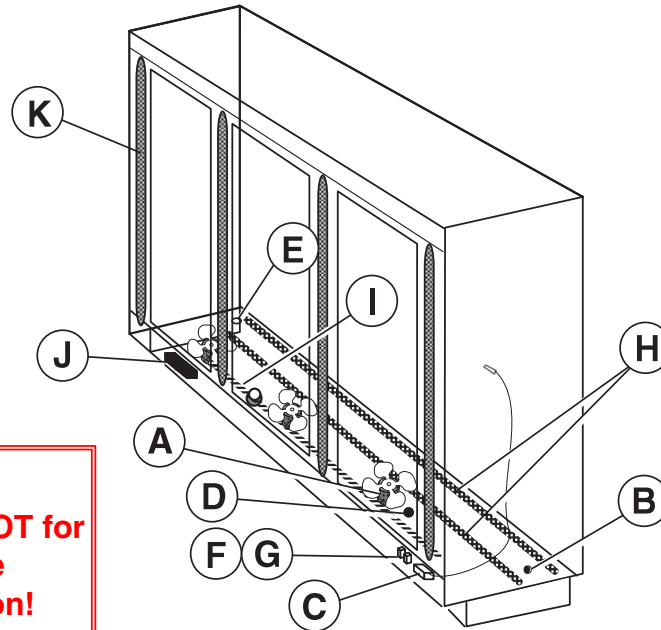


We reserve the right to change or revise specifications and product design in connection with any feature of our products. Such changes do not entitle the buyer to corresponding changes, improvements, additions or replacements for equipment previously sold or shipped.



**DOE 2017**  
Energy Efficiency  
Compliant

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

Item	Part #	Description	Wiring Item #	Item	Part # (Qty)	Description	Wiring Item #
<b>FAN ASSEMBLIES, AND THERMOSTATS</b>				<b>HEATERS</b>			
A.	12W Standard Energy Efficient Fan Assembly (1)			H.	Electric Defrost Heaters – Front (208V) (8)		
	0477655	Fan Motor, Evaporator (MO.4410546)			3015372 (1)	2 Door Models (HE.4850346)	
	0461805	Fan Blade (FB.4780446)			3015373 (1)	3 Door Models (HE.4850337)	
B.	0474033	Standard Non-adjustable Defrost Thermostat (CT.4440726)	(2)		Electric Defrost Heaters — Rear (208V) (8)		
C.		Optional Adjustable Refrigeration Thermostat	(3)		3015376 (1)	2 Door Models (HE.4850358)	
D.	0344662	Defrost Limit Thermostat (CT.4440261)	(4)		3015377 (1)	3 Door Models (HE.4850359)	
E.	0461814	Relay Control Thermostat or Fan and Anti-sweat Heater Thermostat (CT.4481296)(KG Only)	(5)	I.	Drain Pan Heater (Electric & KoolGas) (120V) (9)		
<b>RELAYS</b>					0387036 (1)	2 Door Models (HE.4850239)	
F.	0342598	Anti-Sweat Control Relay (120V KoolGas) (RL.4480238)	(6)		0387037 (1)	3 Door Models (HE.4850240)	
G.	0342599	Fan Control Relay (208V) (RL.4480237)	(7)	<b>LED FIXTURES AND POWER SUPPLY</b>			
				J.	0499399	LED Power Supply (EP.4481668)	
				K.		LED Fixture	
				<i>Replace with like fixtures</i>			

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

Data sheet-Reach-in RLNE

Note: Revision H: Updated wiring diagrams on page 6 and 7.

# Engineering Plan Views

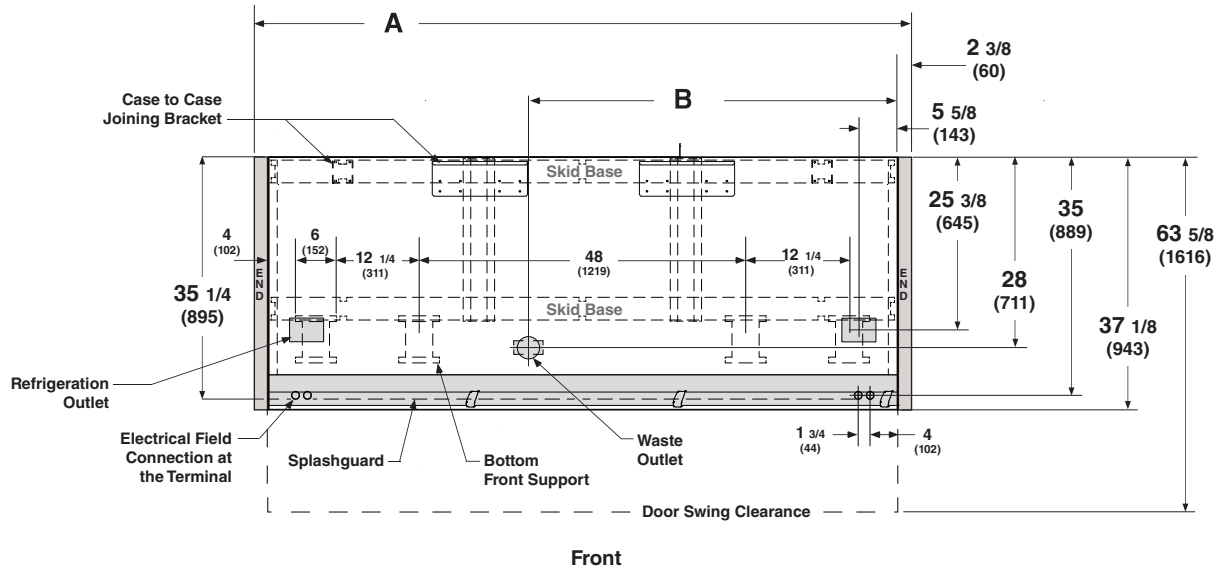
## Narrow Reach-In 2 & 3 Door

# RLNE Plan View

## PHYSICAL DATA

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

Dimensions shown as in. & (mm).



	2 Dr	3 Dr
<b>General</b>		
<b>(A)</b> Case Length (includes 2 ends) Adds 2 3/8 in (60 mm) to line up Maximum O/S dimension of case back to front (Includes bumper)	66 3/4 (1695)	97 1/4 (2470)
Back of case to rear of splashguard	37 1/8 (943)	37 1/8 (943)
Width of Skidrail	32 3/4 (832)	32 3/4 (832)
Width of Bottom Front Support	4 1/2 (114)	4 1/2 (114)
Stub-up area between front skidrail / splashguard	6 (152)	6 (152)
	6 3/8 (1000)	6 3/8 (1000)
<b>Electrical Service</b>		
RH end of case to the center of nearest knockout	4 (102)	4 (102)
RH end of case to the center of LH knockout	58 (1473)	88 1/2 (2248)
Back O/S of case to center of knockout	35 (956)	35 (956)
*NOTE: Electrical Field Wiring Connection Point is at terminal.		
<b>Waste Outlet</b>		
<b>(B)</b> Right end of case to center of waste outlet	23 3/4 (603)	54 1/4 (1378)
Back O/S of case to center of waste outlet	28 (711)	28 (711)
<b>Water Seal</b>		
Edge of water seal to center of waste outlet	13 (330)	13 (330)
Outside diameter of drip piping	1 1/4 (32)	1 1/4 (32)
** NOTE: Field installed water seal outlets, tees, and connectors are shipped with case		
<b>Refrigeration Outlet</b>		
RH end of case to center RH refrigeration outlet	5 3/8 (137)	5 3/8 (137)
Back O/S of case to center of refrigeration outlet	25 3/8 (645)	25 3/8 (645)
Outside bottom front supports from end of case	6 3/4 (170)	6 3/4 (170)
Center bottom front support from Centerline	24 (610)	24 (610)
Distance between Center and Outside supports will vary		

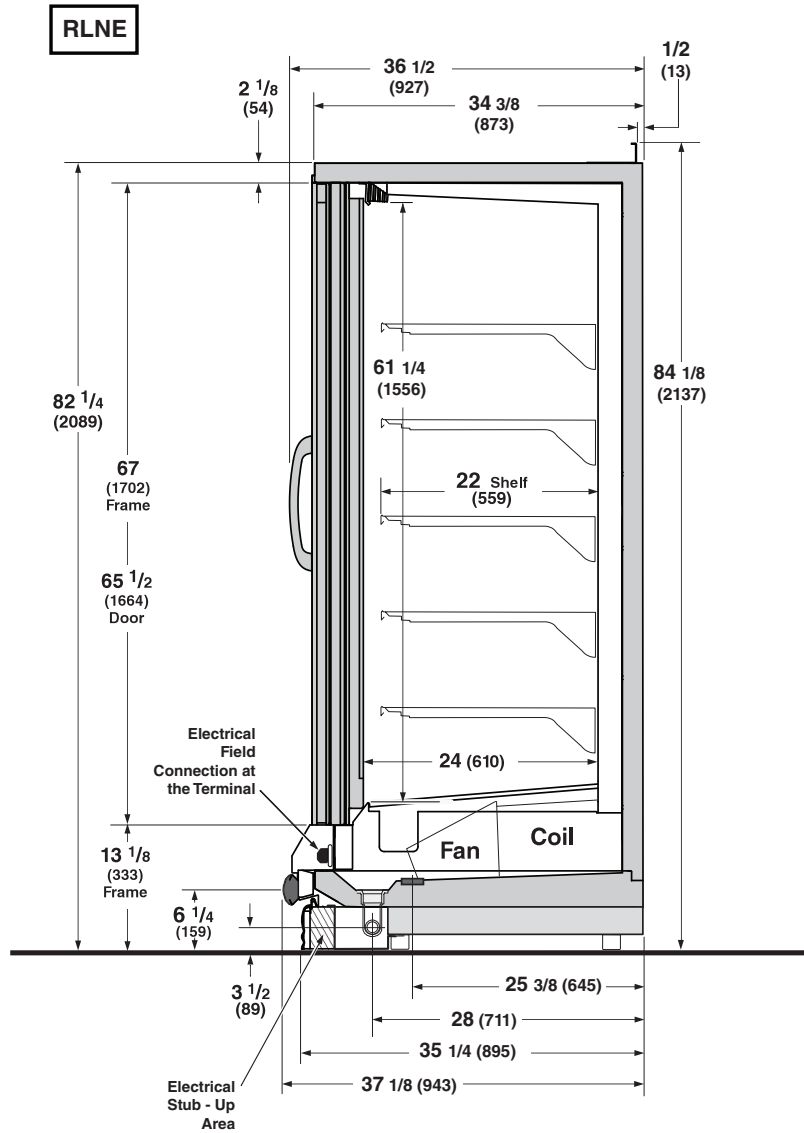
# Narrow Reach-in 2 and 3 Door Models INNOVATOR Doors Standard



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 I doors, energy efficient fan motors, and EcoShine II LED vertical lighting.**

Dimensions shown as in. & (mm).



### PHYSICAL DATA

#### Estimated Charge \*\*\*

2Dr	1.8 lb	29 oz	0.8 kg
3Dr	2.7 lb	43 oz	1.2 kg

\*\*\*This is an average for all refrigerant types. Actual refrigerant charge may vary by approximately half a pound (8 oz/0.2 kg).

#### NSF Certification

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

## RLNE

**With Innovator Doors or Innovator III Doors  
Low Temperature**

### REFRIGERATION DATA<sup>§</sup>

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)	-5	-12	-2
Evaporator (°F)	-11	-19	-7
Unit Sizing (°F)	-14	-22	-10

\*With door A/S controller

#### Btu/hr/Door

##### INNOVATOR

Parallel	955	1065	910
Conventional	970	1085	940

##### INNOVATOR III

Parallel	935	1035	
Conventional	955	1055	

§ 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/Dr/day)	1.2	1.2

(± 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

### 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.

Anti-sweat controls are standard for all low temperature Reach-in cases with Innovator I doors.

# RLNE

With Innovator Doors or Innovator III Doors  
Low Temperature

**Husmann 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

Number of Fans—12W	2Dr	3Dr		
	2	3		
Merchandiser	Amperes		Watts	
	2Dr	3Dr	2Dr	3Dr
<b>Energy Efficient Evaporator Fan</b>				
120V 50/60Hz	0.60	0.90	36	54
240V 50/60Hz Export Innovator	0.30	0.45	36	54
<b>Door Anti-sweat Heaters (on fan circuit)</b>				
120V 50/60Hz Innovator*	1.5	2.3	182	273
120V 50/60Hz Innovator III	0.9	1.3	104	156
240V 50/60Hz Export Innovator	0.8	1.2	183	275
220V 50/60Hz Export Innovator III	NA	NA	NA	NA
* Maximum door watts without anti-sweat cycling controls shown.				
<b>Frame Anti-sweat Heaters (on fan circuit)</b>				
120V 50/60Hz	0.78	1.18	94	141
240V 50/60Hz Export	0.45	0.67	107	161
<b>Minimum Fan Circuit Ampacity</b>				
120V 50/60Hz Innovator	3.1	4.9		
120V 50/60Hz Innovator III	2.5	3.9		
240V 50/60Hz Export Innovator	1.8	2.9		
240V 50/60Hz Export Innovator III	1.0	1.6		
<b>Maximum Over Current Protection 120V</b>				
	<b>20</b>	<b>20</b>		
<b>Maximum Over Current Protection 240V</b>				
	15	15		
<b>Defrost</b>				
Drain Heaters (120V)	0.63	1.25	75	150
(Export: 220V 50 Hz)	0.34	0.76	84	168
(Export: 240V 50 Hz)	0.41	0.83	100	200
<b>208V 1Ø</b> Electric Defrost	6.72	10.08	1400	2100
(Export: 220V 50 Hz)	7.11	10.66	1564	2345
(Export: 240V 50 Hz)	7.76	11.65	1864	2796
<b>Standard Vertical LED Lighting</b>				
	<b>2Dr</b>	<b>3Dr</b>	<b>2Dr</b>	<b>3Dr</b>
Husmann EcoShine II™ - A (120V)	0.31	0.46	37.1	55.6
Husmann EcoShine II™ - A (220V Export)	0.17	0.25	37.1	55.6
<b>Optional Vertical LED Lighting</b>				
Husmann EcoShine II™ - B (120V)	0.36	0.52	43.2	62.3
Husmann EcoShine II™ - B (220V Export)	0.20	0.28	43.2	62.3

Anti-sweat controls are standard for all low temperature Reach-in cases with Innovator I doors.

<h1>RLNE</h1> <p>With Innovator Doors or Innovator III Doors Low Temperature</p>
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## Product Data

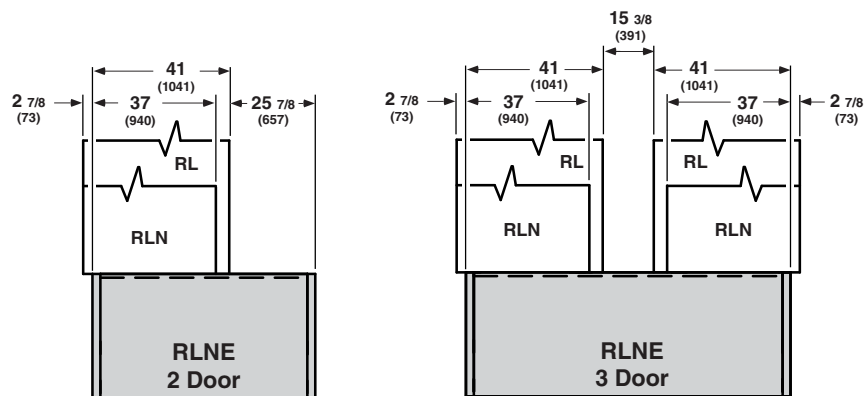
<i>Recommended Usable Cube</i> <sup>1</sup> (Cu Ft/Dr)	22.80 ft <sup>3</sup> /Dr (0.65 m <sup>3</sup> /Dr)
<i>AHRI Total Display Area</i> <sup>2</sup> (Sq Ft/Dr)	13.04 ft <sup>2</sup> /Dr (1.21 m <sup>2</sup> /Dr)
<i>Shelf Area</i> <sup>3</sup> (Sq Ft/Dr)	28.50 ft <sup>2</sup> /Dr (2.65 m <sup>2</sup> /Dr)

- <sup>1</sup> AHRI Refrigerated Volume less shelving and other unusable space: Refrigerated Volume/Unit of Length, ft<sup>3</sup>/ft [m<sup>3</sup>/m]
- <sup>2</sup> Computed using AHRI 1200 standard methodology: Total Display Area, ft<sup>2</sup> [m<sup>2</sup>]/Unit of Length, ft [m]
- <sup>3</sup> 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.

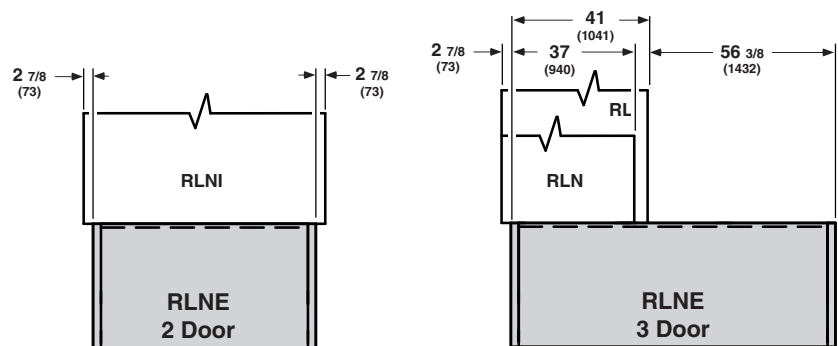
ESTIMATED SHIPPING WEIGHT <sup>4</sup>			
Case	2 Dr	3 Dr	Solid End (each)
lb (kg)	880 (399)	1090 (509)	55 (25)

<sup>4</sup> Actual weights will vary according to optional kits included.

## RLNE End Case Configurations



Above shows case lineup on left.  
Lineup may also be joined on the right.

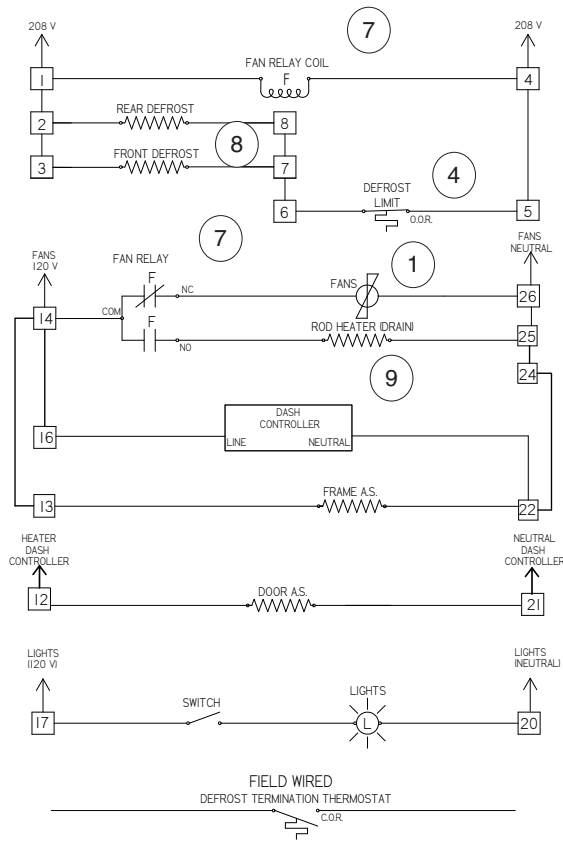


Above shows case lineup on left.  
Lineup may also be joined on the right.

# Fan and Heater Circuits - Electric Defrost (standard)

## Low Temperature

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

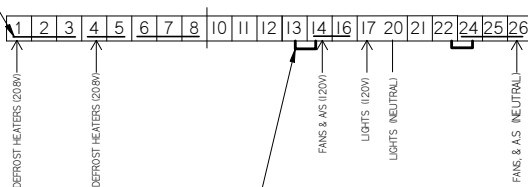


**CAUTION:** When multiplexing merchandisers equipped with defrost heaters, if branch circuit overcurrent protection is larger than the individual merchandiser's defrost circuit load, then additional supplemental overcurrent protection may be required per NEC Articles 210 and 240.

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

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THE HEAVY LINES DRAWN INSIDE THE TERMINAL BLOCKS REPRESENT PERMANENT INTERNAL JUMPERS.



THE HEAVY LINES DRAWN OUTSIDE THE TERMINAL BLOCKS REPRESENT REMOVABLE EXTERNAL JUMPERS.

### 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. 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.
4. Standard low temperature Reach In cases with Innovator I doors are shipped with the DASH controller for door anti-sweat heater control installed. Do not connect the DASH controller input to a centralized anti-sweat system. It must be connected to a continuous 120V circuit for proper operation.
5. If the case is connected to a centralized anti-sweat controller that meets DOE compliance requirements, the DASH controller is not installed on the case. Feed the 120V controller output into terminal #12.
6. Options may be installed that have additional or replacement wiring diagrams.
7. Reach In cases with Innovator III doors do not have the DASH controller.

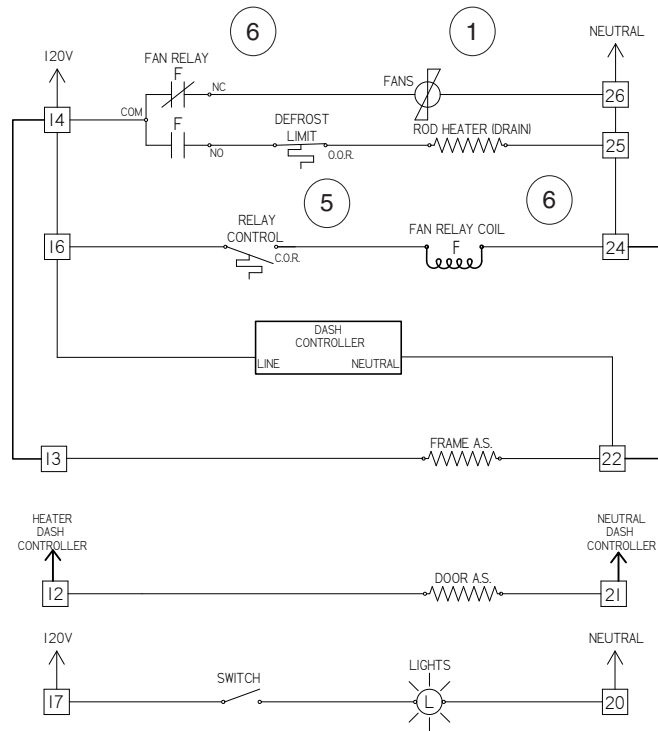
# Fan and Heater Circuits - Gas Defrost (optional)

## Low Temperature

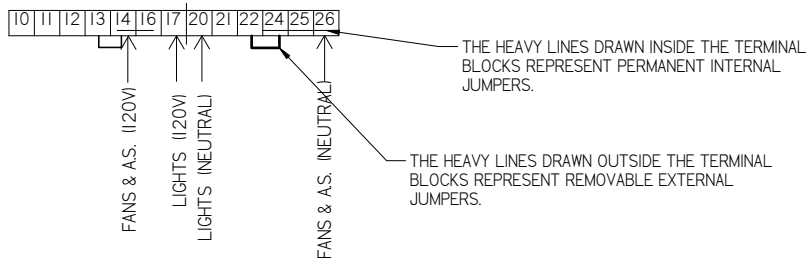
CIRCLED NUMBERS = PARTS LIST ITEM NUMBERS

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

THESE ARE MARKER COLORS (WIRE MAY VARY.)



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



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### 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, Door Heater, and Frame Heater circuits.
4. Standard low temperature Reach In cases with Innovator I doors are shipped with the DASH controller for door anti-sweat heater control installed. Do not connect the DASH controller input to a centralized anti-sweat system. It must be connected to a continuous 120V circuit for proper operation.
5. If the case is connected to a centralized anti-sweat controller that meets DOE compliance requirements, the DASH controller is not installed on the case. Feed the 120V controller output into terminal #12.
6. Options may be installed that have additional or replacement wiring diagrams.
7. Reach In cases with Innovator III doors do not have the DASH controller.