HUSSMANN®

NSF

Freedom Line **RFMN**
with *INNOVATOR* **Doors**
Medium Temperature

Technical Data Sheet
P/N 0537771_K
NSF® Certified
October 2018

Freedom Line merchandisers are top mount refrigeration ready

OPTIONS SHOWN:
• Lighted Facades

DOE 2017
Energy Efficiency Compliant

Warning: Terminal block NOT for case-to-case wire connection!

Item	Part #	Description	Wiring Item #
FAN ASSEMBLIES, AND THERMOSTATS			
A.	**12W Standard Energy Efficient** Fan Assembly		(1)
	0477655	Fan Motor, Evaporator	
	0461805	Fan Blade	
CONTROL PANEL			
B.	3007826	Dixell XR75 Control	(2)
C.	0334802	Dixell Discharge Air Sensor	(3)
D.	0334802	Dixell Defrost Sensor	(4)
REFRIGERATION			
E.	0516897	Condensate Pump	(5)
F.	0538255	Condensate Pan & Heater (Evapoway)	(6)
G.	0460992	TEV 2 Door Models	
	0460993	TEV 3-4-5 Door Models	

Item	Part #	Description	Wiring Item #
LED FIXTURES AND POWER SUPPLY			
H.	0499399	Power Supply	(7)
I.	Door Lamp, LED		
	BU.4440877	4100K Center	(8)
	BU.4440878	4100K End	(9)
J.	Facade Lamp, LED		(10)
	BU.4441411	2900K 29.5 In. Length	
	BU.4441412	2900K 30.5 In. Length	

Refer to INNOVATOR REACH-IN GLASS DOOR INSTALLATION AND SERVICE *manual, P/N 0425683, for Innovator and Innovator II door and frame replacement parts.*
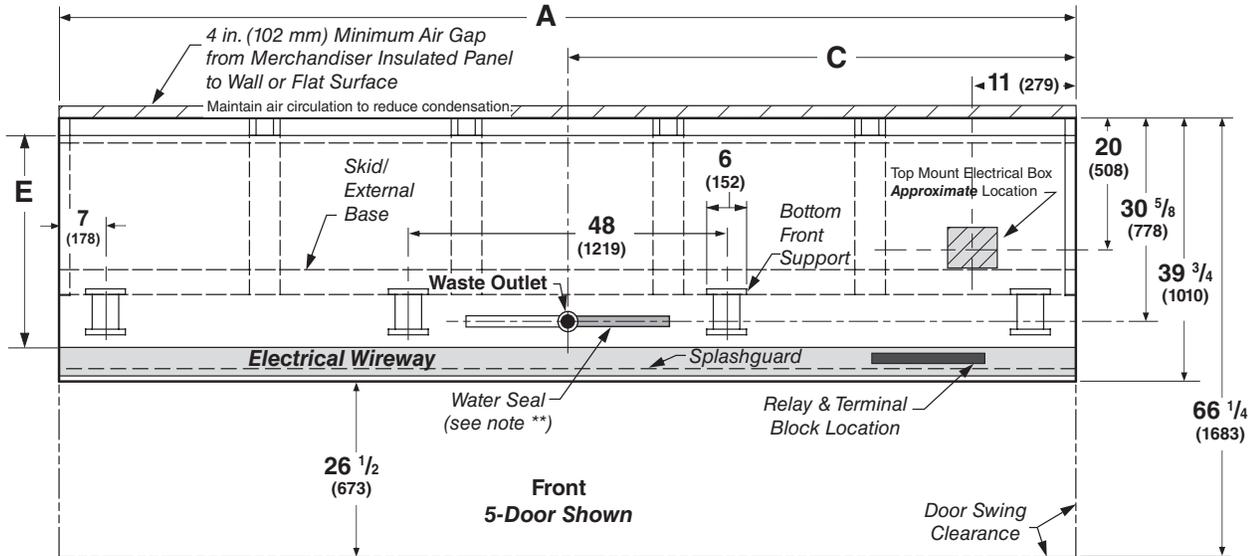
Data sheet-LifeLine RFMN

Note: Revision K: Updated refrigerant charges.

Spanish P/N 0537772

Engineering
Plan Views

Freedom Line
RFLN - RFMN
Plan View
09-2013

PHYSICAL DATA

Merchandiser Drip Pipe (in.)	1 1/4
Merchandiser Liquid Line (in.)	3/8
Merchandiser Suction Line (in.)	5/8

Freedom Line — Standard Narrow Footprint Plan View
2, 3, 4 & 5 Door

Dimensions shown as inches and (mm).

4 in. (102 mm) Minimum Air Gap from Merchandiser Insulated Panel to Wall or Flat Surface

Maintain air circulation to reduce condensation.

A

C

11 (279)

20 (508)

30 5/8 (778)

39 3/4 (1010)

E

Skid/ External Base

6 (152)

Top Mount Electrical Box *Approximate* Location

7 (178)

48 (1219)

Bottom Front Support

Waste Outlet

Electrical Wireway

Splashguard

*Water Seal (see note **)*

Relay & Terminal Block Location

66 1/4 (1683)

26 1/2 (673)

Front
5-Door Shown

Door Swing Clearance

Freedom Line Narrow Footprint Plan View
1, 2 & 3 Door

Dimensions shown as inches and (mm).

A

C

26 1/4 (667)

15 1/4 (387)

12 (305)

4 in. (102 mm) Minimum Air Gap from Merchandiser Insulated Panel to Wall or Flat Surface

37 5/8 (956)

Bottom Front Support

6 (152)

Top Mount Electrical Box *Approximate* Location

20 (508)

39 3/4 (1010)

7 (178)

Skid/ External Base

48 (1219)

30 5/8 (778)

51 3/4 (1314)

12 7/8 (327)

Shelf Area

Waste Outlet

Electrical Wireway

Splashguard

Shelf Area

*Water Seal (see note **)*

Relay & Terminal Block Location

10 3/4 (273)

26 1/2 (673)

Front
4-Door Shown

Door Swing Clearance

78 1/4 (1988)

U.S. & Canada 1-800-922-1919 • Mexico 1-800-890-2900

Freedom Line RFMN with ***Innovator Doors***
Technical Data Sheet

	2 Dr	3 Dr	4 Dr	5 Dr
General				
(A) Merchandiser Length	62 (1575)	92 $^1/_2$ (2350)	122 $^7/_8$ (3121)	153 $^3/_8$ (3896)
**NOTE: Each solid end adds approximately 2 $^3/_8$ in (60 mm) to length of line up; each partition add approximately 2 $^3/_4$ in (70 mm); case to case joints can add approximately $^1/_8$ in (3 mm) for gasket material.				
Maximum O/S dimension of merchandiser back to front ***	39 $^3/_4$ (1010)	39 $^3/_4$ (1010)	39 $^3/_4$ (1010)	39 $^3/_4$ (1010)
*** *Add 26 $^1/_2$ in. (673 mm) for door swing.*				
Back of merchandiser to rear of splashguard	35 $^7/_8$ (911)	35 $^7/_8$ (911)	35 $^7/_8$ (911)	35 $^7/_8$ (911)
Width of Skid rail	3 $^3/_4$ (95)	3 $^3/_4$ (95)	3 $^3/_4$ (95)	3 $^3/_4$ (95)
Width of Bottom Front Support	6 (152)	6 (152)	6 (152)	6 (152)
Stub-up area between front support and splashguard	3 $^1/_8$ (79)	3 $^1/_8$ (79)	3 $^1/_8$ (79)	3 $^1/_8$ (79)
Electrical Service *(dimensions are approximate)*				
(B) RH end of merchandiser to center of Electrical Service Area	11 (279)	11 (279)	11 (279)	11 (279)
Back O/S of merchandiser to center of Electrical Service Area	20 (508)	20 (508)	20 (508)	20 (508)
* NOTE: Electrical Field Wiring Connection Point is at top of merchandiser.				
Waste Outlet				
(C) Right end of merchandiser to center of waste outlet	23 $^7/_8$ (606)	54 $^1/_4$ (1378)	46 $^1/_4$ (1175)	76 $^5/_8$ (1946)
Water Seal				
Edge of water seal to center of waste outlet	13 (330)	13 (330)	13 (330)	13 (330)
Schedule 40 PVC drip pipe	1 $^1/_4$ (32)	1 $^1/_4$ (32)	1 $^1/_4$ (32)	1 $^1/_4$ (32)
** NOTE: Field installed water seal outlets, tees, and connectors are shipped with merchandiser.				
Refrigeration Outlet				
(D) RH end of merchandiser to center of refrigeration interface				
Back O/S of merchandiser to center of refrigeration interface				
* NOTE: Refrigeration interface is at top of merchandiser.				
Outside bottom front supports from end of merchandiser	7 (178)	7 (178)	7 (178)	7 (178)
		37 $^1/_2$ (952) LH		
Center bottom front support from Centerline	24 (610)	24 (610)	24 (610)	24 (610)
Distance between Center and Outside supports will vary				
(E) Depth when disassembled for door entry	35 $^1/_2$ (902)	35 $^1/_2$ (902)	35 $^1/_2$ (902)	35 $^1/_2$ (902)

20 (508) **to 21** (533)

Facade (Installed Position)

102 ¹/₂ (2603) **to 103 ¹/₂** (2629) **Installed**
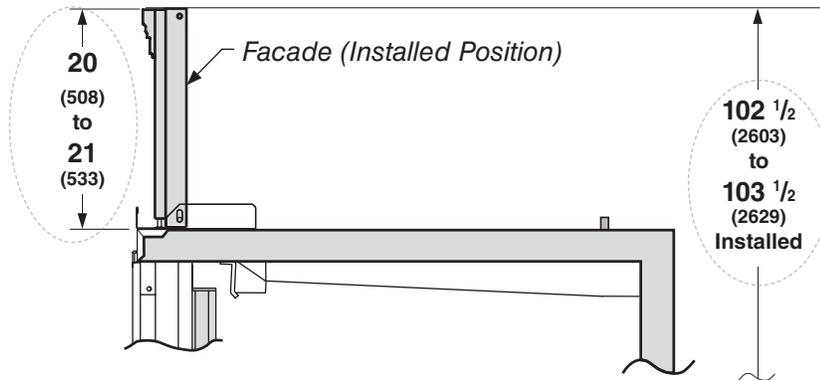
20 in. Straight Facade

Facade in Cross Section

Freedom Line Narrow Footprint Reach-in
Top-Mount-Refrigeration Ready
2, 3, 4 and 5 Door Models

Standard Reach-in configuration consists of Innovator I doors, energy efficient fan motors, and EcoShine II LED vertical lighting.
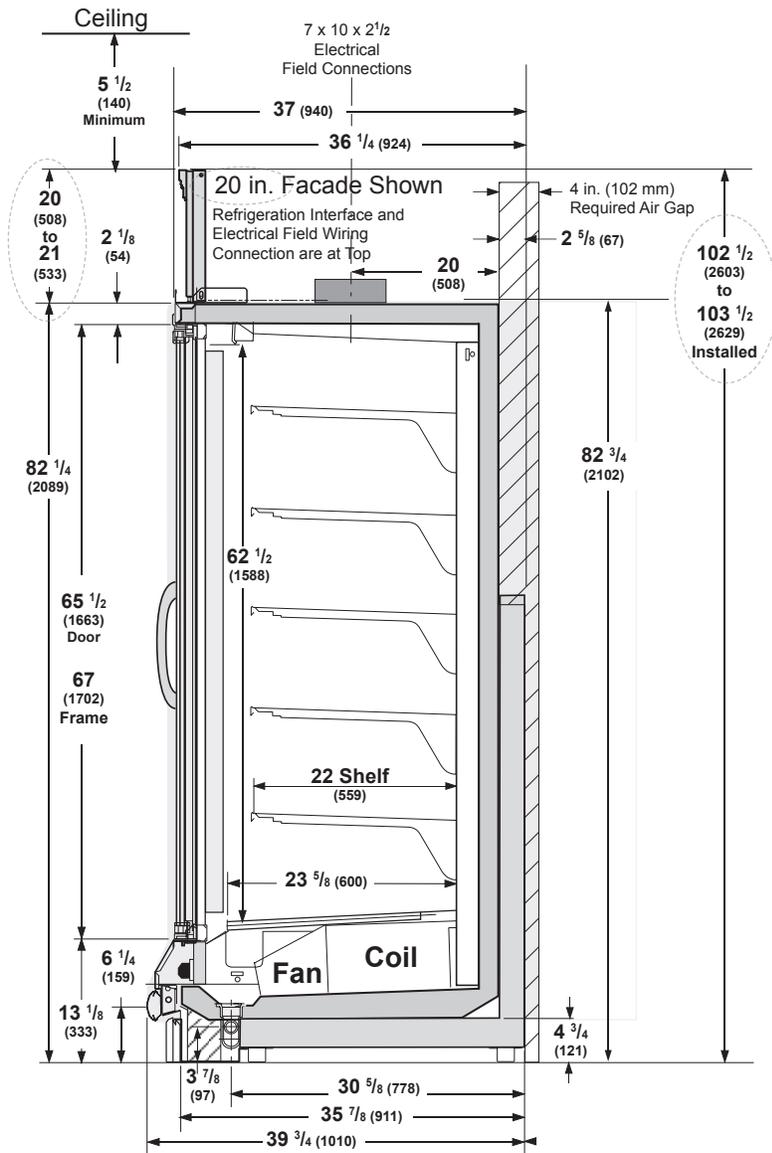
DOE 2017
Energy Efficiency Compliant

Hussmann refrigerated merchandisers configured for sale for use in the United States meet or surpass the requirements of the DOE 2017 energy efficiency standards.

Provide adequate clearance for air circulation at rear to reduce condensation.

Dimensions shown as inches and (mm).

Note: An optional Louvered Facade Panel kit is available that will allow for the top spacing minimum clearance of 3 inches (76 mm).

Note: Facade is field-installed. Electrical connection box, external supports, door handle and front raceway may be removed to facilitate passage through door way.

REFRIGERATION DATA

Note: This data is based on store temperature and humidity levels that do not exceed NSF guidelines.

	MEDIUM TEMP	AHRI Rating
Discharge Air °F	32	36
Evaporator °F	27	32
Unit Sizing °F	25	30

BTU/HR/DOOR

	NSF TYPE I	NSF TYPE II	AHRI RATING
Temp (°F) /R.H.	75°/ 55%	80°/ 55%	
INNOVATOR			
Parallel	480	505	470
Conventional	500	525	490

§ Average evaporator temperature shown. Use dew point for high glide refrigerants for unit sizing. Care should be taken to use the dew point in PT tables for measuring and adjusting superheat. Adjust evaporator pressure as needed to maintain discharge air temperature shown.

DEFROST DATA
Frequency (hr)   24
Defrost Water (lb/Dr/day)   0.36
(**± 15%** based on case configuration and product loading.)

OFFTIME
Temp Term (°F)   48
Failsafe (minutes)   40

CONVENTIONAL CONTROLS

	Cut In	Cut Out
HPC (psig)	320	395
LPC (psig)	15	5

Working charge with recommended Condensing Unit installed:

2Dr	3.2 lb	51.2 oz	1.45 kg
3Dr	4.1 lb	65.6 oz	1.86 kg
4Dr	5 lb	80 oz	2.27 kg
5Dr	6 lb	96 oz	2.72 kg

based on 27°F (–2.8°C) Evaporator temperature for medium temperature applications.

NSF Certification
This merchandiser model is manufactured to meet NSF/ANSI (National Sanitation Foundation) Standard #7 requirements for construction, materials & cleanability.

Freedom Line RFMN
With Innovator Doors
Medium Temperature

> **Hussmann recommends against frame heater cycling with _Innovator doors_ or _Innovator III_ doors to prevent door seals from freezing to the frames and tearing.**

Electrical Data

	2Dr	3Dr	4Dr	5Dr				
Number of Fans—12W	2	3	4	5				
	Amperes				**Watts**			
Merchandiser	**2Dr**	**3Dr**	**4Dr**	**5Dr**	**2Dr**	**3Dr**	**4Dr**	**5Dr**
Energy Efficient Evaporator Fan								
120V 50/60Hz Innovator	0.60	0.90	1.20	1.50	36	54	72	90
Door Anti-sweat Heaters (on fan circuit)								
120V 50/60Hz Innovator	N/A							
Frame Anti-sweat Heaters (on fan circuit)								
120V 50/60Hz Innovator	0.39	0.59	0.79	0.99	47	71	94	118
Heated Condensate Pan	5.0	5.0	5.0	5.0	600	600	600	600
Condensate Pump	1.9	1.9	1.9	1.9	87	87	87	87
Defrost								
Drain Heaters (120V)	N/A							
120V Circuit								
(Fans, anti-sweat heaters, drain pan heater, condensate pan heater, condensate pump, and standard Ecoshine 2 LED's)								
With Innovator Doors (standard)	8.0	8.8	9.6	10.5	813	877	939	1003
Maximum Overcurrent								
Protection Device (MOPD)	20	20	20	20				
Standard Vertical LED Lighting	**2Dr**	**3Dr**	**4Dr**	**5Dr**	**2Dr**	**3Dr**	**4Dr**	**5Dr**
Hussmann EcoShine II™ - A (120V)	0.31	0.46	0.62	0.77	37.1	55.6	74.2	92.7

† Notes:

1. Electrical input for the RFMN Freedom cases require two electrical connections at the top of the case: one 120V connection for the RFMN and one 208/230V or 120V connection for the condensing unit.

2. The condensing unit amps must be used to calculate the total electrical load. Refer to the condensing unit data sheet.

> _A qualified electrician should perform all wiring in accordance with the NEC code and/ or all local codes. Wire sizing must take into account the total distance from the electrical panel to the Freedom case._

Product Data

Recommended Usable Cube [1] *(Cu Ft/Dr)*	22.80 ft³ /Dr (0.65 m³ /Dr)
AHRI Total Display Area [2] *(Sq Ft/Dr)*	13.04 ft² /Dr (1.21 m² /Dr)
Shelf Area [3] *(Sq Ft/Dr)*	28.50 ft² /Dr (2.65 m² /Dr)

[1] AHRI Refrigerated Volume less shelving and other unusable space: Refrigerated Volume/Unit of Length, ft³/ft [m³/m]

[2] Computed using AHRI 1200 standard methodology: Total Display Area, ft² [m²]/Unit of Length, ft [m]

[3] Shelf surface area is composed of bottom deck plus standard shelf complement, as shown in the Hussmann
Product Reference Guide. The standard shelf complement for this model is (5) rows of 22-inch shelves.

ESTIMATED SHIPPING WEIGHT [4]

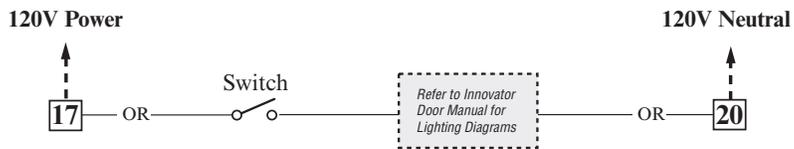|	*2 Dr*	*3 Dr*	*4 Dr*	*5 Dr*	Solid End *(each)*
Standard *Freedom Line* Merchandiser (18-Inch Facade, no Arch)					
lb *(kg)*	1005 (456)	1262 (572)	1688 (766)	2070 (939)	74 (34)

[4] Actual weights will vary according to optional kits included.

Fan and Heater Circuits – Offtime Defrost (Standard)
Medium Temperature

CIRCLED NUMBERS = PARTS LIST ITEM NUMBERS
R = Red   P = Purple   2P = Purple (2 Bands)   DB = Dark Blue   BK = Black
LB = Light Blue   Pink = Pink   BR = Brown   Y = Yellow   OR = Orange   W = White
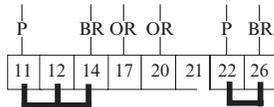**THESE ARE MARKER COLORS (WIRE MAY VARY).**
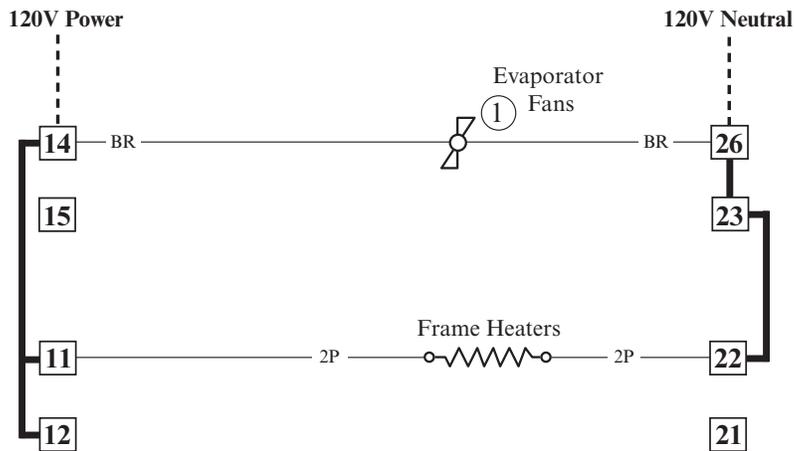
120V Power   **120V Neutral**

Evaporator
Fans
①

14 —BR——————————BR— 26

15   23

Refer to *Innovator Reach-In Glass Door, Installation and Service* manual, P/N 0425683, for *Innovator* door and frame replacement parts.

Frame Heaters

11 ——2P——◦〜〜〜◦——2P—— 22

12   21

120V Power   **120V Neutral**

Switch

17 —OR——◦ ◦——[Refer to Innovator Door Manual for Lighting Diagrams]——OR— 20

Terminal Blocks in Wireway

Medium Temperature
with
Offtime Defrost

P   BR OR OR   P   BR
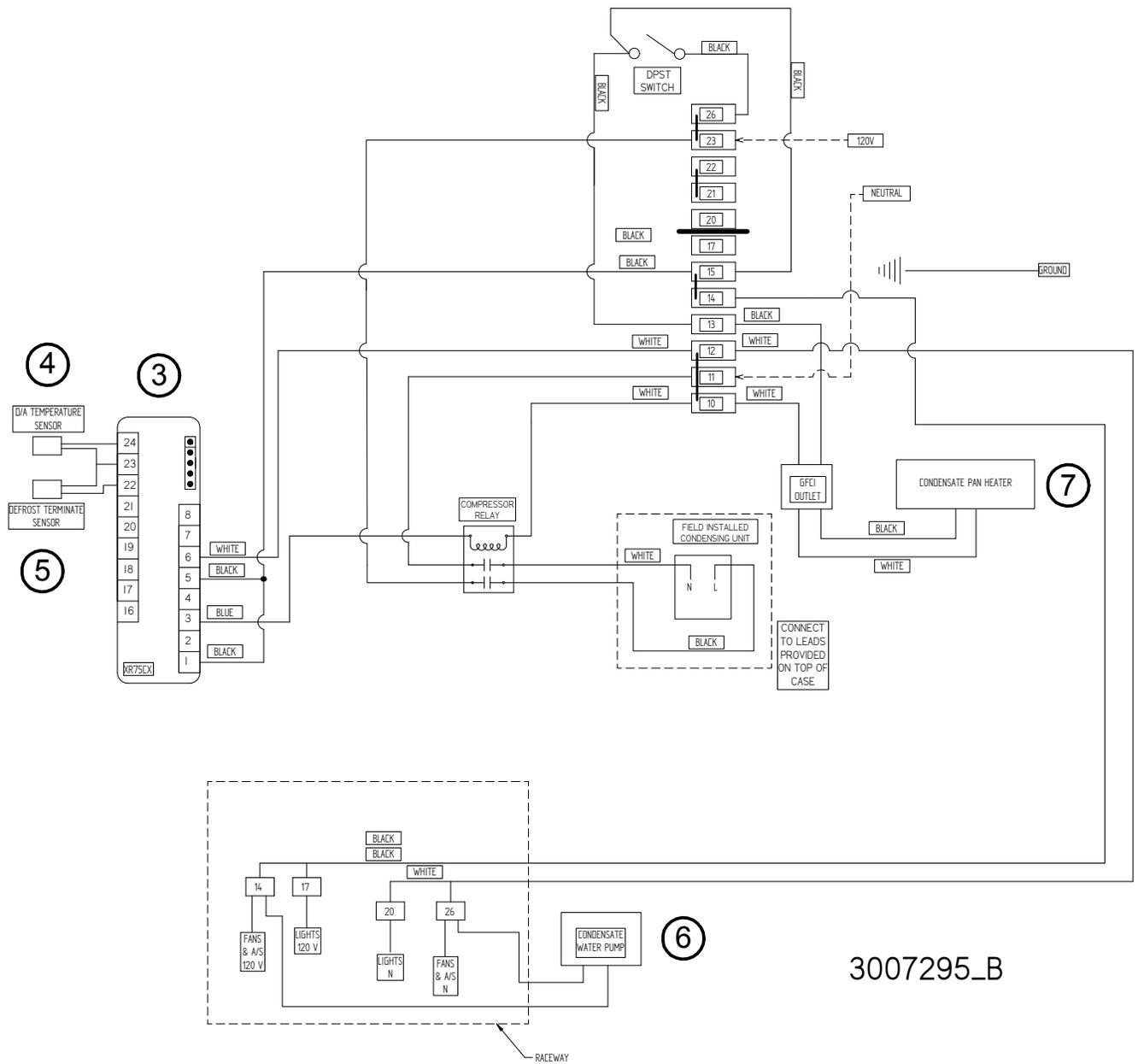| 11 | 12 | 14 | 17 | 20 | 21 | 22 | 26 |

WARNING
All components must have mechanical ground, and the merchandiser must be grounded.

● = 120V Power   ○ = 120V Neutral   ⏚ = Field Ground   ⏚ = Case Ground

DPST SWITCH

BLACK

120V

NEUTRAL

GROUND

D/A TEMPERATURE SENSOR

DEFROST TERMINATE SENSOR

XR75CX

COMPRESSOR RELAY

FIELD INSTALLED CONDENSING UNIT

CONNECT TO LEADS PROVIDED ON TOP OF CASE

GFCI OUTLET

CONDENSATE PAN HEATER

FANS & A/S 120 V

LIGHTS 120 V

LIGHTS N

FANS & A/S N

CONDENSATE WATER PUMP

RACEWAY

3007295_B

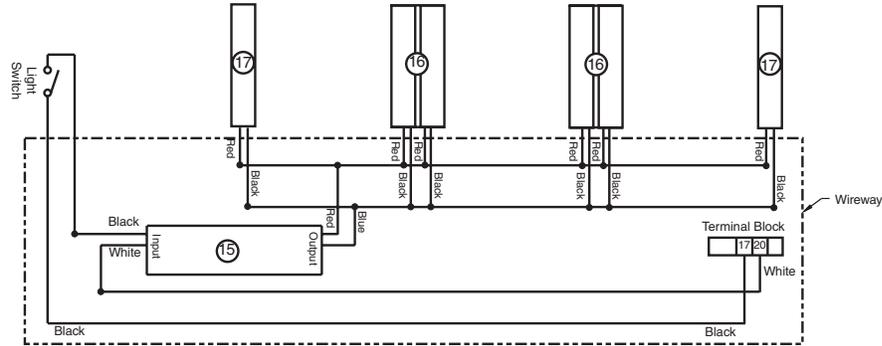**Dixell Wiring Diagram — Medium Temperature Reach-in with 2 or 3 Doors**

3007296_B
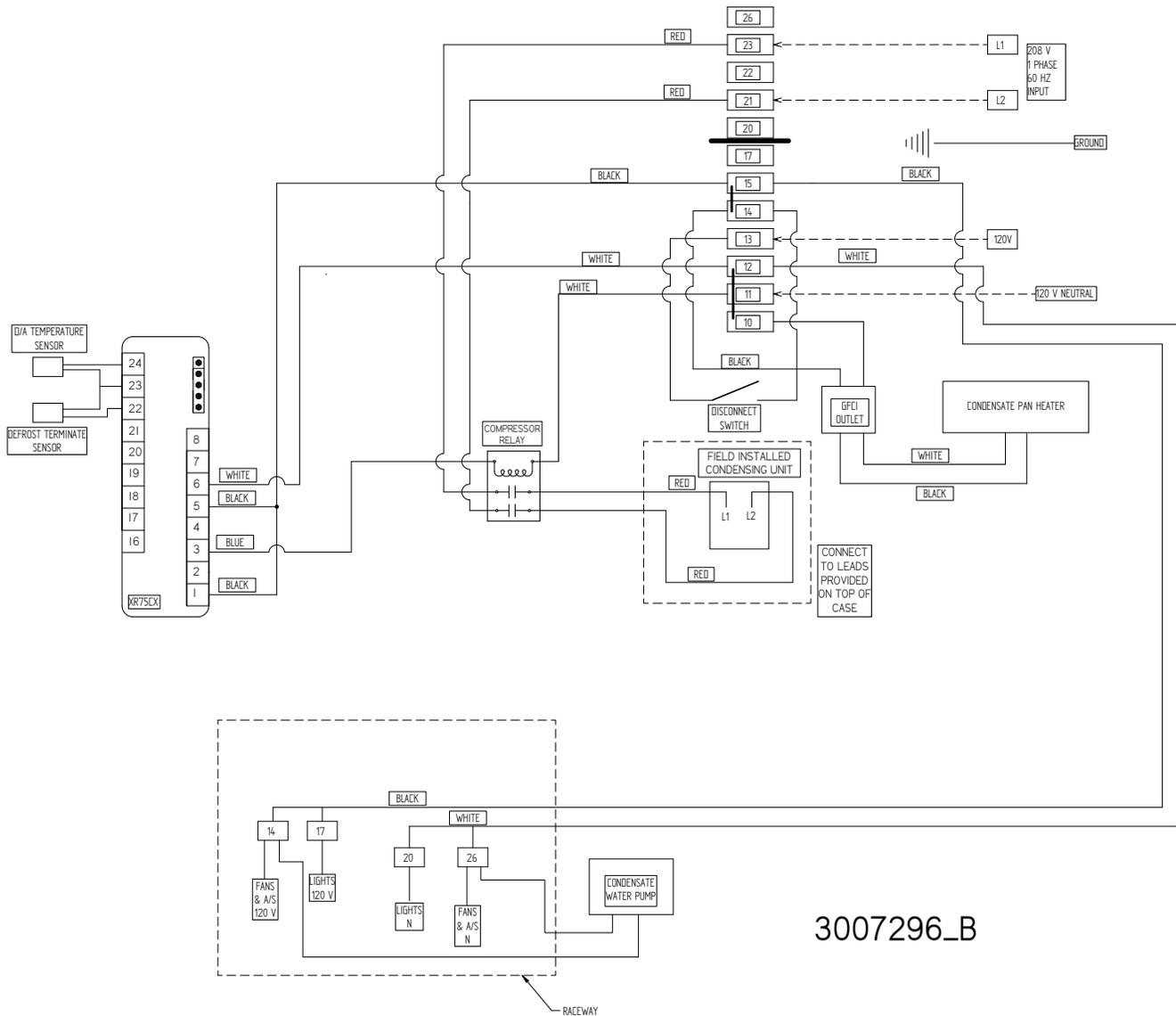
Dixell Wiring Diagram — Medium Temperature Reach-in with 4 or 5 Doors
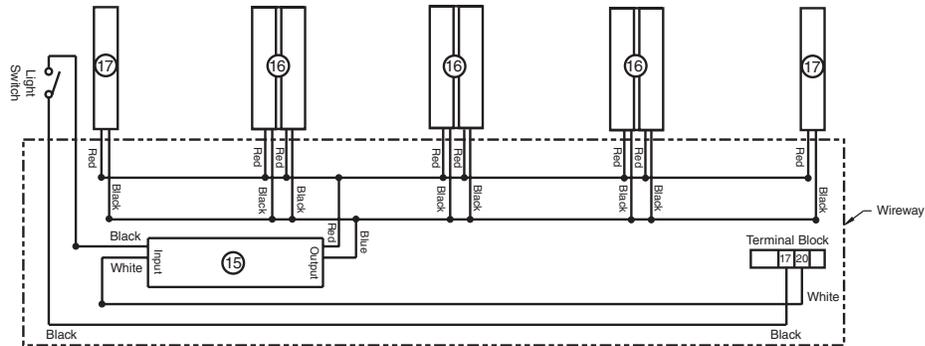
Optional Lighting LED Fixtures Hussmann EcoShine™

Light Switch

Wireway

Red · Black · Red · Black · Red · Black

Black · White — Input — ⑮ — Output — Red · Blue

Terminal Block
17 20
White

Black · Black

2 Door LED Light Wiring Diagram

Light Switch

Red · Black · Red · Black · Red · Black · Black

Black · White — Input — ⑮ — Output — Red · Blue

Wireway

Terminal Block
17 20
White

Black · Black

3 Door LED Light Wiring Diagram

Light Switch

Red · Black · Red · Black · Red · Black · Red · Black

Black · White — Input — ⑮ — Output — Red · Blue

Wireway

Terminal Block
17 20
White

Black · Black

4 Door LED Light Wiring Diagram

Light Switch

Red · Black · Red · Black · Red · Black · Red · Black · Red · Black · Red · Black

Black · White — Input — ⑨ — Output — Red · Blue

Black · White — Input — ⑨ — Output — Red · Blue

Wireway

Terminal Block
17 20

Black · Black
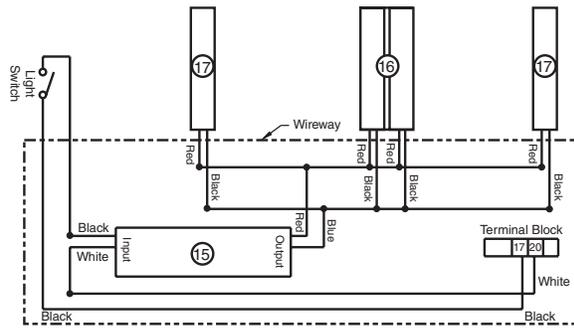
5 Door LED Light Wiring Diagram

WARNING
All components must have mechanical ground, and the merchandiser must be grounded.

Circled numbers = Parts List Item Numbers

R= Red   Y = Yellow   G = Green   BL = Blue   BK = Black   W = White

● = 120V Power   ○ = 120V Neutral   ⏚ = Field Ground   ⏚ = Case Ground