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Data sheet-Insight Freedom Condensing Units

R448A

NOTE: Revision K: updated pages 3 and 4 and wiring diagrams on pages 13 and 14.

Application	IDDF5SU			
	4 Foot	6 Foot	8 Foot	12 Foot
Circuit 1 (120V, 1 Phase) Fans, Lights, Controller				
Maximum Overcurrent Protection Device (MOPD)	20	20	20	20
Circuit 2 (120V or 208V, 1 Phase) Condensing Unit and Condensate Evaporator Pan Heaters (Single Pan/Optional Dual Pan)				
Voltage/ 60Hz / 1 Phase	115	115	115	208/230
Maximum Overcurrent Protection Device (MOPD)	15	15	15	15
Minimum Circuit Ampacity (MCA)	12.0	13.2	14.1	11.6
Condensing Unit				
RLA	4	4.8	5.5	4
LRA	26	34	30.5	22
Type	---	---	---	---
Condensate Evaporator Pan (Single Pan/Optional Dual Pan)				
Volts	120	120	120	208
Amps	5	5	5	4.8
Wattage	600	600	600	1,000
Wiring Diagram	2A	2A	2A	2B
R448A Charge (lbs) (Condensing Unit only)	1.4	1.4	1.4	1.4
Accumulator Capacity (lbs)	---	---	---	---
Oil Recharge (oz)	10	10	10	10
Heat of Rejection (Btu/hr)	1,855	2,542	3,190	4,553
Condensate Pump				
Volts	120	120	120	120
Amps	1.9	1.9	1.9	1.9
Refrigerant Connections (inches)				
Liquid Line	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$
Suction Line	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$
Dimensions (inches)				
Height	10.4	11.9	11.9	11.7
Length	16	16.1	16.1	16.6
Width	14.2	15.1	15.1	13.1
Shipping Weight (lbs)	40	48	49	40

Case wiring must be on a separate circuit. See Insight data sheet for case circuit requirements.

**Insight Freedom
Condensing Units for
Multi-Deck Cases**

Application	IDF5SM, IDF5SM-TE, IDF5SL-TE*			
	4 Foot	6 Foot	8 Foot	12 Foot
Circuit 1 (120V, 1 Phase) Fans, Lights, Controller				
Maximum Overcurrent Protection Device (MOPD)	20	20	20	20
Circuit 2 (120V or 208V, 1 Phase) Condensing Unit and Condensate Evaporator Pan Heaters (Single Pan/Optional Dual Pan)				
Voltage/ 60Hz / 1 Phase	208/230	208/230	208/230	208/230
Maximum Overcurrent Protection Device (MOPD)	15/20	25/30	30/35	50/50
Minimum Circuit Ampacity (MCA)	14.9/20.9	19.9/25.9	25.8/34.8	37.3/49.3
Condensing Unit				
RLA	6	10	12	18
LRA	35.7	40.3	56	75
Type	AC Scroll	AC Scroll	AC Scroll	AC Scroll
Condensate Evaporator Pan (Single Pan/Optional Dual Pan)				
Volts	208	208	208	208
Amps	4.8/9.6	4.8/9.6	7.2/12.0	9.6/14.4
Wattage	1000/2000	1000/2000	1500/2500	2000/3000
Wiring Diagram	2B	2B	2B	2B
R448A Charge (lbs) (Condensing Unit only)	5.1	5.9	5.9	5.9
Accumulator Capacity (lbs)	---	---	---	---
Oil Recharge (oz)	21	19	19	19
Heat of Rejection (Btu/hr)	7,183	10,539	13,500	20,289
Condensate Pump				
Volts	120	120	120	120
Amps	1.9	1.9	1.9	1.9
Refrigerant Connections (inches)				
Liquid Line	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$
Suction Line	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$
Dimensions (inches)				
Height	16.30	16.6	16.6	19.0
Length	24.1	24.1	24.1	25.0
Width	18.5	18.3	18.3	34.1
Shipping Weight (lbs)	105	110	186	183

***NOTE: IDF5SL standard height case shown on page 4.**

Insight Freedom Condensing Units for Multi-Deck Cases

Application	IDF5SL			
	4 ft	6 ft	8 ft	12 ft
Standard Single Point Connection (208/230V, 4 Wire)				
Maximum Overcurrent Protection Device (MOPD)	20	30	40	55
Minimum Circuit Ampacity (MCA)	17.8	23.5	30.1	42.3
Condensing Unit				
Compressor RLA	6	10	12.6	18
Compressor LRA	35.7	40.3	55	75
Condensate Evaporator Pan				
Volts	208	208	208	208
Amps	4.8	4.8	7.2	9.6
Wattage	1,000	1,000	1,500	2,000
Wiring Diagram	3	3	3	3
R448A Charge (lbs) (Condensing Unit only)	5.1	5.9	5.9	5.9
Oil Recharge (oz)	19	25	25	34
Heat of Rejection (Btu/hr)	7,183	10,539	13,500	20,289
Condensate Pump				
Volts	120	120	120	120
Amps	1.9	1.9	1.9	1.9
Refrigerant Connections (inches)				
Liquid Line	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$
Suction Line	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$
Dimensions (inches)				
Height	16.30	16.6	16.6	19.0
Length	24.1	24.1	24.1	25.0
Width	18.5	18.3	18.3	34.1
Shipping Weight (lbs)	105	110	186	183

Case wiring must be on a separate circuit. See Insight data sheet for case circuit requirements.

**Insight Freedom
Condensing Units for
Multi-Deck Cases**

Application	IDF5NM/TE, IDF5NV, IDF5NL			
	4 ft	6 ft	8 ft	12 ft
Circuit 1 (120V, 1 Phase) Fans, Lights, Controller				
Maximum Overcurrent Protection Device (MOPD)	20	20	20	20
Circuit 2 (120V or 208V, 1 Phase) Condensing Unit and Condensate Evaporator Pan Heaters (Single Pan/Optional Dual Pan)				
Voltage/ 60Hz / 1 Phase	208/230	208/230	208/230	208/230
Maximum Overcurrent Protection Device (MOPD)	15/20	30/35	40/45	60/65
Minimum Circuit Ampacity (MCA)	14.9/20.9	23.2/29.2	31.4/40.4	43.8/55.8
Condensing Unit				
RLA	6	12.6	15.7	23.2
LRA	35.7	55	68	112
Type	AC Scroll	AC Scroll	AC Scroll	AC Scroll
Condensate Evaporator Pan (Single Pan/Optional Dual Pan)				
Volts	208	208	208	208
Amps	4.8/9.6	4.8/9.6	7.2/12.0	9.6/14.4
Wattage	1000/2000	1000/2000	1500/2500	2000/3000
Wiring Diagram	2B	2B	2B	2B
R448A Charge (lbs) (Condensing Unit only)	5.1	5.9	5.9	5.9
Accumulator Capacity (lbs)	---	---	---	---
Oil Recharge (oz)	21	19	19	34
Heat of Rejection (Btu/hr)	978	11,520	15,854	23,376
Condensate Pump				
Volts	120	120	120	120
Amps	1.9	1.9	1.9	1.9
Refrigerant Connections (inches)				
Liquid Line	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$
Suction Line	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$
Dimensions (inches)				
Height	16.3	16.6	19.0	18.9
Length	24.1	24.1	25.0	34.1
Width	18.5	18.3	34.0	25.0
Shipping Weight (lbs)				
	105	114	183	120

Application	IDDF6SV			
	4 ft	6 ft	8 ft	12 ft
Circuit 1 (120V, 1 Phase) Fans, Lights, Controller				
Maximum Overcurrent Protection Device (MOPD)	20	20	20	20
Circuit 2 (120V or 208V, 1 Phase) Condensing Unit and Condensate Evaporator Pan Heaters (Single Pan/Optional Dual Pan)				
Voltage/ 60Hz / 1 Phase	115	115	115	115
Maximum Overcurrent Protection Device (MOPD)	15	15	20	25
Minimum Circuit Ampacity (MCA)	12.2	14.1	15.9	21.1
Condensing Unit				
RLA	4	5.5	7.2	10.5
LRA	26	30.5	39	54.5
Type	---	---	---	---
Condensate Evaporator Pan (Single Pan/Optional Dual Pan)				
Volts	120	120	120	120
Amps	5	5	5	5
Wattage	600	600	600	600
Wiring Diagram	2A	2A	2A	2A
R448A Charge (lbs) (Condensing Unit only)	1.4	1.4	1.4	3.0
Accumulator Capacity (lbs)	---	---	---	---
Oil Recharge (oz)	10	10	10	13
Heat of Rejection (Btu/hr)	2,254	3,350	4,395	6,600
Condensate Pump				
Volts	120	120	120	120
Amps	1.9	1.9	1.9	1.9
Refrigerant Connections (inches)				
Liquid Line	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$
Suction Line	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$
Dimensions (inches)				
Height	11.9	11.9	11.9	13.1
Length	16.1	16.1	16.0	24
Width	15.1	15.1	15.1	16.4
Shipping Weight (lbs)				
	44	49	46	61

Case wiring must be on a separate circuit. See Insight data sheet for case circuit requirements.

**Insight Freedom
Condensing Units for
Multi-Deck Cases**

Application	IDDF5SM/TE			
	4 ft	6 ft	8 ft	12 ft
Circuit 1 (120V, 1 Phase) Fans, Lights, Controller				
Maximum Overcurrent Protection Device (MOPD)	20	20	20	20
Circuit 2 (120V, 1 Phase) Condensing Unit and Condensate Evaporator Pan Heaters				
Voltage/ 60Hz / 1 Phase	115	115	115	115
Maximum Overcurrent Protection Device (MOPD)	20	20	20	20
Minimum Circuit Ampacity (MCA)	14.5	15.2	17.2	19.9
Condensing Unit				
RLA	4	4	6	7.2
LRA	26	26	30.5	39
Condensate Evaporator Pan				
Volts	120	120	120	120
Amps	5	5	5	5
Wattage	600	600	600	600
Wiring Diagram	2C	2C	2C	2C
R448A Charge (lbs) (Condensing Unit only)	1.4	1.4	1.4	1.4
Accumulator Capacity (lbs)	---	---	---	---
Oil Recharge (oz)	10	10	10	10
Heat of Rejection (Btu/hr)	1,514	2,335	3,032	4,527
Condensate Pump				
Volts	120	120	120	120
Amps	1.9	1.9	1.9	1.9
Refrigerant Connections (inches)				
Liquid Line	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$
Suction Line	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$
Dimensions (inches)				
Height	10.5	11.9	11.9	11.7
Length	16.1	16.1	16.0	16.2
Width	14.25	15.1	15.1	13.1
Shipping Weight (lbs)	40	44	49	46

Insight Freedom Condensing Units for Multi-Deck Cases

Application	IPF4SL			
	4 ft	6 ft	8 ft	12 ft
Standard Single Point Connection (208/230V, 4 Wire)				
Maximum Overcurrent Protection Device (MOPD)	20	30	40	55
Minimum Circuit Ampacity (MCA)	17.9	23.4	30.2	42.4
Condensing Unit				
Compressor RLA	6	10	12.6	18
Compressor LRA	35.7	40.3	55	75
Condensate Evaporator Pan				
Volts	208	208	208	208
Amps	4.8	4.8	7.2	9.6
Wattage	1,000	1,000	1,500	2,000
Wiring Diagram	3	3	3	3
R448A Charge (lbs) (Condensing Unit only)	5.1	5.9	5.9	5.9
Oil Recharge (oz)	21	19	19	25
Heat of Rejection (Btu/hr)	7,034	10,512	14,023	20,948
Condensate Pump				
Volts	120	120	120	120
Amps	1.9	1.9	1.9	1.9
Refrigerant Connections (inches)				
Liquid Line	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$
Suction Line	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$
Dimensions (inches)				
Height	16.5	16.6	16.6	18.9
Length	24.0	24.1	24.0	25.0
Width	18.3	18.3	18.3	34.1
Shipping Weight (lbs)				
	105	110	114	183

Insight Freedom
Condensing Units for
Multi-Deck Cases

Application	ICF6SM			
	4 ft	6 ft	8 ft	12 ft
Standard Single Point Connection (208/230V, 4 Wire)				
Maximum Overcurrent Protection Device (MOPD)	20	35	45	65
Minimum Circuit Ampacity (MCA)	17.9	27.0	35.6	49.2
Condensing Unit				
Compressor RLA	6	12.6	15.7	23.2
Compressor LRA	35.7	55	68	112
Condensate Evaporator Pan				
Volts	208	208	208	208
Amps	4.8	4.8	7.2	9.6
Wattage	1,000	1,000	1,500	2,000
Wiring Diagram	3	3	3	3
R448A Charge (lbs) (Condensing Unit only)	5.1	5.9	5.9	5.9
Oil Recharge (oz)	21	19	19	34
Heat of Rejection (Btu/hr)	8,902	13,310	18,072	26,327
Condensate Pump				
Volts	120	120	120	120
Amps	1.9	1.9	1.9	1.9
Refrigerant Connections (inches)				
Liquid Line	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$
Suction Line	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$
Dimensions (inches)				
Height	16.5	16.6	18.9	18.9
Length	24.0	24.0	25.0	25.0
Width	18.3	18.3	34.1	34.1
Shipping Weight (lbs)	105	114	183	120

Insight Freedom Condensing Units for Multi-Deck Cases

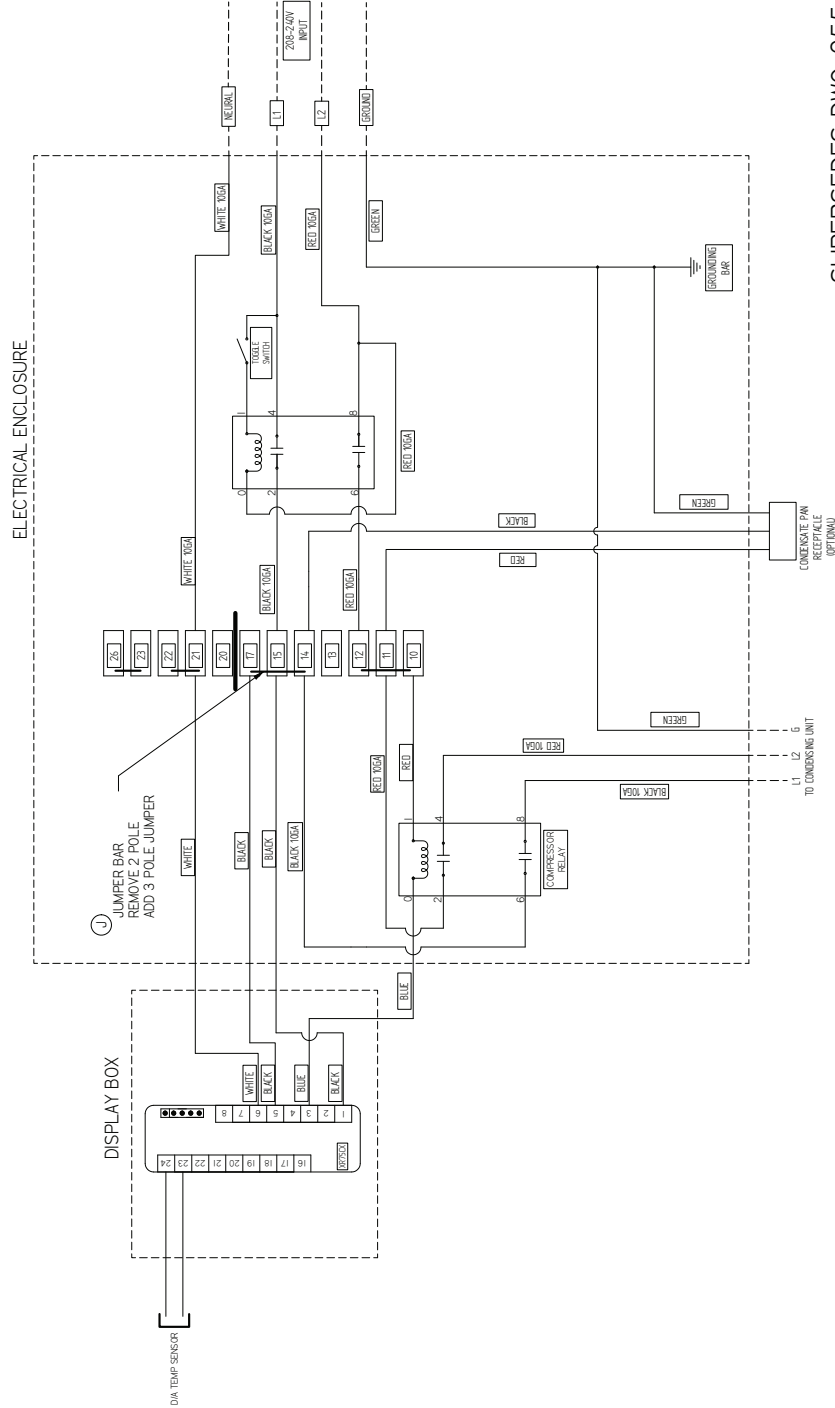
Application	IDF6NU			
	4 ft	6 ft	8 ft	12 ft
Standard Single Point Connection (208/230V, 4 Wire)				
Maximum Overcurrent Protection Device (MOPD)	30	35	45	70
Minimum Circuit Ampacity (MCA)	23.0	29.7	35.7	49.4
Condensing Unit				
Compressor RLA	10	12	15.7	23.2
Compressor LRA	40.3	56	68	112
Condensate Evaporator Pan				
Volts	208	208	208	208
Amps	4.8	7.2	7.2	9.6
Wattage	1,000	1,500	1,500	2,000
Wiring Diagram	3	3	3	3
R448A Charge (lbs) (Condensing Unit only)	5.9	5.9	5.9	5.9
Oil Recharge (oz)	19	25	19	34
Heat of Rejection (Btu/hr)	10,904	17,100	22,220	32,369
Condensate Pump				
Volts	120	120	120	120
Amps	1.9	1.9	1.9	1.9
Refrigerant Connections (inches)				
Liquid Line	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$
Suction Line	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$
Dimensions (inches)				
Height	16.6	18.9	18.9	18.9
Length	24.1	31.4	25.0	25.0
Width	18.3	25.0	34.1	34.1
Shipping Weight (lbs)	110	186	183	120

Application	IDF6SU			
	4 ft	6 ft	8 ft	12 ft
Standard Single Point Connection (208/230V, 4 Wire)				
Maximum Overcurrent Protection Device (MOPD)	30	35	55	70
Minimum Circuit Ampacity (MCA)	23.0	29.7	41.7	49.4
Condensing Unit				
Compressor RLA	10	12	18	23.2
Compressor LRA	40.3	56	75	112
Condensate Evaporator Pan				
Volts	208	208	208	208
Amps	4.8	7.2	9.6	9.6
Wattage	1,000	1,500	2,000	2,000
Wiring Diagram	3	3	3	3
R448A Charge (lbs) (Condensing Unit only)	5.9	5.9	5.9	5.9
Oil Recharge (oz)	19	25	25	34
Heat of Rejection (Btu/hr)	11,166	17,510	22,252	33,146
Condensate Pump				
Volts	120	120	120	120
Amps	1.9	1.9	1.9	1.9
Refrigerant Connections (inches)				
Liquid Line	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$
Suction Line	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$
Dimensions (inches)				
Height	16.6	18.9	18.9	18.9
Length	24.1	31.4	25.0	25.0
Width	18.3	25.0	34.1	34.1
Shipping Weight (lbs)	110	186	183	120

Insight Freedom Condensing Units for Multi-Deck Cases

Case	Size	Kit	Copeland Number (ID)
IDDF5SU	4 Feet	TH64	M6EM-0020-IAA-121
	6 Feet	TH65	M6EM-H026-IAA-121
	8 Feet	TH66	M6EM-H032-CAA-121
	12 Feet	TH70	M6ZM-HO54-CAV-121
IDF5SM/TE, IDF5SL/TE			
	4 Feet	TH74	FFAM-008Z-CFV-080
	6 Feet	TH59	FFAP-015Z-CFV-080
	8 Feet	TH73	FFAP-017Z-CFV-080
	12 Feet	TH63	FFAP-030Z-CFV-080
IDF5NM/TE, IDF5NL, IDF5NV			
	4 Feet	TH72	FFAM-008Z-CFV-080
	6 Feet	TH60	FFAP-017Z-CFV-080
	8 Feet	TH62	FFAP-022Z-CFV-080
	12 Feet	TH61	FFAP-032Z-CFV-080
IDDF6SV	4 Feet	TH67	M6EM-H022-IAA-121
	6 Feet	TH68	M6EM-H032-CAA-121
	8 Feet	TH71	M6EM-H040-IAA-121
	12 Feet	TH69	M6KP-0064-CAA-121
IDDF5SM/TE	4 Feet	TH64	M6EM-0020-IAA-121
	6 Feet	TH67	M6EM-H022-IAA-121
	8 Feet	TH66	M6EM-H032-CAA-121
	12 Feet	TH71	M6EM-H040-IAA-121
IPF4SL	4 Feet	ZZ50	FFAM-008Z-CFV-080
	6 Feet	ZY93	FFAP-015Z-CFV-080
	8 Feet	ZZ51	FFAP-017Z-CFV-080
	12 Feet	AAC14	FFAP-030Z-CFV-080
ICF6SM	4 Feet	ZZ50	FFAM-008Z-CFV-080
	6 Feet	ZZ51	FFAP-017Z-CFV-080
	8 Feet	ZZ52	FFAP-022Z-CFV-080
	12 Feet	ZZ53	FFAP-032Z-CFV-080
IDF6NU	4 Feet	ZY93	FFAP-015Z-CFV-080
	6 Feet	ZY94	FFAP-020Z-CFV-080
	8 Feet	ZZ52	FFAP-022Z-CFV-080
	12 Feet	ZZ53	FFAP-032Z-CFV-080
IDF6SU	4 Feet	ZY93	FFAP-015Z-CFV-080
	6 Feet	ZY94	FFAP-020Z-CFV-080
	8 Feet	AAC14	FFAP-030Z-CFV-080
	12 Feet	ZZ53	FFAP-032Z-CFV-080

CIRCUIT #2
 APPLIES TO 208-240VAC-60HZ-1PH CONDENSING UNITS



SUPERSEDES DWG. 0554810

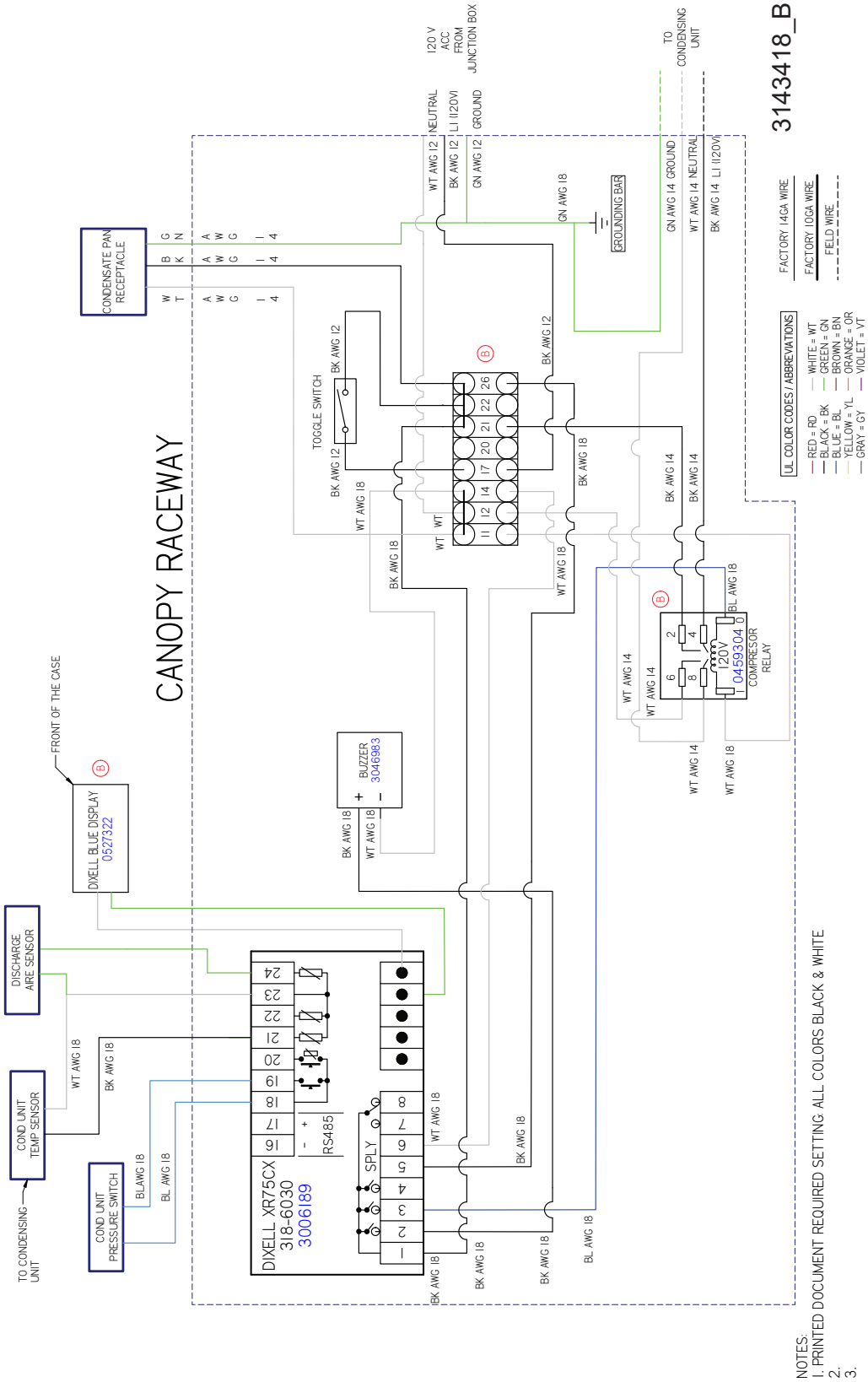
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ALL WIRING TO BE 14 GAUGE UNLESS OTHERWISE SPECIFIED

- NOTES:
 1. APPLICABLE STANDARDS / SPECIFICATIONS
 ASME Y14.5M-1994, DIMENSIONS AND TOLERANCES
 2. KEY PRODUCT CHARACTERISTICS PER EPR-0006 & IDENTIFIED WITH SYMBOL

Insight Wiring Diagram Circuit 2C

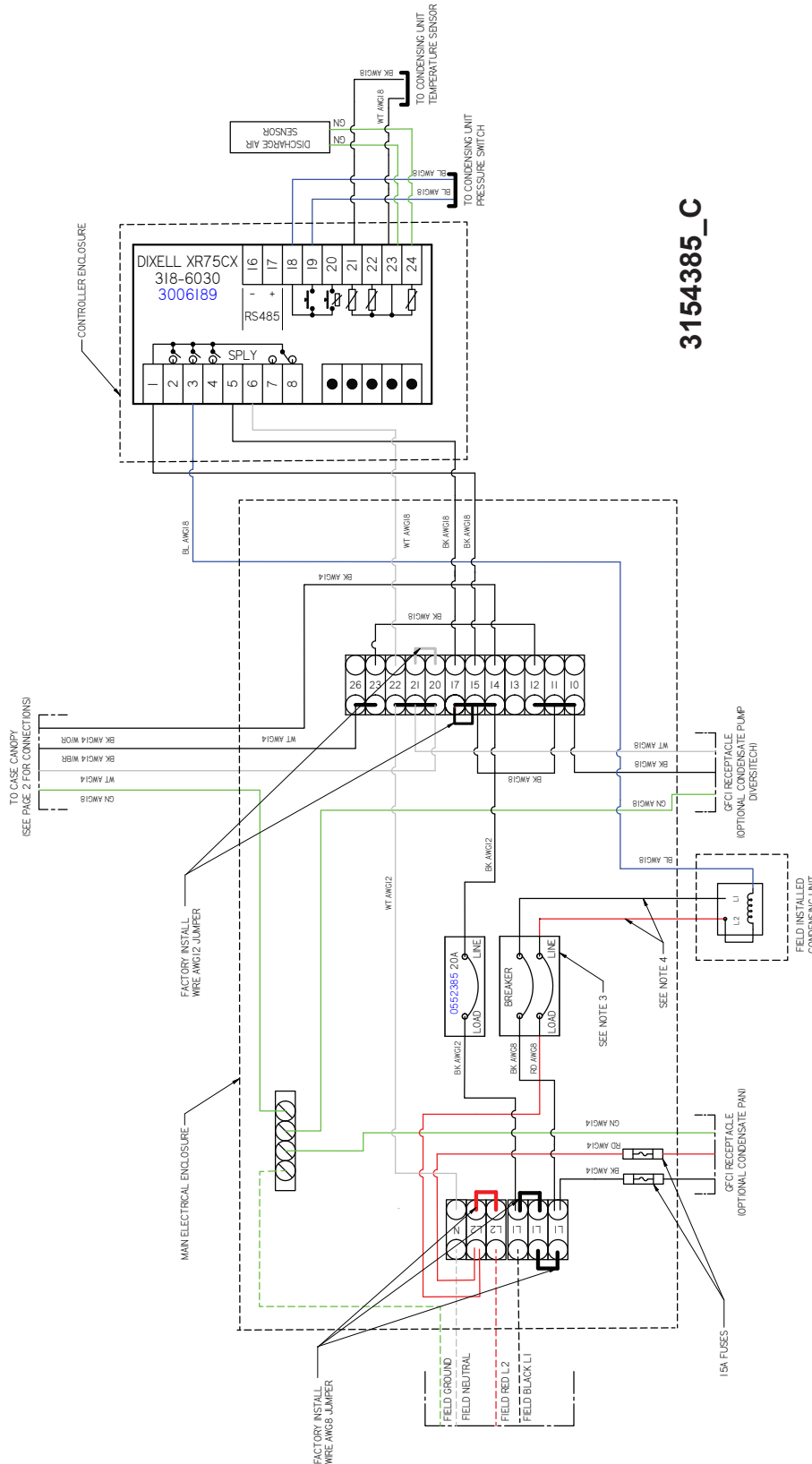
Insight Freedom Condensing Units for Multi-Deck Cases



- UL COLOR CODES / ABBREVIATIONS**
- RED = RD
 - BLACK = BK
 - BLUE = BL
 - YELLOW = YL
 - GRAY = GT
 - WHITE = WT
 - GREEN = GN
 - BROWN = BN
 - ORANGE = OR
 - VIOLET = VT
- FACTORY 14 GA WIRE**
- FACTORY 10 GA WIRE
 - FIELD WIRE

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NOTES:
1. PRINTED DOCUMENT REQUIRED SETTING ALL COLORS BLACK & WHITE
2.
3.



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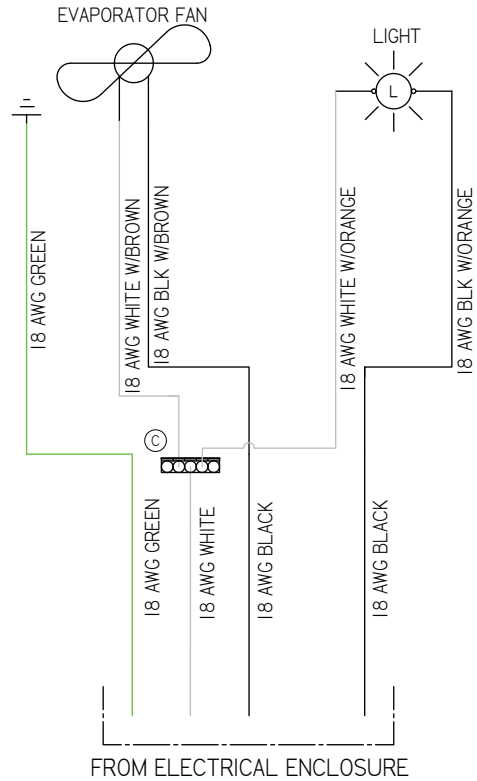
UL COLOR CODES / ABBREVIATIONS

RED = RD	WHITE = WT
BLACK = BK	GREEN = GN
BLUE = BL	BROWN = BN
YELLOW = YL	ORANGE = OR
GRAY = GR	VIOLET = VT

FACTORY I4GA WIRE (Solid line)
FACTORY I0GA WIRE (Dashed line)
FIELD WIRE (Dotted line)

- NOTES:**
1. PRINTED DOCUMENT REQUIRED SETTING ALL COLORS BLACK & WHITE
 2. MATERIAL-WHITE PAPERBOND LETTER SIZE
 3. FOR L1, L2 USE BREAKER PN SPECIFIED IN BOM ACCORDING TO THE CASE MODEL.
 4. FOR BREAKER SIZE 50, 40 AND 35 USE AWG 10 WIRE, FOR BREAKER SIZE 25, 20 AND 15 USE AWG 12 WIRE

CANOPY CONNECTIONS



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NOTES:

1. PRINTED DOCUMENT REQUIRED SETTING: ALL COLORS BLACK & WHITE
2. MATERIAL-WHITE PAPERBOND LETTER SIZE
3. FOR L1, L2 USE BREAKER PN SPECIFIED IN BOM ACCORDING TO THE CASE MODEL
4. FOR BREAKER SIZE 50, 40 AND 35 USE AWG 10 WIRE; FOR BREAKER SIZE 25, 20 AND 15 USE AWG 12 WIRE

UL COLOR CODES / ABBREVIATIONS

- | | |
|---------------|---------------|
| — RED = RD | — WHITE = WT |
| — BLACK = BK | — GREEN = GN |
| — BLUE = BL | — BROWN = BN |
| — YELLOW = YL | — ORANGE = OR |
| — GRAY = GY | — VIOLET = VT |

FACTORY 14GA WIRE

FACTORY 10GA WIRE

--- FIELD WIRE ---