HUSSMANN® NSF®

RLNIE with INNOVATOR II

No Heat Doors

Technical Data Sheet

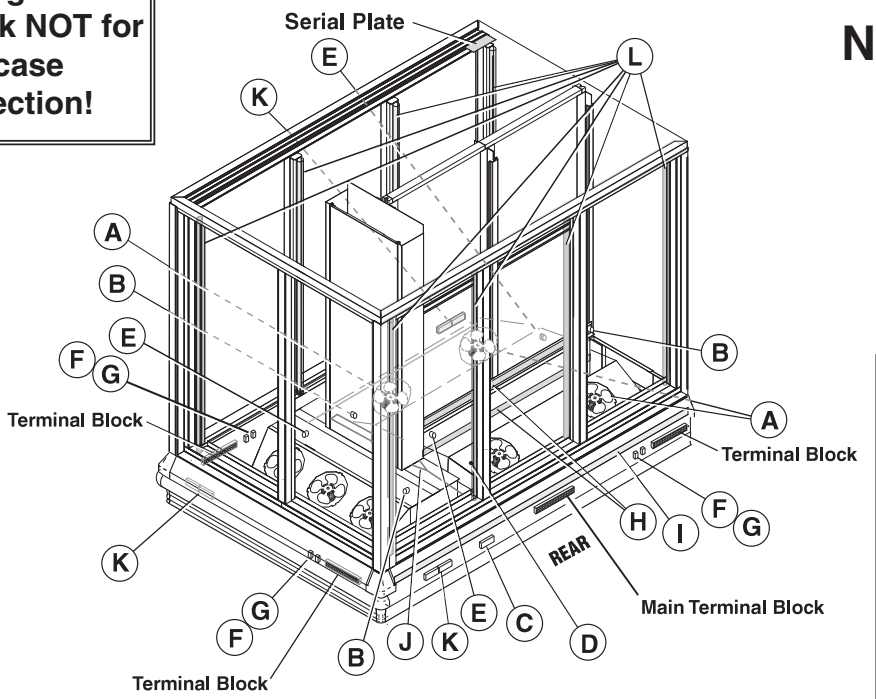
P/N 0463051_M

NSF® Certified

April 2017

DOE 2017
Energy Efficiency Compliant

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



We reserve the right to change or revise specifications and product design in connection with any feature of our products. Such changes do not entitle the buyer to corresponding changes, improvements, additions or replacements for equipment previously sold or shipped.

Item	Part #	Description	Wiring Item #
Fan Assemblies, and Thermostats			
A.		**12W Standard Energy Efficient** Fan Assembly	(1)
	0477655	Fan Motor, Evaporator (MO.4410546)	
	0461805	Fan Blade (FB.4780446)	
B.	0474033	Standard Non-adjustable Defrost Thermostat (CT.4440726)	(2)
C.		Optional Adjustable Refrigeration Thermostat	(3)
D.	0344662	Defrost Limit Thermostat (CT.4440261)	(4)
E.	0461814	Relay Control Thermostat or Fan and Anti-sweat Heater Thermostat (CT.4481296) (KG Only)	(5)
Relays			
F.	0342598	Control Relay (120V) (RL.4480238)	(6)
G.	0342599	Fan Control Relay (208V) (RL.4480237)	(7)

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

Item	Part #	(Qty)	Description	Wiring Item #
Heaters				
H.			Electric Defrost Heaters	
	3015372	(2)	208V Front (HE.4850346)	(8)
	3015376	(2)	208V Rear (HE.4850358)	(8)
	0444685	(2)	208V End (HE.4850502)	(8)
I.			Drain Pan Heater — Electric & KoolGas	
	0387037	(2)	120V (HE.4850240)	(9)
J			Flue Reheater 120V (HE.4850573)	
	0444712		120V (HE.4850573)	(10)
Lamps, Ballasts, LED Fixtures and Power Supply				
K.	0499399		LED Power Supply (EP.4481668)	
L.			LED Fixture *Replace with like fixtures*	

Data sheet-Reach-in RLNIE

Note: Revision M: April 2017. Updated LED energy values. Other changes marked with a bar, circle or underline.

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Spanish P/N 0527102

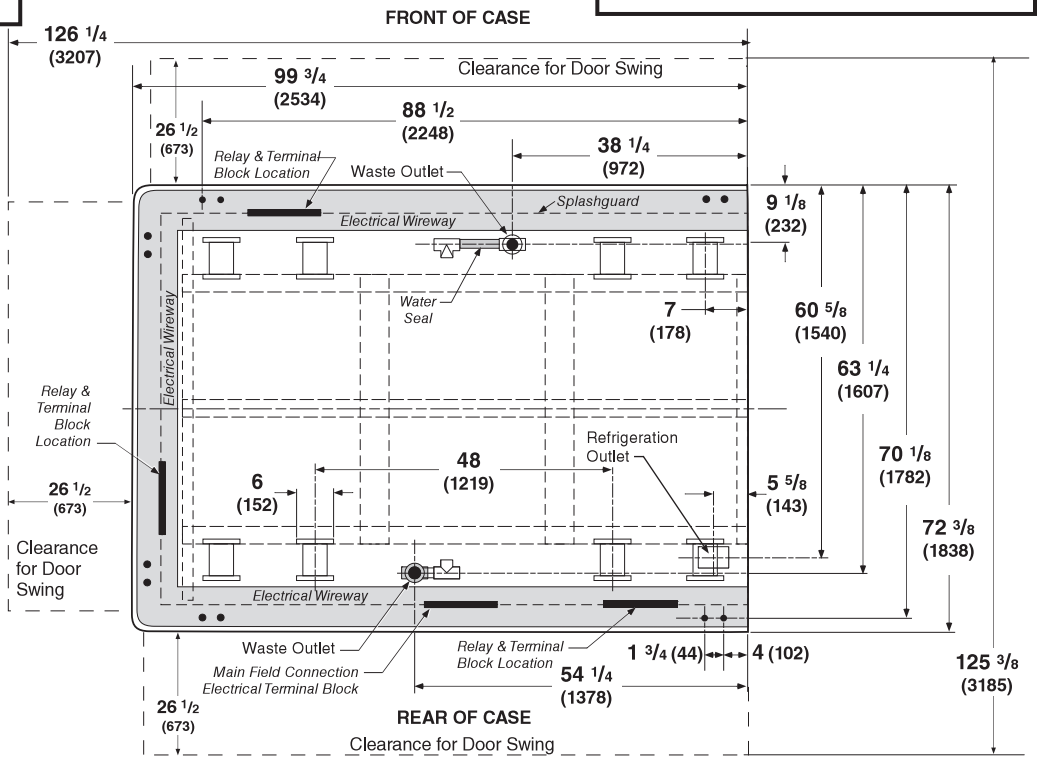
Engineering
Plan Views

Reach-in
Narrow Island
Unitized End Case

6-2009

Dimensions shown as in. & (mm).

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



	RLNIE
General	
Case Length	99 3/4 (2534)
Maximum O/S dimension of case back to front (*Includes bumpers*)	72 3/8 (1838)
Width of skid rail	3 3/4 (95)
Width of Bottom Front Support	6 (152)
Stub-up area between front skid rail and splashguard	9 (229)
Electrical Service*	
RH end of case to the center of nearest knockout	4 (102)
RH end of case to the center of LH knockout	88 1/2 (2248)
Back O/S of case to center of knockout *(Electrical Field Wiring Connection Point is at terminal.)*	70 1/8 (1781)
Waste Outlet	
RH end of case to center of waste outlet in back of case	38 1/4 (972)
RH end of case to center of waste outlet in front of case	54 1/4 (1378)
Back O/S of case to center of waste outlet	63 1/4 (1607)
Water Seal	
Edge of water seal to center of waste outlet	13 (330)
Schedule 40 drip piping	1 1/4 (32)
Field installed water seal outlets, tees, and connectors are shipped with case.	
Refrigeration Outlet	
RH end of case to center of refrigeration outlet	5 5/8 (142)
Back O/S of case to center of refrigeration outlet	60 5/8 (1541)
Outside bottom front supports from end of case	7 (178)
Distance between centerlines of bottom front supports	48 (1219)

RLNIE
With INNOVATOR II Doors
Frozen Food & Ice Cream

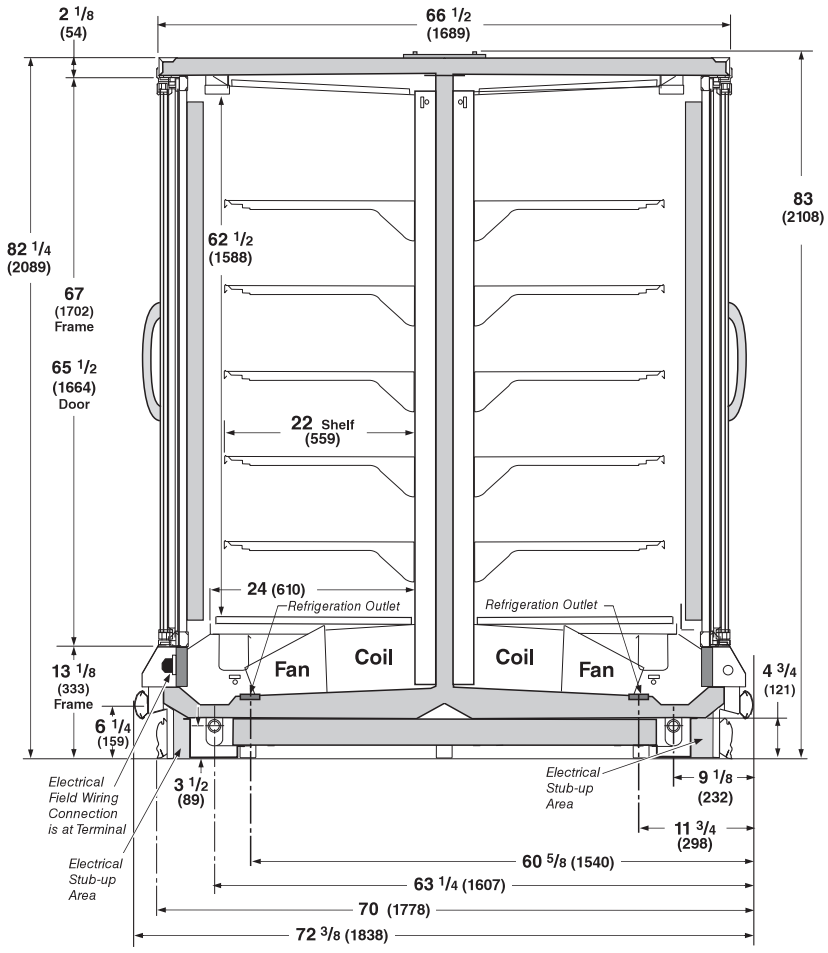
DOE 2017 Energy Efficiency Compliant

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

Standard Reach-in configuration consists of Innovator doors, energy efficient fan motors, and EcoShine II LED vertical lighting.

RLNIE

Dimensions shown as in. & (mm).



Length added to Lineup by:

Each Standard End (in.)	2
Optional End with Window (in.)	1 1/2
Insulated Partition (in.)	1 1/2

NSF Certification

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

REFRIGERATION DATA§

Note: This data is based on store temperature and humidity that does not exceed 75°F and 55% R.H.

	FF	IC	AHRI Rating
Discharge Air (°F)	1	–11	–2
Evaporator (°F)	–9	–17	–7
Unit Sizing (°F)	–12	–20	–10

Btulhr/case	**FF**	**IC**	**AHRI Rating**
Parallel	6,175	6,400	6905
Conventional	6,325	6,550	7050

§ 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

	FF	IC
Frequency (hr)	24	24
Defrost Water (lb/day)	8.6	8.6

(± 15% based on case configuration and product loading).

ELECTRIC	**FF**	**IC**
Temp Term (°F)	48	48
Failsafe (minutes)	45	45

GAS		
Duration (minutes)	20	20

OFFTIME Not Recommended

Standard Defrost Thermostat

Close on rise: close 48°F — open 33°F

CONVENTIONAL CONTROLS

Low Pressure Backup Control

	FF	IC
CI/CO (Temp °F)*	–18/–34	–26/–45

Indoor Unit Only, Pressure Defrost Termination (Temp °F)* Not Recommended

*Use a Temperature Pressure Chart to determine PSIG conversions.

Estimated Charge (per case)**

RLNIE	5.4 lb	86 oz	2.4 kg

**This is an average for all refrigerant types. Actual refrigerant charge may vary by approximately half a pound.

RLNIE
With INNOVATOR II Doors
Frozen Food & Ice Cream

Hussmann recommends against frame heater cycling with *Innovator* doors to prevent door seals from freezing to the frames and tearing.

Electrical Data

Number of Fans – 12W			RLNIE 7 Amperes	Watts
Merchandiser				
Evaporator Fans				
120V	60Hz	Standard Energy Efficient	2.10	126
220V	60Hz	Standard Energy Efficient	1.05	126
220V	60Hz	Export	2.31	350
220V	50Hz	Export	2.66	399
Door Anti-sweat Heaters (on fan circuit)			**NA**	
Frame Anti-sweat Heaters (on fan circuit)				
120V	50/60Hz	Standard	3.57	428
220V	50/60Hz	Export	1.95	428
Flue Heater				
120V	50/60Hz	Standard	1.67	200
220V	50/60Hz	Export	0.87	200
Minimum Circuit Ampacity				
120V	60Hz	Standard Energy Efficient	7.54	
220V	60Hz	Standard Energy Efficient	4.07	
220V	60Hz	Export	5.33	
220V	50Hz	Export	5.68	
Maximum Over Current Protection 120V			20	
Maximum Over Current Protection 220V			15	
Defrost				
Drain Heaters (120V 60Hz)			1.89	225
Export (230V 50Hz)			1.02	252
Electric Defrost (208V 3 Phase) per phase value			11.70	2426
Standard Vertical LED Lighting				
Hussmann EcoShine II™ - A (120V)			1.24	148.4
Hussmann EcoShine II™ - A (220V Export)			0.67	148.4
Optional Vertical LED Lighting				
Hussmann EcoShine II™ - B (120V)			1.40	167.7
Hussmann EcoShine II™ - B (220V Export)			0.76	167.7

Product Data

Recommended Usable Cube [1] ***(Cu Ft/Case)***	148.52 ft^3/Case (4.21 m^3/Case)
AHRI Total Display Area [2] **(*Sq Ft/Case*)**	104.32 ft^2/Case (9.68 m^2/Case)
Shelf Area [3] ***(Sq Ft/Case)***	185.65 ft^2/Case (17.25 m^2/Case)

[1] AHRI Refrigerated Volume less shelving and other unusable space: Refrigerated Volume/Unit of Length, ft^3/ft [m^3/m]

[2] Computed using AHRI 1200 standard methodology: Total Display Area, ft^2 [m^2]/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]

Case	
	RLNIE
lb *(kg)*	1980 (900)

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

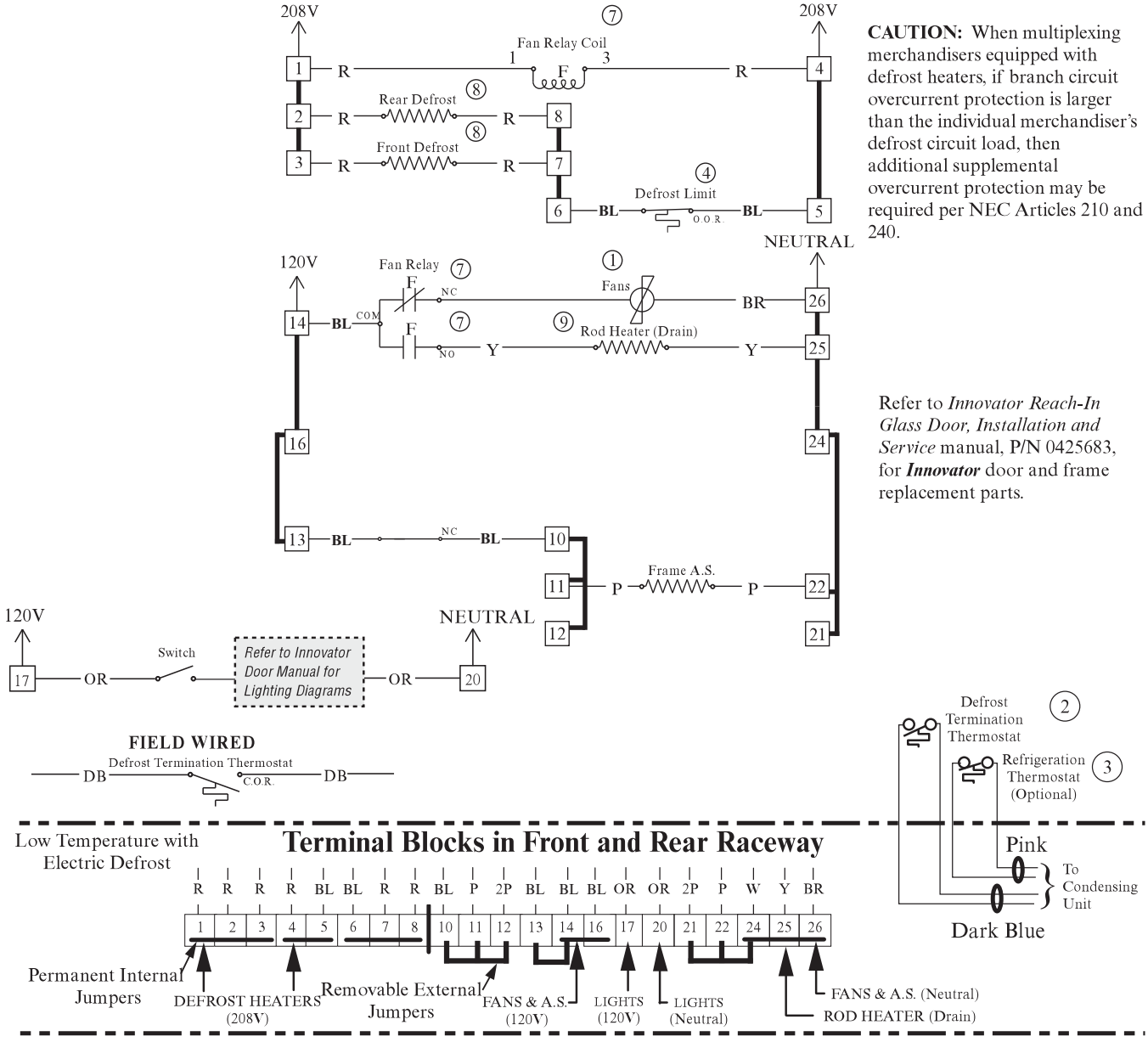
Wiring Diagram is per side — two circuits required per case.

Fan and Heater Circuits - Electric Defrost (standard)
RLNIE Front and Rear Compartment with Innovator II Doors

CIRCLED NUMBERS = PARTS LIST ITEM NUMBERS

R = Red P = Purple 2P = Purple (2 Bands) DB = Dark Blue BL = Black
LB = Light Blue Pink = Pink BR =Brown Y =Yellow OR = Orange W = White

THESE ARE MARKER COLORS (WIRE MAY VARY.)



CAUTION: When multiplexing merchandisers equipped with defrost heaters, if branch circuit overcurrent protection is larger than the individual merchandiser's defrost circuit load, then additional supplemental overcurrent protection may be required per NEC Articles 210 and 240.

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

Front and Rear Compartments Connect to Main Terminal Block at Rear (see Page 7).

Wiring Diagram is per side — two circuits required per case.

Fan and Heater Circuits - Electric Defrost (standard)
RLNIE End Compartment with Innovator II Doors

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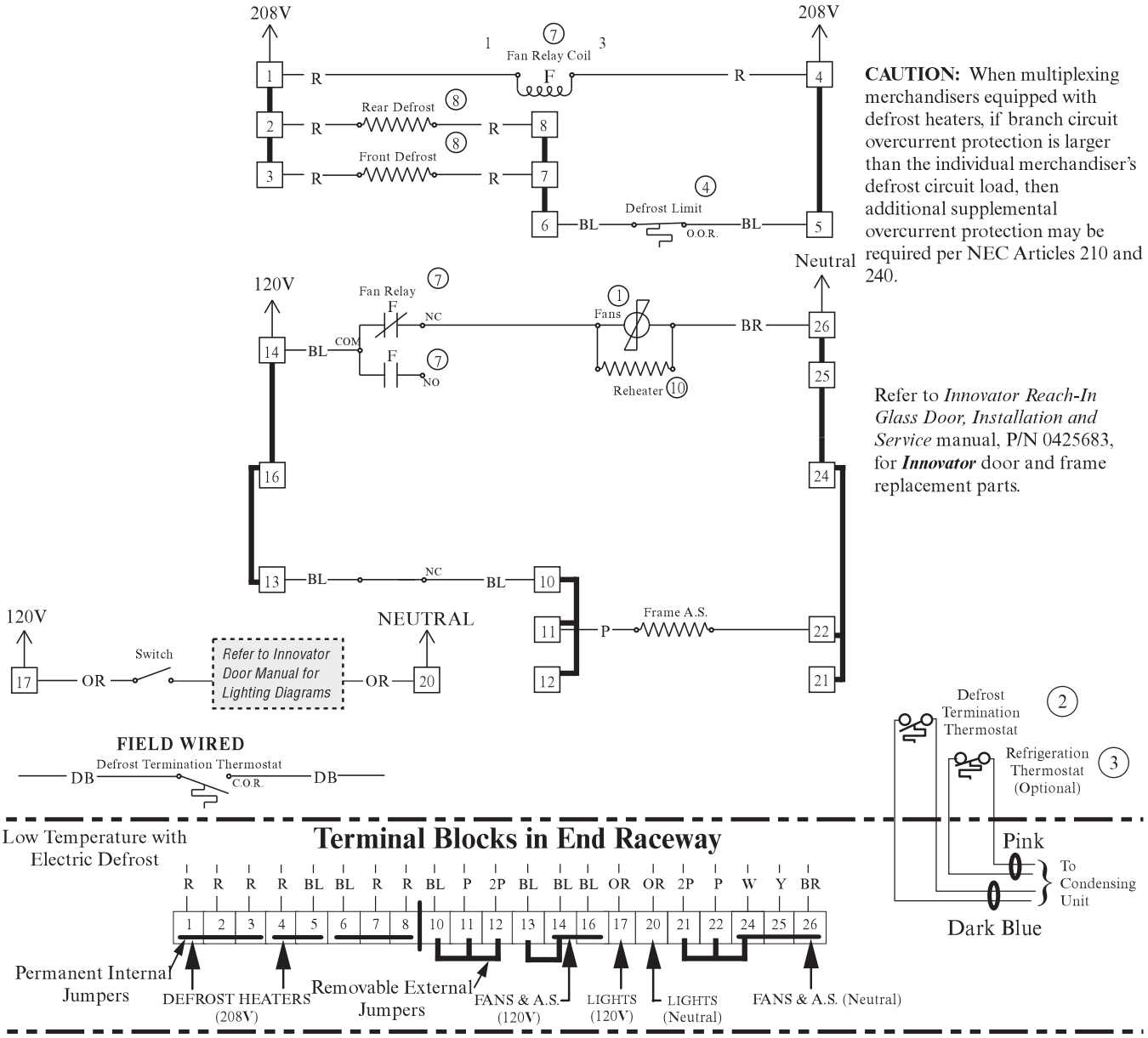

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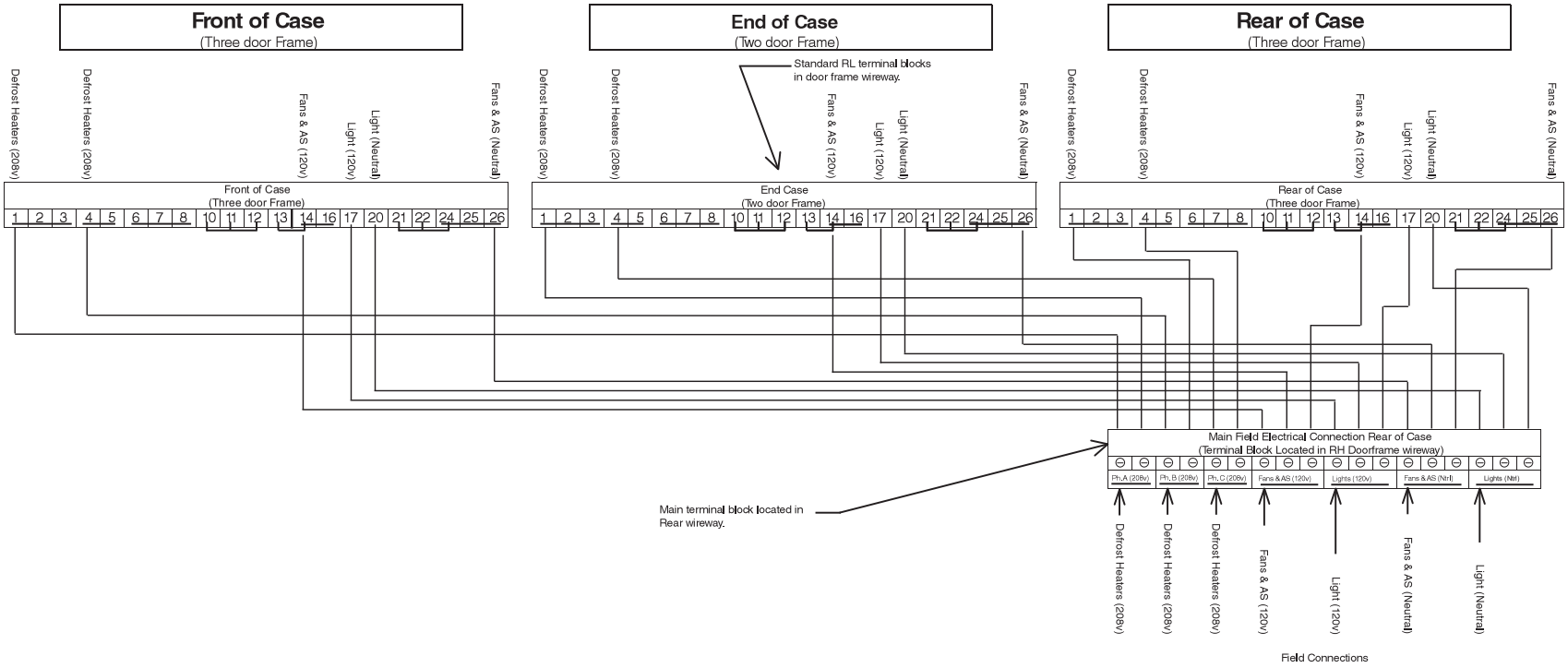
End Compartment Connects to Main Terminal Block at Rear (see Page 7).

RLNIE Wiring Diagram for Electric Defrost



Electric Defrost Sequence - Low Temperature

1. Power from the defrost contactor energizes Defrost Heaters and 208V Evaporator Fan Relay Coil (7). Relay Contacts open the fan circuit and energizes the Drain Pan Heater.
2. If the Defrost Heater raises internal air temperature above 90°F, the Defrost Limit Thermostat (4) will open.
3. Temperature rise of the evaporator closes the Relay Control Thermostat (5) at about 35°F, energizing 120V A.S. Relay Coil (6). This relay's contacts open the Frame and Door Heater Circuits.
4. When Defrost Termination Thermostat ends defrost period, the defrost contactor opens the Defrost Heater and Evaporator Fan Relay Coil Circuits. The Drain Pan Heater goes off and fans are on.
5. Temperature fall of the evaporator opens the Relay Control Thermostat (5) at about 20°F, de-energizing 120V A.S. Relay Coil (6). A.S. Relay Contacts close the Frame Heater Circuits.

Wiring Diagram is per side — two circuits required per case.

Fan and Heater Circuits - Gas Defrost (optional)
RLNIE Front and Rear Compartment with Innovator II Doors

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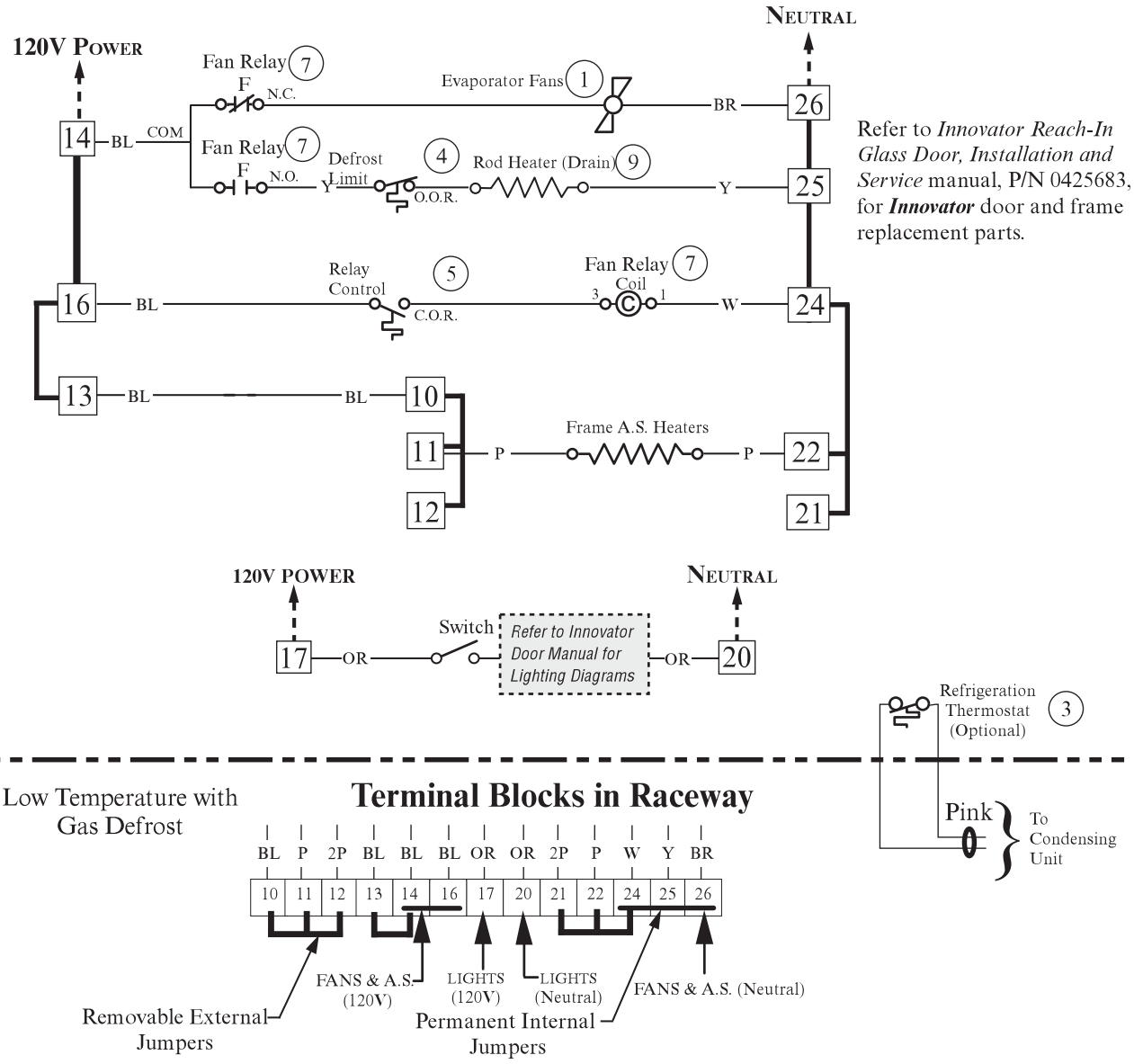

Front and Rear Compartments Connect to Main Terminal Block at Rear (see Page 10).

Wiring Diagram is per side — two circuits required per case.

Fan and Heater Circuits - Gas Defrost (optional)
RLNIE End Compartment with Innovator II Doors

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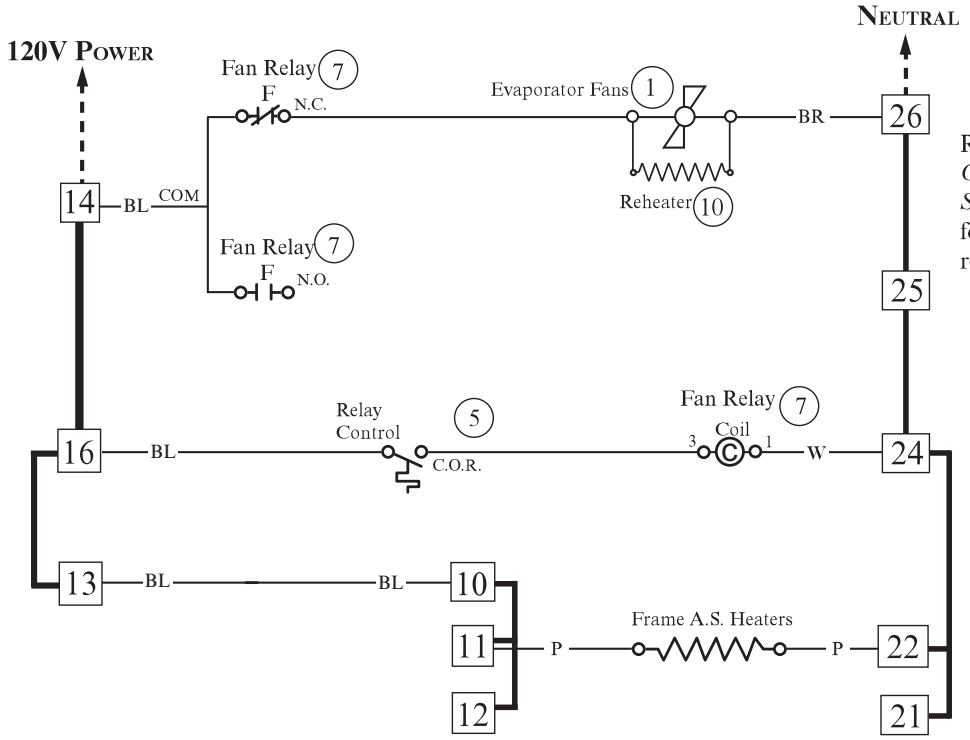

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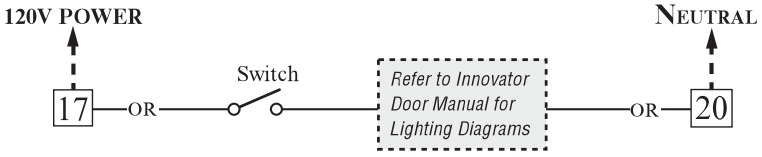
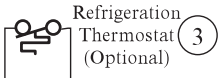
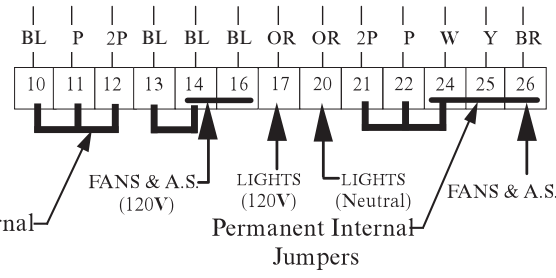




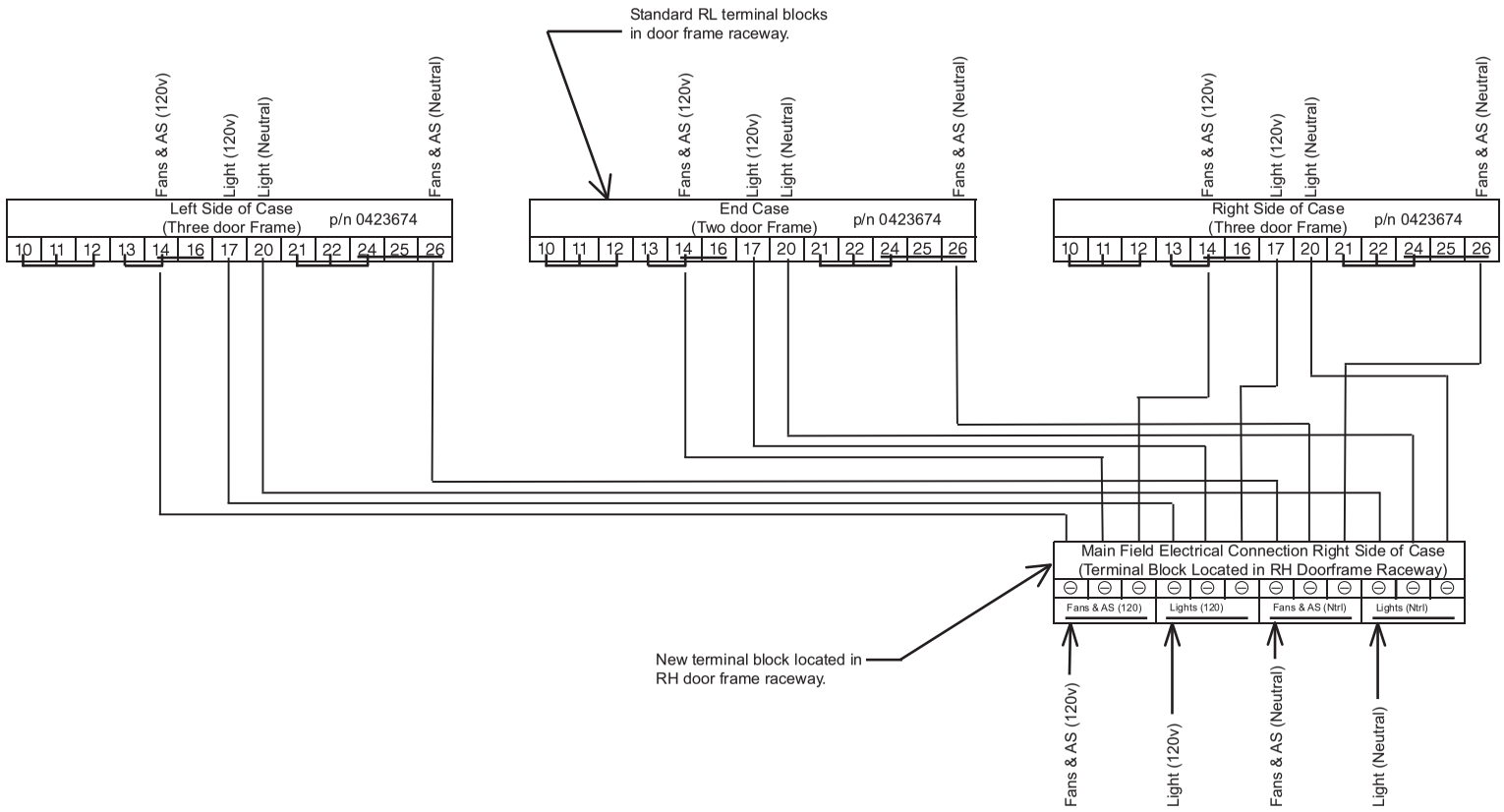
Low Temperature with Gas Defrost

Terminal Blocks in Raceway



End Compartment Connects to Main Terminal Block at Rear (see Page 10).

RLNIE Wiring Diagram for Gas Defrost



Gas Defrost Sequence - Low Temperature

1. Defrost vapor enters evaporator causing a rise in temperature. At about 35°F the Control Relay Thermostat (5) closes the Fan Relay Coil (7) and Control Relay Coil (6) circuit. The Coil opens the Fan, Door Heater, and Frame Heater circuits, while energizing the Drain Pan Heater (9).
2. If the Drain Pan Heater (9) raises internal air temperature above 90°F, the Heater Limit Thermostat (4) will open.
3. When the defrost timer ends a defrost period, the evaporator temperature will start to fall. At about 20°F, the Control Relay Thermostat will open, de-energizing the Control Relay Coil and Fan Relay Coil (7). Control and Fan Relay's will open the Drain Pan Heater circuits, and will close the Fan and Frame Heater circuits.