING RED = Product is expired.** Note: *If the Station Interface model is equipped with a sounder, it will alarm when any product has expired.*

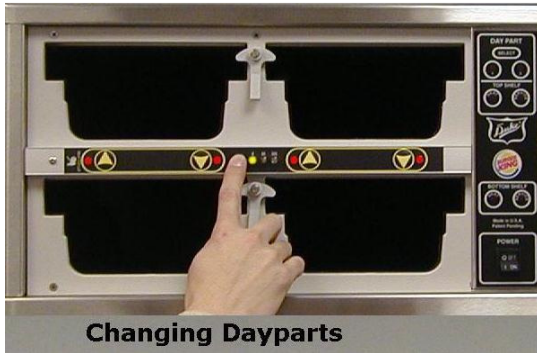
After a product has expired, discard the appropriate product in the waste pail and press the button. The indicator will turn RED.

**RED = No product present in this pan.**

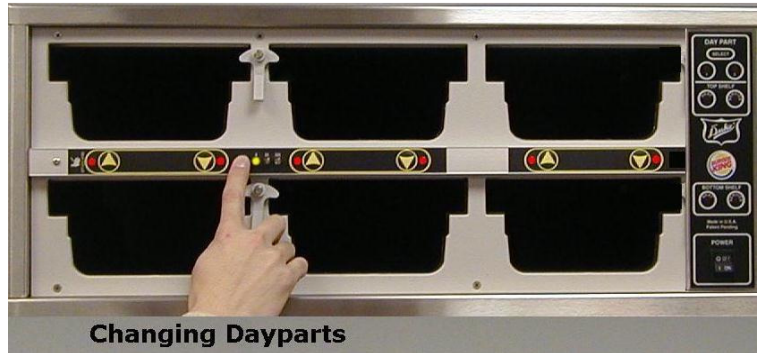
**NO LIGHT = No product required in this pan.** No product should be placed in this pan. If this button is pressed, the light will turn RED for 2 seconds and then go out (see programming guide, hold time is 0).



## 2 -Daypart Function



**2-Wide Warmer**



**3-Wide Warmer**

The Product Quality Timer system can store and recall up to three Daypart Menus.

To program the Menus, simply press the Daypart Button on the Keyboard on one of the warmers until the desired indicator is displayed (I, II, or III). When you change Dayparts on one warmer, all warmers connected to this warmer will change and all Keyboards will indicate such. Program the HOLD Times and Pan Links using the Keyboard or Palm PDA, as outlined in Section 2 – Programming Guide.

The Menus are stored in the memory of the Station Interface Unit and are NOT lost when the Unit is powered down.

To change Dayparts during normal operation, press the Daypart Button and the Indicator will advance.

All times for existing Product will continue to count down based on the previous Daypart. Any transfers (see Transfer Function) will be based on the current Daypart Links, but will transfer and count down the times for that Product. Once the Product is used or expired, the new Daypart times (and Links) are used.



## Section 2 - Programming Guide

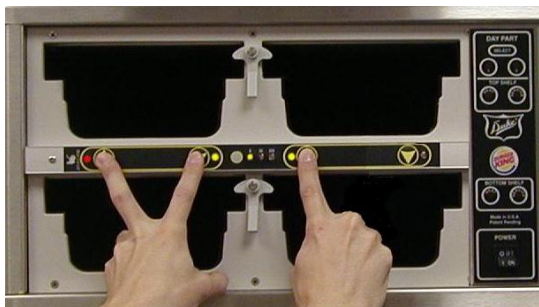
**If you have purchased the Palm PDA Software and Cable option, please advance to the Palm PDA Section for the quickest programming method.**

The buttons and lights on the Pan Status Keyboards of each warmer are used to modify the HOLD, COOK and pan LINK settings.

You can set the HOLD time in each pan between 5 and 180 min. in 5 min. increments. Additionally, you can change which pans that are LINKed with the same product type. When a HOLD time is changed, the COOK time defaults to 3 minutes and cannot be edited using the Manual Programming Method. Cook times can be edited with the Palm Pilot.

Each Station Interface Unit must be programmed individually. In order to program HOLD times, you must be in front of the Warmer or at the steamer to be programmed. In the PQT system, the front of a warmer is the side with the temperature control panel and on/off switch. The left and right sides are referenced from the front view.

After entering the programming mode, all 3 warmer ports on the Station Interface Unit are in this mode. **NOTE: Only one person may press keys on the station being programmed. No other keys on any station may be pressed while in the programming mode.**



**2-Wide Warmer**



**3-Wide Warmer**

### **1 - Programming HOLD Times:**

- a - Stand directly in front of the warmer you desire to program. Simultaneously press the **3** buttons on the **left** side of the Pan Status Keyboard. Notice that the far left light flashes RED. This indicates you are programming PAN 1. The lights directly to the right indicate the current HOLD time for this PAN.

### To find the current HOLD time:

Count all the red lights and multiply by 60  
Each RED light = 60 minutes

Count all the yellow lights and multiply by 20  
Each YELLOW light = 20 minutes

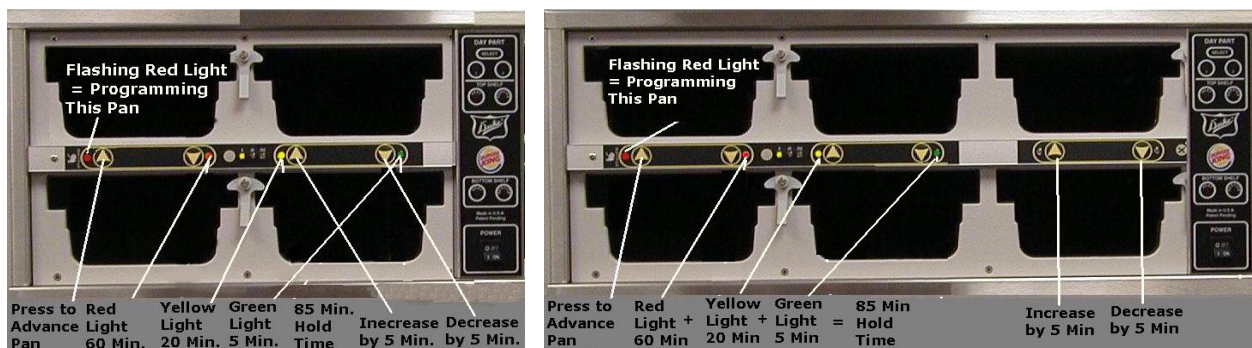
Count all the green lights and multiply by 5  
Each GREEN light = 5 minutes

Add the three numbers together. This number is the set hold time for the Red lit indicated pan.

For Example:

|                 |   |         |           |
|-----------------|---|---------|-----------|
| 1 Red Light     | x | 60 min. | = 60 min. |
| 2 Yellow Lights | x | 20 min. | = 40 min. |
| 1 Green Light   | x | 5 min.  | = 5 min.  |

The set HOLD time is **60 min + 40 min + 5 min. = 105 min.**



The far right **UP** arrow key - **Increases** the hold time by 5 min.

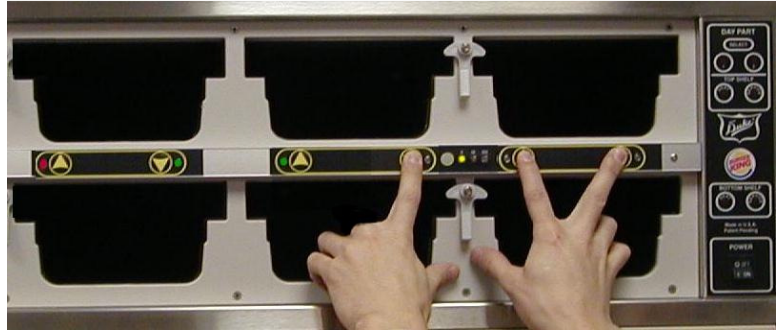
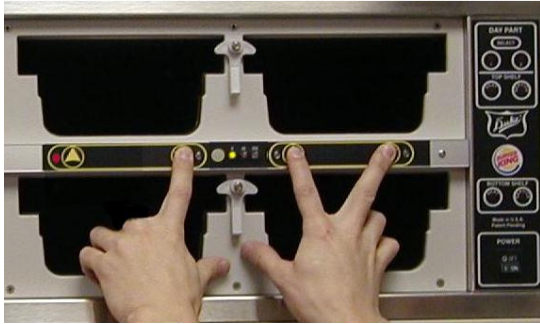
The far right **DOWN** arrow key - **Decreases** the time by 5 min.

The cook time will be set to 3 min.

Note that due to the number of lights available on the bar, certain settings will not be “seen” and you must use the “Counting method” to set or bypass these settings.

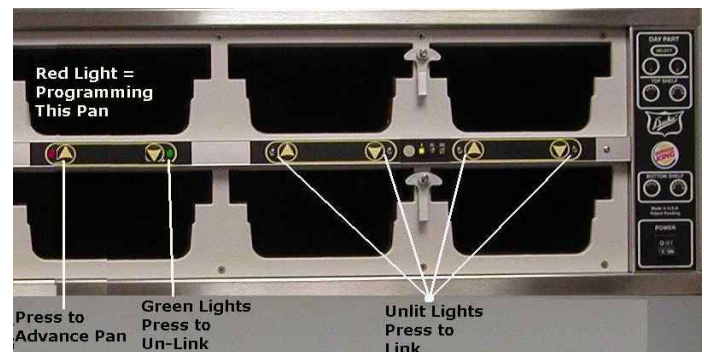
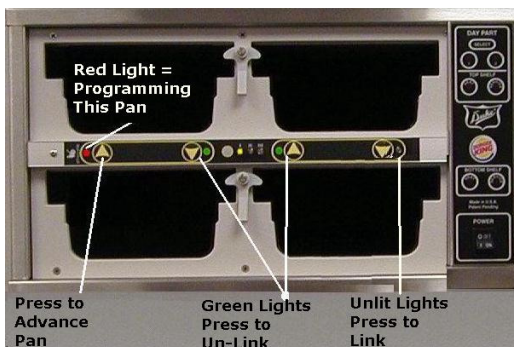
- b - To advance to another pan, press the **far left UP arrow key**. The current times will be displayed with the RED, YELLOW and GREEN lights for the flashing Red lit indicated pan.
- c - To **EXIT** the time programming mode, press the **3 far left buttons** simultaneously and release. All pans with HOLD times greater than ZERO will display a RED light. Pan lights with a HOLD time equal to ZERO do not light and product should not be placed in those pans.

## 2 - LINKing pans with like product types:



Linking pans allows the “use first indicators” to display properly.

- a - *Simultaneously* press the **3** buttons on the **right** side of the Pan Status Keyboard. Notice the far left light illuminates RED. This indicates you are programming the PAN 1 links. The other lights indicate GREEN which pans are linked with PAN 1.



- b - To link a pan, press a key by an unlit indicator. The light will turn GREEN. To unlink a pan, press a key by a GREEN lit indicator and the light will go out.
- c - To advance to the next pan press the far left UP Arrow once. The other lights indicate in GREEN which pans are linked.
- d - To **EXIT** the link programming mode, simultaneously press the **3** far **right** buttons and release.

## PROGRAMMING Using the Palm PDA Option

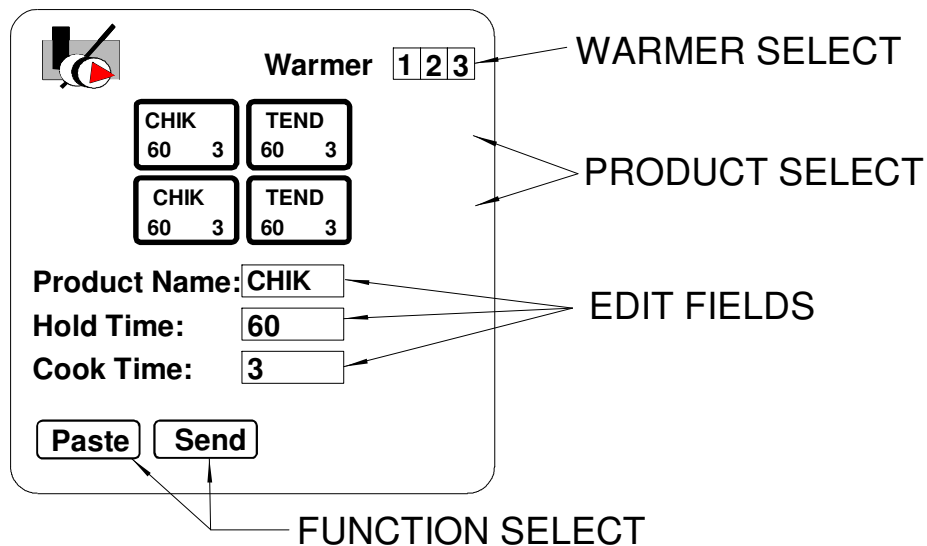
A Palm PDA may be used with the ICC Hold Set-up software program and a special data cable.

The Hold Setup program is a very powerful tool and easy to use. In less than a minute, you can change the Product name, Hold and Cook times and then transfer the data into the Station Interface Units.

Products may be edited using cut and paste. HOLD and COOK times may be adjusted in 1 minute increments. The updated data is then sent to the Station Interface Unit via the cable.

Multiple configurations can be stored, recalled and deleted by long file names. These records can also be beamed between Palm PDAs if your Palm models have the IR feature.

This option is the most time-efficient way to maintain the system configuration, especially for multiple restaurants.



### ***2-Wide Application shown***

#### **1 - Palm Hold Setup Program installation:**

If a Palm PDA was shipped with your system, it will have the Hold Setup Program preloaded. If you have an existing Palm and a diskette was shipped with your system or you received an E-Mail with the program attached, please follow these installation instructions.

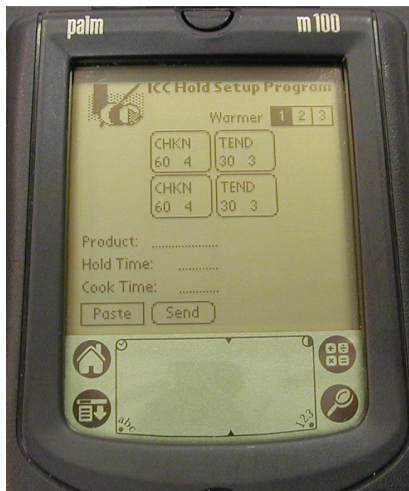
- a - Using Windows Explorer Double-click on the file  
**ICC\_Hold\_Setup\_Pgm.prc**



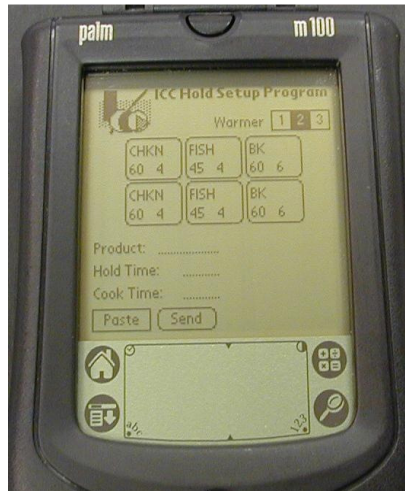
- b - A window will pop-up prompting you to select a user. Select a user and click OK
- c - A window will pop-up informing you the next time you perform a Hot-Sync the ICC Hold Setup Program will be transferred to your Palm. Click Done.
- d - A window will pop-up with a similar message. Click OK.
- e - Perform a Palm Hot-Sync as normal and the Hold Setup Program will be transferred to your Palm PDA.

## 2 - Palm PDA Programming:

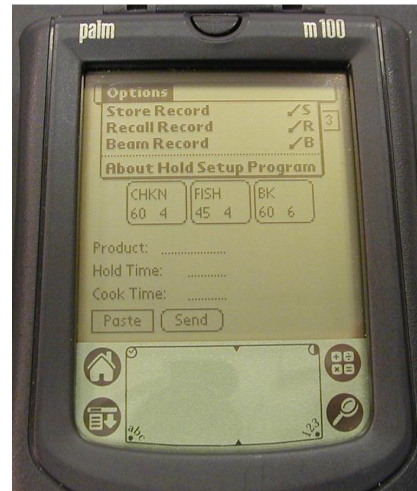
- a - Execute the ICC Hold Setup Program on the Palm PDA. Observe the Main Screen with the “pans” displaying products, hold and cook times (see photos below). This represents the pans in a warmer referenced from the **front** of the warmer



Main Screen  
2-Wide Program



Main Screen  
3-Wide Program



Menu Pull-down

- b - If “Stock Level” is displayed in the lower right portion of the screen, the program is in the wrong mode for this application (Scoreboard Mode). To switch to the proper mode (Station Mode), touch the Palm Menu icon to display the Menu Pull-down (see photo above). Then touch Station Mode. Stock Level should disappear from screen.
- c - The Warmer numbers are indicated on the top right portion of the screen and can be changed by touching 1,2 or 3 as desired. As you touch each Warmer number, the Product name, Hold and Cook times change in the pans. Three warmers can be connected together.

- d - To change the product name, hold time or cook time, simply touch a pan and the data will be copied down to the editing fields. Change the data, touch PASTE, then touch the new pan location.

### 3 - Data transfer:

When the Send function is performed, the data for all 3 Warmers is transferred to the Station Interface Unit.

Attach the Hold Timer System cable to the Palm PDA and the plug the 8-pin Telephone type cable into the port marked PROGRAM on the back side of the master unit. Touch the Send button displayed in the Hold Setup screen. After a few seconds, "Send OK" will be displayed in the lower right portion of the screen.

#### Troubleshooting -

If an error message appears, check cable connection at the Palm and the Station Interface Unit. Make sure the program is in Station Mode. Touch Send again.

**Warning:** When transferring data using the PALM M100 model, DO NOT press the Hot Sync button on the cable. The Station Interface Unit will lock up and you will need to reset it by powering off and then back on.

### 4 - To Store, Recall and Delete records:

All of the timer data may be stored, recalled and deleted. These functions are very useful for saving different promotional menus.

- a - To Store a record touch the Menu icon to display the Menu Pull-down. Touch Store Record. Enter a name for a new record or touch an existing record to overwrite. Touch Store to save the data **OR** touch Close to return to the Main screen without saving any data.
- b - To Recall a record, touch the Menu icon, then touch Recall Record. Touch an existing record to recall, then touch the Recall button **OR** touch Close to return to the Main screen without recalling any data.
- c - To Delete a record, touch the Menu icon, then touch Recall Record. Touch an existing record to delete, then touch Delete button **OR** touch Close to return to the Main screen without deleting any data.

**Warning:** Once you touch Delete, the record will be deleted without any warning prompts.

## **Section 3 - Testing & Troubleshooting Guide**

### **Pan Status Keyboard test:**

- a - Press Pan button once, light turns green. Press button again, light turns red. Repeat on all buttons on all keyboards.

#### **Troubleshooting -**

- 1 - If light turns red, then off, the hold time = 0. Program new HOLD times for that pan.
- 2 - If the Keyboard test fails, plug the keyboard into a different Warmer jack on the Station Unit. If the problem follows the keyboard, the keyboard is suspect. If the problem stays with the Warmer Jack, the Station Unit is suspect.

- b - Press Transfer button once, light turns red. Press button again, light goes out. Repeat on Transfer buttons on all keyboards.

#### **Troubleshooting -**

- If light does not toggle between red and off and the Pan button test 2a passed, the Keyboard is suspect.

- c - Press Daypart button 3 times, the next Daypart light turns yellow with each press and toggle back to the beginning. Repeat on Daypart buttons on all keyboards.

#### **Troubleshooting -**

- If light does advance Dayparts and the Pan button test 2a passed, the Keyboard is suspect.

### **Station Interface Unit power:**

- a - Power up the Warmer unit.
- b - Observe that the Keyboard lights illuminate YELLOW, then RED or go out depending on the programmed Hold Times.

#### **Troubleshooting -**

- Check that the Warmer control powers up and the Warmer heats up. If not, call Duke Mfg for Warmer service at 314-231-1130 or 800-735-3853.

## SERVICE Hot-Line

If you believe that you have a **Product Quality Timer System** service issue, perform the steps outlined above. If a test fails, perform the troubleshooting steps to see if this resolves the problem. Continue the remainder of the testing, if possible, to uncover any additional problems and document the symptoms and results. Please have this data handy before calling the ICC troubleshooting HOT LINE listed below. **For optimum support, please be near the suspect units with a cordless phone, if available, when calling our Technicians.**

**877-ICC-8788 X106 M-F 8:30am - 4:30pm Eastern Time**

## Section 4 - Installation Guide

The Station Interface Units are integrated into Duke Warmers, making the installation very simple. The power for the Product Quality Timer System is shared by the Warmer Unit power supply.

### Reference Section

## Factory Default Configuration

### 2 HIGH x 2 WIDE DAYPART I, II, & III

#### WARMER 1

|         |              |              |
|---------|--------------|--------------|
|         | <b>PAN 1</b> | <b>PAN 3</b> |
| PRODUCT | PRD1         | PRD3         |
| HOLD    | 30           | 30           |
| COOK    | 3            | 3            |
|         | <b>PAN 2</b> | <b>PAN 4</b> |
|         | PRD2         | PRD4         |
|         | 30           | 30           |
|         | 3            | 3            |

#### WARMER 2

|  |              |              |
|--|--------------|--------------|
|  | <b>PAN 1</b> | <b>PAN 3</b> |
|  | PRD1         | PRD3         |
|  | 30           | 30           |
|  | 3            | 3            |
|  | <b>PAN 2</b> | <b>PAN 4</b> |
|  | PRD2         | PRD4         |
|  | 30           | 30           |
|  | 3            | 3            |

#### WARMER 3

|         |              |              |
|---------|--------------|--------------|
|         | <b>PAN 1</b> | <b>PAN 3</b> |
| PRODUCT | PRD1         | PRD3         |
| HOLD    | 30           | 30           |
| COOK    | 3            | 3            |
|         | <b>PAN 2</b> | <b>PAN 4</b> |
|         | PRD2         | PRD4         |
|         | 30           | 30           |
|         | 3            | 3            |



## Reference Section

### Factory Default Configuration

#### 2 HIGH x 3 WIDE DAYPART I, II, & III

##### WARMER 1

|         |              |              |              |
|---------|--------------|--------------|--------------|
|         | <b>PAN 1</b> | <b>PAN 3</b> | <b>PAN 5</b> |
| PRODUCT | PRD1         | PRD3         | PRD5         |
| HOLD    | 30           | 30           | 30           |
| COOK    | 3            | 3            | 3            |
|         | <b>PAN 2</b> | <b>PAN 4</b> | <b>PAN 6</b> |
|         | PRD2         | PRD4         | PRD6         |
|         | 30           | 30           | 30           |
|         | 3            | 3            | 3            |

##### WARMER 2

|         |              |              |              |
|---------|--------------|--------------|--------------|
|         | <b>PAN 1</b> | <b>PAN 3</b> | <b>PAN 5</b> |
| PRODUCT | PRD1         | PRD3         | PRD5         |
| HOLD    | 30           | 30           | 30           |
| COOK    | 3            | 3            | 3            |
|         | <b>PAN 2</b> | <b>PAN 4</b> | <b>PAN 6</b> |
|         | PRD2         | PRD4         | PRD6         |
|         | 30           | 30           | 30           |
|         | 3            | 3            | 3            |

##### WARMER 3

|         |              |              |              |
|---------|--------------|--------------|--------------|
|         | <b>PAN 1</b> | <b>PAN 3</b> | <b>PAN 5</b> |
| PRODUCT | PRD1         | PRD3         | PRD5         |
| HOLD    | 30           | 30           | 30           |
| COOK    | 3            | 3            | 3            |
|         | <b>PAN 2</b> | <b>PAN 4</b> | <b>PAN 6</b> |
|         | PRD2         | PRD4         | PRD6         |
|         | 30           | 30           | 30           |
|         | 3            | 3            | 3            |

**Please program the Hold times and Links according to your particular restaurant configuration.**



"Your Solutions Partner"

Duke Manufacturing  
2305 N. Broadway  
St. Louis, MO 63102  
800-735-3853

# INSTRUCTIONS FOR REPLACING TEMPERATURE CONTROL BOARD



**DANGER:** Hazardous voltage. Disconnect power before servicing machine. Risk of Electrical Shock. Can cause injury or death.



1. Remove power cord by loosening small screw and pulling out cord.



2. Remove panel from power side of unit. (Four (4) screws)



3. Remove two (2) top wires from on/off switch



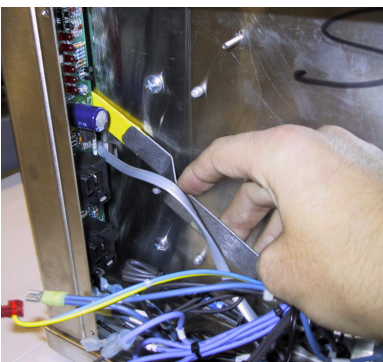
4. Remove all wires from back of control board.



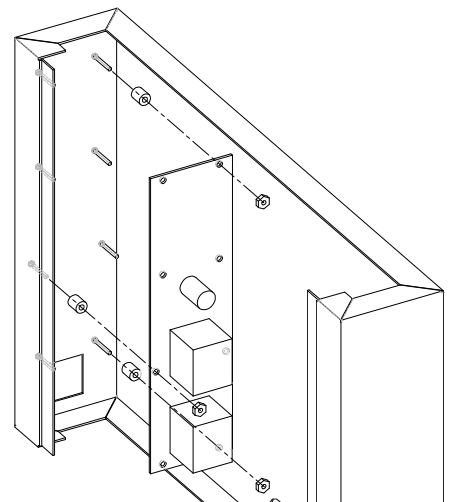
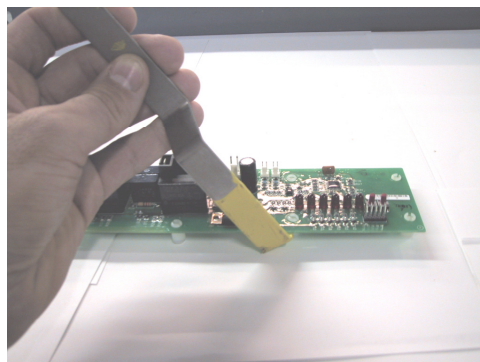
5. Remove the two nuts that secure the black box to the cabinet. Move black box to give better access to remove controller.



6. Remove the 8 nuts that secure the control board to the cabinet



7. Remove temperature controller from unit. If necessary, use Control Removal tool to remove the control board. Slide tool along side of board and rotate to pry control loose from studs.



8. Replace with new temperature control board. The new board will come without the plastic spacers. Use the three metal spacers supplied to mount the board. See above for spacer/nut locations.(Over)

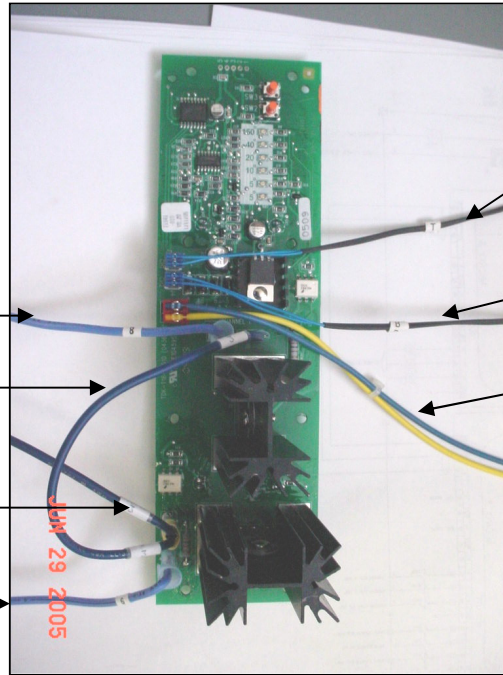
9. Reattach wires as shown at right.  
Reassemble unit in reverse order.

Upper Shelf Heater Connection  
Channel 1 (#8 Wire)

Upper Relay Supply Connection  
(#3 Wire)

Lower Relay Supply Connection  
(#3 Wire)

Lower Shelf Heater Connection  
Channel 2 (#9 Wire)

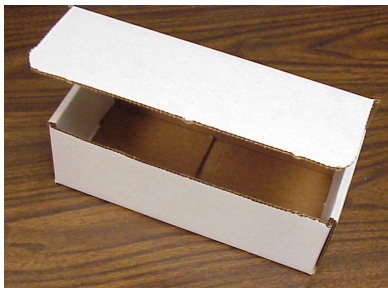


Upper Temperature Sensor  
Channel 1 (#T Wire)

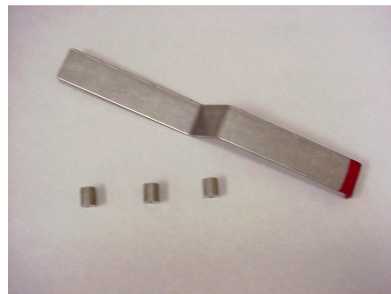
Lower Temperature Sensor  
Channel 2 (#B Wire)

12 VAC Board Power Supply  
(Yellow & Blue Wires)

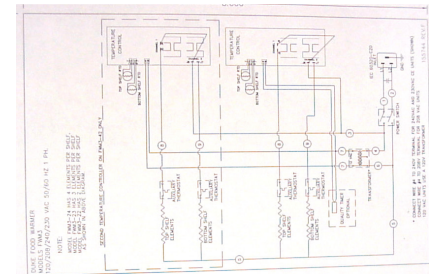
## Parts Included With Kit



**Box**



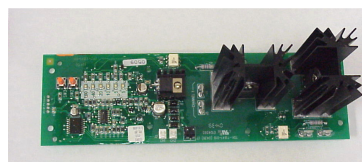
**Control Removal Tool  
Metal Spacers (3)**



**Schematic Label**



**Anti-Static Bag**

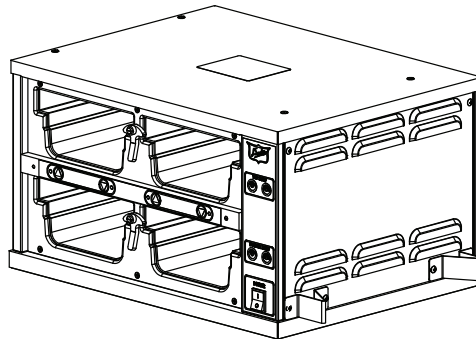
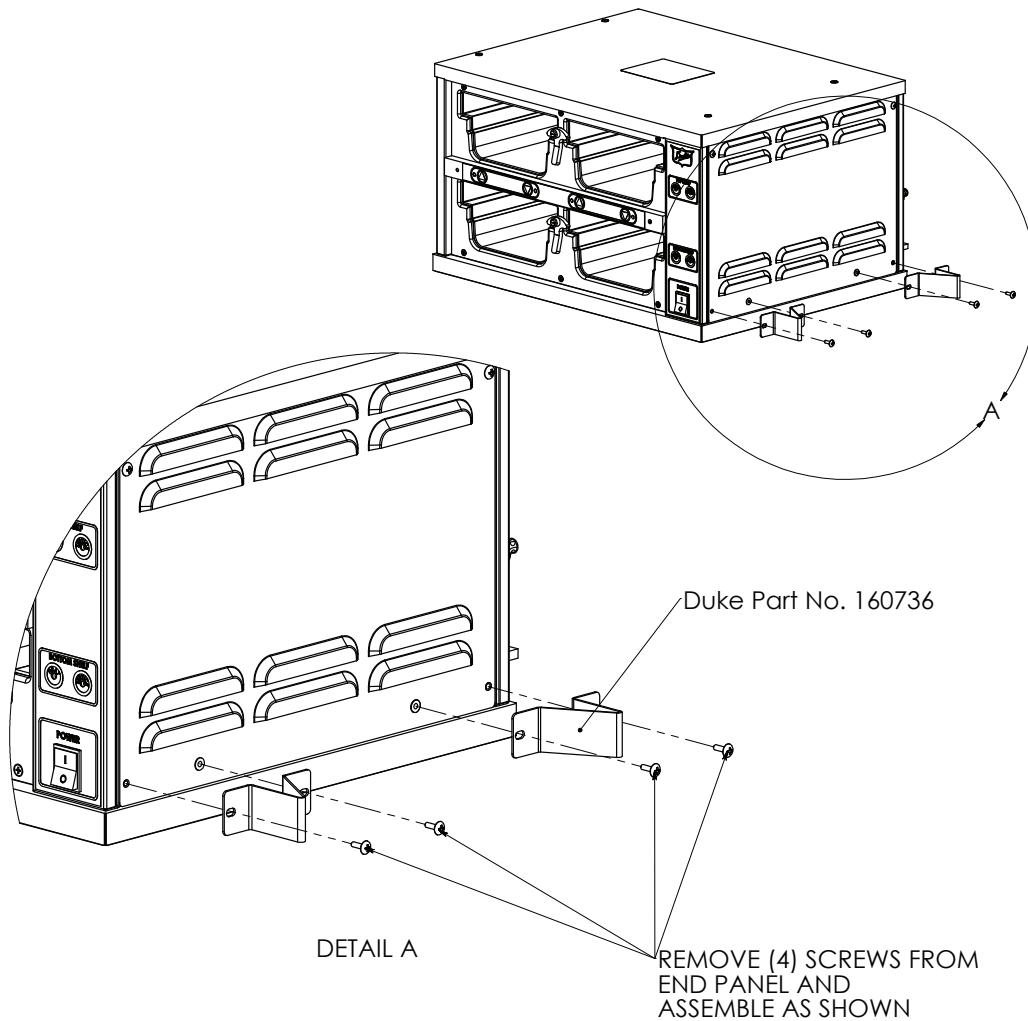


**New Control**



# DUKE FWM STANDOFF INSTRUCTION SHEET

“Standoffs should be used to help ensure unrestricted airflow to the control compartment”



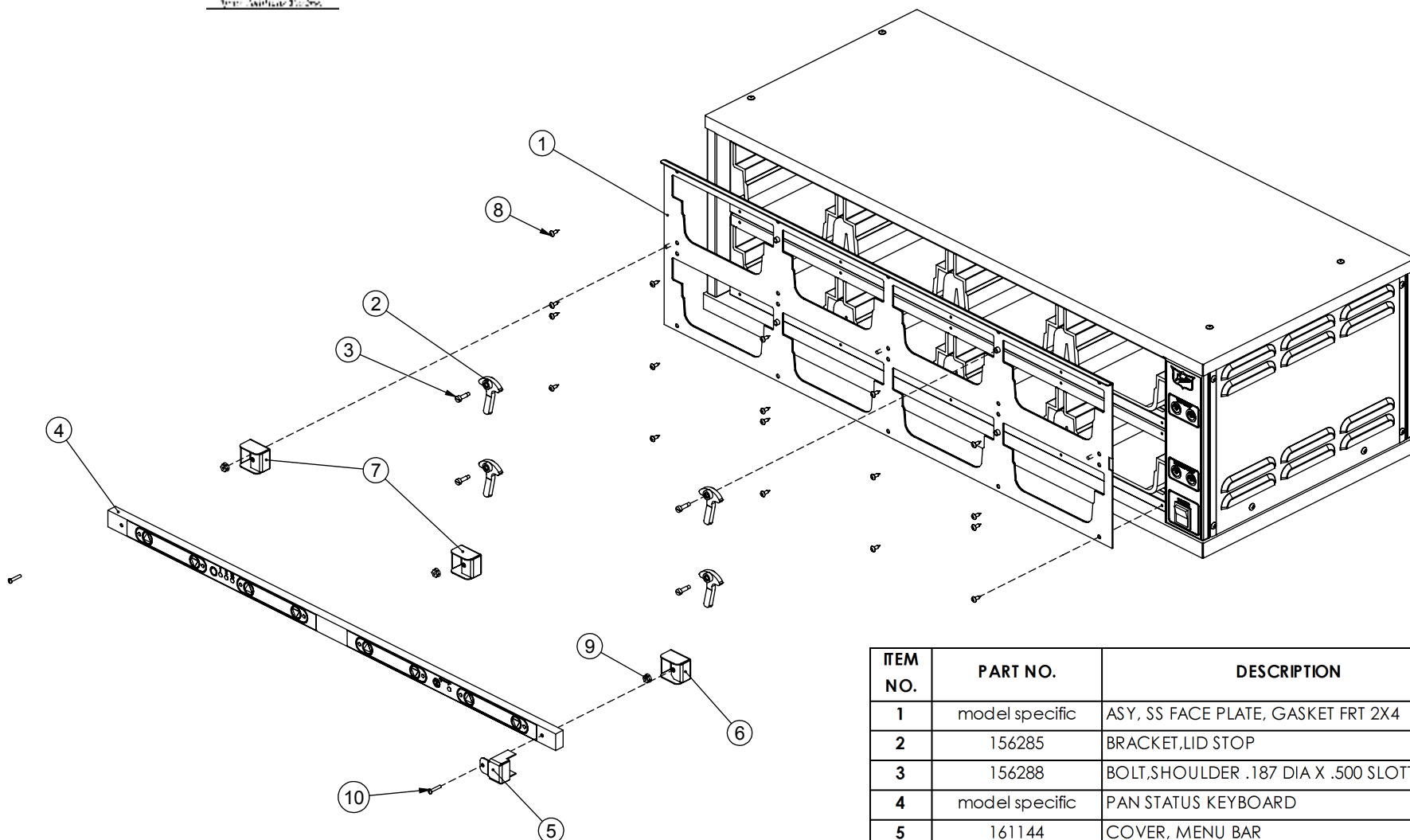
Your Solutions Partner

**DUKE MANUFACTURING CO.**  
TOLL FREE 800-735-DUKE (3853)  
314-231-1130

P/N 160737B



## SS FACEPLATE KIT ASSEMBLY INSTRUCTIONS (FWM3-24 shown)



| ITEM NO. | PART NO.       | DESCRIPTION                               |
|----------|----------------|-------------------------------------------|
| 1        | model specific | ASY, SS FACE PLATE, GASKET FRT 2X4        |
| 2        | 156285         | BRACKET,LID STOP                          |
| 3        | 156288         | BOLT,SHOULDER .187 DIA X .500 SLOTTED S/S |
| 4        | model specific | PAN STATUS KEYBOARD                       |
| 5        | 161144         | COVER, MENU BAR                           |
| 6        | 161164         | ASY, STANDOFF, CONTROL PNL                |
| 7        | 161165         | ASY, STANDOFF, TIMER BAR                  |
| 8        | 513032         | SCREW-8-18X.-SS-TEK                       |
| 9        | 513158         | NUT,8-32,SERRATED FLANGE                  |
| 10       | 155948         | SCREW,6-32X3/4'TR PH SS MACHINE           |

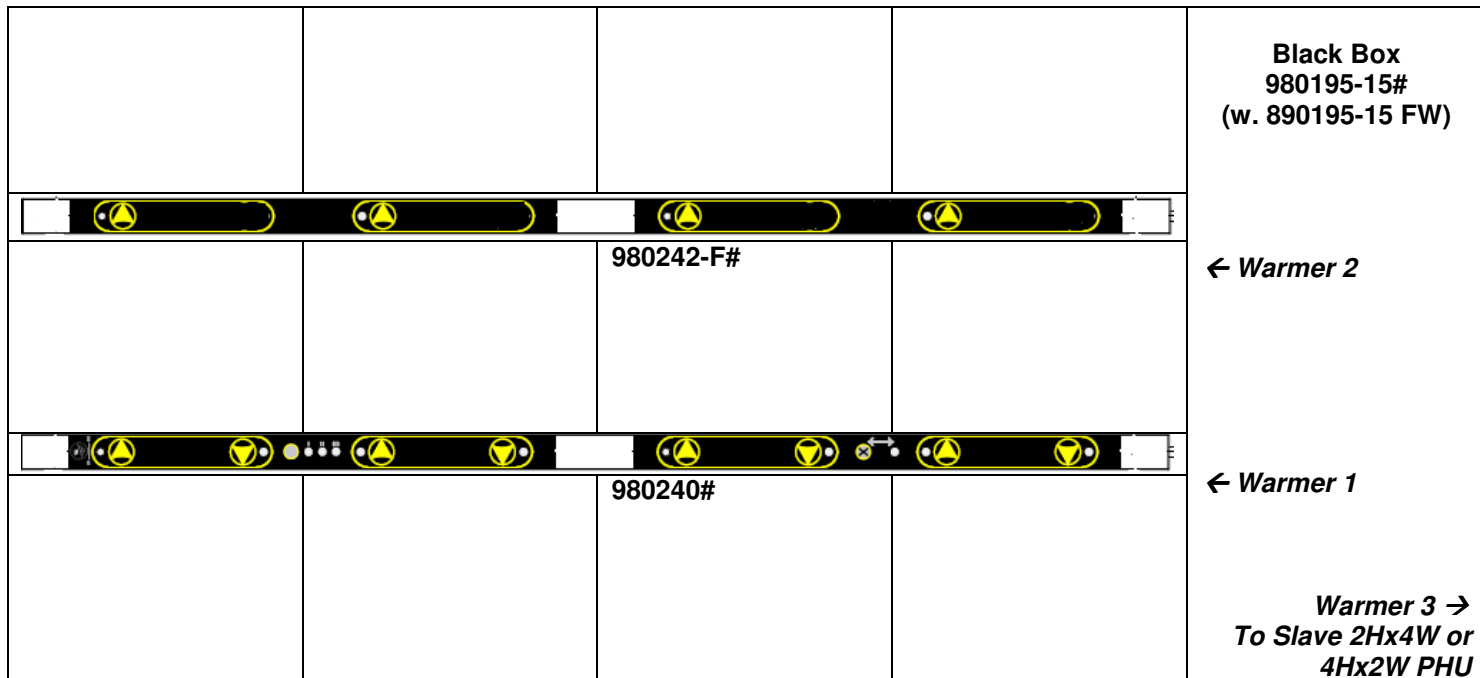
### FWM3-24 STANDOFF AND SS FACEPLATE ASSEMBLY: FRONT SHOWN - REAR OPPOSITE

(SB models will need #161172 NUT, LOCK 8-32 Nylon Cap installed on all exposed #8 studs)

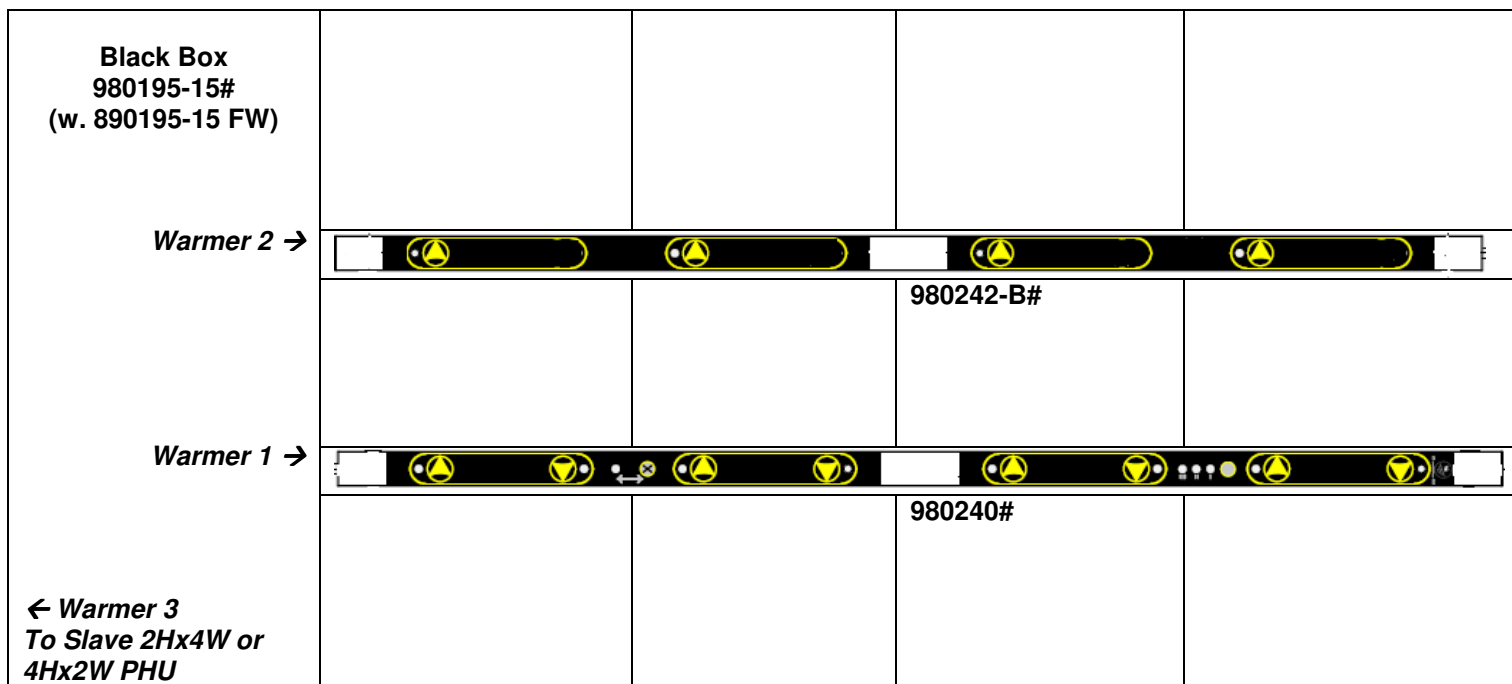


## Overview of RLGL 3Hx4W Timer Bars and Control

### Front view of 3Hx4W PHU with RLGL Timer Bars and Control

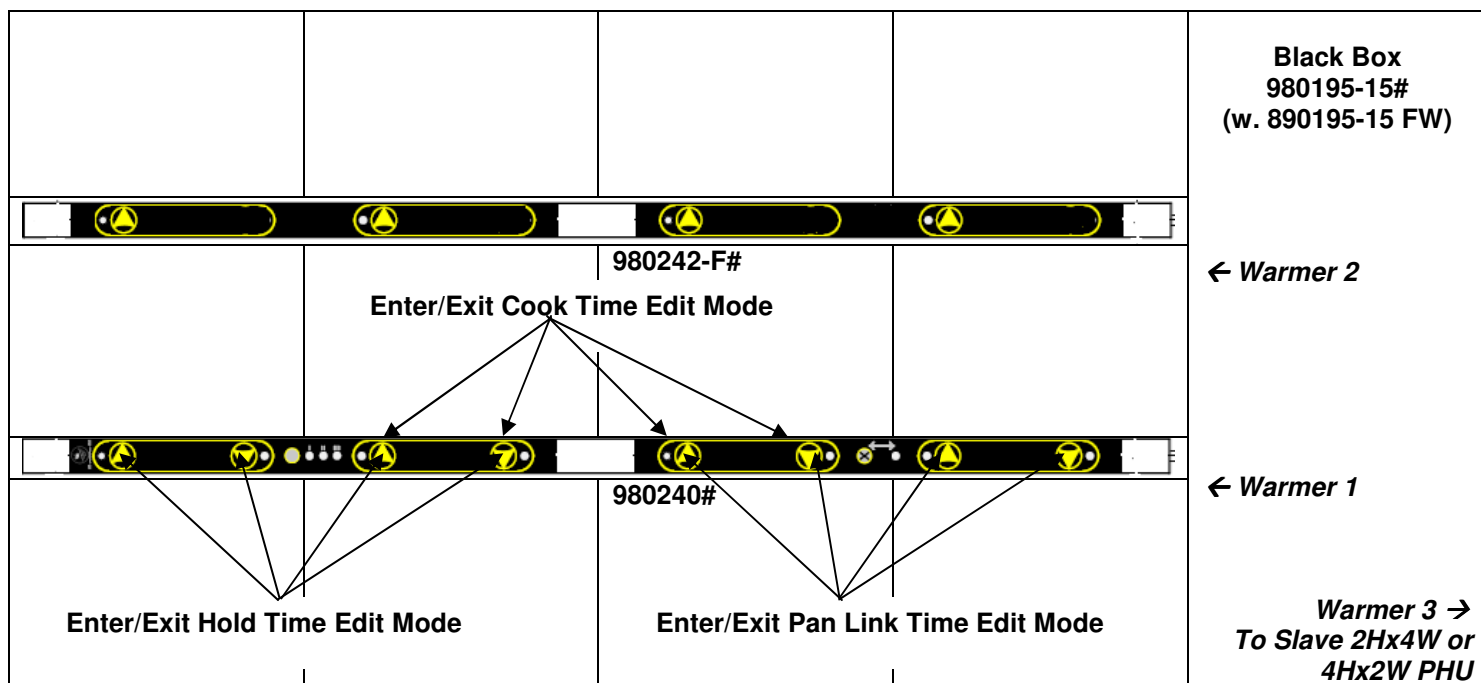


### Back view of 3Hx4W PHU with RLGL Timer Bars and Control



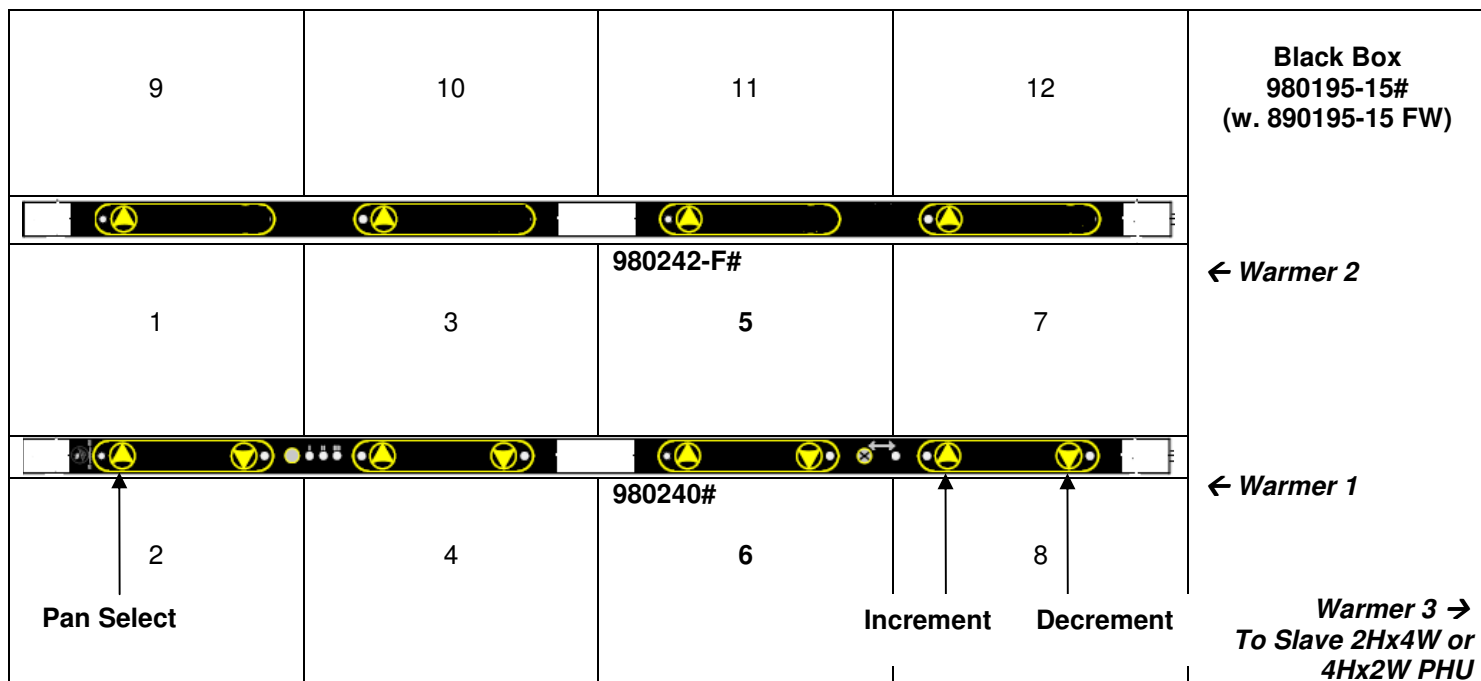


## Manual Programming a 3Hx4W PHU with RLGL Timer Bars (1 of 2) (Front view of 3Hx4W PHU)



*Numbers in pan wells indicate the order of pan selection in manual programming modes.*

## Manual Programming a 3Hx4W PHU with RLGL Timer Bars (2 of 2) (Front view of 3Hx4W PHU)



*Numbers in pan wells indicate the order of pan selection in manual programming modes.*



### Hold Time Programming

***Programming should be performed on the front side of the warmer.***

1. **Enter Hold Time** programming by pressing the 4 left bottom keys simultaneously.
2. The bottom left LED will turn RED, indicating that the programming function is activated.
3. The GREEN and YELLOW LED's represent the **Hold Time**. Add the values of each color to calculate the **Hold Time** of the RED LED currently lit.

Green = 5 minutes  
Yellow = 20 minutes  
Green Flashing = 30 minutes  
Yellow Flashing = 120 minutes

4. Increase **Hold Time** by pressing the bottom rightmost up arrow key.
5. Decrease **Hold Time** by pressing the bottom rightmost down arrow key.
6. **Hold Time** may be set in 5 minute increments from 5 to 120 minutes and 30 minute increments from 120 to 660 minutes (11 hours).
7. Press the bottom leftmost key to move the RED LED to the next pan to program.
8. **Save and exit Hold Time** programming by pressing the 4 left bottom keys simultaneously.

### Cook Time Programming

***Programming should be performed on the front side of the warmer.***

1. **Enter Cook Time** programming by pressing the 4 center bottom keys simultaneously.
2. The bottom leftmost LED will turn RED, indicating that the programming function is activated.
3. The GREEN and YELLOW LED's represent the **Cook Time**. Add the values of each color in the section to calculate the **Cook Time** of the RED LED currently lit.

Green = 5 minutes  
Yellow = 20 minutes  
Green Flashing = 30 minutes  
Yellow Flashing = 120 minutes

4. Increase **Cook Time** by pressing the bottom rightmost up arrow key.
5. Decrease **Cook Time** by pressing the bottom rightmost down arrow key.
6. **Cook Time** may be set in 1 minute increments from 1 to 10 minutes, 5 minute increments from 10 to 120 minutes and 30 minute increments from 120 to 660 minutes (11 hours).
7. Press the bottom leftmost key to move the RED LED to the next pan to program.
8. **Save and exit Cook Time** programming by pressing the 4 center bottom keys simultaneously.

Note: Do not program the **Cook Time** with a greater value than the **Hold Time**.





### **Pan Link Programming**

***Programming should be performed on the front side of the warmer.***

1. Enter ***Link Programming*** by simultaneously pressing the 4 right bottom keys.
2. The leftmost LED will turn RED, indicating that the programming function is activated.
3. All LEDs that are GREEN indicate the pans that are linked to the RED LED.
4. Un-Link by pressing the key next to the LED that is GREEN. To Link, press the key next to the LED that is off.
5. Press the bottom leftmost key to move the RED LED to the next pan to link.
6. To exit ***Link Programming***, press the 4 right bottom keys.



## Overview of Alphanumeric 2Hx4W Timer Bars and Control



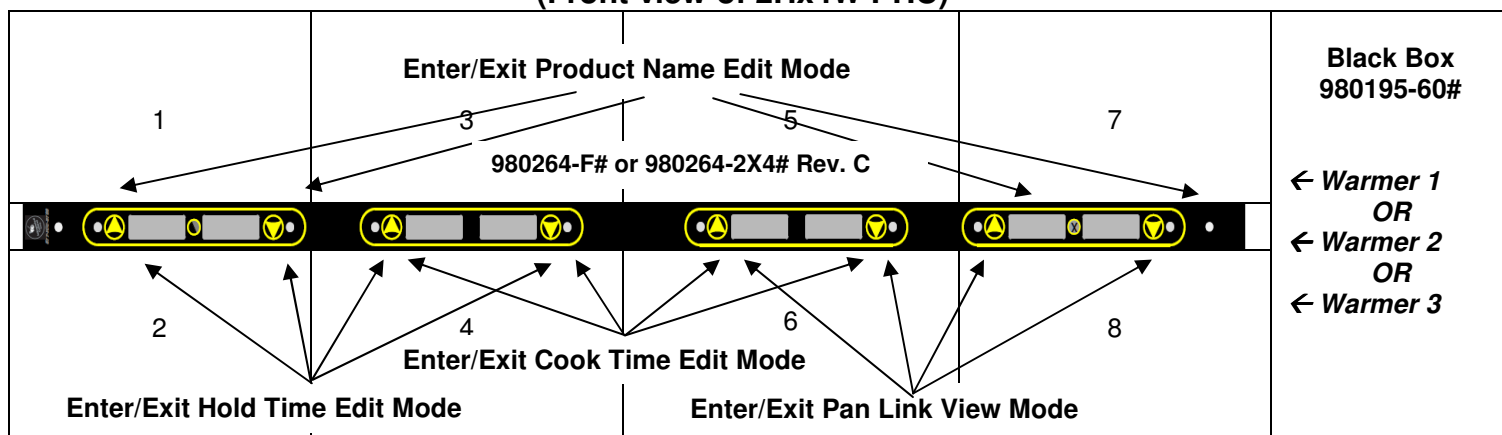
Front view of Main 2Hx4W PHU with Alphanumeric Timer Bars and Control

|                                                                                     |  |              |                                                    |
|-------------------------------------------------------------------------------------|--|--------------|----------------------------------------------------|
| 980264-2X4# Rev. C (new AN KB2) or 980264-F# (Legacy AN)                            |  |              | Black Box<br>980195-60#                            |
|  |  |              |                                                    |
| Daypart Key                                                                         |  | Transfer Key | ← Warmer 1<br>OR<br>← Warmer 2<br>OR<br>← Warmer 3 |
| Note: Daypart selection is made by pressing the Daypart key                         |  |              |                                                    |

Back view of Main 2Hx4W PHU with Alphanumeric Timer Bars and Control

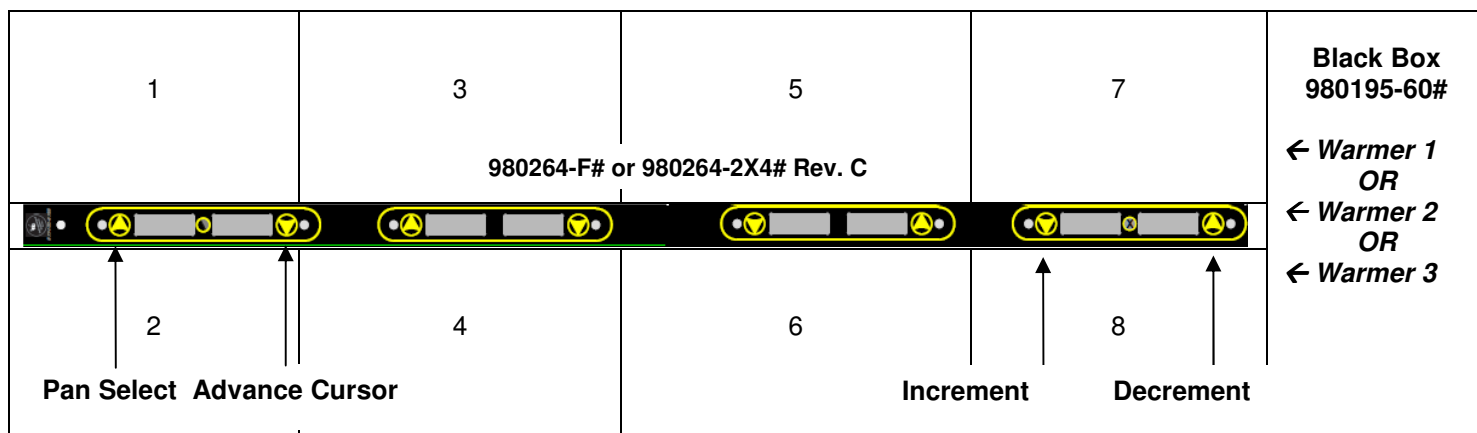
|                                                             |                                                                                      |  |             |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------|--|-------------|
| Black Box<br>980195-60#                                     | 980264-2X4# Rev. C (new AN KB2) or 980264-F# (Legacy AN)                             |  |             |
| Warmer 1 →<br>OR<br>Warmer 2 →<br>OR<br>Warmer 3 →          |  |  |             |
|                                                             | Transfer Key                                                                         |  | Daypart Key |
| Note: Daypart selection is made by pressing the Daypart key |                                                                                      |  |             |

## Manual Programming a 2Hx4W PHU with Alphanumeric Timer Bars (1 of 2) (Front view of 2Hx4W PHU)



***Numbers in pan wells indicate the order of pan selection in manual programming modes.***

## Manual Programming a 2Hx4W PHU with Alphanumeric Timer Bars (2 of 2) (Front view of 2Hx4W PHU)



***Numbers in pan wells indicate the order of pan selection in manual programming modes.***

**Warning – Do not unplug or plug Timer bars from the powered Black Boxes or Keyboard Power Supply Boxes. This may cause damage to the units!**

### Hold Time Programming for current Daypart

***Programming should be performed on the front side of the warmer.***

1. **Enter Hold Time** programming by pressing the **4 leftmost UP & DOWN** keys simultaneously.
2. The **left LED** will turn **FLASHING RED**, indicating that the programming function is activated, and the alphanumeric display for each pan will show its current **Hold Time** in minutes.
3. In addition to the times shown in the alphanumeric displays, the **GREEN, RED and YELLOW LED's** represent the **Hold Time**. Add the values of each color to calculate the **Hold Time** of the **RED LED** currently flashing.
  - Green = 5 minutes
  - Yellow = 20 minutes
  - Red = 60 minutes (excluding the **FLASHING RED** light that indicates the current pan)
  - Green Flashing = 30 minutes
  - Yellow Flashing = 120 minutes
4. **Increase Hold Time** by pressing the **rightmost UP** arrow key.
5. **Decrease Hold Time** by pressing the **rightmost DOWN** arrow key.
6. **Hold Time** may be set in 5 minute increments from 5 to 120 minutes and 30 minute increments from 120 to 660 minutes (11 hours).
7. Press the **leftmost UP** key to move the **FLASHING RED LED** to the next pan to program.
8. **Save and Exit Hold Time** programming by pressing the **4 leftmost UP & DOWN** keys simultaneously.

### Cook Time Programming for current Daypart

***Programming should be performed on the front side of the warmer.***

1. **Enter Cook Time** programming by pressing the **4 center UP & DOWN** keys simultaneously.
2. The **leftmost LED** will turn **FLASHING RED**, indicating that the programming function is activated, and the alphanumeric display for each pan will show its current **Cook Time** in minutes.
3. In addition to the times shown in the alphanumeric displays, the **GREEN, RED and YELLOW LED's** represent the **Cook Time**. Add the values of each color in the section to calculate the **Cook Time** of the **RED LED** currently flashing.
  - Green = 5 minutes
  - Yellow = 20 minutes
  - Red = 60 minutes (excluding the **FLASHING RED** light that indicates the current pan)
  - Green Flashing = 30 minutes
  - Yellow Flashing = 120 minutes
4. **Increase Cook Time** by pressing the **rightmost UP** arrow key.
5. **Decrease Cook Time** by pressing the **rightmost DOWN** arrow key.
6. **Cook Time** may be set in 1 minute increments from 1 to 10 minutes, 5 minute increments from 10 to 120 minutes and 30 minute increments from 120 to 660 minutes (11 hours).
7. Press the **leftmost UP** key to move the **FLASHING RED LED** to the next pan to program.
8. **Save and Exit Cook Time** programming by pressing the **4 center UP & DOWN** keys simultaneously.

**Note: Do not program the Cook Time with a value greater than the Hold Time.**

## Product Name Programming for current Daypart

**Programming should be performed on the front side of the warmer.**

1. **Enter Product Name** programming by pressing the **2 leftmost UP & DOWN** keys and the **2 rightmost UP & DOWN** keys simultaneously.
2. The **leftmost LED** will turn **RED**, indicating that the programming function is activated, and the **leftmost** display of the keyboard shows the current 4-character product name with its leftmost character blinking. This indicates you are programming PAN 1 and the blinking character indicates the current cursor position within the 4-character NAME.
3. To advance the cursor within the current name, press the 2<sup>nd</sup> button from the left (the leftmost **DOWN** key) on the keyboard.
4. To change the character at the current cursor position, press the **rightmost** button (Down Arrow) on the keyboard to change to the preceding character value and the 2<sup>nd</sup> button from the right (Up Arrow) to change to the next character value from the following list:

<space>! " # \$ % & ' ( ) \* + , - . / 0 1 2 3 4 5 6 7 8 9 ; : < = > ? @ A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ \ ] ^ \_ ` a b c d e f g h i j k l m n o p q r s t u v w x y z

5. Press the leftmost UP key to move the RED LED to the next pan to program.
6. **Save and Exit Product Name** programming by pressing the **2 leftmost UP & DOWN** keys and the **2 rightmost UP & DOWN** keys simultaneously. *It is recommended that you press and hold the leftmost pair of pan buttons first to avoid inadvertent character changes when pressing the rightmost pair.*

**Note:** You should check your PANS LINKED configuration after editing product NAMES to assure they are linked as desired.

## Pan Link Viewing for current Daypart

Pan linkage for alphanumeric timer bars and controls is determined exclusively from the 4-character product name. Pans are linked if and only if their product names are the same.

**Viewing should be performed on the front side of the warmer.**

1. Enter **Link Programming** by simultaneously pressing the **4 rightmost UP & DOWN** keys.
2. The **leftmost LED** will turn **RED**, indicating that the programming function is activated.
3. All **LEDs** that are **GREEN** indicate the pans that are linked to the **RED LED**.
4. Press the **leftmost UP** key to move the **RED LED** to the next pan to link.
5. To exit **Link Programming**, press the **4 rightmost UP & DOWN** keys.

## Stand-Alone and Kitchen Minder Modes

The Factory Default is Stand-Alone Mode.

Stand-Alone mode: The Black Box will not seek a signal from a Kitchen Minder

Once a Kitchen Minder is attached, the Black Box is automatically changed to Kitchen Minder Mode. If the Black Box loses communication with the Kitchen Minder (cable unplugged, Kitchen Minder is powered off) after 30 seconds, the Timer Bar displays "NoKM" on all the modules until communication is reestablished and at that time the programmed products are redisplayed. If power to the Black Box is reset and there is no communication to the Kitchen Minder, after 3-5 min "NoKM" will be displayed on all modules.

To temporarily override the "NoKM" error message, simply press the Daypart key once.

To permanently reset the Black Box to Stand-Alone mode, power off the Black Box, then simultaneously press the Daypart Key while powering up the Black Box.

## 2Hx4W PHU Manual Editing Considerations

Since the 2Hx4W AN Black Box supporting these PHU's usually will be connected to a Kitchen Minder, manual editing should be an infrequent occurrence.

When required, manual editing (a) should be performed for **one PHU at a time** and (b) should be performed **while standing in front of the warmer to be programmed**.

Generally, advancing pans on one PHU will also advance pans on the other PHU(s). The selected pan's LED will be RED.

Incrementing and decrementing pan time values and pan name letters will affect only the selected pan on the PHU whose increment or decrement button is pressed.

When editing product name, the cursor advance button will affect the select pan on each.

Although in practice "use first" LED indications are provided across PHUs, when viewing pan linkage (which is based on product names being identical), linkage is restricted to pans linked on each PHU separately – showing all pans on the PHU linked with that PHU's selected pan.

When editing product names, hold times, cook times or linked products through dayparts, the recommended way to differentiate between Dayparts is to recycle the power to the black box and wait for the system to boot up (since the black box defaults to Daypart 1). At this point the black box will be defaulted to Daypart 1. Press the Daypart button once to change to Daypart 2. Press the Daypart button once more to change to Daypart 3.

## PHU Configuration Support

The 2Hx4W AN KB2 Black Box SW is primarily intended to support the following configurations:

PHUs 1,2 and 3 (with timer bars connected in Warmer Port 1, 2 and 3)

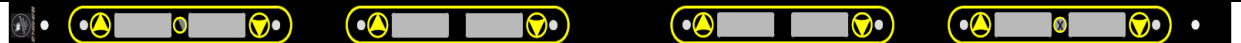
- 1) PHUs 1,2 and 3 can be legacy 2x4 AN, RLGL, 2X4 AN Rev.C, legacy 4X2 AN or 4X2 AN Rev.C
- 2) PHUs 1,2 and 3 can have a mix of any of the timer bars specified in the above line as the front and back timer bars

### Warnings:

- 1) **Do NOT plug in or move AN KB2 timer bars to different ports on a powered up KB PS box (980680#)** as this will damage the KB PS box resulting in input power being provided unregulated to any attached timer bars. If the KB PS box continues to be used once damaged it will damage any attached legacy AN KBs and will likely damage any attached AN KB2 timer bars.
- 2) Plugging in or moving AN KB2 timer bars on a 980195-60# will not damage the Black Box but will cause it to reset.

## Factory Default Product Names

### Main (PHU1) 2H x 4W PHU on Warmer Port 1 – Front View

|                                                                                   |      |                           |      |                         |
|-----------------------------------------------------------------------------------|------|---------------------------|------|-------------------------|
| W1P1                                                                              | W1P3 | W1P5                      | W1P7 | Black Box<br>980195-60# |
|  |      |                           |      | ← Warmer 1              |
| W1P2                                                                              | W1P4 | 980264-2X4# Rev C<br>W1P6 | W1P8 |                         |

980264-2X4# Rev C

### Slave (PHU2) 2H x 4W PHU on Warmer Port 2 – Front View

|                                                                                     |      |                           |      |                         |
|-------------------------------------------------------------------------------------|------|---------------------------|------|-------------------------|
| W2P1                                                                                | W2P3 | W2P5                      | W2P7 | Black Box<br>980195-60# |
|  |      |                           |      | ← Warmer 2              |
| W2P2                                                                                | W2P4 | 980264-2X4# Rev C<br>W2P6 | W2P8 |                         |

980264-2X4# Rev C

### Slave (PHU3) 2H x 4W PHU on Warmer Port 3 – Front View

|                                                                                     |      |                           |      |                         |
|-------------------------------------------------------------------------------------|------|---------------------------|------|-------------------------|
| W3P1                                                                                | W3P3 | W3P5                      | W3P7 | Black Box<br>980195-60# |
|  |      |                           |      | ← Warmer 3              |
| W3P2                                                                                | W3P4 | 980264-2X4# Rev C<br>W3P6 | W3P8 |                         |

980264-2X4# Rev C



## Alphanumerische 2Hx4B Timerleisten und Bedienelemente



Vorderansicht des 2Hx4B Warmhalteschranks  
mit alphanumerischen Timerleisten und Bedienelementen

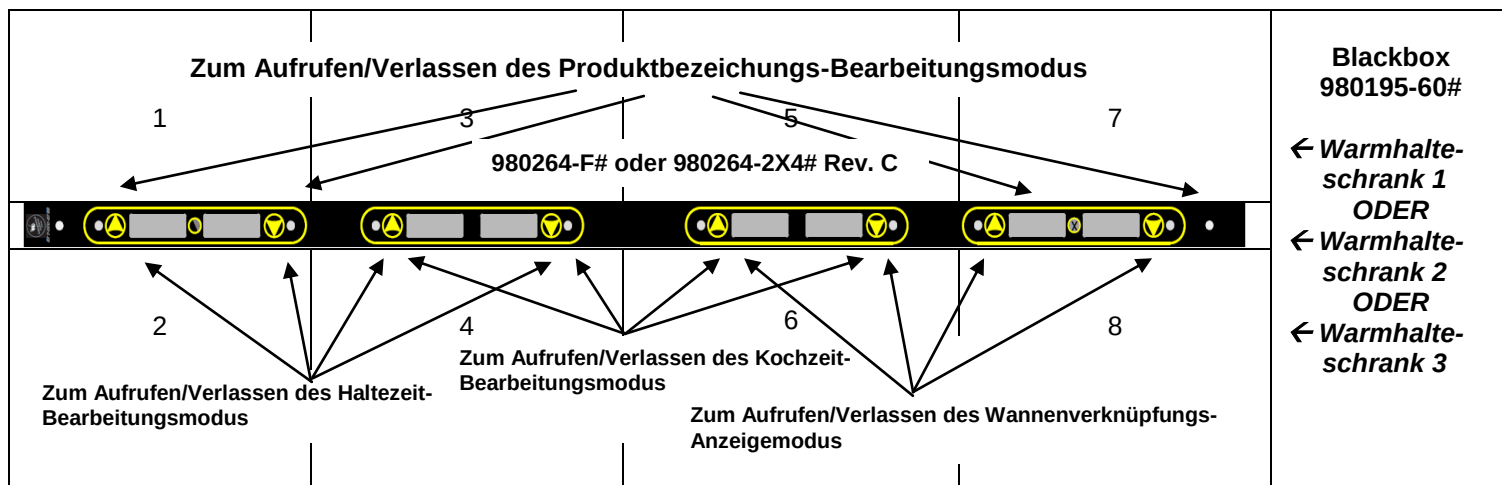
|                           |                                                                                        |  |  |                                                                                                     |
|---------------------------|----------------------------------------------------------------------------------------|--|--|-----------------------------------------------------------------------------------------------------|
|                           | 980264-2X4# Rev. C (neue AN KB2) oder 980264-F# (ältere AN)                            |  |  | Blackbox<br>980195-60#                                                                              |
|                           |                                                                                        |  |  | ← Warmhalte-<br>schrank 1<br>ODER<br>← Warmhalte-<br>schrank 2<br>ODER<br>← Warmhalte-<br>schrank 3 |
|                           |                                                                                        |  |  |                                                                                                     |
| Tagesabschnitts-<br>taste | Hinweis: Der Tagesabschnitt wird durch Drücken der<br>Tagesabschnittstaste ausgewählt. |  |  |                                                                                                     |

Rückansicht des 2Hx4B Warmhalteschranks  
mit alphanumerischen Timerleisten und Bedienelementen

|                                                                                                     |                                                             |                                                                                        |  |                           |
|-----------------------------------------------------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------------------------------------|--|---------------------------|
| Blackbox<br>980195-60#                                                                              | 980264-2X4# Rev. C (neue AN KB2) oder 980264-F# (ältere AN) |                                                                                        |  |                           |
| Warmhalte-<br>schrank 1 →<br>ODER<br>Warmhalte-<br>schrank 2 →<br>ODER<br>Warmhalte-<br>schrank 3 → |                                                             |                                                                                        |  |                           |
|                                                                                                     |                                                             |                                                                                        |  |                           |
|                                                                                                     | Transfertaste                                               | Hinweis: Der Tagesabschnitt wird durch Drücken der<br>Tagesabschnittstaste ausgewählt. |  | Tagesabschnitts-<br>taste |

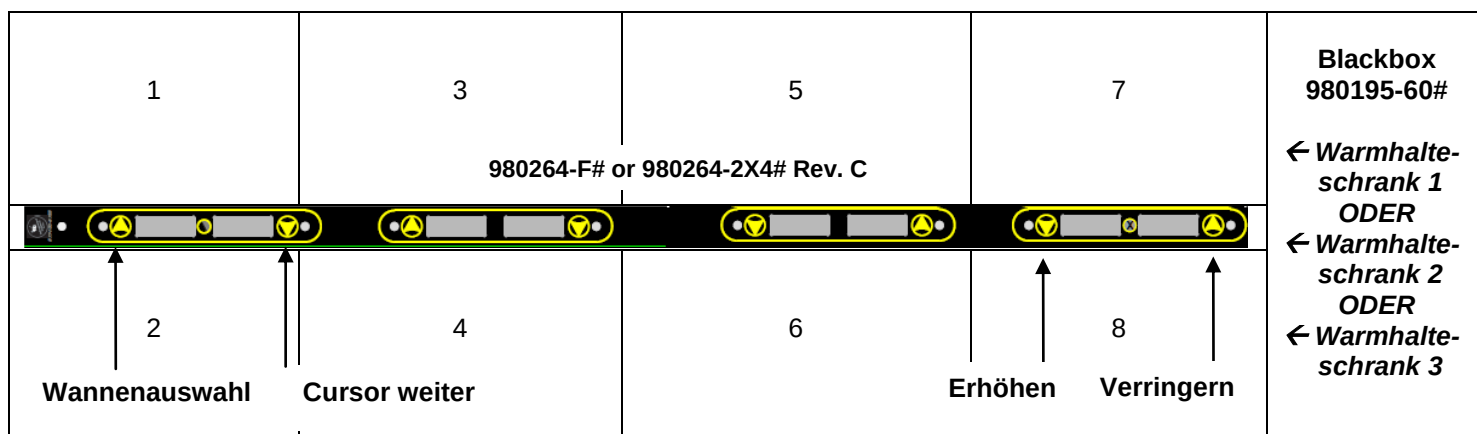


**Manuelle Programmierung eines 2Hx4B Warmhalteschranks  
mit alphanumerischen Timerleisten (1 von 2)  
(Vorderansicht des 2Hx4B Warmhalteschranks)**



**Die Ziffern der Wannenfelder geben die Auswahlreihelfolge der Wannen bei der manuellen Programmierung an.**

**Manuelle Programmierung eines 2Hx4B Warmhalteschranks  
mit alphanumerischen Timerleisten (1 von 2)  
(Vorderansicht des 2Hx4B Warmhalteschranks)**



**Die Ziffern der Wannenfelder geben die Auswahlreihelfolge der Wannen bei der manuellen Programmierung an.**

**Warnung – Timerleisten nicht von den stromführenden Blackboxes oder Tastenfeld-Stromversorgungsfeldern abklemmen, um Schäden zu vermeiden!**

## Programmierung der Haltezeit für den aktuellen Tagesabschnitt

**Die Programmierung ist an der Vorderseite des Warmhaltegeräts durchzuführen.**

1. Zum Programmieren der **Haltezeit** die **GANZ LINKEN 4 AUFWÄRTS- und ABWÄRTSTASTEN** gleichzeitig drücken.
2. Die **linke LED BLINKT ROT** um anzuzeigen, dass die Programmierfunktion aktiviert wurde, und das alphanumerische Display für jede Wanne zeigt die aktuelle **Haltezeit** in Minuten.
3. Neben den alphanumerischen Displays wird die **Haltezeit** außerdem durch die **GRÜNE, ROTE und GELBE LED** angezeigt. Die Werte jeder Farbe addieren, um die **Haltezeit** der aktuell blinkenden **ROTEN LED** zu berechnen.

Grün = 5 Minuten

Gelb = 20 Minuten

Rot = 60 Minuten (mit Ausnahme der **BLINKENDEN ROTEN LED**, die die aktuelle Wanne anzeigt)

Grün blinkend = 30 Minuten

Gelb blinkend = 120 Minuten

4. Zum Erhöhen der **Haltezeit** die **GANZ RECHTE AUFWÄRTSTASTE** drücken.
5. Zum Verringern der **Haltezeit** die **GANZ RECHTE ABWÄRTSTASTE** drücken.
6. Die **Haltezeit** kann in Schritten von 5 Minuten zwischen 5 und 120 Minuten und in Schritten von 30 Minuten zwischen 120 und 660 Minuten (11 Stunden) eingestellt werden.
7. Die **GANZ LINKE AUFWÄRTSTASTE** drücken, um die **BLINKENDE ROTE LED** zur nächsten zu programmierenden Wanne zu verschieben.
8. Zum **Speichern** und **Verlassen** der **Haltezeit**-Programmierung die **GANZ LINKEN 4 AUFWÄRTS- und ABWÄRTSTASTEN** gleichzeitig drücken.

## Programmierung der Kochzeit für den aktuellen Tagesabschnitt

**Die Programmierung ist an der Vorderseite des Warmhaltegeräts durchzuführen.**

1. Zum Programmieren der **Kochzeit** die **4 MITTLEREN AUFWÄRTS- und ABWÄRTSTASTEN** gleichzeitig drücken.
2. Die **GANZ LINKE LED BLINKT ROT** um anzuzeigen, dass die Programmierfunktion aktiviert wurde, und das alphanumerische Display für jede Wanne zeigt die aktuelle **Haltezeit** in Minuten.
3. Neben den alphanumerischen Displays wird die **Kochzeit** außerdem durch die **GRÜNE, ROTE und GELBE LED** angezeigt. Die Werte jeder Farbe addieren, um die **Kochzeit** der aktuell blinkenden **ROTEN LED** zu berechnen.

Grün = 5 Minuten

Gelb = 20 Minuten

Rot = 60 Minuten (mit Ausnahme der **BLINKENDEN ROTEN LED**, die die aktuelle Wanne anzeigt)

Grün blinkend = 30 Minuten

Gelb blinkend = 120 Minuten

4. Zum Erhöhen der **Kochzeit** die **GANZ RECHTE AUFWÄRTSTASTE** drücken.
5. Zum Verringern der **Kochzeit** die **GANZ RECHTE ABWÄRTSTASTE** drücken.
6. Die **Kochzeit** kann in Schritten von 1 Minute zwischen 1 und 10 Minuten, in Schritten von 5 Minuten zwischen 10 und 120 Minuten und in Schritten von 30 Minuten zwischen 120 und 660 Minuten (11 Stunden) eingestellt werden.
7. Die **GANZ LINKE AUFWÄRTSTASTE** drücken, um die **BLINKENDE ROTE LED** zur nächsten zu programmierenden Wanne zu verschieben.
8. Zum **Speichern** und **Verlassen** der **Kochzeit**-Programmierung die **4 MITTLEREN AUFWÄRTS- und ABWÄRTSTASTEN** gleichzeitig drücken.

**Hinweis:** Keinen Wert für die **Kochzeit** einstellen, der größer ist als die **Haltezeit**.

## Programmierung der Produktbezeichnung für den aktuellen Tagesabschnitt

**Die Programmierung ist an der Vorderseite des Warmhaltegeräts durchzuführen.**

1. Zum Programmieren der **Produktbezeichnung** die **2 GANZ LINKEN AUFWÄRTS- und ABWÄRTSTASTEN** und die **2 GANZ RECHTEN AUFWÄRTS- und ABWÄRTSTASTEN** gleichzeitig drücken.
2. Die **GANZ LINKE LED** erscheint **ROT** um anzuzeigen, dass die Programmierfunktion aktiviert wurde, und das **GANZ LINKE** Display des Tastenfelds zeigt die aktuelle 4-stellige Produktbezeichnung, wobei das linke Zeichen blinkt. Dadurch wird angezeigt, dass **WANNE 1** programmiert wird, und das blinkende Zeichen gibt die aktuelle Cursorposition innerhalb des 4-stelligen **NAMENS** an.
3. Zum Vorsetzen des Cursor die 2. Taste von links drücken (die ganz linke **ABWÄRTSTASTE**) auf dem Tastenfeld drücken.
4. Zum Ändern des Zeichens an der aktuellen Cursorposition die **GANZ RECHTE** Taste (Abwärtspfeil) auf dem Tastenfeld drücken, um das vorherige Zeichen aus der folgenden Liste einzustellen, bzw. die **2. TASTE VON RECHTS** (Aufwärtspfeil) drücken, um das vorherige Zeichen aus der folgenden Liste einzustellen:

<leer>! " # \$ % & ' ( ) \* + , - . / 0 1 2 3 4 5 6 7 8 9 : ; < = > ? @ A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ \ ] ^ \_ ` a b c d e f g h i j k l m n o p q r s t u v w x y z

5. Die **GANZ LINKE AUFWÄRTSTASTE** drücken, um die **ROTE LED** zur nächsten zu programmierenden Wanne zu verschieben.
6. Zum **Speichern** und **Verlassen** der **Produktbezeichnungs-Programmierung** die **2 GANZ LINKEN AUFWÄRTS- und ABWÄRTSTASTEN** und die **2 GANZ RECHTEN AUFWÄRTS- und ABWÄRTSTASTEN** gleichzeitig drücken. *Es wird empfohlen, das ganz linke Paar der Wannentasten zuerst zu drücken und gedrückt zu halten, um unbeabsichtigte Zeichenänderungen beim Drücken des ganz rechten Tastenpaares zu vermeiden.*

**Hinweis:** Nach dem Bearbeiten der Produktbezeichnungen die **WANNENVERKNÜPFUNGS-Konfiguration** überprüfen.

## Anzeige der Wannerverknüpfung für die aktuelle Tageszeit

Die Wannerverknüpfung für alphanumerische Timerleisten und Bedienelemente wird ausschließlich durch die 4-stellige Produktbezeichnung bestimmt. Es werden nur Wannen mit gleicher Produktbezeichnung verknüpft.

**Die Anzeige ist an der Vorderseite des Warmhaltegeräts durchzuführen.**

1. Zum Programmieren der **Wannerverknüpfung** die **4 GANZ RECHTEN AUFWÄRTS- und ABWÄRTSTASTEN** gleichzeitig drücken.
2. Die **GANZ LINKE LED** erscheint **ROT** um anzuzeigen, dass die Programmierfunktion aktiviert wurde.
3. Alle **LEDs**, die **GRÜN** erscheinen, sind Wannen, die mit der **ROTEN LED** verknüpft sind.
4. Die **GANZ LINKE AUFWÄRTSTASTE** drücken, um die **ROTE LED** zur nächsten zu verknüpfenden Wanne zu verschieben.
5. Zum **Verlassen** der **Wannerverknüpfungs-Programmierung** die **4 GANZ RECHTEN AUFWÄRTS- und ABWÄRTSTASTEN** gleichzeitig drücken.

## Eigenständiger und Kitchen Minder Modus

Die werkseitige Einstellung ist der eigenständige Modus.

Eigenständiger Modus: Die Blackbox sucht nicht nach einem Signal von einem Kitchen Minder.

Bei Anschluss eines Kitchen Minder wird die Black Box automatisch auf den Kitchen Minder Modus umgestellt. Bei einem Verlust der Kommunikation der Blackbox mit dem Kitchen Minder (Kabel getrennt, Kitchen Minder ausgeschaltet) zeigt die Timerleiste für alle Module nach 30 Sekunden „NoKM“ an, bis die Kommunikation wieder hergestellt wurde. Zu diesem Zeitpunkt werden die programmierten Produkte wieder angezeigt. Wenn die Kommunikation mit dem Kitchen Minder nach Wiederherstellung der Stromversorgung der Black Box nicht wieder hergestellt werden kann, erscheint nach 3 bis 5 Minuten „NoKM“ für alle Module.

Um die Fehlermeldung „NoKM“ vorübergehend außer Kraft zu setzen, einfach die Tagesabschnittstaste einmal drücken.

Um die Blackbox dauerhaft auf den eigenständigen Modus einzustellen, die Stromversorgung der Blackbox trennen und dann die Tagesabschnittstaste gedrückt halten, während die Stromversorgung der Blackbox wieder hergestellt wird.

### Manuelles Einstellen des 2Hx4B Warmhalteschranks

Da die 2Hx4B AN Blackbox für diese Warmhalteschränke gewöhnlich an einen Kitchen Minder angeschlossen wird, sollte die manuelle Einstellung nur selten erforderlich sein.

Die manuelle Einstellung (a) an **jeweils einem Warmhalteschrank auf einmal** durchführen und (b) **von der Vorderseite des zu programmierenden Warmhalteschranks aus** durchführen.

Wenn mit Wannen an einem Warmhalteschrank fortgefahren wird, werden gewöhnlich auch Wannen an dem/ den anderen Warmhalteschrank/-schränken vorgesetzt. Die LED der ausgewählten Wannen ist ROT.

Das Erhöhen und Verringern der Zeitwerte und Bezeichnungsbuchstaben von Wannen ist auf die ausgewählte Wanne an dem Warmhalteschrank beschränkt, an dem die Erhöhen- bzw. Verringern-Taste gedrückt wird.

Beim Bearbeiten einer Produktbezeichnung gilt die Cursor-weiter-Taste für die jeweils ausgewählte Wanne.

Obwohl in der Praxis „Zuerst verwenden“ LEDs an Warmhalteschränken aufleuchten, ist bei der Anzeige von Wannenverknüpfungen (die auf identischen Produktbezeichnungen basieren) die Verknüpfung auf Wannen beschränkt, die an jedem Warmhalteschrank separat verknüpft wurden – sie zeigen also alle Wannen im Warmhalteschrank, die mit der ausgewählten Wanne dieses Warmhalteschranks verknüpft sind.

Beim Bearbeiten von Produktbezeichnungen, Haltezeiten, Kochzeiten oder verknüpften Produkten über Tagesabschnitte umfasst die empfohlene Methode zur Unterscheidung zwischen unterschiedlichen Tagesabschnitten das Aus- und Einschalten der Blackbox-Stromversorgung und das erneute Hochfahren des Systems (die Blackbox verwendet standardmäßig Tagesabschnitt 1). Zum Ändern des Tagesabschnitts die Tagesabschnittstaste einmal drücken, um zu Tagesabschnitt 2 zu wechseln bzw. noch einmal drücken, um zu Tagesabschnitt 3 zu wechseln.

### Unterstützung bestimmter Schrankkonfigurationen

Die 2Hx4B AN KB2 Blackbox SW unterstützt im Wesentlichen die folgenden Konfigurationen:

Warmhalteschränke 1, 2 und 3 (mit Timerleisten, die über den Warmhalteschrank-Port 1, 2 und 3 angeschlossen sind)

- 1) WHS 1, 2 und 3 können ältere 2x4 AN, RLGL, 2X4 AN Rev.C, ältere 4X2 AN oder 4X2 AN Rev.C sein
- 2) WHS 1, 2 und 3 können an der Vorder- und Rückseite verschiedene der in der obigen Zeile aufgeführten Timerleisten enthalten

### Warnungen:

- 1) **AN KB2 Timerleisten an einer stromführenden KB PS Blackbox (980680#) NICHT in andere Ports einstecken oder umstecken**, da die KB PS Box dadurch beschädigt wird und die Eingangsspannung dann unregelmäßig an allen angeschlossenen Timerleisten anliegt. Wenn die KB PS Box nach einer Beschädigung weiterhin verwendet wird, werden alle angeschlossenen älteren AN KBs und wahrscheinlich auch alle angeschlossenen AN KB2 Timerleisten beschädigt.
- 2) Durch Einstecken oder Umstecken von AN KB2 Timerleisten in eine 980195-60# wird die Blackbox nicht beschädigt, dies führt jedoch zum Rücksetzen der Einheit.

## Werkseitige Produktbezeichnungen

### Hauptgerät (PHU1) 2Hx4B Warmhalteschrank an Warmhalteschrank-Port 1 – Vorderansicht

|                                                                                   |      |                           |      |                           |
|-----------------------------------------------------------------------------------|------|---------------------------|------|---------------------------|
| W1P1                                                                              | W1P3 | W1P5                      | W1P7 | Blackbox<br>980195-60#    |
|  |      |                           |      | ← Warmhalte-<br>schrank 1 |
| W1P2                                                                              | W1P4 | 980264-2X4# Rev C<br>W1P6 | W1P8 |                           |

### Nebengerät (PHU2) 2Hx4B Warmhalteschrank an Warmhalteschrank-Port 2 – Vorderansicht

|                                                                                     |      |                           |      |                           |
|-------------------------------------------------------------------------------------|------|---------------------------|------|---------------------------|
| W2P1                                                                                | W2P3 | W2P5                      | W2P7 | Blackbox<br>980195-60#    |
|  |      |                           |      | ← Warmhalte-<br>schrank 2 |
| W2P2                                                                                | W2P4 | 980264-2X4# Rev C<br>W2P6 | W2P8 |                           |

### Nebengerät (PHU3) 2Hx4B Warmhalteschrank an Warmhalteschrank-Port 3 – Vorderansicht

|                                                                                     |      |      |      |                           |
|-------------------------------------------------------------------------------------|------|------|------|---------------------------|
| W3P1                                                                                | W3P3 | W3P5 | W3P7 | Blackbox<br>980195-60#    |
|  |      |      |      | ← Warmhalte-<br>schrank 3 |
| W3P2                                                                                | W3P4 | W3P6 | W3P8 |                           |



## Generalidades de barras de tiempo y control alfanuméricos 2Hx4W



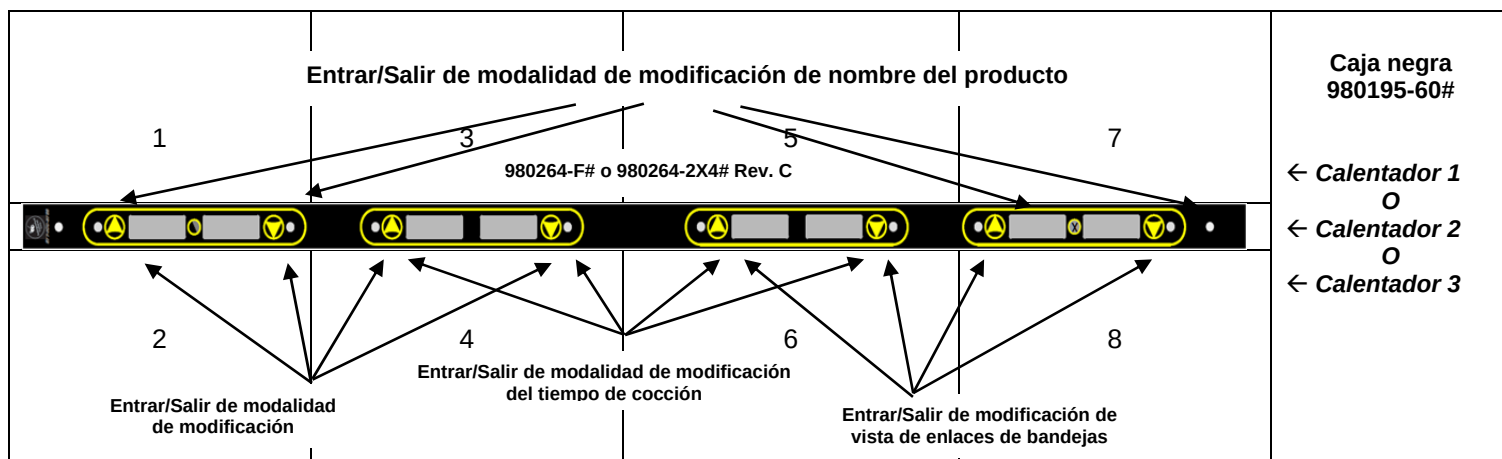
Vista delantera de la PHU principal 2Hx4W con barras de tiempo y control alfanuméricos

|                                                                                 |  |  |                        |                                                              |
|---------------------------------------------------------------------------------|--|--|------------------------|--------------------------------------------------------------|
| 980264-2X4# Rev. C (new AN KB2) or 980264-F# (Legacy AN)                        |  |  |                        | Caja negra<br>980195-60#                                     |
|                                                                                 |  |  |                        | ← Calentador 1<br>O<br>← Calentador 2<br>O<br>← Calentador 3 |
| Tecla Parte del día                                                             |  |  | Tecla de Transferencia |                                                              |
| Nota: La selección de la parte del día se hace pulsando la tecla Parte del día. |  |  |                        |                                                              |

Vista trasera de la PHU principal 2Hx4W con barras de tiempo y control alfanuméricos

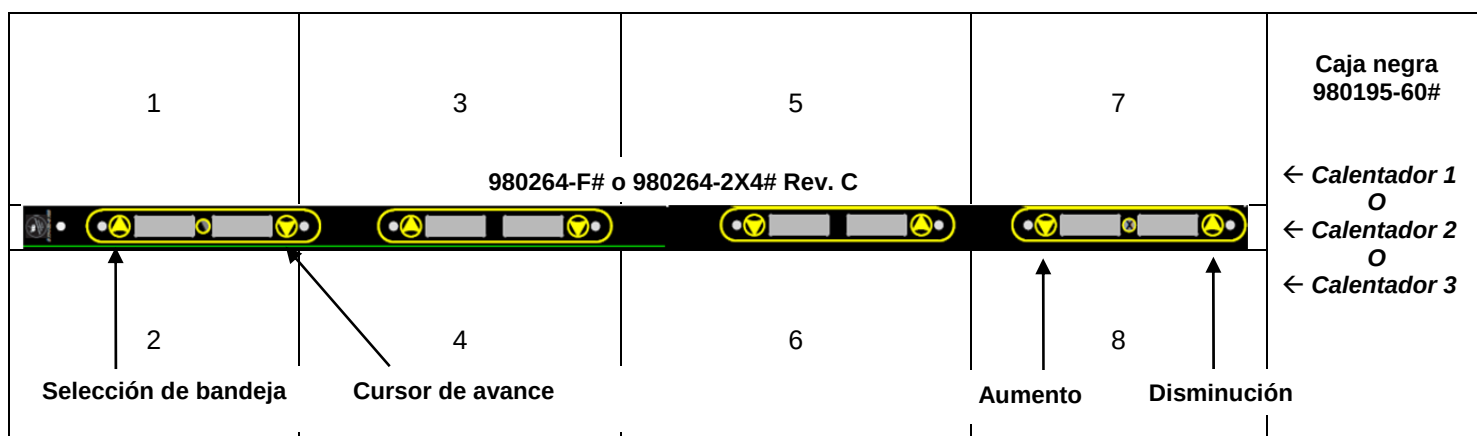
|                                                                                 |                                                                |  |  |                     |
|---------------------------------------------------------------------------------|----------------------------------------------------------------|--|--|---------------------|
| Caja negra<br>980195-60#                                                        | 980264-2X4# Rev. C (AN KB2 nuevas) o 980264-F# (AN anteriores) |  |  |                     |
| Calentador 1 →<br>O<br>Calentador 2 →<br>O<br>Calentador 3 →                    |                                                                |  |  |                     |
|                                                                                 | Tecla de Transferencia                                         |  |  | Tecla Parte del día |
| Nota: La selección de la parte del día se hace pulsando la tecla Parte del día. |                                                                |  |  |                     |

**Programación manual de una PHU 2Hx4W con barras de tiempo alfanuméricas (1 de 2)**  
**(Vista delantera de PHU 2Hx4W)**



**Los números en las cavidades de las bandejas indican el orden de selección de bandeja en las modalidades de programación manuales.**

**Programación manual de una PHU 2Hx4W con barras de tiempo alfanuméricas (2 de 2)**  
**(Vista delantera de PHU 2Hx4W)**



**Los números en las cavidades de las bandejas indican el orden de selección de bandeja en las modalidades de programación manuales.**

**Advertencia – No desenchufe ni enchufe las barras de tiempo de las cajas negras conectadas ni de las cajas de suministro de corriente del teclado.  
 ¡Esto puede dañar las unidades!**

## Programación del tiempo de retención para la parte del día actual

***La programación debe efectuarse en el lado delantero del calentador.***

1. Introduzca **programación de tiempo de retención** pulsando simultáneamente las 4 teclas **ARRIBA Y ABAJO** más a la izquierda.
2. El **LED SUPERIOR izquierdo** se pondrá a **DESTELLAR DE COLOR ROJO**, indicando que se ha activado la función de programación, y la pantalla alfanumérica de cada bandeja mostrará su **tiempo de retención** actual en minutos.
3. Además de los tiempos mostrados en las pantallas alfanuméricas, los **LED VERDE, ROJO y AMARILLO** representan el **tiempo de retención**. Sume los valores de cada color para calcular el **tiempo de retención** del **LED ROJO** que destella en la actualidad.  
  
Verde = 5 minutos  
Amarillo = 20 minutos  
Rojo = 60 minutos (excluida la luz **ROJA INTERMITENTE** que indica la bandeja actual)  
Verde intermitente = 30 minutos  
Amarillo intermitente = 120 minutos
4. **Aumente el tiempo de retención** pulsando la tecla de flecha **ARRIBA** más a la derecha.
5. **Disminuya el tiempo de retención** pulsando la tecla de flecha **ABAJO** más a la derecha.
6. El **tiempo de retención** puede fijarse en incrementos de 5 a 120 minutos y en incrementos de 30 minutos de 120 a 660 minutos (11 horas).
7. Pulse la tecla **ARRIBA SUPERIOR** más a la izquierda para mover el **LED ROJO INTERMITENTE** a la siguiente bandeja que se vaya a programar.
8. **Guarde y salga de la programación de tiempo de retención** pulsando simultáneamente las 4 teclas **TOP 4 ARRIBA y ABAJO** más a la izquierda.

## Programación del tiempo de cocción para la parte del día actual

***La programación debe efectuarse en el lado delantero del calentador.***

1. Introduzca **programación de tiempo de cocción** pulsando simultáneamente las 4 teclas **ARRIBA Y ABAJO** centrales.
  2. El **LED más a la izquierda** se pondrá a **DESTELLAR DE COLOR ROJO**, indicando que se ha activado la función de programación, y la pantalla alfanumérica de cada bandeja mostrará su **tiempo de cocción** actual en minutos.
  3. Además de los tiempos mostrados en las pantallas alfanuméricas, los **LED VERDE, ROJO y AMARILLO** representan el **tiempo de cocción**. Añada los valores de cada color en la sección para calcular el **tiempo de cocción** del **LED ROJO** que destella actualmente.  
  
Verde = 5 minutos  
Amarillo = 20 minutos  
Rojo = 60 minutos (excluida la luz **ROJA INTERMITENTE** que indica la bandeja actual)  
Verde intermitente = 30 minutos  
Amarillo intermitente = 120 minutos
  4. **Aumente el tiempo de cocción** pulsando la tecla de flecha **ARRIBA** más a la derecha.
  5. **Disminuya el tiempo de cocción** pulsando la tecla de flecha **ABAJO** más a la derecha.
  6. El **tiempo de cocción** puede fijarse en incrementos de 1 minuto de 1 a 10 minutos, incrementos de 5 minutos de 10 a 120 minutos e incrementos de 30 minutos de 120 a 660 minutos (11 horas).
  7. Pulse la tecla de flecha **ARRIBA** más a la izquierda para mover el **LED ROJO INTERMITENTE** para programar la siguiente bandeja.
  8. **Guarde y salga de la programación del tiempo de cocción** pulsando simultáneamente las 4 teclas **ARRIBA Y ABAJO** centrales.
- Nota: No programe el tiempo de cocción con un valor mayor que el tiempo de retención.**



## Programación del nombre del producto para la parte del día actual

**La programación debe efectuarse en el lado delantero del calentador.**

1. Introduzca **programación del nombre del producto** pulsando simultáneamente las 2 teclas **ARRIBA Y ABAJO más a la izquierda** y las 2 teclas **ARRIBA Y ABAJO más a la derecha**.
2. El **LED más a la izquierda** se volverá **ROJO**, indicando que se ha activado la función de programación, y la pantalla **más a la izquierda** del teclado muestra el nombre del producto actual de 4 caracteres con su carácter más a la izquierda destellando. Esto indica que está programando BANDEJA 1 y el carácter intermitente indica la posición actual del cursor dentro del NOMBRE de 4 caracteres.
3. Para hacer avanzar el cursor dentro del nombre actual, pulse el 2º botón de la izquierda (la primera tecla **ABAJO**) en el teclado.
4. Para cambiar el carácter en la posición actual del cursor, pulse el botón **más a la derecha** (flecha abajo) en el teclado para cambiar al valor del carácter precedente y el 2º botón de la derecha (flecha arriba) para cambiar al siguiente valor de carácter de la lista siguiente:

<space>! " # \$ % & ' ( ) \* + , - . / 0 1 2 3 4 5 6 7 8 9 : ; < = > ? @ A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ \ ] ^ \_ ` a b c d e f g h i j k l m n o p q r s t u v w x y z

5. Pulse la tecla **ARRIBA** para mover el LED **ROJO** a la siguiente bandeja que se vaya a programar.
6. **Guarde y salga de la programación del nombre del producto** pulsando simultáneamente las 2 teclas **ARRIBA Y ABAJO más a la izquierda** y las 2 teclas **ARRIBA Y ABAJO más a la derecha**. Se recomienda pulsar primero sin soltar el par más a la izquierda de botones de bandejas para evitar los cambios de caracteres inadvertidos al pulsar el par más a la derecha.

**Nota:** Debe comprobar su configuración de **BANDEJAS ENLAZADAS** después de modificar los **NOMBRES** de productos para asegurarse de que están enlazados según se desee.

## Vista del enlace de bandejas para la parte del día actual

El enlace de bandejas para barras de tiempo y controles alfanuméricos viene determinado exclusivamente por el nombre del producto de 4 caracteres. Las bandejas están enlazadas solamente si sus nombres de productos son los mismos.

**La vista debe hacerse en el lado delantero del calentador.**

1. Introduzca la **programación de enlaces** pulsando simultáneamente las 4 teclas **ARRIBA Y ABAJO más a la derecha**.
2. El **LED más a la izquierda** se volverá **ROJO**, indicando que se ha activado la función de programación.
3. Todos los **LED** que son **VERDES** indican las bandejas que están enlazadas con el **LED ROJO**.
4. Pulse la tecla **ARRIBA más a la izquierda** para mover el **LED ROJO** a la siguiente bandeja para enlazar.
5. Para salir de **programación de enlace**, pulse las 4 teclas **ARRIBA Y ABAJO más a la derecha**.

## Modalidades independientes y de recordatorio de la cocina

La opción predeterminada de fábrica es la modalidad independiente.

Modalidad independiente: La caja negra no buscará una señal de un recordatorio de cocina

Una vez conectado un recordatorio de cocina, la caja negra se cambia automáticamente a la modalidad de recordatorio de cocina. Si la caja negra pierde la comunicación con el recordatorio de cocina (cable desenchufado, el recordatorio de cocina se apaga) después de 30 segundos, la barra de tiempo muestra "NoKM" en todos los módulos hasta que se restablezca la comunicación y en ese momento se volverán a mostrar los productos programados. Si se restablece la corriente en la caja negra y no hay comunicación con el recordatorio de cocina, se mostrará "NoKM" en todos los módulos después de 3-5 minutos.

Para anular temporalmente el mensaje de error "NoKM", pulse simplemente una vez la tecla Parte del día.

Para reajustar permanentemente la caja negra en la modalidad independiente, apague la caja negra y después pulse simultáneamente la tecla Parte del día mientras se enciende la caja negra.

## Consideraciones de modificación manual de la PHU 2Hx4W

Como la caja negra 2Hx4W que apoya estas PHU estará conectada normalmente a un recordatorio de cocina, la modificación manual debe ser algo infrecuente.

Cuando sea necesario, la modificación manual (a) debe realizarse para **una PHU a la vez** y (b) debe realizarse **mientras se está de pie delante del calentador que se vaya a programar**.

Por lo general, el avance de las bandejas en una PHU también hará avanzar las bandejas en las otras PHU. El LED de la bandeja seleccionada será ROJO.

El aumento y la disminución de los valores de los tiempos de las bandejas y las letras de los nombres de las bandejas afectarán sólo la bandeja seleccionada en la PHU cuyo botón de aumento o disminución se pulse.

Al modificar el nombre del producto, el botón de avance del cursor afectará la bandeja seleccionada de cada uno una.

Aunque en la práctica las indicaciones del LED “usar primero” se proporcionan en las PHU, al ver el enlace de las bandejas (que se basa en que los nombres de los productos son idénticos), el enlace está limitado a bandejas enlazadas a cada PHU por separado – mostrando todas las bandejas en la PHU enlazadas con la bandeja seleccionada de esa PHU.

Al modificar nombres de productos, tiempos de retención, tiempos de cocción o productos enlazados en partes del día, la forma recomendada de diferenciar entre partes del día es reciclar la corriente a la caja negra y esperar a que el sistema se inicialice (ya que la caja negra pasa de forma predeterminada Parte del día 1). En este momento la caja negra pasará de forma predeterminada a Parte del día 1. Pulse una vez el botón de parte del día para cambiar a Parte del día 2. Pulse el botón de parte del día una vez más para cambiar a Parte del día 3.

## Soporte de configuración de la PHU

La caja negra SW 2Hx4W AN KB2 está diseñada principalmente para ser compatible con todas las configuraciones siguientes:

Las PHU 1, 2 y 3 (con barras de tiempo conectadas en los puertos 1, 2 y 3 de calentadores)

- 1) Las PHU 1, 2 y 3 pueden ser 2x4 AN anteriores, RLGL, 2X4 AN Rev.C, 4X2 AN anteriores o 4X2 AN Rev.C
- 2) Las PHU 1, 2 y 3 pueden tener una mezcla de cualquiera de las barras de tiempo especificadas en la línea de arriba como barras de tiempo delantera y trasera

### Advertencias:

- 1) **NO enchufe ni mueva las barras de tiempo AN KB2 a puertos diferentes en una caja KB PS (980680#) encendida** ya que esto dañará la caja KB PS teniendo como consecuencia una corriente de entrada proporcionada sin regular a cualquier de las barras de tiempo conectadas. Si la caja KB PS sigue usándose una vez dañada, también dañará las AN KB anteriores conectadas y probablemente dañará cualquier barra de tiempo conectada AN KB2.
- 2) Al enchufar o mover las barras de tiempo AN KB2 a un 980195-60# no se dañará la caja negra pero se reajustará.

## Nombres de productos predeterminados de fábrica

### PHU principal (PHU1) 4H x 2W en el puerto del calentador 1 – Vista delantera

|                                                                                   |      |                           |      |                          |
|-----------------------------------------------------------------------------------|------|---------------------------|------|--------------------------|
| W1P1                                                                              | W1P3 | W1P5                      | W1P7 | Caja negra<br>980195-60# |
|  |      |                           |      | ← Calentador 1           |
| W1P2                                                                              | W1P4 | 980264-2X4# Rev C<br>W1P6 | W1P8 |                          |

### PHU secundaria (PHU2) 2H x 4W en el puerto del calentador 2 – Vista delantera

|                                                                                     |      |                           |      |                          |
|-------------------------------------------------------------------------------------|------|---------------------------|------|--------------------------|
| W2P1                                                                                | W2P3 | W2P5                      | W2P7 | Caja negra<br>980195-60# |
|  |      |                           |      | ← Calentador 2           |
| W2P2                                                                                | W2P4 | 980264-2X4# Rev C<br>W2P6 | W2P8 |                          |

### PHU secundaria (PHU3) 2H x 4W en el puerto del calentador 3 – Vista delantera

|                                                                                     |      |      |      |                          |
|-------------------------------------------------------------------------------------|------|------|------|--------------------------|
| W3P1                                                                                | W3P3 | W3P5 | W3P7 | Caja negra<br>980195-60# |
|  |      |      |      | ← Calentador 3           |
| W3P2                                                                                | W3P4 | W3P6 | W3P8 |                          |



Descrizione generale del quadro di comando e delle barre di temporizzazione 2Hx4W alfanumeriche



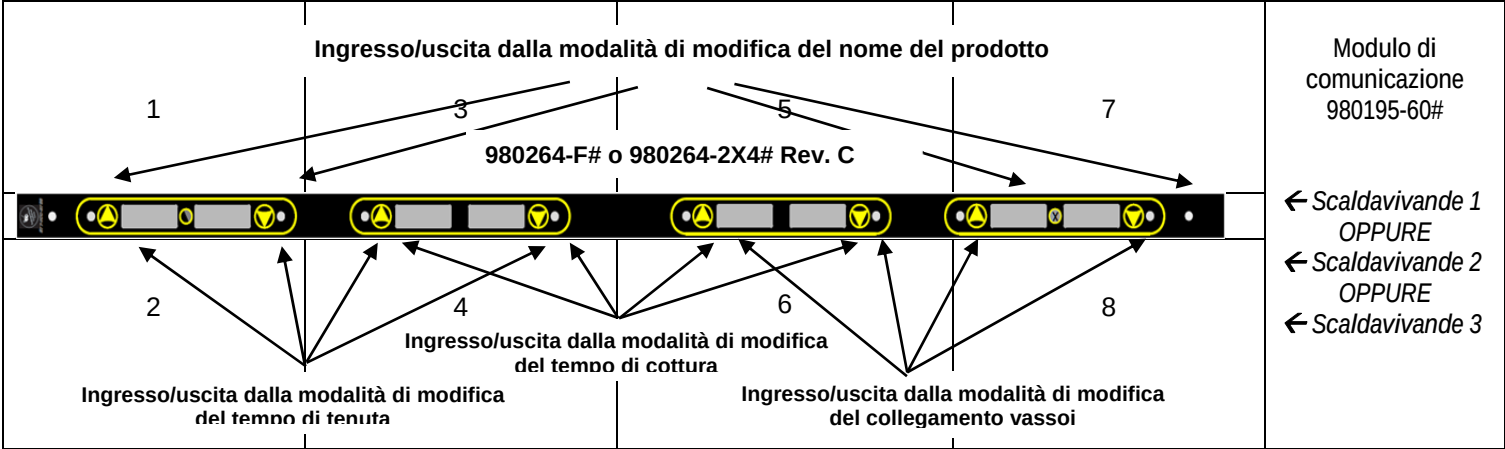
Vista anteriore dell'unità 2Hx4W principale con quadro di comando e barre di temporizzazione alfanumeriche

|                                                                                  |  |  |  |  |
|----------------------------------------------------------------------------------|--|--|--|--|
| Modulo di comunicazione<br>980264-2X4# Rev. C (nuova AN KB2) o 980264-F-4X2TF#   |  |  |  |  |
| ← Scaldavivande 1<br>OPPURE                                                      |  |  |  |  |
| ← Scaldavivande 3<br>Tasto Fase giornata                                         |  |  |  |  |
| Nota bene: la selezione della fase giornata si esegue premendo l'apposito tasto. |  |  |  |  |

Vista posteriore dell'unità 2Hx4W principale con quadro di comando e barre di temporizzazione alfanumeriche

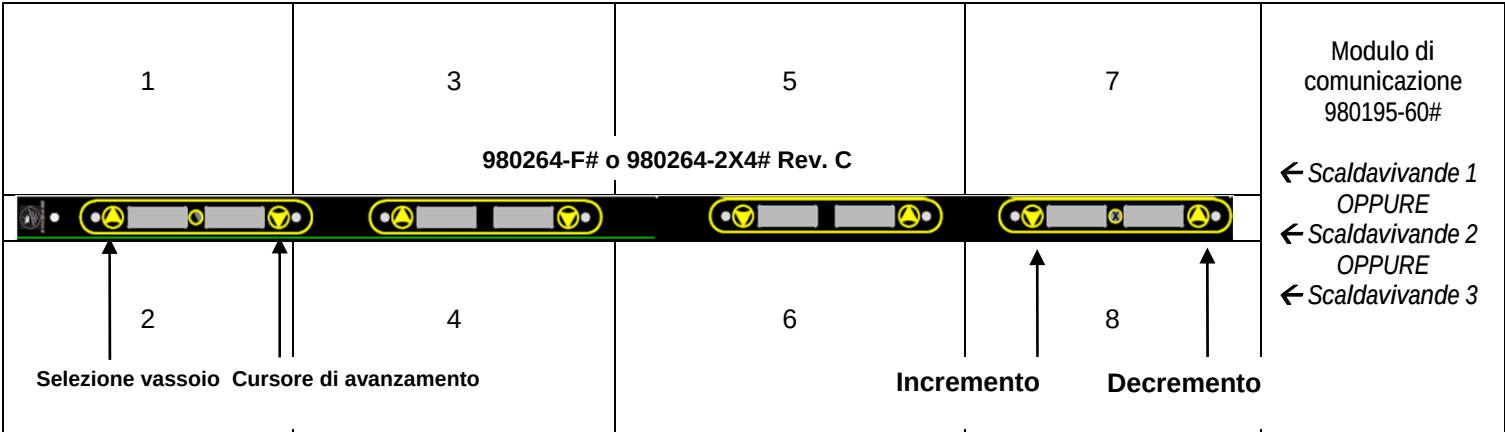
|                                                                                  |  |  |  |  |
|----------------------------------------------------------------------------------|--|--|--|--|
| Modulo di comunicazione<br>980264-2X4# Rev. C (nuova AN KB2) o 980264-F-4X2TF#   |  |  |  |  |
| Scaldavivande 1 →                                                                |  |  |  |  |
| Scaldavivande 2 →<br>OPPURE                                                      |  |  |  |  |
| Scaldavivande 3 →<br>Tasto Trasferimento<br>Tasto Fase giornata                  |  |  |  |  |
| Nota bene: la selezione della fase giornata si esegue premendo l'apposito tasto. |  |  |  |  |

Programmazione manuale di un'unità 2Hx4W con barre di temporizzazione alfanumeriche (1 di 2)  
(Vista anteriore dell'unità 2Hx4W)



*I numeri nei vani dei vassoi indicano l'ordine di selezione dei vassoi nelle modalità di programmazione manuale.*

Programmazione manuale di un'unità 2Hx4W con barre di temporizzazione alfanumeriche (2 di 2)  
(Vista anteriore dell'unità 2Hx4W)



*I numeri nei vani dei vassoi indicano l'ordine di selezione dei vassoi nelle modalità di programmazione manuale.*

**Attenzione – Non scollegare né collegare le barre di temporizzazione ai moduli di comunicazione accesi o ai moduli di alimentazione della tastiera; si potrebbero danneggiare le unità.**

## Programmazione del tempo di tenuta per l'attuale Fase giornata

**La programmazione deve essere eseguita dal lato anteriore dello scaldavivande**

1. Andare alla modalità di programmazione del tempo di tenuta premendo simultaneamente i **quattro tasti SU e GIÙ all'estrema sinistra**.
2. Il **LED sinistro lampeggia in rosso**, indicando che la funzione di programmazione è attivata, e il display alfanumerico per ciascun vassoio mostra l'attuale tempo di tenuta in minuti.
3. Oltre ai tempi mostrati sul display alfanumerico, i **LED verde, rosso e giallo** rappresentano il tempo di tenuta. Sommare i valori corrispondenti a ciascun colore per calcolare il tempo di tenuta indicato dal **LED rosso**.  
  
Verde = 5 minuti  
Giallo = 20 minuti  
Rosso = 60 minuti (escludendo il **LED rosso lampeggiante** che indica l'attuale vassoio).  
Verde lampeggiante = 30 minuti  
Giallo lampeggiante = 120 minuti
4. **Aumentare** il tempo di tenuta premendo il tasto freccia **SU all'estrema destra**.
5. **Diminuire** il tempo di tenuta premendo il tasto freccia **GIÙ all'estrema destra**.
6. Il tempo di tenuta può essere impostato con incrementi di 5 minuti da 5 a 120 minuti e con incrementi di 30 minuti da 120 a 660 minuti (11 ore).
7. Premere il tasto **SU all'estrema sinistra** per spostare il **LED rosso lampeggiante** al vassoio successivo da programmare.
8. Salvare le impostazioni e uscire dalla modalità di programmazione del tempo di tenuta premendo simultaneamente i **quattro tasti SU e GIÙ all'estrema sinistra**.

## Programmazione del tempo di cottura per l'attuale Fase giornata

**La programmazione deve essere eseguita dal lato anteriore dello scaldavivande**

1. Andare alla modalità di programmazione del tempo di cottura premendo simultaneamente i **quattro tasti SU e GIÙ al centro**.
2. Il **LED all'estrema sinistra lampeggia in rosso**, indicando che la funzione di programmazione è attivata, e il display alfanumerico per ciascun vassoio mostra l'attuale tempo di cottura in minuti.
3. Oltre ai tempi mostrati sul display alfanumerico, i **LED verde, rosso e giallo** rappresentano il tempo di cottura. Sommare i valori corrispondenti a ciascun colore per calcolare il tempo di cottura indicato dal **LED rosso**.  
  
Verde = 5 minuti  
Giallo = 20 minuti  
Rosso = 60 minuti (escludendo il **LED rosso lampeggiante** che indica l'attuale vassoio).  
Verde lampeggiante = 30 minuti  
Giallo lampeggiante = 120 minuti
4. **Aumentare** il tempo di cottura premendo il tasto freccia **SU all'estrema destra**.
5. **Diminuire** il tempo di cottura premendo il tasto freccia **GIÙ all'estrema destra**.
6. Il tempo di cottura può essere impostato con incrementi di 1 minuti da 1 a 10 minuti, con incrementi di 5 minuti da 10 a 120 minuti e con incrementi di 30 minuti da 120 a 660 minuti (11 ore).
7. Premere il tasto **SU all'estrema sinistra** per spostare il **LED rosso lampeggiante** al vassoio successivo da programmare.
8. Salvare le impostazioni e uscire dalla modalità di programmazione del tempo di cottura premendo simultaneamente i **quattro tasti SU e GIÙ al centro**.

**Nota bene:** non impostare, per il tempo di cottura, un valore superiore a quello del tempo di tenuta.

## Programmazione del nome del prodotto per l'attuale Fase giornata

### La programmazione deve essere eseguita dal lato anteriore dello scaldavivande

1. Andare alla modalità di programmazione del nome del prodotto premendo simultaneamente i due tasti **SU** e **GIÙ** all'estrema sinistra e **SU** e **GIÙ** all'estrema destra.
2. Il **LED superiore all'estrema sinistra** si accende in **rosso**, indicando che la funzione di programmazione è attivata, e il display **superiore all'estrema sinistra** sulla tastiera mostra l'attuale nome del prodotto di quattro caratteri, con il carattere all'estrema sinistra lampeggiante. Ciò indica che si sta programmando il VASSOIO 1 e il carattere lampeggiante indica l'attuale posizione del cursore nel nome di quattro caratteri.
3. Per fare avanzare il cursore nel nome, premere il **secondo pulsante da sinistra (il tasto GIÙ all'estrema sinistra)** sulla tastiera.
4. Per modificare il carattere all'attuale posizione del cursore, premere il pulsante **all'estrema destra** (freccia giù) sulla tastiera per modificare il carattere precedente e il **secondo pulsante** da destra (freccia su) per modificare il valore del carattere successivo dal seguente elenco:  
`<spazio>!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN O PQRSTU VWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz`
5. Premere il tasto **SU** all'estrema sinistra per spostare il LED rosso al vassoio successivo da programmare.
6. Salvare e uscire dalla modalità di programmazione del nome del prodotto premendo simultaneamente i **due tasti SU e GIÙ all'estrema sinistra e SU e GIÙ all'estrema destra**. *Si consiglia di premere e tenere premuta la coppia di pulsanti all'estrema sinistra prima per evitare modifiche fortuite dei caratteri mentre si preme la coppia all'estrema destra.*

**Nota bene:** verificare la configurazione dei vassoi collegati dopo aver modificato i nomi dei prodotti, per accertarsi che siano collegati come desiderato.

## Visualizzazione del collegamento dei vassoi per l'attuale Fase giornata

Il collegamento dei vassoi per i comandi e le barre di temporizzazione alfanumeriche dipende esclusivamente dal nome del prodotto di quattro caratteri. I vassoi sono collegati solo se i loro nomi del prodotto sono identici.

### La visualizzazione deve essere eseguita dal lato anteriore dello scaldavivande

1. Andare alla modalità di programmazione del collegamento premendo simultaneamente i **quattro tasti SU e GIÙ all'estrema destra**.
2. Il **LED all'estrema sinistra** si accende in **rosso**, indicando che la funzione di programmazione è attivata.
3. Tutti i **LED** accesi in **verde** indicano i vassoi collegati al **LED rosso**.
4. Premere il tasto **SU all'estrema sinistra** per spostare il **LED rosso** al vassoio successivo da programmare.
5. Per uscire dalla modalità di programmazione del collegamento, premere simultaneamente i **quattro tasti SU e GIÙ all'estrema destra**.

## Modalità Autonoma e Kitchen Minder

La modalità predefinita in fabbrica è quella Autonoma.

Modalità Autonoma: il modulo di comunicazione non cerca un segnale inviato da un Kitchen Minder.

Quando si collega un Kitchen Minder, il modulo di comunicazione passa automaticamente alla modalità Kitchen Minder. Se la comunicazione tra il modulo di comunicazione e il Kitchen Minder si interrompe (il cavo viene scollegato o il Kitchen Minder viene spento) dopo 30 secondi, la barra di temporizzazione visualizza "NoKM" su tutti i moduli finché la comunicazione non viene ristabilita, dopodiché i prodotti programmati vengono visualizzati di nuovo. Se l'alimentazione del modulo di comunicazione viene ripristinata e non c'è alcuna comunicazione con il Kitchen Minder, dopo 3-5 minuti si visualizza "NoKM" su tutti i moduli.

Per escludere temporaneamente il messaggio di errore "NoKM", premere una volta il tasto Fase giornata.

Per riportare in permanenza il modulo di comunicazione nella modalità Autonoma, spegnere il modulo, quindi riaccenderlo mentre si preme il tasto Fase giornata.

### Supporto della configurazione delle unità

Il software del modulo di comunicazione 2Hx4W AN KB2 è concepito principalmente per supportare tutte le configurazioni seguenti:

Unità 1, 2 e 3 (con barre di temporizzazione collegate alle porte 1, 2 e 3 dello scaldavivande)

- 1) Le unità 1, 2 e 3 possono essere unità vecchie 2x4 AN, RLGL, 2X4 AN Rev. C, vecchie 4X2 AN o 4X2 AN Rev. C
- 2) Le unità 1, 2 e 3 possono avere una combinazione di varie barre di temporizzazione specificate nella riga precedente come barre di temporizzazione anteriori e posteriori

### Attenzione

- 1) ***NON collegare né spostare barre di temporizzazione AN KB2 a porte diverse di un modulo KB PS (980680#)*** poiché lo si danneggerebbe, dato che la potenza d'ingresso non regolata sarebbe applicata a qualsiasi barra di temporizzazione collegata. Se il modulo KB PS continua a essere utilizzato dopo che è stato danneggiato, danneggerà eventuali moduli AN KB vecchi collegati e probabilmente anche eventuali barre di temporizzazione AN KB2 collegate.
- 2) Collegando o spostando barre di temporizzazione AN KB2 su un 980195-60# non si danneggia il modulo di comunicazione ma se ne causa il ripristino.



## Nomi dei prodotti predefiniti in fabbrica

### Unità 2H x 4W principale (PHU1) sulla porta dello scaldavivande 1 – Vista anteriore

|                                                                                   |      |                   |      |                                       |
|-----------------------------------------------------------------------------------|------|-------------------|------|---------------------------------------|
| W1P1                                                                              | W1P3 | W1P5              | W1P7 | Modulo di comunicazione<br>980195-60# |
|  |      |                   |      | ← Scaldavivande 1                     |
| W1P2                                                                              | W1P4 | 980264-2X4# Rev C | W1P8 |                                       |

### Unità 2H x 4W secondaria (PHU2) sulla porta dello scaldavivande 2 – Vista anteriore

|                                                                                     |      |                   |      |                                       |
|-------------------------------------------------------------------------------------|------|-------------------|------|---------------------------------------|
| W2P1                                                                                | W2P3 | W2P5              | W2P7 | Modulo di comunicazione<br>980195-60# |
|  |      |                   |      | ← Scaldavivande 2                     |
| W2P2                                                                                | W2P4 | 980264-2X4# Rev C | W2P8 |                                       |

### Unità 2H x 4W secondaria (PHU3) sulla porta dello scaldavivande 3 – Vista anteriore

|                                                                                     |      |                   |      |                                       |
|-------------------------------------------------------------------------------------|------|-------------------|------|---------------------------------------|
| W3P1                                                                                | W3P3 | W3P5              | W3P7 | Modulo di comunicazione<br>980195-60# |
|  |      |                   |      | ← Scaldavivande 3                     |
| W3P2                                                                                | W3P4 | 980264-2X4# Rev C | W3P8 |                                       |



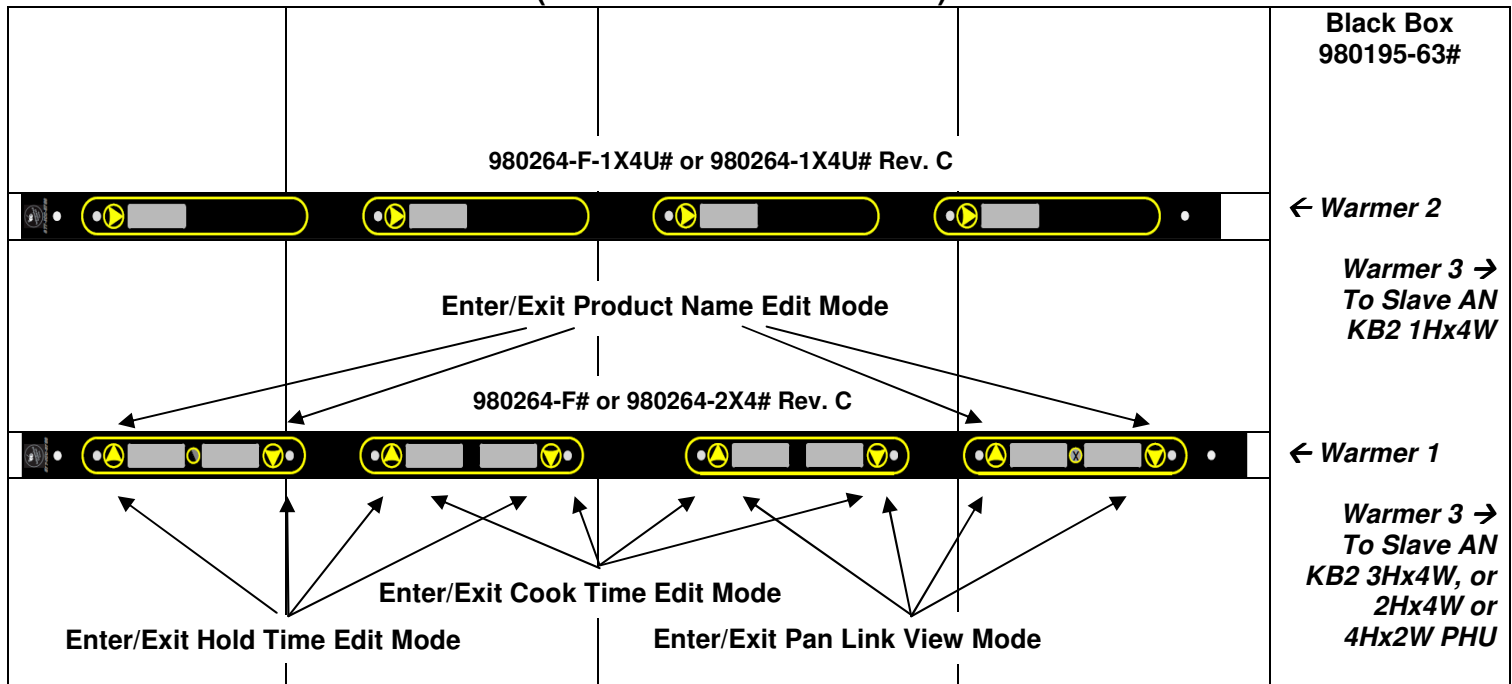
## Overview of Alphanumeric 3Hx4W Timer Bars and Control Front view of Main 3Hx4W PHU with Alphanumeric Timer Bars and Control

|                                                                                      |  |  |  |                                                                     |
|--------------------------------------------------------------------------------------|--|--|--|---------------------------------------------------------------------|
|                                                                                      |  |  |  | Black Box<br>980195-63#                                             |
| 980264-1X4U# Rev. C (new AN KB2) or 980264-F-1X4U# (Legacy AN)                       |  |  |  |                                                                     |
|     |  |  |  | ← Warmer 2                                                          |
| 980264-2X4# Rev. C (new AN KB2) or 980264-F# (Legacy AN)                             |  |  |  | Warmer 3 →<br>To Slave AN<br>KB2 1Hx4W                              |
|     |  |  |  | ← Warmer 1                                                          |
|    |  |  |  | Warmer 3 →<br>To Slave AN<br>KB2 3Hx4W, or<br>2Hx4W or<br>4Hx2W PHU |
| Daypart Key                                                                          |  |  |  |                                                                     |
|  |  |  |  |                                                                     |
| Transfer Key                                                                         |  |  |  |                                                                     |
| Note: Daypart selection is made by pressing the Daypart key                          |  |  |  |                                                                     |

## Back view of Main 3Hx4W PHU with Alphanumeric Timer Bars and Control

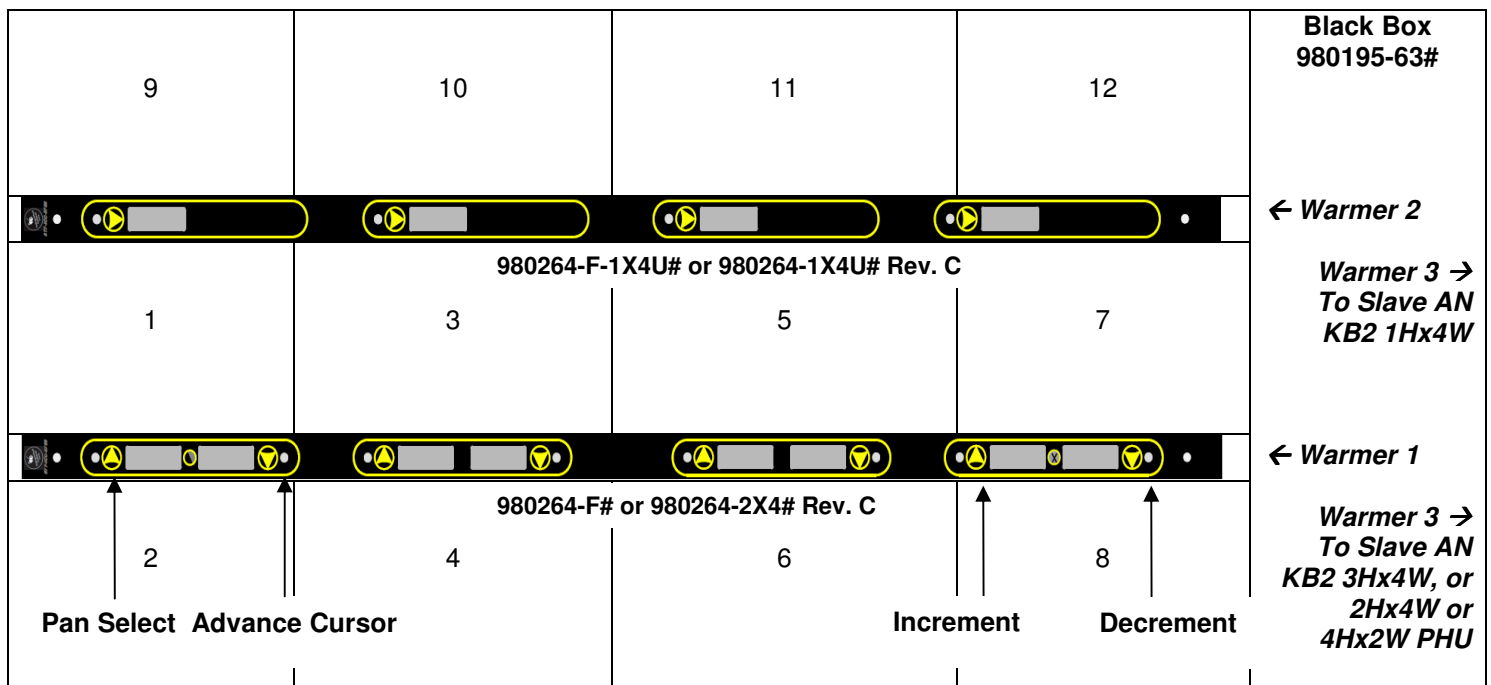
|                                                                  |                                                                |                                                             |  |             |
|------------------------------------------------------------------|----------------------------------------------------------------|-------------------------------------------------------------|--|-------------|
| Black Box<br>980195-63#                                          | 980264-1X4U# Rev. C (new AN KB2) or 980264-F-1X4U# (Legacy AN) |                                                             |  |             |
| Warmer 2 →                                                       |                                                                |                                                             |  |             |
| ← Warmer 3<br>To Slave AN KB2<br>3Hx4W                           | 980264-2X4# Rev. C (new AN KB2) or 980264-F# (Legacy AN)       |                                                             |  |             |
| Warmer 1 →                                                       |                                                                |                                                             |  |             |
| ← Warmer 3<br>To Slave AN KB2<br>3Hx4W, or 2Hx4W<br>or 4Hx2W PHU | Transfer Key                                                   | Note: Daypart selection is made by pressing the Daypart key |  | Daypart Key |

## Manual Programming a 3Hx4W PHU with Alphanumeric Timer Bars (1 of 2) (Front view of 3Hx4W PHU)



**Numbers in pan wells indicate the order of pan selection in manual programming modes.**

## Manual Programming a 3Hx4W PHU with Alphanumeric Timer Bars (2 of 2) (Front view of 3Hx4W PHU)



**Numbers in pan wells indicate the order of pan selection in manual programming modes.**

Warning – Do not unplug or plug Timer bars from the Black Boxes or Power Supply Boxes. This will cause damage to the units!

### Hold Time Programming for current Daypart

***Programming should be performed on the front side of the warmer.***

1. **Enter Hold Time** programming by pressing the **4 leftmost UP & DOWN** keys simultaneously.
2. The **left LED** will turn **FLASHING RED**, indicating that the programming function is activated, and the alphanumeric display for each pan will show its current **Hold Time** in minutes.
3. In addition to the times shown in the alphanumeric displays, the **GREEN, RED and YELLOW LED's** represent the **Hold Time**. Add the values of each color to calculate the **Hold Time** of the **RED LED** currently flashing.
  - Green = 5 minutes
  - Yellow = 20 minutes
  - Red = 60 minutes (excluding the **FLASHING RED** light that indicates the current pan)
  - Green Flashing = 30 minutes
  - Yellow Flashing = 120 minutes
4. **Increase Hold Time** by pressing the **rightmost UP** arrow key.
5. **Decrease Hold Time** by pressing the **rightmost DOWN** arrow key.
6. **Hold Time** may be set in 5 minute increments from 5 to 120 minutes and 30 minute increments from 120 to 660 minutes (11 hours).
7. Press the **leftmost UP** key to move the **FLASHING RED LED** to the next pan to program.
8. **Save and Exit Hold Time** programming by pressing the **4 leftmost UP & DOWN** keys simultaneously.

### Cook Time Programming for current Daypart

***Programming should be performed on the front side of the warmer.***

1. **Enter Cook Time** programming by pressing the **4 center UP & DOWN** keys simultaneously.
2. The **leftmost LED** will turn **FLASHING RED**, indicating that the programming function is activated, and the alphanumeric display for each pan will show its current **Cook Time** in minutes.
3. In addition to the times shown in the alphanumeric displays, the **GREEN, RED and YELLOW LED's** represent the **Cook Time**. Add the values of each color in the section to calculate the **Cook Time** of the **RED LED** currently flashing.
  - Green = 5 minutes
  - Yellow = 20 minutes
  - Red = 60 minutes (excluding the **FLASHING RED** light that indicates the current pan)
  - Green Flashing = 30 minutes
  - Yellow Flashing = 120 minutes
4. **Increase Cook Time** by pressing the **rightmost UP** arrow key.
5. **Decrease Cook Time** by pressing the **rightmost DOWN** arrow key.
6. **Cook Time** may be set in 1 minute increments from 1 to 10 minutes, 5 minute increments from 10 to 120 minutes and 30 minute increments from 120 to 660 minutes (11 hours).
7. Press the **leftmost UP** key to move the **FLASHING RED LED** to the next pan to program.
8. **Save and Exit Cook Time** programming by pressing the **4 center UP & DOWN** keys simultaneously.

**Note: Do not program the Cook Time with a value greater than the Hold Time.**

## Product Name Programming for current Daypart

**Programming should be performed on the front side of the warmer.**

1. **Enter Product Name** programming by pressing the **2 leftmost UP & DOWN** keys and the **2 rightmost UP & DOWN** keys simultaneously.
2. The **leftmost LED** will turn **RED**, indicating that the programming function is activated, and the **leftmost** display of the keyboard shows the current 4-character product name with its leftmost character blinking. This indicates you are programming PAN 1 and the blinking character indicates the current cursor position within the 4-character NAME.
3. To advance the cursor within the current name, press the 2<sup>nd</sup> button from the left (the leftmost **DOWN** key) on the keyboard.
4. To change the character at the current cursor position, press the **rightmost** button (Down Arrow) on the keyboard to change to the preceding character value and the 2<sup>nd</sup> button from the right (Up Arrow) to change to the next character value from the following list:

<space>! " # \$ % & ' ( ) \* + , - . / 0 1 2 3 4 5 6 7 8 9 : ; < = > ? @ A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ \ ] ^ \_ ` a b c d e f g h i j k l m n o p q r s t u v w x y z

5. Press the leftmost UP key to move the RED LED to the next pan to program.
6. **Save and Exit Product Name** programming by pressing the **2 leftmost UP & DOWN** keys and the **2 rightmost UP & DOWN** keys simultaneously. *It is recommended that you press and hold the leftmost pair of pan buttons first to avoid inadvertent character changes when pressing the rightmost pair.*

**Note:** You should check your PANS LINKED configuration after editing product NAMES to assure they are linked as desired.

## Pan Link Viewing for current Daypart

Pan linkage for alphanumeric timer bars and controls is determined exclusively from the 4-character product name. Pans are linked if and only if their product names are the same.

**Viewing should be performed on the front side of the warmer.**

1. Enter **Link Programming** by simultaneously pressing the **4 rightmost UP & DOWN** keys.
2. The **leftmost LED** will turn **RED**, indicating that the programming function is activated.
3. All **LEDs** that are **GREEN** indicate the pans that are linked to the **RED LED**.
4. Press the **leftmost UP** key to move the **RED LED** to the next pan to link.
5. To exit **Link Programming**, press the **4 rightmost UP & DOWN** keys.

## Stand-Alone and Kitchen Minder Modes

The Factory Default is Stand-Alone Mode.

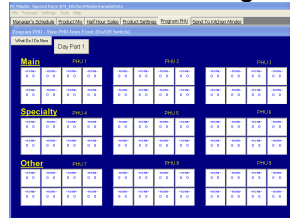
Stand-Alone mode: The Black Box will not seek a signal from a Kitchen Minder

Once a Kitchen Minder is attached, the Black Box is automatically changed to Kitchen Minder Mode. If the Black Box loses communication with the Kitchen Minder (cable unplugged, Kitchen Minder is powered off) after 30 seconds, the Timer Bar displays "NoKM" on all the modules until communication is reestablished and at that time the programmed products are redisplayed. If power to the Black Box is reset and there is no communication to the Kitchen Minder, after 3-5 min "NoKM" will be displayed on all modules.

To temporarily override the "NoKM" error message, simply press the Daypart key once.

To permanently reset the Black Box to Stand-Alone mode, power off the Black Box, then simultaneously press the Daypart Key while powering up the Black Box.

## Kitchen Minder Mode Programming



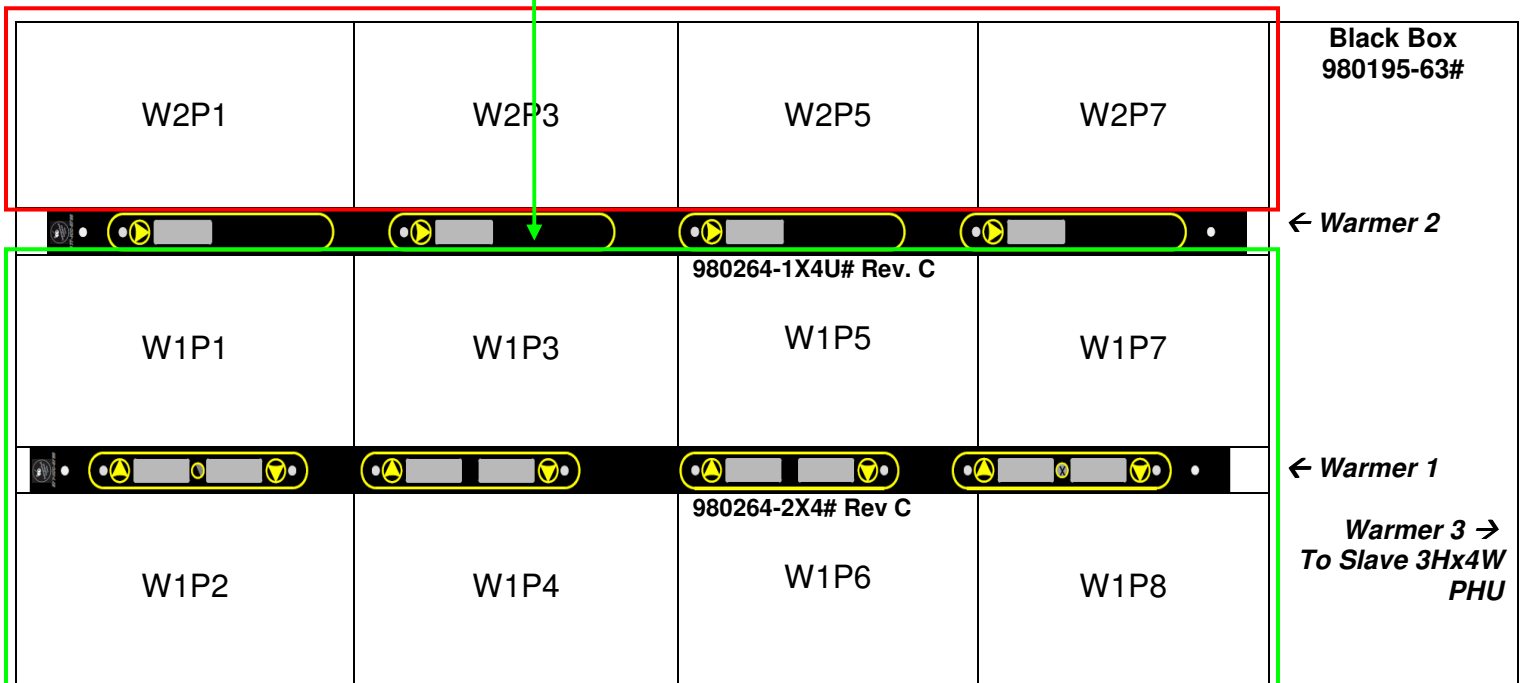
Program PHU

When in Kitchen Minder Mode, the user loses any manual programming abilities.

Ideally, programming the Black Box when in Kitchen Minder Mode is done through PC Minder, though it can be done via the Kitchen Minder console. To program the Pans properly, it is important to understand how the Black Box interprets a 3x4 configuration.

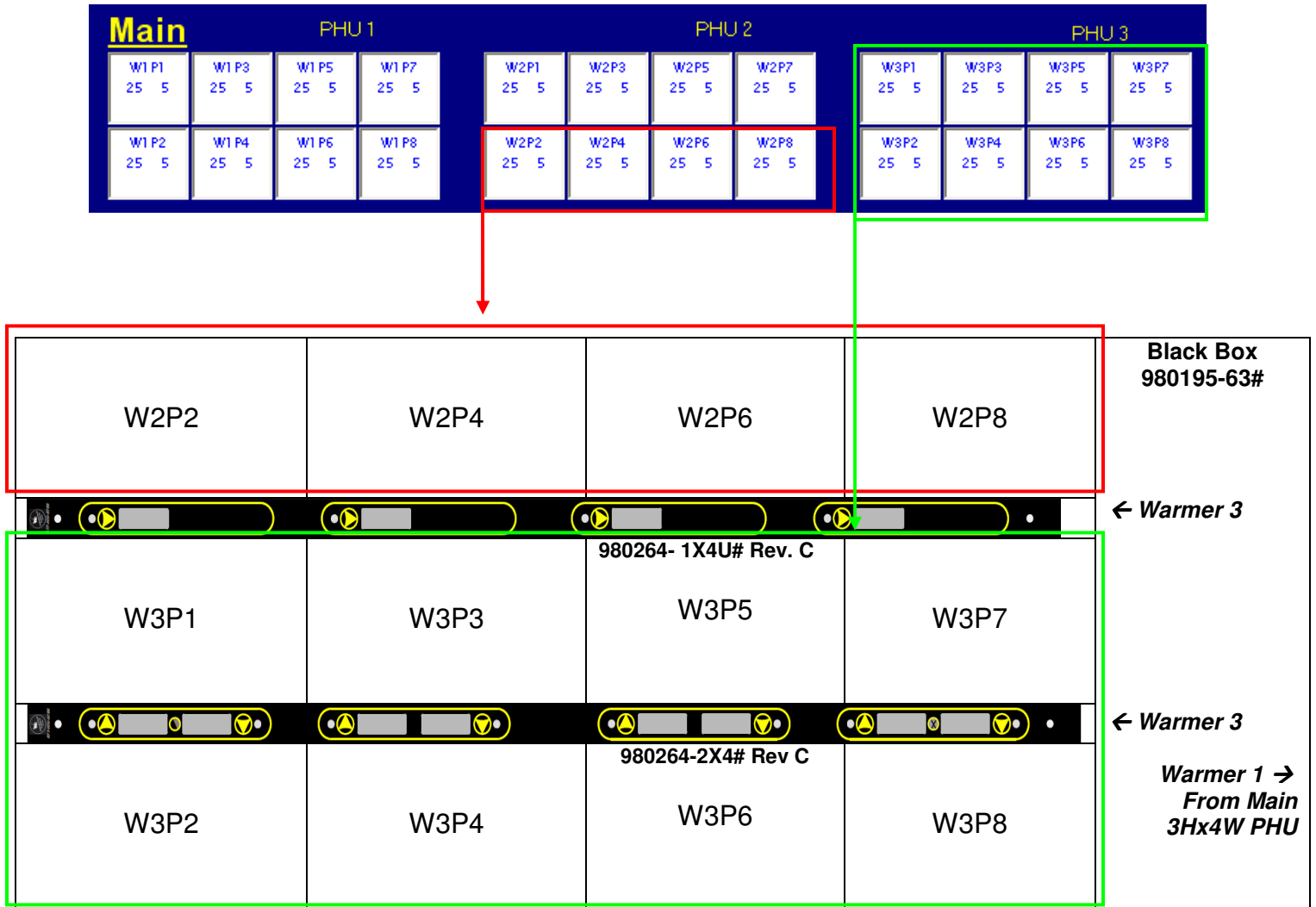
## Main (PHU1) 3H x 4W Programming

| Main          |               |               |               | PHU 1         |               |               |               | PHU 2         |               |               |               | PHU 3         |               |               |               |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| W1 P1<br>25 5 | W1 P3<br>25 5 | W1 P5<br>25 5 | W1 P7<br>25 5 | W2 P1<br>25 5 | W2 P3<br>25 5 | W2 P5<br>25 5 | W2 P7<br>25 5 | W3 P1<br>25 5 | W3 P3<br>25 5 | W3 P5<br>25 5 | W3 P7<br>25 5 | W3 P2<br>25 5 | W3 P4<br>25 5 | W3 P6<br>25 5 | W3 P8<br>25 5 |
| W1 P2<br>25 5 | W1 P4<br>25 5 | W1 P6<br>25 5 | W1 P8<br>25 5 | W2 P2<br>25 5 | W2 P4<br>25 5 | W2 P6<br>25 5 | W2 P8<br>25 5 | W3 P2<br>25 5 | W3 P4<br>25 5 | W3 P6<br>25 5 | W3 P8<br>25 5 | W3 P2<br>25 5 | W3 P4<br>25 5 | W3 P6<br>25 5 | W3 P8<br>25 5 |



Main (PHU1) 3H x 4W PHU on Warmer Port 1 – Front View

## Secondary (PHU2) 3H x 4W Programming



Secondary (PHU2) 3H x 4W PHU on Warmer Port 3 – Front View

### Special Dual 3x4 PHU Manual Editing Considerations

Since the 3x4 AN KB2 UBB supporting these PHU's usually will be connected to a Kitchen Minder, manual editing should be an infrequent occurrence.

When required, manual editing (a) should be performed for **one PHU at a time** and (b) should be performed **while standing in front of the warmer to be programmed**.

Manual editing for 3x4 PHU's is performed in the same manner as for 2Hx4W and 4Hx2W PHUs, but with some special considerations regarding editing for the upper four pans as described below.

Generally, advancing pans on one PHU will also advance pans on the other PHU. The selected pan's LED will be RED.

However, when advancing pans to the uppermost 4 pans on a 3x4 PHU will only select (and illuminate the LED for) the next pan on the PHU whose pan selection key was pressed. On the other PHU, no pan's LED will be illuminated RED until the Pan select button on that warmer is pressed, at which time both PHU's lower leftmost pan will be selected.

Incrementing and decrementing pan time values and pan name letters will affect only the selected pan on the PHU whose increment or decrement button is pressed. When the selected pan is in the upper four of a 3X4 PHU, there is no selected pan on the other PHU.

When editing product name, the cursor advance button will the select pan on each. When the selected pan is in the upper four of a 3X4 PHU, there is no selected pan on the other PHU.

Although in practice "use first" LED indications are provided across PHUs, when viewing pan linkage (which is based on product names being identical), linkage is restricted to pans linked on each PHU separately – showing all pans on the PHU linked with that PHU's selected pan. However, when the selected pan is in the upper four of a 3x4 PHU, no pan is selected on the other PHU and no pan linkage on the other PHU is shown until the pan select button on that PHU pressed selecting a pan on that PHU, at which time pan linkage will be indicated on both warmers until one of the upper four pans is selected.

#### Mixed 3x4 PHUs and 4H/4W PHUs

If PHU2 is a 2Hx4W or 4Hx2W PHU, pressing its pan select button will only select from among the 8 pan locations on that PHU and PHU1. Selecting the upper pans on the 3x4 PHU1 will result in no pan being selected on the 4W/4H PHU2 until the pan select button on PHU2 is pressed again.



### PHU Configuration Support

The Dual 3Hx4W AN KB2 UBB SW is primarily intended to support the following configurations:

PHU 1 (with timer bars connected in Warmer Port 1 and Warmer Port 2)

- 1) PHU1 is legacy 3x4 AN or RLGL PHU using legacy 2Hx4W AN timer bars connected to Warmer port 1 and legacy 1Hx4W AN or RLGL timer bars connected to Warmer port 2
- 2) PHU1 is AN KB2-based 3x4 AN PHU using AN KB2 2Hx4W AN timer bars connected to Warmer port 1 and AN KB2 1Hx4W timer bars connected to Warmer port 2

PHU 2 (with timer bars connected in Warmer Port 3 only)

- 1) PHU2 is legacy 2Hx4W or 4Hx2W AN or RLGL PHU using legacy 2Hx4W AN timer bars connected to Warmer port 3
- 2) PHU2 is AN KB2-based 3x4 AN PHU using AN KB2 2Hx4W AN timer bars connected to Warmer port 3 and AN KB2 1Hx4W timer bars also connected to Warmer port 3

### Guidelines:

- 1) PHU1 must always be a 3Hx4W PHU with a 2x4 timer bar connected to Warmer port
- 2) Warmer port 2 should only be used to connect 1Hx4W timer bars (whether AN KB2, legacy AN or RLGL) for use as part of the 3X4 PHU1
- 3) PHU2 must be connected to Warmer Port 3
- 4) PHU2 may be a 4H or 4W PHU (whether AN KB2, legacy AN or RLGL)
- 5) PHU2 may be a 3x4 AN KB2-based PHU

### Warnings:

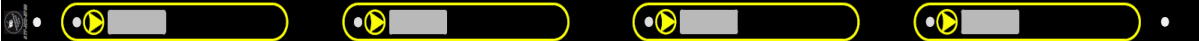
- 1) ***Do NOT to plug in or move AN KB2 timer bars to different ports on a powered up KB PS box (980680#)*** as this will damage the KB PS box resulting in input power being provided unregulated to any attached timer bars. If the KB PS box continues to be used once damaged it will damage any attached legacy AN KBs and will likely damage any attached AN KB2 timer bars.
- 2) Plugging in or moving AN KB2 timer bars on a 980195-63# will not damage the Black Box but will cause it to reset.

## Factory Default Product Names

### Main (PHU1) 3H x 4W PHU on Warmer Port 1 – Front View

|                                                                                   |      |      |      |                                     |
|-----------------------------------------------------------------------------------|------|------|------|-------------------------------------|
| W2P1                                                                              | W2P3 | W2P5 | W2P7 | Black Box<br>980195-63#             |
|  |      |      |      | ← Warmer 2                          |
| W1P1                                                                              | W1P3 | W1P5 | W1P7 |                                     |
|  |      |      |      | ← Warmer 1                          |
| W1P2                                                                              | W1P4 | W1P6 | W1P8 | Warmer 3 →<br>To Slave 3Hx4W<br>PHU |

### Slave (PHU2) 3H x 4W PHU on Warmer Port 3 – Front View

|                                                                                      |      |                              |      |                                      |
|--------------------------------------------------------------------------------------|------|------------------------------|------|--------------------------------------|
| W2P2                                                                                 | W2P4 | W2P6                         | W2P8 | Black Box<br>980195-63               |
|  |      |                              |      | ← Warmer 3                           |
| W3P1                                                                                 | W3P3 | 980264- 1X4U# Rev. C<br>W3P5 | W3P7 |                                      |
|  |      |                              |      | ← Warmer 3                           |
| W3P2                                                                                 | W3P4 | 980264-2X4# Rev C<br>W3P6    | W3P8 | Warmer 1 →<br>From Main<br>3Hx4W PHU |



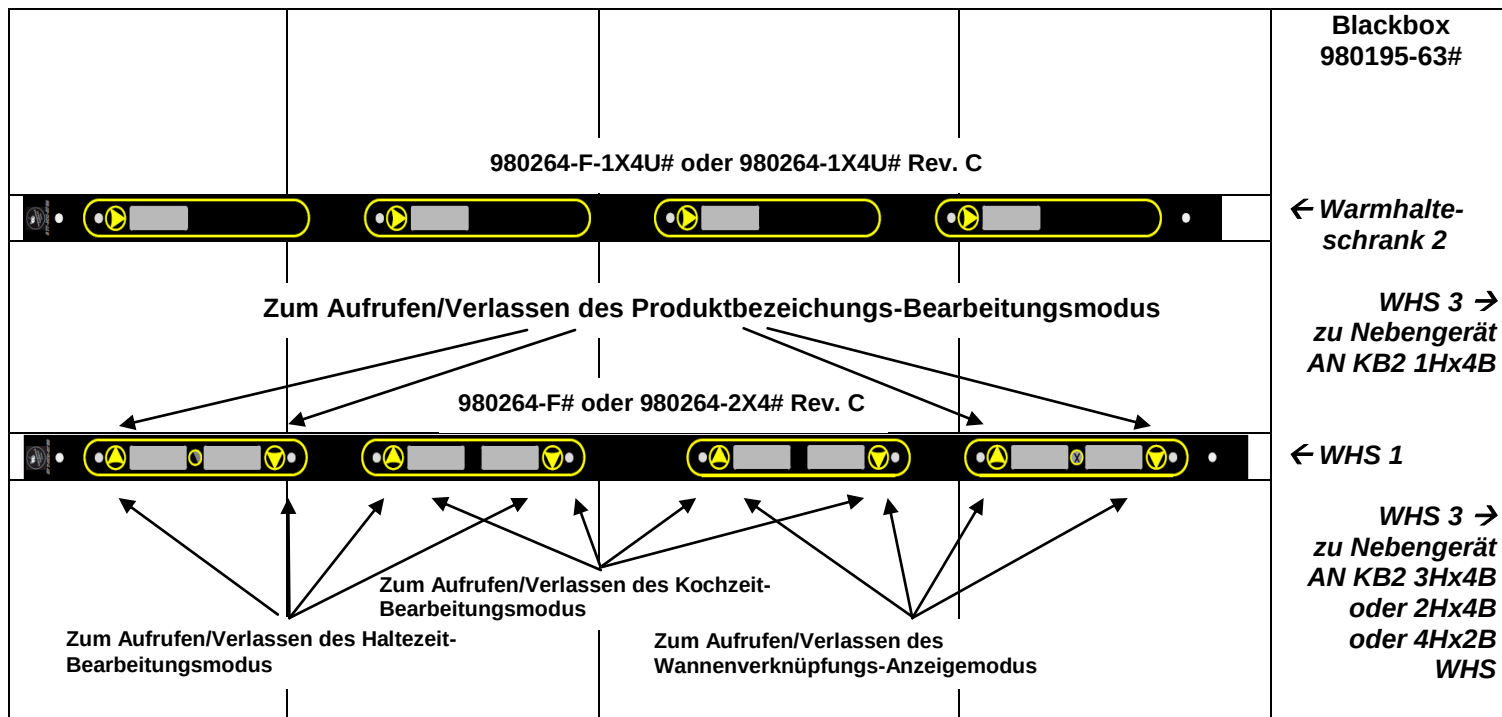
# Alphanumerische 3Hx4B Timerleisten und Bedienelemente Vorderansicht des 3Hx4B Warmhalteschranks mit alphanumerischen Timerleisten und Bedienelementen

|                                                                   |                                                                                        |  |               |                                                                            |
|-------------------------------------------------------------------|----------------------------------------------------------------------------------------|--|---------------|----------------------------------------------------------------------------|
| 980264-1X4U# Rev. C (neue AN KB2) oder 980264-F-1X4U# (ältere AN) |                                                                                        |  |               | Blackbox<br>980195-63#                                                     |
|                                                                   |                                                                                        |  |               | ← Warmhalte-<br>schrank 2                                                  |
| 980264-2X4# Rev. C (neue AN KB2) oder 980264-F# (ältere AN)       |                                                                                        |  |               | WHS 3 →<br>zu Nebengerät<br>AN KB2 1Hx4B                                   |
|                                                                   |                                                                                        |  |               | ← WHS 1                                                                    |
| Tagesabschnitts-<br>taste                                         | Hinweis: Der Tagesabschnitt wird durch<br>Drücken der Tagesabschnittstaste ausgewählt. |  | Transfertaste | WHS3 →<br>zu Nebengerät<br>AN KB2 3Hx4B<br>oder 2Hx4B<br>oder 4Hx2B<br>WHS |

## Rückansicht des 3Hx4B Warmhalteschranks mit alphanumerischen Timerleisten und Bedienelementen

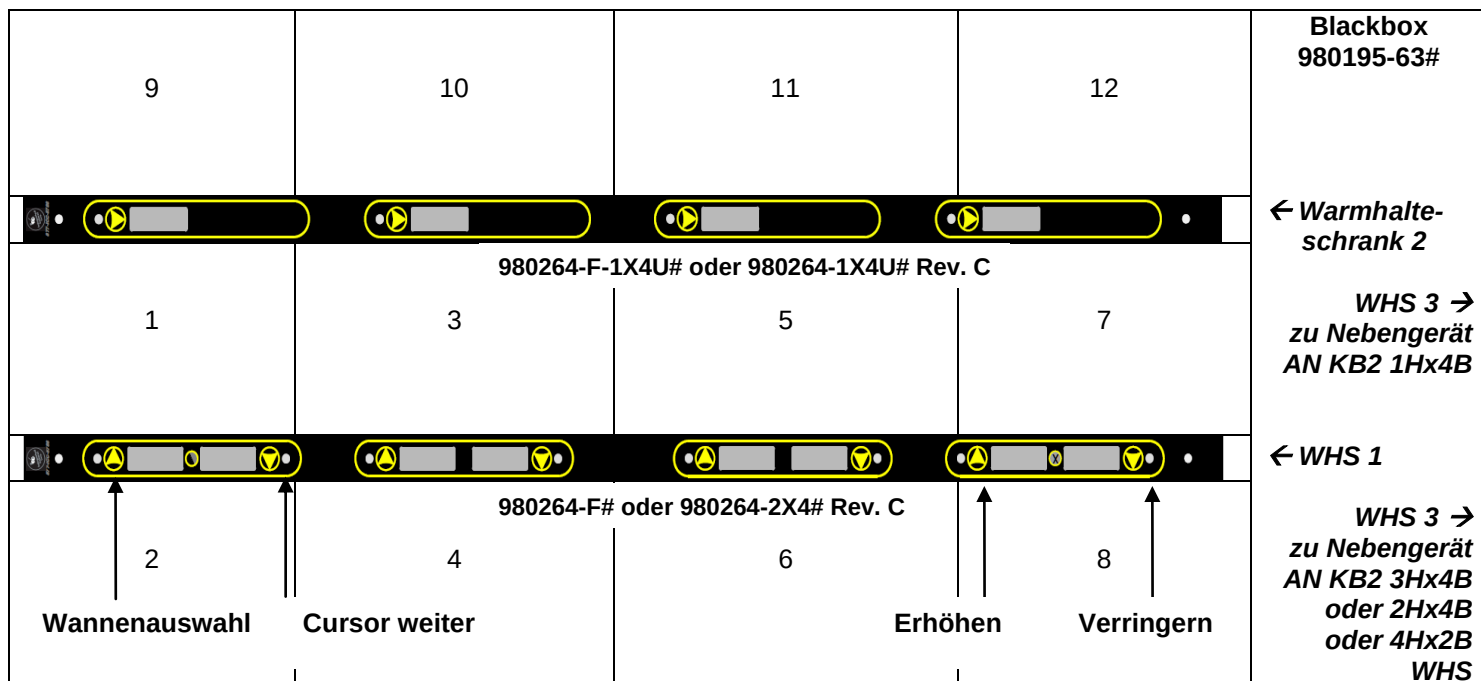
|                                                                          |                                                                                        |                                                             |  |                                |
|--------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-------------------------------------------------------------|--|--------------------------------|
| Blackbox<br>980195-63#                                                   |                                                                                        |                                                             |  |                                |
|                                                                          | 980264-1X4U# Rev. C (neue AN KB2) oder 980264-F-1X4U# (ältere AN)                      |                                                             |  |                                |
| Warmhalte-<br>schrank 2 →                                                |                                                                                        |                                                             |  |                                |
| ← WHS 3<br>zu Nebengerät AN<br>KB2 3Hx4B                                 | Transfertast                                                                           | 980264-2X4# Rev. C (neue AN KB2) oder 980264-F# (ältere AN) |  | Tages-<br>abschnitts-<br>taste |
| WHS 1 →                                                                  |                                                                                        |                                                             |  |                                |
| ← WHS 3<br>zu Nebengerät AN<br>KB2 3Hx4B oder<br>2Hx4B oder 4Hx2B<br>WHS | Hinweis: Der Tagesabschnitt wird durch<br>Drücken der Tagesabschnittstaste ausgewählt. |                                                             |  |                                |

## Manuelle Programmierung eines 3Hx4B Warmhalteschranks mit alphanumerischen Timerleisten (1 von 2) (Vorderansicht des 3Hx4B Warmhalteschranks)



*Ziffern der Wannenfelder geben Auswahlreihfolge der Wannen bei manueller Programmierung an.*

## Manuelle Programmierung eines 3Hx4B Warmhalteschranks mit alphanumerischen Timerleisten (1 von 2) (Vorderansicht des 3Hx4B Warmhalteschranks)



*Ziffern der Wannenfelder geben Auswahlreihfolge der Wannen bei manueller Programmierung an.*

**Warnung – Timerleisten nicht von den stromführenden Blackboxes oder Tastenfeld-Stromversorgungsfeldern abklemmen, um Schäden zu vermeiden!**

## Programmierung der Haltezeit für den aktuellen Tagesabschnitt

**Die Programmierung ist an der Vorderseite des Warmhaltegeräts durchzuführen.**

1. Zum Programmieren der **Haltezeit** die **GANZ LINKEN 4 AUFWÄRTS- und ABWÄRTSTASTEN** gleichzeitig drücken.
2. Die **linke LED BLINKT ROT** um anzuzeigen, dass die Programmierfunktion aktiviert wurde, und das alphanumerische Display für jede Wanne zeigt die aktuelle **Haltezeit** in Minuten.
3. Neben den alphanumerischen Displays wird die **Haltezeit** außerdem durch die **GRÜNE, ROTE und GELBE LED** angezeigt. Die Werte jeder Farbe addieren, um die **Haltezeit** der aktuell blinkenden **ROTEN LED** zu berechnen.  
  
Grün = 5 Minuten  
Gelb = 20 Minuten  
Rot = 60 Minuten (mit Ausnahme der **BLINKENDEN ROTEN LED**, die die aktuelle Wanne anzeigt)  
Grün blinkend = 30 Minuten  
Gelb blinkend = 120 Minuten
4. Zum Erhöhen der **Haltezeit** die **GANZ RECHTE AUFWÄRTSTASTE** drücken.
5. Zum Verringern der **Haltezeit** die **GANZ RECHTE ABWÄRTSTASTE** drücken.
6. Die **Haltezeit** kann in Schritten von 5 Minuten zwischen 5 und 120 Minuten und in Schritten von 30 Minuten zwischen 120 und 660 Minuten (11 Stunden) eingestellt werden.
7. Die **GANZ LINKE AUFWÄRTSTASTE** drücken, um die **BLINKENDE ROTE LED** zur nächsten zu programmierenden Wanne zu verschieben.
8. Zum **Speichern** und **Verlassen** der **Haltezeit**-Programmierung die **GANZ LINKEN 4 AUFWÄRTS- und ABWÄRTSTASTEN** gleichzeitig drücken.

## Programmierung der Kochzeit für den aktuellen Tagesabschnitt

**Die Programmierung ist an der Vorderseite des Warmhaltegeräts durchzuführen.**

1. Programmieren der **Kochzeit** die **4 MITTLEREN AUFWÄRTS- und ABWÄRTSTASTEN** gleichzeitig drücken.
2. Die **GANZ LINKE LED BLINKT ROT** um anzuzeigen, dass die Programmierfunktion aktiviert wurde, und das alphanumerische Display für jede Wanne zeigt die aktuelle **Haltezeit** in Minuten.
3. Neben den alphanumerischen Displays wird die **Kochzeit** außerdem durch die **GRÜNE, ROTE und GELBE LED** angezeigt. Die Werte jeder Farbe addieren, um die **Kochzeit** der aktuell blinkenden **ROTEN LED** zu berechnen.  
  
Grün = 5 Minuten  
Gelb = 20 Minuten  
Rot = 60 Minuten (mit Ausnahme der **BLINKENDEN ROTEN LED**, die die aktuelle Wanne anzeigt)  
Grün blinkend = 30 Minuten  
Gelb blinkend = 120 Minuten
4. Erhöhen der **Kochzeit** die **GANZ RECHTE AUFWÄRTSTASTE** drücken.
5. Zum Verringern der **Kochzeit** die **GANZ RECHTE ABWÄRTSTASTE** drücken.
6. Die **Kochzeit** kann in Schritten von 1 Minute zwischen 1 und 10 Minuten, in Schritten von 5 Minuten zwischen 10 und 120 Minuten und in Schritten von 30 Minuten zwischen 120 und 660 Minuten (11 Stunden) eingestellt werden.
7. Die **GANZ LINKE AUFWÄRTSTASTE** drücken, um die **BLINKENDE ROTE LED** zur nächsten zu programmierenden Wanne zu verschieben.
8. Zum **Speichern** und **Verlassen** der **Kochzeit**-Programmierung die **4 MITTLEREN AUFWÄRTS- und ABWÄRTSTASTEN** gleichzeitig drücken.

**Hinweis:** Keinen Wert für die **Kochzeit** einstellen, der größer ist als die **Haltezeit**.

## Programmierung der Produktbezeichnung für den aktuellen Tagesabschnitt

**Die Programmierung ist an der Vorderseite des Warmhaltegeräts durchzuführen.**

1. Zum Programmieren der **Produktbezeichnung** die **2 GANZ LINKEN AUFWÄRTS- und ABWÄRTSTASTEN** und die **2 GANZ RECHTEN AUFWÄRTS- und ABWÄRTSTASTEN** gleichzeitig drücken.
2. Die **GANZ LINKE LED** erscheint **ROT** um anzuzeigen, dass die Programmierfunktion aktiviert wurde, und das **GANZ LINKE** Display des Tastenfelds zeigt die aktuelle 4-stellige Produktbezeichnung, wobei das linke Zeichen blinkt. Dadurch wird angezeigt, dass **WANNE 1** programmiert wird, und das blinkende Zeichen gibt die aktuelle Cursorposition innerhalb des 4-stelligen **NAMENS** an.
3. Zum Vorsetzen des Cursor die 2. Taste von links drücken (die ganz linke **ABWÄRTSTASTE**) auf dem Tastenfeld drücken.
4. Zum Ändern des Zeichens an der aktuellen Cursorposition die **GANZ RECHTE** Taste (Abwärtspfeil) auf dem Tastenfeld drücken, um das vorherige Zeichen aus der folgenden Liste einzustellen, bzw. die **2. TASTE VON RECHTS** (Aufwärtspfeil) drücken, um das vorherige Zeichen aus der folgenden Liste einzustellen:

<leer>! " # \$ % & ' ( ) \* + , - . / 0 1 2 3 4 5 6 7 8 9 : ; <=> ? @ A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ \ ] ^ \_ ` a b c d e f g h i j k l m n o p q r s t u v w x y z

5. Die **GANZ LINKE AUFWÄRTSTASTE** drücken, um die **ROTE LED** zur nächsten zu programmierenden Wanne zu verschieben.
6. Zum **Speichern** und **Verlassen** der **Produktbezeichnungs-Programmierung** die **2 GANZ LINKEN AUFWÄRTS- und ABWÄRTSTASTEN** und die **2 GANZ RECHTEN AUFWÄRTS- und ABWÄRTSTASTEN** gleichzeitig drücken. *Es wird empfohlen, das ganz linke Paar der Wannentasten zuerst zu drücken und gedrückt zu halten, um unbeabsichtigte Zeichenänderungen beim Drücken des ganz rechten Tastenpaars zu vermeiden.*

**Hinweis:** Nach dem Bearbeiten der Produktbezeichnungen die **WANNENVERKNÜPFUNGS-Konfiguration** überprüfen.

## Anzeige der Wannerverknüpfung für die aktuelle Tageszeit

Die Wannerverknüpfung für alphanumerische Timerleisten und Bedienelemente wird ausschließlich durch die 4-stellige Produktbezeichnung bestimmt. Es werden nur Wannen mit gleicher Produktbezeichnung verknüpft.

**Die Anzeige ist an der Vorderseite des Warmhaltegeräts durchzuführen.**

1. Zum Programmieren der **Wannerverknüpfung** die **4 GANZ RECHTEN AUFWÄRTS- und ABWÄRTSTASTEN** gleichzeitig drücken.
2. Die **GANZ LINKE LED** erscheint **ROT** um anzuzeigen, dass die Programmierfunktion aktiviert wurde.
3. Alle **LEDs**, die **GRÜN** erscheinen, sind Wannen, die mit der **ROTEN LED** verknüpft sind.
4. Die **GANZ LINKE AUFWÄRTSTASTE** drücken, um die **ROTE LED** zur nächsten zu verknüpfenden Wanne zu verschieben.
5. Zum **Verlassen** der **Wannerverknüpfungs-Programmierung** die **4 GANZ RECHTEN AUFWÄRTS- und ABWÄRTSTASTEN** gleichzeitig drücken.

## Eigenständiger und Kitchen Minder Modus

Die werkseitige Einstellung ist der eigenständige Modus.

Eigenständiger Modus: Die Blackbox sucht nicht nach einem Signal von einem Kitchen Minder.

Bei Anschluss eines Kitchen Minder wird die Black Box automatisch auf den Kitchen Minder Modus umgestellt. Bei einem Verlust der Kommunikation der Blackbox mit dem Kitchen Minder (Kabel getrennt, Kitchen Minder ausgeschaltet) zeigt die Timerleiste für alle Module nach 30 Sekunden „NoKM“ an, bis die Kommunikation wieder hergestellt wurde. Zu diesem Zeitpunkt werden die programmierten Produkte wieder angezeigt. Wenn die Kommunikation mit dem Kitchen Minder nach Wiederherstellung der Stromversorgung der Black Box nicht wieder hergestellt werden kann, erscheint nach 3 bis 5 Minuten „NoKM“ für alle Module.

Um die Fehlermeldung „NoKM“ vorübergehend außer Kraft zu setzen, einfach die Tagesabschnittstaste einmal drücken.

Um die Blackbox dauerhaft auf den eigenständigen Modus einzustellen, die Stromversorgung der Blackbox trennen und dann die Tagesabschnittstaste gedrückt halten, während die Stromversorgung der Blackbox wieder hergestellt wird.

## Programmierung des Kitchen Minder Modus



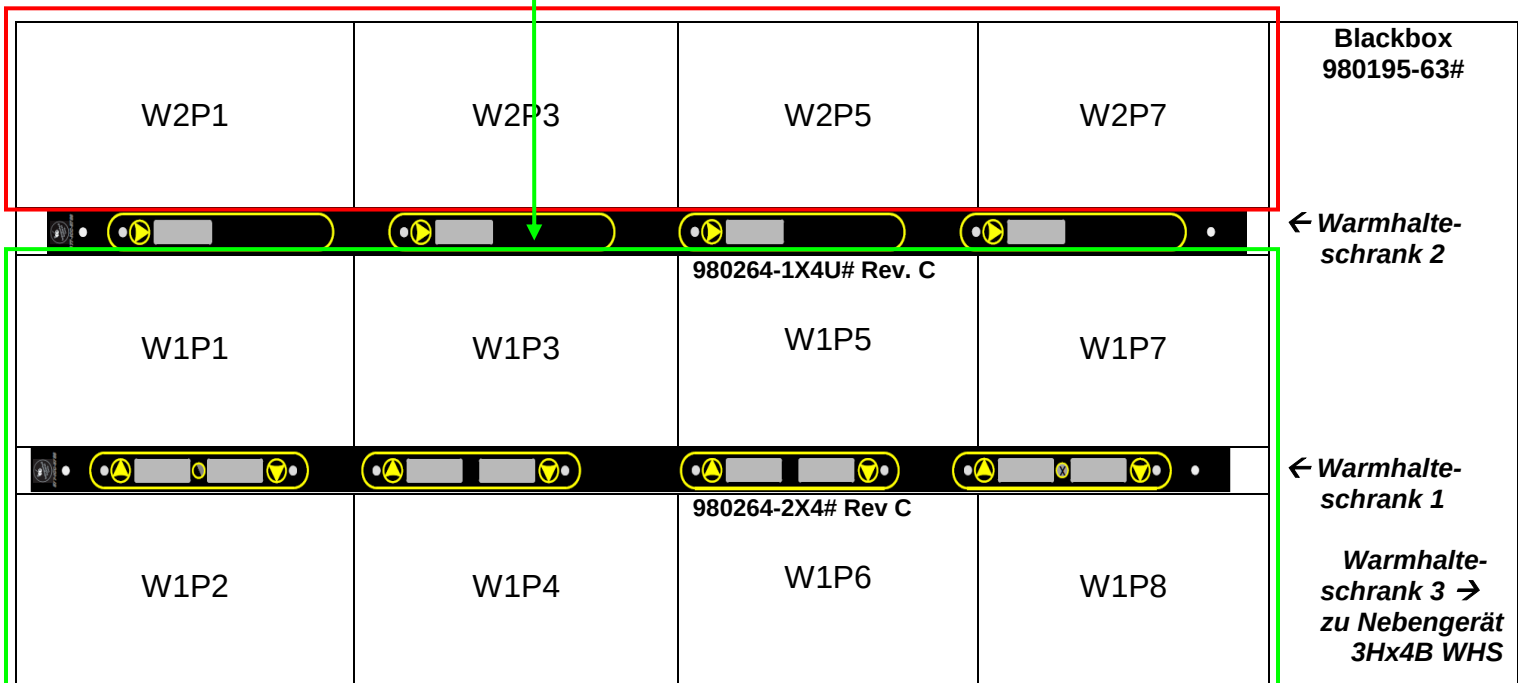
Program PHU

Im Kitchen Minder Modus stehen dem Benutzer keine manuellen Programmierfunktionen zur Verfügung.

Die Programmierung der Blackbox im Kitchen Minder Modus sollte idealerweise durch PC Minder durchgeführt werden, kann jedoch auch über die Kitchen Minder Konsole erfolgen. Zum ordnungsgemäßen Programmieren der Wannen ist es wichtig zu verstehen, wie die Blackbox eine 3x4 Konfiguration interpretiert.

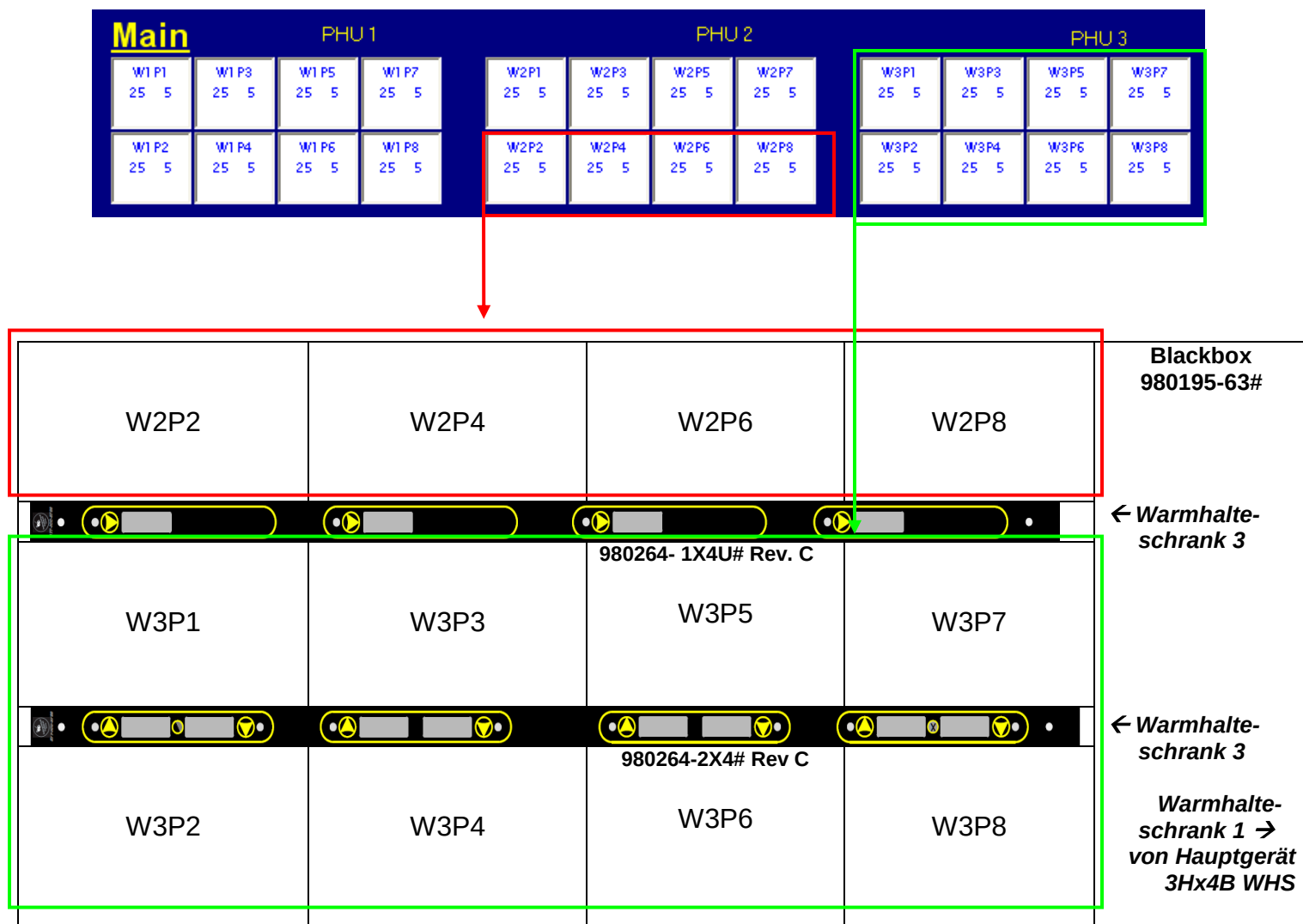
## Programmierung eines 3Hx4B Hauptgeräts (PHU1)

| Main          |               |               |               | PHU 1 |  |  |  | PHU 2         |               |               |               | PHU 3         |               |               |               |
|---------------|---------------|---------------|---------------|-------|--|--|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| W1 P1<br>25 5 | W1 P3<br>25 5 | W1 P5<br>25 5 | W1 P7<br>25 5 |       |  |  |  | W2 P1<br>25 5 | W2 P3<br>25 5 | W2 P5<br>25 5 | W2 P7<br>25 5 | W3 P1<br>25 5 | W3 P3<br>25 5 | W3 P5<br>25 5 | W3 P7<br>25 5 |
| W1 P2<br>25 5 | W1 P4<br>25 5 | W1 P6<br>25 5 | W1 P8<br>25 5 |       |  |  |  | W2 P2<br>25 5 | W2 P4<br>25 5 | W2 P6<br>25 5 | W2 P8<br>25 5 | W3 P2<br>25 5 | W3 P4<br>25 5 | W3 P6<br>25 5 | W3 P8<br>25 5 |



Hauptgerät (PHU1) 3Hx4B Warmhalteschrank  
an Warmhalteschrank-Port 1 – Vorderansicht

## Programmierung eines 3Hx4B Sekundärgeräts (PHU2)



**Sekundärgerät (PHU2) 3Hx4B Warmhalteschrank  
an Warmhalteschrank-Port 3 – Vorderansicht**



### Manuelles Einstellen des speziellen doppelten 3x4 Warmhalteschranks

Da die 3x4 AN KB2 UBB für diese Warmhalteschränke gewöhnlich an einen Kitchen Minder angeschlossen wird, sollte die manuelle Einstellung nur selten erforderlich sein.

Die manuelle Einstellung (a) an **jeweils einem Warmhalteschrank auf einmal** durchführen und (b) **von der Vorderseite des zu programmierenden Warmhalteschranks aus** durchführen.

Die manuelle Einstellung von 3x4 Warmhalteschränken erfolgt auf gleiche Weise wie für 2Hx4B und 4Hx2B Warmhalteschränke, es sind jedoch einige besondere Erwägungen hinsichtlich der oberen vier Wannen zu beachten, die nachfolgend beschrieben sind.

Wenn mit Wannen an einem Warmhalteschrank fortgefahren wird, werden gewöhnlich auch Wannen an dem anderen Warmhalteschrank vorgesetzt. Die LED der ausgewählten Wannen ist ROT.

Beim Vorsetzen von Wannen an den oberen vier Wannen an einem 3x4 Warmhalteschrank wird nur die nächste Wanne an dem Warmhalteschrank ausgewählt (nur die entsprechend LED leuchtet), dessen Wannenauswahltaste gedrückt wurde. Am anderen Warmhalteschrank leuchten die LEDs von Wannen erst dann ROT, wenn die Wannenauswahltaste an diesem Warmhalteschrank gedrückt wurde, zu welchem Zeitpunkt die ganz linke Wanne beider Warmhalteschränke ausgewählt wird.

Das Erhöhen und Verringern der Zeitwerte und Bezeichnungsbuchstaben von Wannen ist auf die ausgewählte Wanne an dem Warmhalteschrank beschränkt, an dem die Erhöhen- bzw. Verringern-Taste gedrückt wird. Wenn die ausgewählte Wanne eine der oberen vier Wannen eines 3X4 Warmhalteschranks ist, wird keine Wanne an dem anderen Warmhalteschrank ausgewählt.

Beim Bearbeiten einer Produktbezeichnung gilt die Cursor-weiter-Taste für die jeweils ausgewählte Wanne. Wenn die ausgewählte Wanne eine der oberen vier Wannen eines 3X4 Warmhalteschranks ist, wird keine Wanne an dem anderen Warmhalteschrank ausgewählt.

Obwohl in der Praxis „Zuerst verwenden“ LEDs an Warmhalteschränken aufleuchten, ist bei der Anzeige von Wannenverknüpfungen (die auf identischen Produktbezeichnungen basieren) die Verknüpfung auf Wannen beschränkt, die an jedem Warmhalteschrank separat verknüpft wurden – sie zeigen also alle Wannen im Warmhalteschrank, die mit der ausgewählten Wanne dieses Warmhalteschranks verknüpft sind. Wenn die ausgewählte Wanne jedoch eine der oberen vier Wannen eines 3X4 Warmhalteschranks ist, wird keine Wanne an dem anderen Warmhalteschrank ausgewählt. An dem anderen Warmhalteschrank wird erst dann eine Wannenverknüpfung angezeigt, wenn die Wannenauswahltaste an diesem Warmhalteschrank zur Auswahl einer Wanne gedrückt wurde, zu welchem Zeitpunkt die Wannenverknüpfung an beiden Warmhalteschränken angezeigt wird, bis eine der oberen vier Wannen ausgewählt wird.

### Verwendung von 3x4 und 4H/4W Warmhalteschränken

Wenn PHU2 ein 2Hx4B oder 4Hx2B Warmhalteschrank ist, wird beim Drücken der entsprechenden Wannenauswahltaste nur unter den 8 Wannenpositionen an diesem Warmhalteschrank und PHU1 ausgewählt. Die Auswahl der oberen Wannen am 3x4 PHU1 führt dazu, dass am 4W/4H PHU2 erst dann eine Wanne ausgewählt wird, wenn die Wannenauswahltaste an PHU2 erneut gedrückt wird.

### Unterstützung bestimmter Schrankkonfigurationen

Die doppelte 3Hx4B AN KB2 UBB SW unterstützt im Wesentlichen die folgenden Konfigurationen:

Warmhalteschrank 1 (mit Timerleisten, die über den Warmhalteschrank-Port 1 und 2 angeschlossen sind)

- 1) WHS 1 ist ein älterer 3x4 AN oder RLGL Warmhalteschrank mit älteren 2Hx4B AN Timerleisten, die über den Warmhalteschrank-Port 1 angeschlossen sind, und ältere 1Hx4B AN oder RLGL Timerleisten, die über den Warmhalteschrank-Port 2 angeschlossen sind
- 2) WHS 1 ist ein AN KB2 basierter 3x4 AN Warmhalteschrank unter Verwendung von AN KB2 2Hx4B AN Timerleisten, die über den Warmhalteschrank-Port 1 angeschlossen sind, und AN KB2 1Hx4B Timerleisten, die über den Warmhalteschrank-Port 2 angeschlossen sind

WHS 2 (Timerleisten, die nur über den Warmhalteschrank-Port 3 angeschlossen sind)

- 1) WHS 2 ist ein älterer 2Hx4B oder 4Hx2B AN oder RLGL Warmhalteschrank mit älteren 2Hx4B AN Timerleisten, die über den Warmhalteschrank-Port 3 angeschlossen sind
- 2) WHS 2 ist ein älterer AN KB2-basierter 3x4 AN Warmhalteschrank unter Verwendung von AN KB2 2Hx4W AN Timerleisten, die über den Warmhalteschrank-Port 3 angeschlossen sind, und AN KB2 1Hx4B Timerleisten, die ebenfalls über den Warmhalteschrank-Port 3 angeschlossen sind

### Richtlinien:

- 1) WHS 1 muss stets ein 3Hx4B Warmhalteschrank sein, mit einer 2x4 Timerleiste, die über den Warmhalteschrank-Port 3 angeschlossen ist
- 2) Warmhalteschrank-Port 2 sollte nur verwendet werden, um 1Hx4B Timerleisten (AN KB2, ältere AN oder RLGL) als Teil eines 3X4 WHS 1 zu verwenden
- 3) WHS 2 muss an Warmhalteschrank-Port 3 angeschlossen werden
- 4) WHS 2 kann ein 4H oder 4B Warmhalteschrank sein (AN KB2, ältere AN oder RLGL)
- 5) WHS 2 kann ein 3x4 AN KB2-basierter Warmhalteschrank sein

### Warnungen:

- 1) **AN KB2 Timerleisten an einer stromführenden KB PS Blackbox (980680#) NICHT in andere Ports einstecken oder umstecken**, da die KB PS Box dadurch beschädigt wird und die Eingangsspannung dann unregelmäßig an allen angeschlossenen Timerleisten anliegt. Wenn die KB PS Box nach einer Beschädigung weiterhin verwendet wird, werden alle angeschlossenen älteren AN KBs und wahrscheinlich auch alle angeschlossenen AN KB2 Timerleisten beschädigt.
- 2) Durch Einstecken oder Umstecken von AN KB2 Timerleisten in eine 980195-63# wird die Blackbox nicht beschädigt, dies führt jedoch zum Rücksetzen der Einheit.

## Werkseitige Produktbezeichnungen

### Hauptgerät (PHU1) 3Hx4B Warmhalteschrank an Warmhalteschrank-Port 1 – Vorderansicht

|      |      |                     |      |                                                         |
|------|------|---------------------|------|---------------------------------------------------------|
| W2P1 | W2P3 | W2P5                | W2P7 | Blackbox<br>980195-63#                                  |
|      |      |                     |      | ← Warmhalte-<br>schrank 2                               |
| W1P1 | W1P3 | 980264-1X4U# Rev. C | W1P7 |                                                         |
|      |      |                     |      | ← Warmhalte-<br>schrank 1                               |
| W1P2 | W1P4 | 980264-2X4# Rev C   | W1P8 |                                                         |
|      |      |                     |      | Warmhalte-<br>schrank 3 →<br>zu Nebengerät<br>3Hx4W WHS |

### Nebengerät (PHU2) 3Hx4B Warmhalteschrank an Warmhalteschrank-Port 3 – Vorderansicht

|      |      |                      |      |                                                          |
|------|------|----------------------|------|----------------------------------------------------------|
| W2P2 | W2P4 | W2P6                 | W2P8 | Blackbox<br>980195-63                                    |
|      |      |                      |      | ← Warmhalte-<br>schrank 3                                |
| W3P1 | W3P3 | 980264- 1X4U# Rev. C | W3P7 |                                                          |
|      |      |                      |      | ← Warmhalte-<br>schrank 3                                |
| W3P2 | W3P4 | 980264-2X4# Rev C    | W3P8 |                                                          |
|      |      |                      |      | Warmhalte-<br>schrank 1 →<br>von Hauptgerät<br>3Hx4W WHS |



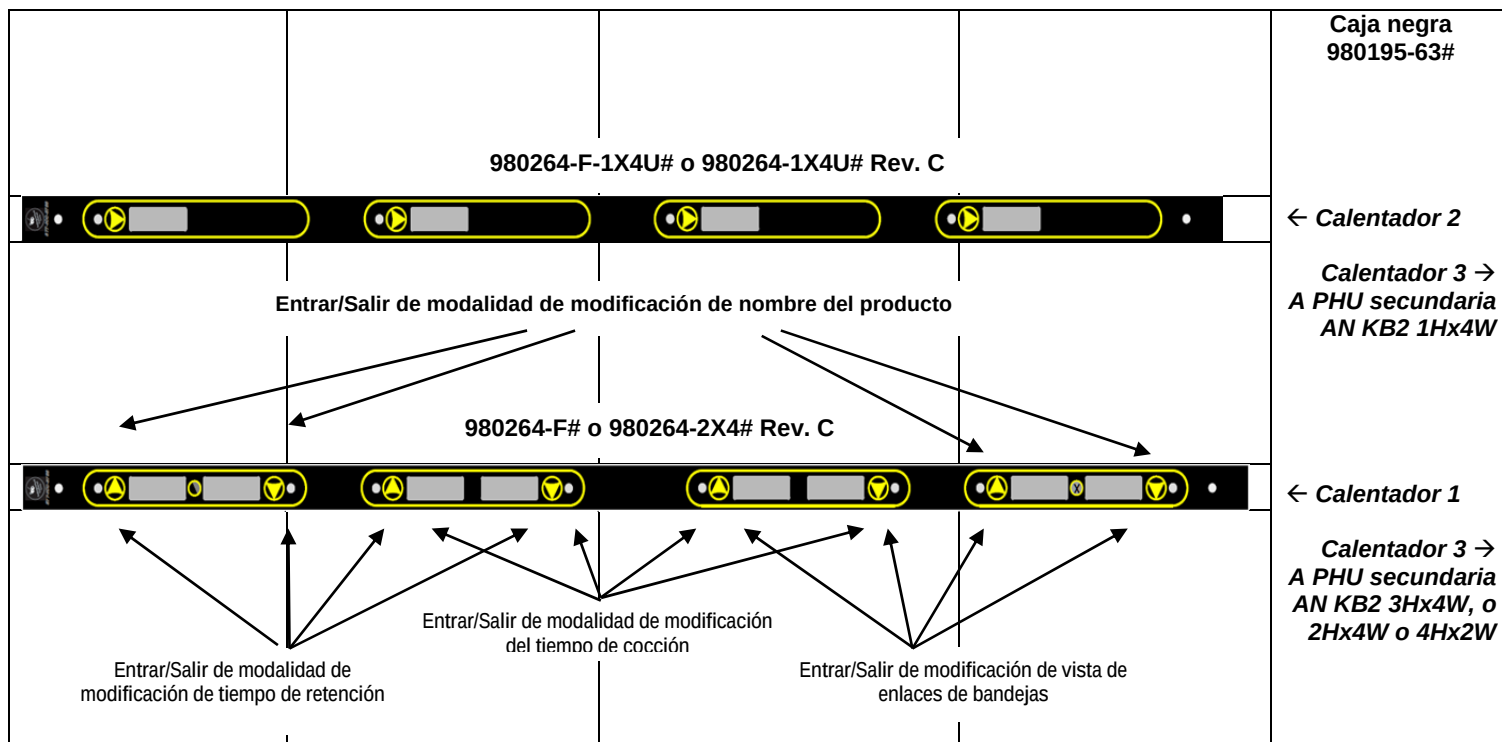
Generalidades de barras de tiempo y control alfanuméricos 3Hx4W  
Vista delantera de la PHU principal 3Hx4W con barras de tiempo y control alfanuméricos

|                                                                             |  |                        |  |                                                                             |
|-----------------------------------------------------------------------------|--|------------------------|--|-----------------------------------------------------------------------------|
|                                                                             |  |                        |  | Caja negra<br>980195-63#                                                    |
| 980264-1X4U# Rev. C (AN KB2 nuevas) or 980264-F-1X4U# (AN anteriores)       |  |                        |  |                                                                             |
|                                                                             |  |                        |  | ← Calentador 2                                                              |
| 980264-2X4# Rev. C (AN KB2 nuevas) o 980264-F# (AN anteriores)              |  |                        |  | Calentador 3 →<br>A PHU<br>secundaria AN<br>KB2 1Hx4W                       |
|                                                                             |  |                        |  | ← Calentador 1                                                              |
| Tecla Parte del día                                                         |  | Tecla de Transferencia |  | Calentador 3 →<br>A PHU<br>secundaria AN<br>KB2 3Hx4W o<br>2Hx4W o<br>4Hx2W |
| Nota: La selección de parte del día se hace pulsando la tecla Parte del día |  |                        |  |                                                                             |

Vista trasera de la PHU principal 3Hx4W con barras de tiempo y control alfanuméricos

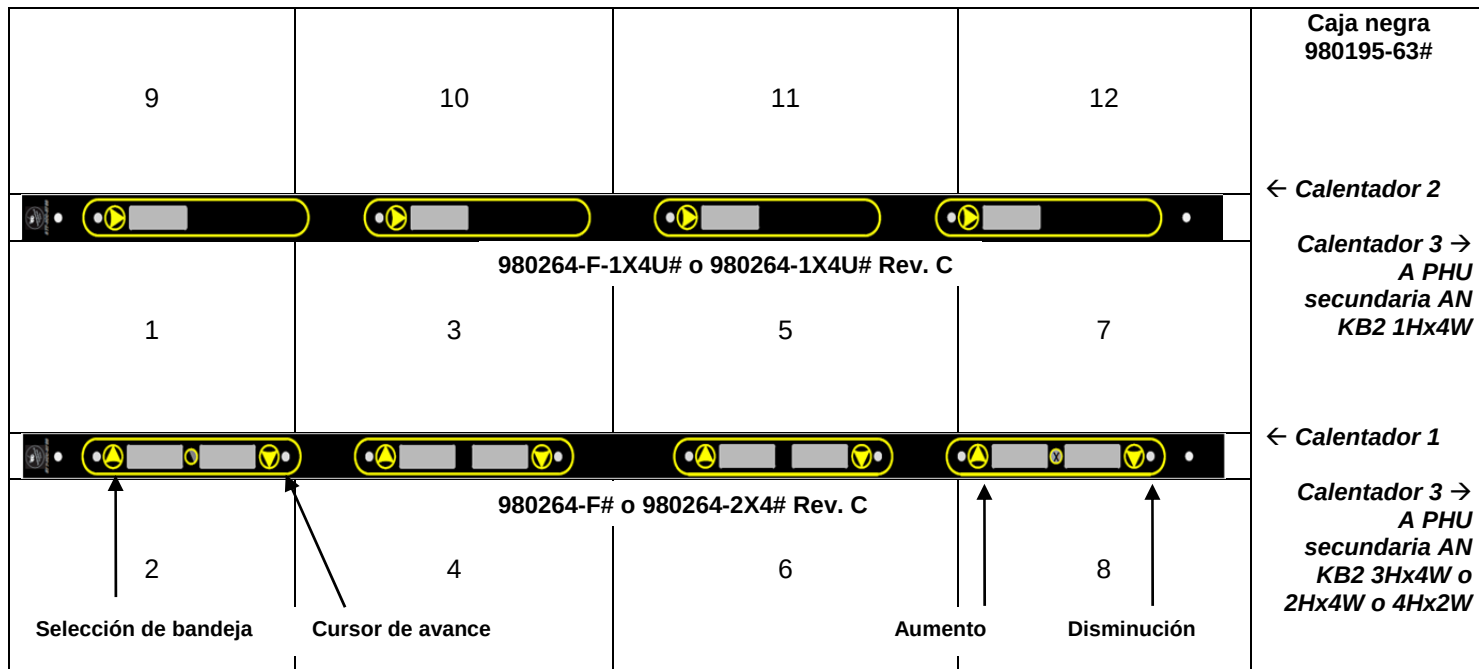
|                                                                          |                                                                      |                                                                                   |  |                        |
|--------------------------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------------------|--|------------------------|
| Caja negra<br>980195-63#                                                 | 980264-1X4U# Rev. C (AN KB2 nuevas) o 980264-F-1X4U# (AN anteriores) |                                                                                   |  |                        |
| Calentador 2 →                                                           |                                                                      |                                                                                   |  |                        |
| ← Calentador 3<br>a PHU secundaria<br>AN KB2 3Hx4W                       | 980264-2X4# Rev. C (AN KB2 nuevas) o 980264-F# (AN anteriores)       |                                                                                   |  |                        |
| Calentador 1 →                                                           |                                                                      |                                                                                   |  |                        |
| ← Calentador 3<br>A PHU secundaria<br>AN KB2 3Hx4W o<br>2Hx4W o<br>4Hx2W | Tecla de<br>Transferencia                                            | Nota: La selección de la parte del día se hace pulsando<br>la tecla Parte del día |  | Tecla Parte<br>del día |

**Programación manual de una PHU 3Hx4W con barras de tiempo alfanuméricas (1 de 2)**  
(vista delantera de PHU 3Hx4W)



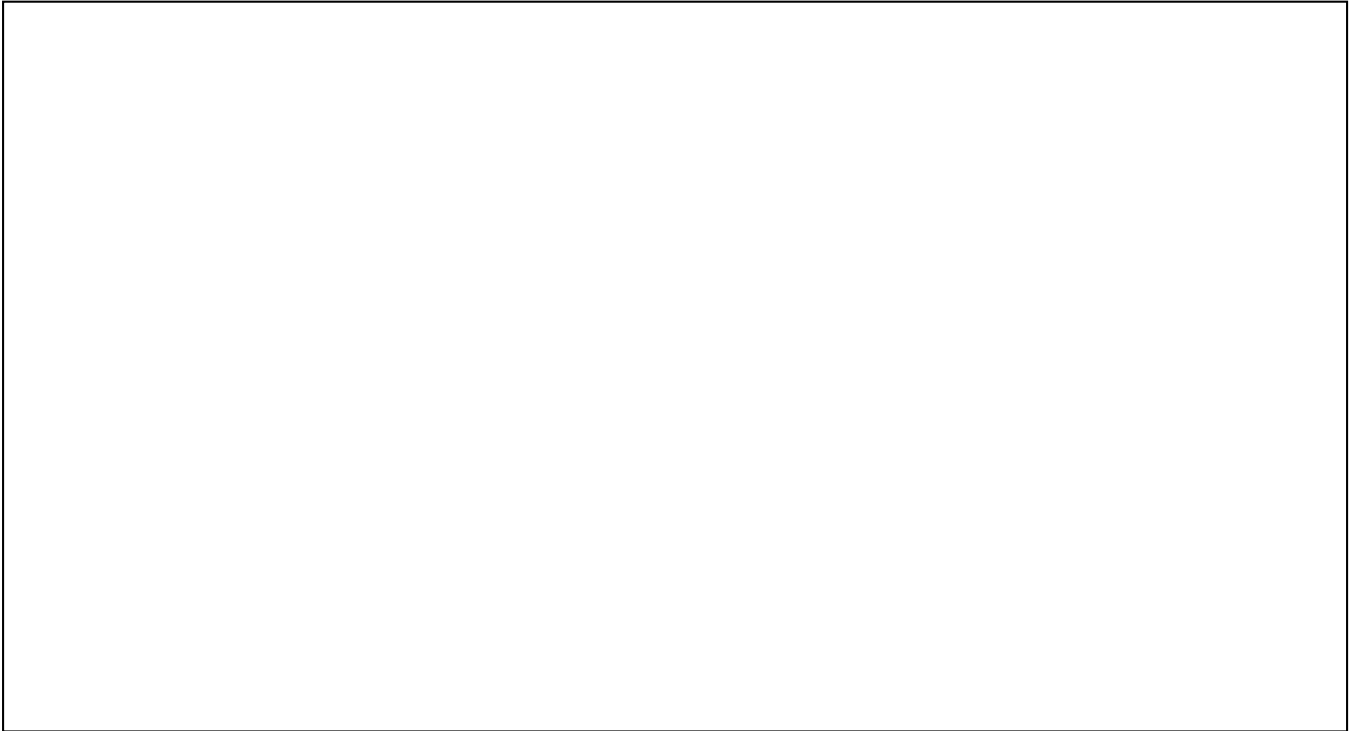
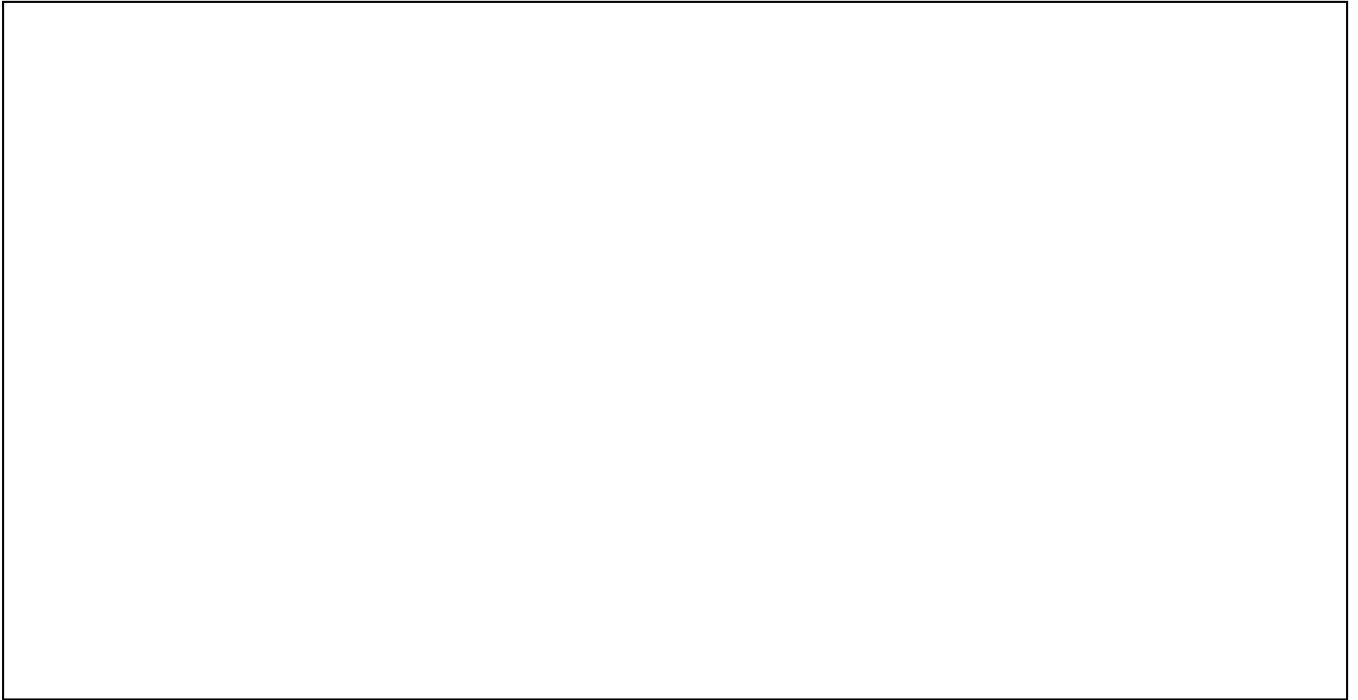
**Los números en las cavidades de las bandejas indican el orden de selección de las bandejas en modalidades de programación manuales.**

**Programación manual de una PHU 3Hx4W con barras de tiempo alfanuméricas (2 de 2)**  
(Vista delantera de la PHU 3Hx4W)



**Los números en las cavidades de las bandejas indican el orden de selección de bandeja en las modalidades de programación manuales.**

**Advertencia – No desenchufe ni enchufe las barras de tiempo de las cajas negras conectadas ni de las cajas de suministro de corriente del teclado. ¡Esto puede dañar las unidades!**



### Vista del enlace de bandejas para la parte del día actual

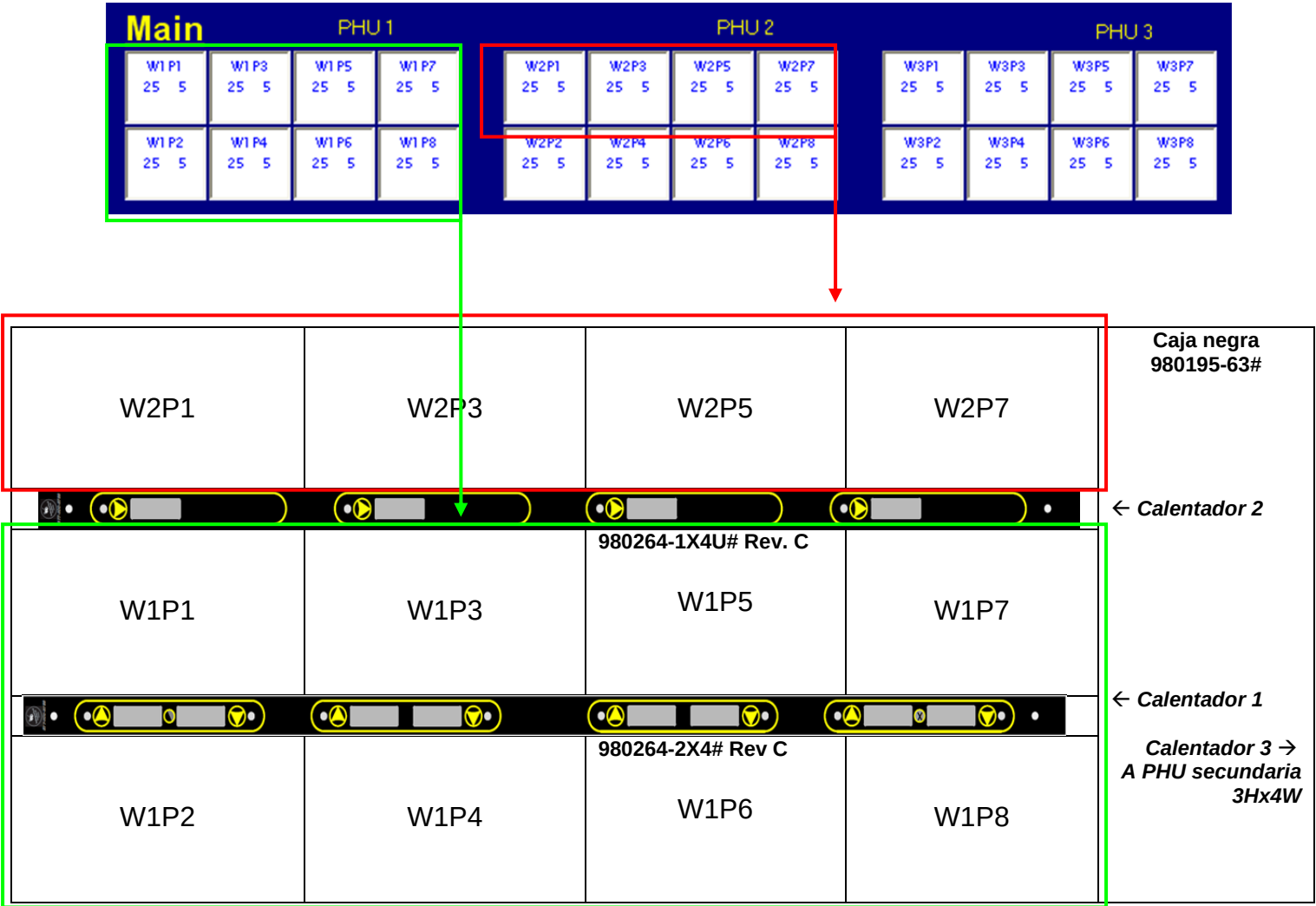
El enlace de bandejas para barras de tiempo y controles alfanuméricos viene determinado exclusivamente por el nombre del producto de 4 caracteres. Las bandejas están enlazadas solamente si sus nombres de productos son los mismos.

***La vista debe hacerse en el lado delantero del calentador.***

1. Introduzca la ***programación de enlaces*** pulsando simultáneamente las 4 teclas **ARRIBA Y ABAJO más a la derecha**.
2. El **LED más a la izquierda** se volverá **ROJO**, indicando que se ha activado la función de programación.
3. Todos los **LED** que son **VERDES** indican las bandejas que están enlazadas con el **LED ROJO**.
4. Pulse la tecla **ARRIBA más a la izquierda** para mover el **LED ROJO** a la siguiente bandeja para enlazar.
5. Para salir de ***programación de enlace***, pulse las 4 teclas **ARRIBA Y ABAJO más a la derecha**.



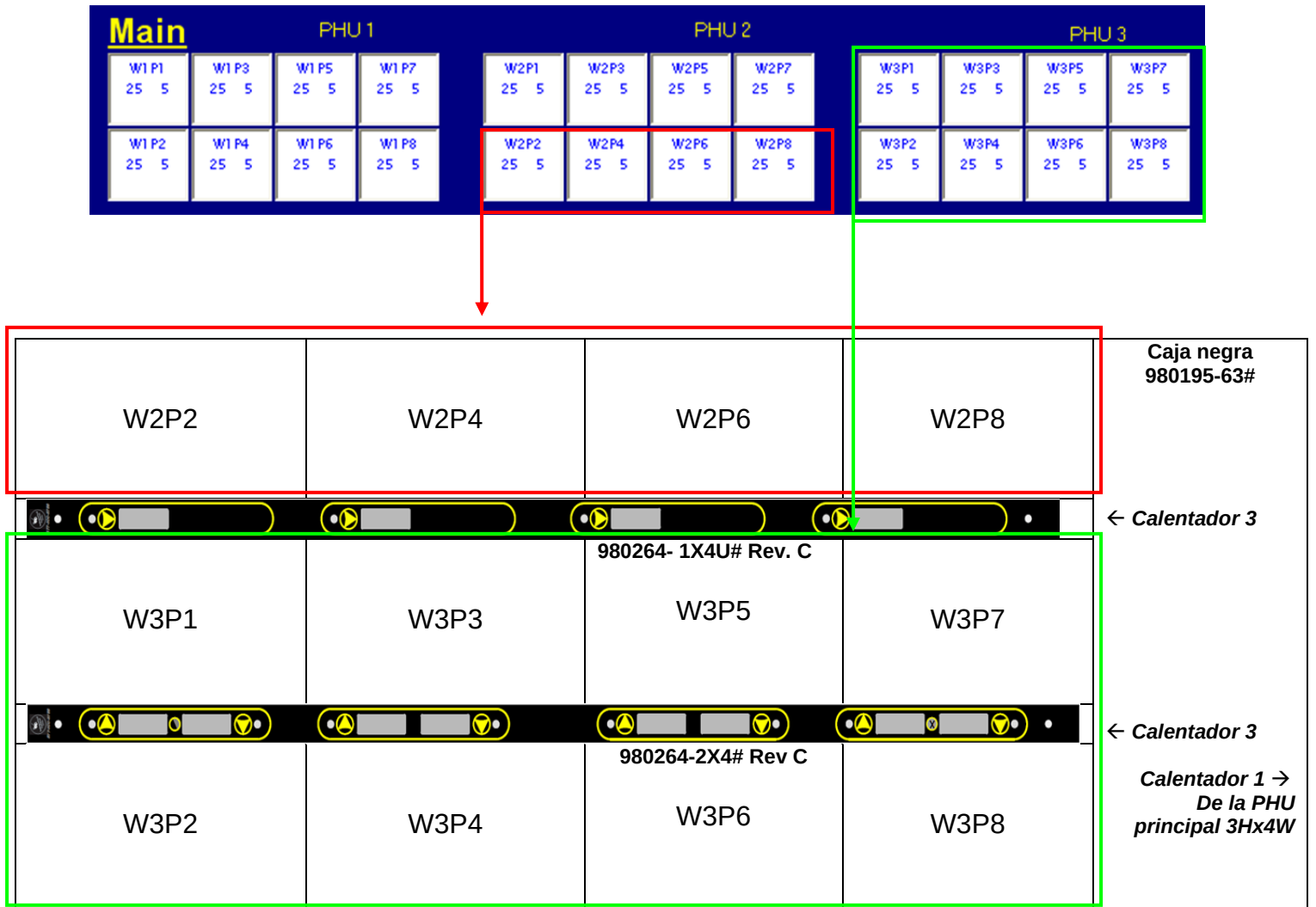
Programación principal (PHU1) 3H x 4W



PHU principal (PHU1) 3H x 4W en puerto 1 del calentador – Vista delantera

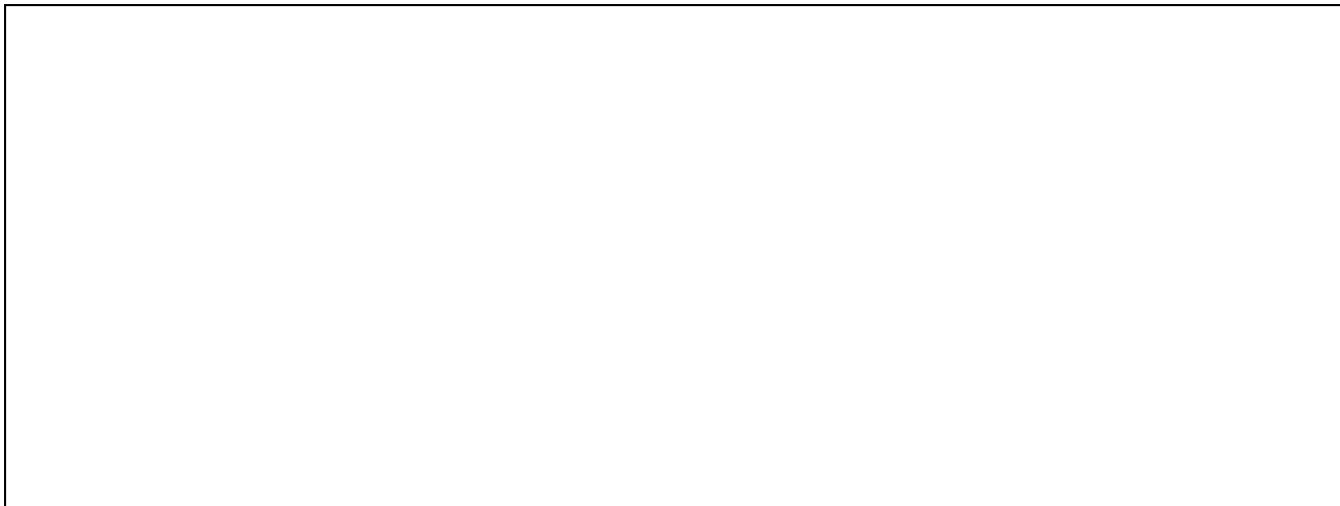


## Programación secundaria (PHU2) 3H x 4W



PHU secundaria (PHU2) 3H x 4W en puerto del calentador 3 – Vista delantera





#### **Guías:**

- 1) PHU1 debe ser siempre una PHU 3Hx4W con una barra de tiempo 2x4 conectada al Puerto de calentador
- 2) El puerto de calentador 2 debe usarse solamente para conectar las barras de tiempo 1Hx4W (ya sean AN KB2, AN anteriores o RLGL) para usar como parte de la PHU1 3X4
- 3) PHU2 debe estar conectada al Puerto de calentador 3
- 4) PHU2 puede ser una 4H o una PHU 4W (ya sea AN KB2, AN anteriores o RLGL)
- 5) PHU2 puede ser una PHU 3x4 basada en AN KB2

#### **Advertencias:**

- 1) ***NO enchufe ni mueva las barras de tiempo AN KB2 a puertos diferentes en una caja KB PS (980680#) encendida*** ya que esto dañará la caja KB PS teniendo como consecuencia una corriente de entrada proporcionada sin regular a cualquier de las barras de tiempo conectadas. Si la caja KB PS sigue usándose una vez dañada, también dañará las AN KB anteriores conectadas y probablemente dañará cualquier barra de tiempo conectada AN KB2.
- 2) Al enchufar o mover las barras de tiempo AN KB2 a un 980195-60# no se dañará la caja negra pero se reajustará.

**Nombres de productos predeterminados de fábrica**

**PHU principal (PHU1) 3H x 4W en puerto 1 del calentador – Vista delantera**

|                                                                                   |      |      |      |                                             |
|-----------------------------------------------------------------------------------|------|------|------|---------------------------------------------|
| W2P1                                                                              | W2P3 | W2P5 | W2P7 | Caja negra<br>980195-63#                    |
|  |      |      |      | ← Calentador 2                              |
| W1P1                                                                              | W1P3 | W1P5 | W1P7 | 980264-1X4U# Rev. C                         |
|  |      |      |      | ← Calentador 1                              |
| W1P2                                                                              | W1P4 | W1P6 | W1P8 | 980264-2X4# Rev C                           |
|                                                                                   |      |      |      | Calentador 3 →<br>A PHU secundaria<br>3Hx4W |

**PHU secundaria (PHU2) 3H x 4W PHU en el puerto del calentador 3 – Vista delantera**

|                                                                                     |      |      |      |                                                |
|-------------------------------------------------------------------------------------|------|------|------|------------------------------------------------|
| W2P2                                                                                | W2P4 | W2P6 | W2P8 | Caja negra<br>980195-63                        |
|  |      |      |      | ← Calentador 3                                 |
| W3P1                                                                                | W3P3 | W3P5 | W3P7 | 980264- 1X4U# Rev. C                           |
|  |      |      |      | ← Calentador 3                                 |
| W3P2                                                                                | W3P4 | W3P6 | W3P8 | 980264-2X4# Rev C                              |
|                                                                                     |      |      |      | Calentador 1 →<br>De la PHU<br>principal 3Hx4W |



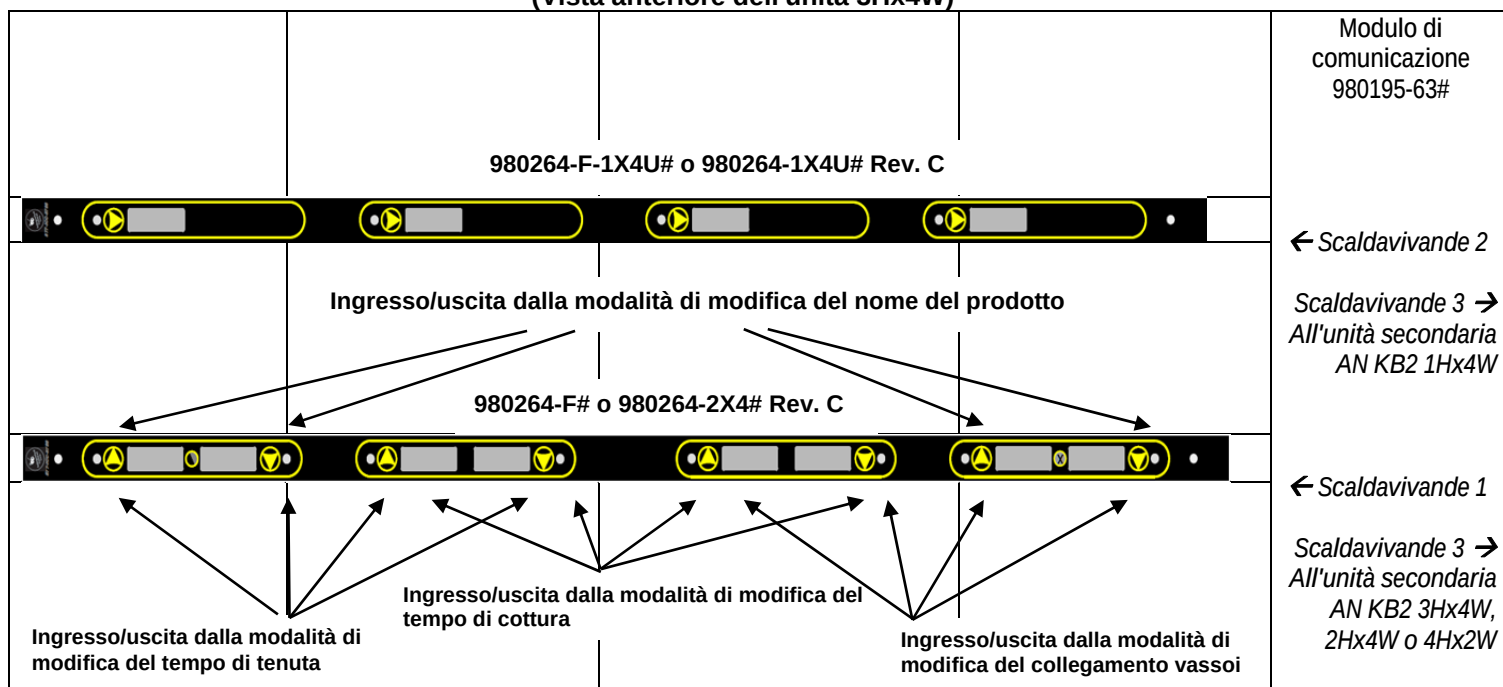
Descrizione generale del quadro di comando e delle barre di temporizzazione 3Hx4W alfanumeriche  
**Vista anteriore dell'unità 3Hx4W principale con quadro di comando e barre di temporizzazione alfanumeriche**

|                                                                   |                                                                                  |  |                     |                                                                             |
|-------------------------------------------------------------------|----------------------------------------------------------------------------------|--|---------------------|-----------------------------------------------------------------------------|
| 980264-1X4U# Rev. C (nuova AN KB2) o 980264-F-4X2TF# (vecchia AN) |                                                                                  |  |                     | Modulo di comunicazione<br>980195-63#                                       |
|                                                                   |                                                                                  |  |                     | ← Scaldavivande 2                                                           |
| 980264-2X4# Rev. C (nuova AN KB2) o 980264-F# (vecchia AN)        |                                                                                  |  |                     | Scaldavivande 3 →<br>All'unità secondaria<br>AN KB2 1Hx4W                   |
|                                                                   |                                                                                  |  |                     | ← Scaldavivande 1                                                           |
| Tasto Fase giornata                                               | Nota bene: la selezione della fase giornata si esegue premendo l'apposito tasto. |  | Tasto Trasferimento | Scaldavivande 3 →<br>All'unità secondaria<br>AN KB2 3Hx4W,<br>2Hx4W o 4Hx2W |

**Vista posteriore dell'unità 3Hx4W principale con quadro di comando e barre di temporizzazione alfanumeriche**

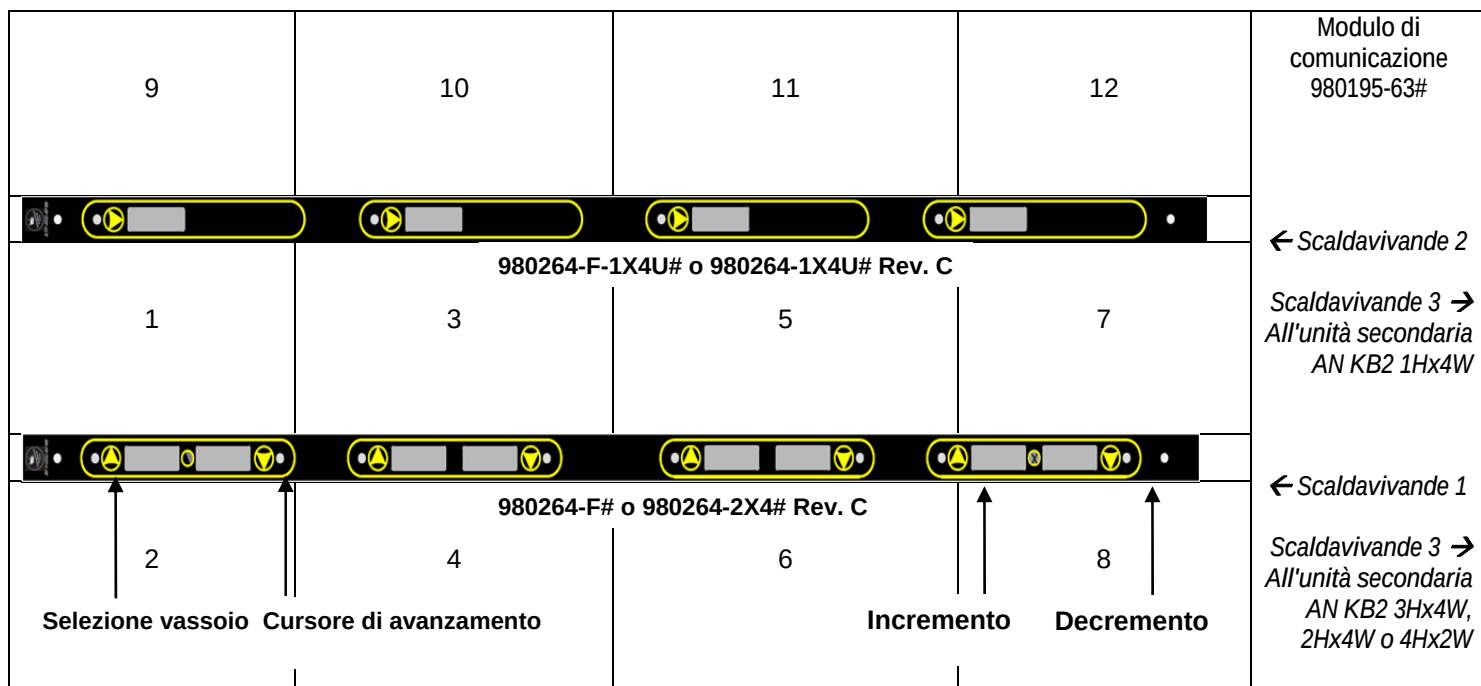
|                                                                             |                                                                  |                                                                                  |  |            |
|-----------------------------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------------------------------------------|--|------------|
| Modulo di comunicazione<br>980195-63#                                       | 980264-1X4U# Rev. C (nuova AN KB2) o 980264-F-1X4U# (vecchia AN) |                                                                                  |  |            |
| Scaldavivande 2 →                                                           |                                                                  |                                                                                  |  |            |
| ← Scaldavivande 3<br>All'unità secondaria<br>AN KB2 3Hx4W                   | 980264-2X4# Rev. C (nuova AN KB2) o 980264-F# (vecchia AN)       |                                                                                  |  |            |
| Scaldavivande 1 →                                                           |                                                                  |                                                                                  |  |            |
| ← Scaldavivande 3<br>All'unità secondaria<br>AN KB2 3Hx4W,<br>2Hx4W o 4Hx2W | Tasto                                                            | Nota bene: la selezione della fase giornata si esegue premendo l'apposito tasto. |  | Tasto Fase |

**Programmazione manuale di un'unità 3Hx4W con barre di temporizzazione alfanumeriche (1 di 2)**  
**(Vista anteriore dell'unità 3Hx4W)**



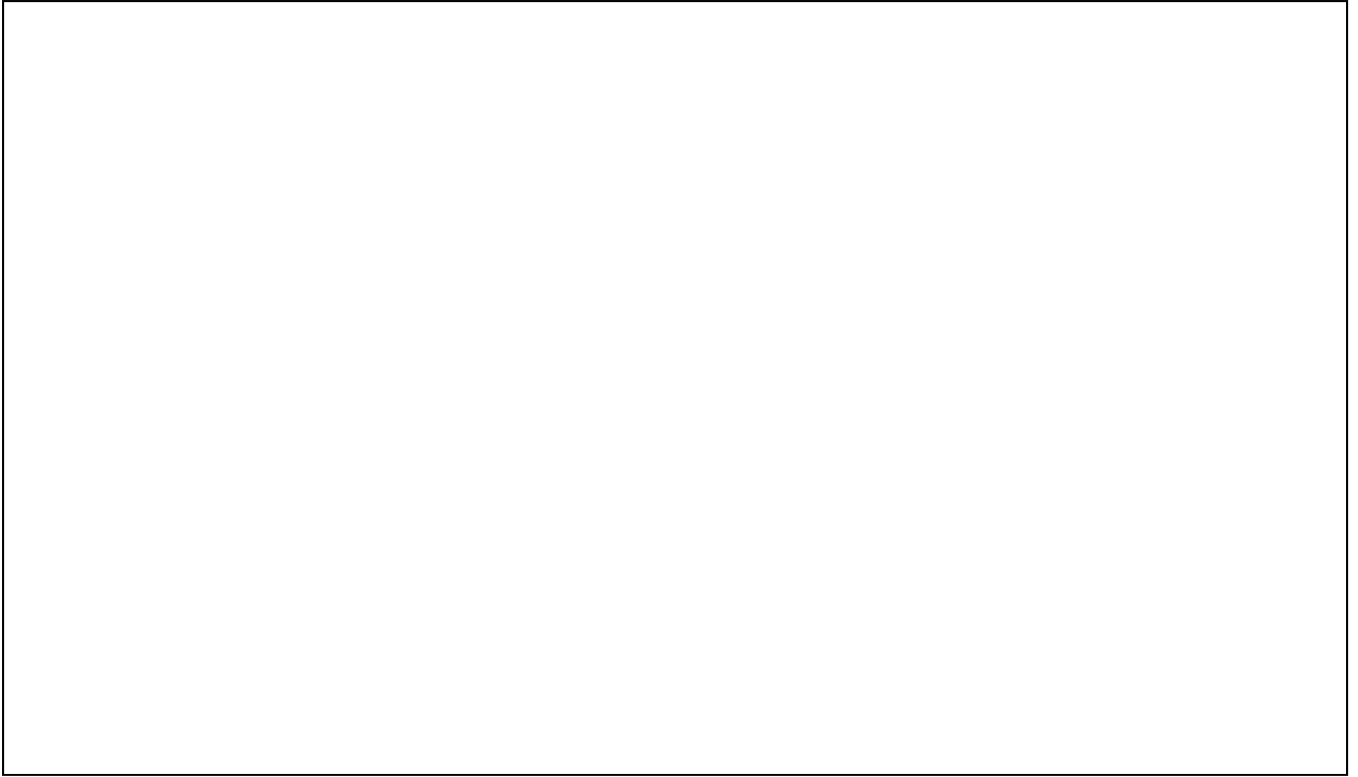
*I numeri nei vani dei vassoi indicano l'ordine di selezione dei vassoi nelle modalità di programmazione manuale.*

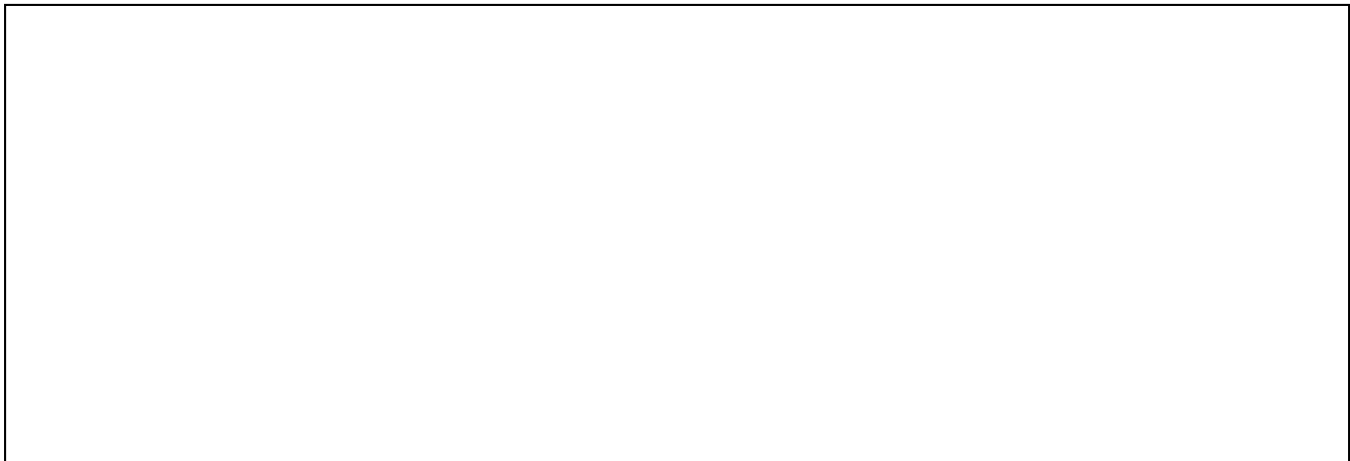
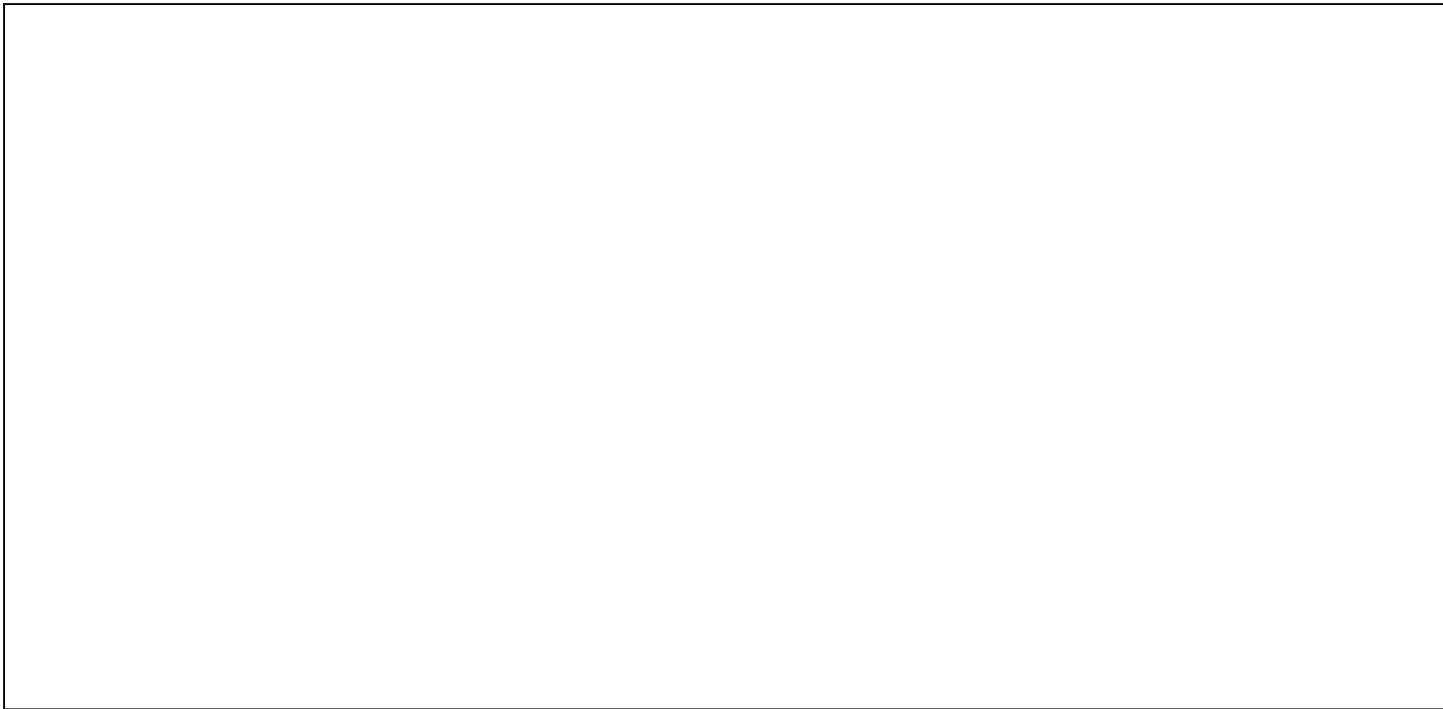
**Programmazione manuale di un'unità 3Hx4W con barre di temporizzazione alfanumeriche (2 di 2)**  
**(Vista anteriore dell'unità 3Hx4W)**



*I numeri nei vani dei vassoi indicano l'ordine di selezione dei vassoi nelle modalità di programmazione manuale.*

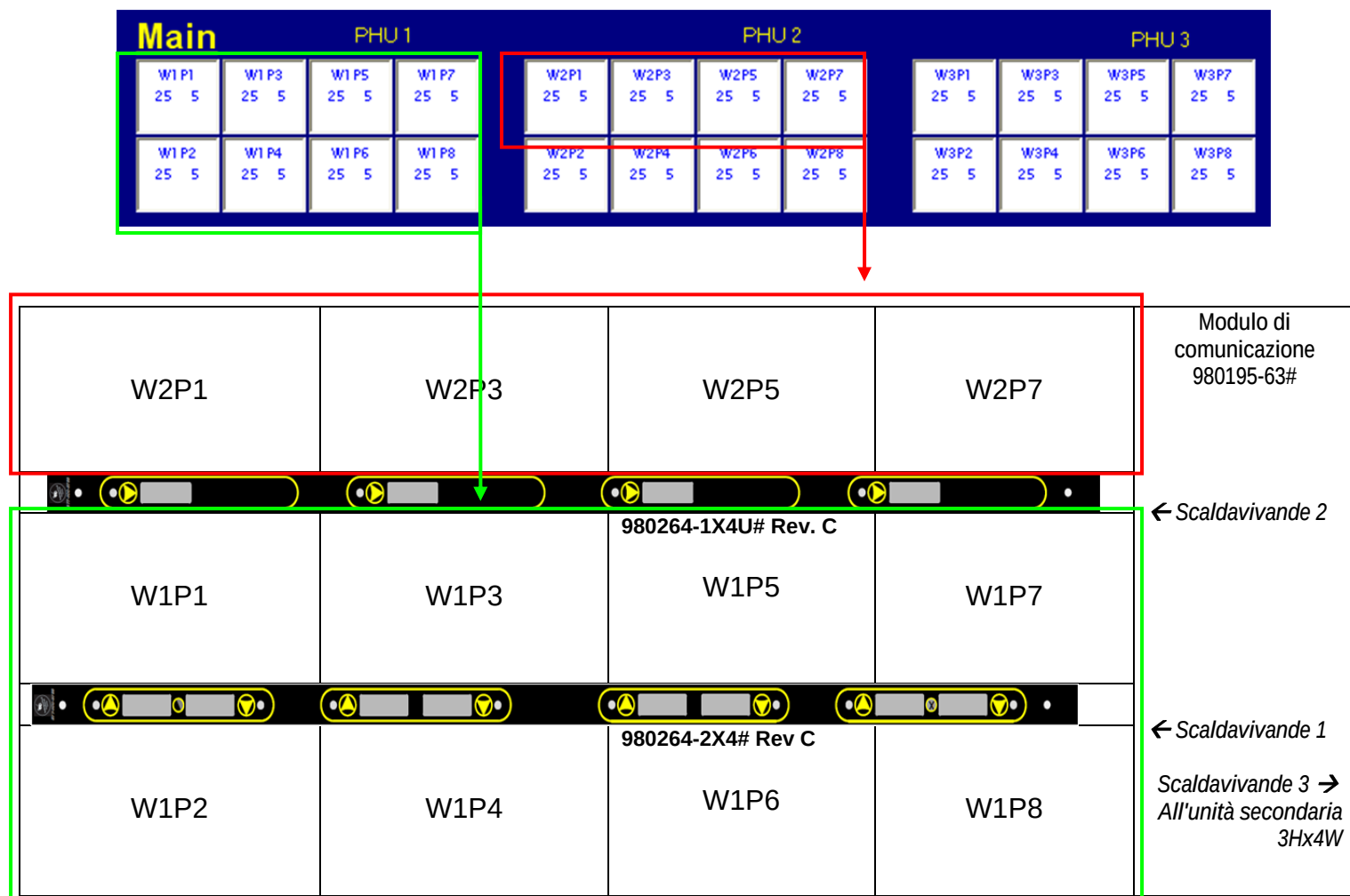
**Attenzione – Non scollegare né collegare le barre di temporizzazione ai moduli di comunicazione o ai moduli di alimentazione; si potrebbero danneggiare le unità.**





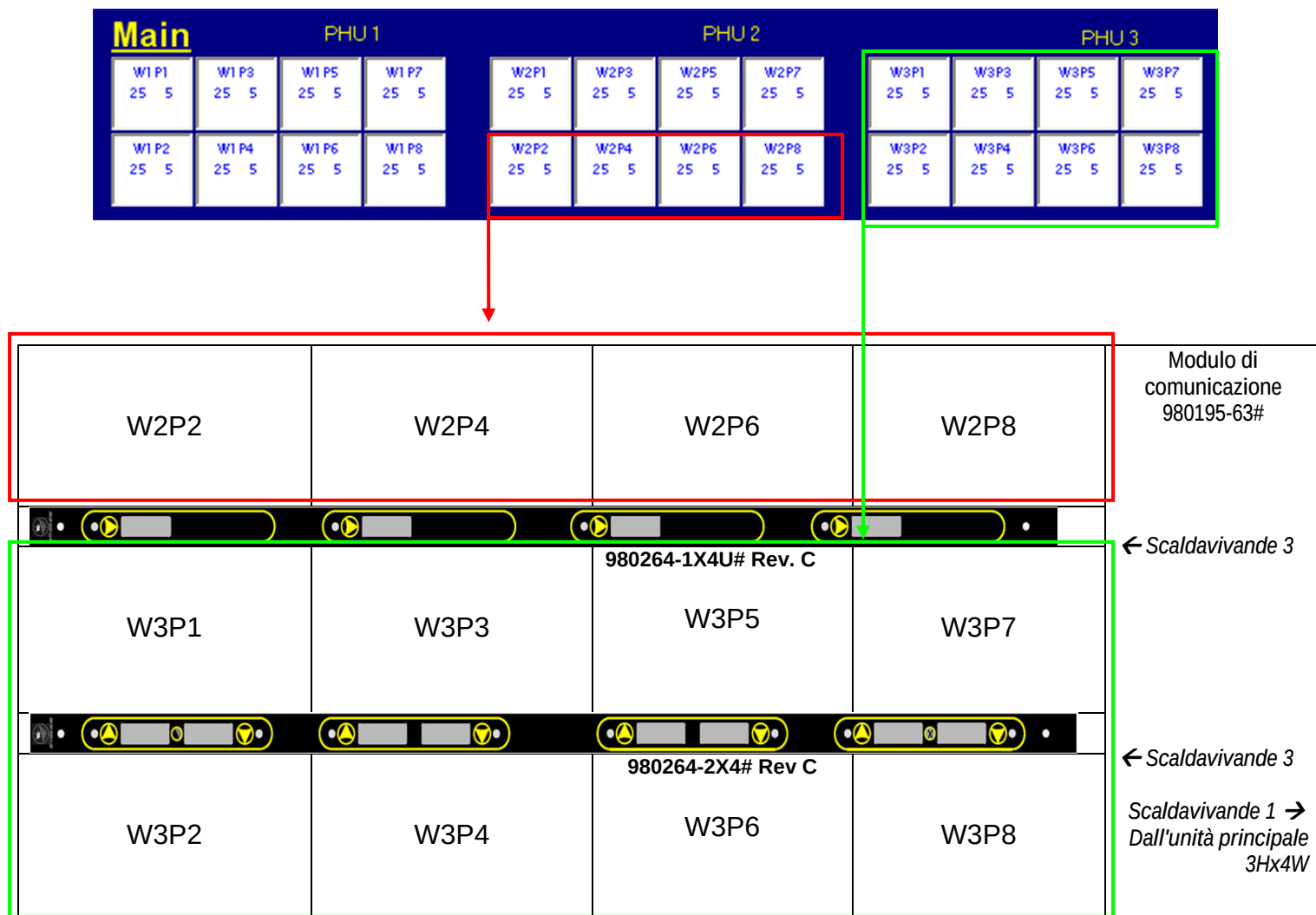


## Programmazione dell'unità 3H x 4W principale (PHU1)

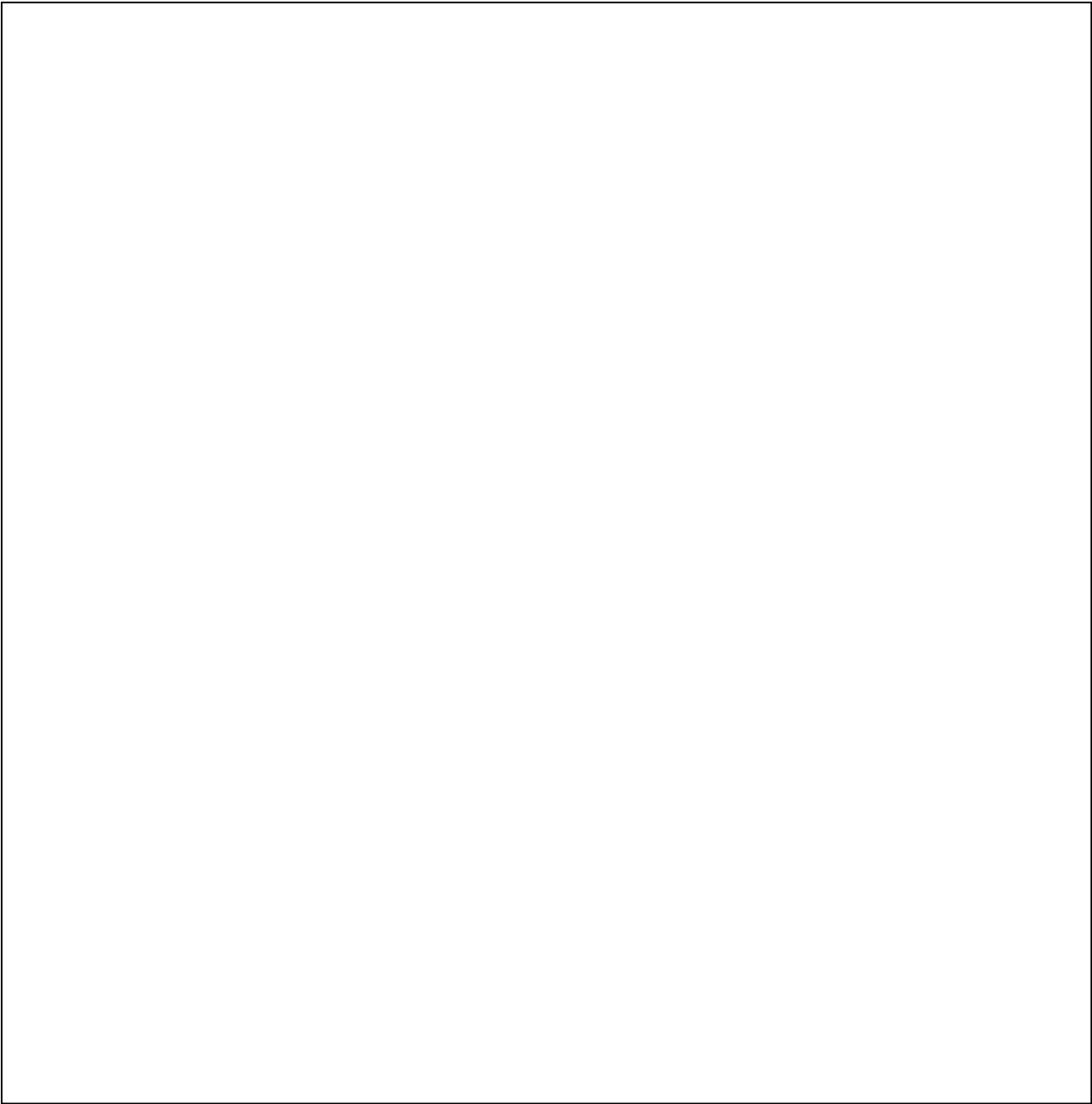


Unità 3H x 4W principale (PHU1) sulla porta dello scaldavivande 1 – Vista anteriore

## Programmazione dell'unità 3H x 4W secondaria (PHU2)



Unità 3H x 4W secondaria (PHU2) sulla porta dello scaldavivande 3 – Vista anteriore



### Linee guida

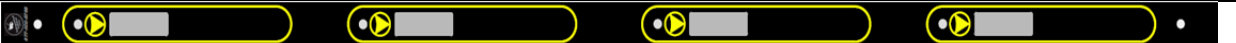
- 1) PHU1 deve essere sempre un'unità 3Hx4W con una barra di temporizzazione 2x4 collegata alla porta dello scaldavivande.
- 2) La porta 2 dello scaldavivande deve essere utilizzata solo per il collegamento delle barre di temporizzazione 1Hx4W (AN KB2, AN vecchie o RLGL) per l'uso come parte della PHU1 3X4.
- 3) PHU2 deve essere collegata alla porta 3 dello scaldavivande.
- 4) PHU2 può essere un'unità 4H o 4W (AN KB2, AN vecchia o RLGL).
- 5) PHU2 può essere un'unità 3x4 AN basata su KB2

### Attenzione

- 1) ***NON collegare né spostare barre di temporizzazione AN KB2 a porte diverse di un modulo KB PS (980680#)*** poiché lo si danneggerebbe, dato che la potenza d'ingresso non regolata sarebbe applicata a qualsiasi barra di temporizzazione collegata. Se il modulo KB PS continua a essere utilizzato dopo che è stato danneggiato, danneggerà eventuali moduli AN KB vecchi collegati e probabilmente anche eventuali barre di temporizzazione AN KB2 collegate.
- 2) Collegando o spostando barre di temporizzazione AN KB2 su un 980195-28.58kg non si danneggia il modulo di comunicazione ma se ne causa il ripristino.

## Nomi dei prodotti predefiniti in fabbrica

### Unità 3H x 4W principale (PHU1) sulla porta dello scaldavivande 1 – Vista anteriore

|                                                                                   |      |                     |      |                                                    |
|-----------------------------------------------------------------------------------|------|---------------------|------|----------------------------------------------------|
| W2P1                                                                              | W2P3 | W2P5                | W2P7 | Modulo di comunicazione<br>980195-63#              |
|  |      |                     |      | ← Scaldavivande 2                                  |
| W1P1                                                                              | W1P3 | 980264-1X4U# Rev. C | W1P7 |                                                    |
|  |      |                     |      | ← Scaldavivande 1                                  |
| W1P2                                                                              | W1P4 | 980264-2X4# Rev C   | W1P8 | Scaldavivande 3 →<br>All'unità secondaria<br>3Hx4W |

### Unità 2H x 4W secondaria (PHU2) sulla porta dello scaldavivande 3 – Vista anteriore

|                                                                                     |      |                     |      |                                                     |
|-------------------------------------------------------------------------------------|------|---------------------|------|-----------------------------------------------------|
| W2P2                                                                                | W2P4 | W2P6                | W2P8 | Modulo di comunicazione<br>980195-63                |
|  |      |                     |      | ← Scaldavivande 3                                   |
| W3P1                                                                                | W3P3 | 980264-1X4U# Rev. C | W3P7 |                                                     |
|  |      |                     |      | ← Scaldavivande 3                                   |
| W3P2                                                                                | W3P4 | 980264-2X4# Rev C   | W3P8 | Scaldavivande 1 →<br>Dall'unità 3Hx4W<br>principale |



## Overview of Alphanumeric 4Hx2W Timer Bars and Control

### Front view of Main 4Hx2W PHU with Alphanumeric Timer Bars and Control 980264-4X2#

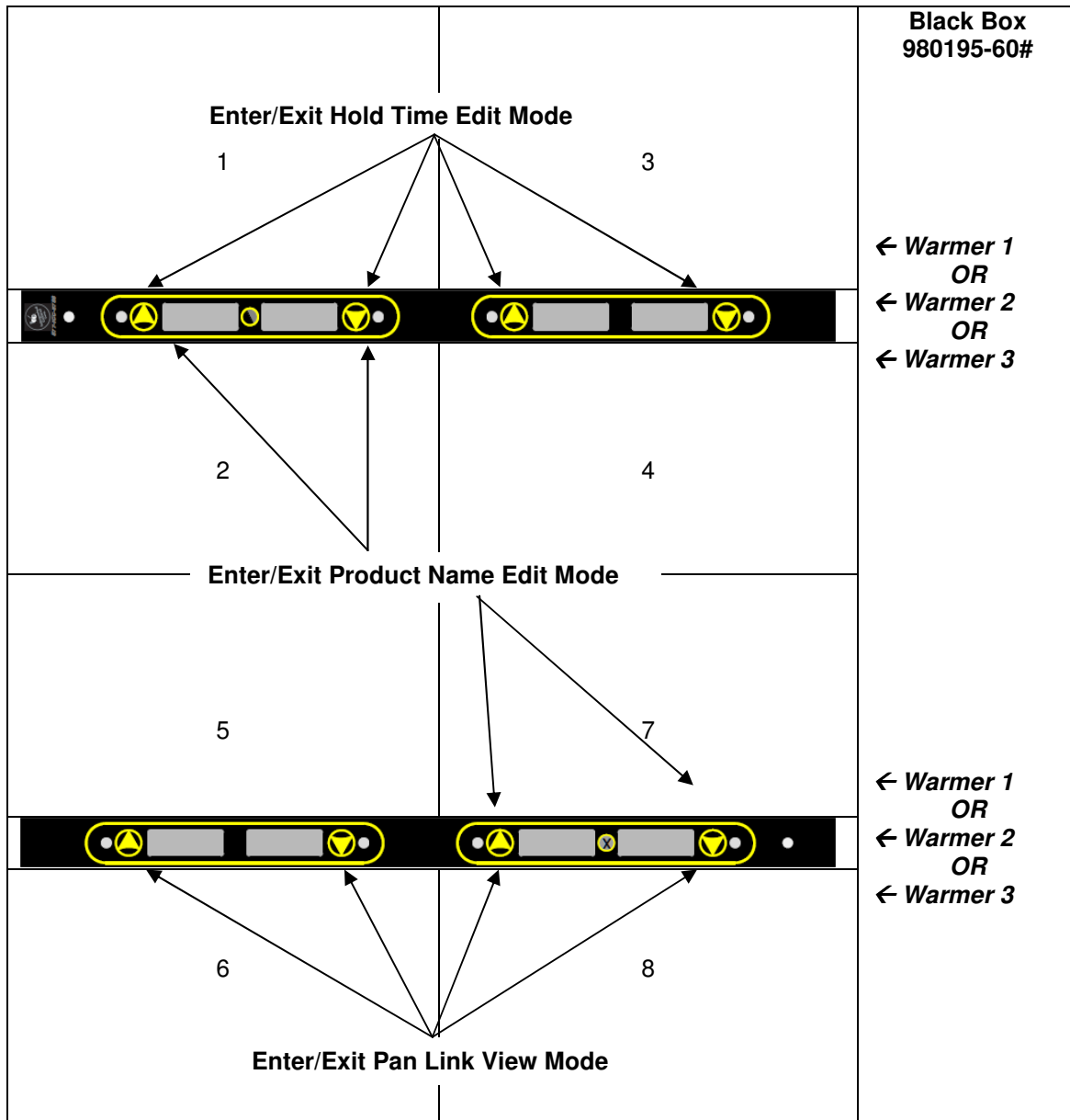
|                                                                                       |                                                                                      |                                                               |
|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------|
| <p>980264-4X2DP# Rev. C (new AN KB2) or 980264-F-4X2DP# (Legacy AN)</p>               |                                                                                      | <p>Black Box<br/>980195-60#</p>                               |
|      |    | <p>← Warmer 1<br/>OR<br/>← Warmer 2<br/>OR<br/>← Warmer 3</p> |
| <p>Daypart Key</p> <p>Note: Daypart selection is made by pressing the Daypart key</p> |                                                                                      |                                                               |
| <p>980264-4X2TF# Rev. C (new AN KB2) or 980264-F-4X2TF# (Legacy AN)</p>               |                                                                                      |                                                               |
|    |  | <p>← Warmer 1<br/>OR<br/>← Warmer 2<br/>OR<br/>← Warmer 3</p> |
|                                                                                       | <p>Transfer key</p>                                                                  |                                                               |

# Back view of Main 4Hx2W PHU with Alphanumeric Timer Bars and Control 980264-4X2# Rev.C

|                                                                                                            |                                                                                               |                                                                                    |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| <div> <div>Black Box</div> <div>980195-60#</div> </div>                                                    | <div>980264-4X2DP# Rev. C (new AN KB2) or 980264-B-4X2DP# (Legacy AN)</div>                   |                                                                                    |
|                                                                                                            | <div>Warmer 1 →</div> <div>OR</div> <div>Warmer 2 →</div> <div>OR</div> <div>Warmer 3 →</div> |  |
|                                                                                                            |                                                                                               | <div>Daypart Key</div>                                                             |
|                                                                                                            | <div>Note: Daypart selection is made by pressing the Daypart key</div>                        |                                                                                    |
|                                                                                                            | <div>980264-4X2TF# Rev. C (new AN KB2) or 980264-B-4X2TF# (Legacy AN)</div>                   |                                                                                    |
| <div> <div>Warmer 1 →</div> <div>OR</div> <div>Warmer 2 →</div> <div>OR</div> <div>Warmer 3 →</div> </div> |           |                                                                                    |
|                                                                                                            | <div>Transfer Key</div>                                                                       |                                                                                    |
|                                                                                                            |                                                                                               |                                                                                    |

## Manual Programming a 4Hx2W PHU with Alphanumeric Timer Bars (1 of 2)

(Front view of 4Hx2W PHU)



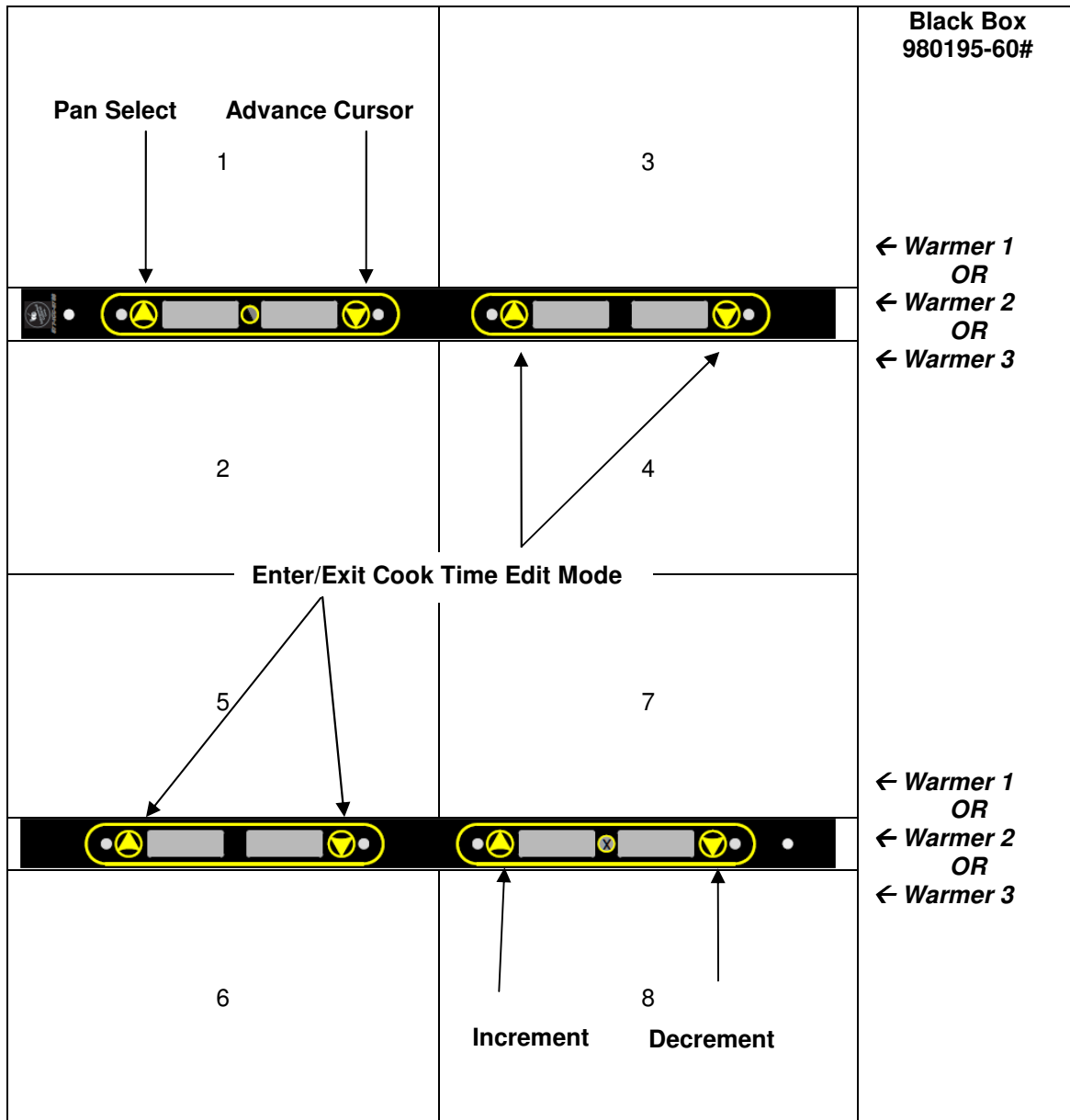
**Numbers in pan wells indicate the order of pan selection in manual programming modes.**

**Warning – Do not unplug or plug Timer bars from the powered Black Boxes or Keyboard Power Supply Boxes. This may cause damage to the units!**



# Manual Programming a 4Hx2W PHU with Alphanumeric Timer Bars (2 of 2)

(Front view of 4Hx2W PHU)



**Numbers in pan wells indicate the order of pan selection in manual programming modes.**

**Warning – Do not unplug or plug Timer bars from the powered Black Boxes or Keyboard Power Supply Boxes. This may cause damage to the units!**

### Hold Time Programming for current Daypart

***Programming should be performed on the front side of the warmer.***

1. **Enter Hold Time** programming by pressing the **TOP 4 UP & DOWN** keys simultaneously.
2. The **TOP left LED** will turn **FLASHING RED**, indicating that the programming function is activated, and the alphanumeric display for each pan will show its current **Hold Time** in minutes.
3. In addition to the times shown in the alphanumeric displays, the **GREEN, RED and YELLOW LED's** represent the **Hold Time**. Add the values of each color to calculate the **Hold Time** of the **RED LED** currently flashing.
  - Green = 5 minutes
  - Yellow = 20 minutes
  - Red = 60 minutes (excluding the **FLASHING RED** light that indicates the current pan)
  - Green Flashing = 30 minutes
  - Yellow Flashing = 120 minutes
4. **Increase Hold Time** by pressing the **BOTTOM rightmost UP** arrow key.
5. **Decrease Hold Time** by pressing the **BOTTOM rightmost DOWN** arrow key.
6. **Hold Time** may be set in 5 minute increments from 5 to 120 minutes and 30 minute increments from 120 to 660 minutes (11 hours).
7. Press the **TOP leftmost UP** key to move the **FLASHING RED LED** to the next pan to program.
8. **Save and Exit Hold Time** programming by pressing the **TOP 4 UP & DOWN** keys simultaneously.

### Cook Time Programming for current Daypart

***Programming should be performed on the front side of the warmer.***

1. **Enter Cook Time** programming by pressing the **TOP 2 rightmost UP & DOWN** keys and the **BOTTOM leftmost UP & DOWN** keys simultaneously.
2. The **TOP leftmost LED** will turn **FLASHING RED**, indicating that the programming function is activated, and the alphanumeric display for each pan will show its current **Cook Time** in minutes.
3. In addition to the times shown in the alphanumeric displays, the **GREEN, RED and YELLOW LED's** represent the **Cook Time**. Add the values of each color in the section to calculate the **Cook Time** of the **RED LED** currently flashing.
  - Green = 5 minutes
  - Yellow = 20 minutes
  - Red = 60 minutes (excluding the **FLASHING RED** light that indicates the current pan)
  - Green Flashing = 30 minutes
  - Yellow Flashing = 120 minutes
4. **Increase Cook Time** by pressing the **BOTTOM rightmost UP** arrow key.
5. **Decrease Cook Time** by pressing the **BOTTOM rightmost DOWN** arrow key.
6. **Cook Time** may be set in 1 minute increments from 1 to 10 minutes, 5 minute increments from 10 to 120 minutes and 30 minute increments from 120 to 660 minutes (11 hours).
7. Press the **TOP leftmost UP** key to move the **FLASHING RED LED** to the next pan to program.
8. **Save and exit Cook Time** programming by pressing the **TOP 2 rightmost UP & DOWN** keys and the **BOTTOM leftmost UP & DOWN** keys simultaneously.

**Note: Do not program the Cook Time with a value greater than the Hold Time.**

## Product Name Programming for current Daypart

***Programming should be performed on the front side of the warmer.***

1. **Enter Product Name** programming by pressing the **TOP 2 leftmost UP & DOWN** keys and the **BOTTOM 2 rightmost UP & DOWN** keys simultaneously.
2. The **TOP leftmost LED** will turn **RED**, indicating that the programming function is activated, and the **TOP leftmost** display of the keyboard shows the current 4-character product name with its leftmost character blinking. This indicates you are programming PAN 1 and the blinking character indicates the current cursor position within the 4-character NAME.
3. To advance the cursor within the current name, press the 2<sup>nd</sup> button from the left (the first **DOWN** key) on the **TOP** keyboard.
4. To change the character at the current cursor position, press the **BOTTOM** rightmost button (Down Arrow) on the keyboard to change to the preceding character value and the 2<sup>nd</sup> **BOTTOM** button from the right (Up Arrow) to change to the next character value from the following list:

<space>! " # \$ % & ' ( ) \* + , - . / 0 1 2 3 4 5 6 7 8 9 : ; < = > ? @ A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ \ ] ^ \_ ` a b c d e f g h i j k l m n o p q r s t u v w x y z

5. Press the **TOP leftmost UP** key to move the **RED LED** to the next pan to program.
6. **Save and Exit Product Name** programming by pressing the 2 **TOP 2 leftmost UP & DOWN** keys and the **BOTTOM 2 rightmost UP & DOWN** keys simultaneously. *It is recommended that you press and hold the leftmost pair of pan buttons first to avoid inadvertent character changes when pressing the rightmost pair.*

**Note:** You should check your **PANS LINKED** configuration after editing product NAMES to assure they are linked as desired.

## Pan Link Viewing for current Daypart

Pan linkage for alphanumeric timer bars and controls is determined exclusively from the 4-character product name. Pans are linked if and only if their product names are the same.

***Viewing should be performed on the front side of the warmer.***

1. **Enter Link Programming** by simultaneously pressing the **BOTTOM 4 rightmost UP & DOWN** keys.
2. The **TOP leftmost LED** will turn **RED**, indicating that the programming function is activated.
3. All **LEDs** that are **GREEN** indicate the pans that are linked to the **RED LED**.
4. Press the **TOP leftmost UP** key to move the **RED LED** to the next pan to link.
5. To **Exit Link Programming**, press the **BOTTOM 4 rightmost UP & DOWN** keys simultaneously.

## Stand-Alone and Kitchen Minder Modes

The Factory Default is Stand-Alone Mode.

Stand-Alone mode: The Black Box will not seek a signal from a Kitchen Minder

Once a Kitchen Minder is attached, the Black Box is automatically changed to Kitchen Minder Mode. If the Black Box loses communication with the Kitchen Minder (cable unplugged, Kitchen Minder is powered off) after 30 seconds, the Timer Bar displays "NoKM" on all the modules until communication is reestablished and at that time the programmed products are redisplayed. If power to the Black Box is reset and there is no communication to the Kitchen Minder, after 3-5 min "NoKM" will be displayed on all modules.

To temporarily override the "NoKM" error message, simply press the Daypart key once.

To permanently reset the Black Box to Stand-Alone mode, power off the Black Box, then simultaneously press the Daypart Key while powering up the Black Box.

### 4Hx2W PHU Manual Editing Considerations

Since the 4Hx2W AN Black Box supporting these PHU's usually will be connected to a Kitchen Minder, manual editing should be an infrequent occurrence.

When required, manual editing (a) should be performed for **one PHU at a time** and (b) should be performed **while standing in front of the warmer to be programmed**.

Generally, advancing pans on one PHU will also advance pans on the other PHU(s). The selected pan's LED will be RED.

Incrementing and decrementing pan time values and pan name letters will affect only the selected pan on the PHU whose increment or decrement button is pressed.

When editing product name, the cursor advance button will affect the select pan on each.

Although in practice "use first" LED indications are provided across PHUs, when viewing pan linkage (which is based on product names being identical), linkage is restricted to pans linked on each PHU separately – showing all pans on the PHU linked with that PHU's selected pan.

When editing product names, hold times, cook times or linked products through dayparts, the recommended way to differentiate between Dayparts is to recycle the power to the black box and wait for the system to boot up (since the black box defaults to Daypart 1). At this point the black box will be defaulted to Daypart 1. Press the Daypart button once to change to Daypart 2. Press the Daypart button once more to change to Daypart 3.

### PHU Configuration Support

The 4Hx2W AN KB2 Black Box SW is primarily intended to support all the following configurations:

PHUs 1, 2 and 3 (with timer bars connected in Warmer Port 1, 2 and 3)

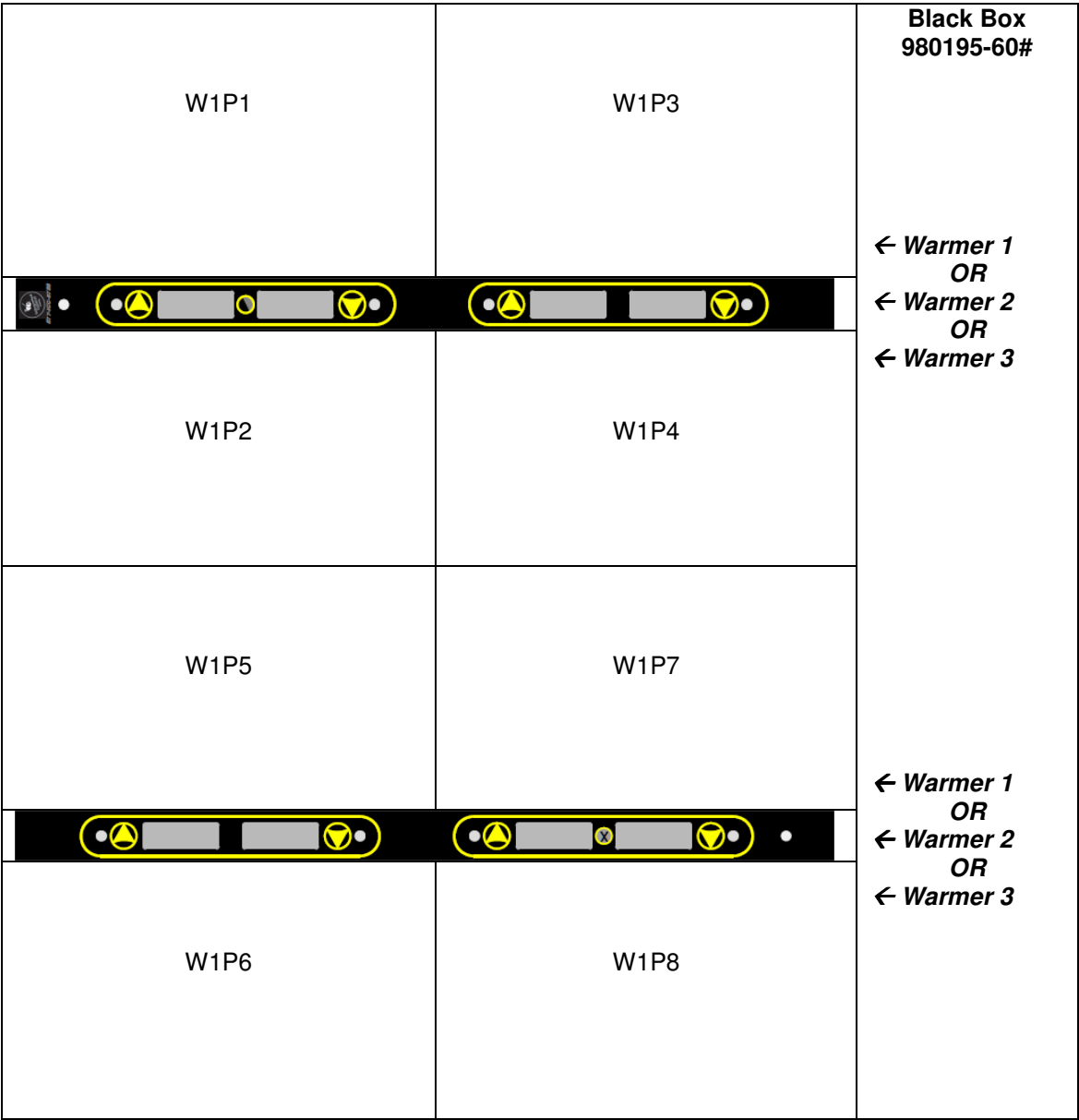
- 1) PHUs 1, 2 and 3 can be legacy 2x4 AN, RLGL, 2X4 AN Rev.C, legacy 4X2 AN or 4X2 AN Rev.C
- 2) PHUs 1, 2 and 3 can have a mix of any of the timer bars specified in the above line as the front and back timer bars

#### **Warnings:**

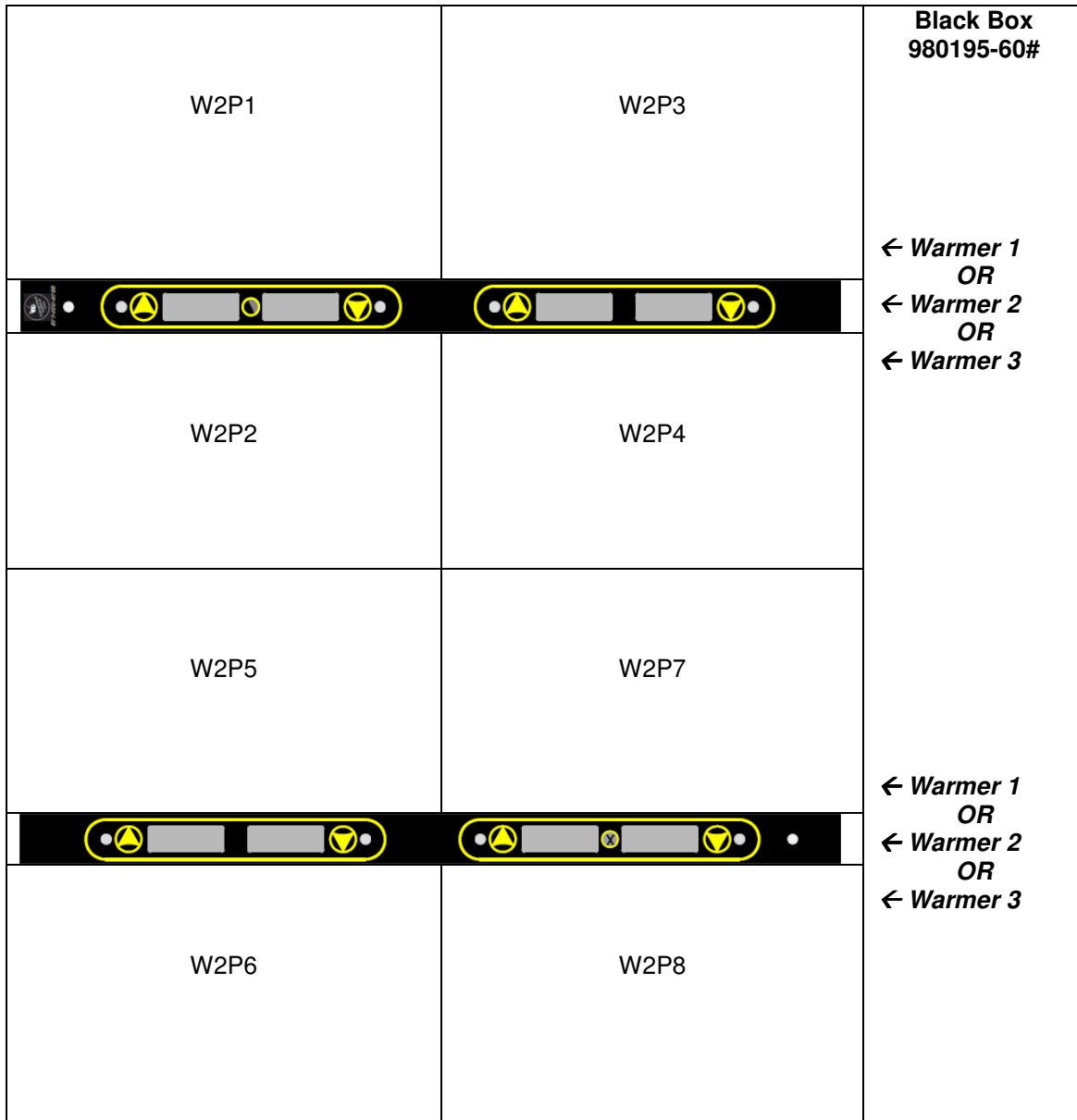
- 1) **Do NOT plug in or move AN KB2 timer bars to different ports on a powered up KB PS box (980680#)** as this will damage the KB PS box resulting in input power being provided unregulated to any attached timer bars. If the KB PS box continues to be used once damaged it will damage any attached legacy AN KBs and will likely damage any attached AN KB2 timer bars.
- 2) Plugging in or moving AN KB2 timer bars on a 980195-60# will not damage the Black Box but will cause it to reset.

Factory Default Product Names

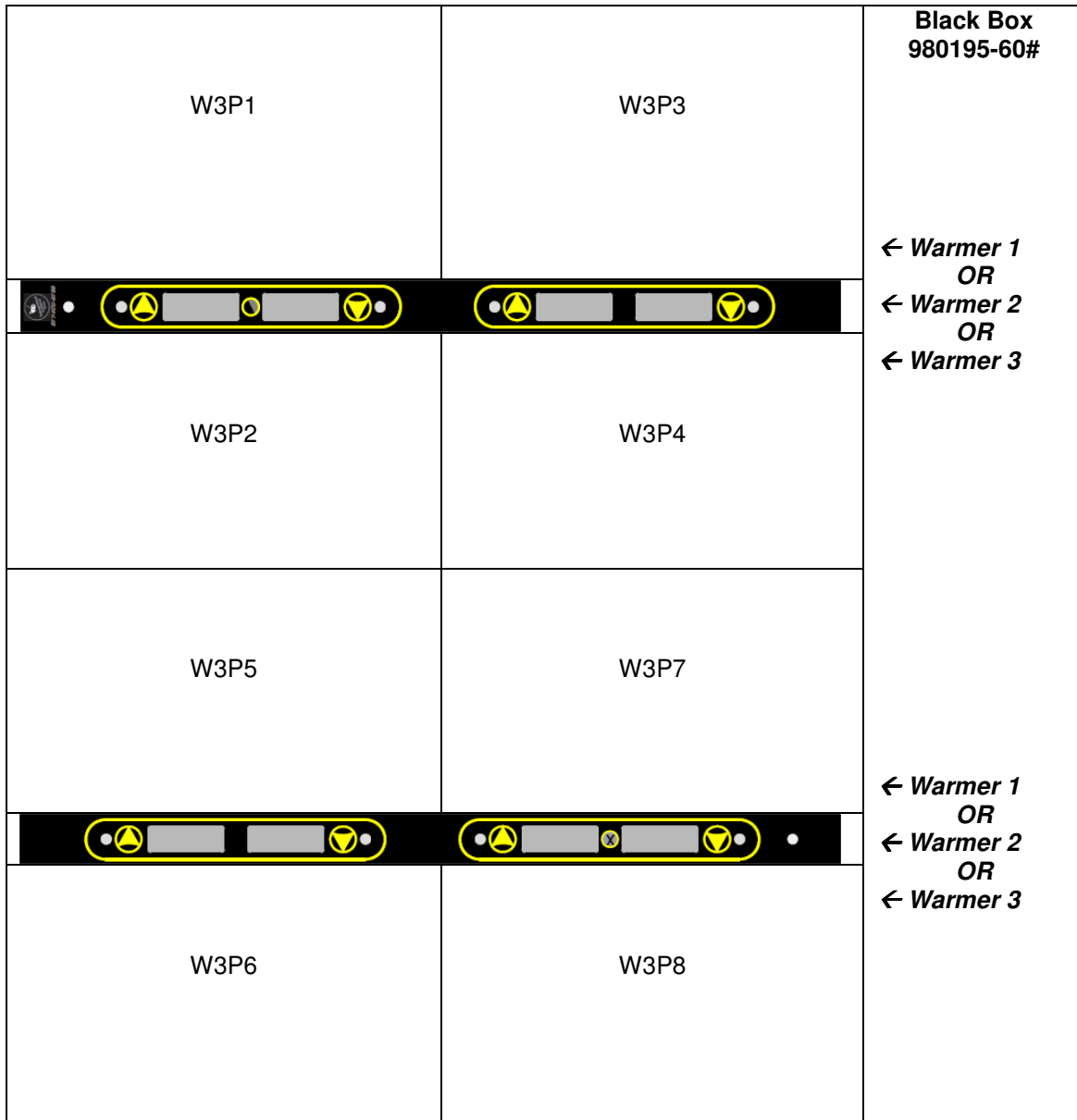
Main (PHU1) 4H x 2W PHU on Warmer Port 1 – Front View



## Slave (PHU2) 4H x 2W PHU on Warmer Port 2 – Front View



# Slave (PHU3) 4H x 2W PHU on Warmer Port 3 – Front View





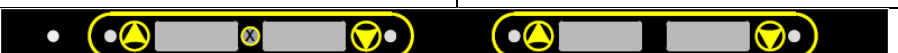
## Alphanumerische 4Hx2B Timerleisten und Bedienelemente

### Vorderansicht des 4Hx2B Warmhalteschranks mit alphanumerischen Timerleisten und Bedienelementen 980264-4X2#

|                                                                                                                 |  |                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------|
| 980264-4X2DP# Rev. C (neue AN KB2) oder 980264-F-4X2DP# (ältere AN)                                             |  | Blackbox<br>980195-60#                                                                              |
|                               |  | ← Warmhalte-<br>schrank 1<br>ODER<br>← Warmhalte-<br>schrank 2<br>ODER<br>← Warmhalte-<br>schrank 3 |
| Tagesabschnittstaste<br><br>Hinweis: Der Tagesabschnitt wird durch Drücken der Tagesabschnittstaste ausgewählt. |  |                                                                                                     |
| 980264-4X2TF# Rev. C (neue AN KB2) oder 980264-F-4X2TF# (ältere AN)                                             |  | ← Warmhalte-<br>schrank 1<br>ODER<br>← Warmhalte-<br>schrank 2<br>ODER<br>← Warmhalte-<br>schrank 3 |
|                             |  |                                                                                                     |
| Transfertaste                                                                                                   |  |                                                                                                     |

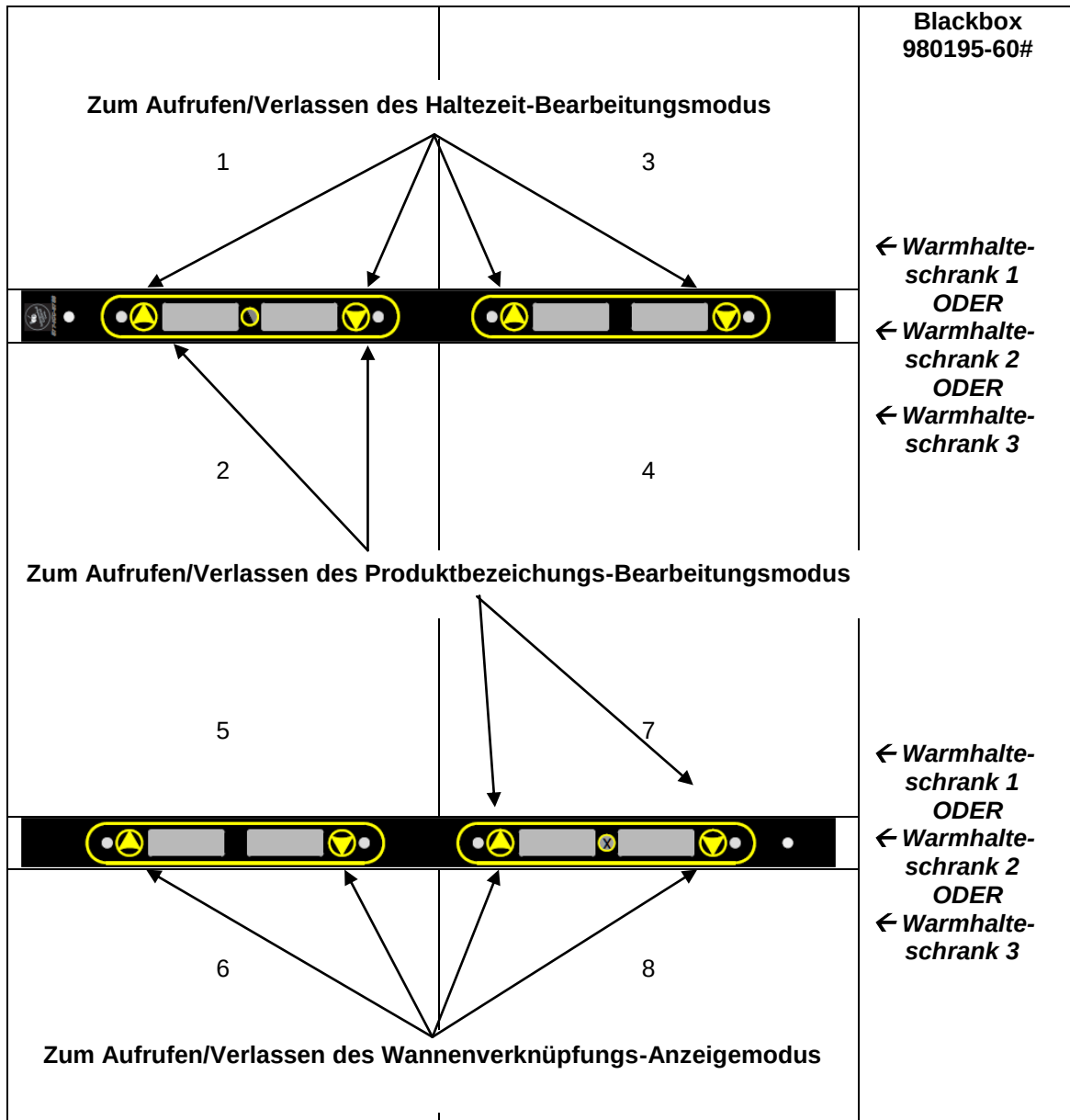


**Rückansicht des 4Hx2B Warmhalteschranks  
mit alphanumerischen Timerleisten und Bedienelementen  
980264-4X2# Rev.C**

|                                                                                                                          |                                                                            |                                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Blackbox<br/>980195-60#</b></p>                                                                                    |                                                                            |                                                                                                                                                                                                           |
| <p><i>Warmhalte-<br/>schrank 1 →<br/>ODER<br/>Warmhalte-<br/>schrank 2 →<br/>ODER<br/>Warmhalte-<br/>schrank 3 →</i></p> | <p>980264-4X2DP# Rev. C (neue AN KB2) oder 980264-B-4X2DP# (ältere AN)</p> |  <p>Tagesabschnittstaste</p> <p>Hinweis: Der Tagesabschnitt wird durch Drücken der Tagesabschnittstaste ausgewählt.</p> |
| <p><i>Warmhalte-<br/>schrank 1 →<br/>ODER<br/>Warmhalte-<br/>schrank 2 →<br/>ODER<br/>Warmhalte-<br/>schrank 3 →</i></p> | <p>980264-4X2TF# Rev. C (neue AN KB2) oder 980264-B-4X2TF# (ältere AN)</p> |  <p>Transfertaste</p>                                                                                                 |

# Manuelle Programmierung eines 4Hx2B Warmhalteschranks mit alphanumerischen Timerleisten (1 von 2)

(Vorderansicht des 4Hx2B Warmhalteschranks)

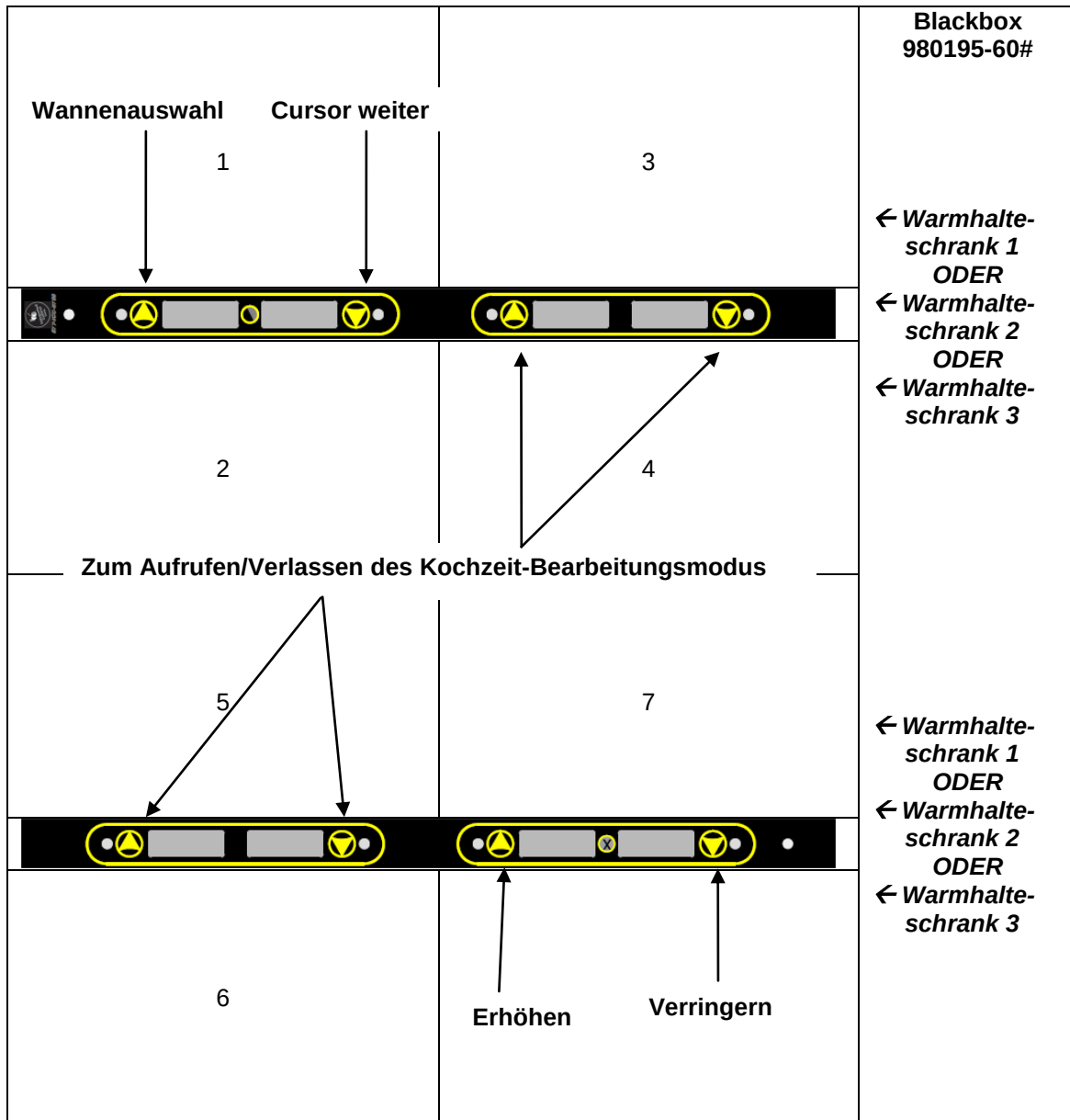


**Die Ziffern der Wannenfelder geben die Auswahlreihelfolge der Wannen bei der manuellen Programmierung an.**

**Warnung – Timerleisten nicht von den stromführenden Blackboxes oder Tastenfeld-Stromversorgungsfeldern abklemmen, um Schäden zu vermeiden!**

# Manuelle Programmierung eines 4Hx2B Warmhalteschranks mit alphanumerischen Timerleisten (2 von 2))

(Vorderansicht des 4Hx2B Warmhalteschranks)



Die Ziffern der Wannenfächer geben die Auswahlreihelfolge der Wannen bei der manuellen Programmierung an.

**Warnung – Timerleisten nicht von den stromführenden Blackboxes oder Tastenfeld-Stromversorgungsfeldern abklemmen, um Schäden zu vermeiden!**

## Programmierung der Haltezeit für den aktuellen Tagesabschnitt

**Die Programmierung ist an der Vorderseite des Warmhaltegeräts durchzuführen.**

1. Zum Programmieren der **Haltezeit** die **OBEREN 4 AUFWÄRTS- und ABWÄRTSTASTEN** gleichzeitig drücken.
2. Die **linke OBERE LED BLINKT ROT** um anzuzeigen, dass die Programmierfunktion aktiviert wurde, und das alphanumerische Display für jede Wanne zeigt die aktuelle **Haltezeit** in Minuten.
3. Neben den alphanumerischen Displays wird die **Haltezeit** außerdem durch die **GRÜNE, ROTE und GELBE LED** angezeigt. Die Werte jeder Farbe addieren, um die **Haltezeit** der aktuell blinkenden **ROTEN LED** zu berechnen.  
  
Grün = 5 Minuten  
Gelb = 20 Minuten  
Rot = 60 Minuten (mit Ausnahme der **BLINKENDEN ROTEN LED**, die die aktuelle Wanne anzeigt)  
Grün blinkend = 30 Minuten  
Gelb blinkend = 120 Minuten
4. Zum Erhöhen der **Haltezeit** die **GANZ RECHTE UNTERE AUFWÄRTSTASTE** drücken.
5. Zum Verringern der **Haltezeit** die **GANZ RECHTE UNTERE ABWÄRTSTASTE** drücken.
6. Die **Haltezeit** kann in Schritten von 5 Minuten zwischen 5 und 120 Minuten und in Schritten von 30 Minuten zwischen 120 und 660 Minuten (11 Stunden) eingestellt werden.
7. Die **GANZ LINKE OBERE AUFWÄRTSTASTE** drücken, um die **BLINKENDE ROTE LED** zur nächsten zu programmierenden Wanne zu verschieben.
8. Zum **Speichern** und **Verlassen** der **Haltezeit**-Programmierung die **OBEREN 4 AUFWÄRTS- und ABWÄRTSTASTEN** gleichzeitig drücken.

## Programmierung der Kochzeit für den aktuellen Tagesabschnitt

**Die Programmierung ist an der Vorderseite des Warmhaltegeräts durchzuführen.**

1. Zum Programmieren der **Kochzeit** die **2 GANZ RECHTEN OBEREN AUFWÄRTS- und ABWÄRTSTASTEN** und die **GANZ LINKEN UNTEREN AUFWÄRTS- und ABWÄRTSTASTEN** gleichzeitig drücken.
2. Die **GANZ LINKE OBERE LED BLINKT ROT** um anzuzeigen, dass die Programmierfunktion aktiviert wurde, und das alphanumerische Display für jede Wanne zeigt die aktuelle **Haltezeit** in Minuten.
3. Neben den alphanumerischen Displays wird die **Kochzeit** außerdem durch die **GRÜNE, ROTE und GELBE LED** angezeigt. Die Werte jeder Farbe addieren, um die **Kochzeit** der aktuell blinkenden **ROTEN LED** zu berechnen.  
  
Grün = 5 Minuten  
Gelb = 20 Minuten  
Rot = 60 Minuten (mit Ausnahme der **BLINKENDEN ROTEN LED**, die die aktuelle Wanne anzeigt)  
Grün blinkend = 30 Minuten  
Gelb blinkend = 120 Minuten
4. Zum Erhöhen der **Kochzeit** die **GANZ RECHTE UNTERE AUFWÄRTSTASTE** drücken.
5. Zum Verringern der **Kochzeit** die **GANZ RECHTE UNTERE ABWÄRTSTASTE** drücken.
6. Die **Kochzeit** kann in Schritten von 1 Minute zwischen 1 und 10 Minuten, in Schritten von 5 Minuten zwischen 10 und 120 Minuten und in Schritten von 30 Minuten zwischen 120 und 660 Minuten (11 Stunden) eingestellt werden.
7. Die **GANZ LINKE OBERE AUFWÄRTSTASTE** drücken, um die **BLINKENDE ROTE LED** zur nächsten zu programmierenden Wanne zu verschieben.
8. Zum **Speichern** und **Verlassen** der **Kochzeit**-Programmierung die **2 GANZ RECHTEN OBEREN AUFWÄRTS- und ABWÄRTSTASTEN** und die **GANZ LINKEN UNTEREN AUFWÄRTS- und ABWÄRTSTASTEN** gleichzeitig drücken.

**Hinweis:** Keinen Wert für die **Kochzeit** einstellen, der größer ist als die **Haltezeit**.

## Programmierung der Produktbezeichnung für den aktuellen Tagesabschnitt

**Die Programmierung ist an der Vorderseite des Warmhaltegeräts durchzuführen.**

1. Zum Programmieren der **Produktbezeichnung** die **2 GANZ LINKEN OBEREN AUFWÄRTS- und ABWÄRTSTASTEN** und die **2 GANZ RECHTEN UNTEREN AUFWÄRTS- und ABWÄRTSTASTEN** gleichzeitig drücken.
2. Die **GANZ LINKE OBERE LED** erscheint **ROT** um anzuzeigen, dass die Programmierfunktion aktiviert wurde, und das **GANZ LINKE OBERE** Display des Tastenfelds zeigt die aktuelle 4-stellige Produktbezeichnung, wobei das linke Zeichen blinkt. Dadurch wird angezeigt, dass **WANNE 1** programmiert wird, und das blinkende Zeichen gibt die aktuelle Cursorposition innerhalb des 4-stelligen **NAMENS** an.
3. Zum Vorsetzen des Cursor die 2. Taste von links drücken (die erste **ABWÄRTSTASTE**) auf dem **OBEREN** Tastenfeld drücken.
4. Zum Ändern des Zeichens an der aktuellen Cursorposition die ganz rechte **UNTERE** Taste (Abwärtspfeil) auf dem Tastenfeld drücken, um das vorherige Zeichen aus der folgenden Liste einzustellen, bzw. die 2. **UNTERE** Taste von rechts (Aufwärtspfeil) drücken, um das vorherige Zeichen aus der folgenden Liste einzustellen:

<leer>!"#\$%&'()\*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^\_`abcdefghijklmnopqrstuvwxyz

5. Die **GANZ LINKE OBERE AUFWÄRTSTASTE** drücken, um die **ROTE LED** zur nächsten zu programmierenden Wanne zu verschieben.
6. Zum **Speichern** und **Verlassen** der **Produktbezeichnungs-Programmierung** die **2 GANZ LINKEN OBEREN AUFWÄRTS- und ABWÄRTSTASTEN** und die **2 GANZ RECHTEN UNTEREN AUFWÄRTS- und ABWÄRTSTASTEN** gleichzeitig drücken. *Es wird empfohlen, das ganz linke Paar der Wannentasten zuerst zu drücken und gedrückt zu halten, um unbeabsichtigte Zeichenänderungen beim Drücken des ganz rechten Tastenpaares zu vermeiden.*

**Hinweis:** Nach dem Bearbeiten der Produktbezeichnungen die **WANNENVERKNÜPFUNGS-Konfiguration** überprüfen.

## Anzeige der Wannenverknüpfung für die aktuelle Tageszeit

Die Wannenverknüpfung für alphanumerische Timerleisten und Bedienelemente wird ausschließlich durch die 4-stellige Produktbezeichnung bestimmt. Es werden nur Wannen mit gleicher Produktbezeichnung verknüpft.

**Die Anzeige ist an der Vorderseite des Warmhaltegeräts durchzuführen.**

1. Zum Programmieren der **Wannenverknüpfung** die **4 GANZ RECHTEN UNTEREN AUFWÄRTS- und ABWÄRTSTASTEN** gleichzeitig drücken.
2. Die **GANZ LINKE OBERE LED** erscheint **ROT** um anzuzeigen, dass die Programmierfunktion aktiviert wurde.
3. Alle **LEDs**, die **GRÜN** erscheinen, sind Wannen, die mit der **ROTEN LED** verknüpft sind.
4. Die **GANZ LINKE OBERE AUFWÄRTSTASTE** drücken, um die **ROTE LED** zur nächsten zu verknüpfenden Wanne zu verschieben.
5. Zum **Verlassen** der **Wannenverknüpfungs-Programmierung** die **4 GANZ RECHTEN UNTEREN AUFWÄRTS- und ABWÄRTSTASTEN** gleichzeitig drücken.

## Eigenständiger und Kitchen Minder Modus

Die werkseitige Einstellung ist der eigenständige Modus.

Eigenständiger Modus: Die Blackbox sucht nicht nach einem Signal von einem Kitchen Minder.

Bei Anschluss eines Kitchen Minder wird die Black Box automatisch auf den Kitchen Minder Modus umgestellt. Bei einem Verlust der Kommunikation der Blackbox mit dem Kitchen Minder (Kabel getrennt, Kitchen Minder ausgeschaltet) zeigt die Timerleiste für alle Module nach 30 Sekunden „NoKM“ an, bis die Kommunikation wieder hergestellt wurde. Zu diesem Zeitpunkt werden die programmierten Produkte wieder angezeigt. Wenn die Kommunikation mit dem Kitchen Minder nach Wiederherstellung der Stromversorgung der Black Box nicht wieder hergestellt werden kann, erscheint nach 3 bis 5 Minuten „NoKM“ für alle Module.

Um die Fehlermeldung „NoKM“ vorübergehend außer Kraft zu setzen, einfach die Tagesabschnittstaste einmal drücken.

Um die Blackbox dauerhaft auf den eigenständigen Modus einzustellen, die Stromversorgung der Blackbox trennen und dann die Tagesabschnittstaste gedrückt halten, während die Stromversorgung der Blackbox wieder hergestellt wird.

### Manuelles Einstellen des 4Hx2B Warmhalteschranks

Da die 4Hx2B AN Blackbox für diese Warmhalteschränke gewöhnlich an einen Kitchen Minder angeschlossen wird, sollte die manuelle Einstellung nur selten erforderlich sein.

Die manuelle Einstellung (a) an **jeweils einem Warmhalteschrank auf einmal** durchführen und (b) **von der Vorderseite des zu programmierenden Warmhalteschranks aus** durchführen.

Wenn mit Wannen an einem Warmhalteschrank fortgefahren wird, werden gewöhnlich auch Wannen an dem/ den anderen Warmhalteschrank/-schränken vorgesetzt. Die LED der ausgewählten Wannen ist ROT.

Das Erhöhen und Verringern der Zeitwerte und Bezeichnungsbuchstaben von Wannen ist auf die ausgewählte Wanne an dem Warmhalteschrank beschränkt, an dem die Erhöhen- bzw. Verringern-Taste gedrückt wird.

Beim Bearbeiten einer Produktbezeichnung gilt die Cursor-weiter-Taste für die jeweils ausgewählte Wanne.

Obwohl in der Praxis „Zuerst verwenden“ LEDs an Warmhalteschränken aufleuchten, ist bei der Anzeige von Wannenverknüpfungen (die auf identischen Produktbezeichnungen basieren) die Verknüpfung auf Wannen beschränkt, die an jedem Warmhalteschrank separat verknüpft wurden – sie zeigen also alle Wannen im Warmhalteschrank, die mit der ausgewählten Wanne dieses Warmhalteschranks verknüpft sind.

Beim Bearbeiten von Produktbezeichnungen, Haltezeiten, Kochzeiten oder verknüpften Produkten über Tagesabschnitte umfasst die empfohlene Methode zur Unterscheidung zwischen unterschiedlichen Tagesabschnitten das Aus- und Einschalten der Blackbox-Stromversorgung und das erneute Hochfahren des Systems (die Blackbox verwendet standardmäßig Tagesabschnitt 1). Zum Ändern des Tagesabschnitts die Tagesabschnittstaste einmal drücken, um zu Tagesabschnitt 2 zu wechseln bzw. noch einmal drücken, um zu Tagesabschnitt 3 zu wechseln.

### Unterstützung bestimmter Schrankkonfigurationen

Die 4Hx2B AN KB2 Blackbox SW unterstützt im Wesentlichen alle der folgenden Konfigurationen:

Warmhalteschränke 1, 2 und 3 (mit Timerleisten, die über den Warmhalteschrank-Port 1, 2 und 3 angeschlossen sind)

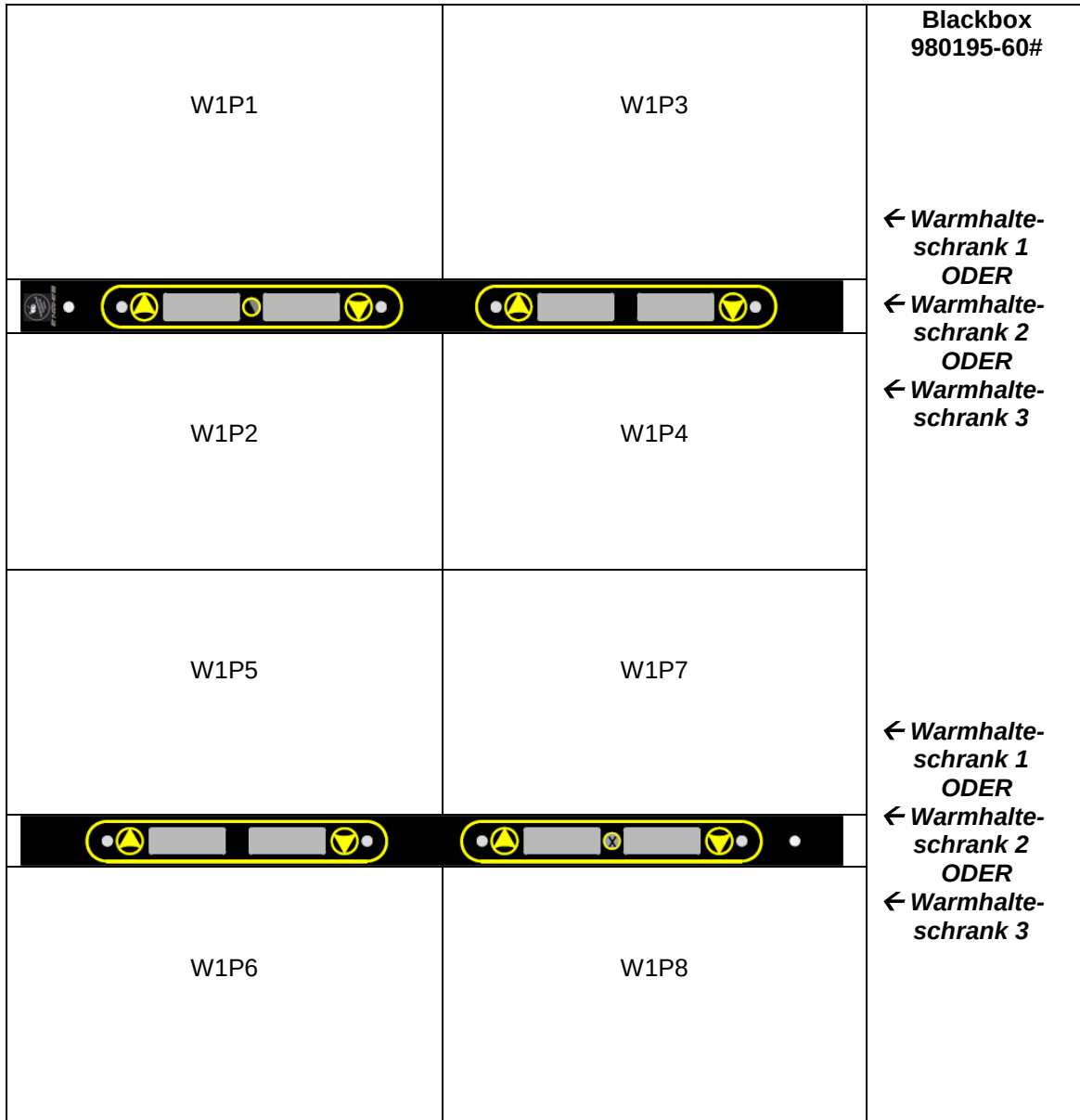
- 1) WHS 1, 2 und 3 können ältere 2x4 AN, RLGL, 2X4 AN Rev.C, ältere 4X2 AN oder 4X2 AN Rev.C sein
- 2) WHS 1, 2 und 3 können an der Vorder- und Rückseite verschiedene der in der obigen Zeile aufgeführten Timerleisten enthalten

### Warnungen:

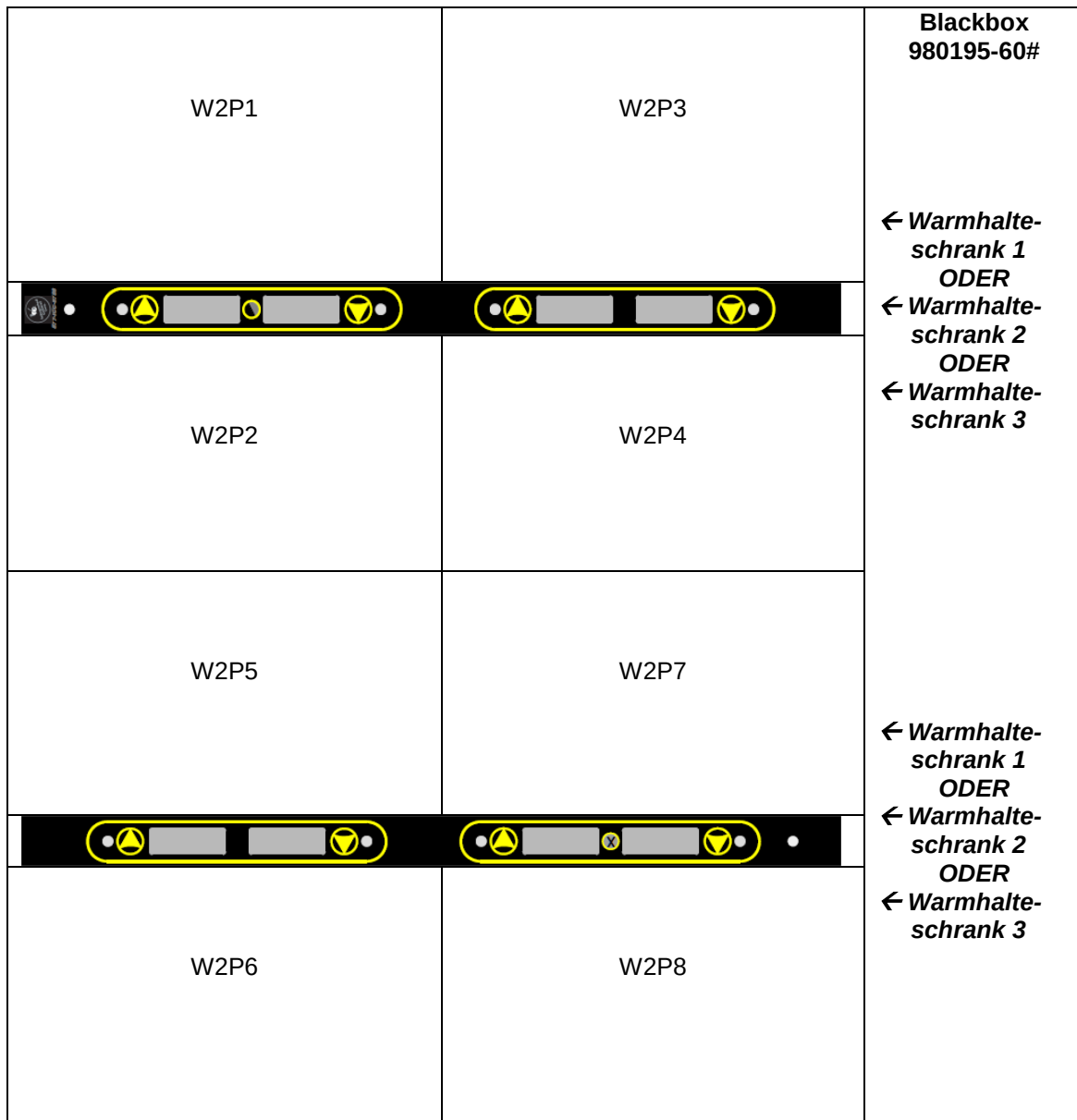
- 1) **AN KB2 Timerleisten an einer stromführenden KB PS Blackbox (980680#) NICHT in andere Ports einstecken oder umstecken**, da die KB PS Box dadurch beschädigt wird und die Eingangsspannung dann unregelmäßig an allen angeschlossenen Timerleisten anliegt. Wenn die KB PS Box nach einer Beschädigung weiterhin verwendet wird, werden alle angeschlossenen älteren AN KBs und wahrscheinlich auch alle angeschlossenen AN KB2 Timerleisten beschädigt.
- 2) Durch Einstecken oder Umstecken von AN KB2 Timerleisten in eine 980195-60# wird die Blackbox nicht beschädigt, dies führt jedoch zum Rücksetzen der Einheit.

## Werkseitige Produktbezeichnungen

### Hauptgerät (PHU1) 4Hx2B Warmhalteschrank an Warmhalteschrank-Port 1 – Vorderansicht

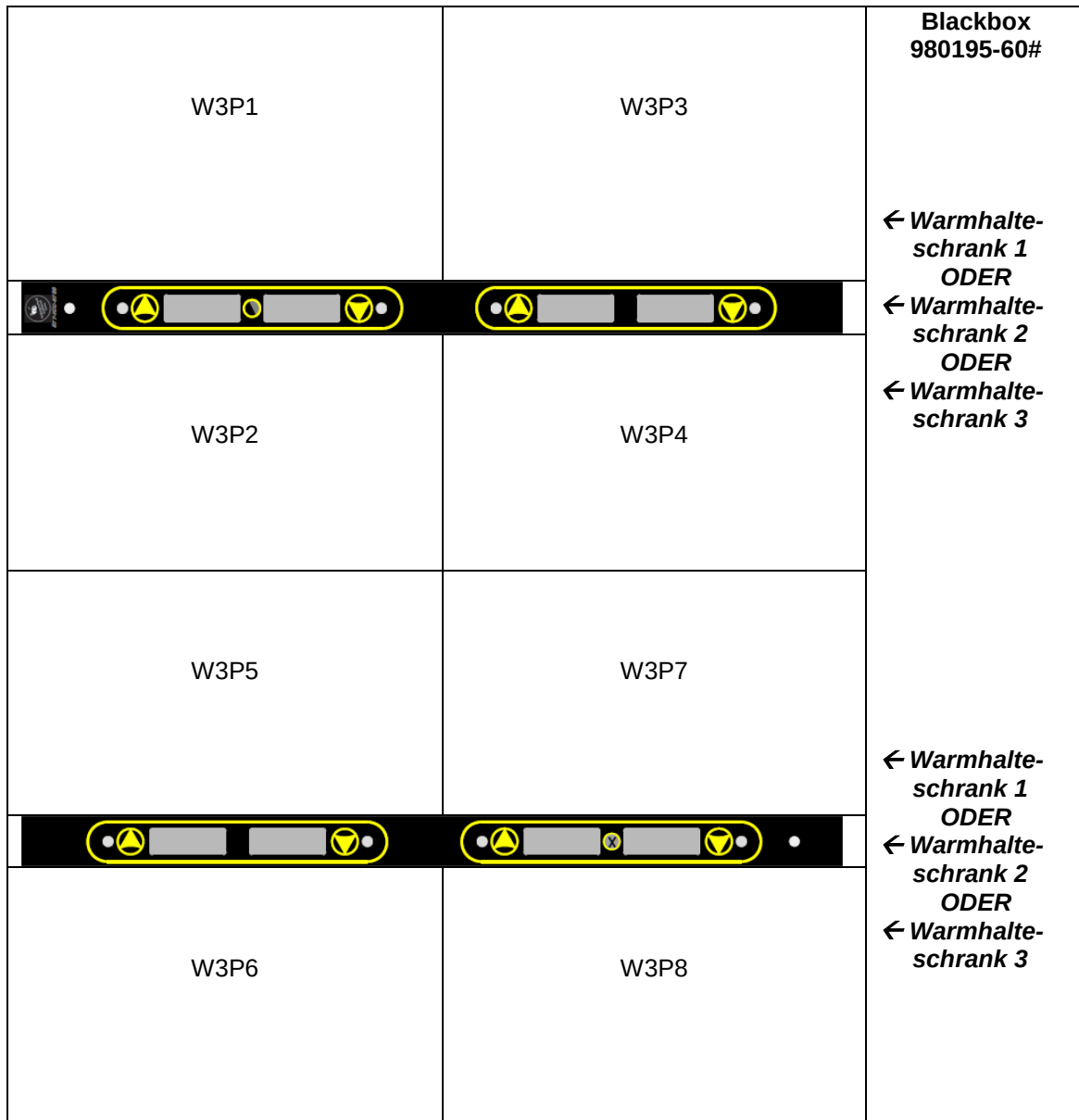


**Nebengerät (PHU2) 4Hx2B Warmhalteschrank  
an Warmhalteschrank-Port 2 – Vorderansicht**





**Nebengerät (PHU3) 4Hx2B Warmhalteschrank  
an Warmhalteschrank-Port 3 – Vorderansicht**





## Generalidades de barras de tiempo y control alfanuméricos 4Hx2W

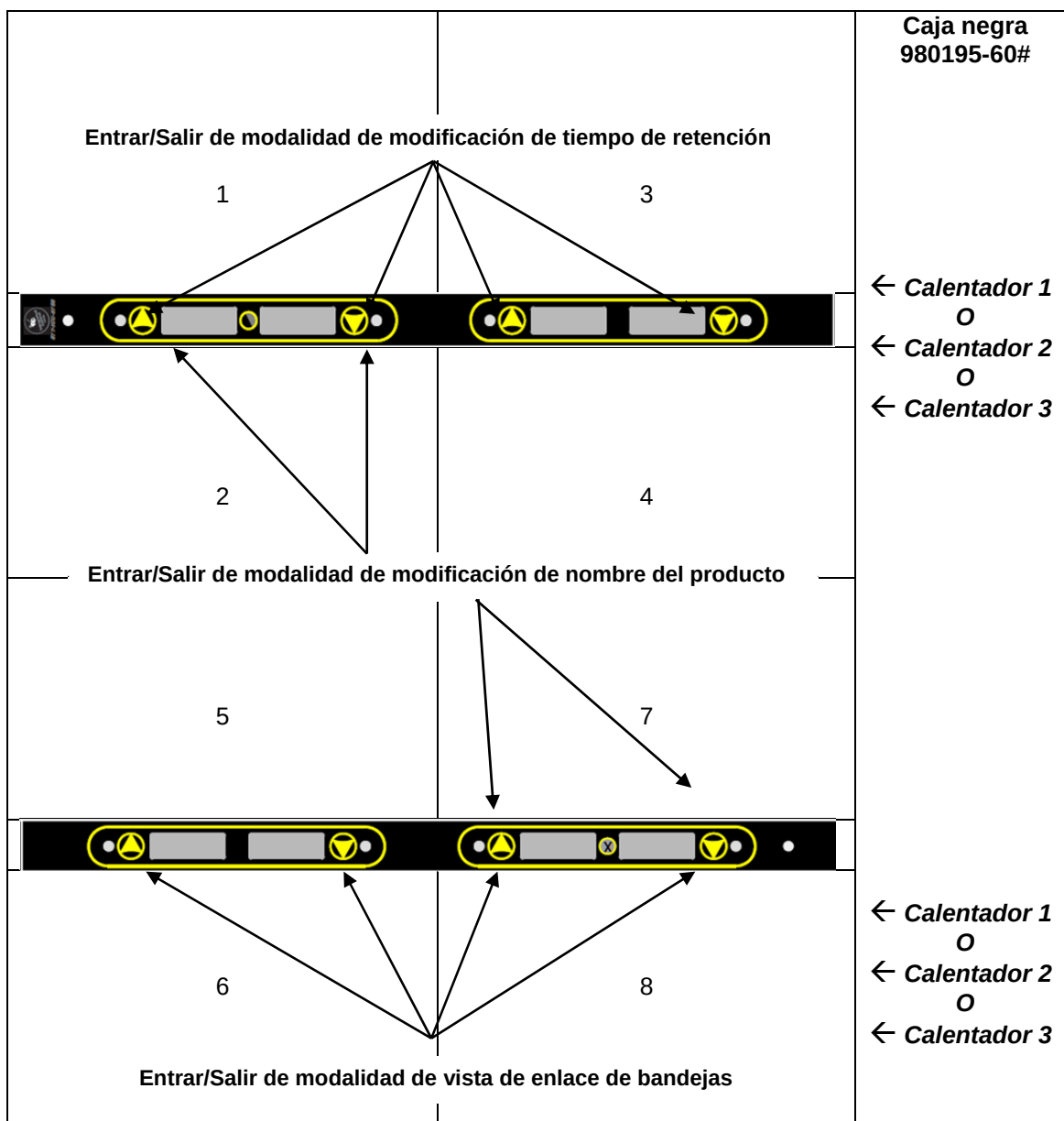
### Vista delantera de la PHU principal 4Hx2W con barras de tiempo y control alfanuméricos 980264-4X2#

|                                                                                                               |                                                                                      |                                                                         |
|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| <p>980264-4X2DP# Rev. C (AN KB2 nueva) or 980264-F-4X2DP# (AN anterior)</p>                                   |                                                                                      | <p>Caja negra<br/>980195-60#</p>                                        |
| <p>Tecla Parte del día</p> <p>Nota: La selección de parte del día se hace pulsando la tecla Parte del día</p> |    | <p>← Calentador 1<br/>O<br/>← Calentador 2<br/>O<br/>← Calentador 3</p> |
| <p>980264-4X2TF# Rev. C (AN KB2 nueva) o 980264-F-4X2TF# (AN anterior)</p>                                    |  |                                                                         |
|                                                                                                               | <p>Tecla de Transferencia</p>                                                        | <p>← Calentador 1<br/>O<br/>← Calentador 2<br/>O<br/>← Calentador 3</p> |

**Vista trasera de la PHU principal 4Hx2W con barras de tiempo y control alfanuméricos  
980264-4X2# Rev. C**

|                                   |                                                                                      |                                                                                                               |
|-----------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>Caja negra<br/>980195-60#</b>  |                                                                                      |                                                                                                               |
|                                   |                                                                                      | <p>980264-4X2DP# Rev. C (AN KB2 nueva) or 980264-B-4X2DP# (AN anterior)</p>                                   |
| <b>Calentador 1 →</b><br><b>O</b> |    |                                                                                                               |
| <b>Calentador 2 →</b><br><b>O</b> |                                                                                      |                                                                                                               |
| <b>Calentador 3 →</b>             |                                                                                      |                                                                                                               |
|                                   |                                                                                      | <p>Tecla Parte del día</p> <p>Nota: La selección de parte del día se hace pulsando la tecla Parte del día</p> |
|                                   |                                                                                      | <p>980264-4X2TF# Rev. C (AN KB2 nueva) o 980264-B-4X2TF# (AN anterior)</p>                                    |
| <b>Calentador 1 →</b><br><b>O</b> |  |                                                                                                               |
| <b>Calentador 2 →</b><br><b>O</b> |                                                                                      |                                                                                                               |
| <b>Calentador 3 →</b>             |                                                                                      |                                                                                                               |
|                                   | <p>Tecla de Transferencia</p>                                                        |                                                                                                               |

(Vista delantera de PHU de 4Hx2W)

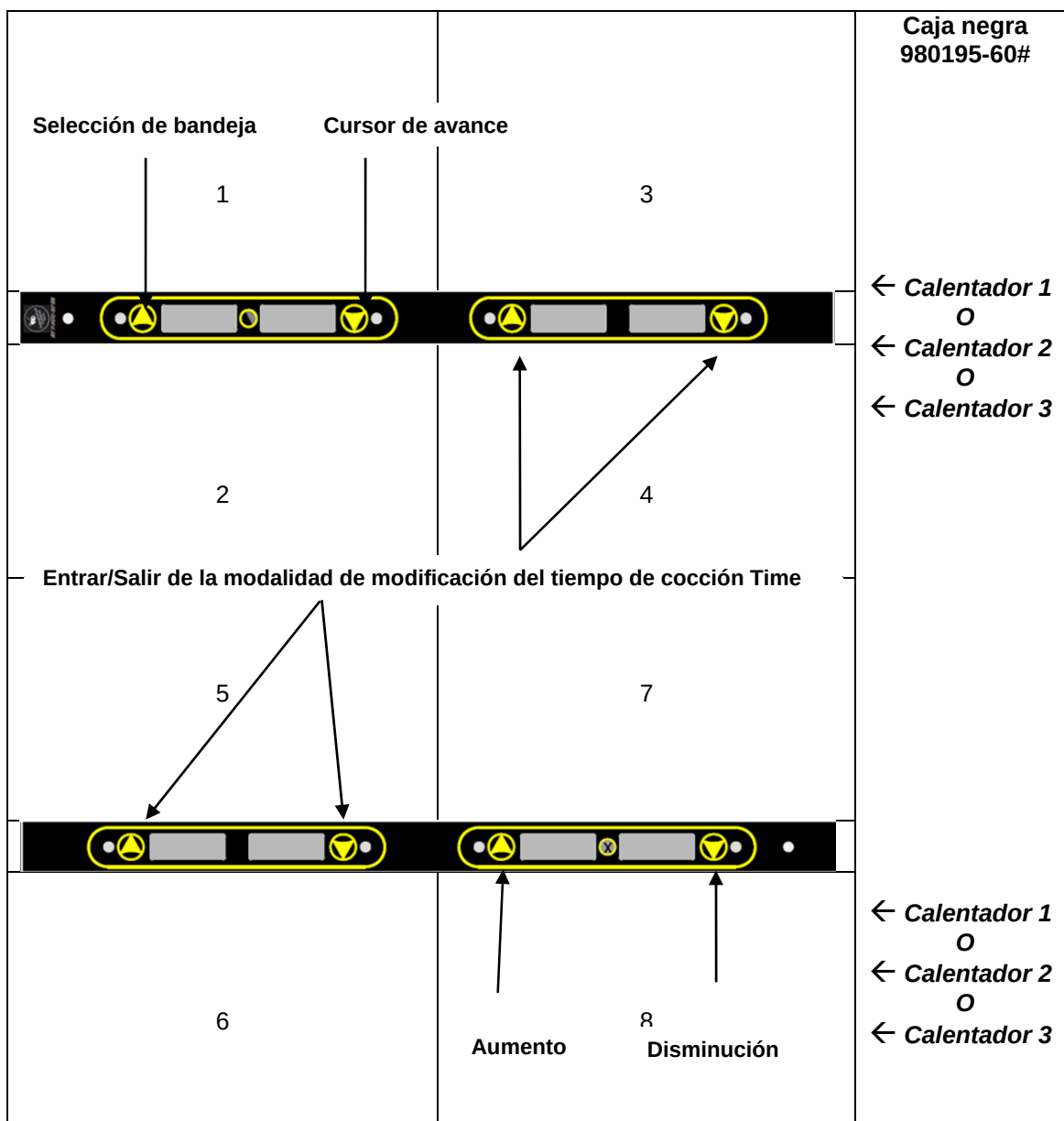


Los números en las cavidades de las bandejas indican el orden de selección de bandeja en las modalidades de programación manuales.

**Advertencia – No desenchufe ni enchufe las barras de tiempo de las cajas negras conectadas ni de las cajas de suministro de corriente del teclado.  
¡Esto puede dañar las unidades!**

## Programación manual de una PHU 4Hx2W con barras de tiempo alfanuméricas (2 de 2)

(Vista delantera de PHU 4Hx2W)



Los números en las cavidades de las bandejas indican el orden de selección de bandejas en las modalidades de programación manuales.

**Advertencia – No desenchufe ni enchufe las barras de tiempo de las cajas negras conectadas ni de las cajas de suministro de corriente del teclado.  
¡Esto puede dañar las unidades!**

## Programación del tiempo de retención para la parte del día actual

**La programación debe efectuarse en el lado delantero del calentador.**

1. Introduzca **programación de tiempo de retención** pulsando simultáneamente las 4 teclas **ARRIBA Y ABAJO SUPERIORES**.
2. El **LED SUPERIOR izquierdo** se pondrá a **DESTELLAR DE COLOR ROJO**, indicando que se ha activado la función de programación, y la pantalla alfanumérica de cada bandeja mostrará su **tiempo de retención** actual en minutos.
3. Además de los tiempos mostrados en las pantallas alfanuméricas, los **LED VERDE, ROJO y AMARILLO** representan el **tiempo de retención**. Sume los valores de cada color para calcular el **tiempo de retención** del **LED ROJO** que destella en la actualidad.  
  
Verde = 5 minutos  
Amarillo = 20 minutos  
Rojo = 60 minutos (excluida la luz **ROJA INTERMITENTE** que indica la bandeja actual)  
Verde intermitente = 30 minutos  
Amarillo intermitente = 120 minutos
4. **Aumente el tiempo de retención** pulsando la tecla de flecha **ARRIBA INFERIOR más a la derecha**.
5. **Disminuya el tiempo de retención** pulsando la tecla de flecha **ABAJO INFERIOR más a la derecha**.
6. El **tiempo de retención** puede fijarse en incrementos de 5 minutos de 5 a 120 minutos y en incrementos de 30 minutos de 120 a 660 minutos (11 horas).
7. Pulse la tecla **ARRIBA SUPERIOR más a la izquierda** para mover el **LED ROJO INTERMITENTE** a la siguiente bandeja que se vaya a programar.
8. **Guarde y salga de la programación de tiempo de retención** pulsando simultáneamente las 4 teclas **TOP 4 ARRIBA y ABAJO SUPERIORES**.

## Programación del tiempo de cocción para la parte del día actual

**La programación debe efectuarse en el lado delantero del calentador.**

1. Introduzca **programación de tiempo de cocción** pulsando simultáneamente las 2 teclas **ARRIBA Y ABAJO más a la derecha** y las teclas **ARRIBA Y ABAJO INFERIORES más a la izquierda**.
2. El **LED ARRIBA más a la izquierda** se pondrá a **DESTELLAR DE COLOR ROJO**, indicando que se ha activado la función de programación, y la pantalla alfanumérica de cada bandeja mostrará su **tiempo de cocción** actual en minutos.
3. Además de los tiempos mostrados en las pantallas alfanuméricas, los **LED VERDE, ROJO y AMARILLO** representan el **tiempo de cocción**. Añada los valores de cada color en la sección para calcular el **tiempo de cocción** del **LED ROJO** que destella actualmente.  
  
Verde = 5 minutos  
Amarillo = 20 minutos  
Rojo = 60 minutos (excluida la luz **ROJA INTERMITENTE** que indica la bandeja actual)  
Verde intermitente = 30 minutos  
Amarillo intermitente = 120 minutos
4. **Aumente el tiempo de cocción** pulsando la tecla de flecha **ARRIBA INFERIOR más a la derecha**.
5. **Disminuya el tiempo de cocción** pulsando la tecla de flecha **ABAJO INFERIOR más a la derecha**.
6. El **tiempo de cocción** puede fijarse en incrementos de 1 minuto de 1 a 10 minutos, incrementos de 5 minutos de 10 a 120 minutos e incrementos de 30 minutos de 120 a 660 minutos (11 horas).
7. Pulse la tecla de flecha **ARRIBA SUPERIOR más a la izquierda** para mover el **LED ROJO INTERMITENTE** para programar la siguiente bandeja.
8. **Guarde y salga de la programación del tiempo de cocción** pulsando simultáneamente las 2 teclas **ARRIBA Y ABAJO SUPERIORES más a la derecha** y las teclas **ARRIBA Y ABAJO INFERIORES más a la izquierda**.

**Nota: No programe el tiempo de cocción con un valor mayor que el tiempo de retención.**

## Programación del nombre del producto para la parte del día actual

**La programación debe efectuarse en el lado delantero del calentador.**

1. Introduzca **programación del nombre del producto** pulsando simultáneamente las 2 teclas **ARRIBA Y ABAJO SUPERIORES más a la izquierda** y las 2 teclas **ARRIBA Y ABAJO INFERIORES más a la derecha**.
2. El **LED SUPERIOR más a la izquierda** se volverá **ROJO**, indicando que se ha activado la función de programación, y la pantalla **SUPERIOR más a la izquierda** del teclado muestra el nombre del producto actual de 4 caracteres con su carácter más a la izquierda destellando. Esto indica que está programando BANDEJA 1 y el carácter intermitente indica la posición actual del cursor dentro del NOMBRE de 4 caracteres.
3. Para hacer avanzar el cursor dentro del nombre actual, pulse el 2º botón de la izquierda (la primera tecla **ABAJO**) en el teclado **SUPERIOR**.
4. Para cambiar el carácter en la posición actual del cursor, pulse el botón **INFERIOR** más a la derecha (flecha abajo) en el teclado para cambiar al valor del carácter precedente y el 2º botón **INFERIOR** de la derecha (flecha arriba) para cambiar al siguiente valor de carácter de la lista siguiente:

**<space>! " # \$ % & ' ( ) \* + , - . / 0 1 2 3 4 5 6 7 8 9 : ; < = > ? @ A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ \ ] ^ \_ ` a b c d e f g h i j k l m n o p q r s t u v w x y z**

5. Pulse la tecla **ARRIBA SUPERIOR más a la izquierda** para mover el **LED ROJO** a la siguiente bandeja que se vaya a programar.
6. **Guarde y salga de la programación del nombre del producto** pulsando simultáneamente las 2 teclas **ARRIBA Y ABAJO SUPERIORES más a la izquierda** y las 2 teclas **ARRIBA Y ABAJO INFERIORES más a la derecha**. Se recomienda pulsar primero sin soltar el par más a la izquierda de botones de bandejas para evitar los cambios de caracteres inadvertidos al pulsar el par más a la derecha.

**Nota:** Debe comprobar su configuración de BANDEJAS ENLAZADAS después de modificar los NOMBRES de productos para asegurarse de que están enlazados según se desee.

## Vista del enlace de bandejas para la parte del día actual

El enlace de bandejas para barras de tiempo y controles alfanuméricos viene determinado exclusivamente por el nombre del producto de 4 caracteres. Las bandejas están enlazadas solamente si sus nombres de productos son los mismos.

**La vista debe hacerse en el lado delantero del calentador.**

1. Introduzca la **programación de enlaces** pulsando simultáneamente las 4 teclas **ARRIBA Y ABAJO INFERIORES más a la derecha**.
2. El **LED SUPERIOR más a la izquierda** se volverá **ROJO**, indicando que se ha activado la función de programación.
3. Todos los **LED** que son **VERDES** indican las bandejas que están enlazadas con el **LED ROJO**.
4. Pulse la tecla **ARRIBA SUPERIOR más a la izquierda** para mover el **LED ROJO** a la siguiente bandeja que se vaya a enlazar.
5. Para salir de **programación de enlace**, pulse las 4 teclas **ARRIBA Y ABAJO INFERIORES más a la derecha**.

## Modalidades independientes y de recordatorio de la cocina

La opción predeterminada de fábrica es la modalidad independiente.

Modalidad independiente: La caja negra no buscará una señal de un recordatorio de cocina

Una vez conectado un recordatorio de cocina, la caja negra se cambia automáticamente a la modalidad de recordatorio de cocina. Si la caja negra pierde la comunicación con el recordatorio de cocina (cable desenchufado, el recordatorio de cocina se apaga) después de 30 segundos, la barra de tiempo muestra "NoKM" en todos los módulos hasta que se restablezca la comunicación y en ese momento se volverán a mostrar los productos programados. Si se restablece la corriente en la caja negra y no hay comunicación con el recordatorio de cocina, se mostrará "NoKM" en todos los módulos después de 3-5 minutos.

Para anular temporalmente el mensaje de error "NoKM", pulse simplemente una vez la tecla Parte del día.

Para reajustar permanentemente la caja negra en la modalidad independiente, apague la caja negra y después pulse simultáneamente la tecla Parte del día mientras se enciende la caja negra.

## Consideraciones de modificación manual de la PHU 4Hx2W

Como la caja negra 4Hx2W AN que apoya estas PHU estará conectada normalmente a un recordatorio de cocina, la modificación manual debe ser algo infrecuente.

Cuando sea necesario, la modificación manual (a) debe realizarse para **una PHU a la vez** y (b) debe realizarse **mientras se está de pie delante del calentador que se vaya a programar**.

Por lo general, el avance de las bandejas en una PHU también hará avanzar las bandejas en las otras PHU. El LED de la bandeja seleccionada será ROJO.

El aumento y la disminución de los valores de los tiempos de las bandejas y las letras de los nombres de las bandejas afectarán sólo la bandeja seleccionada en la PHU cuyo botón de aumento o disminución se pulse.

Al modificar el nombre del producto, el botón de avance del cursor afectará la bandeja seleccionada de cada uno una.

Aunque en la práctica las indicaciones del LED “usar primero” se proporcionan en las PHU, al ver el enlace de las bandejas (que se basa en que los nombres de los productos son idénticos), el enlace está limitado a bandejas enlazadas a cada PHU por separado – mostrando todas las bandejas en la PHU enlazadas con la bandeja seleccionada de esa PHU.

Al modificar nombres de productos, tiempos de retención, tiempos de cocción o productos enlazados en partes del día, la forma recomendada de diferenciar entre partes del día es reciclar la corriente a la caja negra y esperar a que el sistema se inicialice (ya que la caja negra pasa de forma predeterminada Parte del día 1). En este momento la caja negra pasará de forma predeterminada a Parte del día 1. Pulse una vez el botón de parte del día para cambiar a Parte del día 2. Pulse el botón de parte del día una vez más para cambiar a Parte del día 3.

## Soporte de configuración de la PHU

La caja negra SW 4Hx2W AN KB2 está diseñada principalmente para ser compatible con todas las configuraciones siguientes:

Las PHU 1, 2 y 3 (con las barras de tiempo conectadas en los puertos 1, 2 y 3 de calentadores)

- 1) Las PHU 1, 2 y 3 pueden ser 2x4 AN anteriores, RLGL, 2X4 AN Rev.C, 4X2 AN anteriores o 4X2 AN Rev.C
- 2) Las PHU 1, 2 y 3 pueden tener una mezcla de cualquiera de las barras de tiempo especificadas en la línea de arriba como barras de tiempo delantera y trasera

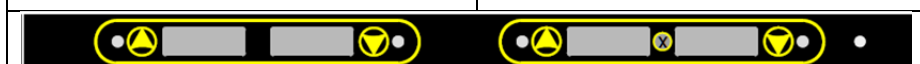
### Advertencias:

- 1) **NO enchufe ni mueva las barras de tiempo AN KB2 a puertos diferentes en una caja KB PS (980680#) encendida** ya que esto dañará la caja KB PS teniendo como consecuencia una corriente de entrada proporcionada sin regular a cualquier de las barras de tiempo conectadas. Si la caja KB PS sigue usándose una vez dañada, también dañará las AN KB anteriores conectadas y probablemente dañará cualquier barra de tiempo conectada AN KB2.
- 2) Al enchufar o mover las barras de tiempo AN KB2 a un 980195-60# no se dañará la caja negra pero se reajustará.

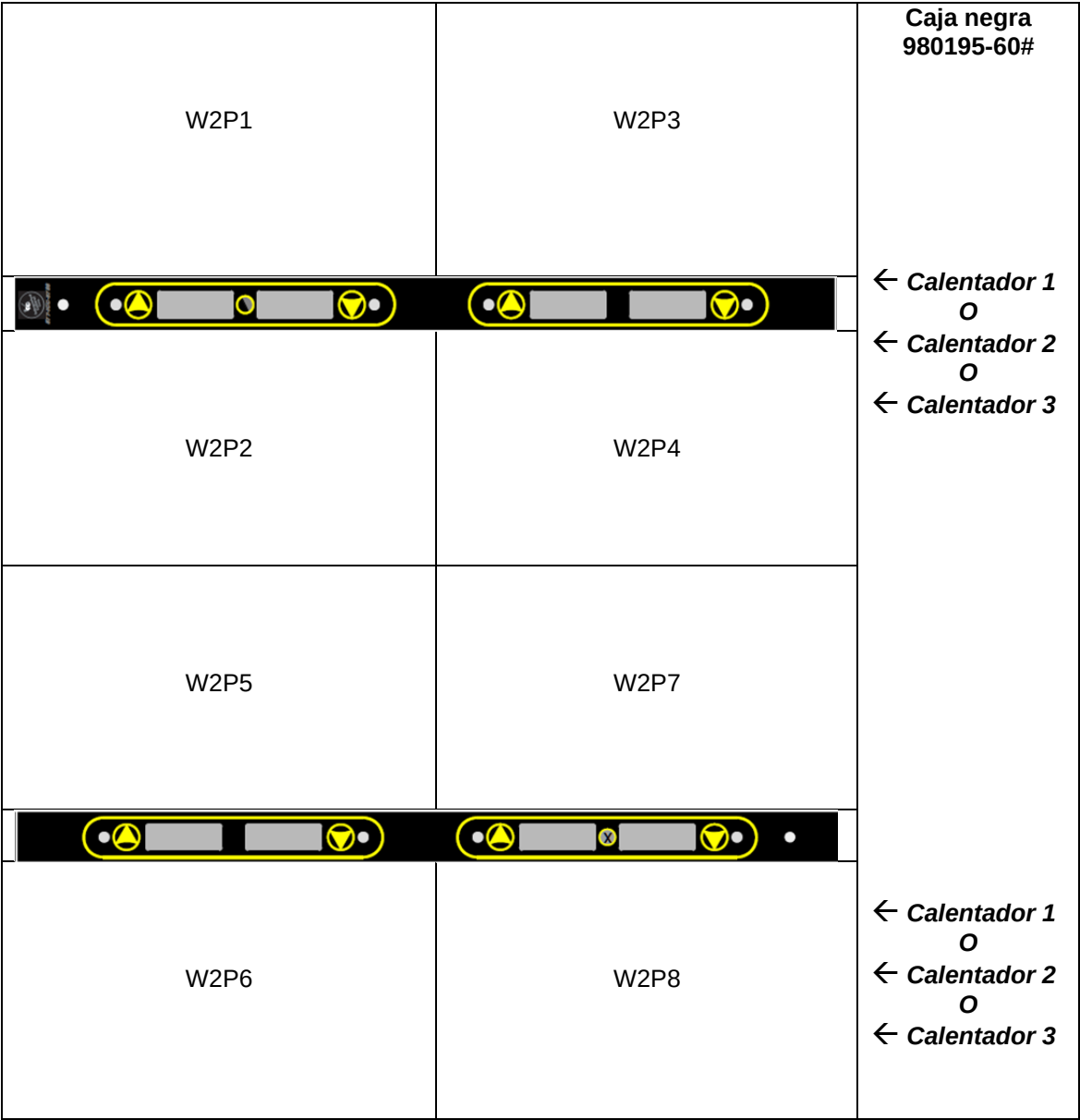


## Nombres de productos predeterminados de fábrica

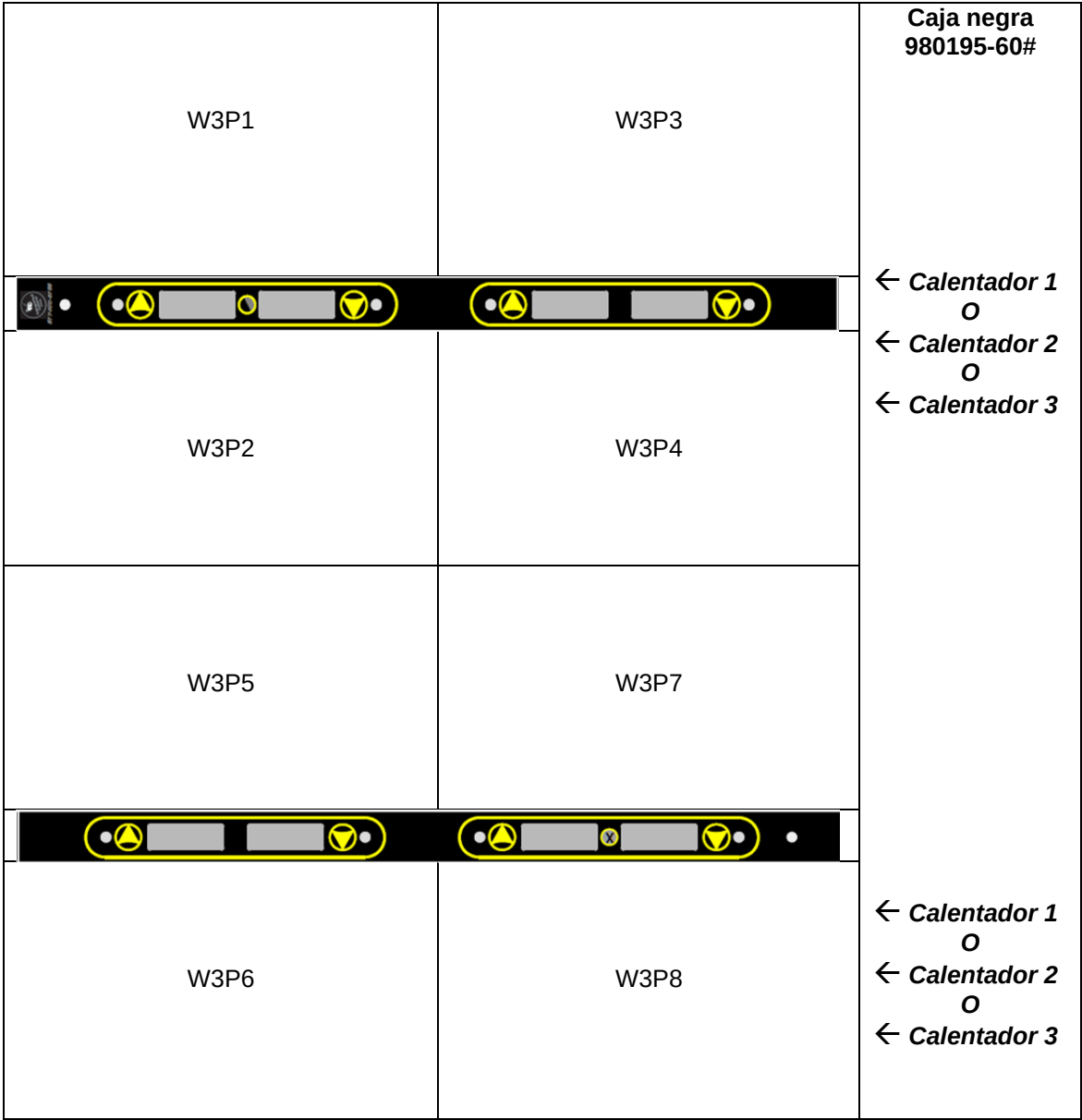
PHU principal (PHU1) 4H x 2W en el puerto del calentador 1 – Vista delantera

|                                                                                      |  |      |  |                                                                                              |  |
|--------------------------------------------------------------------------------------|--|------|--|----------------------------------------------------------------------------------------------|--|
| W1P1                                                                                 |  | W1P3 |  | Caja negra<br>980195-60#<br><br>← Calentador 1<br>O<br>← Calentador 2<br>O<br>← Calentador 3 |  |
|    |  |      |  |                                                                                              |  |
| W1P2                                                                                 |  | W1P4 |  |                                                                                              |  |
| W1P5                                                                                 |  | W1P7 |  |                                                                                              |  |
|  |  |      |  | ← Calentador 1<br>O<br>← Calentador 2<br>O<br>← Calentador 3                                 |  |
| W1P6                                                                                 |  | W1P8 |  |                                                                                              |  |

**PHU secundaria (PHU2) 4H x 2W en el puerto del calentador 2 – Vista delantera**



PHU secundaria (PHU3) 4H x 2W en el puerto del calentador 3 – Vista delantera





## Descrizione generale del quadro di comando e delle barre di temporizzazione 4Hx2W alfanumeriche

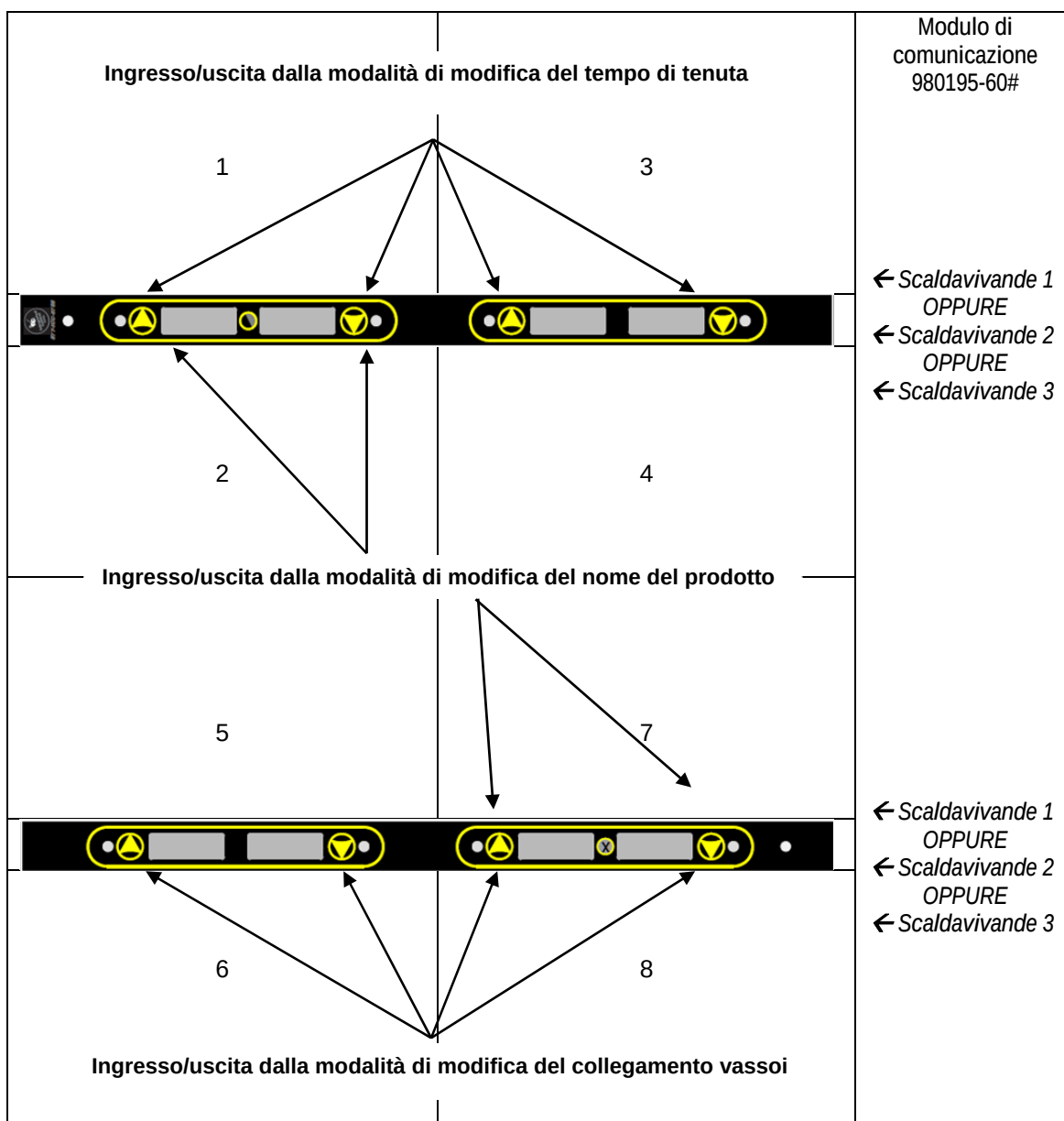
**Vista anteriore dell'unità 4Hx2W principale con quadro di comando e barre di temporizzazione alfanumeriche 980264-4X2#**

|                                                                                                                    |                                                                                      |                                                                                            |
|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| <p>980264-4X2DP# Rev. C (nuova AN KB2) o 980264-F-4X2DP# (vecchia AN)</p>                                          |                                                                                      | <p>Modulo di comunicazione<br/>980195-60#</p>                                              |
| <p>Tasto Fase giornata</p> <p>Nota bene: la selezione della fase giornata si esegue premendo l'apposito tasto.</p> |    | <p>← Scaldavivande 1<br/>OPPURE<br/>← Scaldavivande 2<br/>OPPURE<br/>← Scaldavivande 3</p> |
| <p>980264-4X2TF# Rev. C (nuova AN KB2) o 980264-F-4X2TF# (vecchia AN)</p>                                          |  | <p>← Scaldavivande 1<br/>OPPURE<br/>← Scaldavivande 2<br/>OPPURE<br/>← Scaldavivande 3</p> |
|                                                                                                                    | <p>Tasto Trasferimento</p>                                                           |                                                                                            |

Vista posteriore dell'unità 4Hx2W principale con quadro di comando e barre di temporizzazione alfanumeriche  
 980264-4X2# Rev. C

|                                                                                 |                                                                                                                                                                                                       |  |
|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Modulo di comunicazione<br>980195-60#                                           | 980264-4X2DP# Rev. C (nuova AN KB2) o 980264-B-4X2DP# (vecchia AN)                                                                                                                                    |  |
| Scaldavivande 1 →<br>OPPURE<br>Scaldavivande 2 →<br>OPPURE<br>Scaldavivande 3 → |  <p>Tasto Fase giornata</p> <p>Nota bene: la selezione della fase giornata si esegue premendo l'apposito tasto.</p> |  |
|                                                                                 | 980264-4X2TF# Rev. C (nuova AN KB2) o 980264-B-4X2TF# (vecchia AN)                                                                                                                                    |  |
| Scaldavivande 1 →<br>OPPURE<br>Scaldavivande 2 →<br>OPPURE<br>Scaldavivande 3 → |  <p>Tasto Trasferimento</p>                                                                                       |  |

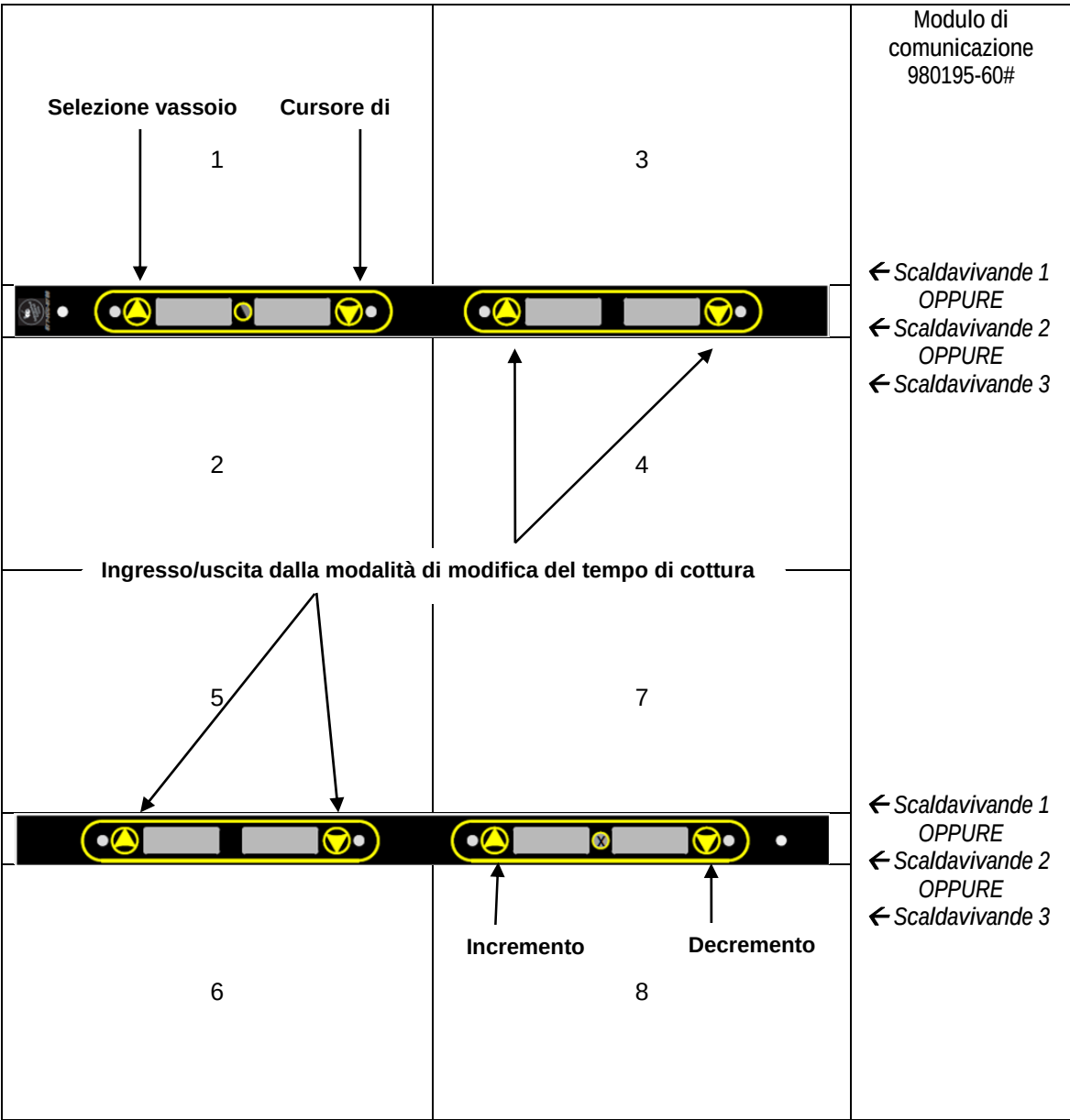
(Vista anteriore dell'unità 4Hx2W)



*I numeri nei vani dei vassoi indicano l'ordine di selezione dei vassoi nelle modalità di programmazione manuale.*

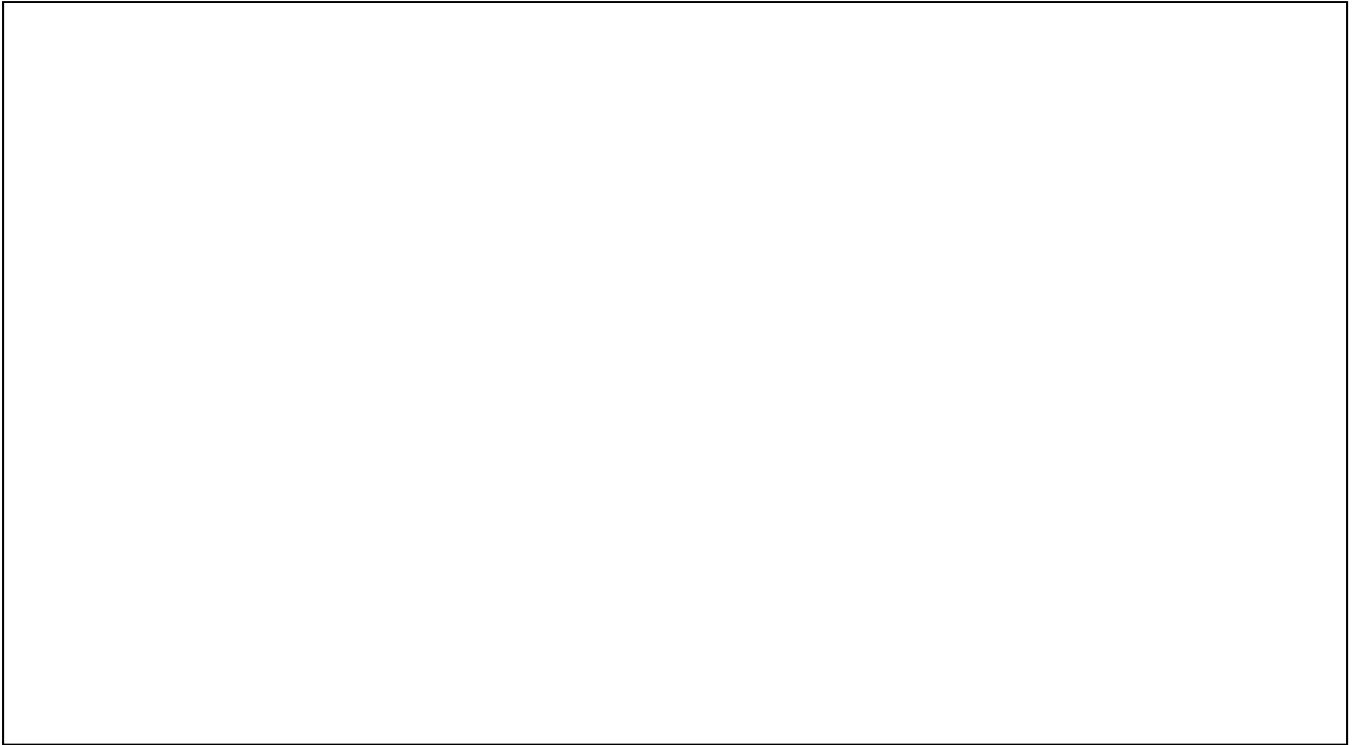
**Attenzione – Non scollegare né collegare le barre di temporizzazione ai moduli di comunicazione accesi o ai moduli di alimentazione della tastiera; si potrebbero danneggiare le unità.**

(Vista anteriore dell'unità 4Hx2W)



*I numeri nei vani dei vassoi indicano l'ordine di selezione dei vassoi nelle modalità di programmazione manuale.*

**Attenzione – Non scollegare né collegare le barre di temporizzazione ai moduli di comunicazione accesi o ai moduli di alimentazione della tastiera; si potrebbero danneggiare le unità.**





### Visualizzazione del collegamento dei vassoi per l'attuale Fase giornata

Il collegamento dei vassoi per i comandi e le barre di temporizzazione alfanumeriche dipende esclusivamente dal nome del prodotto di quattro caratteri. I vassoi sono collegati solo se i loro nomi del prodotto sono identici.

**La visualizzazione deve essere eseguita dal lato anteriore dello scaldavivande**

1. Andare alla modalità di programmazione del collegamento premendo simultaneamente i **quattro tasti inferiori SU e GIÙ all'estrema destra**.
2. Il **LED superiore all'estrema sinistra** si accende in **rosso**, indicando che la funzione di programmazione è attivata.
3. Tutti i **LED** accesi in **verde** indicano i vassoi collegati al **LED rosso**.
4. Premere il **tasto SU superiore all'estrema sinistra** per spostare il **LED rosso** al vassoio successivo da collegare.
5. Per uscire dalla modalità di programmazione del collegamento, premere simultaneamente i **quattro tasti inferiori SU e GIÙ all'estrema destra**.

### Modalità Autonoma e Kitchen Minder

La modalità predefinita in fabbrica è quella Autonoma.

Modalità Autonoma: il modulo di comunicazione non cerca un segnale inviato da un Kitchen Minder.

Quando si collega un Kitchen Minder, il modulo di comunicazione passa automaticamente alla modalità Kitchen Minder. Se la comunicazione tra il modulo di comunicazione e il Kitchen Minder si interrompe (il cavo viene scollegato o il Kitchen Minder viene spento) dopo 30 secondi, la barra di temporizzazione visualizza "NoKM" su tutti i moduli finché la comunicazione non viene ristabilita, dopodiché i prodotti programmati vengono visualizzati di nuovo. Se l'alimentazione del modulo di comunicazione viene ripristinata e non c'è alcuna comunicazione con il Kitchen Minder, dopo 3-5 minuti si visualizza "NoKM" su tutti i moduli.

Per escludere temporaneamente il messaggio di errore "NoKM", premere una volta il tasto Fase giornata.

Per riportare in permanenza il modulo di comunicazione nella modalità Autonoma, spegnere il modulo, quindi riaccenderlo mentre si preme il tasto Fase giornata.

### Supporto della configurazione delle unità

Il software del modulo di comunicazione 4Hx2W AN KB2 è concepito principalmente per supportare tutte le configurazioni seguenti:

Unità 1, 2 e 3 (con barre di temporizzazione collegate alle porte 1, 2 e 3 dello scaldavivande)

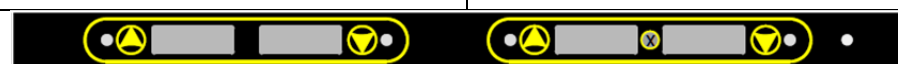
- 1) Le unità 1, 2 e 3 possono essere unità vecchie 2x4 AN, RLGL, 2X4 AN Rev. C, vecchie 4X2 AN o 4X2 AN Rev. C
- 2) Le unità 1, 2 e 3 possono avere una combinazione di varie barre di temporizzazione specificate nella riga precedente come barre di temporizzazione anteriori e posteriori

#### Attenzione

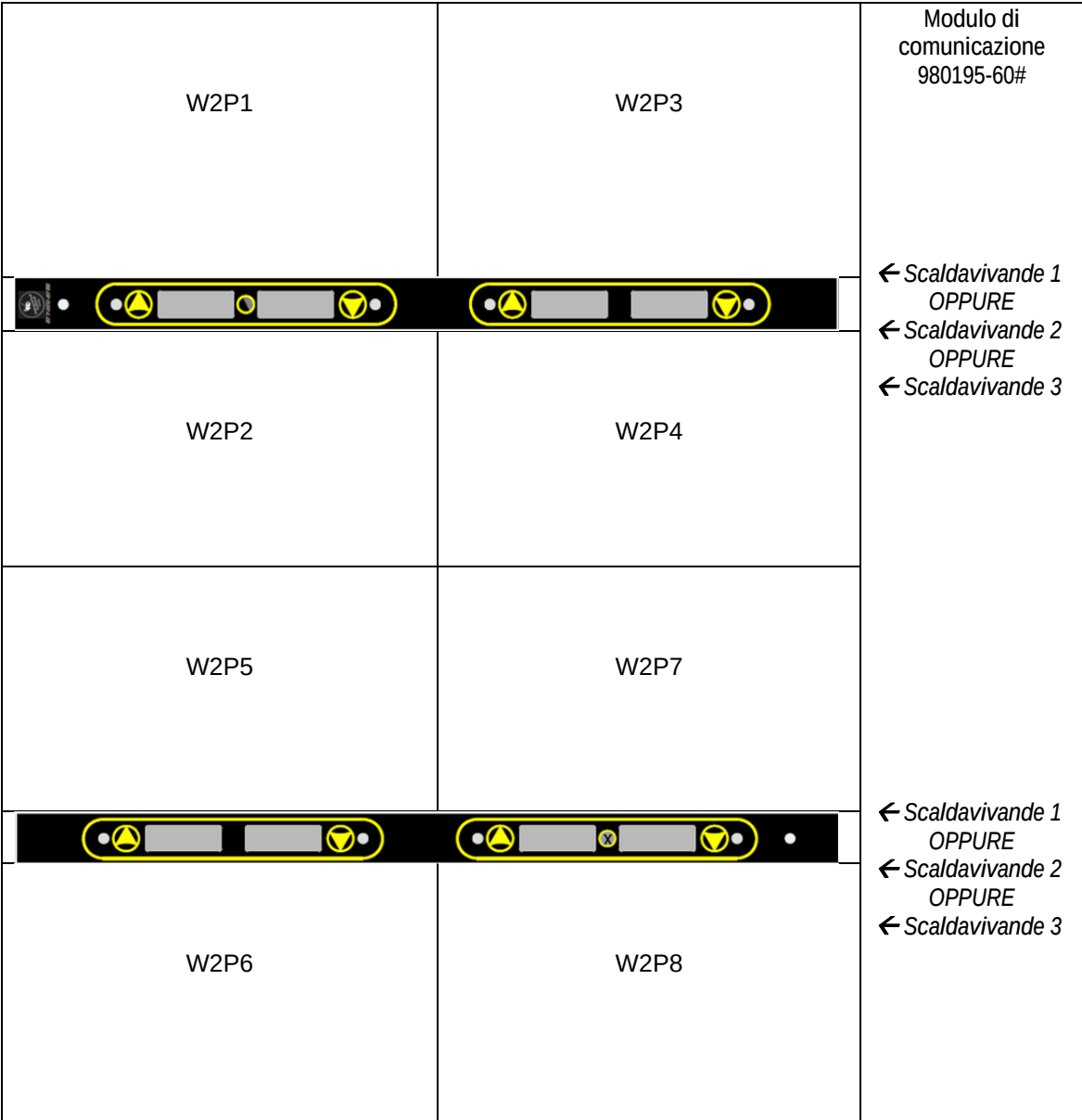
- 1) **NON collegare né spostare barre di temporizzazione AN KB2 a porte diverse di un modulo KB PS (980680#)** poiché lo si danneggerebbe, dato che la potenza d'ingresso non regolata sarebbe applicata a qualsiasi barra di temporizzazione collegata. Se il modulo KB PS continua a essere utilizzato dopo che è stato danneggiato, danneggerà eventuali moduli AN KB vecchi collegati e probabilmente anche eventuali barre di temporizzazione AN KB2 collegate.
- 2) Collegando o spostando barre di temporizzazione AN KB2 su un 980195-60# non si danneggia il modulo di comunicazione ma se ne causa il ripristino.

## Nomi dei prodotti predefiniti in fabbrica

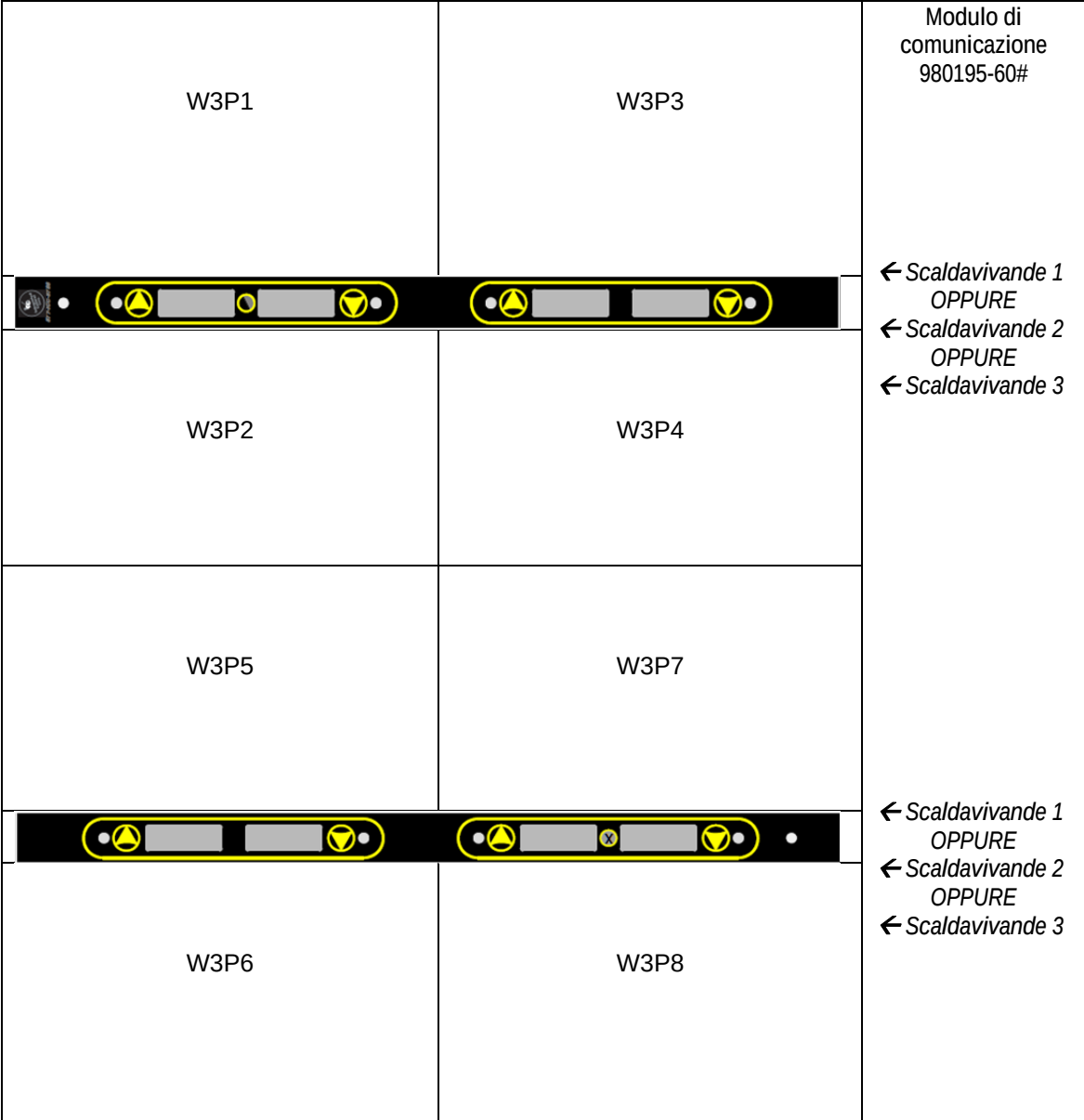
### Unità 4H x 2W principale (PHU1) sulla porta dello scaldavivande 1 – Vista anteriore

|                                                                                      |      |                                                                                 |
|--------------------------------------------------------------------------------------|------|---------------------------------------------------------------------------------|
| W1P1                                                                                 | W1P3 | Modulo di comunicazione<br>980195-60#                                           |
|    |      | ← Scaldavivande 1<br>OPPURE<br>← Scaldavivande 2<br>OPPURE<br>← Scaldavivande 3 |
| W1P2                                                                                 | W1P4 |                                                                                 |
| W1P5                                                                                 | W1P7 |                                                                                 |
|  |      | ← Scaldavivande 1<br>OPPURE<br>← Scaldavivande 2<br>OPPURE<br>← Scaldavivande 3 |
| W1P6                                                                                 | W1P8 |                                                                                 |

Unità 4H x 2W secondaria (PHU2) sulla porta dello scaldavivande 2 – Vista anteriore



Unità 4H x 2W secondaria (PHU3) sulla porta dello scaldavivande 3 – Vista anteriore





**Red Light Green Light™ Product Quality Timer™**

# **System Manual**

**for  
Burger King**

**Duke 4-Wide Warmers**

**Integrated Control Corp.  
748 Park Ave.  
Huntington, NY. 11743**

**877-ICC-8788**

**631-673-5100    Fax: 631-673-6756    [www.goicc.com](http://www.goicc.com)**

**Part# 896195 rev D**

## Red Light Green Light Product Quality Timer

### Section 1 - Operation Guide

#### 1 – Use 1<sup>st</sup> Indicator

When freshly cooked product is placed in the warmer, touch the corresponding button on the Pan Status Keyboard. The light will turn GREEN.

**GREEN** = Use this product first.

This product will expire first.

When freshly cooked product is placed in the second linked pan, (see programming guide) press the button and the light will turn GREEN, THEN YELLOW.

**YELLOW** = Newer product in pan, use other pan first .



When the hold time reaches the cook time the indicator will flash.

**FLASHING GREEN** or **YELLOW** = Start cooking, product is about to expire.

The Hold time is the specified time a cooked product may be held in the warmer. The indicator will FLASH RED when the hold time is reached.

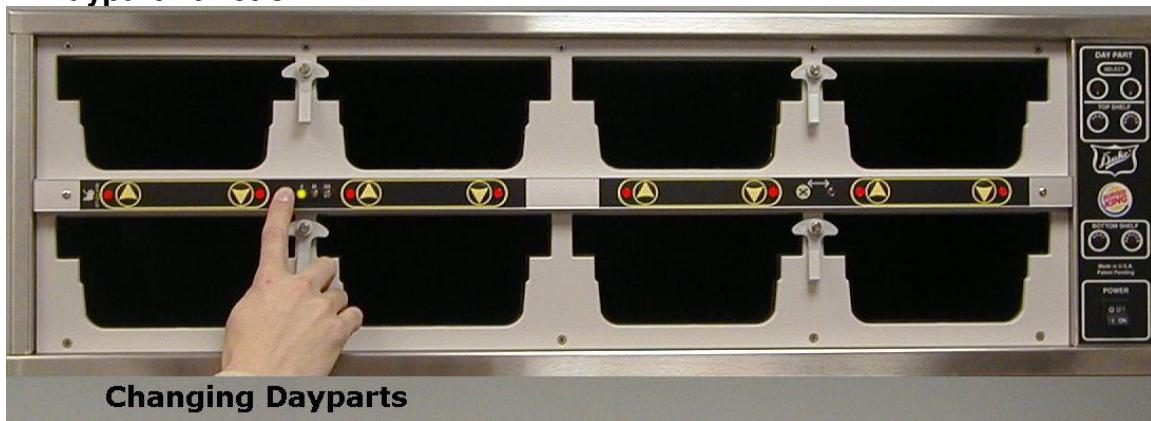
**FLASHING RED** = Product is expired.

After a product has expired, discard the appropriate product in the waste pail and press the button. The indicator will turn RED.

**RED** = No product present in this pan.

**NO LIGHT** = No product required in this pan. No product should be placed in this pan. If this button is pressed, the light will turn RED for 2 seconds and then go out (see programming guide, hold time is 0).

## 2 -Daypart Function



The Product Quality Timer system can store and recall up to three Daypart Menus per Prep Board. The system is shipped with Daypart I and II programmed as detailed in the Reference Section. Daypart III is blank.

To program the Menus, simply press the Daypart Button on the Keyboard on one of the warmers until the desired indicator is displayed (I, II, or III). When you change Dayparts on one warmer, the entire Prep Board's Daypart is changed and all Keyboards will indicate such. Program the HOLD and COOK WARNING Times and Pan Links using the Keyboard or Palm Pilot, as outlined in Section 2 – Programming Guide.

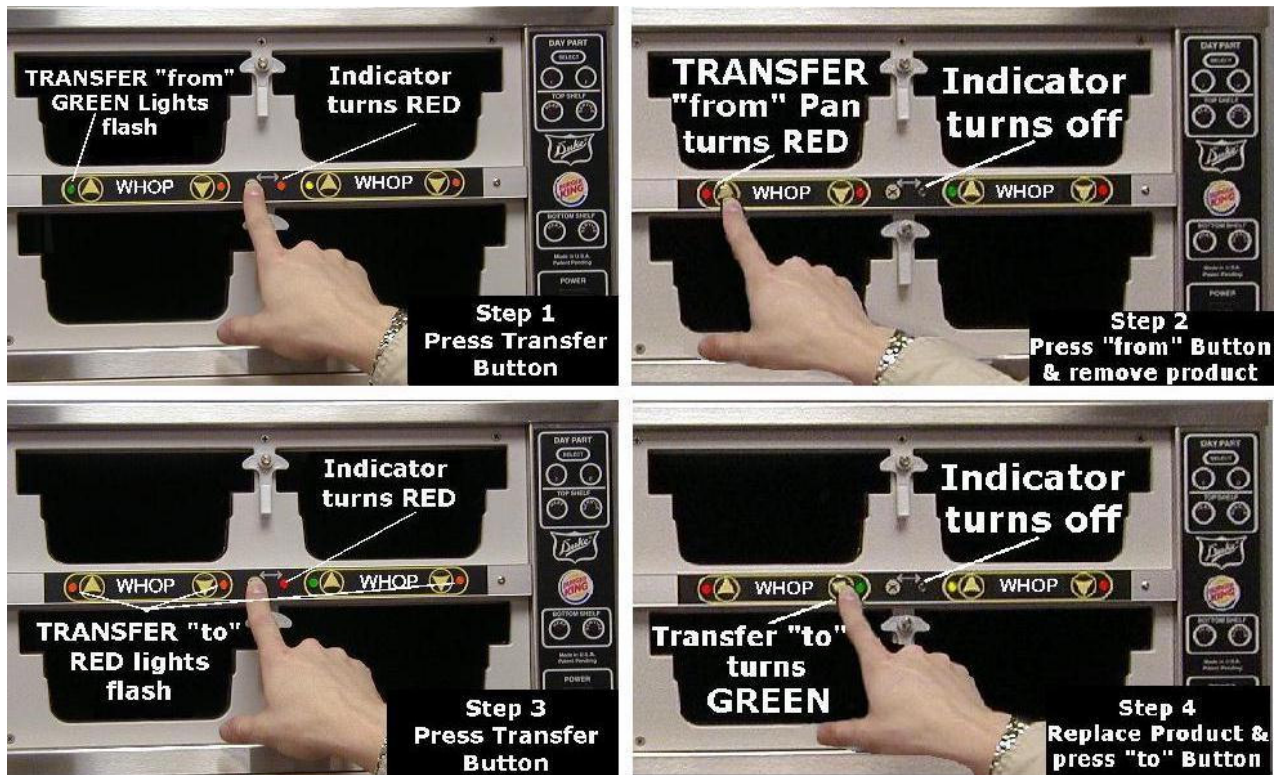
The Menus are stored in the memory of the Station Interface Unit and are NOT lost when the Unit is powered down.

To change Dayparts during normal operation, press the Daypart Button and the Indicator will advance.

All times for existing Product will continue to count down based on the previous Daypart. Any transfers (see Transfer Function) will be based on the current Daypart Links, but will transfer and count down the times for that Product. Once the Product is used or expired, the new Daypart times (and Links) are used.



### 3 - Transfer Function



Follow these steps to Transfer product and time from one bin to another LINKED bin:

Step 1 - Press Transfer Button. All the GREEN lights on the Prep Board will FLASH and the Transfer Indicator turns RED. If Step 2 is not executed within 10 seconds, the transfer will be automatically cancelled, the GREEN lights will stop flashing and the time is saved.

Step 2 - Press the Button next to FLASHING GREEN light for the Product you wish to Transfer FROM and remove the Pan. The Transfer Indicator goes out and the FLASHING GREEN light turns RED. If step 3 is not executed within 60 Seconds, the transfer will be automatically cancelled and the time is lost.

Step 3 - Press the Transfer Button. All the RED lights Linked to the Product being transferred will FLASH and the Transfer Indicator turns RED. If Step 4 is not executed within 10 seconds, the transfer will be automatically cancelled, the RED lights stop flashing and the time is lost.

Step 4 – Place the pan in one of the FLASHING RED bins to transfer TO and press the corresponding button. The pan light will turn GREEN, the Transfer Indicator goes out and the time (rounded down to the nearest minute) has been transferred.

## Section 2 - Programming Guide

*Please refer to the Reference Section to determine if the Default Configuration fits your operation. You may not need to re-program your HOLD times and Links.*

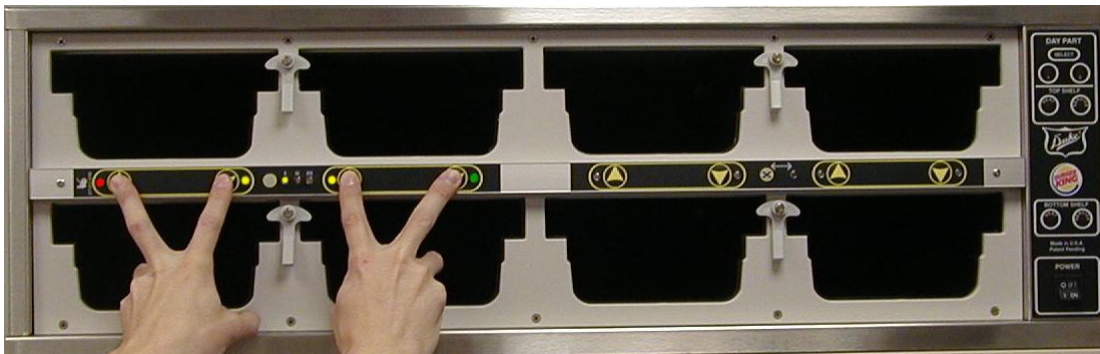
**If you have purchased the Palm Pilot Software and Cable option, please advance to the Palm Pilot Section for the most time efficient programming method.**

The buttons and lights on the Pan Status Keyboards of each warmer are used to modify the HOLD, COOK WARNING and pan LINK settings.

You can set the HOLD time in each pan between 5 minutes and 11 hours in 5-minute increments up to 120 minutes and in ½ hour increments after 120 minutes. You can set the COOK WARNING time in each pan between 1 minute and 11 hours in 1-minute increments up to 10 minutes, in 5-minute increments up to 120 minutes and in ½ hour increments after 120 minutes. LINKing pans with like product types allows the “use first indicators” to display properly. Each Station Interface Unit must be programmed individually. In order to program HOLD or COOK WARNING times, or to change the pans LINKed configuration for the current selected Daypart, you must be **in front of** the Warmer to be programmed. In the PQT system, the front of a warmer is the side with the temperature control panel and on/off switch. The left and right sides are referenced from the front view.

After entering the programming mode, all 3 warmer ports on the Station Interface Unit are in this mode. **NOTE: Only one person may press keys on the station being programmed.**

### 1 - Programming HOLD Times:



- a - Stand directly in front of the warmer you desire to program.  
Simultaneously press the **4 buttons on the left side** of the Pan Status Keyboard. Notice that the far left light illuminates RED. This indicates you are programming PAN 1. The lights directly to the right indicate the current HOLD time for this PAN.

To determine the current HOLD time:

Each YELLOW light = 20 minutes

Each GREEN light = 5 minutes

Each FLASHING YELLOW light = 120 minutes

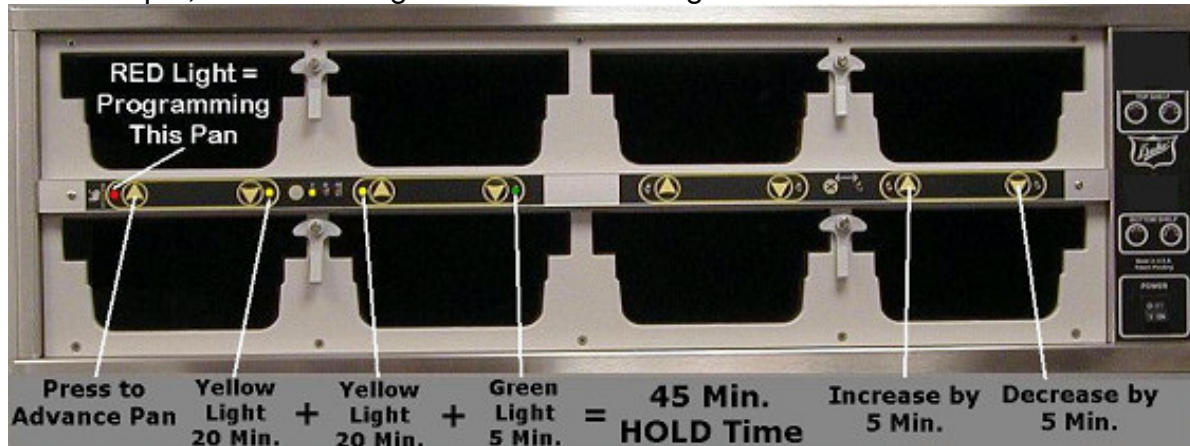
Each FLASHING GREEN light = 30 minutes if time is over 120 minutes

To determine the time setting, multiply:

- the number of YELLOW lights by 20
- the number of GREEN lights by 5
- the number of FLASHING YELLOW lights by 120
- the number of FLASHING GREEN lights by 30,

and add the numbers together.

For example, 2 YELLOW lights and 1 GREEN light indicate a time of 45 minutes.



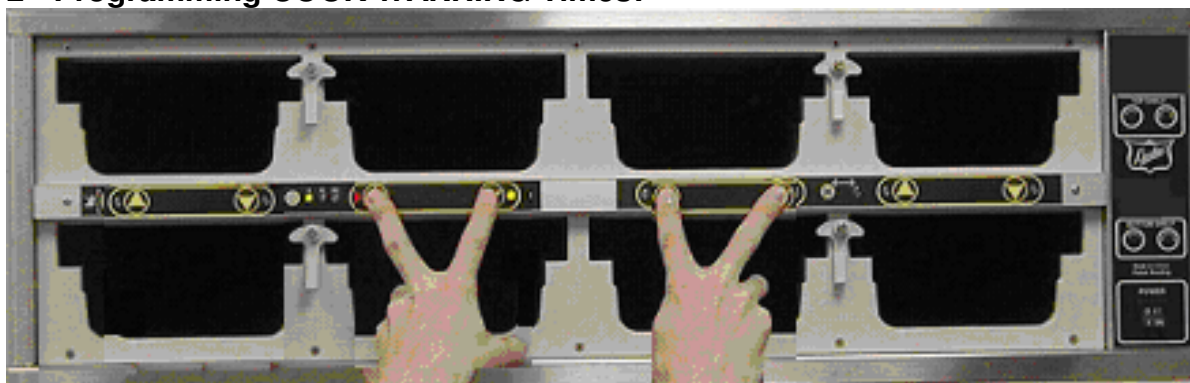
The **far right UP arrow button** - **Increases** the hold time by 5 min.

The **far right DOWN arrow button** - **Decreases** the time by 5 min.

Note: 115 minutes is not a time option.

- b - To advance to another pan, press the **far left UP arrow key**. The current times will be displayed with the YELLOW and GREEN lights for the Red lit indicated pan.
- c - To **EXIT** the time programming mode, press the **4 far left buttons** simultaneously and release. All pans with HOLD times greater than ZERO will display a RED light. Pan lights with a HOLD time equal to ZERO do not light and product should not be placed in those pans.

## 2 - Programming COOK WARNING Times:



a - Stand directly in front of the warmer you desire to program.  
Simultaneously press the **4 center buttons** of the Pan Status Keyboard and release them all. Notice that the leftmost light on the keyboard is RED. This indicates you are programming PAN 1. All other lights are used to indicate the current hold time for this pan.

b - To modify the COOK WARNING time:

- The **far right UP arrow button** - **Increases** the COOK WARNING time by 1 minute if the COOK WARNING time is less than 10 minutes, by 5 minutes between 10 minutes and 120 minutes, and by 30 minutes from 120 minutes to 660 minutes. Note: 115 minutes is not a time option.
- The **far right DOWN arrow button** - **Decreases** the COOK WARNING time by 1 minute if the COOK WARNING time is less than 10 minutes, by 5 minutes between 10 minutes and 120 minutes, and by 30 minutes from 120 minutes to 660 minutes.

| Programming COOK WARNING Time                                                                                               |          |
|-----------------------------------------------------------------------------------------------------------------------------|----------|
| Light display – 1-10 minute                                                                                                 |          |
| 0 minutes                                                                                                                   | Blank    |
| 1 minute                                                                                                                    | 1 Green  |
| 2 minutes                                                                                                                   | 1 Green  |
| 3 minutes                                                                                                                   | 1 Green  |
| 4 minutes                                                                                                                   | Blank    |
| 5 minutes                                                                                                                   | 1 Green  |
| 6 minutes                                                                                                                   | 1 Green  |
| 7 minutes                                                                                                                   | 1 Green  |
| 8 minutes                                                                                                                   | 1 Green  |
| 9 minutes                                                                                                                   | 1 Green  |
| 10 minutes                                                                                                                  | 2 Greens |
| Light display – 10 min.-11 hr.                                                                                              |          |
| For Each Light,<br>Green = 5 minutes<br>Yellow = 20 minutes<br>Green Flashing = 30 minutes<br>Yellow Flashing = 120 minutes |          |

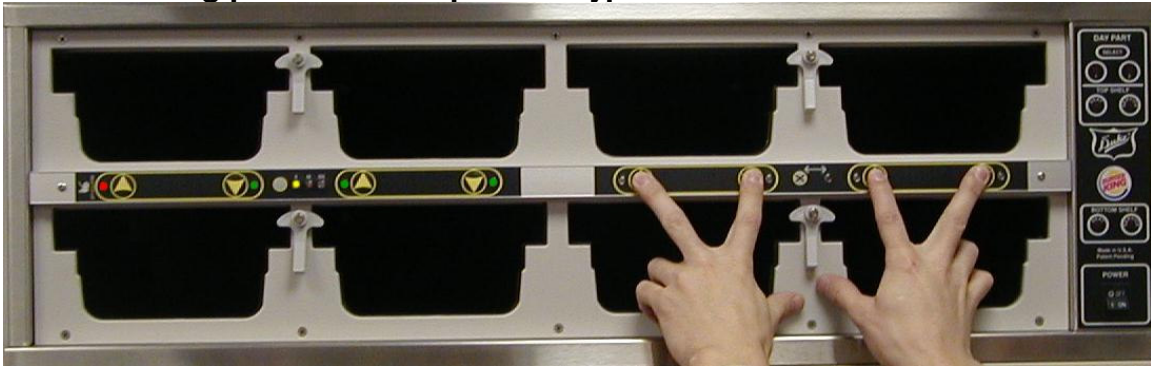
c - To advance to the next pan, press the **far left UP arrow key**. The current COOK WARNING times will be displayed with the YELLOW and GREEN lights for the RED lit indicated pan.

d - To **EXIT** the COOK WARNING time programming mode, simultaneously press the **4 center buttons** and release them all. All pans with HOLD times greater than ZERO will display a RED light. Lights for pans with a HOLD time equal to ZERO do not light and product should not be placed in those pans.

Note: Do not program the **Cook Warning Time** with a greater value than the **Hold Time**. The Lights will FLASH GREEN or YELLOW immediately, when pressed.

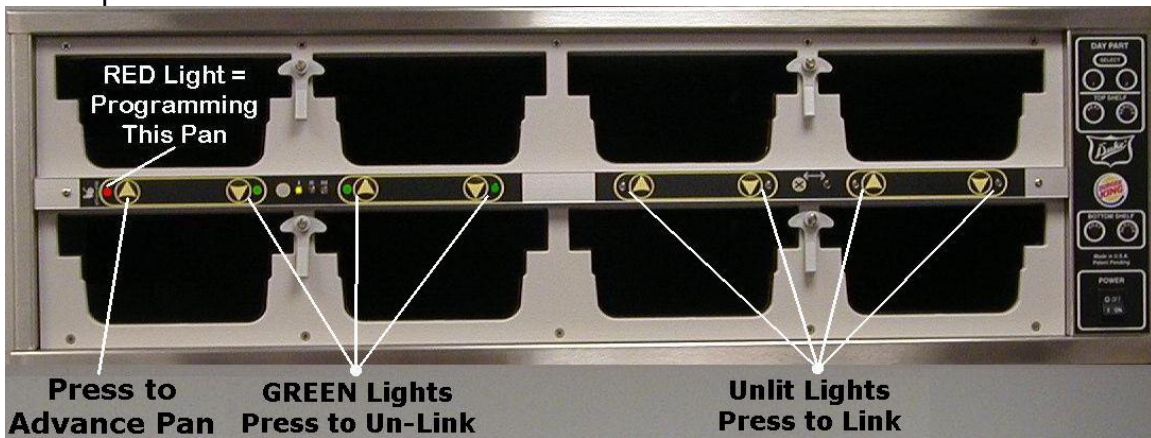


### 3 - LINKing pans with like product types:



Linking pans allows the “use first indicators” to display properly. The system is programmed with factory default links (see Reference Section).

- a - *Simultaneously* press the **4 buttons on the right side** of the Pan Status Keyboard. Notice the far left light illuminates RED. This indicates you are programming the PAN 1 links. The other lights indicate GREEN which pans are linked with PAN 1.



- b - To link a pan, press a key by an unlit indicator. The light will turn GREEN. To unlink a pan, press a key by a GREEN lit indicator and the light will go out.
- c - To advance to the next pan press **the far left UP Arrow button** once. The other lights indicate in GREEN which pans are linked.
- d - To **EXIT** the link programming mode, simultaneously press the **4 far right buttons** and release.

## Steamer Bar Programming

*Please refer to the Reference Section to determine if the Default Configuration fits your operation. You may not need to re-program your HOLD times and Links. If you have purchased the Palm Pilot Software and Cable option, please advance to the Palm Pilot Section for the most time efficient programming method.* Otherwise, please determine which configuration exists in your kitchen from the photos below and program the Steamer Bar referencing the associated instruction set.

- 1 - 8 Buttons, 8 lights with no ICC logo in the middle of the bar.



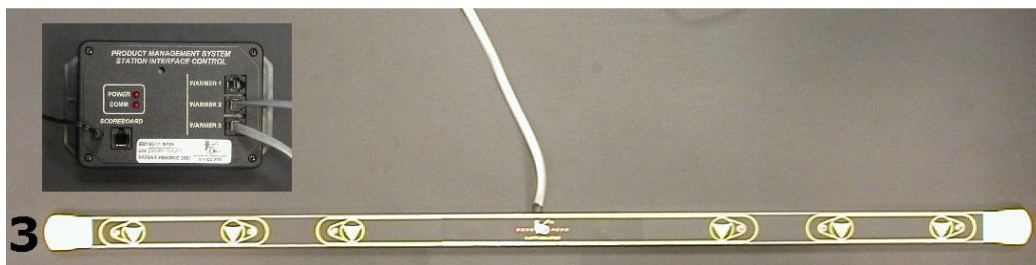
Program the Steamer Bar as if you are standing in front of a warmer as detailed in Section 2.

- 2 - 6 Buttons, 8 lights with an ICC logo in the middle of the bar.



- Enter the Programming mode(s) from the front of the Warmer, then go in front of the Steamer Bar.
- The entire Prep Board is in Programming mode, therefore continue programming using the buttons and lights on the Steamer Bar similar to Warmer programming detailed in Section 2.
- To Exit the programming modes, go back to the front of the Warmer and press the appropriate buttons.

- 3 - 6 Buttons, 6 lights with an ICC logo in the Middle of the bar, and the Station Interface Unit is accessible.



- Locate the Station Interface Unit. The Steamer Bar should be plugged into the Warmer 3 port and the Main Warmer should be plugged into the Warmer 2 port.
- Swap the cables at the Warmer 2 and Warmer 3 ports on the Station Interface Unit.

- c) Now use the Keyboard on the Warmer to program the Steamer Port as detailed in Section 2. Remember, the Station port gets programmed, NOT the Keyboards.

When you have finished programming the HOLD times and Linking, test your Steamer HOLD times and Links at the Warmer. If all is correct, swap the cables back to their original state.

- 4 - 6 Buttons, 6 lights with an ICC logo in the Middle of the bar, and the Station Interface Unit is NOT accessible.



The “Counting Method” must be used for this configuration.

- a) Enter the Time Programming Mode from the Warmer by pressing the 4 left keys simultaneously.
- b) Return to the Steamer Bar. The far left light should be RED. Keep pressing the far right button until the only light lit on the keyboard is the far left RED light
- c) Using the second from right button, press the button once for every 5 minutes of HOLD time desired for the RED lit location. For a 30 Min HOLD time, press the button 6 times. If you are unsure how many times you have pressed the button, bring the time back down to zero by pressing the far right button until only the far left button is lit RED and repeat Step C.
- d) Advance to the next location by pressing the far left button once.
- e) Goto C and continue until all 6 locations have the proper HOLD times.
- f) Exit the HOLD time programming mode from the Warmer by pressing the 4 left buttons simultaneously
- g) At the Warmer, Enter the Link Programming mode by pressing the 4 far right buttons.
- h) At the Steamer Keyboard, Program the desired Links similar to the Warmer Linking. No counting is needed for this mode.
- i) Exit the Link programming mode from the Warmer by pressing the 4 the far right buttons simultaneously
- j) Test times and Links.

## PROGRAMMING Using the Palm Pilot Option

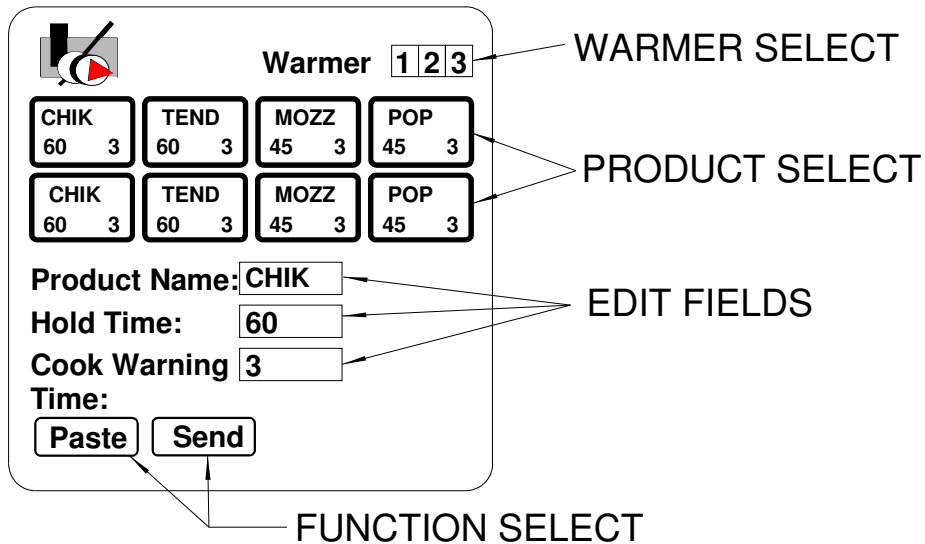
A Palm Pilot may be used with the ICC Hold Set-up software program and a special data cable.

The Hold Setup program is a very powerful tool and easy to use. In less than a minute, you can change the Product name, Hold and Cook times and then transfer the data into the Station Interface Units.

Products may be edited using cut and paste. HOLD and COOK WARNING times may be adjusted in 1 minute increments. The updated data is then sent to the Station Interface Unit via the cable.

Multiple configurations can be stored, recalled and deleted by long file names. These records can also be beamed between Palm Pilots if your Palm models have the IR feature.

This option is the most time-efficient way to maintain the system configuration, especially for multiple restaurants.



### 1 - Palm Hold Setup Program installation:

If a Palm Pilot was shipped with your system, it will have the Hold Setup Program preloaded. If you have an existing Palm and a diskette was shipped with your system or you received an E-Mail with the program attached, please follow these installation instructions.

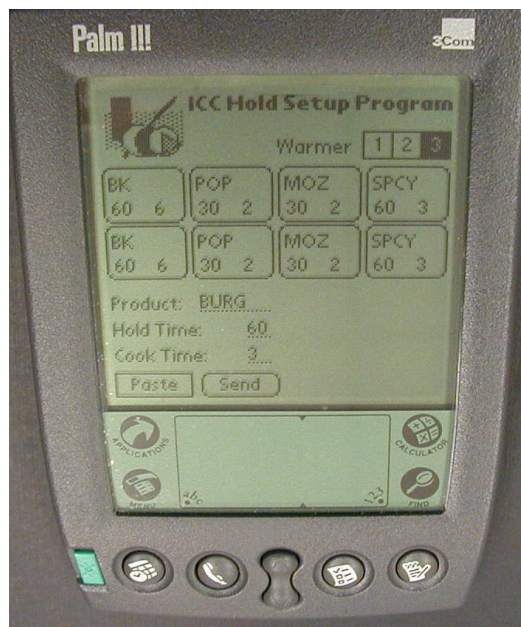
- a - Using Windows Explorer Double-click on the file  
**ICC\_Hold\_Setup\_Pgm.prc**



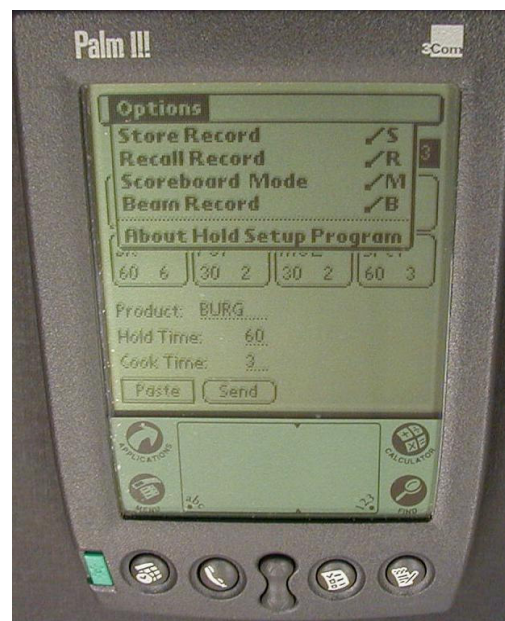
- b - A window will pop-up prompting you to select a user. Select a user and click OK
- c - A window will pop-up informing you the next time you perform a Hot-Sync the ICC Hold Setup Program will be transferred to your Palm. Click Done.
- d - A window will pop-up with a similar message. Click OK.
- e - Perform a Palm Hot-Sync as normal and the Hold Setup Program will be transferred to your Palm Pilot.

## 2 - Palm Pilot Programming:

- a - Execute the ICC Hold Setup Program on the Palm Pilot. Observe the Main Screen with 8 “pans” displaying products, hold and cook warning times (see Pic# 6). This represents the pans in a warmer referenced from the **front** of the warmer.



Pic# 6 - Main Screen



Pic# 7 - Menu Pull-down

- b - If “Stock Level” is displayed in the lower right portion of the screen, the program is in the wrong mode for this application (Scoreboard Mode). To switch to the proper mode (Station Mode), touch the Palm Menu icon to display the Menu Pull-down (see Pic# 7). Then touch Station Mode. Stock Level should disappear from screen.
- c - The Warmer numbers are indicated on the top right portion of the screen and can be changed by touching 1, 2 or 3 as desired. As you touch each Warmer number, the Product name, Hold and Cook Warning times change in the pans.
- d - To change the product name, hold time or cook warning time, simply touch a pan and the data will be copied down to the editing fields. Change the data, touch PASTE, then touch the new pan location.
- e - For HOLD and COOK WARNING times, you may enter values in 1-minute increments up to 4 hours (240 minutes). For values between 241 and 251, each 1-minute increment is equal to 30 minutes (see Table below). A

value of 255 will be interpreted as 11 hours and any value above 255 will be displayed as 255 when pasted to the pan.

| Palm | = | Minutes | Palm | = | Minutes |
|------|---|---------|------|---|---------|
| 241  | = | 4h 30m  | 249  | = | 8h 30m  |
| 242  | = | 5h      | 250  | = | 9h      |
| 243  | = | 5h 30m  | 251  | = | 9h 30m  |
| 244  | = | 6h      | 252  | = | 10h     |
| 245  | = | 6h 30 m | 253  | = | 10h 30m |
| 246  | = | 7h      | 254  | = | 11h     |
| 247  | = | 7h 30m  | 255  | = | 11h     |

f - To LINK pans, make the Product Name the same for the pans you want LINKed.

### 3 - Data transfer:

When the Send function is performed, the data for all 3 Warmers is transferred to the Station Interface Unit.

a - Attach the Hold Timer System cable to the Palm Pilot and the plug the 8-pin Telephone type cable into the Station Interface Unit labeled "SCOREBOARD". Touch the Send button displayed in the Hold Setup screen. After a few seconds, "Send OK" will be displayed in the lower right portion of the screen.

Troubleshooting -

1 – If an error message appears, check cable connection at the Palm and the Station Interface Unit. Make sure the program is in Station Mode (see Pic# 7). Touch Send again.

**Warning:** When transferring data using the PALM M100 model, DO NOT press the Hot Sync button on the cable. The Station Interface Unit will lock up and you will need to reset it by powering off and then back on.

### 4 - To Store, Recall and Delete records:

All of the timer data may be stored, recalled and deleted. These functions are very useful for saving different promotional menus.

- a - To Store a record touch the Menu icon to display the Menu Pull-down (see Pic# 7). Touch Store Record. Enter a name for a new record or touch an existing record to overwrite. Touch Store to save the data **OR** touch Close to return to the Main screen without saving any data.
- b - To Recall a record, touch the Menu icon, then touch Recall Record. Touch an existing record to recall, then touch the Recall button **OR** touch Close to return to the Main screen without recalling any data.

- c - To Delete a record, touch the Menu icon, then touch Recall Record. Touch an existing record to delete, then touch Delete button **OR** touch Close to return to the Main screen without deleting any data.

**Warning:** Once you touch Delete, the record will be deleted without any warning prompts.

### **Section 3 - Testing & Troubleshooting Guide**

#### **1 - Pan Status Keyboard test:**

- a - Press Pan button once, light turns green. Press button again, light turns red. Repeat on all buttons on all keyboards.

Troubleshooting -

- 1 - If light turns red, then off, the hold time = 0. Program new HOLD times for that pan.
- 2 - If the Keyboard test fails, plug the keyboard into a different Warmer jack on the Station Unit. If the problem follows the keyboard, the keyboard is suspect. If the problem stays with the Warmer Jack, the Station Unit is suspect.

- b - Press Transfer button once, light turns red. Press button again, light goes out. Repeat on Transfer buttons on all keyboards.

Troubleshooting -

- 1 - If light does not toggle between red and off and the Pan button test 2a passed, the Keyboard is suspect.

- c - Press Daypart button 3 times, the next Daypart light turns yellow with each press and toggle back to the beginning. Repeat on Daypart buttons on all keyboards.

Troubleshooting -

- 1 - If light does not advance Dayparts and the Pan button test 1a passed, the Keyboard is suspect.

#### **2 - Steamer Keyboard test:**

- a - Press Pan button once, light turns green. Press button again, light turns red. Repeat on all buttons.

Troubleshooting -

- 1 - If light turns red, then off, the hold time = 0. Program new HOLD times for that pan.
- 2 - If the Keyboard test fails, plug the keyboard into a different Warmer jack on the Station Unit. If the problem follows the keyboard, the keyboard is suspect. If the problem stays with the Warmer Jack, the Station Unit is suspect.

### **DUKE ONLY**

#### **1 - Station Interface Unit power:**

- a - Power up the Duke Warmer unit.
- b - Observe that the Keyboard lights illuminate YELLOW, then RED or go out depending on the programmed Hold Times.

Troubleshooting -

- 1 – Check that the Warmer control powers up and the Warmer heats up. If not, call Duke Mfg for Warmer service.

### **SERVICE Hot-Line**

If you believe that you have a **Product Quality Timer System** service issue, perform the steps outlined above. If a test fails, perform the troubleshooting steps to see if this resolves the problem. Continue the remainder of the testing, if possible, to uncover any additional problems and document the symptoms and results. Please have this data handy before calling the ICC troubleshooting HOT LINE listed below. **For optimum support, please be near the suspect units with a cordless phone, if available, when calling our Technicians.**

**877-ICC-8788 X106 M-F 8:30am - 4:30pm Eastern Time**

**For Warmer Technical Support, please call one of the following telephone numbers based on which Warmer you have:**

**Duke Mfg.                      314-231-1130**

## Section 4 - Installation Guide

### USE ONLY I.C.C. SUPPLIED CABLES.\*

#### Duke Warmers:

The Station Interface Units are integrated into Duke Warmer Model#’s MB1 and SB1, making the installation very simple. The power for the Product Quality Timer System is shared by the Warmer Unit power supply.

#### **Main Prep Board**

##### Warmer Connection

If your kitchen has 2 warmers at the Main Prep Board, connect Model MB2 to the **Warmer 2** Port of Model MB1 using the 8’ cable supplied with your Warmers.

##### Steamer Timer Bar Connection

The Steamer Timer Bar should have been installed on the Steamer Table using the correct brackets prior to connection to the Warmer.

Locate the cable attached to the Steamer Bar, route it to Model MB1 and plug it into the **Warmer 3** Port.

Power up the Warmer Units and observe that the Pan Status and Steamer Keyboards lights illuminate RED. If not, refer to the Testing & Troubleshooting Guide in Section 3. Refer to the Reference Section for an understanding of the product placement and Default HOLD times for the Main Prep Board and Dayparts.

#### **Specialty Prep Board**

If your kitchen has 2 warmers at the Specialty Prep Board, connect Model SB2 to the **Warmer 1** Port of Model SB1 using the 8’ cable supplied with your Warmers.

Power up the Warmer Units and observe that the Pan Status and Steamer Keyboards lights illuminate RED. If not, refer to the Testing & Troubleshooting Guide in Section 3. Refer to the Reference Section for an understanding of the product placement and Default HOLD times for the Specialty Prep Board and Dayparts.

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***\* Failure to use I.C.C. supplied parts may void warranty.***

**Reference Section**  
**Factory Default Configuration**  
**MAIN PREP BOARD**  
**Station Interface Box**

**DAYPART I**

**WARMER 1** *holding Fried Eggs, Eggs, Burgers & Whoppers*

|         | <b>PAN 1</b> | <b>PAN 3</b> | <b>PAN 5</b> | <b>PAN 7</b> |
|---------|--------------|--------------|--------------|--------------|
| PRODUCT | EGG          | EGG          | FEGG         | WHOP         |
| HOLD    | 120          | 120          | 60           | 45           |
| COOK    | 6            | 6            | 6            | 3            |
|         | <b>PAN 2</b> | <b>PAN 4</b> | <b>PAN 6</b> | <b>PAN 8</b> |
| PRODUCT | EGG          | EGG          | FEGG         | BURG         |
| HOLD    | 120          | 120          | 60           | 60           |
| COOK    | 6            | 6            | 6            | 3            |

**WARMER 2** *holding Fried Eggs, Eggs, Burgers & Whoppers*

|         | <b>PAN 1</b> | <b>PAN 3</b> | <b>PAN 5</b> | <b>PAN 7</b> |
|---------|--------------|--------------|--------------|--------------|
| PRODUCT | EGG          | EGG          | FEGG         | WHOP         |
| HOLD    | 120          | 120          | 60           | 45           |
| COOK    | 6            | 6            | 6            | 3            |
|         | <b>PAN 2</b> | <b>PAN 4</b> | <b>PAN 6</b> | <b>PAN 8</b> |
| PRODUCT | EGG          | EGG          | FEGG         | BURG         |
| HOLD    | 120          | 120          | 60           | 60           |
| COOK    | 6            | 6            | 6            | 3            |

**WARMER 3** *Steamer Table holding buns*

|         | <b>PAN 1</b> | <b>PAN 3</b> | <b>PAN 5</b> | <b>PAN 7</b> |
|---------|--------------|--------------|--------------|--------------|
| PRODUCT | BUN1         | BUN1         | XXXX         | BUN2         |
| HOLD    | 30           | 30           | 0            | 30           |
| COOK    | 2            | 2            | 0            | 2            |
|         | <b>PAN 2</b> | <b>PAN 4</b> | <b>PAN 6</b> | <b>PAN 8</b> |
| PRODUCT | BUN1         | XXXX         | BUN2         | BUN2         |
| HOLD    | 30           | 0            | 30           | 30           |
| COOK    | 2            | 0            | 2            | 2            |

**Factory Default Configuration  
MAIN PREP BOARD  
Station Interface Box**

**DAYPART II**

**WARMER 1** *holding Burgers and Whoppers*

|         | <b>PAN 1</b> | <b>PAN 3</b> | <b>PAN 5</b> | <b>PAN 7</b> |
|---------|--------------|--------------|--------------|--------------|
| PRODUCT | WHPR         | WHPR         | BURG         | BURG         |
| HOLD    | 45           | 45           | 60           | 60           |
| COOK    | 3            | 3            | 3            | 3            |
|         | <b>PAN 2</b> | <b>PAN 4</b> | <b>PAN 6</b> | <b>PAN 8</b> |
| PRODUCT | WHPR         | WHPR         | BURG         | BURG         |
| HOLD    | 45           | 45           | 60           | 60           |
| COOK    | 3            | 3            | 3            | 3            |
| COOK    | 0            | 0            | 0            | 0            |

**WARMER 2** *holding Burgers and Whoppers*

|         | <b>PAN 1</b> | <b>PAN 3</b> | <b>PAN 5</b> | <b>PAN 7</b> |
|---------|--------------|--------------|--------------|--------------|
| PRODUCT | WHPR         | WHPR         | BURG         | BURG         |
| HOLD    | 45           | 45           | 60           | 60           |
| COOK    | 3            | 3            | 3            | 3            |
|         | <b>PAN 2</b> | <b>PAN 4</b> | <b>PAN 6</b> | <b>PAN 8</b> |
| PRODUCT | WHPR         | WHPR         | BURG         | BURG         |
| HOLD    | 45           | 45           | 60           | 60           |
| COOK    | 3            | 3            | 3            | 3            |

**WARMER 3** *Steamer Table holding buns*

|         | <b>PAN 1</b> | <b>PAN 3</b> | <b>PAN 5</b> | <b>PAN 7</b> |
|---------|--------------|--------------|--------------|--------------|
| PRODUCT | BUN1         | BUN1         | XXXX         | BUN2         |
| HOLD    | 30           | 30           | 0            | 30           |
| COOK    | 2            | 2            | 0            | 2            |
|         | <b>PAN 2</b> | <b>PAN 4</b> | <b>PAN 6</b> | <b>PAN 8</b> |
| PRODUCT | BUN1         | XXXX         | BUN2         | BUN2         |
| HOLD    | 30           | 0            | 30           | 30           |
| COOK    | 2            | 0            | 2            | 2            |

**Factory Default Configuration  
SPECIALTY PREP BOARD  
Station Interface Box**

**DAYPART I**

**WARMER 1 port programmed for *Fried Eggs, Burgers & Whoppers***

|         | <b>PAN 1</b> | <b>PAN 3</b> | <b>PAN 5</b> | <b>PAN 7</b> |
|---------|--------------|--------------|--------------|--------------|
| PRODUCT | XXXX         | XXXX         | WHOP         | FEGG         |
| HOLD    | 0            | 0            | 45           | 60           |
| COOK    | 0            | 0            | 3            | 6            |
|         | <b>PAN 2</b> | <b>PAN 4</b> | <b>PAN 6</b> | <b>PAN 8</b> |
| PRODUCT | XXXX         | XXXX         | BURG         | FEGG         |
| HOLD    | 0            | 0            | 60           | 60           |
| COOK    | 0            | 0            | 3            | 6            |

**WARMER 2 port programmed for *Fried Eggs, Burgers & Whoppers***

|         | <b>PAN 1</b> | <b>PAN 3</b> | <b>PAN 5</b> | <b>PAN 7</b> |
|---------|--------------|--------------|--------------|--------------|
| PRODUCT | XXXX         | XXXX         | WHOP         | FEGG         |
| HOLD    | 0            | 0            | 45           | 60           |
| COOK    | 0            | 0            | 3            | 6            |
|         | <b>PAN 2</b> | <b>PAN 4</b> | <b>PAN 6</b> | <b>PAN 8</b> |
| PRODUCT | XXXX         | XXXX         | BURG         | FEGG         |
| HOLD    | 0            | 0            | 60           | 60           |
| COOK    | 0            | 0            | 3            | 6            |

**WARMER 3 port programmed for *Biscuits, Eggs & Sausage***

|         | <b>PAN 1</b> | <b>PAN 3</b> | <b>PAN 5</b> | <b>PAN 7</b> |
|---------|--------------|--------------|--------------|--------------|
| PRODUCT | BISC         | EGG          | EGG          | SAUS         |
| HOLD    | 30           | 120          | 120          | 60           |
| COOK    | 2            | 6            | 6            | 3            |
|         | <b>PAN 2</b> | <b>PAN 4</b> | <b>PAN 6</b> | <b>PAN 8</b> |
| PRODUCT | BISC         | EGG          | EGG          | SAUS         |
| HOLD    | 30           | 120          | 120          | 60           |
| COOK    | 2            | 6            | 6            | 3            |



# Factory Default Configuration SPECIALTY PREP BOARD Station Interface Box

## DAYPART 2

**WARMER 1 port programmed for** *Promos, Tenders, Fish & BK Broiler*

|         | <b>PAN 1</b> | <b>PAN 3</b> | <b>PAN 5</b> | <b>PAN 7</b> |
|---------|--------------|--------------|--------------|--------------|
| PRODUCT | PRMO         | TEND         | FISH         | BK           |
| HOLD    | 45           | 30           | 45           | 60           |
| COOK    | 6            | 3            | 4            | 6            |
|         | <b>PAN 2</b> | <b>PAN 4</b> | <b>PAN 6</b> | <b>PAN 8</b> |
| PRODUCT | PRMO         | TEND         | FISH         | BK           |
| HOLD    | 45           | 30           | 45           | 60           |
| COOK    | 6            | 3            | 4            | 6            |

**WARMER 2 port programmed for** *Promos, Tenders, Fish & BK Broiler*

|         | <b>PAN 1</b> | <b>PAN 3</b> | <b>PAN 5</b> | <b>PAN 7</b> |
|---------|--------------|--------------|--------------|--------------|
| PRODUCT | PRMO         | TEND         | FISH         | BK           |
| HOLD    | 45           | 30           | 45           | 60           |
| COOK    | 6            | 3            | 4            | 6            |
|         | <b>PAN 2</b> | <b>PAN 4</b> | <b>PAN 6</b> | <b>PAN 8</b> |
| PRODUCT | PRMO         | TEND         | FISH         | BK           |
| HOLD    | 45           | 30           | 45           | 60           |
| COOK    | 6            | 3            | 4            | 6            |

**WARMER 3 port programmed for** *Chicken & Promos*

|         | <b>PAN 1</b> | <b>PAN 3</b> | <b>PAN 5</b> | <b>PAN 7</b> |
|---------|--------------|--------------|--------------|--------------|
| PRODUCT | CHKN         | PRMO         | PRMO         | PRMO         |
| HOLD    | 30           | 60           | 60           | 60           |
| COOK    | 3            | 6            | 6            | 6            |
|         | <b>PAN 2</b> | <b>PAN 4</b> | <b>PAN 6</b> | <b>PAN 8</b> |
| PRODUCT | CHKN         | PRMO         | PRMO         | PRMO         |
| HOLD    | 30           | 60           | 60           | 60           |
| COOK    | 3            | 6            | 6            | 6            |



**Integrated Control Corp. ®**  
**877-ICC-8788**



**Red Light Green Light ™ Product Quality Timer™**

# **System Manual**



**"Your Solutions Partner"**

## **4 High x 2 Wide Warmers**

**Integrated Control Corp.**  
**748 Park Ave.**  
**Huntington, NY. 11743**

**631-673-5100    Fax: 631-673-6756    [www.goicc.com](http://www.goicc.com)**

**Duke Part# 156891C**

## Section 1 - Operation Guide

### 1 – Use 1<sup>st</sup> Indicator

When freshly cooked product is placed in the warmer, touch the corresponding button on the Pan Status Keyboard. The light will turn GREEN.

**GREEN = Use this product first.**

This product will expire first.

When freshly cooked product is placed in the second LINKed pan, (see programming guide) press the button and the light will turn GREEN, then YELLOW.

**YELLOW = Newer product in pan, use other pan first.**

When the hold time reaches the cook time the indicator will flash. An audible alarm will sound on timers with this option.

**FLASHING GREEN or YELLOW = Start cooking, product is about to expire.**

The HOLD time is the specified time a cooked product may be held in the warmer. The light will FLASH RED when the hold time is reached.

**FLASHING RED = Product is expired.**

After a product has expired, discard the appropriate product in the waste pail and press the button. The light will turn RED.

**RED = No product present in this pan.**

**NO LIGHT = No product required in this pan.** No product should be placed in this pan. If this button is pressed, the light will turn RED briefly and then go out (see programming guide, hold time is 0).



## 2 – Daypart Function

The Product Quality Timer system can store and recall up to three Daypart Menus. The system is shipped with Daypart I, II and III programmed as detailed in the Reference Section.

To program the Menus, simply press the Daypart Button on one of the warmers until the desired indicator is displayed (I, II, or III). When you change Dayparts on one warmer, all warmers connected to this warmer will change and all Keyboards will indicate such. Program the HOLD times, COOK times and pan LINKs using the Keyboard (as outlined in Section 2) or Palm Pilot (as described in Section 4).



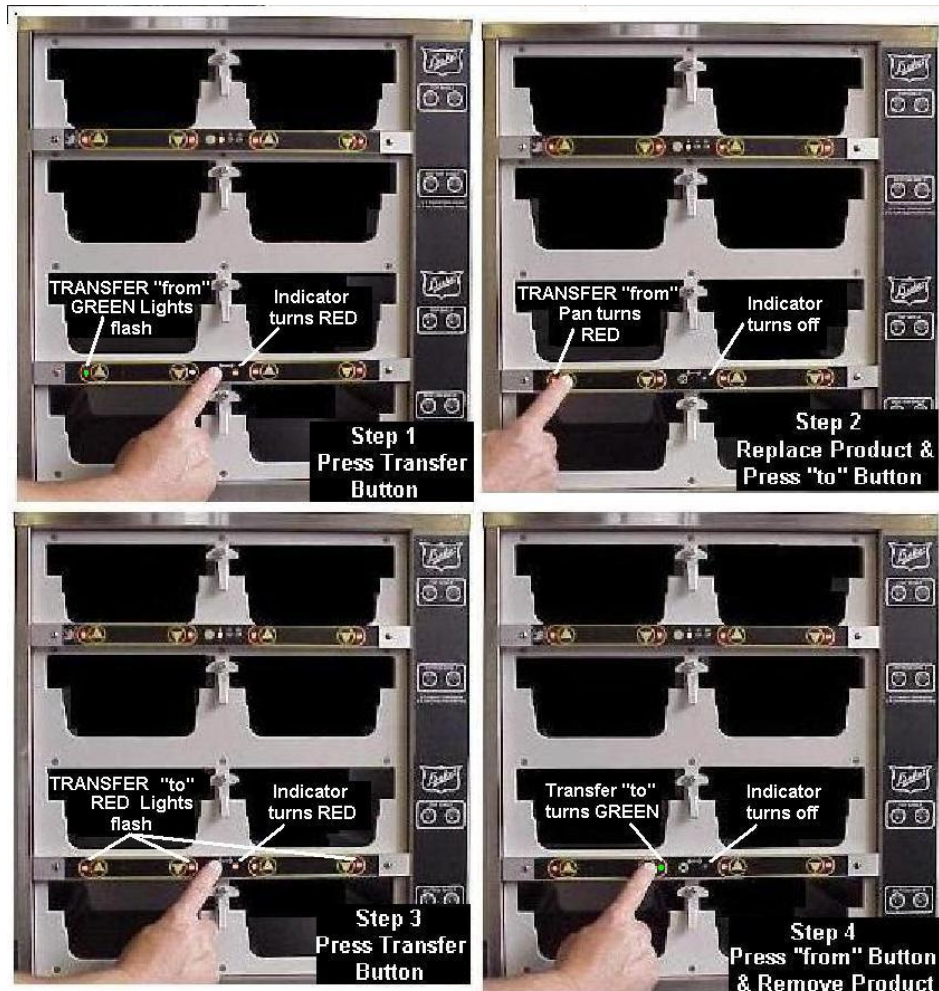
**Changing Dayparts**

The Menus are stored in the memory of the Station Interface Unit and are NOT lost when the Unit is powered down.

To change Dayparts during normal operation, press the Daypart Button and the Indicator will advance.

All times for existing Product will continue to count down based on the previous Daypart. Any transfers (see Transfer Function) will be based on the current Daypart Links, but will transfer and count down the times for that Product. Once the Product is used or expired, the new Daypart times (and LINKs) are used.

### 3 - Transfer Function



**NOTE:** If you have Digital displays you do not have the Transfer function.

**Follow these steps to Transfer product and time from one bin to another LINKed bin:**

**Step 1** - Press Transfer Button. All the GREEN lights on the Prep Board will FLASH and the Transfer light turns RED. If Step 2 is not executed within 10 seconds, the transfer will be automatically cancelled, the GREEN lights will stop flashing and the time is saved.

**Step 2** - Press the Button next to the FLASHING GREEN light for the Product you wish to Transfer FROM and remove the Pan. The Transfer Indicator goes out and the FLASHING GREEN light turns RED. If step 3 is not executed within 60 seconds, the transfer will be automatically cancelled and the time is lost.

**Step 3** - Press the Transfer Button. All the RED lights LINKed to the Product being transferred will FLASH and the Transfer light turns RED. If Step 4 is not executed within 10 seconds, the transfer will be automatically cancelled, the RED lights stop flashing and the time is lost.

**Step 4** - Place the pan in one of the FLASHING RED bins to transfer TO and press the corresponding button. The pan light will turn GREEN, the Transfer Indicator goes out and the time (rounded down to the nearest minute) has been transferred.



## **Section 2 – Manual Programming Guide for Non-Digital Warmer**

*Please refer to the Reference Section to determine if the Default Configuration fits your operation. You may not need to re-program your times and LINKs.*

**If you have purchased the Palm Pilot Software and Cable option, please advance to Section 4 for the quickest programming method. If you have a Digital Warmer, advance to Section 3.**

The buttons and lights on the Pan Status Keyboards of each warmer are used to modify the HOLD, COOK and pan LINK settings.

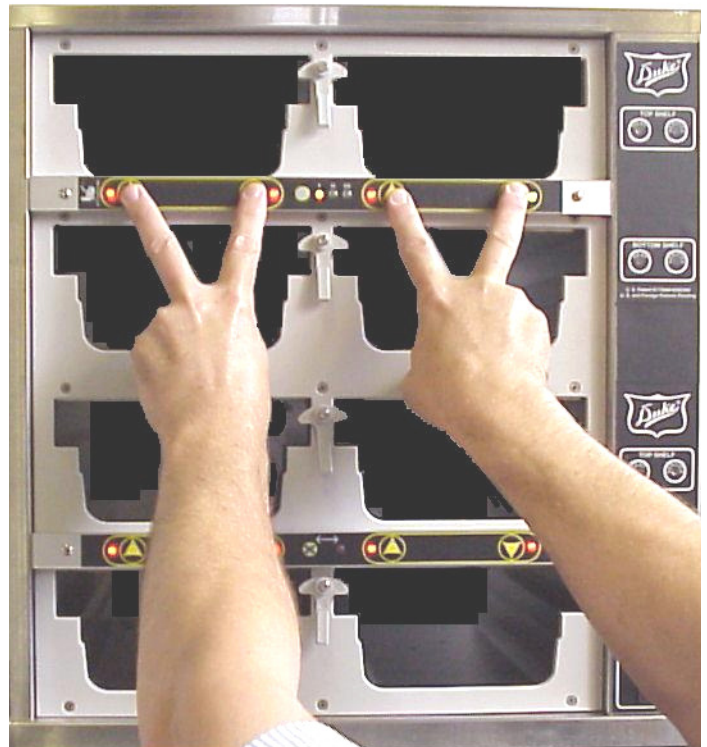
You can set the HOLD time in each pan between 5 minutes and 11 hours in 5-minute increments up to 120 minutes and in ½ hour increments after 120 minutes. You can set the COOK time in each pan between 1 minute and 11 hours in 1-minute increments up to 10 minutes, in 5-minute increments up to 120 minutes and in ½ hour increments after 120 minutes. LINKing pans with like product types allows the “use first indicators” to display properly.

Each Station Interface Unit must be programmed individually. In order to program HOLD or COOK times, or to change the pans LINKed configuration for the current selected Daypart, you must be **in front of** the Warmer to be programmed. In the PQT system, the front of a warmer is the side with the temperature control panel and on/off switch. The left and right sides are referenced from the front view.

After entering the programming mode, all 3 warmer ports on the Station Interface Unit are in this mode. **NOTE: Only one person may press buttons on the station being programmed.**

### **1 - Programming HOLD Times:**

- a - Stand directly in front of the warmer you desire to program. Simultaneously press the 4 buttons of the Pan Status Keyboard on the top as shown. Notice that the light next to the far left UP button on the top keyboard illuminates RED. This indicates you are programming PAN 1. All other lights are used to indicate the current hold time for this pan.



**To determine the current HOLD time:**

Each YELLOW light = 20 minutes

Each GREEN light = 5 minutes

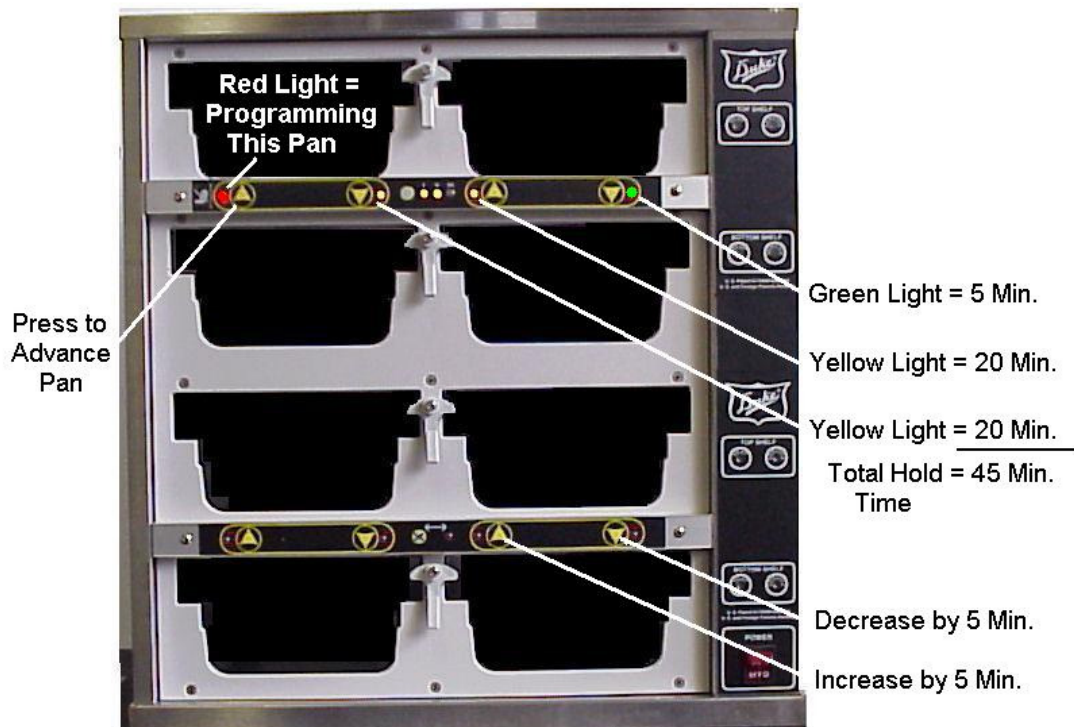
Each FLASHING YELLOW light = 120 minutes

Each FLASHING GREEN light = 30 minutes if time is over 120 minutes

To determine the time setting, multiply:

- the number of YELLOW lights by 20
  - the number of GREEN lights by 5
  - the number of FLASHING YELLOW lights by 120
  - the number of FLASHING GREEN lights by 30,
- and add the numbers together.

For example, 2 YELLOW lights and 1 GREEN light indicate a time of 45 minutes.



b - To modify HOLD times:

- The far right **UP** button on the bottom Pan Status Keyboard - **Increases** the HOLD time by 5 minutes or by 30 minutes above 120 minutes.
- The far right **DOWN** button on the bottom Pan Status Keyboard- **Decreases** the HOLD time by 5 minutes or by 30 minutes above 120 minutes.

- c - To advance to another pan, press the **far left UP button on the top keyboard**. The current HOLD time will be displayed with the YELLOW and GREEN lights for the RED lit indicated pan.
- d - To **EXIT** the HOLD time programming mode, press the **4 top buttons** simultaneously and release. All pans with HOLD times greater than ZERO will display a RED light. Lights for pans with a HOLD time equal to ZERO do not light and product should not be placed in those pans.

## 2 - Programming COOK Times:

- a - Stand directly in front of the warmer you desire to program.  
Simultaneously press the **leftmost pair of buttons on the lower keyboard** and the **rightmost pair of buttons on the upper keyboard** and release them all (see figure). Notice that the leftmost light on the upper keyboard is RED. This indicates you are programming PAN 1. All other lights are used to indicate the current hold time for this pan.



| Programming COOK Time<br>Light display |          |
|----------------------------------------|----------|
| 0 minutes                              | Blank    |
| 1 minute                               | 1 Green  |
| 2 minutes                              | 1 Green  |
| 3 minutes                              | 1 Green  |
| 4 minutes                              | Blank    |
| 5 minutes                              | 1 Green  |
| 6 minutes                              | 1 Green  |
| 7 minutes                              | 1 Green  |
| 8 minutes                              | 1 Green  |
| 9 minutes                              | 1 Green  |
| 10 minutes                             | 2 Greens |

- b - To modify the COOK time:
  - The far right **UP** button on the bottom Pan Status Keyboard - **Increases** the COOK time by 1 minute if the COOK time is less than 10 minutes, by 5 minutes between 10 minutes and 120 minutes, and by 30 minutes above 120 minutes.
  - The far right **DOWN** button on the bottom Pan Status Keyboard - **Decreases** the COOK time by 1 minute if the COOK time is less than 10 minutes, by 5 minutes between 10 minutes and 120 minutes, and by 30 minutes above 120 minutes.

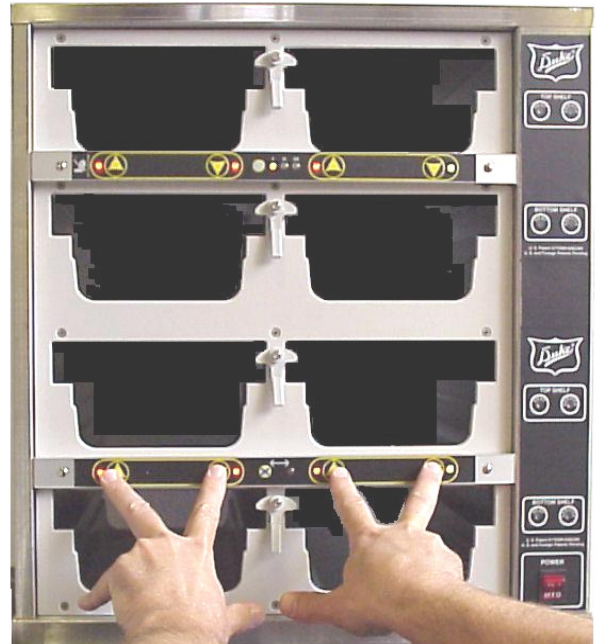


- c - To advance to the next pan, press the **far left UP button on the upper keyboard**. The current COOK times will be displayed with the YELLOW and GREEN lights for the RED lit indicated pan.
- d - To **EXIT** the COOK time programming mode, simultaneously press the **leftmost pair of buttons on the lower keyboard** and the **rightmost pair of buttons on the upper keyboard** and release them all. All pans with HOLD times greater than ZERO will display a RED light. Lights for pans with a HOLD time equal to ZERO do not light and product should not be placed in those pans.

## 2 - LINKing pans with like product types:

LINKing pans allows the “use first indicators” to display properly. The system is programmed with factory default links (see Reference Section).

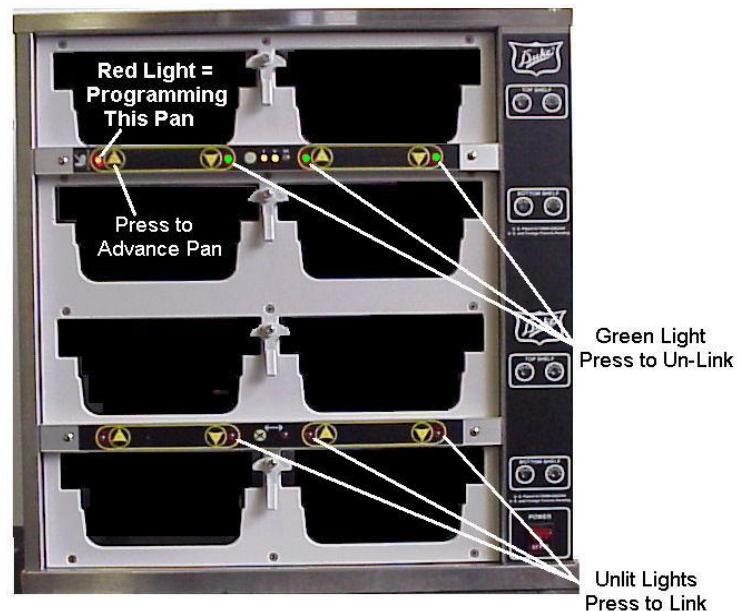
- a - Simultaneously press the 4 buttons on the Bottom Pan Status Keyboard. Notice the light next to the far left UP button on the top warmer illuminates RED. This indicates you are programming the PAN 1 links. Any green light indicates which pans are LINKed with PAN 1.



- b - To LINK a pan, press a button by an unlit indicator. The light will turn GREEN. To unLINK a pan, press a button by a GREEN lit indicator and the light will go out.

- c - To advance to the next pan press the far left UP button on the top keyboard. The other lights indicate in GREEN which pans are LINKed.

- d - To **EXIT** the LINK programming mode, simultaneously press the 4 buttons on the Bottom Pan Status Keyboard and release.



## **Section 3- Manual Programming Guide for Digital Warmer**

*Please refer to the Reference Section to determine if the Default Configuration fits your operation. You may not need to re-program your times and LINKs.*

**If you have purchased the Palm Pilot Software and Cable option, please advance to the Palm Pilot Section for the quickest programming method.**

The buttons, lights and numeric displays on the Pan Status Keyboards of the 4-high, 2 wide warmer are used to modify the HOLD, COOK and pans LINKed settings for each of the three (3) Dayparts. HOLD and COOK times can be modified, and the pans LINKed configuration defined, using the manual programming method described below.

You can set the HOLD time in each pan between 5 minutes and 9½ hours in 5-minute increments up to 4 hours and after 4 hours, in ½ hour increments (see chart on last page). You can set the COOK time in each pan between 1 minute and 9½ hours in 1-minute increments up to 10 minutes, in 5-minute increments up to 4 hours and after 4 hours, in ½ hour increments. LINKing pans with like product types allows the “use first indicators” to display properly.

In order to program HOLD or COOK times, or to change the pans LINKed configuration for the current selected Daypart, you must be in front of the Warmer to be programmed.

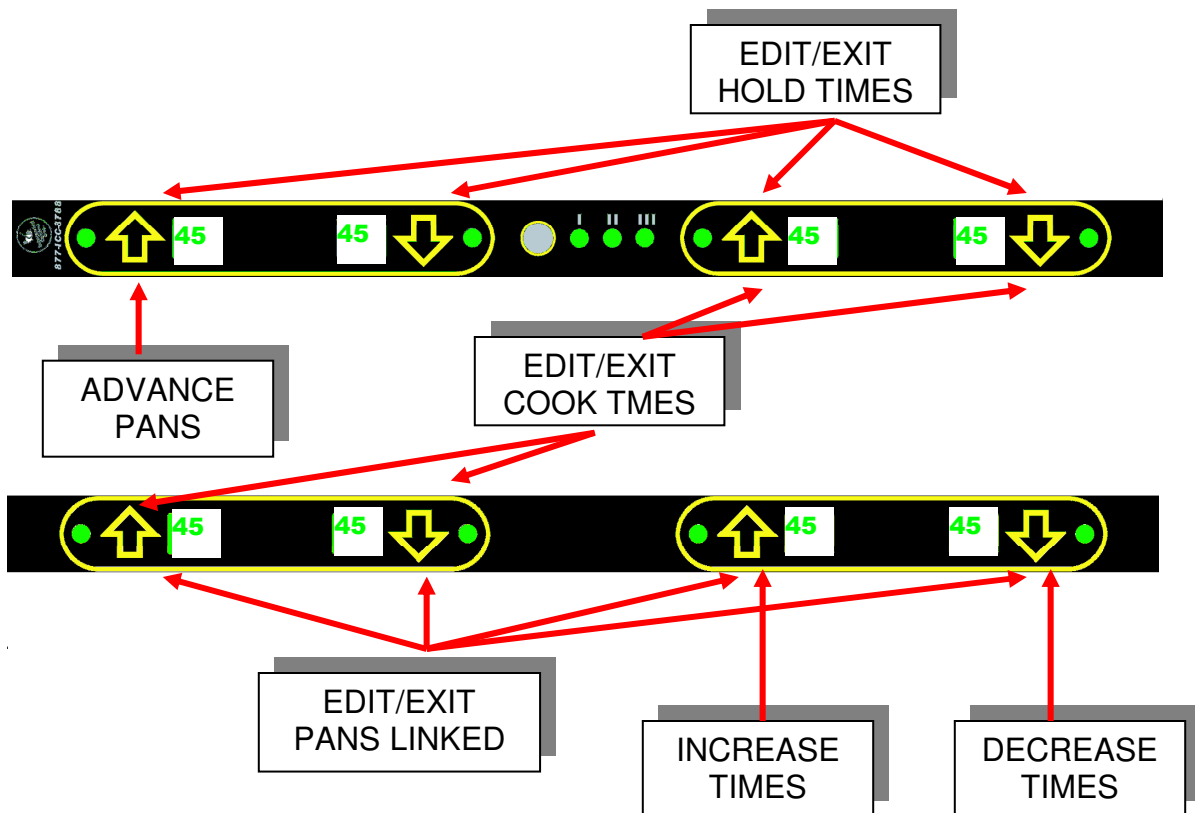
**NOTE: Only one person may press buttons on the station being programmed.**

### **1 - Programming HOLD Times:**

- a - Stand directly in front of the warmer you desire to program.  
Simultaneously press **all four (4) buttons on the upper keyboard** and release them all (see figure on next page). Notice that the leftmost light on the upper keyboard is FLASHING RED, the left numeric display pair shows the current pan's HOLD time, hours in the left display of the pair and minutes in the right display of the pair. All other pairs of displays are blank. This indicates you are programming PAN 1.
- b - To modify the HOLD time:
  - The **far right UP button on the lower keyboard** - **Increases** the HOLD time by 5 minutes or by 30 minutes above 4 hours.
  - The **far right DOWN button on the lower keyboard** - **Decreases** the HOLD time by 5 minutes or by 30 minutes above 4 hours.
- c - To advance to the next pan, press the **far left UP button on the upper keyboard**. The next pan's light will be FLASHING RED, the current HOLD

time will be displayed on the digital displays for the next pan and the other pairs of displays will be blank.

- d - To **EXIT** the HOLD time programming mode, first press and hold the **far left button on the upper keyboard**, then press and hold the **remaining buttons on the upper keyboard** and release them all. All pans with HOLD times greater than ZERO will display 00. Lights for pans with a HOLD time equal to ZERO do not light and product should not be placed in those pans.



## 2 - Programming COOK Times:

- a - Stand directly in front of the warmer you desire to program. Simultaneously press the **leftmost pair of buttons on the lower keyboard** and the **rightmost pair of buttons on the upper keyboard** and release them all, see figure above. Notice that the leftmost light on the upper keyboard is **FLASHING RED**, the left pair of numeric displays show that pan's current COOK time, hours in the left display of the pair and minutes in the right display of the pair, and that the other pairs of displays are blank. This indicates you are programming PAN 1.

- b - To modify the COOK time:
  - The **far right UP button on the lower keyboard** - **Increases** the COOK time by 1 minute if the COOK time is less than 10 minutes, by 5 minutes above 10 minutes, and by 30 minutes above 120 minutes.
  - The **far right DOWN button on the lower keyboard** - **Decreases** the COOK time by 1 minute if the COOK time is less than 10 minutes, by 5 minutes above 10 minutes, and by 30 minutes above 120 minutes.
- c - To advance to the next pan, press the **far left UP button on the upper keyboard**. The next pan's light will be FLASHING RED, the current COOK time will be displayed on the digital displays for the next pan and the other pairs of displays will be blank.
- d - To **EXIT** the COOK time programming mode, simultaneously press the **leftmost pair of buttons on the lower keyboard** and the **rightmost pair of buttons on the upper keyboard** and release them all. All pans with HOLD times greater than ZERO will display 00. Lights for pans with a HOLD time equal to ZERO do not light and product should not be placed in those pans.

### 3 - Programming Pans LINKed:

- a - Stand directly in front of the warmer you desire to program. Simultaneously press **all four (4) buttons on the lower keyboard** and release them all (see figure on preceding page). Notice that the far left light on the upper keyboard is RED and that all displays are blank. This indicates you are programming PAN 1. Other lights indicate in GREEN which pans are LINKed with PAN 1.
- b - To LINK a pan, press a button by an unlit indicator. The light will turn GREEN. To unLINK a pan, press a key by a GREEN indicator and the light will go out.
- c - To advance to the next pan, press the **far left button on the upper keyboard**. The next pan's light will turn RED and the other lights indicate in GREEN which pans are LINKed.
- d - To **EXIT** the LINK programming, simultaneously press **all four (4) buttons on the lower keyboard** and release them all.

### 4 - Using Lights to Indicate Time while Programming:

In addition to the times shown in the numeric displays, the colors of the lights for the pans not currently being programmed (i.e. the pans whose light is not FLASHING RED) also indicate the current time as follows.

Each YELLOW light = 20 minutes.  
Each GREEN light = 5 minutes.  
Each FLASHING GREEN light = 30 minutes if time is over 120 minutes.  
Each RED light = 60 minutes.  
Each FLASHING YELLOW light = 120 minutes or 2H.

To determine the time setting, multiply:

- the number of YELLOW lights by 20
  - the number of GREEN lights by 5
  - the number of FLASHING GREEN lights by 30
  - the number of RED lights by 60 (exclude the FLASHING RED light that indicates the current pan), and
  - the number of FLASHING YELLOW lights by 120,
- and add the numbers together.

For example, 2 YELLOW lights and 1 GREEN light indicate a time of 45 minutes.

## **Section 4- Programming Using the Palm Pilot Option**

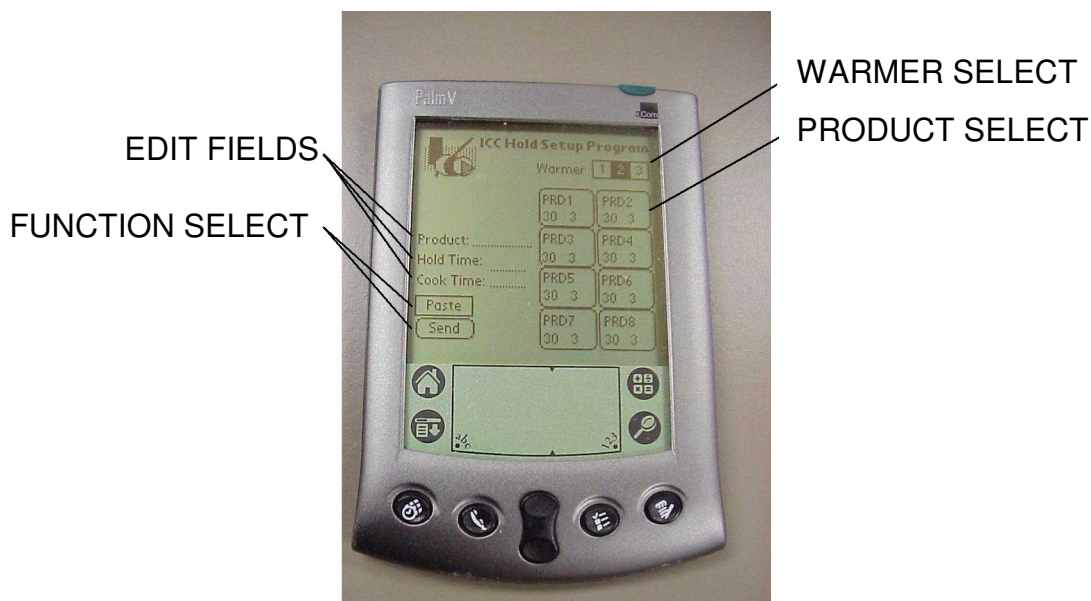
A Palm Pilot may be used with the ICC Hold Set-up software program and a special data cable.

The Hold Setup program is a very powerful tool and easy to use. In less than a minute, you can change the Product Name, HOLD and COOK times and then transfer the data into the Station Interface Units.

Products may be edited using cut and paste. HOLD and COOK times may be adjusted in 1-minute increments. The updated data is then sent to the Station Interface Unit via the cable.

Multiple configurations can be stored, recalled and deleted by long file names. These records can also be beamed between Palm Pilots if your Palm models have the IR feature.

This option is the most time-efficient way to maintain the system configuration, especially for multiple restaurants.



### **1 - Palm Hold Setup Program installation:**

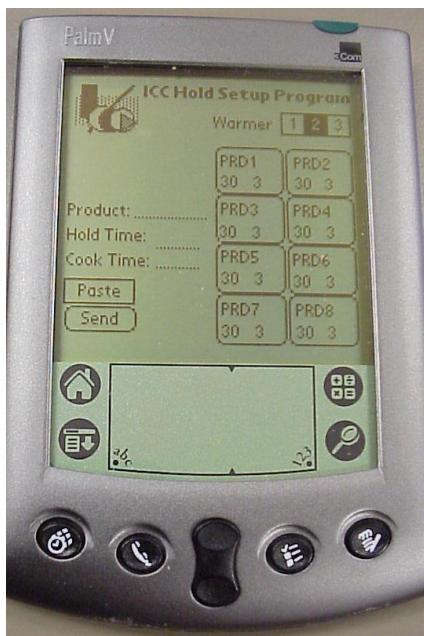
If a Palm Pilot was shipped with your system, it will have the Hold Setup Program preloaded. If you have an existing Palm and a diskette was shipped with your system or you received an E-Mail with the program attached, please follow these installation instructions.

- a - Using Windows Explorer double-click on the file  
**ICC\_Hold\_Setup\_Pgm.prc**
- b - A window will pop-up prompting you to select a user. Select a user and click OK.
- c - A window will pop-up informing you that the next time you perform a Hot-Sync the ICC Hold Setup Program will be transferred to your Palm. Click Done.
- d - A window will pop-up with a similar message. Click OK.
- e - Perform a Palm Hot-Sync as normal and the Hold Setup Program will be transferred to your Palm Pilot.

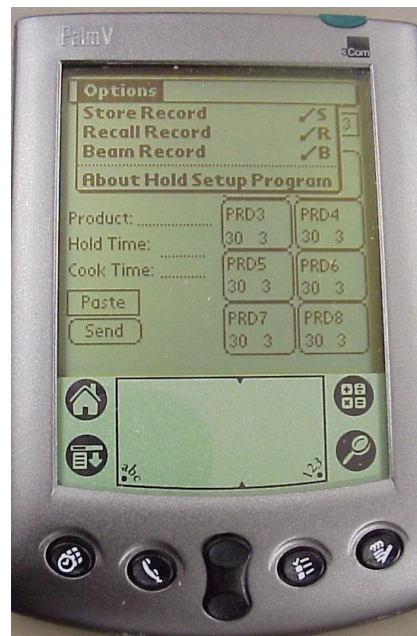
## 2 - Palm Pilot Programming:

- a - Execute the ICC Hold Setup Program on the Palm Pilot. Observe the Main Screen with 8 “pans” displaying products, hold and cook times (see Picture# 1). This represents the pans in a warmer referenced from the **front** of the warmer

Picture# 1 - Main Screen



Picture# 2 - Menu Pull-down



- b - The Warmer numbers are indicated on the top right portion of the screen and can be changed by touching 1,2 or 3 as desired. As you touch each Warmer number, the Product Name, HOLD and COOK times change in the pans. Three warmers can be connected together.



- c - To change the Product Name, HOLD time or COOK time, simply touch a pan and the data will be copied down to the editing fields. Change the data, touch PASTE, then touch the new pan location.
- d - To LINK pans, make the Product Name the same for the pans you want LINKed.

### 3 - Data transfer:

When the Send function is performed, the data for all 3 Warmers is transferred to the Station Interface Unit.

- a - Attach the Hold Timer System cable to the Palm Pilot and plug the 8-pin Telephone type cable into the port marked PROGRAM on the back side of the master unit. Touch the Send button displayed in the Hold Setup screen. After a few seconds, "Send OK" will be displayed in the lower right portion of the screen.

Troubleshooting -

- 1 – If an error message appears, check cable connection at the Palm and the Station Interface Unit.

**Warning:** When transferring data using the PALM M100 model, DO NOT press the Hot Sync button on the cable. The Station Interface Unit will lock up and you will need to reset it by powering off and then back on.

### 4 - To Store, Recall and Delete records:

All of the timer data may be stored, recalled and deleted. These functions are very useful for saving different promotional menus.

- a - To Store a record touch the Menu icon to display the Menu Pull-down (see Picture# 2 ). Touch Store Record. Enter a name for a new record or touch an existing record to overwrite. Touch Store to save the data **OR** touch Close to return to the Main screen without saving any data.
- b - To Recall a record, touch the Menu icon, then touch Recall Record. Touch an existing record to recall, then touch the Recall button **OR** touch Close to return to the Main screen without recalling any data.
- c - To Delete a record, touch the Menu icon, then touch Recall Record. Touch an existing record to delete, then touch Delete button **OR** touch Close to return to the Main screen without deleting any data.

**Warning:** Once you touch Delete, the record will be deleted without any warning prompts.



## **Section 5 - Testing & Troubleshooting Guide**

### **Pan Status Keyboard test:**

- a - Press Pan button once, light turns green. Press button again, light turns red. Repeat on all buttons on all keyboards.

#### **Troubleshooting -**

- 1 - If light turns red, then off, the HOLD time = 0. Program new HOLD times for that pan.
- 2 - If the Keyboard test fails, plug the keyboard into a different Warmer jack on the Station Unit. If the problem follows the keyboard, the keyboard is suspect. If the problem stays with the Warmer Jack, the Station Unit is suspect.

- b - Press Transfer button once, light turns red. Press button again, light goes out. Repeat on Transfer buttons on all keyboards.

#### **Troubleshooting -**

- 1 - If light does not toggle between red and off and the Pan button test 2a passed, the Keyboard is suspect.

- c - Press Daypart button 3 times, the next Daypart light turns yellow with each press and toggle back to the beginning. Repeat on Daypart buttons on all keyboards.

#### **Troubleshooting -**

- 1 - If light does not advance Dayparts and the Pan button test a2 passed, the Keyboard is suspect.

### **Station Interface Unit power:**

- a - Power up the Warmer unit.
- b - Observe that the Keyboard lights illuminate YELLOW, then RED or go out depending on the programmed Hold Times.

#### **Troubleshooting -**

- 1 - Check that the Warmer control powers up and the Warmer heats up. If not, call Duke Mfg for Warmer service at 314-231-1130 or 800-735-3853.

## **SERVICE Hot-Line**

If you believe that you have a **Product Quality Timer System** service issue, perform the steps outlined above. If a test fails, perform the troubleshooting steps to see if this resolves the problem. Continue the remainder of the testing, if possible, to uncover any additional problems and document the symptoms and results. Please have this data handy before calling the ICC troubleshooting HOT LINE listed below. **For optimum support, please be near the suspect units with a cordless phone, if available, when calling our Technicians.**

**877-ICC-8788 X106 M-F 8:30am - 4:30pm Eastern Time**

## **Section 6 - Installation Guide**

The Station Interface Units are integrated into Duke Warmer Units, making the installation very simple. The power for the Product Quality Timer System is shared by the Warmer Unit power supply.

## Reference Section

### Factory Default Configuration

#### 4 HIGH x 2 WIDE      DAYPART I, II, & III

##### WARMER 1

|         |              |              |
|---------|--------------|--------------|
|         | <b>PAN 1</b> | <b>PAN 3</b> |
| PRODUCT | PRD1         | PRD3         |
| HOLD    | 30           | 30           |
| COOK    | 3            | 3            |
|         | <b>PAN 2</b> | <b>PAN 4</b> |
|         | PRD2         | PRD4         |
|         | 30           | 30           |
|         | 3            | 3            |
|         | <b>PAN 5</b> | <b>PAN 7</b> |
|         | PRD5         | PRD7         |
|         | 30           | 30           |
|         | 3            | 3            |
|         | <b>PAN 6</b> | <b>PAN 8</b> |
|         | PRD6         | PRD8         |
|         | 30           | 30           |
|         | 3            | 3            |

##### WARMER 2

|         |              |              |
|---------|--------------|--------------|
|         | <b>PAN 1</b> | <b>PAN 3</b> |
| PRODUCT | PRD1         | PRD3         |
| HOLD    | 30           | 30           |
| COOK    | 3            | 3            |
|         | <b>PAN 2</b> | <b>PAN 4</b> |
|         | PRD2         | PRD4         |
|         | 30           | 30           |
|         | 3            | 3            |
|         | <b>PAN 5</b> | <b>PAN 7</b> |
|         | PRD5         | PRD7         |
|         | 30           | 30           |
|         | 3            | 3            |
|         | <b>PAN 6</b> | <b>PAN 8</b> |
|         | PRD6         | PRD8         |
|         | 30           | 30           |
|         | 3            | 3            |

##### WARMER 3

|         |              |              |
|---------|--------------|--------------|
|         | <b>PAN 1</b> | <b>PAN 3</b> |
| PRODUCT | PRD1         | PRD3         |
| HOLD    | 30           | 30           |
| COOK    | 3            | 3            |
|         | <b>PAN 2</b> | <b>PAN 4</b> |
|         | PRD2         | PRD4         |
|         | 30           | 30           |
|         | 3            | 3            |
|         | <b>PAN 5</b> | <b>PAN 7</b> |
|         | PRD5         | PRD7         |
|         | 30           | 30           |
|         | 3            | 3            |
|         | <b>PAN 6</b> | <b>PAN 8</b> |
|         | PRD6         | PRD8         |
|         | 30           | 30           |
|         | 3            | 3            |

**Please program the HOLD times, COOK times and LINKs according to your particular restaurant configuration.**

## **TABLE FOR DIGITAL WARMER DISPLAYS**

| <b>KEYPRESS / MINUTES<br/>TABLE</b> |                               |                         |                               |                           |
|-------------------------------------|-------------------------------|-------------------------|-------------------------------|---------------------------|
| TIME                                | PALM<br>VALUE                 | EDITING MODE<br>DISPLAY |                               | NORMAL<br>MODE<br>DISPLAY |
| 0                                   | 0                             | 00                      | 00                            | 00                        |
| 1-4<br>(COOK<br>MODE<br>ONLY)       | 1-4<br>(COOK<br>MODE<br>ONLY) | 00                      | 1-4<br>(COOK<br>MODE<br>ONLY) | 1-4                       |
| 5                                   | 5                             | 00                      | 05                            | 05                        |
| 6-9<br>(COOK<br>MODE<br>ONLY)       | 6-9<br>(COOK<br>MODE<br>ONLY) | 00                      | 6-9<br>(COOK<br>MODE<br>ONLY) | 6-9                       |
| 10                                  | 10                            | 00                      | 10                            | 10                        |
| 15                                  | 15                            | 00                      | 15                            | 15                        |
| 20                                  | 20                            | 00                      | 20                            | 20                        |
| 25                                  | 25                            | 00                      | 25                            | 25                        |
| 30                                  | 30                            | 00                      | 30                            | 30                        |
| 35                                  | 35                            | 00                      | 35                            | 35                        |
| 40                                  | 40                            | 00                      | 40                            | 40                        |
| 45                                  | 45                            | 00                      | 45                            | 45                        |
| 50                                  | 50                            | 00                      | 50                            | 50                        |
| 55                                  | 55                            | 00                      | 55                            | 55                        |
| 60                                  | 60                            | 00                      | 60                            | 60                        |
| 65                                  | 65                            | 00                      | 65                            | 65                        |
| 70                                  | 70                            | 00                      | 70                            | 70                        |
| 75                                  | 75                            | 00                      | 75                            | 75                        |
| 80                                  | 80                            | 00                      | 80                            | 80                        |
| 85                                  | 85                            | 00                      | 85                            | 85                        |
| 90                                  | 90                            | 00                      | 90                            | 90                        |
| 95                                  | 95                            | 00                      | 95                            | 95                        |
| 100                                 | 100                           | 1H                      | 40                            | 1H                        |
| 105                                 | 105                           | 1H                      | 45                            | 1H                        |
| 110                                 | 110                           | 1H                      | 50                            | 1H                        |
| 115                                 | 115                           | 1H                      | 55                            | 1H                        |
| 120                                 | 120                           | 2H                      | 00                            | 2H                        |
| 125                                 | 125                           | 2H                      | 05                            | 2H                        |

|     |     |    |    |    |
|-----|-----|----|----|----|
| 130 | 130 | 2H | 10 | 2H |
| 135 | 135 | 2H | 15 | 2H |
| 140 | 140 | 2H | 20 | 2H |
| 145 | 145 | 2H | 25 | 2H |
| 150 | 150 | 2H | 30 | 2H |
| 155 | 155 | 2H | 35 | 2H |
| 160 | 160 | 2H | 40 | 2H |
| 165 | 165 | 2H | 45 | 2H |
| 170 | 170 | 2H | 50 | 2H |
| 175 | 175 | 2H | 55 | 2H |
| 180 | 180 | 3H | 00 | 3H |
| 185 | 185 | 3H | 05 | 3H |
| 190 | 190 | 3H | 10 | 3H |
| 195 | 195 | 3H | 15 | 3H |
| 200 | 200 | 3H | 20 | 3H |
| 205 | 205 | 3H | 25 | 3H |
| 210 | 210 | 3H | 30 | 3H |
| 215 | 215 | 3H | 35 | 3H |
| 220 | 220 | 3H | 40 | 3H |
| 225 | 225 | 3H | 45 | 3H |
| 230 | 230 | 3H | 50 | 3H |
| 235 | 235 | 3H | 55 | 3H |
| 240 | 240 | 4H | 00 | 4H |
| 270 | 241 | 4H | 30 | 4H |
| 300 | 242 | 5H | 00 | 5H |
| 330 | 243 | 5H | 30 | 5H |
| 360 | 244 | 6H | 00 | 6H |
| 390 | 245 | 6H | 30 | 6H |
| 420 | 246 | 7H | 00 | 7H |
| 450 | 247 | 7H | 30 | 7H |
| 480 | 248 | 8H | 00 | 8H |
| 510 | 249 | 8H | 30 | 8H |
| 540 | 250 | 9H | 00 | 9H |
| 570 | 251 | 9H | 30 | 9H |

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# Owner's Manual

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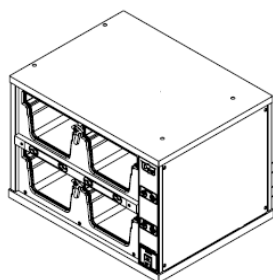


## Product Holding Unit

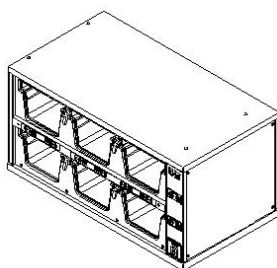
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中国专利 00805894.6

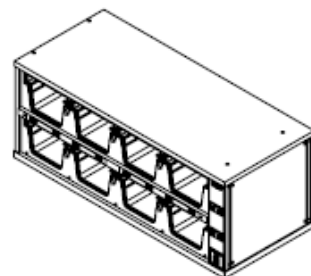
Other U.S. and Foreign Patents Pending



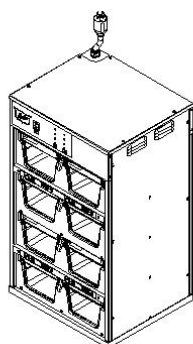
**FWM34-22**



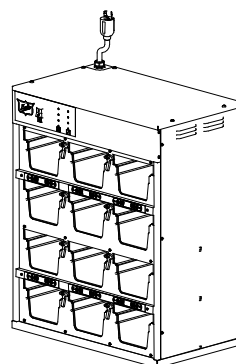
**FWM34-23**



**FWM34-24**



**FWM34-42**



**FWM34-43**

**IMPORTANT INFORMATION  
READ BEFORE USE  
PLEASE SAVE THESE INSTRUCTIONS**



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[www.dukemfg.com](http://www.dukemfg.com)

157751F

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## Manufacturer's Introduction

The Duke Product Holding Unit (PHU) was developed for extended food-holding capabilities to provide consistently high, "just cooked" food quality.

The Duke Product Holding Unit utilizes Duke's patented "Heat Sink" holding technology that provides even heat distribution to food pans through the bottom and sides. This allows pre-cooked foods to be held for extended periods without noticeable degradation of quality, reducing food scrap/waste.

The self contained, individually formed, sealed compartments of the Duke Product Holding Unit eliminates food odor and taste transfer. Because the compartments are sealed and formed to the shape of the pan, no disassembly is required for cleaning and product changes.

The unique design of the Duke Product Holding Unit allows single temperature operation for all existing product groups. This 190°F approved temperature is preset at the factory. This reduces the likelihood of inconsistent performance between restaurant locations.

The Duke Product Holding Cabinet was also designed to rethermalize food product. A thermostat setting of 200°F minimum is required for rethermalization. See instructions on page 10 for thermostat adjustment.

**NOTE: Only qualified service persons should modify control temperature presets**

Manufacturer: Duke Manufacturing Co.  
Address: 2305 N. Broadway  
St. Louis, MO 63102

| Model numbers |              |
|---------------|--------------|
| FWM34-22-120  | FWM34-23-120 |
| FWM34-22-208  | FWM34-23-208 |
| FWM34-22-230  | FWM34-23-230 |
| FWM34-24-120  | FWM34-42-120 |
| FWM34-24-208  | FWM34-42-208 |
| FWM34-24-230  | FWM34-42-230 |
| FWM34-43-208  |              |
| FWM34-43-230  |              |

Serial #: \_\_\_\_\_

Date Received: \_\_\_\_\_

Date Installed: \_\_\_\_\_

Telephone: (800) 735-DUKE (3853)  
(314) 231-1130

Fax: (314) 231-5074

Service Referral #: \_\_\_\_\_

Local Service Name \_\_\_\_\_

Local Service Number \_\_\_\_\_



## Important Safety Instructions

Throughout this manual, you will find the following safety words and symbols that signify important safety issues with regards to operating or maintaining the equipment.



### WARNING

**GENERAL WARNING.** Indicates information important to the proper operation of the equipment. Failure to observe may result in damage to the equipment and/or severe bodily injury or death.



### WARNING

**ELECTRICAL WARNING.** Indicates information relating to possible shock hazard. Failure to observe may result in damage to the equipment and/or severe bodily injury or death.



### CAUTION

**GENERAL CAUTION.** Indicates information important to the proper operation of the equipment. Failure to observe may result in damage to the equipment.



### WARNING

**HOT SURFACE WARNING.** Indicates information important to the handling of equipment and parts. Failure to observe caution could result in personal injury

In addition to the warnings and cautions in this manual, use the following guidelines for safe operation of the unit.

- Read all instructions before using equipment.
- For your safety, the equipment is furnished with a properly grounded cord connector. Do not attempt to defeat the grounded connector.
- Install or locate the equipment only for its intended use as described in this manual. Do not use corrosive chemicals in this equipment.
- Do not operate this equipment if it has a damaged cord or plug, if it is not working properly, or if it has been damaged or dropped.
- This equipment should be serviced by qualified personnel only. Contact the nearest Duke authorized service facility for adjustment or repair.
- Do not block or cover any openings on the unit.
- Do not immerse cord or plug in water.
- Keep cord away from heated surfaces.
- Do not allow cord to hang over edge of table or counter.

The following warnings and cautions appear throughout this manual and should be carefully observed.

- Turn the unit off, disconnect the power source and allow unit to cool down before performing any service or maintenance on the unit.
- The procedures in this manual may include the use of chemical products. You must read the Material Safety Data Sheets before using any of these products.
- The unit should be grounded according to local electrical codes to prevent the possibility of electrical shock. It requires a grounded receptacle with separate electrical lines, protected by fuses or circuit breaker of the proper rating.
- Disposal of the unit must be in accordance with local environmental codes and/or any other applicable codes.

## SAVE THESE INSTRUCTIONS



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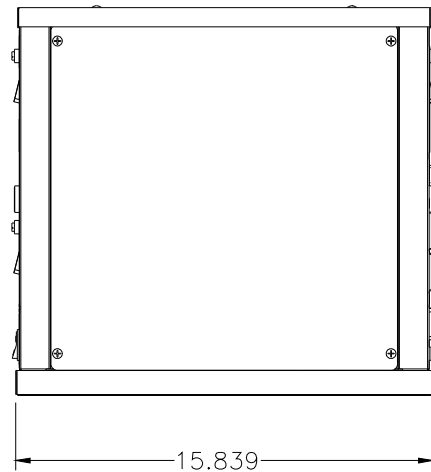
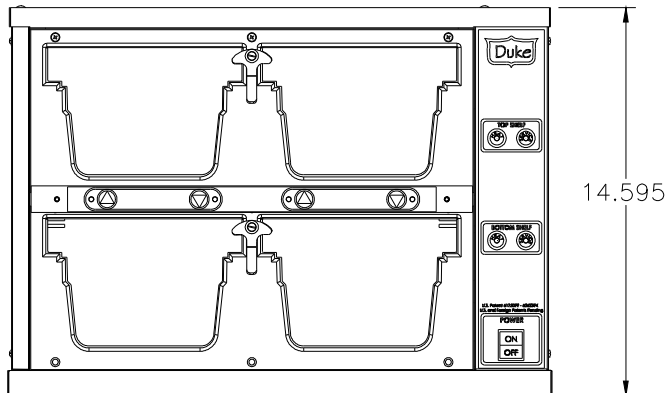
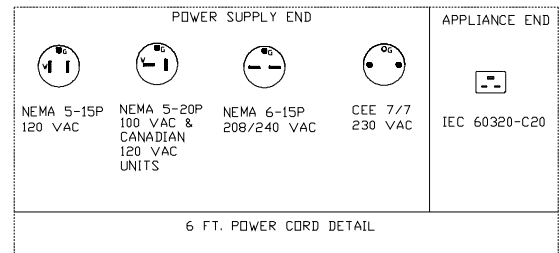
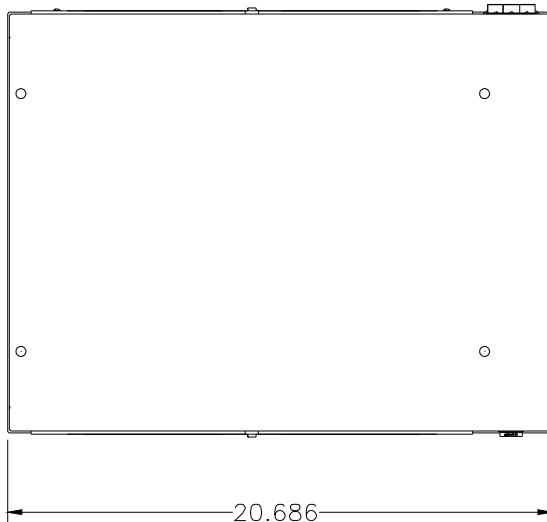
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Page 3 of 29

# Specification Sheet

## Model FWM34-22

|                         |                            |                                |
|-------------------------|----------------------------|--------------------------------|
| <b>Shipping Weight:</b> | 61lbs/27.7 Kg (Net Weight) |                                |
| <b>Electrical</b>       | FWM34-22-120               | 120 V, 6.7 A, 800 W, 50/60 Hz  |
|                         | FWM34-22-208               | 208 V, 5.8 A, 1200 W, 50/60 Hz |
|                         | FWM34-22-230               | 230 V, 5.2 A, 1200 W, 50/60 Hz |



LISTED  
COMMERCIAL  
COOKING  
APPLIANCE



INDEXER  
COMMERCIAL  
APPAREIL  
DE CUISINE



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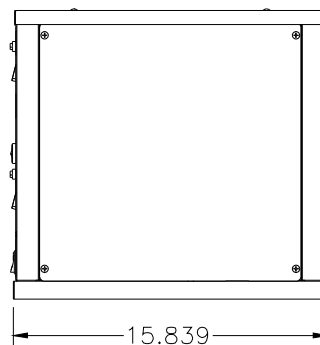
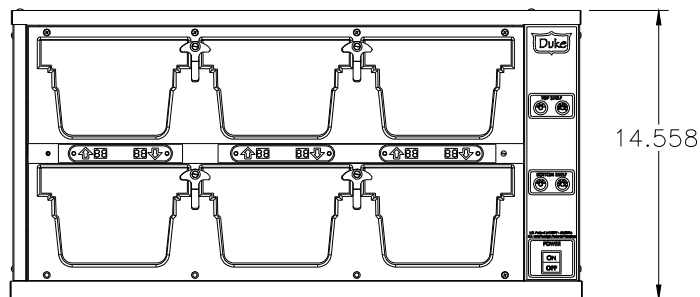
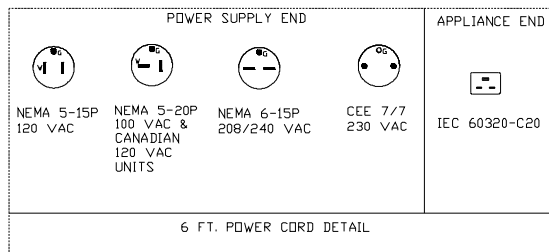
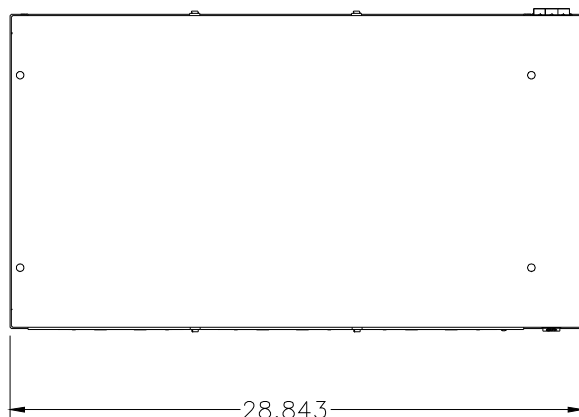
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# Specification Sheet

## Model FWM34-23

|                         |                               |                                 |
|-------------------------|-------------------------------|---------------------------------|
| <b>Shipping Weight:</b> | 83.5lbs/37.39 Kg (Net Weight) |                                 |
| <b>Electrical</b>       | FWM34-23-120                  | 120 V, 10.0 A, 1200 W, 50/60 Hz |
|                         | FWM34-23-208                  | 208 V, 8.7 A, 1800 W, 50/60 Hz  |
|                         | FWM34-23-230                  | 230 V, 7.8 A, 1800 W, 50/60 Hz  |



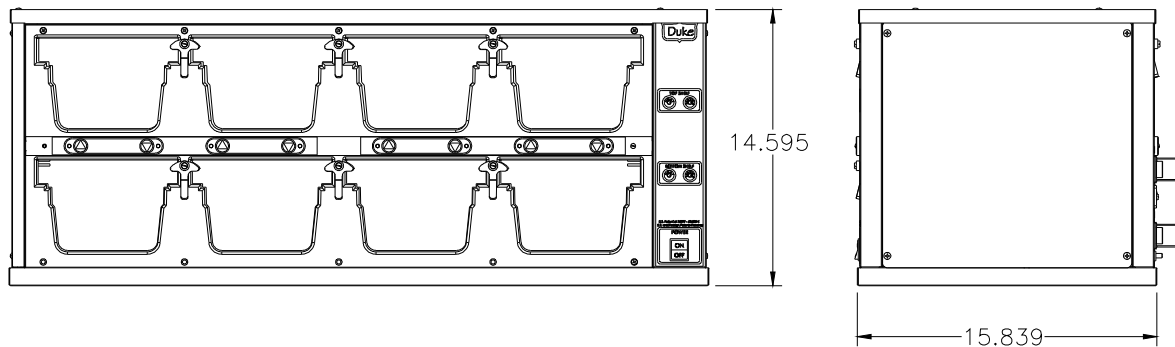
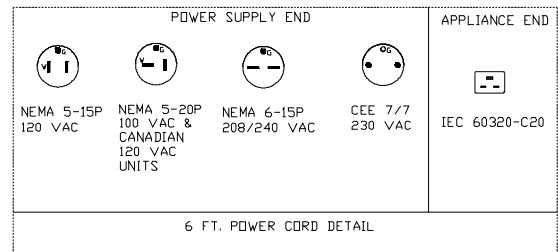
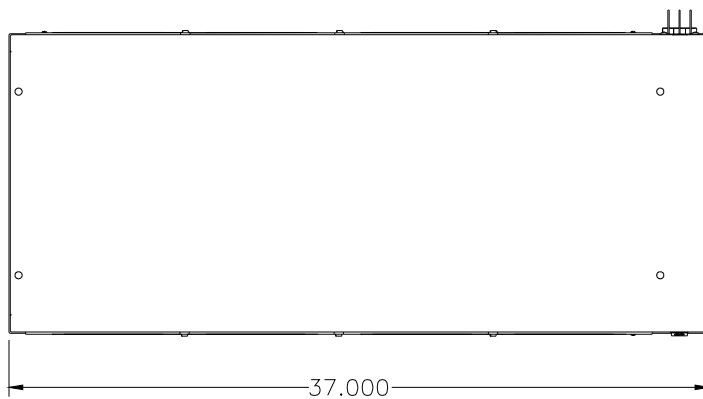
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# Specification Sheet

## Model FWM34-24

|                         |                           |                                 |
|-------------------------|---------------------------|---------------------------------|
| <b>Shipping Weight:</b> | 100lbs/45 Kg (Net Weight) |                                 |
| <b>Electrical</b>       | FWM34-24-120              | 120 V, 13.3 A, 1600 W, 50/60 Hz |
|                         | FWM34-24-208              | 208 V, 11.5 A, 2400 W, 50/60 Hz |
|                         | FWM34-24-230              | 230 V, 10.4 A, 2400 W, 50/60 Hz |



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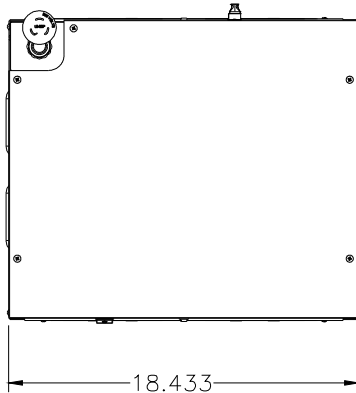
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# Specification Sheet

## Model FWM34-42

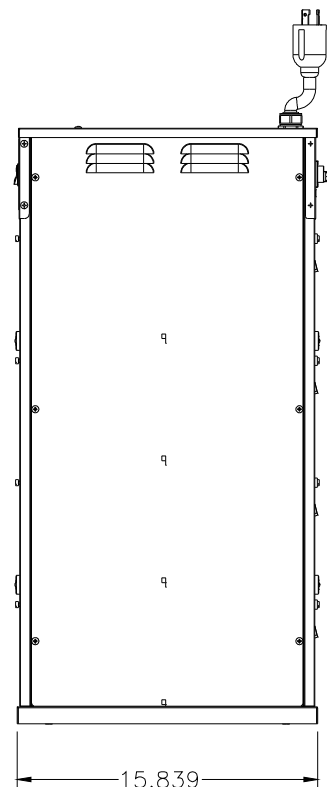
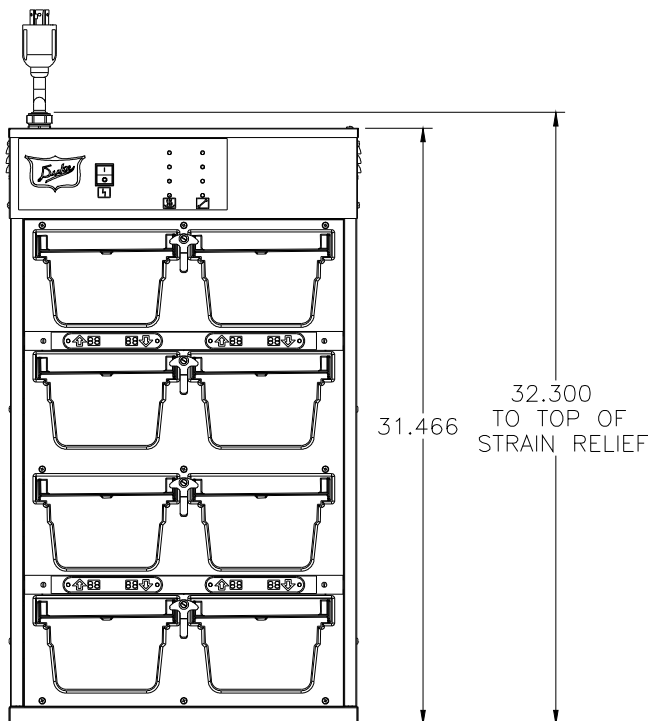
|                         |                           |                                 |
|-------------------------|---------------------------|---------------------------------|
| <b>Shipping Weight:</b> | 100lbs/45 Kg (Net Weight) |                                 |
| <b>Electrical</b>       | FWM34-42-120              | 120 V, 13.3 A, 1600 W, 50/60 Hz |
|                         | FWM34-42-208              | 208 V, 11.5 A, 2400 W, 50/60 Hz |
|                         | FWM34-42-230              | 230 V, 10.4 A, 2400 W, 50/60 Hz |



L6-30P  
Twist Lock Plug



IEC 60309  
3 Pin & Sleeve Plug



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NSF NO. 4 1999



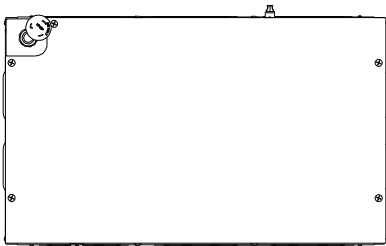
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2305 N. Broadway • St. Louis, MO 63102  
800.735.3853 • 3.231.1130 • 314.231.5074 Fax  
www.dukemfg.com

# Specification Sheet

## Model FWM34-43

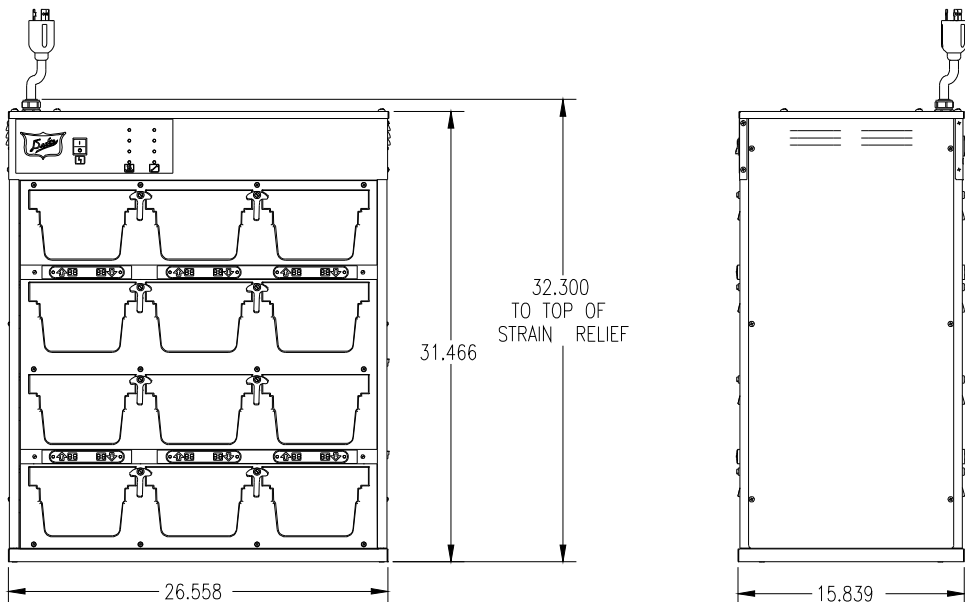
|                         |                             |                                 |
|-------------------------|-----------------------------|---------------------------------|
| <b>Shipping Weight:</b> | 180lbs/81.6 Kg (Net Weight) |                                 |
| <b>Electrical</b>       | FWM34-43-208                | 208 V, 17.3 A, 3600 W, 50/60 Hz |
|                         | FWM34-43-230                | 230 V, 15.7 A, 3600 W, 50/60 Hz |



L6-30P  
Twist Lock Plug



IEC 60309  
3 Pin & Sleeve Plug



LISTED  
COMMERCIAL  
COOKING  
APPLIANCE



INDEXER  
COMMERCIAL  
APPAREIL  
DE CUISINE



ALSO CLASSIFIED BY  
UNDERWRITERS LABORATORIES INC.  
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# Installation

## Unpacking Unit

- Inspect the shipping carton and/or container, carefully noting any exterior damage on the delivery receipt, which was not evident on the outside of the shipping container (concealed damage). Contact the carrier immediately and file a damage claim with them. Save all packing materials when filing a claim. Freight damage claims are the responsibility of the purchaser and are not covered by the warranty.
- Inspect unit for damage.
- Report any dents or breakage to source of purchase immediately.
- **Do not attempt to use unit if damaged.**
- Remove all materials from unit interior.
- If unit has been stored in extremely cold area, wait a few hours before connecting power.

## Unit Placement

- Do not install unit next to or above source of heat, such as oven or deep fat fryer.
- Install unit on level countertop surface.
- Outlet should be located so that plug is accessible when unit is in place.
- The following minimum clearances must be maintained between the PHU and any combustible or non-combustible substance:

| Unit       | Clearance |
|------------|-----------|
| Right Side | 0"        |
| Left Side  | 0"        |
| Rear       | 8"        |
| Floor      | 0"        |

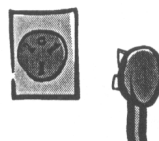
Proper airflow around unit cools electrical components. With restricted airflow, unit may not operate properly and life of electrical parts is reduced.

## WARNING

To avoid risk of electrical shock or death, this unit must be grounded and plug must not be altered.

## Earthing Instructions

### Unit **MUST** be grounded.



Grounding reduces risk of electric shock by providing an escape wire for the electric current if an electrical short occurs. This unit is

equipped with a cord having a grounding wire with a grounding plug. The plug must be plugged into a receptacle that is properly installed and grounded.

Consult a qualified electrician or servicer if grounding instructions are not completely understood, or if doubt exists as to whether the oven is properly grounded.

**Do not use an extension cord.** If the product power cord is too short, have a qualified electrician install a three-slot receptacle. This unit should be plugged into a separate circuit with the electrical rating as provided in product specifications.

### External Equipotential Earthing Terminal (export only)

Equipment has secondary earthing terminal. Terminal provides external earthing connection used in addition to earthing prong on plug. Located on outside of oven back, terminal is marked with this symbol.



# Operating Instructions

## Control Programming

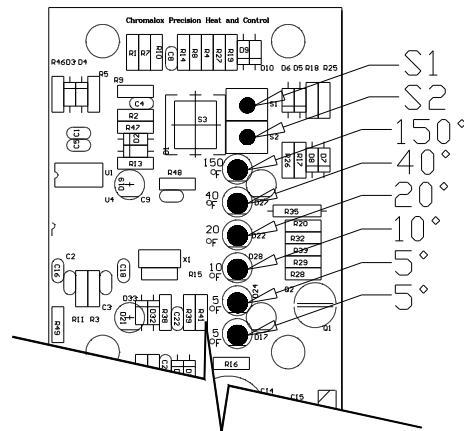
The electronic temperature control is pre-set at the factory to maintain the temperature at the bottom center of the pan cavity at 190°F +/- 5°F. This temperature is the result of many hours of laboratory food testing. There are no operator temperature adjustments that can be made. Because the electronic control uses a platinum type RTD sensor, routine calibration is not required.

**! DANGER !**  
**LIVE ELECTRICAL COMPONENTS.**  
**ONLY QUALIFIED SERVICE PERSONS SHOULD MODIFY CONTROL**  
**TEMPERATURE PRESETS.**

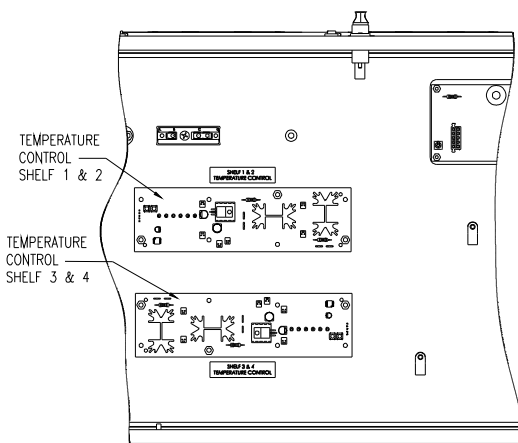
1. Remove cover from top of the Product Holding Unit and turn the unit on.
2. Locate the pushbutton S1 and S2 on the control. (see Figure 1.1)
3. Press and hold S1 until any LED on the front of the unit illuminates. (approximately 5 seconds)
4. Observe the front of the unit (Figure 1.2). Press and release S1 on the temperature control until the desired light on the front of the unit flashes.

**NOTE:** To comply with NSF Sanitation requirements, do not set the control preset temperature below 190°F.

5. Press and release S2 until the sum of the LED values illuminated on the temperature control board match the desired pre-set temperature.
6. Repeat steps 4 and 5 for each pre-set temperature then press and hold S1 until no LED on the temperature control board is illuminated and the lights on the front of the unit no longer flash.
7. Replace cover on the top of the Product Holding Unit.



### REAR OF UNIT



### NOTE:

The Temperature Controller for this unit consists of two control boards as shown, which are designated for either Shelf 1 & 2 or Shelf 3 & 4

# Operating Instructions

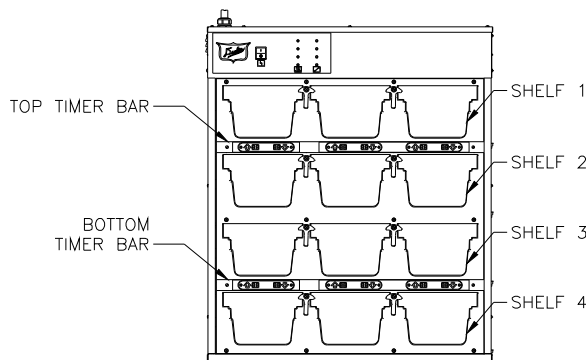
**NOTE:** Before you start, turn off the power to the PHU (Product Holding Unit), and then back on. All the lights should be RED.

**IMPORTANT:**

1. Shelves 1 & 2 are programmed using the top timer bar.
2. Shelves 3 & 4 are programmed using the bottom timer bar.

In all programming modes, you will see RED FLASHING LEDs on both the Top & Bottom timer bars, however you only change values when pressing the arrow keys on the specific top or bottom timer bars.

**NOTE:** Always stand on the front side of the warmer facing the ON/OFF switch.



The buttons and lights on the 2, 3 and 4-wide Pan Status timer bar of each PHU are used to modify the HOLD, COOK WARNING and pan LINK settings. HOLD, COOK WARNING and LINKING can be modified by using a Palm Pilot® or by the manual-programming mode described below.

For the 2 and 3-wide timer bar, HOLD and COOK WARNING times for each pan can be set from 5 minutes to 9 ½ hours in 5-minute increments up to 4 hours, and after 4 hours in ½ hour increments (see Table 1). The COOK WARNING time has a 3-minute default time. Additionally, you can change which pans that are LINKED with the same product type. When a HOLD time is changed, the COOK WARNING time defaults to 3 minutes. The COOK WARNING time can then be changed using the Manual Programming Method.

Each timer bar must be programmed individually. In order to program HOLD or COOK WARNING times, you must be in front of the PHU to be programmed. The front is the side with the temperature control label and on/off switch. The left and right sides are referenced from the front view. After entering the HOLD or COOK WARNING programming mode, all timer bars are in this mode.

**NOTE: Only one person may press keys on the timer bar being programmed.**

## 1 - Programming HOLD Times for 2 & 3-wide timer bar:

- a) Stand directly in front of the PHU you desire to program. **Simultaneously** press the 3 buttons on the left side of the Pan Status timer bar, (either top or bottom timer bar) see Figure 1 or 2. Notice that the far left LED is RED FLASHING. This indicates you are programming PAN 1. The digital display will indicate the current HOLD time for this PAN.  
To modify the HOLD time:  
The far right UP arrow key increases the hold time by 5 minutes.  
The far right DOWN arrow key decreases the time by 5 minutes.
- b) To advance to the next pan, press the far left UP arrow key. The current times will be displayed on the digital display. The RED FLASHING LED will indicated the current active pan.
- c) To EXIT the time programming mode in the 2 or 3-wide timer bar, press the 3 far left buttons simultaneously and release. All pans with HOLD times greater than ZERO will display a RED light. Pan lights with a HOLD time equal to ZERO do not light and product should not be placed in those pans.

# Operating Instructions

## 2 - Programming HOLD Times for 4-wide timer bar:

a) Stand directly in front of the PHU you desire to program. **Simultaneously** press the leftmost 2 pair of buttons (4 buttons) on the timer bar (skip the Daypart button), and release them all (see Figure 3). The alphanumeric display for each pan will show its current HOLD time in minutes (see table 1). Notice that the leftmost light on the Timebar is FLASHING RED; this indicates you are programming PAN 1. Also the remaining lights will be illuminated to indicate the current HOLD time as described in Section 7.

To modify the HOLD time:

The 2<sup>nd</sup> from right button on the timer bar increases the HOLD time by 5 minutes, or 30 minutes if the HOLD time is 240 minutes or greater.

The far right button on the timer bar decreases the HOLD time by 5 minutes, or 30 minutes if the HOLD time is greater than 240 minutes.

b) To advance to the next pan, press the far left button on the timer bar. The next pan's light will be FLASHING RED.

c) To EXIT the HOLD time programming mode, simultaneously press the leftmost 2 pair of pan buttons (4 buttons) on the timer bar (skip the Daypart button), and release them all. The NAME of each pan will appear in the alphanumeric displays. The lights of all pans with HOLD times greater than ZERO will be RED. The lights of pans with a HOLD time equal to ZERO will be off and product should not be placed in those pans.

## 3 - Programming COOK WARNING Times for 2 & 3-Wide timer bar:

a) Stand directly in front of the PHU you desire to program. Simultaneously press the 2 middle buttons on the Pan Status timer bar (either top or bottom timer bar) see Figure 1 or 2. Notice that the far left LED is RED FLASHING. This indicates you are programming PAN 1. The digital display will indicate the current HOLD time for this PAN.

To modify the COOK WARNING time:

The far right UP arrow key increases the hold time by 5 minutes.

The far right DOWN arrow key decreases the time by 5 minutes.

b) To advance to the next pan, press the far left UP arrow key. The current times will be displayed on the digital display. The RED FLASHING LED will indicate the current active pan.

c) To EXIT the time programming mode in the 2 and 3-wide timer bar, press the 3 far left buttons simultaneously and release. All pans with HOLD times greater than ZERO will display a RED light. Pan lights with a HOLD time equal to ZERO do not light and product should not be placed in those pans.

## 4 - Programming COOK Times for 4-wide timer bar:

a) Stand directly in front of the PHU you desire to program. Simultaneously press the middle four buttons on the timebar and release them all (see Figure 3). The alphanumeric display for each pan will show its current COOK time in minutes (see Table 1). Notice that the leftmost light on the timer bar is FLASHING RED; this indicates you are programming PAN 1. Also the remaining lights will be illuminated to indicate the current COOK time as described in Section 7.

To modify the COOK time:

The 2<sup>nd</sup> from right button on the timer bar increases the COOK time by 5 minutes, or by 1 minute if the COOK time is less than 10 minutes, or 30 minutes if the COOK time is 240 minutes or greater.

The far right button on the timer bar decreases the COOK time by 5 minutes, or by 1 minute if the COOK time is 10 minutes or less, or 30 minutes if the COOK time is greater than 240 minutes.

b) To advance to the next pan, press the **far left button on the timer bar**. The next pan's light will be FLASHING RED.

c) To EXIT the COOK time programming mode, simultaneously press the middle four buttons on the timer bar and release them all. The NAME of each pan will appear in the alphanumeric displays. The lights of all pans with HOLD times greater than ZERO will be RED. The lights of pans with a HOLD time equal to ZERO will be off and product should not be placed in those pans.



# Operating Instructions

## 5 - LINKing pans with like product types for 2 & 3-wide timer bar:

Linking pans allows the "Use First" indicators to display properly.

- a) **Simultaneously** press the 3 buttons on the right side of the 3-wide Pan Status timer bar (either top or bottom timer bar) see Figure 1 or 2. Notice the far left light illuminates RED. This indicates you are programming the PAN 1 links. The other lights indicate GREEN which pans are linked with PAN 1.
- b) To link a pan, press a key by an unlit indicator. The light will turn GREEN. To unlink a pan, press a key by a GREEN lit indicator and the light will go out.
- c) To advance to the next pan press the far left UP Arrow once. The other lights indicate in GREEN which pans are linked.
- d) To **EXIT** the link programming mode, simultaneously press the 3 far right buttons and release.

## 6 - Viewing PANS LINKED for 4-wide timer bar:

- a) Stand directly in front of the PHU you desire to view. Simultaneously press rightmost 2 pair of pan buttons (4 buttons) on the timer bar (skip the Transfer button) and release them all (see Figure 3). Notice that the far left light on the timer bar is RED and that all displays show product NAME. This indicates you are viewing PAN 1. Other lights indicate in GREEN which pans are linked with PAN 1.
- b) To advance to the next pan, press the far left button on the timer bar. The next pan's light will turn RED and the other lights indicate in GREEN which pans are linked.
- c) To EXIT link viewing, simultaneously press rightmost 2 pair of pan buttons (4 buttons) on the timer bar (skip the Transfer button), and release them all.

## 7 - Using Lights to Indicate Time:

In addition to the times shown in the alphanumeric displays, the colors of the lights for the pans not currently being programmed (i.e. the pans whose light is not FLASHING RED) also indicate the current time as follows.

- Each YELLOW light = 20 minutes.
- Each GREEN light = 5 minutes.
- Each FLASHING GREEN light = 30 minutes if time is over 120 minutes.
- Each RED light = 60 minutes.
- Each FLASHING YELLOW light = 120 minutes.

To determine the time setting, multiply:

- the number of YELLOW lights by 20
- the number of GREEN lights by 5
- the number of FLASHING GREEN lights by 30
- the number of RED lights by 60 (exclude the FLASHING RED light that indicates the current pan), and
- the number of FLASHING YELLOW lights by 120, and add the two numbers together.

For example, 2 YELLOW lights and 1 GREEN light indicate a time of 45 minutes.

# Operating Instructions

Figure No. 1  
3-Wide Timer Bar

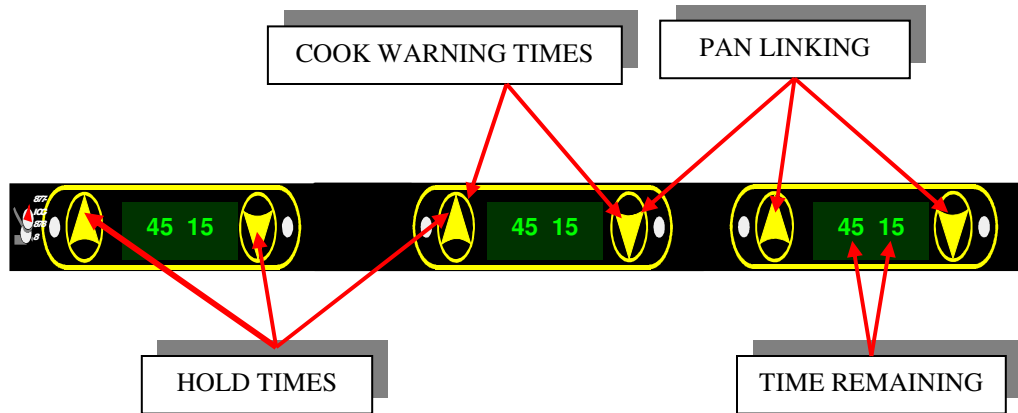


Figure No. 2  
2-Wide Timer Bar

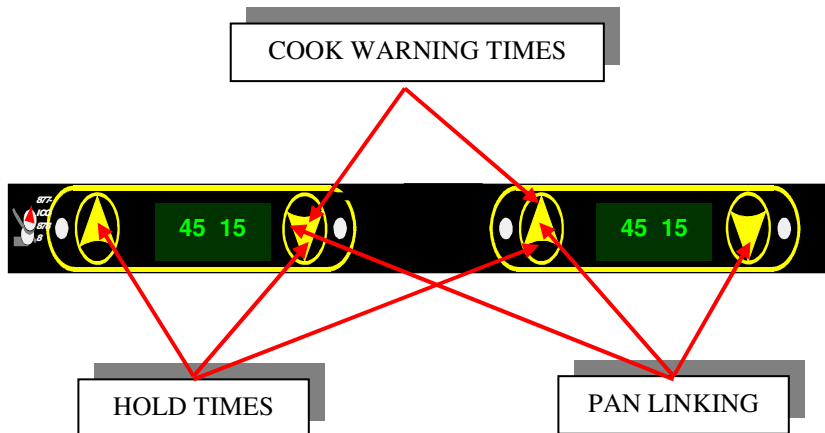
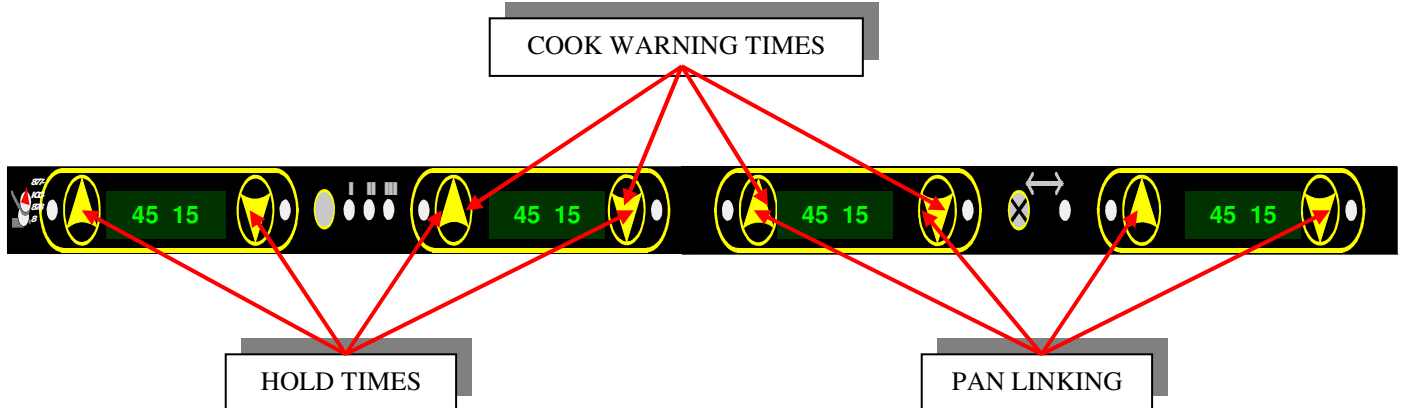


Figure No. 3  
4-Wide Timer Bar



# Operating Instructions

Table 1

| KEYPRESS / MINUTES TABLE    |                             |                            |    |                           |
|-----------------------------|-----------------------------|----------------------------|----|---------------------------|
| TIME                        | Palm Pilot®<br>VALUE        | EDITING<br>MODE<br>DISPLAY |    | NORMAL<br>MODE<br>DISPLAY |
| 0                           | 0                           | 00                         | 00 | 00                        |
| 3<br>(COOK<br>MODE<br>ONLY) | 3<br>(COOK<br>MODE<br>ONLY) | 00                         | 03 | 03                        |
| 5                           | 5                           | 00                         | 05 | 05                        |
| 10                          | 10                          | 00                         | 10 | 10                        |
| 15                          | 15                          | 00                         | 15 | 15                        |
| 20                          | 20                          | 00                         | 20 | 20                        |
| 25                          | 25                          | 00                         | 25 | 25                        |
| 30                          | 30                          | 00                         | 30 | 30                        |
| 35                          | 35                          | 00                         | 35 | 35                        |
| 40                          | 40                          | 00                         | 40 | 40                        |
| 45                          | 45                          | 00                         | 45 | 45                        |
| 50                          | 50                          | 00                         | 50 | 50                        |
| 55                          | 55                          | 00                         | 55 | 55                        |
| 60                          | 60                          | 00                         | 60 | 60                        |
| 65                          | 65                          | 00                         | 65 | 65                        |
| 70                          | 70                          | 00                         | 70 | 70                        |
| 75                          | 75                          | 00                         | 75 | 75                        |
| 80                          | 80                          | 00                         | 80 | 80                        |
| 85                          | 85                          | 00                         | 85 | 85                        |
| 90                          | 90                          | 00                         | 90 | 90                        |
| 95                          | 95                          | 00                         | 95 | 95                        |
| 100                         | 100                         | 1h                         | 40 | 1h                        |
| 105                         | 105                         | 1h                         | 45 | 1h                        |
| 110                         | 110                         | 1h                         | 50 | 1h                        |
| 115                         | 115                         | 1h                         | 55 | 1h                        |
| 120                         | 120                         | 2h                         | 00 | 2h                        |
| 125                         | 125                         | 2h                         | 05 | 2h                        |
| 130                         | 130                         | 2h                         | 10 | 2h                        |
| 135                         | 135                         | 2h                         | 15 | 2h                        |
| 140                         | 140                         | 2h                         | 20 | 2h                        |
| 145                         | 145                         | 2h                         | 25 | 2h                        |

|     |     |    |    |    |
|-----|-----|----|----|----|
| 150 | 150 | 2h | 30 | 2h |
| 155 | 155 | 2h | 35 | 2h |
| 160 | 160 | 2h | 40 | 2h |
| 165 | 165 | 2h | 45 | 2h |
| 170 | 170 | 2h | 50 | 2h |
| 175 | 175 | 2h | 55 | 2h |
| 180 | 180 | 3h | 00 | 3h |
| 185 | 185 | 3h | 05 | 3h |
| 190 | 190 | 3h | 10 | 3h |
| 195 | 195 | 3h | 15 | 3h |
| 200 | 200 | 3h | 20 | 3h |
| 205 | 205 | 3h | 25 | 3h |
| 210 | 210 | 3h | 30 | 3h |
| 215 | 215 | 3h | 35 | 3h |
| 220 | 220 | 3h | 40 | 3h |
| 225 | 225 | 3h | 45 | 3h |
| 230 | 230 | 3h | 50 | 3h |
| 235 | 235 | 3h | 55 | 3h |
| 240 | 240 | 4h | 00 | 4h |
| 270 | 241 | 4h | 30 | 4h |
| 300 | 242 | 5h | 00 | 5h |
| 330 | 243 | 5h | 30 | 5h |
| 360 | 244 | 6h | 00 | 6h |
| 390 | 245 | 6h | 30 | 6h |
| 420 | 246 | 7h | 00 | 7h |
| 450 | 247 | 7h | 30 | 7h |
| 480 | 248 | 8h | 00 | 8h |
| 510 | 248 | 8h | 30 | 8h |
| 540 | 250 | 9h | 00 | 9h |
| 570 | 251 | 9h | 30 | 9h |



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# Programming With PDA

## Programming Using the Palm Pilot® Personal Digital Assistant Option

A Palm Pilot® PDA may be used with the Hold Set-up software program and a special data cable.

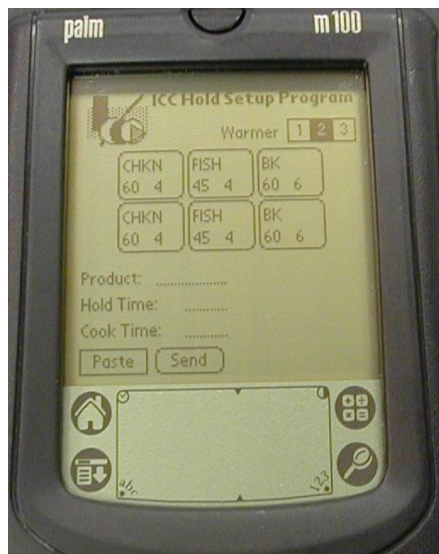
The Hold Setup program is a very powerful tool and easy to use. In less than a minute, you can change the Product Name, HOLD and COOK WARNING times and then transfer the data into the Universal Control Board.

Products may be edited using cut and paste. HOLD and COOK WARNING times may be adjusted in 1-minute increments. The updated data is then sent to the Universal Control Board via the cable.

Multiple configurations can be stored, recalled and deleted by long file names. These records can also be beamed between Palm PDA's if your Palm models have the IR feature.

This option is the most time-efficient way to maintain the system configuration, especially for multiple restaurants.

EDIT FIELDS  
FUNCTION SELECT



WARMER SELECT  
PRODUCT SELECT

### 1 - Palm Hold Setup Program installation:

If a Palm PDA was shipped with your system, it will have the Hold Setup Program preloaded. If you have an existing Palm and a diskette was shipped with your system or you received an E-Mail with the program attached, please follow these installation instructions.

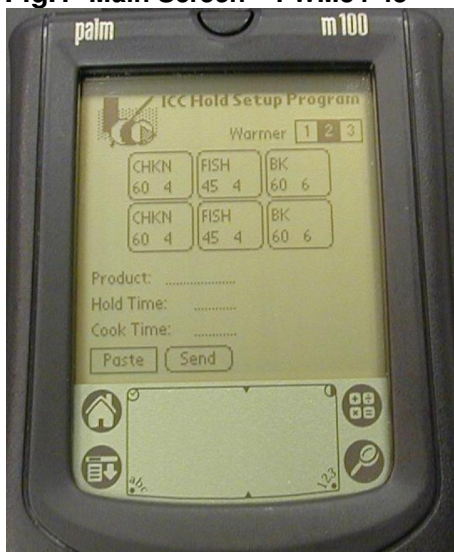
- a) Using Windows Explorer double-click on the file **ICC\_Hold\_Setup\_Pgm.prc**
- b) A window will pop up prompting you to select a user. Select a user and click OK.
- c) A window will pop up informing you that the next time you perform a Hot-Sync, the ICC Hold Setup Program will be transferred to your Palm. Click Done.
- d) A window will pop up with a similar message. Click OK.
- e) Perform a Palm Hot-Sync as normal, and the Hold Setup Program will be transferred to your Palm PDA.

# Programming With PDA

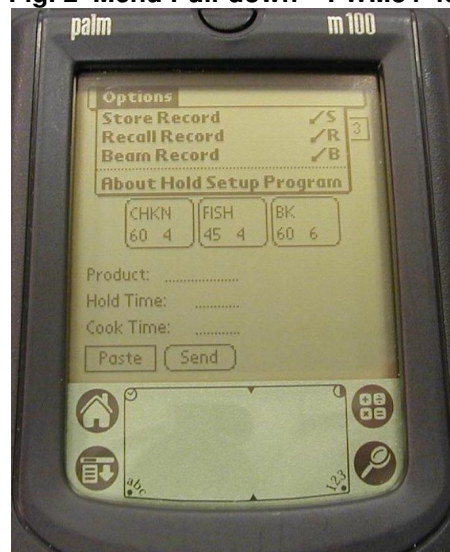
## 2 - Palm PDA Programming:

- a) Execute the ICC Hold Setup Program on the Palm PDA. Observe the Main Screen with the “pans” displaying products, hold and cook warning times (see Figure 1). This represents the pans in a PHU referenced from the **front** of the PHU.

**Fig.1 Main Screen – FWM34-43**



**Fig. 2 Menu Pull-down – FWM34-43**



- b) The PHU numbers are indicated on the top right portion of the screen and can be changed by touching 1,2 or 3 as desired. As you touch each PHU number, the Product Name, HOLD and COOK WARNING times change in the pans. Three PHUs can be connected together.
- c) To change the Product Name, HOLD time or COOK WARNING time, simply touch a pan and the data will be copied down to the editing fields. Change the data, touch PASTE, then touch the new pan location.
- d) To LINK pans, make the Product Name the same for the pans you want linked.

## Programming With PDA

### 3 - Data transfer:

When the Send function is performed, the data for all 3 PHUs is transferred to the Universal Control Board.

- a) Attach the Hold Timer System cable to the Palm PDA and plug the 8-pin Telephone type cable into the port marked PROGRAM on the back side of the unit. Touch the Send button displayed in the Hold Setup screen. After a few seconds, "Send OK" will be displayed in the lower right portion of the screen.

### Troubleshooting:

If an error message appears, check cable connection at the Palm and the Station Interface Unit.

**Warning:** When transferring data using the Palm M100 model, DO NOT press the Hot Sync button on the cable. The Universal Control Board may lock up and you will need to reset it by powering off and then back on.

### 4 - To Store, Recall and Delete records:

All of the timer data may be stored, recalled and deleted. These functions are very useful for saving different promotional menus.

- a) To Store a record touch the Menu icon to display the Menu Pull-down (see Fig.2). Touch Store Record. Enter a name for a new record or touch an existing record to overwrite. Touch Store to save the data **OR** touch Close to return to the Main screen without saving any data.
- b) To Recall a record, touch the Menu icon, then touch Recall Record. Touch an existing record to recall, then touch the Recall button **OR** touch Close to return to the Main screen without recalling any data.
- c) To Delete a record, touch the Menu icon, then touch Recall Record. Touch an existing record to delete, then touch Delete button **OR** touch Close to return to the Main screen without deleting any data.

### Warning:

**Once you touch Delete, the record will be deleted without any warning prompts.**

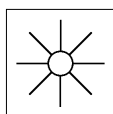
## Cleaning and Maintenance



**Electrical shock hazard. Do not wash with water jet or hose.  
Do not use caustic cleaners, acids, ammonia products, abrasive cleaners, or abrasive cloths. These can damage the stainless steel and plastic surfaces.**

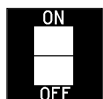
### Periodic Maintenance, Checklist and Cleaning Guide

#### Daily



##### Opening Checklist

1. Ensure proper **Pan Covers** are inserted into the correct locations for fried and broiled products.
2. Place the **Power Switch**, located on the front of the Product Holding Unit, to the ON position.
3. Ensure both top and bottom **HEAT Lights** are illuminated.
4. Allow the Product Holding Unit to heat for at least 20 minutes, or until the **HEAT Lights** cycle off.



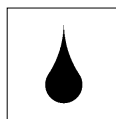
##### Operation Instructions/Adjustments

1. If the **SERVICE Light** illuminates during operation of the Product Holding Unit, discontinue use of the affected shelf until the module is serviced.
2. Operate using the timer bar as outlined in the Operating Instructions.



##### Closing Checklist

1. Turn power switch OFF.
2. Remove all pans and pan covers.
3. Allow to cool for approximately 30 minutes.
4. Clean Product Holding Unit as outline in the Daily Cleaning Instructions.



##### Cleaning Instructions

1. Wipe down the interior and exterior of the Product Holding Unit with warm water and mild detergent using a soft cloth. Do not use excessive amounts of water.
2. Clean pans and pan covers using mild detergent and warm water. Ensure all soap is rinsed from plastic pans and pan covers.



# Troubleshooting

There are no user serviceable parts on the Duke Product Holding Cabinet. If a malfunction occurs, ensure unit is plugged in then check all switches and circuit breakers. If the malfunction still exists, contact your Duke Manufacturing Company authorized service agent or call 1-800-735-3853.

## Electronic Control Fault Indications

The Service Light is located on the front of the control next to the heat light (see Figure 3). It provides an indication to alert the operator to failures in the heater circuit. When a Service Light is on, the affected shelf should not be used until the cause of the fault is corrected by a qualified service technician. The fault conditions that could cause the control to turn the service light on are as follows:

1. **Over-Temperature Fault** - An over-temperature fault occurs when the control senses that the shelf temperature is higher than the specified factory preset temperature. This occurs when the power is not removed from the heating element after the shelf has achieved the preset temperature, causing the control to turn on the service light. The auxiliary thermostat prevents the temperature from exceeding safe levels by regulating the temperature to a maximum of 250 °F.

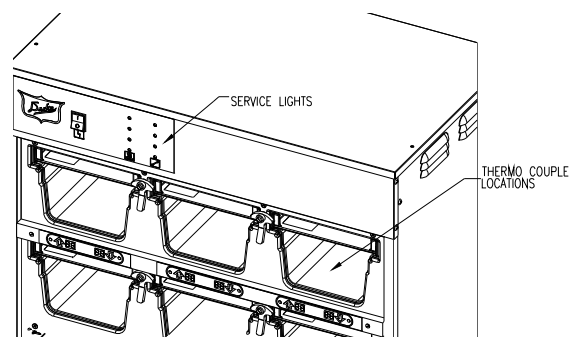


Figure 3

2. **Under-Temperature Fault** - An under-temperature fault occurs when the control senses that the shelf temperature is lower than the specified factory preset temperature for more than 30 minutes continuously. This occurs when heating element circuit opens or the RTD Feedback signal is faulty, causing the control to turn on the service light.

## Temperature Check Procedure

1. A digital temperature meter that has been calibrated must be used to get an accurate temperature reading. Use a thermocouple surface temperature probe to measure temperatures.
2. No pans should be in wells during the pre-heat and temperature check. Pre-heat the PHU for 30 minutes before taking any temperature readings. Do not take readings unless the cavity has been empty for 30 minutes. This will allow the temperature to stabilize and will prevent false readings.
3. The PHU cavity should be cleaned and empty before the temperature is checked. Avoid any air drafts that might flow through the cavity.
4. Locate the surface temperature probe on the bottom of the first cavity in the geometric center. The first cavity is the one closest to the control panel (see Figure 3). Make sure the probe is making good contact with the surface while taking readings.
5. All temperature controls exhibit a swing in temperature as the control cycles on and off while regulating to the set point. The correct calibration temperature is the average of several readings taken over a period of 20 minutes after the PHU has been pre-heated. The average temperature should be  $\pm 5^{\circ}\text{F}$  from the set point.



# Troubleshooting

## Pan Status Timer Bar Test:

- a. Press a pan button once. The corresponding light turns green. Press the same button again. The corresponding light turns red. Repeat for every button on all timer bars.

Troubleshooting:

1. If the light turns red, and then turns off, the HOLD time is equal to 0. Program a new duration for at least one of the PHASEs for that pan.
2. If the timer bar test fails, plug the timer bar into a different PHU jack on the Station Unit and repeat the test on that timer bar. If the timer bar continues to fail the test, the timer bar is suspect. If the timer bar passes the test when plugged into a different PHU jack, the Universal Control Board is suspect.

## Universal Control Board Power Test:

- a. Power up the PHU unit.
- b. Observe that the timer bar lights illuminate yellow, then red or go out depending on the programmed hold times.

Troubleshooting:

1. Check that the PHU control powers up and the PHU heats up. If not, call Duke Mfg. for PHU service at 314-231-1130 or 800-735-3853.

## Service Hot-Line:

If you believe that you have a service issue, perform the steps outlined above. If a test fails, perform the troubleshooting steps to see if this resolves the problem. Continue the remainder of the testing, if possible, to uncover any additional problems and document the symptoms and results.

Please have this data handy before calling the Duke troubleshooting Hot Line listed above.

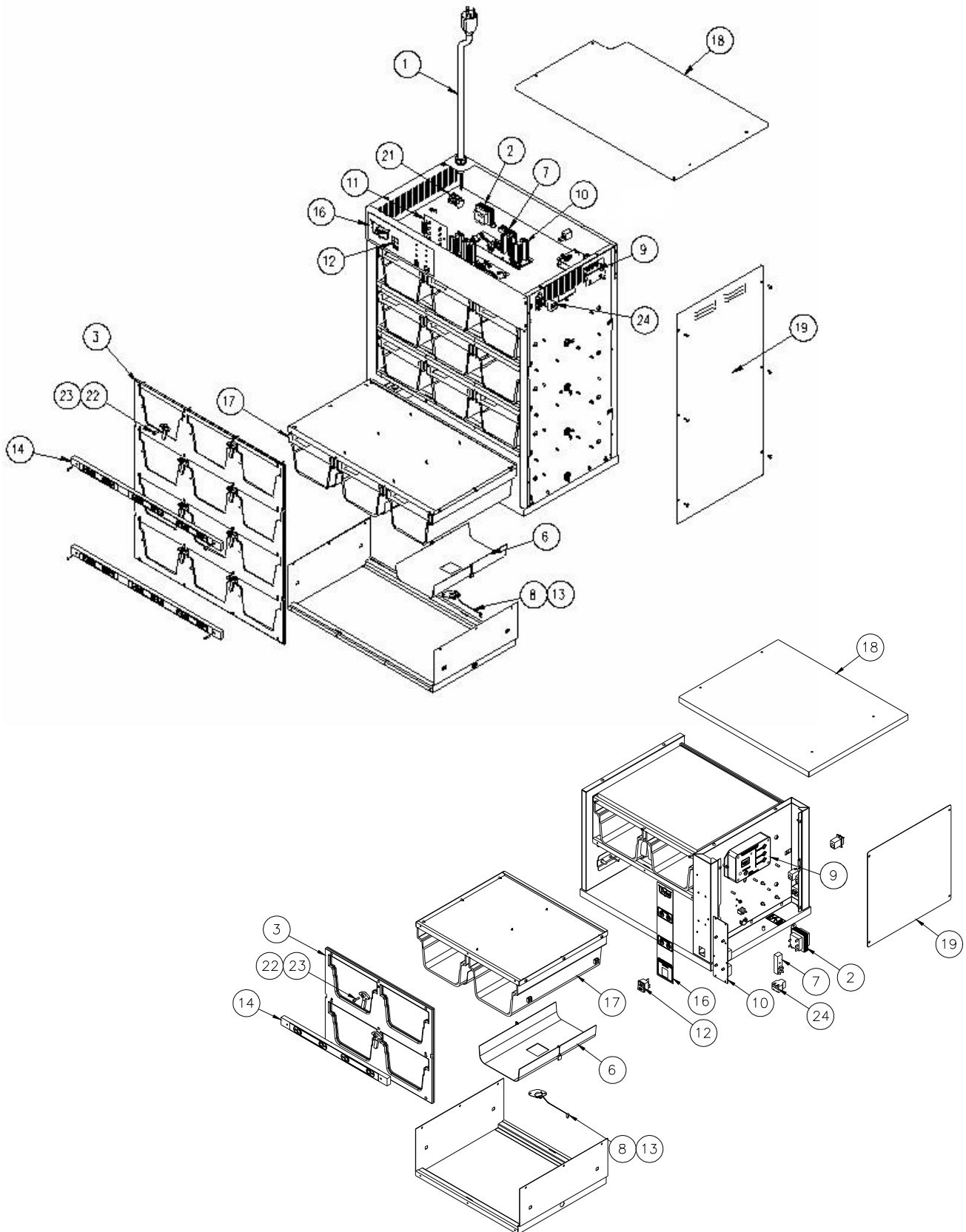
**For optimum support, please be near the suspect units with a cordless phone, if available, when calling our Technicians.**

# Parts List And Illustrations

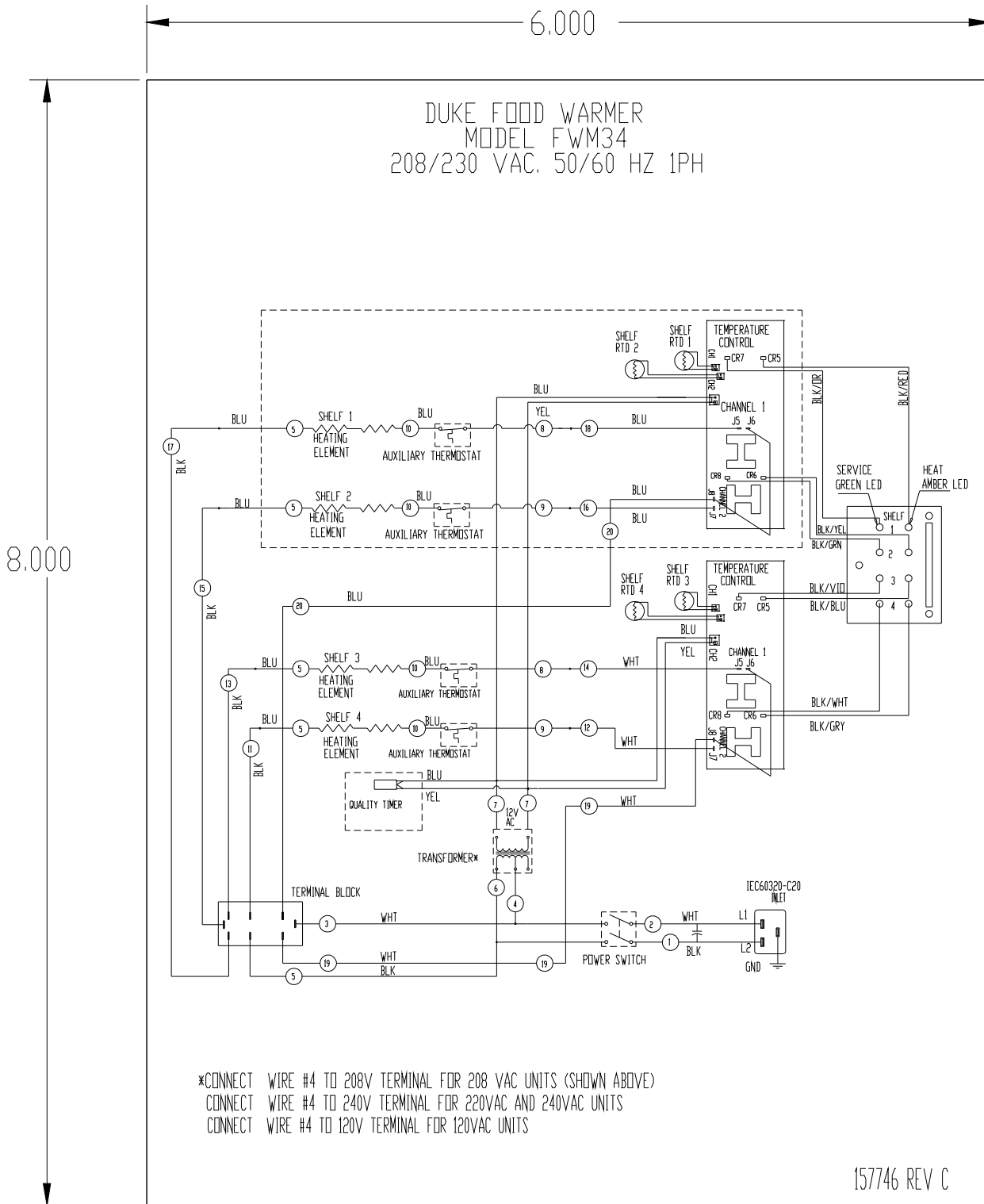
| Locator | P/N     | Description                                  | Quantity per Unit |          |          |          |          |
|---------|---------|----------------------------------------------|-------------------|----------|----------|----------|----------|
|         |         |                                              | FWM34-22          | FWM34-23 | FWM34-24 | FWM34-42 | FWM34-43 |
| 1       | 159142  | Cord, Power, 30 AMP, 250V,for 208-240V units |                   |          |          |          | 1        |
|         | 159243  | Cord, Power, 20 AMP, 250V,for 208-240V units |                   |          |          | 1        |          |
|         | 159211  | Cord, Power, 15 AMP, 125V,for 120V units     |                   |          |          | 1        |          |
| 2       | 156316  | Transformer, 120Vprimary,12Vsecondary        | 1                 | 1        | 1        | 1        |          |
|         | 155749  | Transformer, 208V/240Vprimary,12Vsecondary   | 1                 | 1        | 1        | 1        | 1        |
|         | 156838  | Transformer, 230Vprimary,12Vsecondary        | 1                 | 1        | 1        | 1        | 1        |
| 3       | 157490  | Faceplate with Gasket Assy 2X2               | 2                 |          |          |          |          |
|         | 157410  | Faceplate with Gasket Assy 2X3               |                   | 2        |          |          |          |
|         | 157424  | Faceplate with Gasket Assy 2X4               |                   |          | 2        |          |          |
|         | 157739  | Faceplate with Gasket Assy 4X2               |                   |          |          | 2        |          |
|         | 157738  | Faceplate with Gasket Assy 4X3               |                   |          |          |          | 2        |
| 4       | 156499* | Cable, Programming, with RJ12 plug, 6 pin*   | 3                 | 3        | 3        |          |          |
|         | 156666* | Cable, Programming, with RJ12 plug, 6 pin*   |                   |          |          | 1        | 2        |
| 5       | 156498* | Cable, Programming, with RJ45 plug, 8 pin*   | 1                 | 1        | 1        | 1        | 1        |
| 6       | 157428  | Heating Element, 120V, 2 Wide, Deep well     | 4                 |          |          | 8        |          |
|         | 157418  | Heating Element, 120V, 3 Wide, Deep well     |                   | 6        |          |          |          |
|         | 157816  | Heating Element, 120V, 4 Wide, Deep well     |                   |          | 8        |          |          |
|         | 157748  | Heating Element, 208V, 2 Wide, Deep well     | 4                 |          |          | 8        |          |
|         | 157736  | Heating Element, 208V, 3 Wide, Deep well     |                   | 6        |          |          | 12       |
|         | 157817  | Heating Element, 208V, 4 Wide, Deep well     |                   |          | 8        |          |          |
|         | 157749  | Heating Element, 230V, 2 Wide, Deep well     | 4                 |          |          | 8        |          |
|         | 157737  | Heating Element, 230V, 3 Wide, Deep well     |                   | 6        |          |          | 12       |
| 7       | 157818  | Heating Element, 230V, 4 Wide, Deep well     |                   |          | 8        |          |          |
|         | 156938  | Terminal Block, 5 Position                   | 1                 | 1        | 1        |          |          |
| 8       | 157743  | Terminal Block, 8 Position                   |                   |          |          | 1        | 1        |
|         | 155750  | RTD, 1000 Ohms, Temperature Sensor,24"       | 2                 | 2        | 2        |          |          |
| 9       | 157725  | RTD, 1000 Ohms, Temperature Sensor,54"       |                   |          |          | 4        | 4        |
|         | 157768  | Universal Controller Board Assembly          |                   |          |          | 1        | 1        |
| 10      | 600106  | Temperature Control                          | 1                 | 1        | 1        |          |          |
|         | 157742  | Temperature Control                          |                   |          |          | 2        | 2        |
| 11      | 157758  | LED Board                                    |                   |          |          | 1        | 1        |
| 12      | 156527  | Switch,Lighted,DPST,On-Off, 16 AMP,250VAC    | 1                 | 1        | 1        | 1        |          |
|         | 159084  | Switch,Lighted,DPST,On-Off, 20 AMP,250VAC    |                   |          |          |          | 1        |
| 13      | 155753  | Thermostat, Hi-Limit                         | 2                 | 2        | 2        | 4        | 4        |
| 14      | 156677  | Timer Bar 2-Wide                             | 2                 |          |          |          |          |
|         | 157550  | Timer Bar 2-Wide, Pair                       |                   |          |          | 2        |          |
|         | 156676  | Timer Bar 3-Wide                             |                   | 2        |          |          | 4        |
|         | 157539  | Timer Bar 4-Wide                             |                   |          | 2        |          |          |
| 15      | 157726  | Cable Assembly – LED Board                   |                   |          |          | 1        | 1        |
| 16      | 157413  | Label – Control                              | 1                 | 1        | 1        |          |          |
|         | 157701  | Label – Control                              |                   |          |          | 1        | 1        |
| 17      | 157717  | Extrusion – Heat Sink 4"D black              | 4                 | 6        | 8        | 8        | 12       |
| 18      | 156310  | Panel, Access top, 2 Wide                    | 1                 |          |          |          |          |
|         | 156298  | Panel, Access top, 3 Wide                    |                   | 1        |          |          |          |
|         | 154884  | Panel, Access top, 4 Wide                    |                   |          | 1        |          |          |
|         | 157716  | Panel, Access top, 2 Wide                    |                   |          |          | 1        |          |
|         | 157715  | Panel, Access top, 3 Wide                    |                   |          |          |          | 1        |
| 19      | 157405  | Panel, Access left/Right                     | 2                 | 2        | 2        |          |          |
|         | 157722  | Panel, Access left/Right                     |                   |          |          | 2        | 2        |
| 20      | 157744* | Food Pan with Notch (no handle)              | AR                | AR       | AR       | AR       | AR       |
|         | 157756* | Food Pan with Handle                         |                   |          |          |          |          |
| 21      | 155876* | Lid (Black) without vent holes               | AR                | AR       | AR       | AR       | AR       |
|         | 155873* | Lid (Gray) with vent holes                   |                   |          |          |          |          |
| 22      | 156285  | Latch, Lid Stop                              | 4                 | 8        | 8        | 8        | 16       |
| 23      | 156288  | Screw, Shoulder                              | 4                 | 8        | 8        | 8        | 16       |
| 24      | 156059  | Connector, Modified, Front / Rear            | 1                 | 1        | 1        | 1        | 2        |

\*Note: Not shown

# Parts List And Illustrations



# Wiring Diagram



## For Customer Assistance

To aid in reporting this unit in case of loss or theft, please record below the model number and serial number located on the unit. We also suggest you record all the information listed and retain for future reference.

|                               |                            |
|-------------------------------|----------------------------|
| <b>MODEL NUMBER</b> _____     | <b>SERIAL NUMBER</b> _____ |
| <b>DATE OF PURCHASE</b> _____ |                            |
| <b>DEALER</b> _____           | <b>TELEPHONE</b> _____     |
| <b>SERVICER</b> _____         | <b>TELEPHONE</b> _____     |

### TO PHONE:

Dial 1-800-735-DUKE (3853)

**SERVICE**

**PARTS**

**ADDITIONAL CUSTOMER INFORMATION**

### TO WRITE:

**Duke Manufacturing Co.**  
**2305 N. Broadway**  
**St. Louis, MO 63102**

### TO ACCESS INTERNET: [www.dukemfg.com](http://www.dukemfg.com)

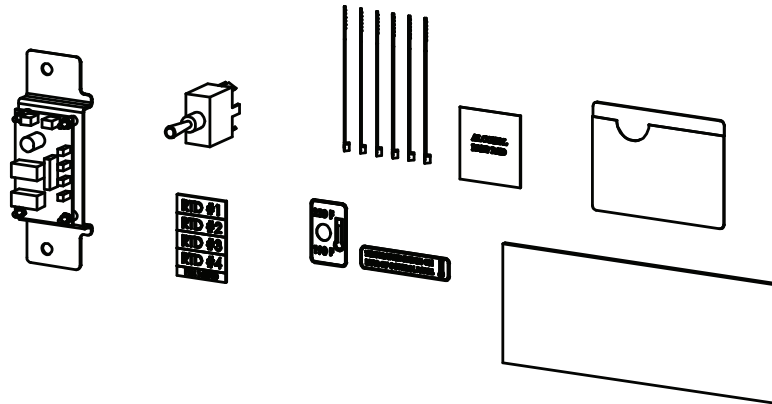
Please provide the following information when you write or call: model number, serial number, date of purchase, your complete mailing address (including zip code), and description of the problem



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# INSTALLATION INSTRUCTIONS

## PHU TEMPERATURE SWITCH KIT DUKE KIT# 600283



### This kit contains:

- 160740 Temperature Switch Label
- 160742 Front Temperature Switch Label
- 160743 Wire Harness
- 160744 Wire Diagram
- 160748 RTD interface Board & Bracket
- 155318 Toggle Switch
- 512160 Tie Wraps
- 176019 Alcohol Pads
- 160750 RTD Labels
- 115247 POCKET, SCHEMATIC

### Items required for this installation:

- Screwdriver set
- Drill (multiple 1/8" bits, standard and step bits)
- Center punch
- Hammer
- Metal file or other deburring tool

---

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## Duke Manufacturing Co.

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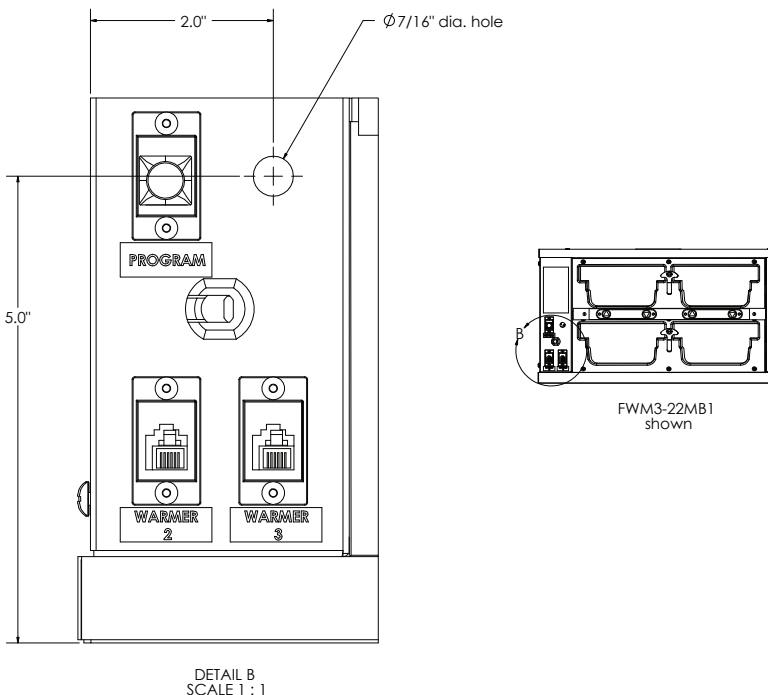
[www.dukemfg.com](http://www.dukemfg.com)

**!DANGER!**  
**LIVE ELECTRICAL COMPONENTS.**  
**ONLY QUALIFIED SERVICE PERSONS SHOULD MODIFY CONTROL**  
**TEMPERATURE PRESETS.**

## Installation

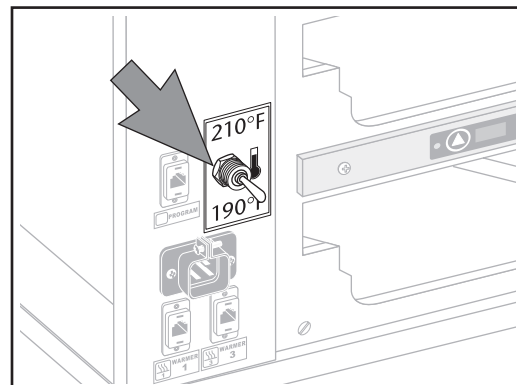
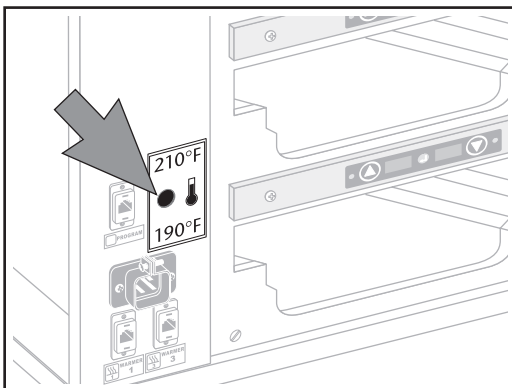
1. Turn unit off and disconnect electrical supply.
2. Remove control side compartment panel.
3. See Figure 1 below to mark the location with a center pinch and drill a 7/16" hole above the power cord on the rear of the unit. It is recommended to drill a 1/8" pilot hole and then use a step bit to drill to 7/16".

Deburr hole and, using caution, remove any metal filings from within the control compartment and surrounding area.

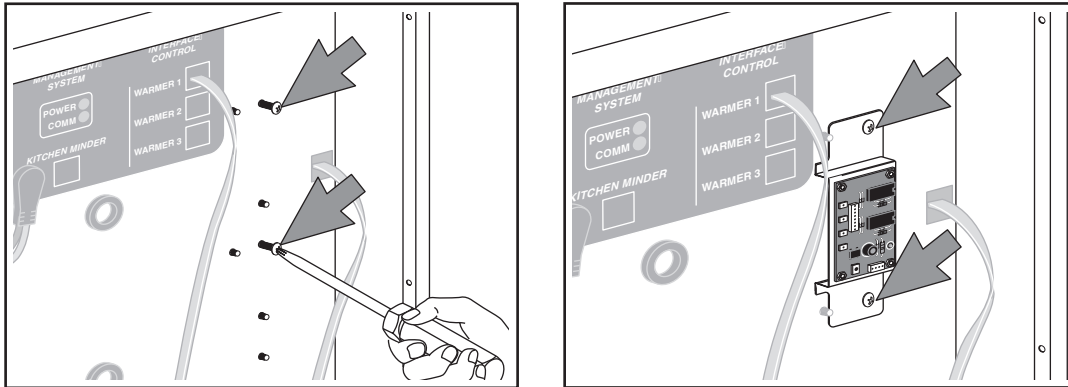


**Figure 1**

4. Clean area with alcohol wipe and allow to dry. Apply Switch Label over the hole.
5. Install Toggle Switch. Switch should have a vertical orientation when viewed from the back. Remove single nut from Toggle Switch and tighten nut down once inserted through the hole.



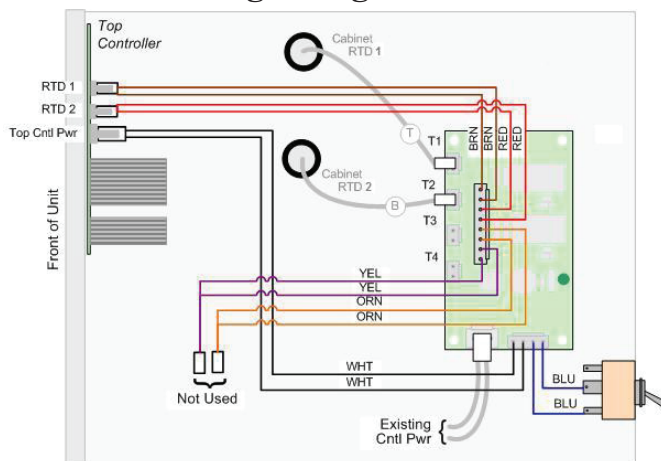
6. Within the control compartment, remove (2) 1/4"-20 X 3/4" right-side bolts (upper 2 bolts for 3-high and 4-high units) and mount the new RTD Interface Board in the orientation shown, using the (2) existing bolts.



7. Use diagrams (Figure 2, 3 or 4) and the following steps to connect the new Jumper Harness.

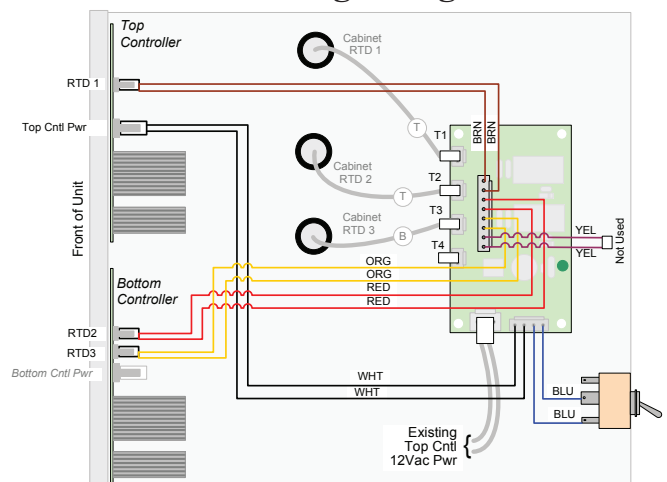
Note: 2-high unit will have 1 Heat Control Board  
3-high and 4-high units will have 2 Heat Control Boards (TOP & BOTTOM)

**2-High Diagram**



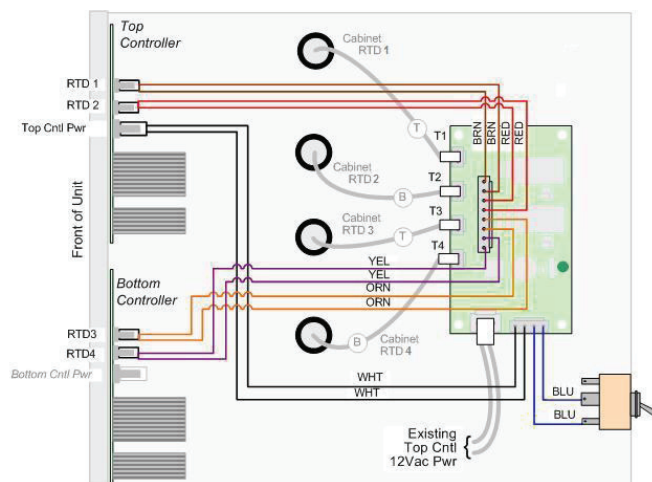
**Figure 2**

**3-High Diagram**



**Figure 3**

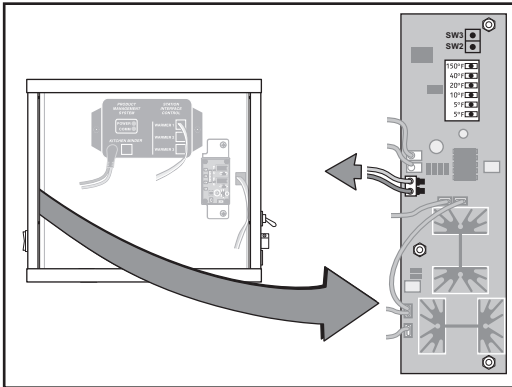
**4-High Diagram**



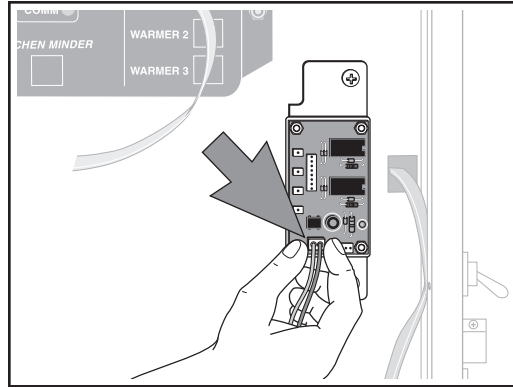
**Figure 4**



8. Disconnect 12Vac power connector from existing Heat Control Board (TOP Control board for 3-high & 4-high units) and connect to new RTD Interface Board.



Heat Control Board



RTD Interface Board

9. Unplug RTD #1 from the Heat Control Board (**TOP** Control Board for 3-high & 4-high units) and reconnect to the proper mating connector on the new RTD Interface Board, referencing (Figure 2 & Figure 3). Repeat the process for **RTD #2** to **T #2**, **3** to **3**, and **4** to **4**.

**NOTE:**

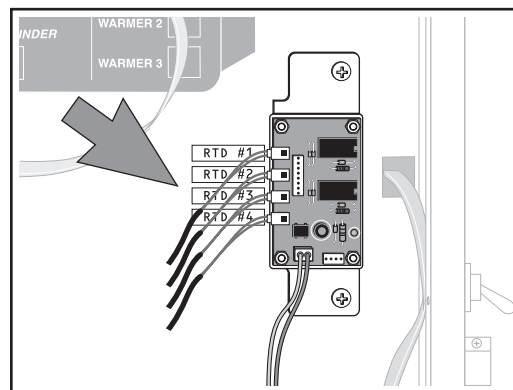
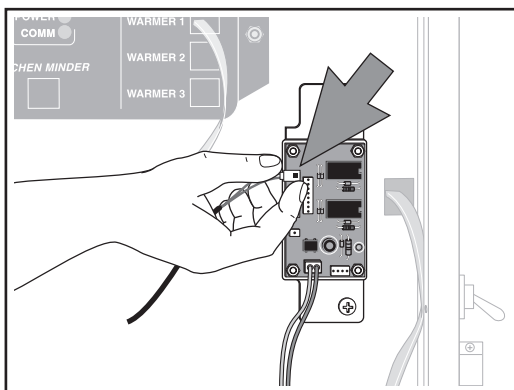
**Single Heat Control** - For 2-high units having a single control, **RTD #3**, **RTD #4**, **T #3**, and **T #4** connections will not be used.

**Double Heat Control**

For 3-high units having a **BOTTOM** Heat Control Board, **RTD #4** and **T #4** connections will not be used.

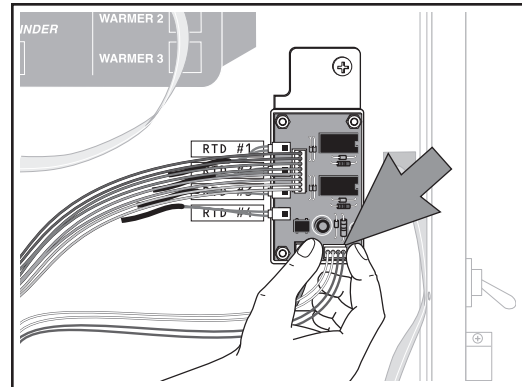
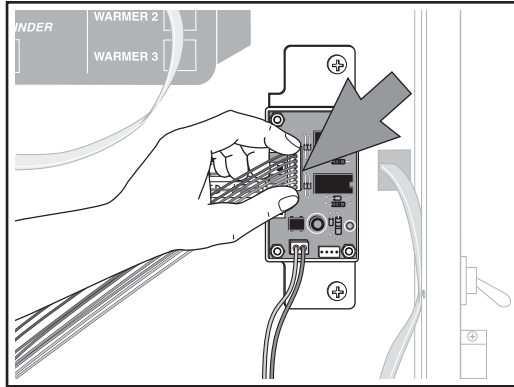
For 4-high units having a **BOTTOM** Heat Control Board, **all four RTD** connections will be used.

**RTD #1** always represents the **TOP** shelf.

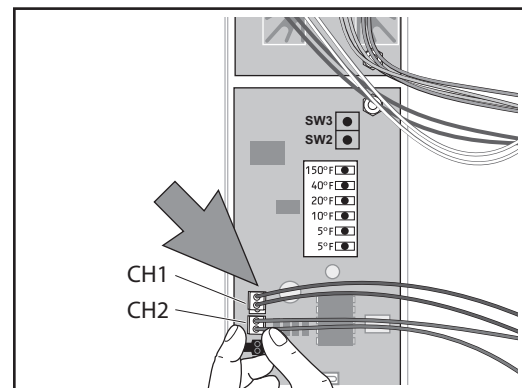
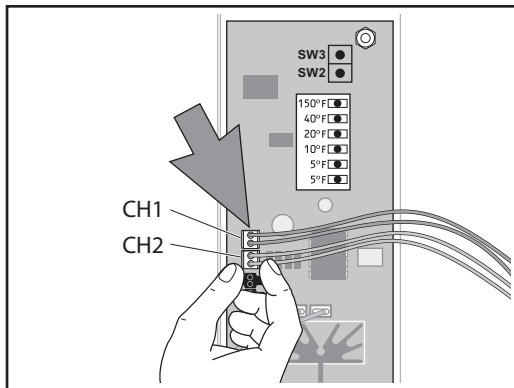


Once all RTD connections have been made, apply RTD labels as shown.

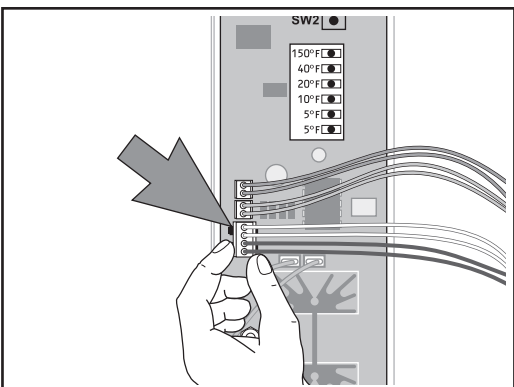
10. Connect 8-pin connector and 4-pin connector to RTD Interface Board.



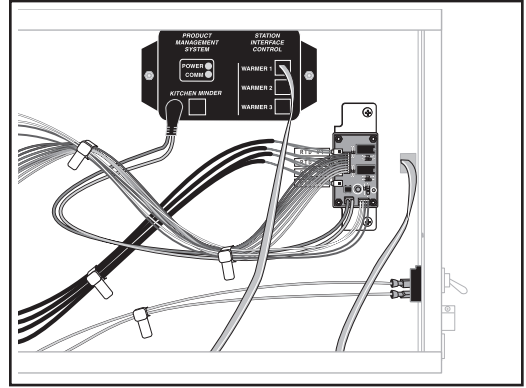
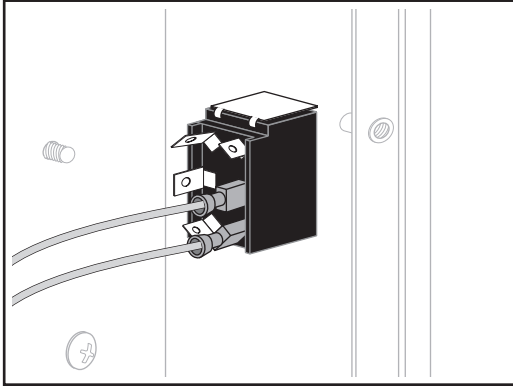
11. Connect remaining 2-pin RTD jumper connectors to Heat Control board(s). CH1 & CH2 on the **TOP** Heat Control Board correlate to **T #1** and **T #2** respectively, and CH1 & CH2 on the Bottom Heat Control Board correlate to T #3 and T #4.



12. Connect remaining 12Vac jumper to the Top Heat Control Board.



13. Properly connect each wire to the Toggle Switch. Polarity is not relevant, but the MIDDLE and BOTTOM tab should be used on either side of the switch.

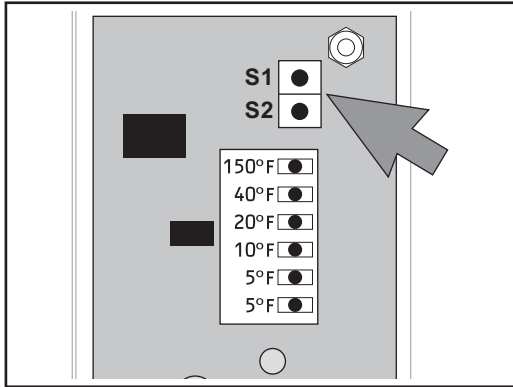


14. Use provided wire ties to route wires safely away from possible damage points. **ENSURE** no wires are wrapped around other wires to eliminate possibility of electrical noise.
15. Validate that RTD connections are correct. Disconnect **RTD #1** connection on RTD Interface Board, plug unit in, and turn unit on. Shelf 1 Service light should turn on within 5 seconds. Turn unit off, unplug, and reconnect **RTD #1**. Repeat process with remaining RTD connections.

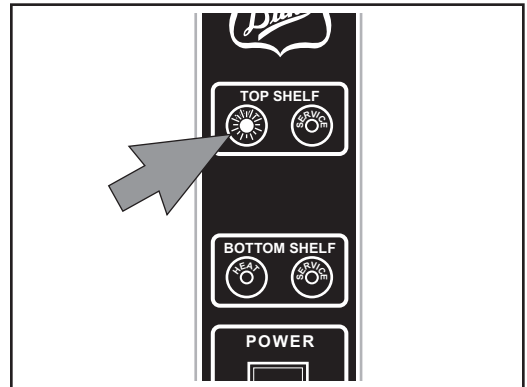
Correct location of any miswired RTD connections.

16. Locate the S1 and S2 push button switches on the rear of the control. (Figure 5)
17. Press and hold S1 until any LED on the rear of the control illuminates. (approximately 5 seconds)
18. Observe the front of the control (Figure 6). The Top or Bottom indicator light will be flashing indicating that this shelf is selected for temperature set point programming.
19. Confirm the sum of the LED values is equal to 190°F (150+40). If not, press and release S2 until the sum of the LED values illuminated on the rear of the board is equal to 190°F (150+40).
20. Press S1 to select the next shelf for temperature set point programing.
21. Confirm the sum of the LED values is equal to 190°F (150+40). If not, press and release S2 until the sum of the LED values illuminated on the rear of the board is equal to 190°F (150+40).
22. Repeat process for any additional Heat Control if working with a 3-high or 4-high unit..

23. Hold the S1 button until no LED on the rear of the control is illuminated.

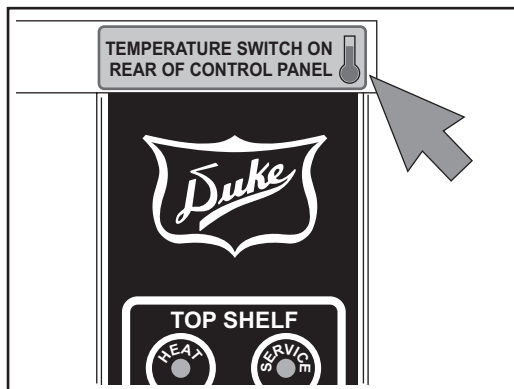


**Figure 5**



**Figure 6**

24. Ensure switch is set to 190°F and allow unit to heat up. Validate that unit operates at 190°F and 210°F in the proper switch positions.
25. Use alcohol pad to clean the area and apply Front Panel Label above the On /Off Switch on the front of the unit.



26. Reinstall side panel, careful to not pinch any wires. Leave new wiring diagram and pouch provided within unit for future reference.



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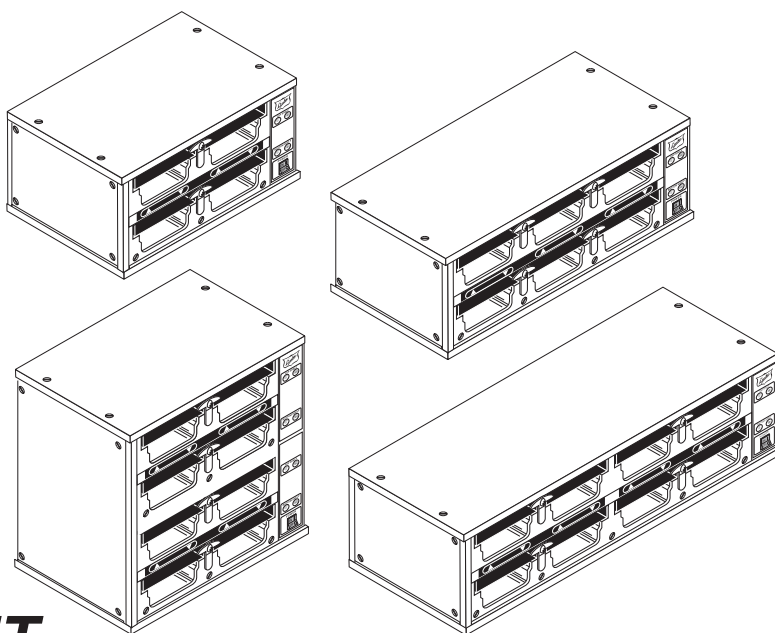
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*Your Solutions Partner*

# ***Service Manual***



## ***PRODUCT HOLDING CABINET***

### **MODELS**

FWM3-22    FWM3-24  
FWM3-23    FWM3-42

**Please read this manual completely  
before attempting to install, operate or  
service this equipment**

This document is prepared for trained Duke service technicians. It is not to be used by anyone not properly qualified to perform these procedures.

This Service Manual is not all encompassing. If you have not been trained on servicing this product, be sure to read the manual completely before attempting servicing. Be sure all necessary tools, test equipment, and skills are available. Those procedures for which you do not have the proper skills and test equipment must be performed only by a qualified Duke trained service technician.

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---

## **Duke Manufacturing Company**

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Fax: 314-231-5074  
[www.dukemfg.com](http://www.dukemfg.com)

## IMPORTANT WARNING AND SAFETY INFORMATION

### WARNING

**READ THIS MANUAL THOROUGHLY BEFORE OPERATING, INSTALLING, OR PERFORMING MAINTENANCE ON THE EQUIPMENT.**

### WARNING

**FAILURE TO FOLLOW INSTRUCTIONS IN THIS MANUAL CAN CAUSE PROPERTY DAMAGE, INJURY OR DEATH.**

### WARNING

**DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS OR LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.**

### WARNING

**UNLESS ALL COVER AND ACCESS PANELS ARE IN PLACE AND PROPERLY SECURED, DO NOT OPERATE THIS EQUIPMENT.**

### CAUTION

Observe the following:

- Minimum clearances must be maintained from all walls and combustible materials.
- Keep the equipment area free and clear of combustible material.
- Adequate clearance for air openings.
- Operate equipment only on the type of electricity indicated on the specification plate.
- Retain this manual for future reference.

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| Auxiliary Thermostat.....                 | 35    |
| RTD .....                                 | 35    |
| PARTS INFORMATION .....                   | 36-38 |
| CUSTOMER ASSISTANCE.....                  | 39WW  |



## IMPORTANT SAFETY INSTRUCTIONS

Throughout this manual, you will find the following safety words and symbols that signify important safety issues associated with operating or maintaining the equipment.



### WARNINGS

**GENERAL WARNING.** Indicates information important to the proper operation of the equipment. Failure to observe may result in damage to the equipment and/or severe bodily injury or death.

**ELECTRICAL WARNING.** Indicates information relating to possible shock hazard. Failure to observe may result in damage to the equipment and/or severe bodily injury or death.

**HOTSURFACEWARNING.** Indicates information important to the handling of equipment and parts. Failure to observe caution could result in personal injury.



### CAUTION

**GENERAL CAUTION.** Indicates information important to the proper operation of the equipment. Failure to observe may result in damage to the equipment

In addition to the warnings and cautions in this manual, use the following guidelines for safe operation and servicing of the unit.

- Read all instructions before using or servicing equipment.
- For your safety, the equipment is furnished with a properly grounded cord connector. Do not attempt to defeat the grounded connector.
- Install or locate the equipment only for its intended use as described in this manual. Do not use corrosive chemicals in this equipment.
- Do not operate this equipment if it has a damaged cord or plug, if it is not working properly, or if it has been damaged or dropped. Have the equipment serviced immediately.

- This equipment should be serviced by qualified personnel only. Contact the nearest Duke authorized service facility for adjustment or repair.
- Do not block or cover any openings on the unit.
- Do not immerse cord or plug in water.
- Keep cordset away from heated surfaces.
- Do not allow cordset to hang over edge of table or counter

The following warnings and cautions appear throughout this manual and should be carefully observed.

- Turn the Product Holding Cabinet (Warmer) off, disconnect the power source and allow Warmer to cool down before performing any service or maintenance on the Warmer.
- The procedures in this manual may include the use of chemical products. You must read the Material Safety Data Sheets before using any of these products.
- The Warmer should be grounded according to local electrical codes to prevent the possibility of electrical shock. It requires a grounded receptacle with separate electrical lines, protected by fuses or circuit breakers of the proper rating.
- Disposal of the Warmer must be in accordance with local environmental codes and/or any other applicable codes.

## INTRODUCTION

### GENERAL

The Duke Product Holding Unit (Warmer) was developed in response to the need for extended food-holding capabilities to provide consistently high, “just cooked” food quality.

The Duke Warmer utilizes Duke’s patented “heat sink” holding technology that provides even heat distribution to food pans through the bottom and sides. This allows precooked foods to be held for extended periods without noticeable degradation of quality, reducing food scrap/waste.

The self contained, individually formed, sealed compartments of the Duke Warmer eliminates food odor and taste transfer.

Because the compartments are sealed and formed to the shape of the pan, no disassembly is required for cleaning and product changes.

The unique design of the Duke Warmer allows single temperature operation for all existing product groups. This 190°F approved temperature is preset at the factory. This reduces the likelihood of inconsistent performance between restaurant locations.

The Duke Warmer was also designed to rethermalize food product. A thermostat setting of 200°F minimum is required for rethermalization. See instructions in PROGRAMMING section for thermostat adjustment.

**NOTE: Only qualified service persons should modify control temperature presets.**

## MODEL DESIGNATIONS

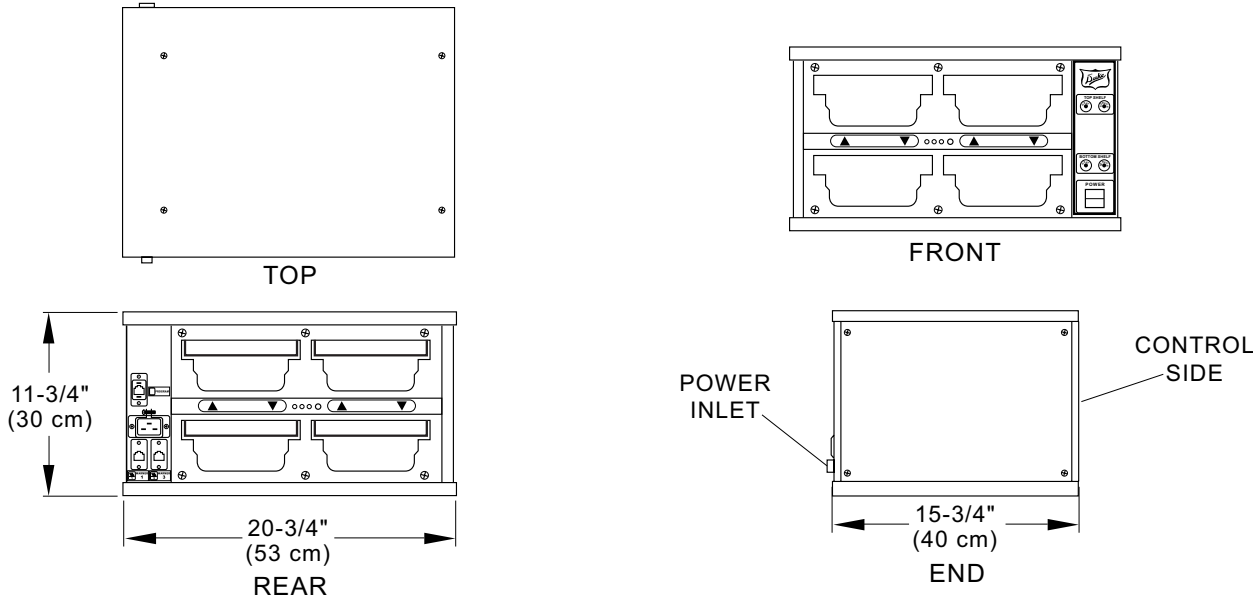
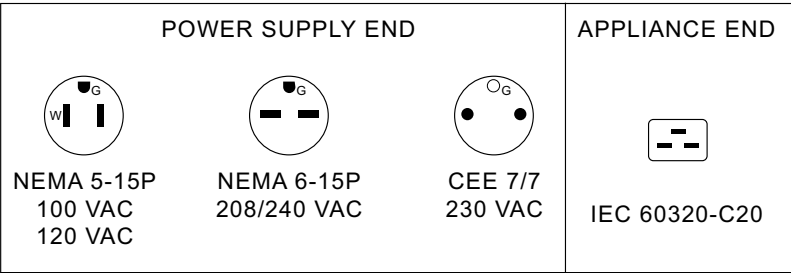
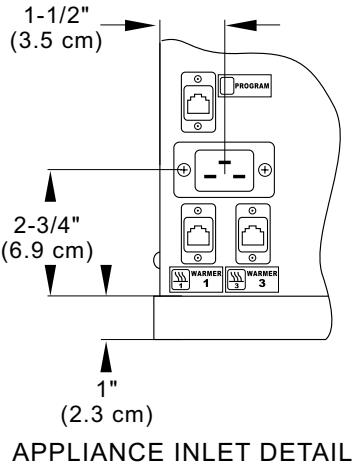
The following chart lists the different model designations and provides information on the weight and electrical requirements. Figures 1 thru 4 provide dimensional information and electrical connector information for the different models.

**MODEL SPECIFICATION TABLE**

| MODEL NO.   | FIG NO. | SHIPPING WEIGHT    | ELECTRICAL SPECIFICATIONS       |
|-------------|---------|--------------------|---------------------------------|
| FWM3-22-100 | 1       | 61 LB. (27.7 Kg)   | 100 V. 8 A. 800 W. 50/60 Hz     |
| FWM3-22-120 | 1       | 61 LB. (27.7 Kg)   | 120 V. 6.7 A. 800 W. 50/60 Hz   |
| FWM3-22-208 | 1       | 61 LB. (27.7 Kg)   | 208 V. 5.8 A. 1200 W. 50/60 Hz  |
| FWM3-22-230 | 1       | 61 LB. (27.7 Kg)   | 230 V. 5.2 A. 1200 W. 50/60 Hz  |
| FWM3-22-240 | 1       | 61 LB. (27.7 Kg)   | 240 V. 5.9 A. 1200 W. 50/60 Hz  |
| FWM3-23-120 | 2       | 83.5 LB. (37.9 Kg) | 120 V. 10.0 A. 1200 W. 50/60 Hz |
| FWM3-23-208 | 2       | 83.5 LB. (37.9 Kg) | 208 V. 8.7 A. 1800 W. 50/60 Hz  |
| FWM3-23-230 | 2       | 83.5 LB. (37.9 Kg) | 230 V. 7.8 A. 1800 W. 50/60 Hz  |
| FWM3-23-240 | 2       | 83.5 LB. (37.9 Kg) | 240 V. 7.5 A. 1800 W. 50/60 Hz  |
| FWM3-24-100 | 3       | 100 LB. (27.7 Kg)  | 100 V. 16.0 A. 1600 W. 50/60 Hz |
| FWM3-24-120 | 3       | 100 LB. (27.7 Kg)  | 120 V. 13.3 A. 1600 W. 50/60 Hz |
| FWM3-24-208 | 3       | 100 LB. (27.7 Kg)  | 208 V. 11.5 A. 2400 W. 50/60 Hz |
| FWM3-24-230 | 3       | 100 LB. (27.7 Kg)  | 230 V. 10.4 A. 2400W. 50/60 Hz  |
| FWM3-24-240 | 3       | 61 LB. (27.7 Kg)   | 240 V. 10.0 A. 2400 W. 50/60 Hz |
| FWM3-42-100 | 4       | 61 LB. (27.7 Kg)   | 100 V. 16.0 A. 1600 W. 50/60 Hz |
| FWM3-42-120 | 4       | 61 LB. (27.7 Kg)   | 120 V. 13.3 A. 1600 W. 50/60 Hz |
| FWM3-42-208 | 4       | 61 LB. (27.7 Kg)   | 208 V. 11.5 A. 2400 W. 50/60 Hz |
| FWM3-42-230 | 4       | 61 LB. (27.7 Kg)   | 230 V. 10.4 A. 2400W. 50/60 Hz  |
| FWM3-42-240 | 4       | 61 LB. (27.7 Kg)   | 240 V. 10.0 A. 2400 W. 50/60 Hz |

Model FWM3-22

|                  |                  |                                |
|------------------|------------------|--------------------------------|
| Shipping Weight: | 61 lbs / 27.7 Kg |                                |
| Electrical:      | FWM3-22-100      | 100 V, 8.0 A, 800 W, 50/60 Hz  |
|                  | FWM3-22-120      | 120 V, 6.7 A, 800 W, 50/60 Hz  |
|                  | FWM3-22-208      | 208 V, 5.8 A, 1200 W, 50/60 Hz |
|                  | FWM3-22-230      | 230 V, 5.2 A, 1800 W, 50/60 Hz |
|                  | FWM3-22-240      | 240 V, 5.0 A, 1200 W, 50/60 Hz |



LISTED  
COMMERCIAL  
COOKING  
APPLIANCE



INDEXER  
COMMERCIAL  
APPAREIL  
DE CUISINE



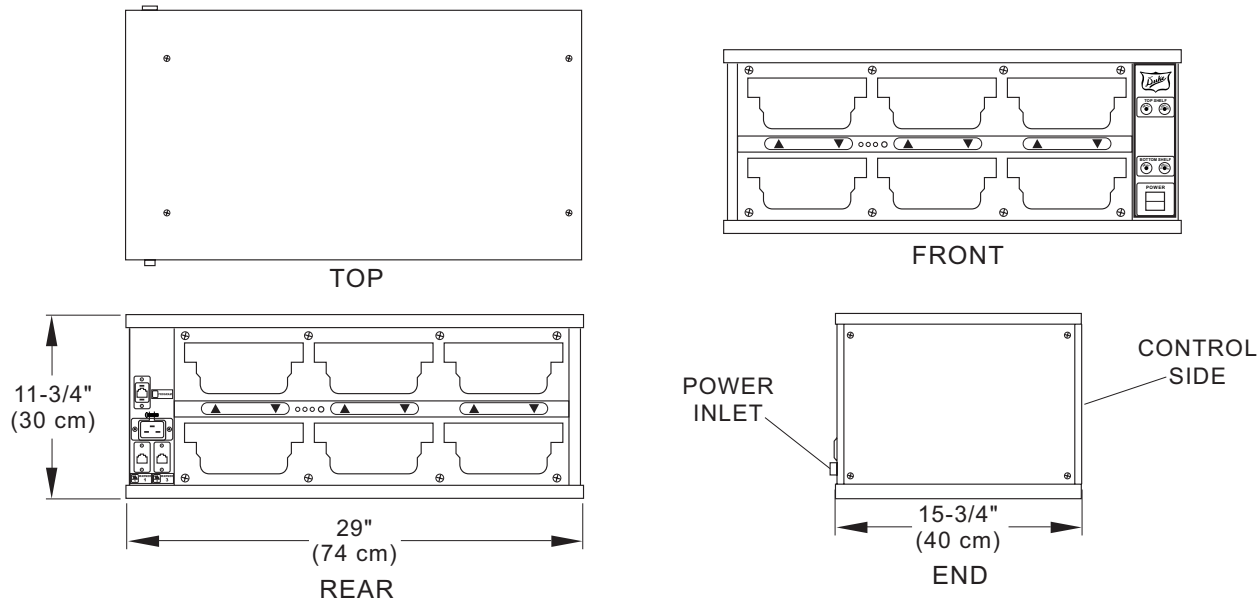
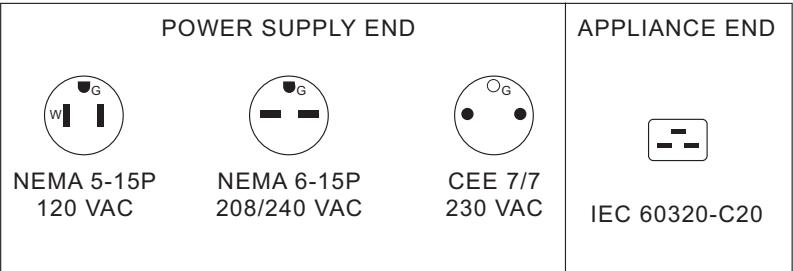
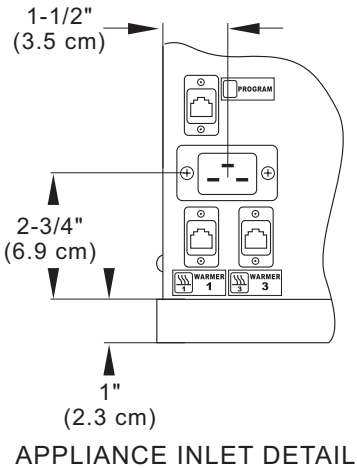
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IN ACCORDANCE WITH  
NSF NO. 4 1999



Figure 1. Model FWM3-22 Outline Dimension Drawing with Connector Information

Model FWM3-23

|                  |                    |                                 |
|------------------|--------------------|---------------------------------|
| Shipping Weight: | 83.4 lbs / 37.9 Kg |                                 |
| Electrical:      | FWM3-23-120        | 120 V, 10.0 A, 1200 W, 50/60 Hz |
|                  | FWM3-23-208        | 208 V, 8.7 A, 1800 W, 50/60 Hz  |
|                  | FWM3-23-230        | 230 V, 7.8 A, 1800 W, 50/60 Hz  |
|                  | FWM3-23-240        | 240 V, 7.5 A, 1800 W, 50/60 Hz  |



LISTED  
COMMERCIAL  
COOKING  
APPLIANCE



INDEXER  
COMMERCIAL  
APPAREIL  
DE CUISINE



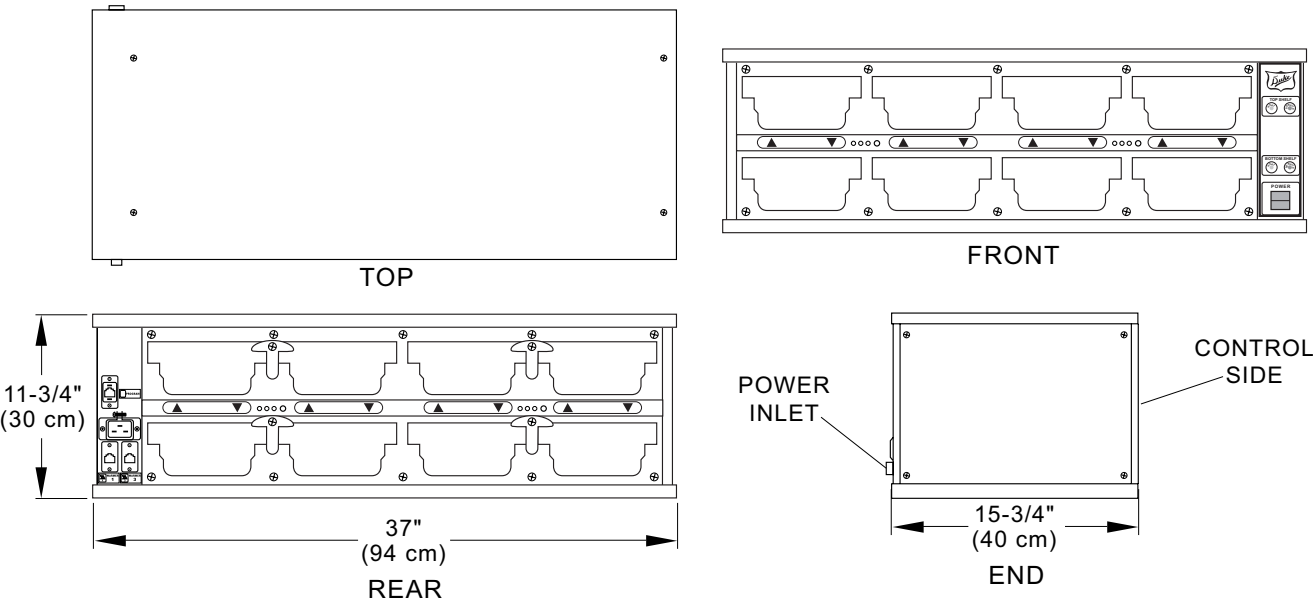
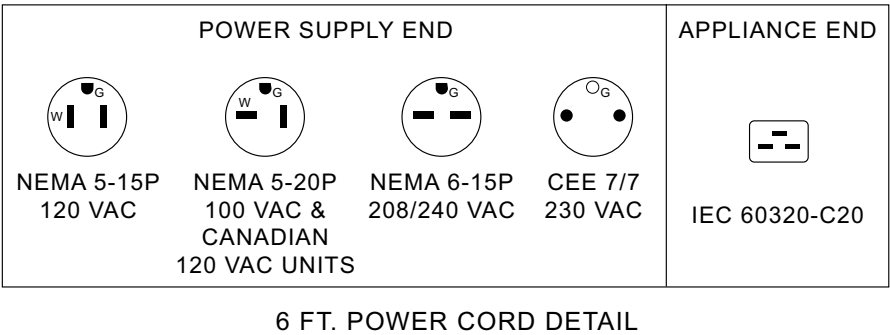
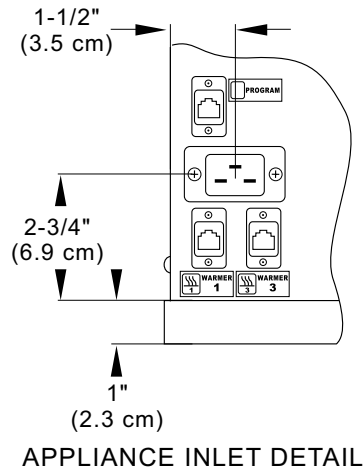
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NSF NO. 4 1999



Figure 2. Model FWM3-23 Outline Dimension Drawing with Connector Information

Model FWM3-24

|                  |                 |                                 |  |
|------------------|-----------------|---------------------------------|--|
| Shipping Weight: | 100 lbs / 45 Kg |                                 |  |
| Electrical:      | FWM3-24-100     | 100 V, 16.0 A, 1600 W, 50/60 Hz |  |
|                  | FWM3-24-120     | 120 V, 13.3 A, 1600 W, 50/60 Hz |  |
|                  | FWM3-24-208     | 208 V, 11.5 A, 2400 W, 50/60 Hz |  |
|                  | FWM3-24-230     | 230 V, 10.4 A, 2400 W, 50/60 Hz |  |
|                  | FWM3-24-240     | 240 V, 10.0 A, 2400 W, 50/60 Hz |  |



LISTED  
COMMERCIAL  
COOKING  
APPLIANCE



INDEXER  
COMMERCIAL  
APPAREIL  
DE CUISINE



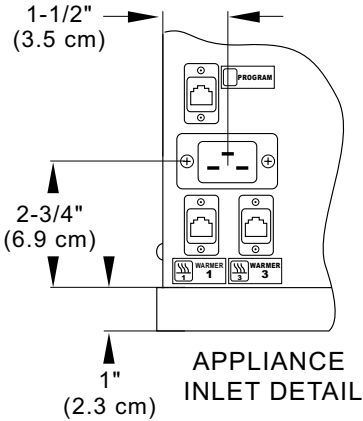
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UNDERWRITERS LABORATORIES INC.  
IN ACCORDANCE WITH  
NSF NO. 4 1999



Figure 3. Model FWM3-24 Outline Dimension Drawing with Connector Information

Model FWM3-42

|                  |                 |                                 |
|------------------|-----------------|---------------------------------|
| Shipping Weight: | 100 lbs / 45 Kg |                                 |
| Electrical:      | FWM3-42-100     | 100 V, 16.0 A, 1600 W, 50/60 Hz |
|                  | FWM3-42-120     | 120 V, 13.3 A, 1600 W, 50/60 Hz |
|                  | FWM3-42-208     | 208 V, 11.5 A, 2400 W, 50/60 Hz |
|                  | FWM3-42-230     | 230 V, 10.4 A, 2400 W, 50/60 Hz |
|                  | FWM3-42-240     | 240 V, 10.0 A, 2400 W, 50/60 Hz |



| POWER SUPPLY END                 |                                         |                           |                    | APPLIANCE END |
|----------------------------------|-----------------------------------------|---------------------------|--------------------|---------------|
|                                  |                                         |                           |                    |               |
| NEMA 5-15P<br>100 VAC<br>120 VAC | NEMA 5-20P<br>CANADIAN<br>120 VAC UNITS | NEMA 6-15P<br>208/240 VAC | CEE 7/7<br>230 VAC | IEC 60320-C20 |

6 FT. POWER CORD DETAIL

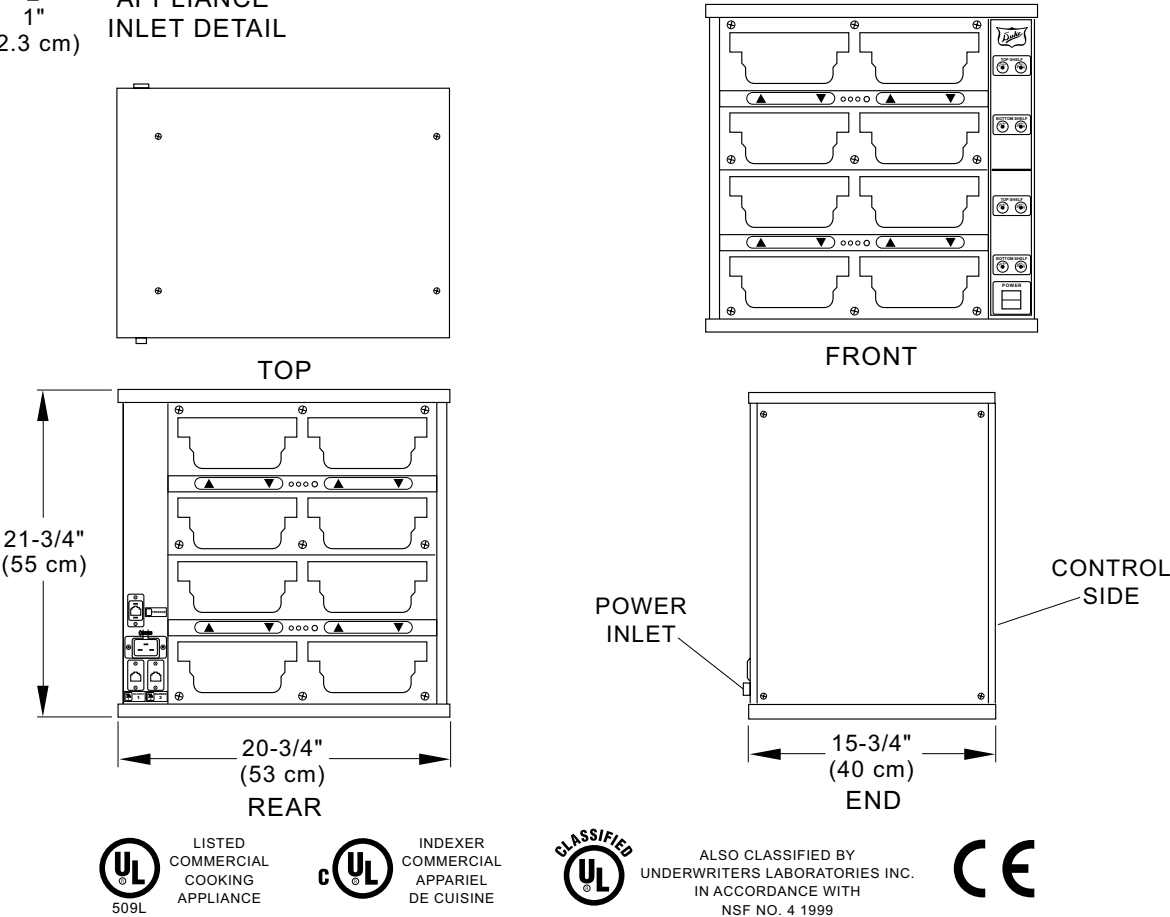
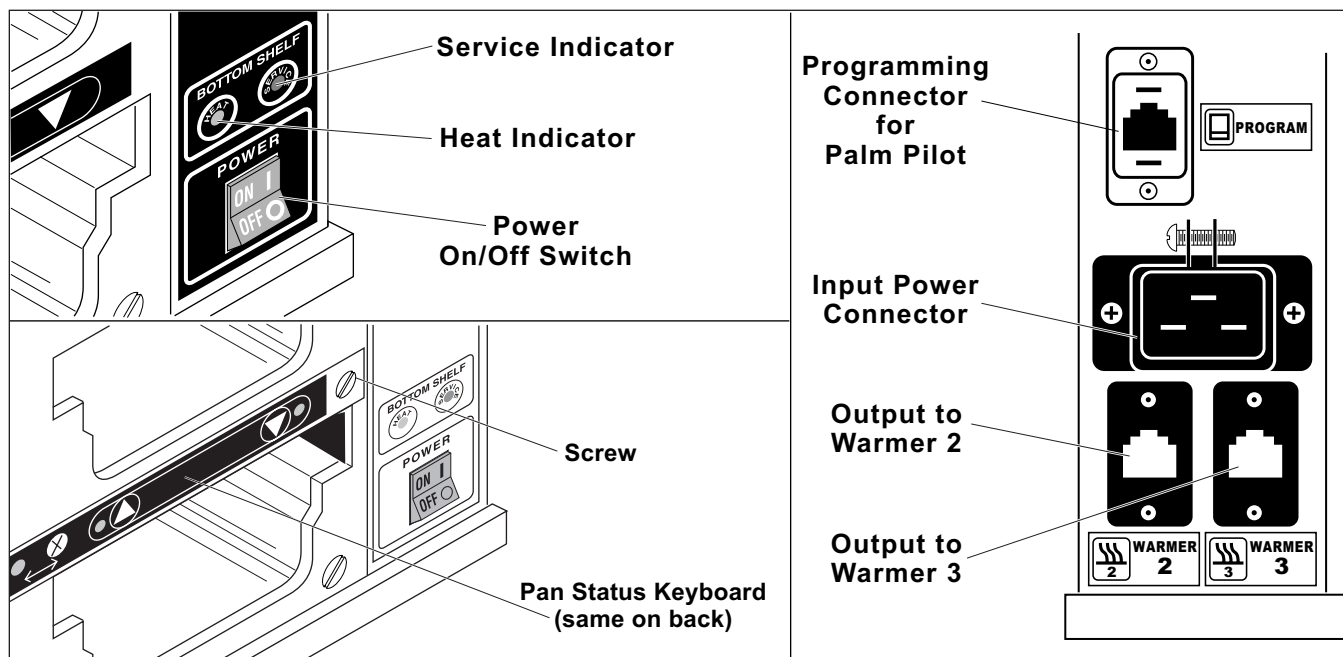


Figure 4. Model FWM3-42 Outline Dimension Drawing with Connector Information

## MAIN FEATURES

The main features of the Duke Warmer are listed in Figure 5. The Main POWER ON/OFF switch is located on the front of the unit. Pan Status Keyboard Controls are located on both the front and the back of the Warmer. Most serviceable components are accessed by removing the right side panel.



**Figure 5. Product Holding Unit Main Features, FWM3-24 Shown**

| MAIN FEATURE                                    | FUNCTIONAL DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>POWER ON/OFF SWITCH</b>                      | This ON/OFF switch is located on the lower right side of the cabinet. This is a double pole – double throw (DPDT) lighted switch rated at 16 Amperes. The switch controls power to the Warmer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>DIGITAL PAN STATUS KEYBOARD</b>              | This Pan Status Keyboard contains “Up” and “Down” arrows used to enter recipes, perform the setup procedures, and perform the programming instructions. Two displays are provided. The left display indicates the number and the right display indicates the present value for the number. Two LED’s are used to indicate status. These LED’s change from Red to Green to Yellow and to OFF. In edit linking mode the Red LED will be blinking. And indicates the selected pan. The Green LED indicates pans linked to the selected pan. An OFF LED indicates pans not linked to the selected pan. To link additional pans, pressing any OFF LED will turn the LED green indicating the pan is now linked. The keyboards are located on both the front and the back of the unit. |
| <b>PROGRAMMING CONNECTION</b>                   | This is a RJ45 female connector used for programming the ICC Timer Control. The connector is located on the back of the unit above the input power connector.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>INTERUNIT COMMUNICATION CABLE CONNECTORS</b> | The RJ12 female connectors are used for interconnecting a Warmer with the ICC timer to Warmers without the ICC timer. The unit with the ICC timer can control up to two Warmers without the ICC timer. The connectors are located on the back of the Warmer below the input power connector.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>INPUT POWER CONNECTOR</b>                    | The Input Power connector is used to connect the Warmer to the external power source. The connector is located on the back of the Warmer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>HEAT Light</b>                               | The HEAT Light indicates power is applied to the Heater Element(s). This light is located on the front right side of the Warmer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>SERVICE Light</b>                            | The SERVICE Light indicates a failure in the heater circuit that requires immediate servicing. This light is located on the front right side of the Warmer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |



# INSTALLATION

## UNPACKING UNIT

### INSPECTION PROCEDURE

- Inspect the shipping carton and/or container, carefully noting any exterior damage on the delivery receipt, which was not evident on the outside of the shipping container (concealed damage). Contact the carrier immediately and file a damage claim with them. Save all packing materials when filing a claim. Freight damage claims are the responsibility of the purchaser and are not covered by the warranty.
- Inspectt Warmer for damage such as, broken glass, etc.
- Report any dents or breakage to source of purchase immediately.
- Do not attempt to use Warmer if damaged.
- Remove all materials from Warmer interior.
- If unit has been stored in extremely cold area, wait a few hours before connecting power.

### UNIT PLACEMENT

- Do not install Warmer next to or above source of heat, such as oven or deep fat fryer.
- Install Warmer on level countertop surface.
- Outlet should be located so that plug is accessible when Warmer is in place.

Proper airflow around Warmer cools electrical components. With restricted airflow, Warmer may not operate properly and life of electrical parts is reduced.

## GROUNDING INSTRUCTIONS



### WARNING

**TO AVOID RISK OF ELECTRICAL SHOCK OR DEATH, THIS UNIT MUST BE GROUNDED AND PLUG MUST NOT BE ALTERED.**

Grounding reduces risk of electric shock by providing an escape wire for the electric current if an electrical short occurs. This Warmer is equipped with a cordset having a grounding wire with a grounding plug. The plug must be plugged into an outlet that is properly installed and grounded.

Consult a qualified electrician or service technician if grounding instructions are not completely understood, or if doubt exists as to whether the Warmer is properly grounded.

Do not use an extension cord. If the product power cord is too short, have a qualified electrician install a three-slot receptacle. This unit should be plugged into a separate circuit with the electrical rating as provided in product specifications.

# INSTALLATION INSTRUCTIONS

## PROCEDURE

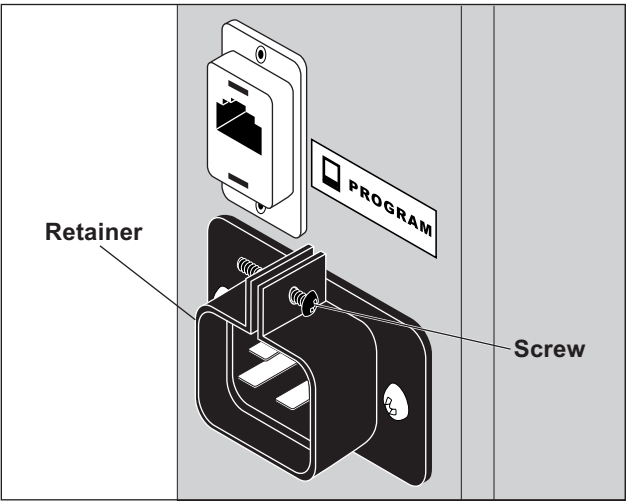
1. Place Warmer on a stable surface

**CAUTION: Risk of Fire or Electric Shock.**  
 **Replace Cordset with one of the following Duke cordsets only.**

## CORDSETS

| Part No. | Cordset                    |
|----------|----------------------------|
| 156533   | Cordset, NEMA 5-15P, 120 V |
| 156811   | Cordset NEMA 5-20P, 120 V  |
| 156400   | Cordset 230 V CE           |

2. Loosen screw on retainer. See Figure 6.
3. Push the Cordset fully into the retainer.
4. Tighten screw to secure Cordset.



**Figure 6. Attaching Cordset**

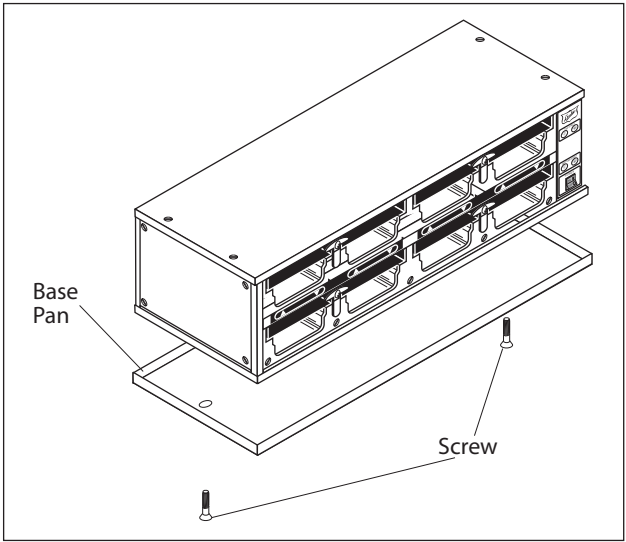
## STACKING UNITS

The FWM3-24 Warmer is designed to allow limited stacking capabilities. To stack cabinets, proceed as follows:

1. Remove the base pan from all Warmers that are to be stacked, except for the bottom Warmer by removing the two screws on the bottom of the Warmer. See Figure 7.

 **WARNING**

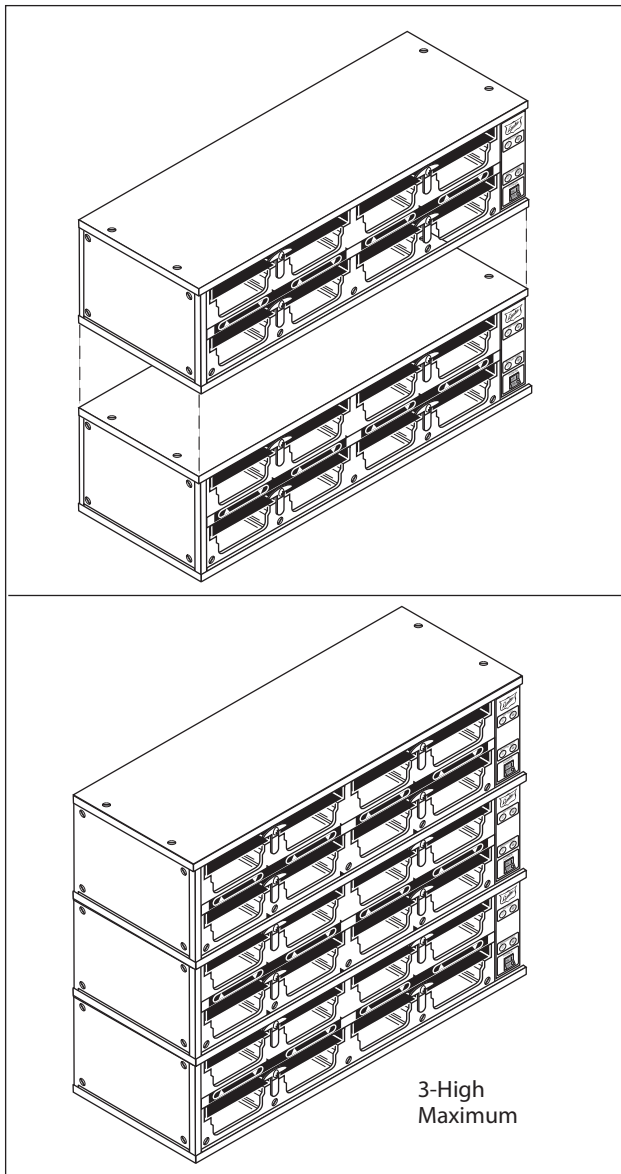
**TIP HAZARD! DO NOT STACK FWM3-42 CABINETS. DO NOT EXCEED 3 HOLD-ING CABINETS PER STACK. DO NOT PLACE HOLDING CABINET STACK ON SURFACES THAT MAY EASILY TIP OVER.**



**Figure 7. Base Removal on Warmer**

2. Place the bottom Warmer on a flat horizontal surface.

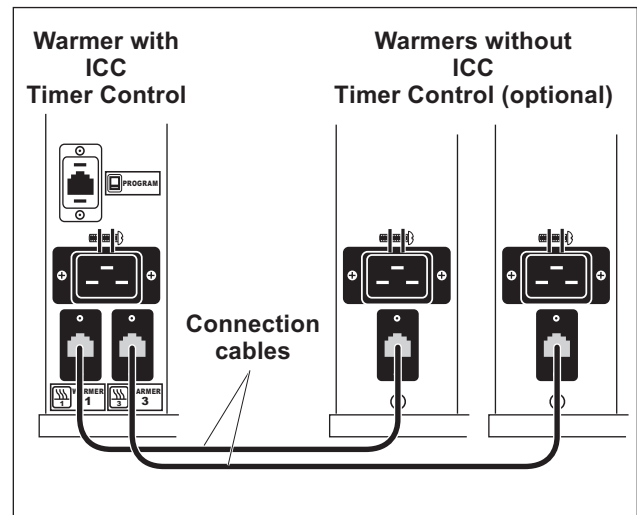
3. Stack the next Warmer on top. The top of the lower Warmer rests inside of the base of the upper Warmer. See Figure 8.



**Figure 8. Stacking Warmers**

## UNIT TO UNIT COMMUNICATIONS CONNECTION

The communications connection is used to connect a Warmer with an ICC Timer Control to a Warmer without the ICC Timer Control. Up to two additional Warmers (those without the ICC Timer Control) can be controlled by the ICC Timer Control. The field connections for these Warmers is shown in Figure 9. The PROGRAM connector on the Warmer with the ICC Timer Control is used to input information from the Palm Pilot Device.



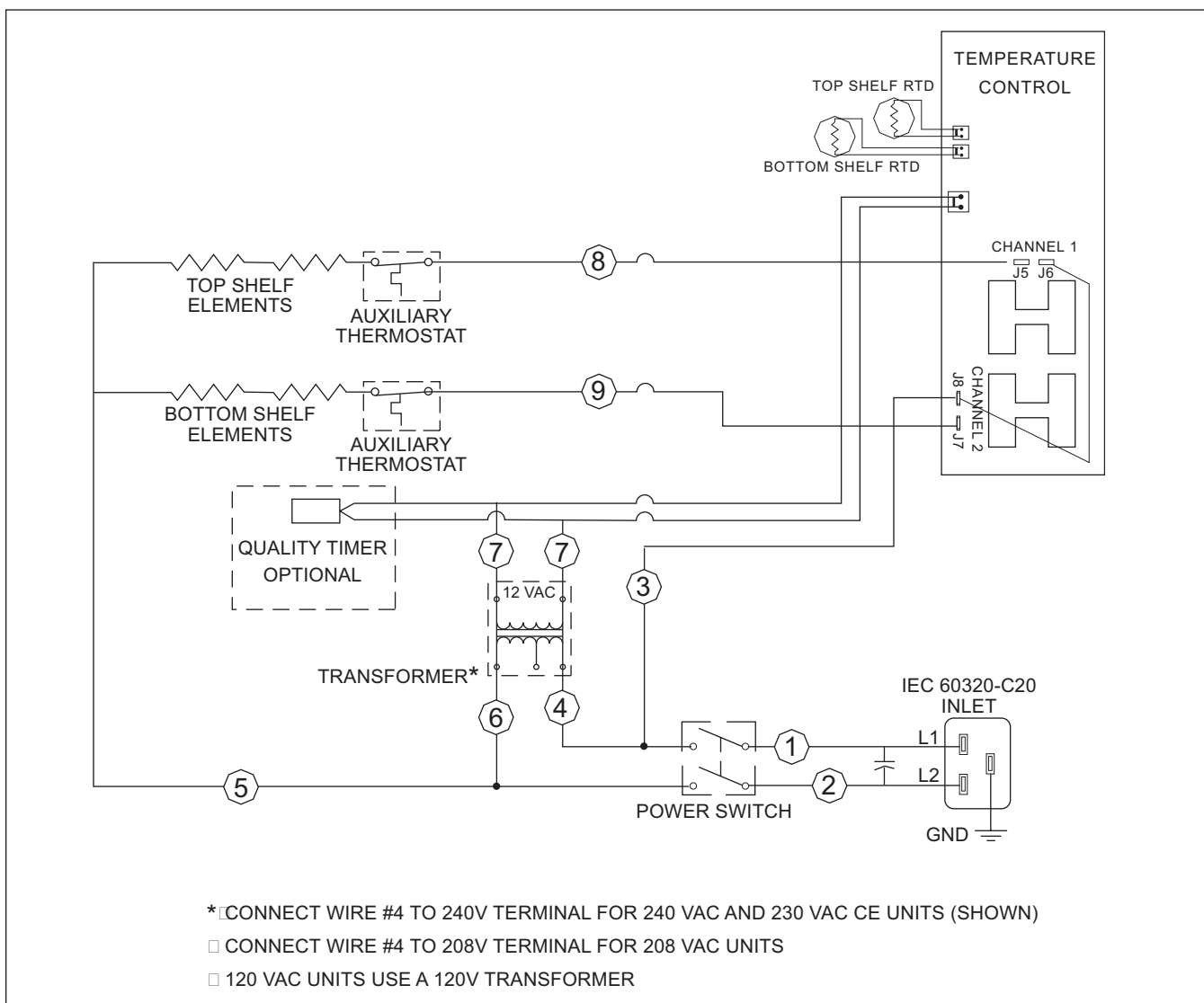
**Figure 9. Communications Connections**

## WIRING DIAGRAMS

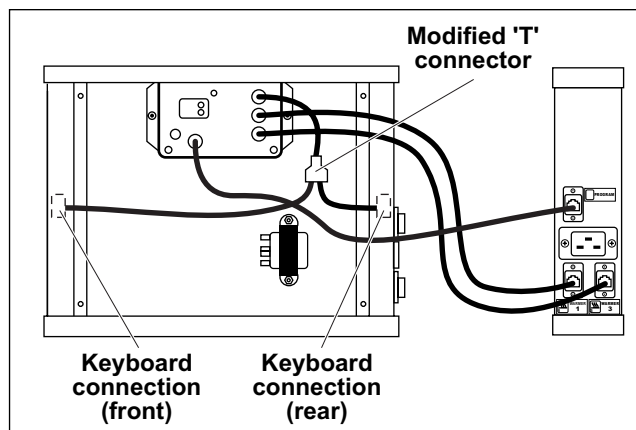
### FWM3-22, FWM3-23, AND FWM3-24 PRODUCT HOLDING CABINET WIRING DIAGRAMS

Wiring diagrams for the FWM3-22, FWM3-23, and FWM3-24 are shown in Figures 10, 11, and 12. Figure 10 shows the primary power distribution for the Heating Elements and also the 12 VAC control voltage for the Temperature

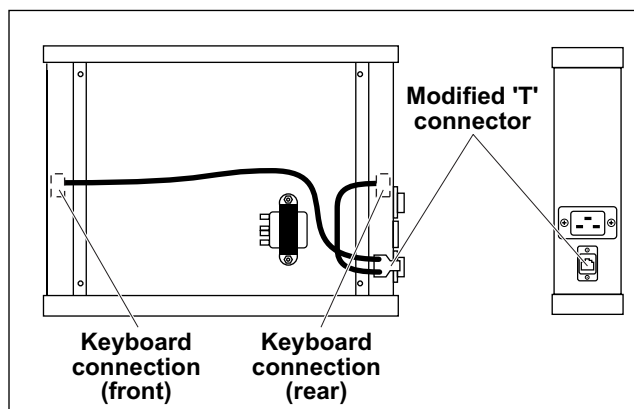
Control and the optional Quality Timer. Figure 11 shows the Interface Cable connections for units with the ICC Timer Control. Figure 12 shows the Interface Cable connections for units without the ICC Timer Control.



**Figure 10. FWM3-22, FWM3-23, FWM3-24 Power Distribution Wiring Diagram**



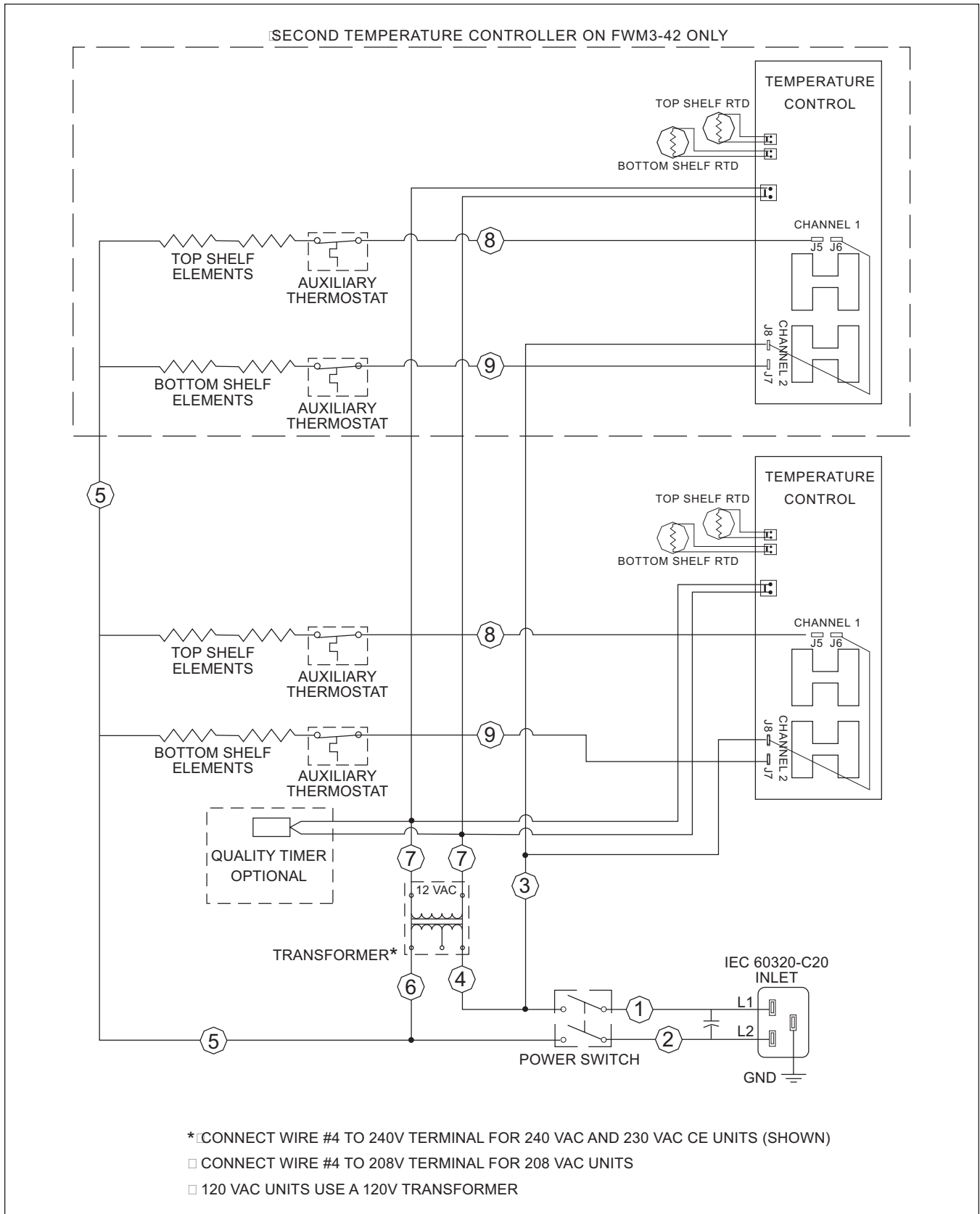
**Figure 11.**  
**Interface Cabling for Units With**  
**ICC Timer Control**



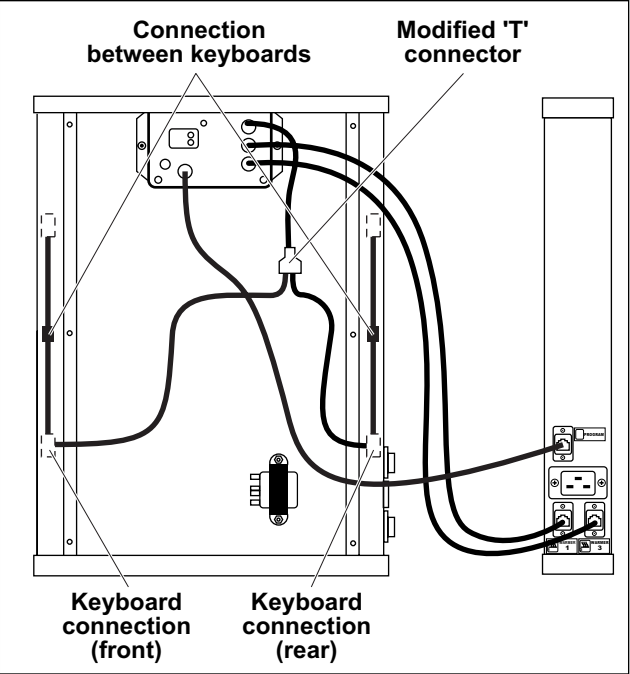
**Figure 12.**  
**Interface Cabling for Units**  
**without ICC Timer Control**

## **FWM3-42 PRODUCT HOLDING CABINET** **WIRING DIAGRAMS.**

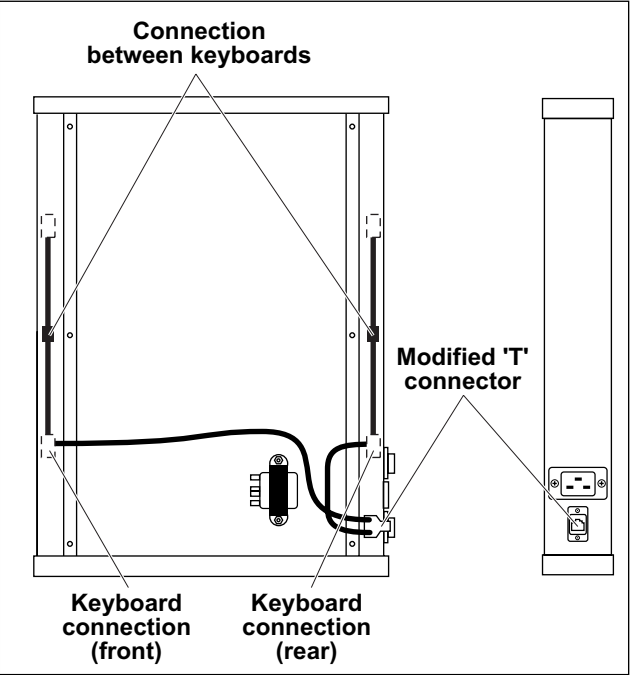
Wiring diagrams for the FWM3-42 are shown in Figures 13, 14, and 15. Figure 13 shows the primary power distribution for the Heating Elements and also the 12 VAC control voltage for the Temperature Control and the optional Quality Timer. Figure 14 shows the Interface Cable connections for Warmers with the ICC Timer Control. Figure 15 shows the Interface Cable connections for Warmers without the ICC Timer Control.



**Figure 13. FWM3-42 Power Distribution Wiring Diagram**



**Figure 14. Interface Cabling for Warmers With ICC Timer Control**



**Figure 15. Interface Cabling for Warmers without ICC Timer Control**

## SEQUENCE OF OPERATION

### TIMERS

The ICC Timer Control is programmed through the keyboards located on the front and back of each Warmer or may be programmed with a Palm PDA. The Warmer is programmed for HOLD time, COOK time and Linking of pans. The HOLD time is the specified time a cooked product may be held in the Warmer. The COOK time is the specified time it takes to cook a product. The Timer can store and recall up to three Daypart Menus. The Menus are stored in memory in the Timer and are retained even when power is off. The output from the Timer can control up to three Warmers. The Timers must be programmed prior to use. Programming can be performed manually or using a Palm PDA. Some Timers may have an optional alarm. Pans can be linked so that the HOLD and COOK times are the same.

1. Connect primary power to inlet power connection.
2. Set POWER ON/OFF switch to the ON position.
3. 12 VAC operating voltage is applied to the Timer.
4. The keyboard lights illuminate YELLOW then RED or go out depending on the programmed HOLD times. On digital timers the LED displays will illuminate also.
5. When freshly cooked product is placed in the Warmer and the corresponding button on the Pan Status Keyboard is pressed, the light will turn GREEN and the HOLD time starts to count down. **Use this product first.**
6. When freshly cooked product is placed in the second linked pan and the corresponding button on the Pan Status Keyboard is pressed, the light will turn GREEN then YELLOW. **Newer product in pan, use other pan first.**
7. When the HOLD time reaches the COOK time the indicator flashes and the optional alarm will sound. When the indicator is flashing GREEN or YELLOW cooking must be started. **Product is about to expire.**
8. If the indicator is flashing RED, it indicates

product has expired and must be discarded. Discard the product and press the appropriate button. The indicator will turn RED indicating no product present in pan.

NOTE: If there is NO LIGHT on a pan indicator, no product should be in this pan. If the button on this pan is pressed, the light will turn RED for 2 seconds and go out, indicating no hold time.

### HEATING ELEMENTS

Refer to Figures 10 and 13.

1. Connect primary power to inlet power connection.
2. Voltage is applied through wires 1 and 2 to the input side of the POWER ON/OFF switch.
3. Set POWER ON/OFF switch to the ON position.
4. Voltage from the POWER ON/OFF switch is applied as follows:
  - a. Through wires 4 and 6 to the primary of the step-down transformer.
  - b. Through wire 3 to the Temperature Control Board for application to the Heater Elements.
  - c. Through wire 5 to one side of each Heating Element.
5. The step-down transformer lowers the voltage to 12 VAC.
6. The 12 VAC voltage is applied through wire 7 to the Temperature Control Boards and the optional ICC Timer Control (Quality Timer).
7. The Temperature Control Board provides a reference temperature level that is compared to the temperature measured by the RTD Thermocouples that are located at the center of the Heating Element closest to the control panel. This reference is usually 190°F.
8. If the thermocouple temperature measurement is below the reference provided by the



Temperature Control Board, the channel 1 and channel 2 controllers on the Temperature Control Board are turned on.

9. When the controllers are turned on, primary power is applied through wires 8 and 9 to the normally closed Auxiliary Thermostat. The Auxiliary Thermostat is a protection device that opens the Heater circuit if the temperature exceeds 250°F.
10. With the Heater Elements turned on, the temperature rises and the temperature is monitored by the thermocouples.
11. When the monitored temperature exceeds the reference temperature, the channel controller for the top or bottom shelf as applicable, is turned off and opens the heater circuit.
12. When the thermocouples sense a heater temperature below the reference, the channel is turned back on and the heaters again provide heat.
13. If a failure occurs in the Temperature Control circuit and the heater remains on, the temperature will continue to rise.
14. When this temperature exceeds 250°F, the Auxiliary Thermostat will open, removing voltage from wires 8 or 9 as applicable, turning off the heater. When this occurs, the SERVICE light on the front of the unit will turn on.
15. When the SERVICE light is turned on, the Warmer should be shut down until the faulty condition is repaired.

## PROGRAMMING GUIDES

Each type of Warmer is programmed differently. The following manuals must be used to properly program the Warmer.

### **FWM3-22 and FWM3-23**

Programming Digital Keyboards without Daypart  
P/N 896195-20i

Programming Digital Keyboards with Daypart  
P/N 156979B

Programming Manual Keyboards  
P/N 156810A

### **FWM3-24**

Programming Digital Keyboards without Daypart P/N 157538A

Programming Digital Keyboards with Daypart  
P/N 156683C

Programming Manual Keyboards with or without Daypart Function  
P/N 156683C

### **FWM3-42**

Programming Digital Keyboards with Daypart  
P/N 156891C

Programming Manual Keyboards with or without Daypart Function  
P/N 156683C

## CONTROL PROGRAMMING

The electronic temperature control is pre-set at the factory to maintain the temperature at the bottom center of the pan well at 190°F ±5°F. This temperature is the result of many hours of laboratory food testing. There are no operator temperature adjustments that can be made. Because the electronic control uses a platinum type RTD thermocouple sensor, routine calibration is not required.

**DANGER! LIVE ELECTRICAL COMPONENTS. ONLY QUALIFIED SERVICE PERSONS SHOULD MODIFY CONTROL TEMPERATURE PRESETS.**



### Temperature Programming

1. Remove cover from control side of the Warmer and set the POWER ON/OFF switch to the ON position.
2. Locate the pushbuttons S1 and S2 on the rear of the FWM Control (see Figure 16).
3. Press and hold S1 until any LED on the rear of the FWM Control illuminates (approximately 5 seconds).
4. Observe the front of the control (Figure 17). Press and release S1 on the back of the FWM control until the desired light on the front of the control flashes. (See Flashing Lights table.)

NOTE: To comply with NSF sanitation requirements, do not set the control preset temperature below 190°F.

5. Press and release S2 until the sum of the LED values illuminated on the rear of the FWM Control match the desired preset temperature.
6. Repeat steps 4 and 5 for each preset temperature then press and hold S1 until no LED on the rear of the FWM Control is illuminated and the lights on the front of the FWM Control no longer flash.

| Flashing Lights |   |   |
|-----------------|---|---|
|                 | A | B |
| Top Shelf       | X |   |
| Bottom Shelf    |   | X |

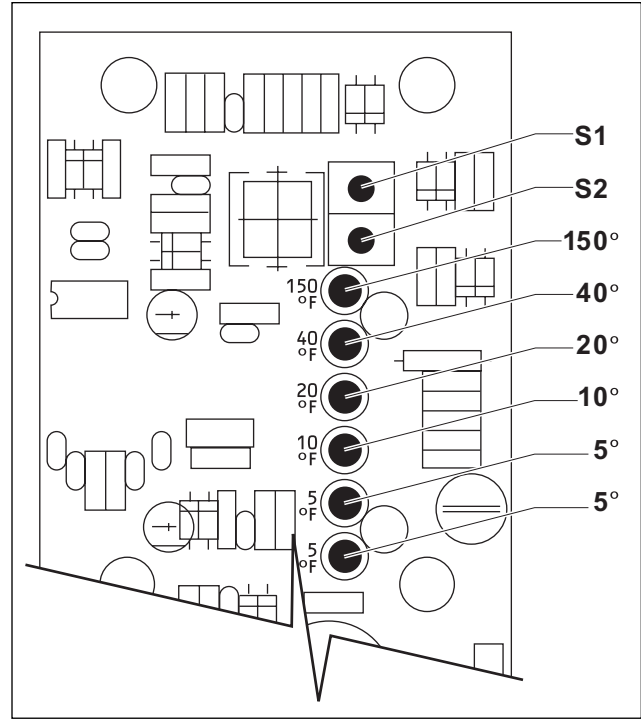


Figure 16. Rear of FWM Control

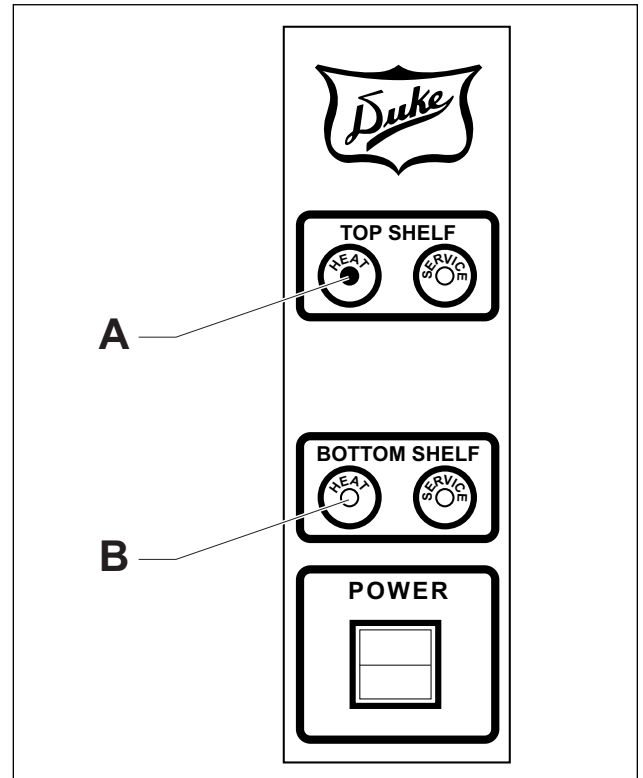


Figure 17. Flashing Lights Front

## PARTS REPLACEMENT

### REPLACEMENT PROCEDURES



#### WARNING

**BEFORE ANY REPLACEMENT PROCEDURE BEGINS, THE WARMER MUST BE ISOLATED FROM THE POWER SOURCE TO PREVENT POSSIBLE ELECTRICAL SHOCK.**

### TOOLS REQUIRED

No special tools required.

NOTE: Number in parentheses after a part refers to the reference number in the parts list.

### PAN STATUS KEYBOARD

The Pan Status Keyboards, Figure 18, are located on both the front and the back of the Warmer. Both keyboards are removed in the same manner.

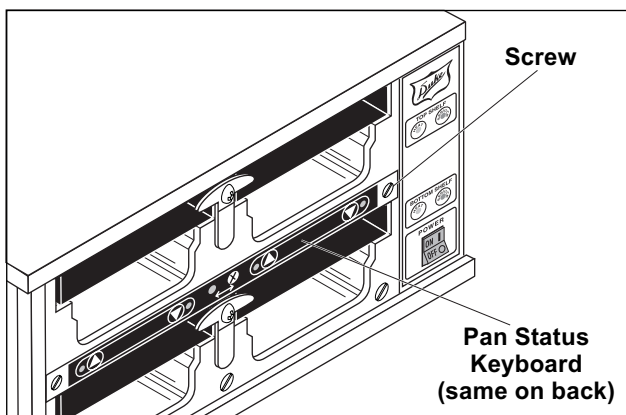


Figure 18. Pan Status Keyboard

### Removal



#### WARNING

**BEFORE ANY REPLACEMENT PROCEDURE BEGINS, THE WARMER MUST BE ISOLATED FROM THE POWER SOURCE TO PREVENT POSSIBLE ELECTRICAL SHOCK.**

1. Place POWER ON/OFF switch in the OFF position and disconnect power cord from the power source.
2. Remove the four screws securing the right side panel to the Warmer and remove panel.
3. Remove the screws, Figure 18, securing the Pan Status Keyboard that is to be replaced.
4. Label and disconnect the cable from the coupler, Figure 19.
5. Carefully pull the keyboard away from the Warmer allowing the cable to pass through the access hole.

### Installation

1. Route the keyboard cable through the access hole on the control panel side of the Warmer.
2. Secure the keyboard to the chassis with the screws.
3. Connect the cable to the coupler.
4. Install the right side panel and secure with the four screws.
5. Reconnect the Warmer to the power source.
6. Place the POWER ON/OFF switch in the ON position.
7. Check Warmer operation.

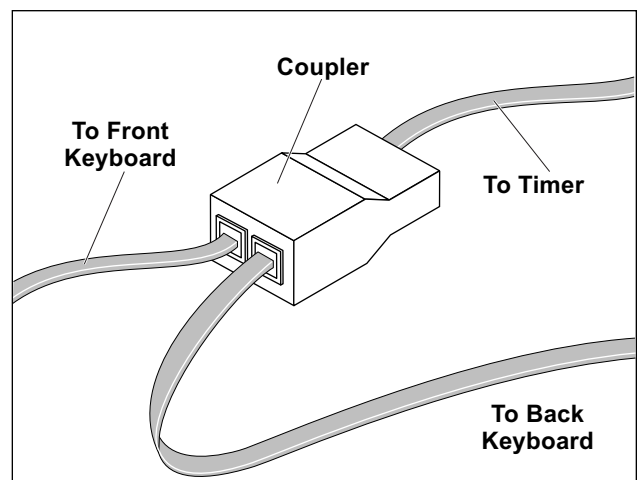
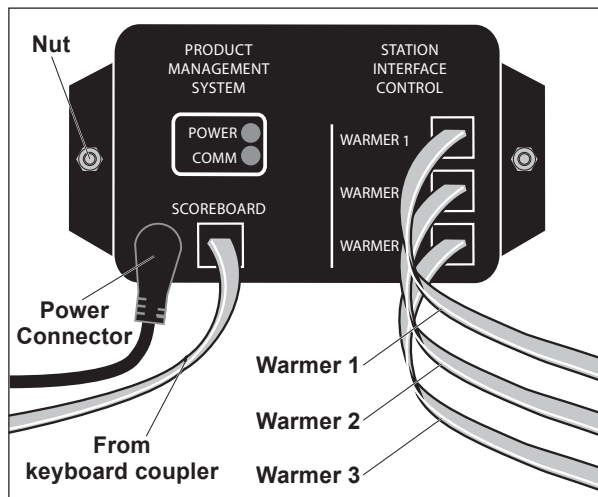


Figure 19. Keyboard Cable Connection

## ICC TIMER CONTROL

The ICC Timer Control (timer), Figure 20, is located in the right side of the unit and is accessible by removing the right side panel.



**Figure 20. ICC Timer Control**

## Removal



### WARNING

**BEFORE ANY REPLACEMENT PROCEDURE BEGINS, THE WARMER MUST BE ISOLATED FROM THE POWER SOURCE TO PREVENT POSSIBLE ELECTRICAL SHOCK.**

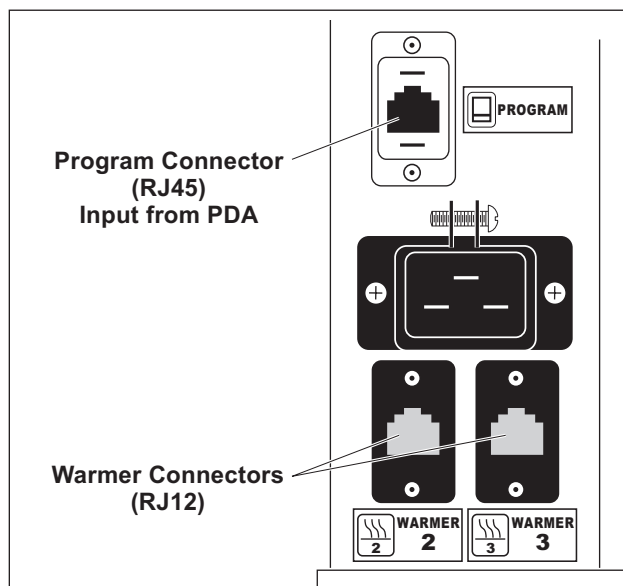
1. Place POWER ON/OFF switch in the OFF position and disconnect power cord from the power source.
2. Label and disconnect the PROGRAM connector cable from the timer.
3. Label and disconnect the WARMER 1, WARMER 2, and WARMER 3 cables from the timer.
4. Remove the two nuts securing the timer to the chassis and remove the timer control.

## Installation

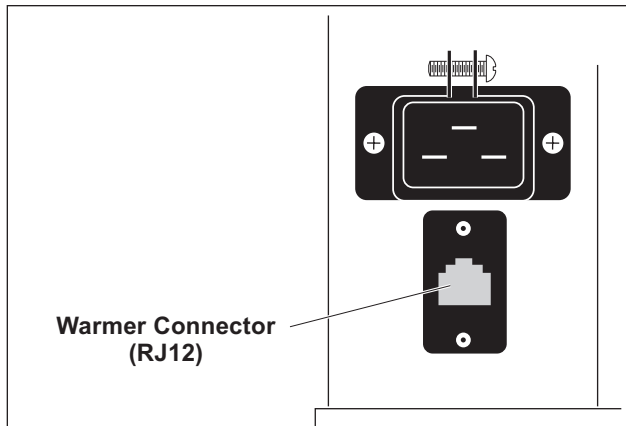
1. Attach the timer to the chassis with the two nuts.
2. Reconnect the WARMER 1, WARMER 2, and WARMER 3 cables to the appropriate connectors.
3. Reconnect the PROGRAM connector cable.
4. Reconnect the Power Connector.
5. Reinstall the right side panel with the four screws.
6. Connect the Warmer to the power source.
7. Set the POWER ON/OFF switch to the ON position.
8. Reprogram the new timer for the desired operation settings.
9. Check that all timing functions are working on all interconnected Warmers.

## COUPLER

There are three couplers, Figure 21, mounted on the rear of the Warmers that have the ICC Timer Control. These are the PROGRAM coupler (RJ45) and WARMER 2, and WARMER 3 couplers (RJ12). There is only one coupler, Figure 22, on Warmers without the ICC Timer controls. All couplers are removed in the same manner.



**Figure 21. Couplers on Warmers with ICC Timer Control**



**Figure 22. Couplers on Warmers without ICC Timer Control**

### Removal



#### **WARNING**

**BEFORE ANY REPLACEMENT PROCEDURE BEGINS, THE WARMER MUST BE ISOLATED FROM THE POWER SOURCE TO PREVENT POSSIBLE ELECTRICAL SHOCK.**

1. Place POWER ON/OFF switch in the OFF position and disconnect power cord from the power source.
2. Remove the four screws securing the right side panel to the Warmer and remove panel.
3. Label and disconnect the cable from both the inside and outside the coupler to be replaced.
4. Remove the two screws attaching the coupler to the back panel and remove coupler.

### Installation

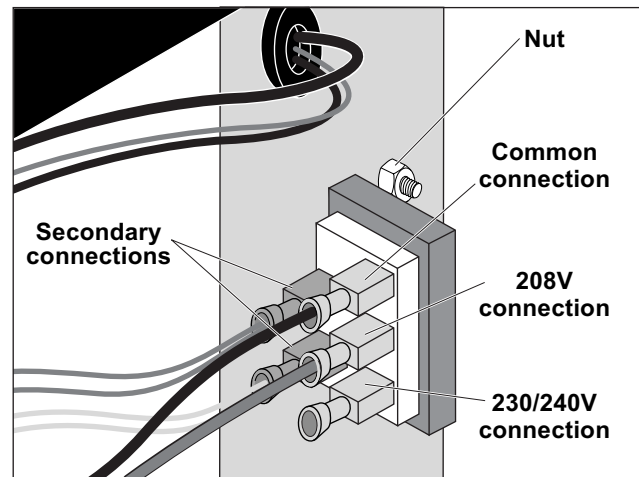
1. Attach the coupler to the back panel with the two screws.
2. Reconnect the cable to the inside of the coupler. If a cable was connected on the outside reconnect it.
3. Reinstall the right side panel with the four screws.
4. Connect the Warmer to the power source.

5. Set the POWER ON/OFF switch to the ON position.
6. Check that all timing functions are working on all interconnected Warmers.

### TRANSFORMER

The transformer, Figure 23, is located near the center of the electrical compartment. The connections for the secondary winding are closest to the chassis. The connections for the primary winding are away from the chassis.

**CAUTION:** The primary winding on the transformer is a dual voltage winding. The terminals are as follows: Common, 208VAC, and 230/240VAC. When connecting the transformer primary, be sure to connect to the correct terminal that matches the input power source.



**Figure 23. Transformer**

### Removal

1. Set POWER ON/OFF switch (8) to the OFF position and disconnect Warmer from power source.
2. Remove the four screws and carefully remove the right side panel.
3. Label and disconnect the electrical wiring from the transformer being sure to note the primary power source connections.

4. Remove the two nuts securing the transformer to the chassis and remove the transformer.

### Installation

1. Check that the POWER ON/OFF switch is in the OFF position and Warmer is disconnected from the power source.
2. To install the replacement transformer, align the transformer with the mounting holes in the chassis and the terminals facing toward the front of the Warmer, then secure with the two nuts.
3. Attach the two secondary leads to the terminals closest to the chassis.

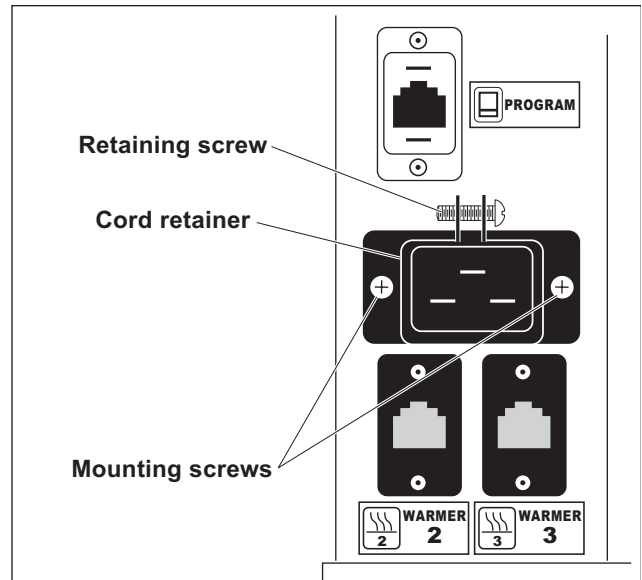
**CAUTION:** The primary winding on the transformer is a dual voltage winding. The terminals are as follows: Common, 208VAC, and 230/240VAC. When connecting the transformer primary, be sure to connect to the correct terminal that matches the input power source.



4. Attach the two primary leads to the terminals that match the incoming power source.
5. Connect Warmer to power source and set the POWER ON/OFF switch to the ON position.
6. Check that secondary voltage is 12VAC.
7. Set POWER ON/OFF switch to the OFF position.
8. Secure side panel to Warmer with the four screws.
9. Set POWER ON/OFF switch to the ON position and check Warmer operation.

### ELECTRIC RECEPTACLE

The electrical receptacle, Figure 24, is located on the back panel and connects the Warmer to the power source through the power cord. The receptacle has a retainer that holds the power cord in place.



**Figure 24. Electrical Receptacle**

### Removal

1. Set power ON/OFF switch (8) to the OFF position and disconnect Warmer from power source.
2. Remove the four screws and carefully remove the right side panel.
3. Label and disconnect the electrical wiring from the inside terminals on the Receptacle.
4. Loosen the screw on the receptacle retainer so that the power cord can be removed.
5. Remove the power cord.
6. Remove the two screws securing the receptacle to the back panel and remove the receptacle.

### Installation

1. Attach the receptacle to the back panel with the two screws.
2. Reconnect the wires to the back of the receptacle.
3. Reinstall the side panel with the four screws.
4. Connect the power cord to the Warmer.
5. Secure the power cord by tightening the screw on the retainer.
6. Reconnect power cord to power source.
7. Place POWER ON/OFF switch in the ON

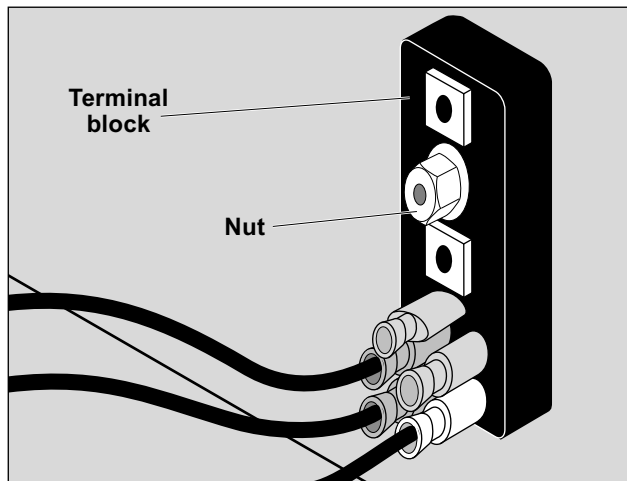


position.

8. Check that Warmer is operating.

## TERMINAL BLOCK

The Terminal Block, Figure 25, is located on the right side of the unit and is accessible by removing the side panel. It is located in the center of Warmer to the left of the control transformer



**Figure 25. Terminal Block**

### Removal

1. Set power ON/OFF switch (8) to the OFF position and disconnect Warmer from power source.
2. Remove the four screws and carefully remove the right side panel.
3. Label and disconnect the electrical wiring from the terminal block.
4. Remove the nuts securing the terminal block to the chassis and remove the terminal block.

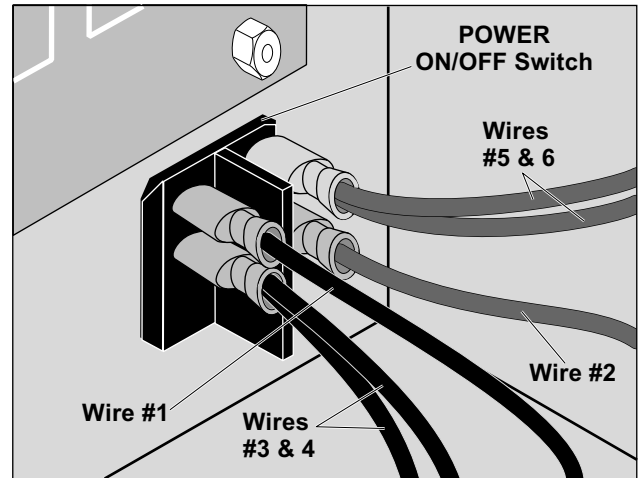
### Installation

1. Attach the terminal block to chassis with the two nuts.
2. Reconnect the wires to terminal block as shown in Figure 25.
3. Reinstall the side panel with the four screws.
4. Connect the power cord to the power source.

5. Place POWER ON/OFF switch in the ON position.
6. Check that Warmer is operating properly.

## LIGHTED POWER ON/OFF SWITCH

The POWER ON/OFF switch, Figure 26, is located at the bottom of the front control panel.



**Figure 26. POWER ON/OFF Switch**

### Removal

1. Set POWER ON/OFF switch (8) to the OFF position and disconnect Warmer from power source.
2. Remove the four screws securing the right side panel.
3. Label and disconnect wires from the POWER ON/OFF switch.
5. Remove switch from rear of front panel.

### Installation

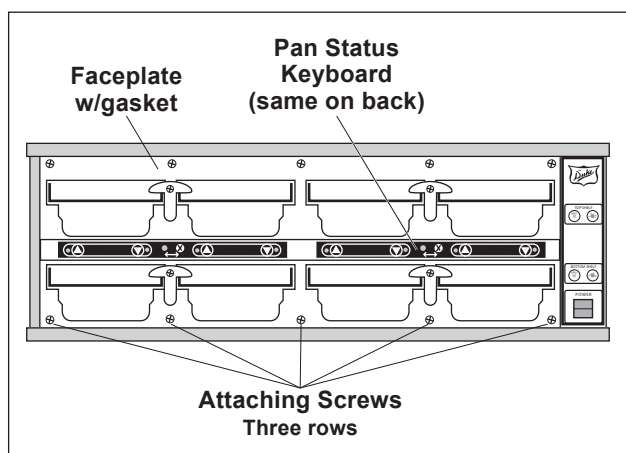
1. Position POWER ON/OFF switch in front panel with the ON position facing up and lock in place.
2. Reconnect switch wires and remove labels.
3. Secure side panel to Warmer with the screws.
4. Plug Warmer back into power source.
5. Set POWER ON/OFF switch to the ON position.

6. Check that POWER ON/OFF light illuminates.

7. Check that panels illuminate.

## FACE PLATE W/GASKET

The Face plate w/Gasket, Figure 27, are located on the front and back of the Warmer. Both face plates are removed and installed in the same manner.



**Figure 27. Face Plate w/Gasket**

### Removal

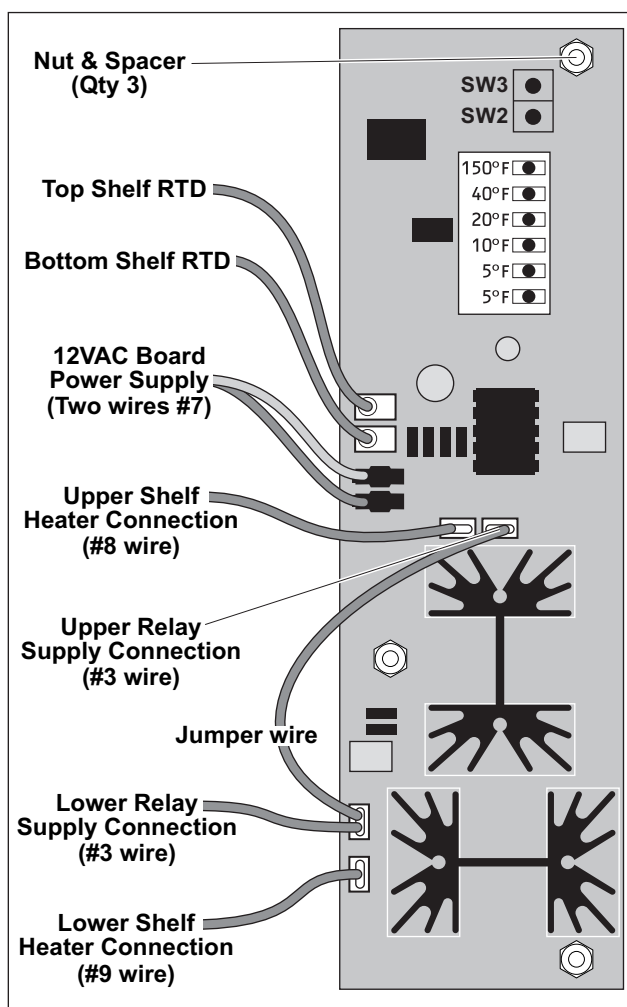
1. Set POWER ON/OFF switch (8) to the OFF position and disconnect Warmer from power source.
2. Remove the Pan Status Keyboards, Figure 27, and lay aside. The keyboard does not need to be disconnected.
3. Remove the fifteen screws securing the face plate to the chassis.
4. Carefully pry the face plate away from the chassis without damaging the gasket.

### Installation

1. Clean area where face plate will be installed.
2. Press the face plate in place with the gasket toward the chassis.
3. Secure the face plate with the fifteen screws.
4. Reinstall the Pan Status Keyboard.
5. Plug Warmer back into power source.
6. Set POWER ON/OFF switch to the ON position.

## FWM CONTROLLER

The FWM Controller (Control Board), Figure 28, is attached to the inside of the front panel and can be accessed by removing the right side panel.



**Figure 28. Control Board**

### Removal

1. Set POWER ON/OFF switch (8) to the OFF position and disconnect Warmer from power source.
2. Remove the four (4) screws and carefully remove the right side panel.
3. Label and disconnect the two top wires from the POWER ON/OFF switch.



4. Label and disconnect the electrical wiring from the Control Board.
5. Remove the two nuts that secure the timer to the chassis. Move timer to gain better access to remove Control Board. DO NOT disconnect wires to timer.
6. Remove the three nuts that secure the Control Board to the Warmer.
7. Remove Control Board from Warmer. If necessary use Control Board removal tool (supplied with Control Board) to remove the Control Board. Slide tool along side of Control Board and rotate to pry Control Board loose from studs.

NOTE: There are three spacers located behind the Control Board on the three studs. The spacers may fall free when Control Board is removed.

### Installation

NOTE: The three spacers must be reinstalled on the studs before installing the Control Board.

1. Install the three spacers on the studs.

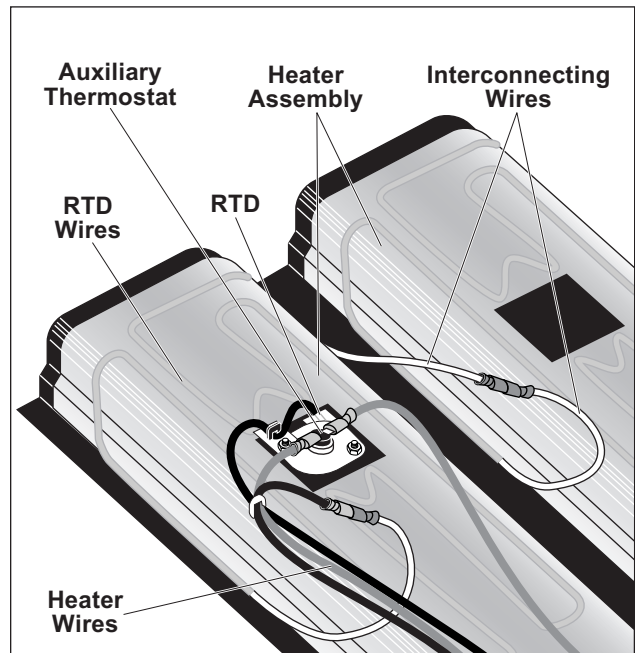
NOTE: Control Board may be difficult to insert onto studs. Set Control board into housing at right angle to front panel, then rotate into position on studs. Be sure spacers have not fallen off studs.

2. Set Control Board on the three studs and secure with the three nuts.
3. Refer to Figure 28, and reattach all wires to the Control Board.
4. Reattach the two wires to the top terminals on the POWER ON/OFF switch.
5. Reconnect the power cord to the power source.
6. Place the POWER ON/OFF switch in the ON position
7. Program the Control Board for the desired temperature as described in the CONTROL PROGRAMMING section.
8. Secure side panel to Warmer with the four screws.
9. Check Warmer operation to insure proper

programming.

### HEATING ELEMENT

The Heating Elements, Figure 29, are attached by adhesive to the bottom of each Warmer compartment. A separate heater is used for each compartment. These Heater Elements are then connected in series.

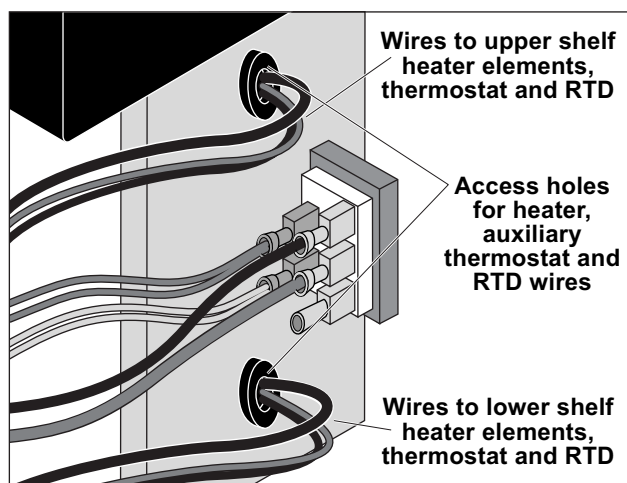


**Figure 29. Heater Elements**

### Removal

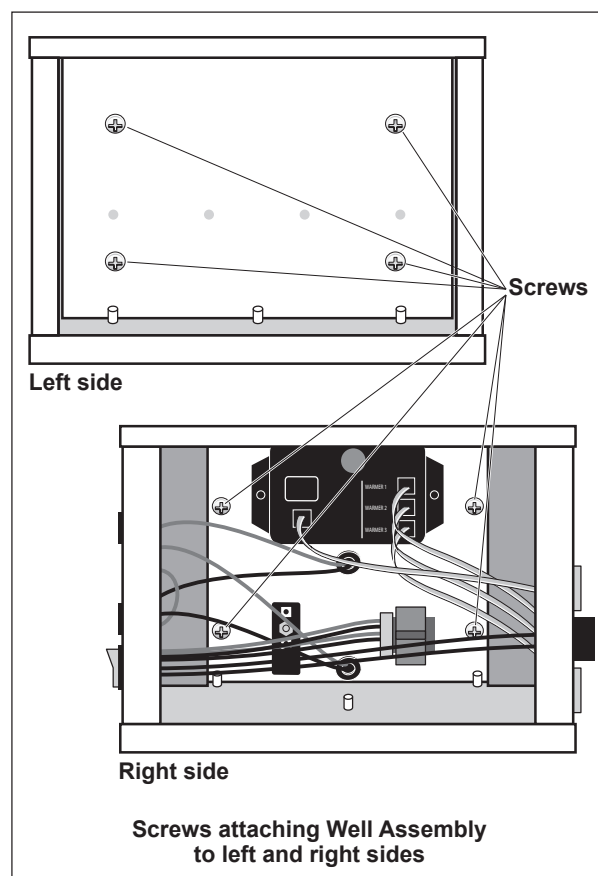
1. Set POWER ON/OFF switch (8) to the OFF position and disconnect Warmer from power source.
2. Remove the four screws and carefully remove the right side panel.
3. Remove the four screws and carefully remove the left side panel.
4. Remove any product from the wells.
5. Remove all Lids from the wells.
6. Remove the screws securing the Pan Status Keyboards and lay the keyboard to the side but do not disconnect the keyboard.

7. Remove the screws securing the face plates with gasket from both sides of the Warmer and remove face plates.
8. Disconnect the wires, Figure 30, going to the heater element to be removed, auxiliary thermostat and to the RTD thermocouple from inside the electrical compartment.



**Figure 30. Wiring to Heater Elements, Auxiliary Thermostat and RTD Thermocouple**

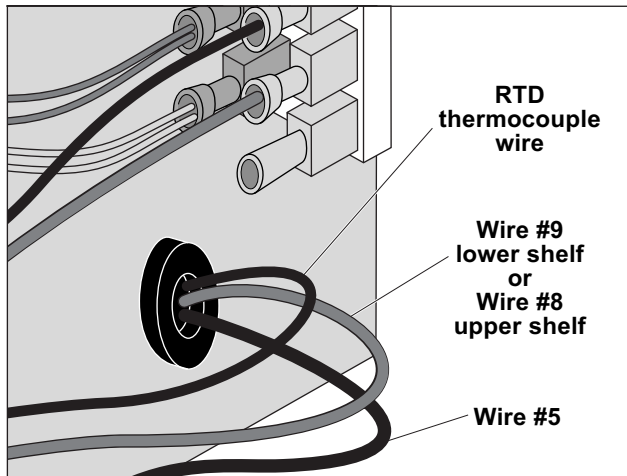
9. Remove the two screws on both the left and right sides that secure the upper or lower heater assembly as applicable. See Figure 31.



**Figure 31. Screws Attaching Well Assembly to Left and Right Sides**

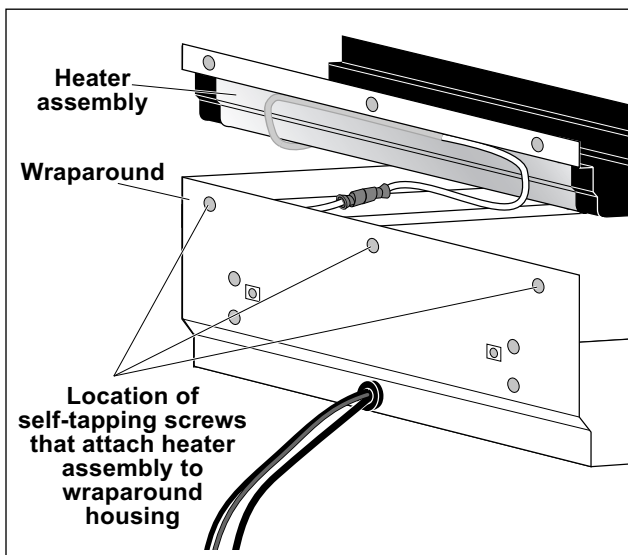
NOTE: Heater assemblies have insulation both on top and bottom of the assembly. Check how insulation is applied so that it can be properly reinstalled.

NOTE: When removing the pan assembly with the heater elements from the Warmer, the wires disconnected in step 8 must be carefully pushed through the access hole, Figure 32.



**Figure 32. Wires Through Shelf Access Hole**

10. Carefully pull the pan assembly out of the Warmer, taking care not to damage the insulation.
11. Remove the three self-tapping screws, Figure 33, on each end of the pan assembly then pull the heater assembly out of the wraparound housing.



**Figure 33. Screws Attaching Heater Assembly to Wraparound Housing**

12. Disconnect the blue wires going to the Auxiliary Thermostat and to the far end of the series of Heater Elements.
13. Remove the insulation then disconnect the Heater Elements from each other.

14. Using an ohmmeter, check each Heater Element for a resistance between 8.1 and 9.91 ohms.
15. If all Heater Elements have the correct resistance, use the ohmmeter to check continuity across the Auxiliary Thermostat. The Auxiliary Thermostat should be closed and the resistance should be 0 ohms.
16. Carefully peel the faulty heater element off the pan assembly.

### Installation

NOTE: Before installing a new Heater Element, check the resistance to insure the heater element is OK.

1. Peel the protective backing from Heater Element.
2. Carefully install the new Heater Element so the opening in the center clears the Auxiliary Thermostat contacts and the RTD Thermocouple wires, then press firmly in place making sure heater makes good contact with the bottom of the pan assembly.
3. Connect a blue wire from the Auxiliary Thermostat to one side of the first heater element. Connect the other blue wire from control board to thermostat.

NOTE: Be sure foil from Heater Element is not shorting either terminal of the Auxiliary Thermostat or the RTD Thermocouple.

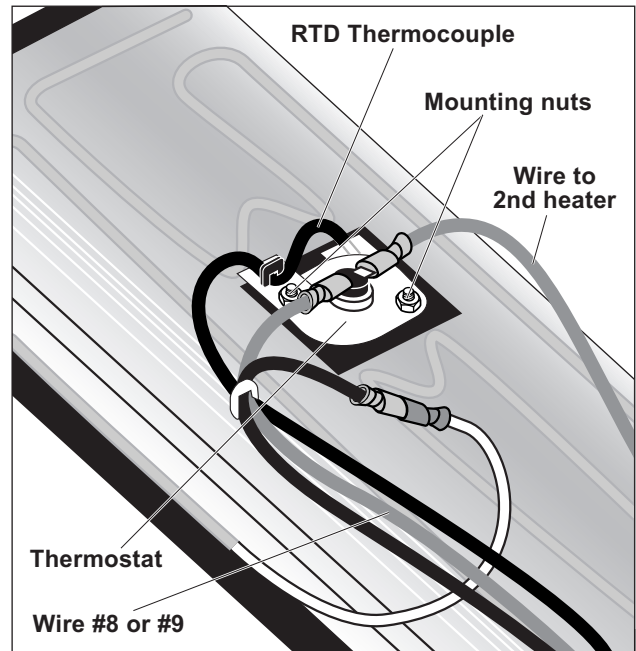
4. Connect the remaining Heater Elements in series.
5. Place the insulation over the Heater Elements.
6. Connect the end of the last Heater Element to wire #5.
7. Route the wires from the RTD thermocouple through the square opening in the center of the Heater Element.
8. Connect wire #8 (upper heater) or wire #9 (lower heater) to the Auxiliary Thermostat.
9. Install the pan assembly with Heater Elements

installed into the Wraparound Housing.

10. Attach the pan assembly to the wraparound housing with the six self-tapping screws.
11. Push the wires from the Heater Elements and the wires from the RTD thermocouple through the access hole in the chassis.
12. Place the insulation on top of the pan assembly, and carefully slide the pan assembly into the Warmer. While sliding the pan assembly back into the Warmer, carefully pull on the wires to be sure no wires become pinched.
13. Attach the pan assembly to the Warmer with the two screws on each end of the Warmer.
14. Reconnect wires, Figure 30.
15. Reinstall the face plates with gaskets and attach with the face plate screws.
16. Reinstall the Pan Lids.
17. Reinstall the Pan Status Keyboards.
18. Reinstall the left and right side panels.
19. Connect the power cord to the power source.
20. Set the POWER ON/OFF switch to the ON position.
21. Check operation of the Warmer.

### AUXILIARY THERMOSTAT

The Auxiliary Thermostat, Figure 34, is located in a cutout area at the center of the heater closest to the control panel. The Auxiliary Thermostat is secured on two studs and is electrically connected in series with the heating elements.



**Figure 34. Auxiliary Thermostat**

### Removal

1. Perform the Heating Element removal procedure through step 11.
2. Disconnect the blue wires attached to the Auxiliary Thermostat.
3. Remove the two nuts securing the Auxiliary Thermostat and remove Auxiliary Thermostat.

### Installation

1. Check for continuity of the thermostat to be installed. Thermostat should be closed and show continuity (0 ohms resistance).
2. Clean the contact surfaces of the new Auxiliary Thermostat.
3. Mount the Auxiliary Thermostat on the studs and secure with the two nuts.
4. Reattach the blue wires to the Auxiliary Thermostat.
5. Reinstall the assembly as described in the Heater Element Installation paragraph starting at step 5.

## **RTD THERMOCOUPLE**

The RTD Thermocouple, Figure 34, is located in a cutout area at the center of the Heater Element closest to the control panel. The RTD Thermocouple is pressed into place and secured by its sticky surface.

### **Removal**

1. Perform the Heating Element removal procedure through step 11.
2. Peel the RTD Thermocouple from the bottom of the pan assembly.
3. Remove RTD Thermocouple.

### **Installation**

1. Check the resistance of the RTD Thermocouple to be installed. The RTD Thermocouple resistance should be 950 to 1,200 ohm RTD Thermocouple wire.
2. Clean the area where RTD Thermocouple will be mounted.
3. Carefully press adhesive end of RTD Thermocouple onto pan assembly.
4. Reinstall the pan assembly as described in the Heater Element Installation paragraph starting at step 11.

## TESTING AND TROUBLESHOOTING

### COMPONENT TESTING

Most component testing can be performed using a Digital Multimeter.

**NOTE:** When a continuity test is being performed, the Warmer must be isolated from the power source.

### TOOLS REQUIRED

Digital Multimeter (D.M.M.)

### PRELIMINARY PROCEDURE

**NOTE:** Number in parentheses after a part name refers to the reference number in the parts list.

1. If the light in the POWER ON/OFF switch does not light with the power cord (21) plugged into the power source and the POWER ON/OFF switch (8) set to ON, begin component testing with Primary Power Checks. If the fan operates, begin testing with Control Transformer.
2. Isolate the Warmer from the power source.
3. Remove the four screws securing the right side panel to access the electrical components.

### PRIMARY POWER CHECK

**CAUTION:** Input voltage source must match voltage indicated on nameplate. Voltage should be either 120 VAC, 208 VAC, 230 VAC or 240 VAC.



1. Check the input voltage source for correct voltage as indicated on the unit nameplate. Voltage should be either 120 VAC, 208VAC, 230 VAC or 240 VAC. If input voltage is not present, check for open circuit breakers or fuses supplying the input power.
2. Measure the voltage across the input terminals on the POWER ON/OFF switch (8). Voltage should be the same as input voltage source. If voltage is not present, check power cord.

3. Set the POWER ON/OFF switch to ON and check for source voltage across the switch output terminals. If voltage is not present, replace switch.
4. Measure voltage across L1 and L2 at the terminal block (22). If input voltage is not present, check wiring between switch and terminal block.
5. Measure voltage across primary of transformer (3). If voltage is not present, check wiring. If input voltage is present, the primary power check is complete.

### ELECTRONIC CONTROL FAULT INDICATION

The SERVICE Light, Figure 35, is located on the front of the control next to the HEAT light. The SERVICE Light provides an indication to alert the operator to failures in the heater circuit. When a SERVICE Light is on, the affected shelf should not be used until the cause of the fault is corrected by a qualified service technician. The fault conditions that could cause the control to turn the SERVICE light on are as follows:

1. **Over-Temperature Fault**-An over-temperature fault occurs when the control senses that the shelf temperature is higher than the specified factory preset temperature. This occurs when the power is not removed from the Heater Element after the shelf has achieved the preset temperature causing the control to turn on the SERVICE light. The Auxiliary Thermostat prevents the temperature from exceeding safe levels by regulating the temperature to a maximum of 250° F.
2. **Under-Temperature Fault** - An under-temperature fault occurs when the control senses that the shelf temperature is lower than the specified factory preset temperature for more than 30 minutes continuously. This occurs when the Heater Element circuit opens or the RTD Thermocouple feedback signal is faulty or the controller is faulty, causing the Control Board to turn on the SERVICE Light.



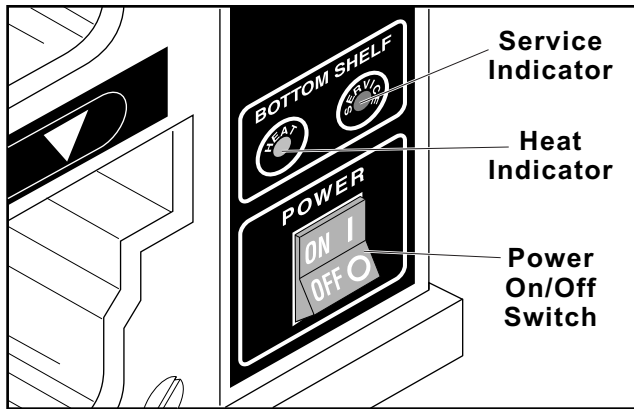


Figure 35. SERVICE and HEAT Lights

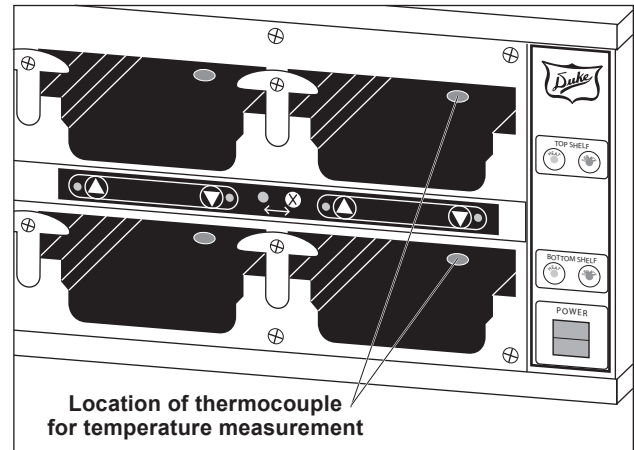


Figure 36. Measurement Location

### TEMPERATURE CHECK PROCEDURE

1. A digital temperature meter that has been calibrated must be used to get an accurate temperature reading. Use a thermocouple surface temperature probe to measure temperatures.
2. **No pans should be in wells during the pre-heat and temperature check.** Pre-heat the Warmer for 30 minutes before taking any temperature readings. Do not take readings unless the wells have been empty for 30 minutes. This will allow the temperature to stabilize and will prevent false readings.
3. The Warmer wells should be cleaned and empty before the temperature is checked. Avoid any air drafts that might flow through the well.
4. Locate the surface temperature probe on the bottom of the first well in the geometric center. The first well is the one closest to the control panel (see Figure 36). Make sure the probe is making good contact with the surface while taking readings.
5. All temperature controls exhibit a swing in temperature as the control cycles on and off while regulating to the set point. The correct calibration temperature is the average of several readings taken over a period of 20 minutes after the Warmer has been pre-heated. The average temperature should be  $\pm 5^{\circ}\text{F}$  from the set point.

### PAN STATUS KEYBOARD CHECK

1. If a keyboard (1) is malfunctioning, remove it from the Warmer and install it in place of another keyboard that is operating correctly.
2. If the malfunction continues in the transferred keyboard, replace the keyboard with a new one. If the transferred keyboard operates correctly in its new location, replace the ICC Timer Control (9).

### STATION INTERFACE UNIT POWER

1. Power up the Station Interface unit (Warmer with ICC Timer Control).
2. Observe the following:
  - a. On units with digital displays, observe that the keyboard lights illuminate yellow and the displays turn on, then the lights turn red or go out and the displays show 0 or go out, depending on the programmed HOLD times.
  - b. On Warmers without the digital display, observe that the keyboard lights illuminate yellow, then red or go out, depending on the programmed HOLDS times.
3. Check that Warmer control powers up and the Warmer heats up.

## CONTROL TRANSFORMER

The transformer (3) is located near the center of the electrical compartment.

1. With the power cord plugged into the power source and the POWER ON/OFF switch set to ON, measure voltage across the control transformer primary. Voltage should be the same as the input voltage source. If no voltage is present, check wiring to transformer.

**CAUTION:** Check that primary of transformer is correctly connected for input voltage source.



2. If correct voltage is present at primary, measure the secondary voltage.
3. If the secondary voltage is near 12 VAC, transformer is operating properly. If voltage is low or 0 VAC, disconnect wire from transformer secondary and recheck secondary voltage.
4. If voltage is still near 0 VAC, replace transformer. If voltage is now near 12 VAC the Electronic Control Board or optional ICC Timer Control is probably defective and should be replaced.

## HEATING ELEMENT

The Heating Element is checked by measuring the resistance between the two wires from the Heating Element. To access the Heating Element follow the procedure described in the Heating Element paragraph in the PARTS REPLACEMENT section.

1. Disconnect the wires to the Heating Element to be checked.
2. Connect an ohmmeter across the heater leads and verify that the resistance is between 8.1 ohms and 9.91 ohms.
3. Replace Heating Element if defective.

## AUXILIARY THERMOSTAT

The Auxiliary Thermostat is checked for continuity across the terminals at normal ambient temperature. To access the thermostat follow the procedure described in the Auxiliary Thermostat paragraph in the PARTS REPLACEMENT section.

1. Disconnect the wires to the thermostat.
2. Connect an ohmmeter across the thermostat terminals and verify that the resistance is approximately 0 ohms.
3. Replace thermostat if defective.

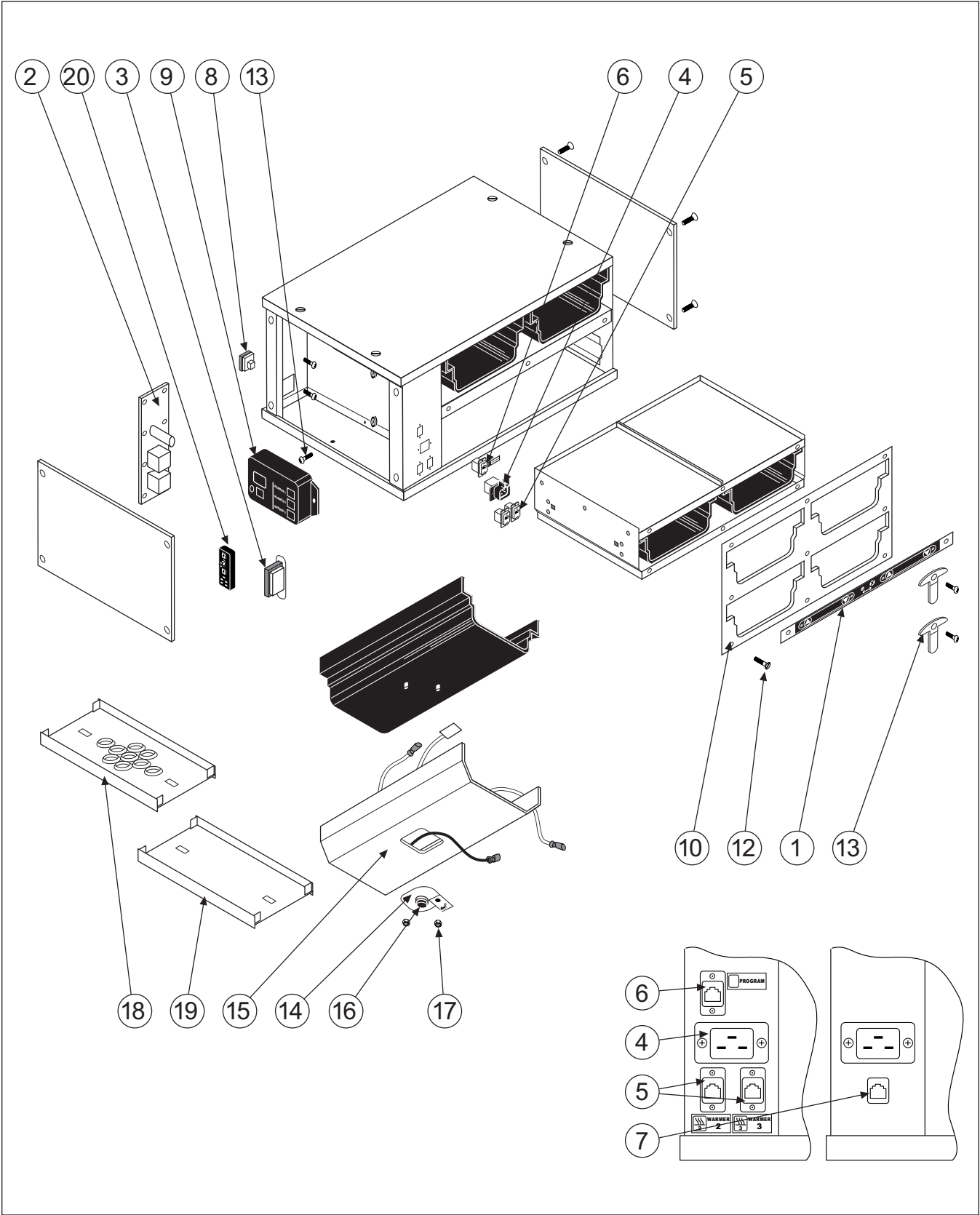
## RTD THERMOCOUPLE

The RTD Thermocouple is checked by measuring the resistance between the two lead wires.

1. Disconnect the RTD Thermocouple wires from the control board.
2. Connect an ohmmeter across the RTD Thermocouple leads and verify that the resistance is between 950 and 1200 ohms.
3. Replace thermocouple if defective.

## PARTS INFORMATION





| REF NO. | PART NO. | DESCRIPTION                                               | QTY PER UNIT (FEM3-) |         |         |         |
|---------|----------|-----------------------------------------------------------|----------------------|---------|---------|---------|
|         |          |                                                           | FWM3-22              | FWM3-23 | FWM3-24 | FWM3-42 |
| 1       | 156807   | PAN STATUS KEYBOARD FWM3-22, DAYPART                      | 1 or 2               | 1 or 2  | 1 or 2  | 1 or 2  |
|         | 156677   | PAN STATUS KEYBOARD FWM3-22, DIGITAL                      |                      |         |         |         |
|         | 156279   | PAN STATUS KEYBOARD FWM3-22, DIGITAL/DAYPART              |                      |         |         |         |
|         | 156806   | PAN STATUS KEYBOARD FWM3-23, DAYPART                      |                      |         |         |         |
|         | 156676   | PAN STATUS KEYBOARD FWM3-23, DIGITAL                      |                      |         |         |         |
|         | 156672   | PAN STATUS KEYBOARD FWM3-24, DAYPART/TRANSFER             |                      |         |         |         |
|         | 157532   | PAN STATUS KEYBOARD FWM3-24, DIGITAL/DAYPART              |                      |         |         |         |
|         | 157539   | PAN STATUS KEYBOARD FWM3-24, DIGITAL                      |                      |         |         |         |
|         | 156756   | PAN STATUS KEYBOARD FWM3-42, DAYPART                      |                      |         |         |         |
|         | 156908   | PAN STATUS KEYBOARD FWM3-42, DIGITAL/DAYPART              |                      |         |         |         |
| 2       | 600106   | KIT, FWM CONTROLLER                                       | 1                    | 1       | 1       | 2       |
| 3       | 155749   | TRANSFORMER 208/240 VAC                                   | 1                    | 1       | 1       | 1       |
|         | 156838   | TRANSFORMER 230 VAC                                       |                      |         |         |         |
|         | 156316   | TRANSFORMER 120 VAC                                       |                      |         |         |         |
| 4       | 155741   | RECEPTACLE, ELECTRIC                                      | 1                    | 1       | 1       | 1       |
| 5       | 156616   | COUPLER, 6X6 RJ12 (MB1 & SB1 UNITS ONLY)                  | 2                    | 2       | 2       | 2       |
| 6       | 156617   | COUPLER, 8X8 RJ45 (MB1 & SB1 UNITS ONLY)                  | 1                    | 1       | 1       | 1       |
| 7       | 156059   | CONNECTOR, SPECIAL T (REAR VIEW MB2 & SB2)                | 1                    | 1       | 1       | 1       |
| 8       | 156527   | SWITCH, LIGHTED, DPST, 16A                                | 1                    | 1       | 1       | 1       |
| *9      | 156809   | CONTROL, ICCTIMER, W/SOUNDER, FWM3-22 & FWM3-23           | 1                    | 1       | 1       | 1       |
|         | 156820   | CONTROL, ICC TIMER. W/SOUNDER, FWM3-24 & FWM3-42          |                      |         |         |         |
|         | 156819   | CONTROL, ICC TIMER, W/O SOUNDER, FWM3-22 & FWM3-23        |                      |         |         |         |
|         | 156409   | CONTROL, ICC TIMER, W/O SOUNDER, FWM3-24 & FWM3-42        |                      |         |         |         |
|         | 156939   | CONTROL, ICC TIMER. W/100 06 SOUNDER, FWM3-22 & FWM3-23   |                      |         |         |         |
|         | 156935   | CONTROL ICC TIMER, W/100 06 SOUNDER, FWM3-24 & FWM3-42    |                      |         |         |         |
|         | 156610   | CONTROL, ICC TIMER, DIGITAL, W/SOUNDER, FWM3-22 & FWM3-23 |                      |         |         |         |
|         | 156280   | CONTROL ICC TIMER, DIGITAL/DAYPART, W/SOUNDER, FWM3-22    |                      |         |         |         |
|         | 157533   | CONTROL, ICC TIMER, DIGITAL/DAYPART, W/SOUNDER, FWM3-24   |                      |         |         |         |
|         | 156909   | CONTROL, ICC TIMER. DIGITAL/DAYPART, W/SOUNDER, FWM3-42   |                      |         |         |         |
| 10      | 156485   | FACE PLATE WITH GASKET, FWM3-22                           | 2                    | 2       | 2       | 2       |
|         | 156558   | FACE PLATE WITH GASKET, FWM3-23                           |                      |         |         |         |
|         | 155849   | FACE PLATE WITH GASKET, FWM3-24                           |                      |         |         |         |
|         | 156548   | FACE PLATE WITH GASKET, FWM3-42                           |                      |         |         |         |
| 11      | 156285   | LATCH, PAN                                                | 4                    | 8       | 8       | 8       |
| 12      | 0653638  | SCREW 1/4-20 X 3/4                                        | 8                    | 8       | 8       | 16      |

| REF NO. | PART NO. | DESCRIPTION                                                 | QTY PER UNIT (FEM3-) |         |         |         |
|---------|----------|-------------------------------------------------------------|----------------------|---------|---------|---------|
|         |          |                                                             | FWM3-22              | FWM3-23 | FWM3-24 | FWM3-42 |
| 13      | 156288   | SCREW, SHOULDER                                             | 4                    | 8       | 8       | 8       |
| 14      | 155750   | RT, 1K OHM THIN                                             | 2                    | 2       | 2       | 4       |
| 15      | 156994   | ELEMENT FOIL HEAT FWM3-22-100 & FM3-42-100                  | 4                    |         |         | 8       |
|         | 156483   | ELEMENT FOIL HEAT PMI3-22-120 & FWM3-42-120                 | 4                    |         |         | 8       |
|         | 156539   | ELEMENT FOIL HEAT FWM3-22-208 & FWM3-42-208                 | 4                    |         |         | 8       |
|         | 156632   | ELEMENT FOIL HEAT PM-13-fl-230CE & RW3-42-230CE             | 4                    |         |         | 8       |
|         | 156540   | ELEMENT FOIL HEAT FWM3-22240 & FWM3-42-240                  | 4                    |         |         | 8       |
|         | 156584   | ELEMENT FOIL HEAT PMi3-23-120                               |                      | 6       |         |         |
|         | 158301   | ELEMENT FOIL HEAT FWM3-23-208                               |                      | 6       |         |         |
|         | 156611   | ELEMENT FOIL HEAT FWM3-23-230CE                             |                      | 6       |         |         |
|         | 156565   | ELEMENT FOIL HEAT FWM3-23-240                               |                      | 6       |         |         |
|         | 157520   | ELEMENT FOIL HEAT FWM3-24-100                               |                      |         | 8       |         |
|         | 156566   | ELEMENT FOIL HEAT FWM3-24-120                               |                      |         | 8       |         |
|         | 155752   | ELEMENT FOIL HEAT FWM3-24-208                               |                      |         | 8       |         |
|         | 156318   | ELEMENT FOIL HEAT PM.13-24-230CE                            |                      |         | 8       |         |
|         | 155155   | ELEMENT FOIL HEAT FV~*3-24-240                              |                      |         | 8       |         |
| 16      | 155753   | THERMOSTAT AUXILIARY                                        | 2                    | 2       | 2       | 4       |
| 17      | 155680   | NUT #8-32 KEPS                                              | 4                    | 4       | 4       | 8       |
| 18      | 155873   | LID, FOODWARMER VENTED (FRIED) (GRAY)                       | AR                   | AR      | AR      | AR      |
| 19      | 155876   | LID, FOODWARMER SOLID (BROILED) (BLACK)                     | AR                   | AR      | AR      | AR      |
| 20      | 158938   | TERMINAL BLOCK                                              | 1                    | 1       | 1       | 1       |
|         | 156491   | CABLE, 8 FT, (FOR INTERCONNECTING UNITS) (NOT SHOWN)        | AR                   | AR      | AR      | AR      |
|         | 156533   | CORDSET, NEMA 5-15P, 120V (NOT SHOWN)                       | 1                    | 1       | 1       | 1       |
|         | 156811   | CORDSET, NEMA 5-20P, 120V, CANADIAN FWM3-24,-42 (NOT SHOWN) |                      |         |         |         |
|         | 156421   | CORDSET, NEMA 6-15P, 208/240V (NOT SHOWN)                   |                      |         |         |         |
|         | 156400   | CORDSET, 230V CE (NOT SHOWN)                                |                      |         |         |         |

**\*Note: These ICC Timer Controls will need to be manually programmed at the time of installation**

## CUSTOMER ASSISTANCE

To aid in reporting this unit in case of loss or theft, please record below the model number and serial number located on the unit. We also suggest you record all the information listed and retain for future reference.

|                               |                            |
|-------------------------------|----------------------------|
| <b>MODEL NUMBER</b> _____     | <b>SERIAL NUMBER</b> _____ |
| <b>DATE OF PURCHASE</b> _____ |                            |
| <b>DEALER</b> _____           | <b>TELEPHONE</b> _____     |
| <b>SERVICER</b> _____         | <b>TELEPHONE</b> _____     |

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**TO ACCESS INTERNET: [www.dukemfg.com](http://www.dukemfg.com)**

Please provide the following information when you write or call: model number, serial number, date of purchase, your complete mailing address (including zip code), and description of the problem.



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Shanghai 200335 China  
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FAX: 86 21 33600628**

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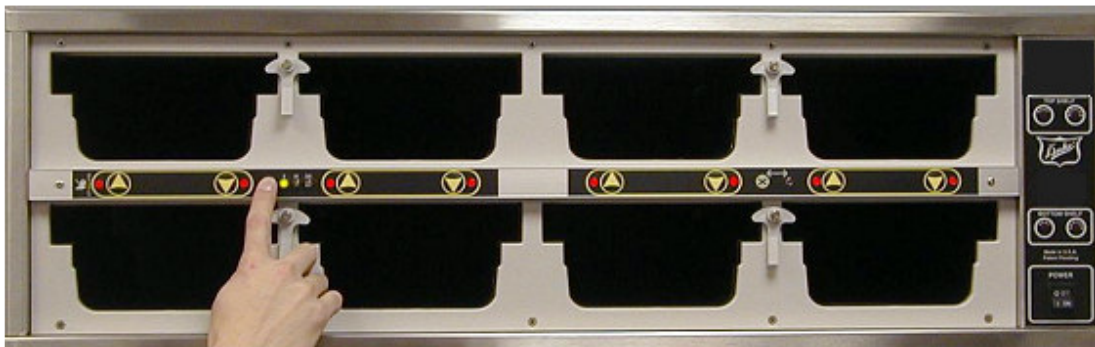
# SYSTEM MANUAL

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## PRODUCT HOLDING UNIT

### 2-High X 4-Wide Warmers Red Light Green Light



**IMPORTANT INFORMATION  
READ BEFORE USE  
PLEASE SAVE THESE INSTRUCTIONS**

*Specifications subject to change without notice*



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157571B

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## SECTION 1 - OPERATION GUIDE

### 1. USE 1<sup>ST</sup> INDICATOR

When freshly cooked product is placed in the warmer, touch the corresponding button on the Pan Status Keyboard. The light will turn GREEN.

**GREEN = Use this product first.**

This product will expire first.

When freshly cooked product is placed in the second linked pan, (see programming guide) press the button and the light will turn GREEN, THEN YELLOW.

**YELLOW = Newer product in pan, use other pan first.**



When the hold time reaches the cook time the indicator will flash.

**FLASHING GREEN or YELLOW = Start cooking, product is about to expire.**

The Hold time is the specified time a cooked product may be held in the warmer. The indicator will FLASH RED when the hold time is reached.

**FLASHING RED = Product is expired.**

After a product has expired, discard the appropriate product in the waste pail and press the button. The indicator will turn RED.

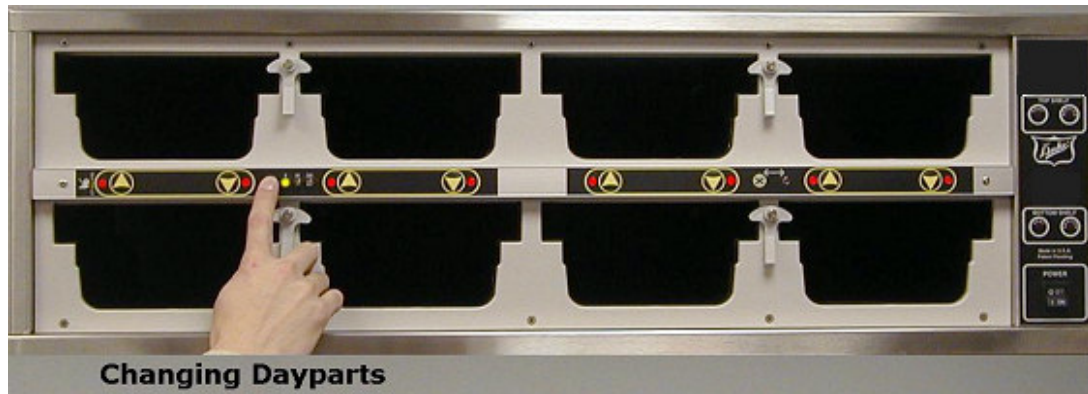
**RED = No product present in this pan.**

**NO LIGHT = No product required in this pan.** No product should be placed in this pan. If this button is pressed, the light will turn RED for 2 seconds and then go out (see programming guide, hold time is 0).



# OPERATION GUIDE

## 2. DAYPART FUNCTION



The Product Quality Timer system can store and recall up to three Daypart Menus per Prep Board. The system is shipped with Daypart I and II programmed as detailed in the Reference Section. Daypart III is blank.

To program the Menus, simply press the Daypart Button on the Keyboard on one of the warmers until the desired indicator is displayed (I, II, or III). When you change Dayparts on one warmer, the entire Prep Board's Daypart is changed and all Keyboards will indicate such. Program the HOLD Times and Pan Links using the Keyboard or Palm Pilot, as outlined in Section 2 – Programming Guide.

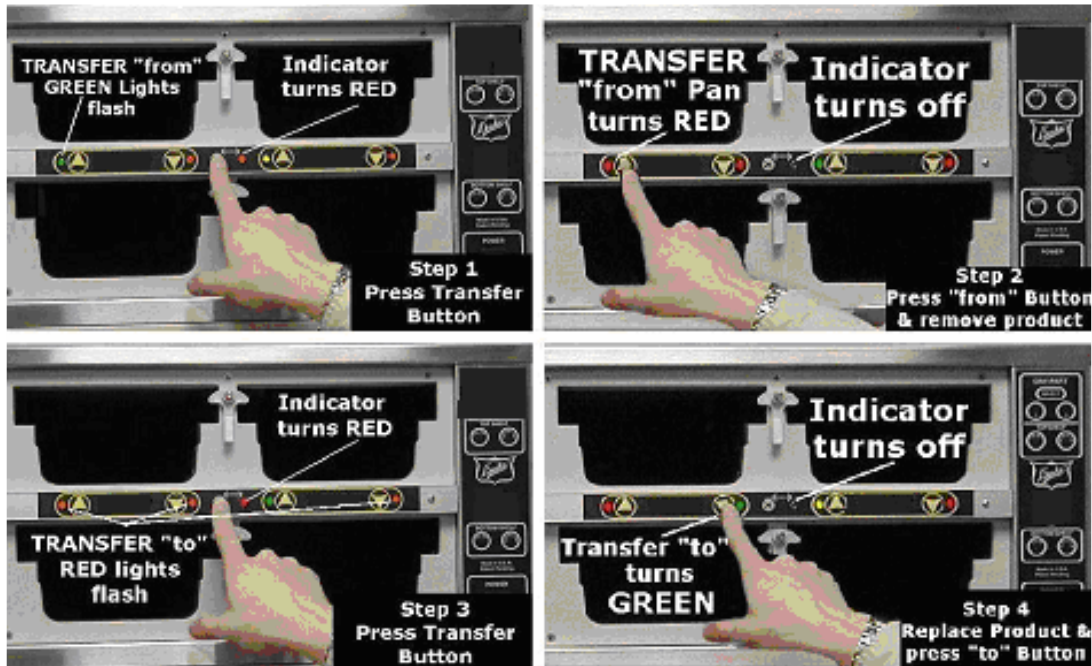
The Menus are stored in the memory of the Station Interface Unit and are NOT lost when the Unit is powered down.

To change Dayparts during normal operation, press the Daypart Button and the Indicator will advance.

All times for existing Product will continue to count down based on the previous Daypart. Any transfers (see Transfer Function) will be based on the current Daypart Links, but will transfer and count down the times for that Product. Once the Product is used or expired, the new Daypart times (and Links) are used.

## OPERATION GUIDE

### 3. TRANSFER FUNCTION



Follow these steps to Transfer product and time from one bin to another LINKED bin:

- Step 1:** Press Transfer Button. All the GREEN lights on the Prep Board will FLASH and the Transfer Indicator turns RED. If Step 2 is not executed within 10 seconds, the transfer will be automatically cancelled, the GREEN lights will stop flashing and the time is saved.
- Step 2:** Press the Button next to FLASHING GREEN light for the Product you wish to Transfer FROM and remove the Pan. The Transfer Indicator goes out and the FLASHING GREEN light turns RED. If step 3 is not executed within 60 Seconds, the transfer will be automatically cancelled and the time is lost.
- Step 3:** Press the Transfer Button. All the RED lights Linked to the Product being transferred will FLASH and the Transfer Indicator turns RED. If Step 4 is not executed within 10 seconds, the transfer will be automatically cancelled, the RED lights stop flashing and the time is lost.
- Step 4:** Place the pan in one of the FLASHING RED bins to transfer TO and press the corresponding button. The pan light will turn GREEN, the Transfer Indicator goes out and the time (rounded down to the nearest minute) has been transferred.

## SECTION 2 – MANUAL PROGRAMMING GUIDE

***Please refer to the Reference Section to determine if the Default Configuration fits your operation. You may not need to re-program your HOLD times and Links.*** If you have purchased the Palm Pilot Software and Cable option, please advance to the Palm Pilot Section for the most time efficient programming method.

The buttons and lights on the Pan Status Keyboards of each warmer are used to modify the HOLD, COOK WARNING TIME and pan LINK settings.

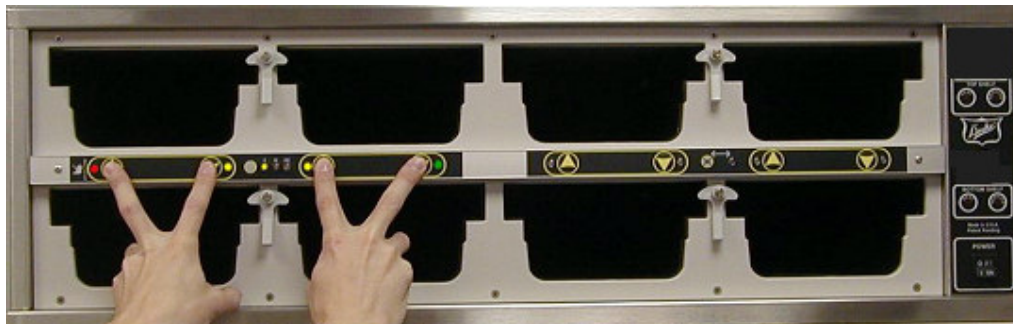
You can set the HOLD time in each pan between 5 minutes and 11 hours in 5-minute increments up to 120 minutes and in ½ hour increments after 120 minutes. You can set the COOK WARNING time in each pan between 1 minute and 11 hours in 1-minute increments up to 10 minutes, in 5-minute increments up to 120 minutes and in ½ hour increments after 120 minutes. LINKing pans with like product types allows the “use first indicators” to display properly.

Each Station Interface Unit must be programmed individually. In order to program HOLD or COOK WARNING times, or to change the pans LINKed configuration for the current selected Daypart, you must be **in front of** the Warmer to be programmed. In the PQT system, the front of a warmer is the side with the temperature control panel and on/off switch. The left and right sides are referenced from the front view.

After entering the programming mode, all 3 warmer ports on the Station Interface Unit are in this mode.

**NOTE: Only one person may press keys on the station being programmed.**

### 1. Programming HOLD Times:



- a Stand directly in front of the warmer you desire to program. Simultaneously press the **4 buttons on the left side** of the Pan Status Keyboard. Notice that the far left light illuminates RED. This indicates you are programming PAN 1. The lights directly to the right indicate the current HOLD time for this PAN.

To determine the current HOLD time:

Each YELLOW light = 20 minutes

Each GREEN light = 5 minutes

Each FLASHING YELLOW light = 120 minutes

Each FLASHING GREEN light = 30 minutes if time is over 120 minutes

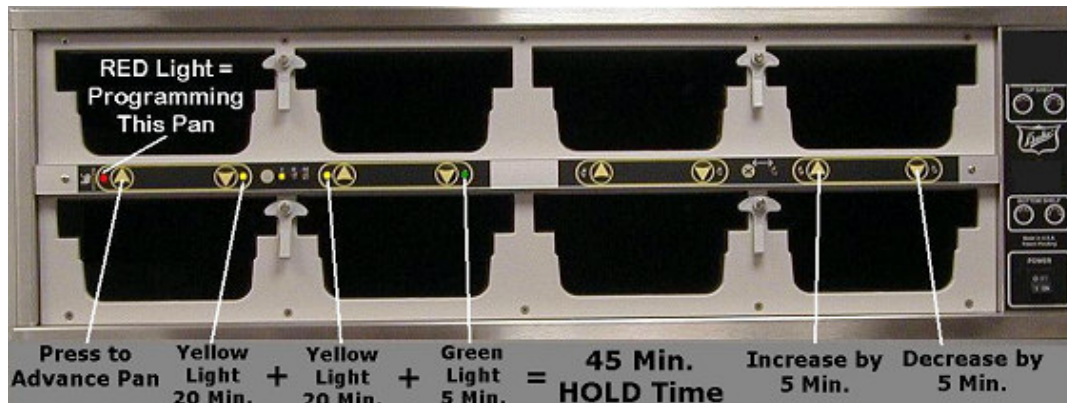
## MANUAL PROGRAMMING GUIDE

To determine the time setting, multiply:

- The number of YELLOW lights by 20
- The number of GREEN lights by 5
- The number of FLASHING YELLOW lights by 120
- The number of FLASHING GREEN lights by 30,

and add the numbers together.

For example, 2 YELLOW lights and 1 GREEN light indicate a time of 45 minutes.



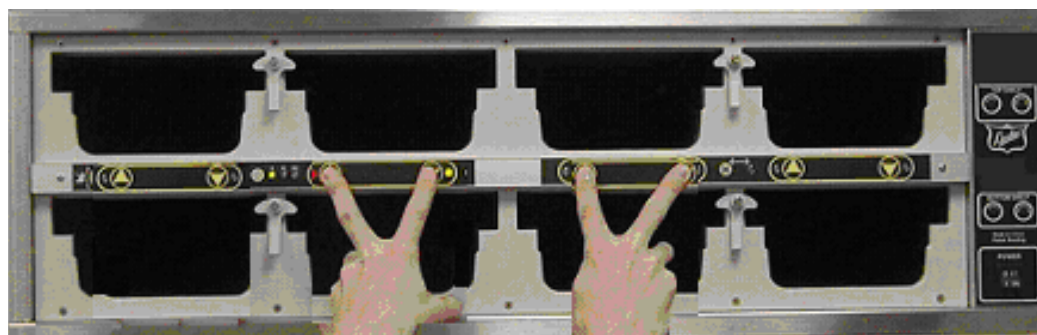
The **far right UP arrow button** - **Increases** the hold time by 5 min.

The **far right DOWN arrow button** - **Decreases** the time by 5 min.

**Note: 115 minutes is not a time option.**

- To advance to another pan, press the **far left UP arrow key**. The current times will be displayed with the YELLOW and GREEN lights for the Red lit indicated pan.
- To **EXIT** the time programming mode, press the **4 far left buttons** simultaneously and release. All pans with HOLD times greater than ZERO will display a RED light. Pan lights with a HOLD time equal to ZERO do not light and product should not be placed in those pans.

## 2. Programming COOK WARNING Times:



- Stand directly in front of the warmer you desire to program. Simultaneously press the **4 center buttons** of the Pan Status Keyboard and release them all. Notice that the leftmost light on the keyboard is RED. This indicates you are programming PAN 1. All other lights are used to indicate the current hold time for this pan.

## MANUAL PROGRAMMING GUIDE

To modify the COOK WARNING time:

- The **far right UP arrow button** - **Increases** the COOK WARNING time by 1 minute if the COOK WARNING time is less than 10 minutes, by 5 minutes between 10 minutes and 120 minutes, and by 30 minutes from 120 minutes to 660 minutes. Note: 115 minutes is not a time option.
  - The **far right DOWN arrow button** - **Decreases** the COOK WARNING time by 1 minute if the COOK WARNING time is less than 10 minutes, by 5 minutes between 10 minutes and 120 minutes, and by 30 minutes from 120 minutes to 660 minutes.
- c. To advance to the next pan, press the **far left UP arrow key**. The current COOK WARNING times will be displayed with the YELLOW and GREEN lights for the RED lit indicated pan.
- d. To **EXIT** the COOK WARNING time programming mode, simultaneously press the **4 center buttons** and release them all. All pans with HOLD times greater than ZERO will display a RED light. Lights for pans with a HOLD time equal to ZERO do not light and product should not be placed in those pans.

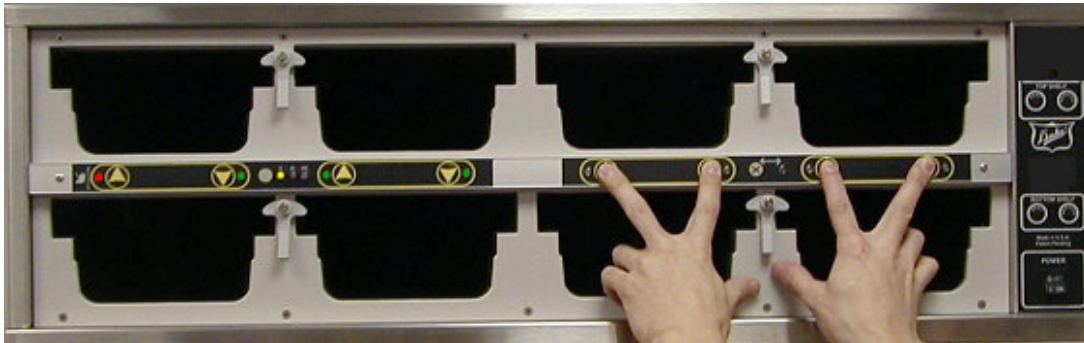
| Programming COOK WARNING Time<br>Light display – 1-10 minute                                                                |          |
|-----------------------------------------------------------------------------------------------------------------------------|----------|
| 0 minutes                                                                                                                   | Blank    |
| 1 minute                                                                                                                    | 1 Green  |
| 2 minutes                                                                                                                   | 1 Green  |
| 3 minutes                                                                                                                   | 1 Green  |
| 4 minutes                                                                                                                   | Blank    |
| 5 minutes                                                                                                                   | 1 Green  |
| 6 minutes                                                                                                                   | 1 Green  |
| 7 minutes                                                                                                                   | 1 Green  |
| 8 minutes                                                                                                                   | 1 Green  |
| 9 minutes                                                                                                                   | 1 Green  |
| 10 minutes                                                                                                                  | 2 Greens |
| Light display – 10 min.-11 hr.                                                                                              |          |
| For Each Light,<br>Green = 5 minutes<br>Yellow = 20 minutes<br>Green Flashing = 30 minutes<br>Yellow Flashing = 120 minutes |          |

**Note:** Do not program the **Cook Warning Time** with a greater value than the **Hold Time**. The Lights will FLASH GREEN or YELLOW immediately, when pressed.



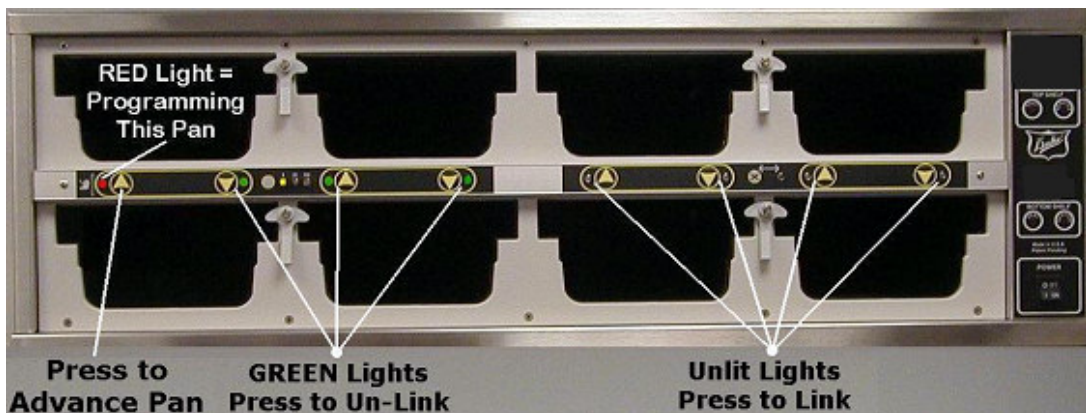
## MANUAL PROGRAMMING GUIDE

### 3. LINKing pans with like product types:



Linking pans allows the “use first indicators” to display properly. The system is programmed with factory default links (see Reference Section).

- a. *Simultaneously* press the **4 buttons on the right side** of the Pan Status Keyboard. Notice the far left light illuminates RED. This indicates you are programming the PAN 1 links. The other lights indicate GREEN which pans are linked with PAN 1.



- b. To link a pan, press a key by an unlit indicator. The light will turn GREEN. To unlink a pan, press a key by a GREEN lit indicator and the light will go out.
- c. To advance to the next pan press the **far left UP Arrow button** once. The other lights indicate in GREEN which pans are linked.
- d. To **EXIT** the link programming mode, simultaneously press the **4 far right buttons** and release.

## SECTION 3 - PROGRAMMING USING THE PALM PILOT OPTION

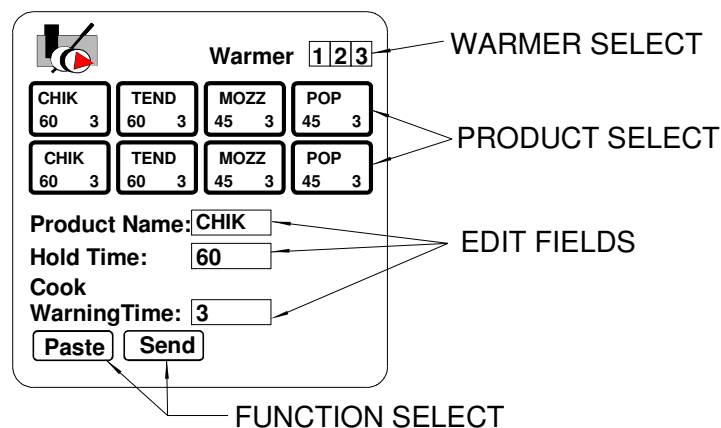
A Palm Pilot may be used with the ICC Hold Set-up software program and a special data cable.

The Hold Setup program is a very powerful tool and easy to use. In less than a minute, you can change the Product name, Hold and Cook WARNING times and then transfer the data into the Station Interface Units.

Products may be edited using cut and paste. HOLD and COOK WARNING times may be adjusted in 1-minute increments. The updated data is then sent to the Station Interface Unit via the cable.

Multiple configurations can be stored, recalled and deleted by long file names. These records can also be beamed between Palm Pilots if your Palm models have the IR feature.

This option is the most time-efficient way to maintain the system configuration, especially for multiple restaurants.



### 1. Palm Hold Setup Program installation:

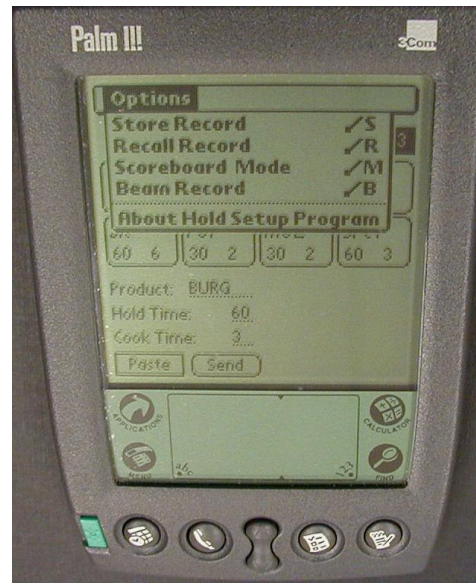
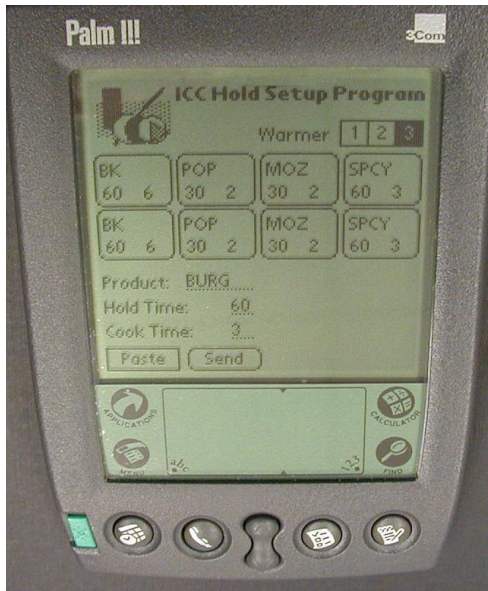
If a Palm Pilot was shipped with your system, it will have the Hold Setup Program preloaded. If you have an existing Palm and a diskette was shipped with your system or you received an e-Mail with the program attached, please follow these installation instructions.

- Using Windows Explorer Double-click on the file ICC\_Hold\_Setup\_Pgm.prc
- A window will pop-up prompting you to select a user. Select a user and click OK
- A window will pop-up informing you the next time you perform a Hot-Sync the ICC Hold Setup Program will be transferred to your Palm. Click Done.
- A window will pop-up with a similar message. Click OK.
- Perform a Palm Hot-Sync as normal and the Hold Setup Program will be transferred to your Palm Pilot.

## PROGRAMMING USING THE PALM PILOT OPTION

### 2. Palm Pilot Programming:

- a. Execute the ICC Hold Setup Program on the Palm Pilot. Observe the Main Screen with 8 “pans” displaying products, hold and cook warning times (see Pic # 6). This represents the pans in a warmer referenced from the **front** of the warmer



- b. If “Stock Level” is displayed in the lower right portion of the screen, the program is in the wrong mode for this application (Scoreboard Mode). To switch to the proper mode (Station Mode), touch the Palm Menu icon to display the Menu Pull-down (see Pic# 7). Then touch Station Mode. Stock Level should disappear from screen.
- c. The Warmer numbers are indicated on the top right portion of the screen and can be changed by touching 1,2 or 3 as desired. As you touch each Warmer number, the Product name, Hold and Cook Warning times change in the pans.
- d. To change the product name, hold time or cook warning time, simply touch a pan and the data will be copied down to the editing fields. Change the data, touch PASTE, then touch the new pan location.
- e. For HOLD and COOK WARNING times, you may enter values in 1-minute increments up to 4 hours (240 minutes). For values between 241 and 251, each 1-minute increment is equal to 30 minutes (see Table below). A value of 255 will be interpreted as 11 hours and any value above 255 will be displayed as 255 when pasted to the pan.



## PROGRAMMING USING THE PALM PILOT OPTION

| Palm | = | Minutes | Palm | = | Minutes |
|------|---|---------|------|---|---------|
| 241  | = | 4h 30m  | 249  | = | 8h 30m  |
| 242  | = | 5h      | 250  | = | 9h      |
| 243  | = | 5h 30m  | 251  | = | 9h 30m  |
| 244  | = | 6h      | 252  | = | 10h     |
| 245  | = | 6h 30 m | 253  | = | 10h 30m |
| 246  | = | 7h      | 254  | = | 11h     |
| 247  | = | 7h 30m  | 255  | = | 11h     |
| 248  | = | 8h      |      |   |         |

- f. To LINK pans, make the Product Name the same for the pans you want LINKed.

### 3. Data transfer:

When the Send function is performed, the data for all 3 Warmers is transferred to the Station Interface Unit.

- a. Attach the Hold Timer System cable to the Palm Pilot and the plug the 8-pin Telephone type cable into the Station Interface Unit labeled "SCOREBOARD". Touch the Send button displayed in the Hold Setup screen. After a few seconds, "Send OK" will be displayed in the lower right portion of the screen.

#### Troubleshooting:

1. If an error message appears, check cable connection at the Palm and the Station Interface Unit. Make sure the program is in Station Mode (see Pic# 7). Touch Send again.

**Warning:** When transferring data using the PALM M100 model, DO NOT press the Hot Sync button on the cable. The Station Interface Unit will lock up and you will need to reset it by powering off and then back on.

### 4. To Store, Recall and Delete records:

All of the timer data may be stored, recalled and deleted. These functions are very useful for saving different promotional menus.

- a. To Store a record touch the Menu icon to display the Menu Pull-down (see Pic# 7). Touch Store Record. Enter a name for a new record or touch an existing record to overwrite. Touch Store to save the data **OR** touch Close to return to the Main screen without saving any data.
- b. To Recall a record, touch the Menu icon, then touch Recall Record. Touch an existing record to recall, then touch the Recall button **OR** touch Close to return to the Main screen without recalling any data.
- c. To Delete a record, touch the Menu icon, then touch Recall Record. Touch an existing record to delete, then touch Delete button **OR** touch Close to return to the Main screen without deleting any data.

**Warning:** Once you touch Delete, the record will be deleted without any warning prompts.

## SECTION 4 - TESTING & TROUBLESHOOTING GUIDE

### 1. Pan Status Keyboard test:

- a. Press Pan button once, light turns green. Press button again, light turns red. Repeat on all buttons on all keyboards.

#### Troubleshooting:

1. If light turns red, then off, the hold time = 0. Program new HOLD times for that pan.
  2. If the Keyboard test fails, plug the keyboard into a different Warmer jack on the Station Unit. If the problem follows the keyboard, the keyboard is suspect. If the problem stays with the Warmer Jack, the Station Unit is suspect.
- b. Press Transfer button once, light turns red. Press button again, light goes out. Repeat on Transfer buttons on all keyboards.  
Troubleshooting -
    1. If light does not toggle between red and off and the Pan button test 2a passed, the Keyboard is suspect.
  - c. Press Daypart button 3 times, the next Daypart light turns yellow with each press and toggle back to the beginning. Repeat on Daypart buttons on all keyboards.

#### Troubleshooting:

1. If light does not advance Dayparts and the Pan button test 1a passed, the Keyboard is suspect.

### 2. Station Interface Unit power:

- a. Power up the Warmer unit.
- b. Observe that the Keyboard lights illuminate YELLOW, then RED or go out depending on the programmed Hold Times.

#### Troubleshooting:

1. Check that the Warmer control powers up and the Warmer heats up. If not, call Duke Mfg for Warmer service.

## REFERENCE SETTING

### **SERVICE Hot-Line**

If you believe that you have a Product Quality Timer System service issue, perform the steps outlined above. If a test fails, perform the troubleshooting steps to see if this resolves the problem. Continue the remainder of the testing, if possible, to uncover any additional problems and document the symptoms and results. Please have this data handy before calling the troubleshooting HOT LINE listed below. For optimum support, please be near the suspect units with a cordless phone, if available, when calling our Technicians.

**800-735-3853 or 314-231-1130**

## DUKE GENERIC SETTING

### Factory Default Configuration DUKE GENERIC SETTING

#### 2-HIGH X 4-WIDE DAYPART I, II & III

##### WARMER 1

|         | PAN 1 | PAN 3 | PAN 5 | PAN 7 |
|---------|-------|-------|-------|-------|
| PRODUCT | PRD1  | PRD3  | PRD5  | PRD7  |
| HOLD    | 20    | 20    | 20    | 20    |
| COOK    | 5     | 5     | 5     | 5     |
|         | PAN 2 | PAN 4 | PAN 6 | PAN 8 |
| PRODUCT | PRD2  | PRD4  | PRD6  | PRD8  |
| HOLD    | 20    | 20    | 20    | 20    |
| COOK    | 5     | 5     | 5     | 5     |

##### WARMER 2

|         | PAN 1 | PAN 3 | PAN 5 | PAN 7 |
|---------|-------|-------|-------|-------|
| PRODUCT | PRD1  | PRD3  | PRD5  | PRD7  |
| HOLD    | 20    | 20    | 20    | 20    |
| COOK    | 5     | 5     | 5     | 5     |
|         | PAN 2 | PAN 4 | PAN 6 | PAN 8 |
| PRODUCT | PRD2  | PRD4  | PRD6  | PRD8  |
| HOLD    | 20    | 20    | 20    | 20    |
| COOK    | 5     | 5     | 5     | 5     |

## DUKE GENERIC SETTING

### WARMER 3

|         | PAN 1 | PAN 3 | PAN 5 | PAN 7 |
|---------|-------|-------|-------|-------|
| PRODUCT | PRD1  | PRD3  | PRD5  | PRD7  |
| HOLD    | 20    | 20    | 20    | 20    |
| COOK    | 5     | 5     | 5     | 5     |
|         | PAN 2 | PAN 4 | PAN 6 | PAN 8 |
| PRODUCT | PRD2  | PRD4  | PRD6  | PRD8  |
| HOLD    | 20    | 20    | 20    | 20    |
| COOK    | 5     | 5     | 5     | 5     |