

Certifications



UL EPH Certification

This merchandiser model is manufactured to meet ANSI/SCC Standards requirements for construction, materials, and cleanability.

⚠ WARNING

Component parts shall be replaced with like components, and servicing shall be done by factory authorized service personnel only, so as to minimize the risk of possible ignition due to incorrect parts or improper service.

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.

Technical Data Sheet

RL-W R-290, Water-cooled

Self-Contained Reach-in Merchandiser with Innovator or Innovator III Doors

Applications
Frozen Food, Ice Cream

P/N 3041586 Rev L
June 2024

Models Covered:
RL2W, RL3W, RL4W, RL5W

Table of Contents

Performance Data	2
Product Data	2
Cross-section View	3
Plan View	4
Electrical Specifications	5
Estimated Shipping Weight	6
Shelf Options	6
Wiring Diagram(s)	7
Top Views	15
Revision History	19

RL-W

Frozen Food / Ice Cream

Refrigeration Data ¹

RL-W		Optimal Shelf Life	
Application		Frozen Food (FF)	Ice Cream (IC)
Temperature	Discharge Air °F (°C)	-3 (-19.5)	-10 (-23)

Notes:

1. All data based on store temperature and humidity that does not exceed NSF Type 1 ambient conditions of 75°F and 55% relative humidity, except where noted.
2. Water supply design conditions are 50 to 115°F (10 to 40°C).

Compressor Data

Total Heat of Rejection	BTU/Hr
2 Dr	5,742
3 Dr	7,848
4 Dr	11,484
5 Dr	12,534

RL-W

Cooling Water Pressure Drop ⁴

	PSI
2 Dr	4
3 Dr	4
4 Dr	5
5 Dr	5

RL-W

Glycol/Water Flow Rate ⁵

	GPM	LPM
2 Dr	1.5	5.7
3 Dr	2.0	7.6
4 Dr	2.5	9.5
5 Dr	3.0	11.4

Defrost Data

Frequency (hours between defrost)	24
	RL-W
Time (minutes)	45
Temp Termination (°F)	48
<i>ELECTRIC OR GAS</i>	Electric
Defrost Water ³	1.2 lb/dr/day (0.5 kg/m)

Cooling Water Design TD

10°F

⁴ Auto-Balancing Valve requires a minimum of 2 PSI to operate. Subtract 2 PSI if the Auto-Balancing Valve is not supplied.

Charge per unit ⁶

2 Dr	0.33 lb	5.3 oz	150 g
3 Dr	0.33 lb	5.3 oz	150 g
4 Dr	0.33 lb	5.3 oz	150 g
5 Dr	0.33 lb	5.3 oz	150 g

⁵ Use a pre-mixed inhibited glycol solution. If the mixing is to be done on site, use only distilled or de-ionized water (do not use city water).

⁶ Maximum R290 charge per condensing unit = 150 g.

⁶ Charge per unit per coil section.

Water Connections Size

A ¾" female NPT fitting is required to connect to the ¾" male NPT fitting that is provided on top of the case for inlet and outlet water connections. Optional hose kits are available that include two 6' hoses with ¾" female NPSM fittings. Maximum working pressure of water side components: 100 psig

Product Data

Gross Refrigerated Volume ⁷ (Cu Ft/Dr)	35.54 ft ³ /dr (1.01 m ³ /dr)
AHRI Total Display Area ⁸ (Sq Ft/Dr)	13.31 ft ² /dr (1.24 m ² /dr)
Shelf Area ⁹ (Sq Ft/Dr)	29.32 ft ² /dr (2.72 m ² /dr)

⁷ AHRI Gross Refrigerated Volume: Refrigerated Volume/Unit of Length, ft³/dr [m³/dr]

⁸ Computed using AHRI 1200 standard methodology: Total Display Area, ft² [m²]/Unit of Length, door

⁹ Shelf surface area is composed of bottom deck plus standard shelf complement for this model: (5) 26-inch shelves, evenly distributed vertically.

Self-Contained R290 Propane Reach-in Merchandiser,
 2, 3, 4 & 5 Door Models, 6 Display Levels,
 Water-cooled, Self-Contained R-290

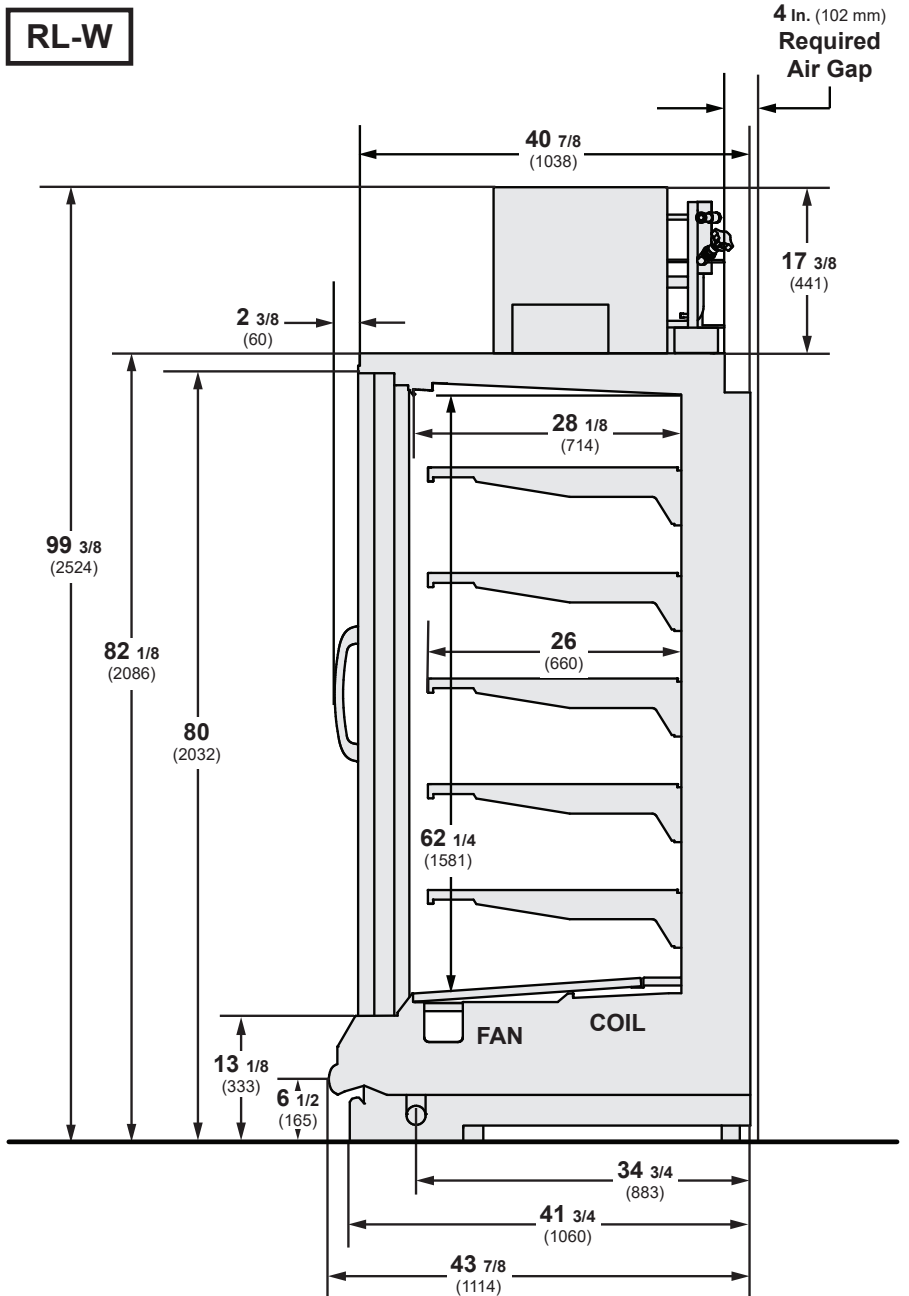
RL-W
 Frozen Food / Ice Cream

DOE 2017
 Energy Efficiency
 Compliant

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

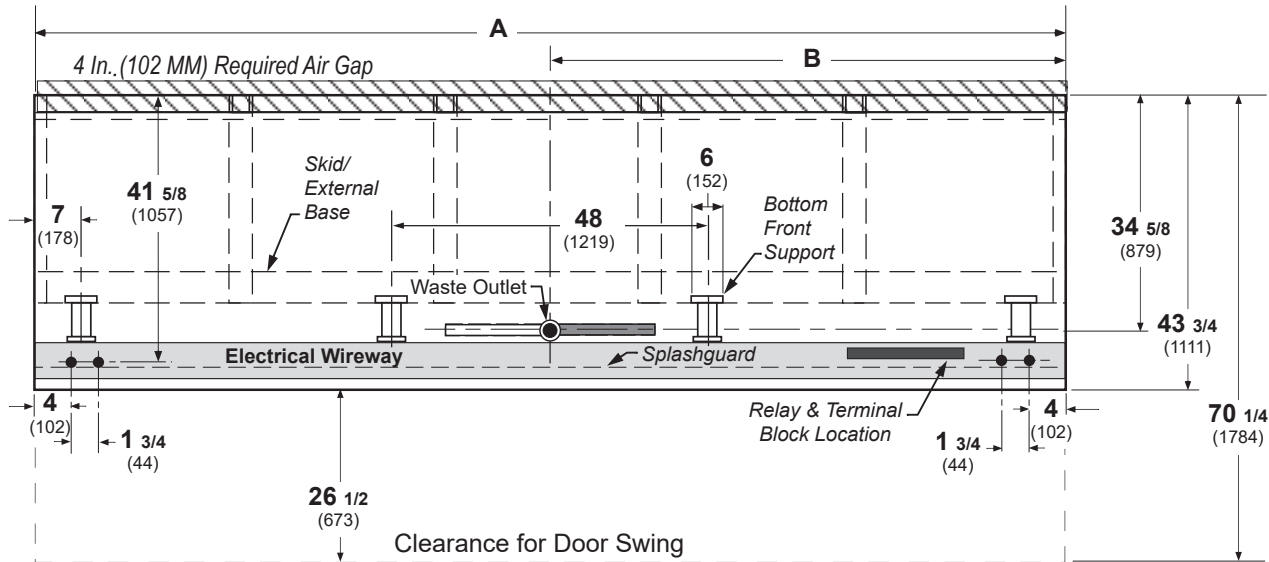
Shelf complement shown as tested:
 Five rows of shelves (26-in) spaced
 equally between bottom display pan
 and interior top panel.

Dimensions shown as in. and (mm).



4-in. between back to back cases.


Dimensions shown as in. and (mm).



(4 Door Model shown above)

	2 Dr	3 Dr	4 Dr	5 Dr
General				
(A) Case Length (without ends or partitions) Each end and insulated partition adds 2 in. (51 mm) to case line up; each window end or insulated partition adds 1 1/2 in. (38 mm).	62 (1575)	92 1/2 (2350)	122 7/8 (3121)	153 3/8 (3896)
Maximum O/S dimension of case back to front (includes bumper) (Add 26 1/2 in (673 mm) for door swing.)	43 3/4 (1111)	43 3/4 (1111)	43 3/4 (1111)	43 3/4 (1111)
Back of case to rear of splashguard	39 7/8 (1013)	39 7/8 (1013)	39 7/8 (1013)	39 7/8 (1013)
Width of Skidrail	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 (Field Electrical Wiring Connection)				
RH End of case to center of Electrical Wiring Connection (top of case)	13 3/4 (349)	13 3/4 (349)	13 3/4 (349)	13 3/4 (349)
Back outside of case to center of Electrical Wiring Connection	5 1/2 (140)	5 1/2 (140)	5 1/2 (140)	5 1/2 (140)
Waste Outlets (with required drain extension)				
(B) RH End of case to the center of waste outlet	23 7/8 (606)	54 1/4 (1378)	46 1/4 (1175)	76 5/8 (1946)
Back O/S of case to center of waste outlet	34 5/8 (879)	34 5/8 (879)	34 5/8 (879)	34 5/8 (879)
Schedule 40 PVC drip pipe	1 1/4 (32)	1 1/4 (32)	1 1/4 (32)	1 1/4 (32)
Water Seal				
Edge of water seal to center of waste outlet	13 (330)	13 (330)	13 (330)	13 (330)
**NOTE: Field installed water seal outlets, tees, and connectors are shipped with the case.				

Electrical Data

Number of Fans 8.25-in.	2 dr	3 dr	4 dr	5 dr						
	2	3	4	5						
		Amperes					Watts			
Evaporator Fan 120V 50/60Hz	2 dr	3 dr	4 dr	5 dr	2 dr	3 dr	4 dr	5 dr		
	0.60	0.90	1.20	1.50	36	54	72	90		
Door Anti-sweat Heaters (on fan circuit) 120V 50/60Hz Innovator	1.50	2.30	3.00	3.80	182	273	364	455		
120V 50/60Hz Innovator III	0.90	1.30	1.70	2.20	104	156	208	260		
Frame Anti-sweat Heaters (on fan circuit) 120V 50/60Hz	0.78	1.18	1.57	1.97	94	141	188	236		
Condensing Unit (208V, 3 ph, 60 Hz) Standard NOTE: One compressor can start at a time.										
Compressor RLA	6.3	7.0	11.2	11.9						
Compressor LRA	58/unit	58/unit	58/unit	58/unit						
Merchandise Circuit Requirements (208V, 3 ph, 60 Hz)										
Total Amps	7.8	10.1	15.7	17.3						
Maximum Current Capacity (MCA)	9.6	12.6	18.0	21.0						
Maximum Over Current Protection (MOPD)	20	20	20	25						
										
					L21-20P	L21-30P				
Optional Electrical Plug - NEMA					L21-20P (2, 3, 4 dr)	L21-30P (5 dr)				
NOTE: MOPD for RL5W is 25 amps for hard-wired cases. Cord-connected cases use a 30 amp plug, and must be connected to a 30 amp receptacle.										
Defrost										
Drain Heaters (120V)	0.63	1.25	2.00	2.5	75	150	240	300		
Plenum Heaters (120V)	1.30	1.92	2.60	3.22	156	230	312	386		
Electric Defrost (208V)	6.72	10.08	13.46	16.82	1400	2100	2800	3500		

Only lighting configurations that are compliant with the U.S. Dept. of Energy (DOE) 2017 regulation are available for sale for use in the U.S.A.

		Amperes					Watts			
STANDARD LED LIGHTING	2 Dr	3 Dr	4 Dr	5 Dr	2 Dr	3 Dr	4 Dr	5 Dr		
Ultra (120V)	0.35	0.50	0.65	0.80	42	60	78	96		
Ultra (220V Export)	0.19	0.27	0.35	0.43	42	60	78	96		

RL-W

Frozen Food / Ice Cream

ENDS or PARTITIONS

Each standard end and each insulated partition adds 2 in. (38 mm) to case line up.

PHYSICAL DATA

Merchandiser Drip Pipe (in.) 1 1/4
Schedule 40 PVC

ESTIMATED SHIPPING WEIGHT †

Case	2 Dr	3 Dr	4 Dr	5 Dr	Solid End (each)
lb (kg)	1047 (475)	1345 (610)	1595 (769)	1874 (895)	55 (25)

† Actual weights will vary according to optional kits included.

Shelf Options

Approved shelf sizes for standard (horizontal, 2-3 position brackets) displays:

22-inch
24-inch
26-inch

Contact engineering for non-standard display recommendations.

Optimal number of Shelves: 5 per door

Maximum number of Shelves: 5 per door

Standard shelf complement for test purposes: (5 per door) 26-inch shelves, evenly distributed vertically

CoreLink Propane Wiring - 2 & 3 Door

RL-W Frozen Food / Ice Cream

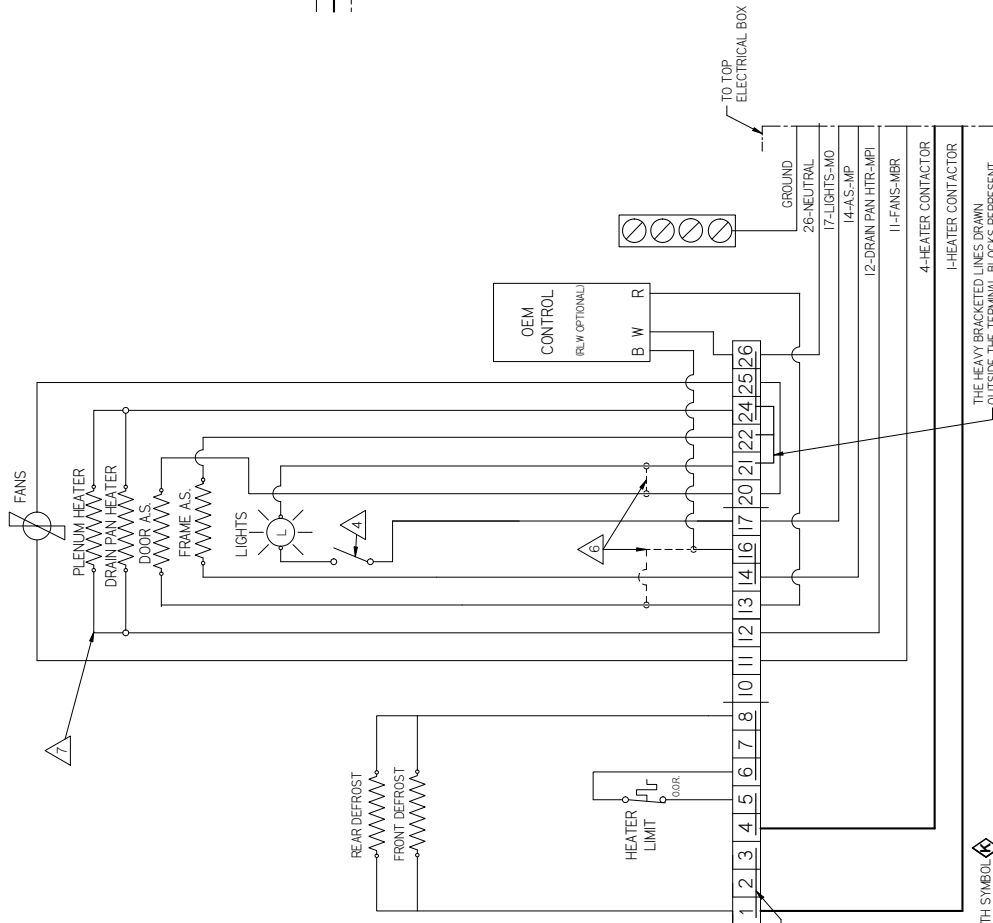
_____ FACTORY WIRE AWG 14 UNLESS SPECIFIED
 - - - - - FACTORY WIRE AWG 12
 - - - - - FIELD INSTALLED WIRE

WIRE COLOR
 BK BLACK
 BL BLUE
 GN GREEN
 RD RED
 WT WHITE
 YL YELLOW
 BR BROWN

USE WIRE MARKER AT EACH END OF WIRE AS FOLLOWS:

MBR-----MARKER BROWN FANS
 MO-----MARKER ORANGE LIGHTS
 MP-----MARKER PURPLE ANTISWEAT
 MFI-----MARKER PINK DRAIN PAN HTR

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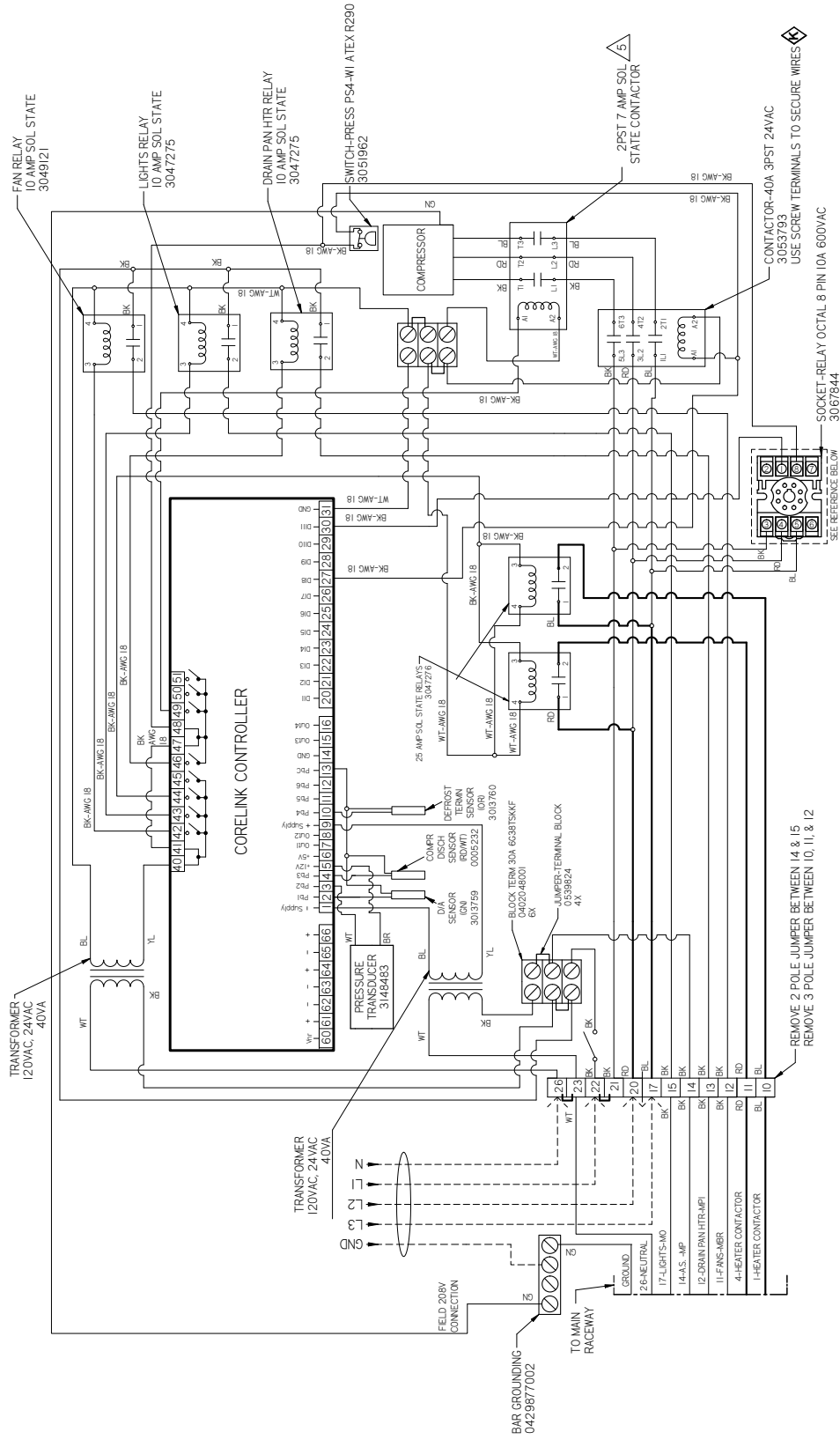
- THE HEAVY LINES DRAWN INSIDE THE TERMINAL BLOCKS REPRESENT PERMANENT INTERNAL JUMPERS.
- THE HEAVY BRACKETED LINES DRAWN OUTSIDE THE TERMINAL BLOCKS REPRESENT REMOVABLE EXTERNAL SCREW-IN JUMPERS.
- NOTES
 1- APPLICABLE STANDARDS / SPECIFICATIONS
 2- ASME Y14.5M-1984 DIMENSIONS AND TOLERANCES
 3- ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED ARE IN INCHES
 4- REF. 303943
 5- LIGHT SWITCH MAY NOT BE PROVIDED WITH CASE FOR CERTAIN CONFIGURATIONS
 6- ALL WIRES GETTING INSERTED INTO THE CONTACTOR MUST USE FORK TERMINALS 0383151 OR 0383152
 7- TORQUE ON TERMINAL SCREWS NOT TO EXCEED 12 IN-LBS.
 8- IF OEM CONTROLLER IS NOT USED THE DOOR A.S. ARE WIRED TO TERMINALS 16 & 21
 9- PLENUM HEATERS ARE ONLY USED IN RLW CASES

RL-W

Frozen Food / Ice Cream

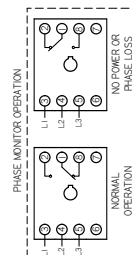
CoreLink Propane

Wiring - 2 & 3 Door



3060959_J

- NOTES:
1. APPLICABLE STANDARDS / SPECIFICATIONS
 - ASME Y14.5M-1994 DIMENSIONS AND TOLERANCES
 - KEY PRODUCT CHARACTERISTICS PER EPR-0006 & IDENTIFIED WITH SYMBOL
 - REF 3038431
 2. LIGHT SWITCH MAY NOT BE PROVIDED WITH CASE FOR CERTAIN CONFIGURATIONS
 3. ALL WIRES GETTING INTO THE CONTACTOR MUST USE FORK TERMINALS 0383151 OR 0383152
 4. TORQUE ON TERMINAL SCREWS NOT TO EXCEED 12 IN-LBS
 5. IF OEM CONTROLLER IS NOT USED THE DOOR AS-ARE WIRED TO TERMINALS 16 & 21
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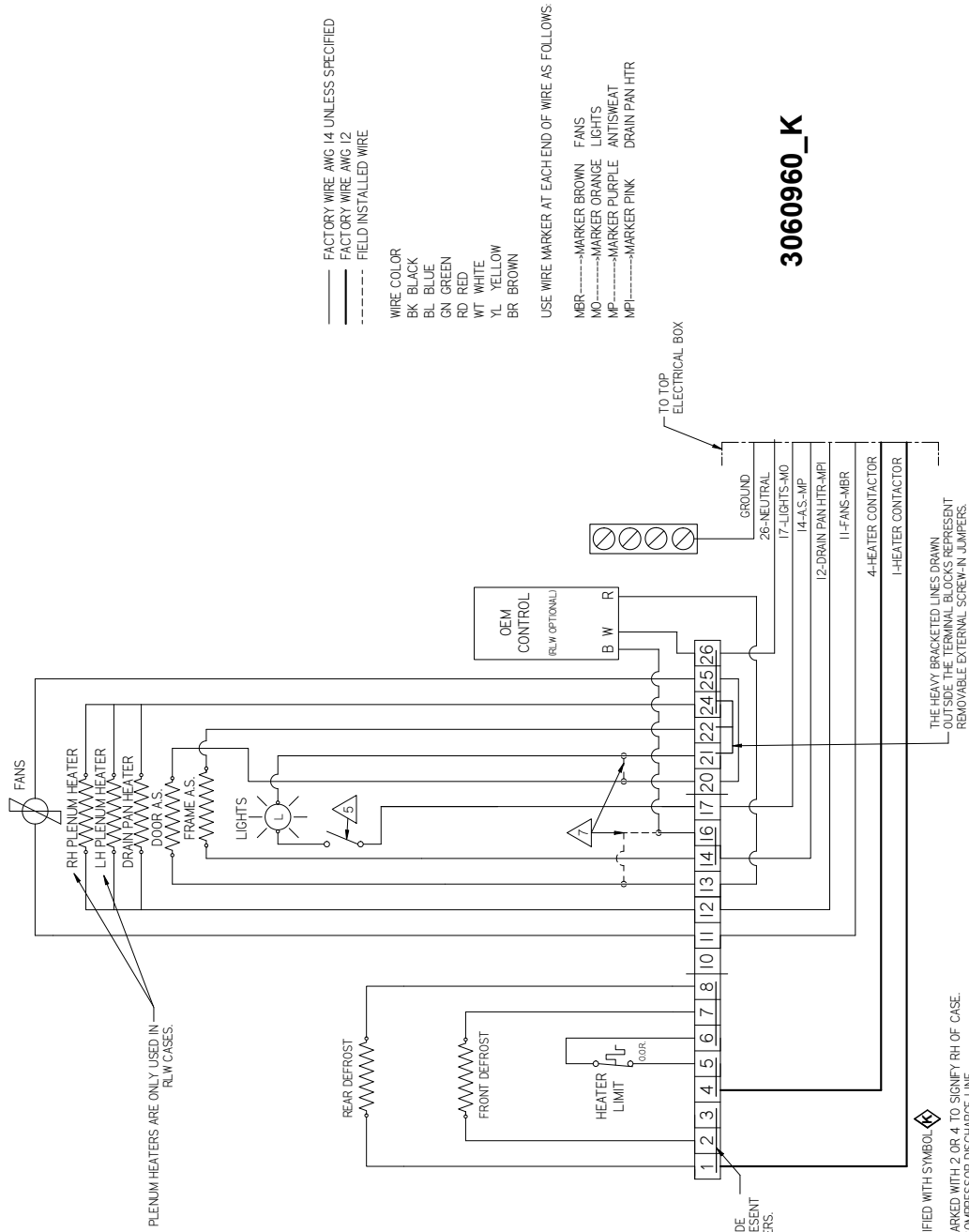
REMOVE 2 POLE JUMPER BETWEEN 14 & 15
REMOVE 3 POLE JUMPER BETWEEN 10, 11, & 12

CONTACTOR-40A 3PST 24VAC
3053793
USE SCREW TERMINALS TO SECURE WIRES

SOCKET-RELAY OCTAL 8 PIN IOK 600VAC
3067844
SEE REFERENCE 06.07

CoreLink Propane Wiring - 4 Door

RL-W
Frozen Food / Ice Cream



— FACTORY WIRE AWG 14 UNLESS SPECIFIED
 - - - FACTORY WIRE AWG 12
 - - - - - FIELD INSTALLED WIRE

WIRE COLOR
 BK BLACK
 BL BLUE
 GN GREEN
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 WT WHITE
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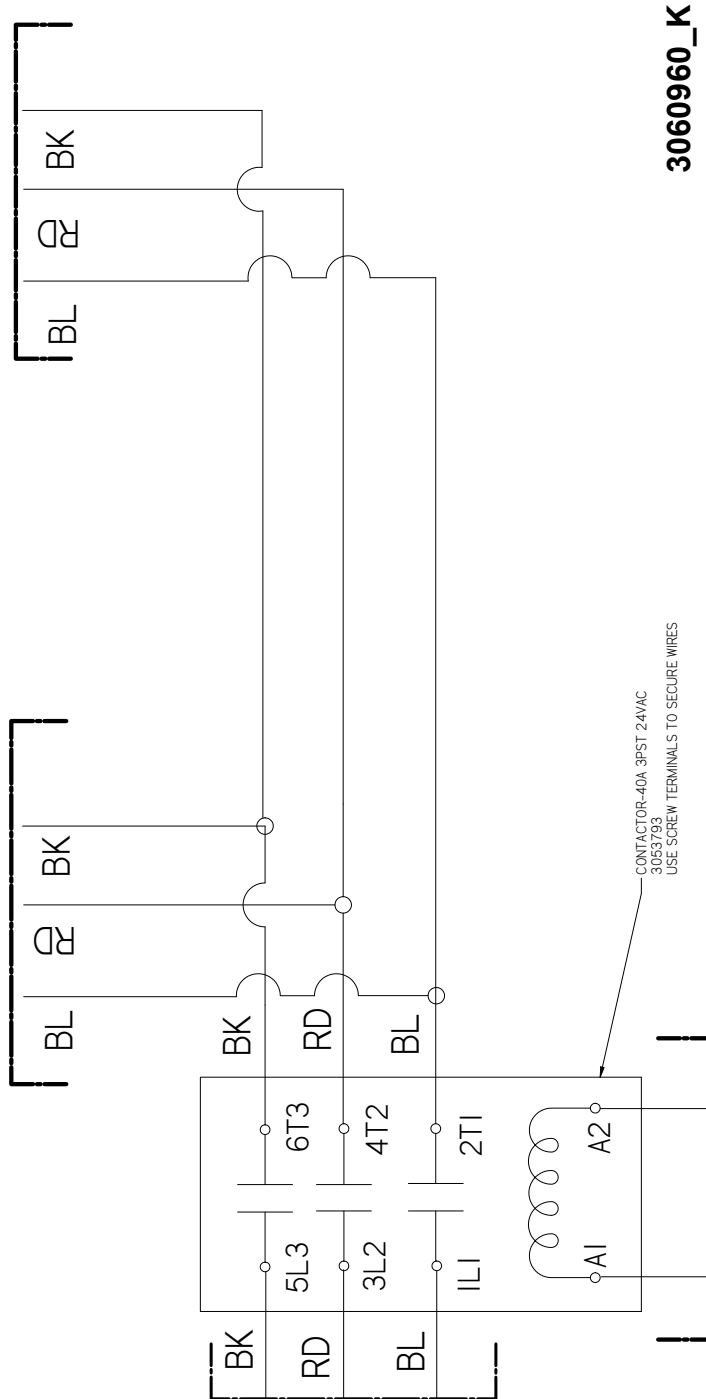
USE WIRE MARKER AT EACH END OF WIRE AS FOLLOWS
 MBR-----MARKER BROWN FANS
 MO-----MARKER ORANGE LIGHTS
 MP-----MARKER PURPLE ANTISWEAT
 MPI-----MARKER PINK DRAIN PAN HTR

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- NOTES:
1. APPLICABLE STANDARDS / SPECIFICATIONS
 ASME Y14.5M-1994, DIMENSIONS AND TOLERANCES
 2. KEY PRODUCT CHARACTERISTICS PER EPR-0006 & IDENTIFIED WITH SYMBOL
 3. REF 3038431
 4. ADD PURPLE MARKERS AT EACH END OF ALL SENSORS MARKED WITH 2 OR 4 TO SIGNIFY RH OF CASE.
 5. 0005232 SENSORS 3 LH & 4 RH TO BE SECURED TO COMPRESSOR DISCHARGE LINE
 6. LIGHT SWITCH MAY NOT BE PROVIDED WITH CASE FOR CERTAIN CONFIGURATIONS
 7. ALL WIRES GETTING INSERTED INTO THE CONTACTORS MUST USE FORK TERMINALS 0383151 OR 0383152
 8. TORQUE ON TERMINAL SCREWS NOT TO EXCEED 12 IN-LBS.
 9. OEM CONTROLLER IS NOT USED THE DOOR A.S. ARE WIRED TO TERMINALS 16 & 21

**CoreLink Propane
Wiring - 4 Door**

**RL-W
Frozen Food / Ice Cream**



- NOTES:
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 2. KEY PRODUCT CHARACTERISTICS PER EPR-0006 & IDENTIFIED WITH SYMBOL
 3. REF. 3038431
 4. ADD PURPLE MARKERS AT EACH END OF ALL SENSORS MARKED WITH 2 OR 4 TO SIGNIFY RH OF CASE
 5. 0005252 SENSORS 3 LH1 & 4 RH1 TO BE SECURED TO COMPRESSOR DISCHARGE LINE
 6. LIGHT SWITCH MAY NOT BE PROVIDED WITH CASE FOR CERTAIN CONFIGURATIONS
 7. ALL WIRES GETTING INSERTED INTO THE CONTACTORS MUST USE FORK TERMINALS 0383151 OR 0383152
 8. DO NOT EXCEED 7/16" (17.8mm) FOR TERMINAL SCREWS TO EXCEED 7/16" (17.8mm)
 9. IF OEM CONTROLLER IS NOT USED THE DOOR A.S. ARE WIRED TO TERMINALS 16 & 21

CoreLink Propane Wiring - 5 Door

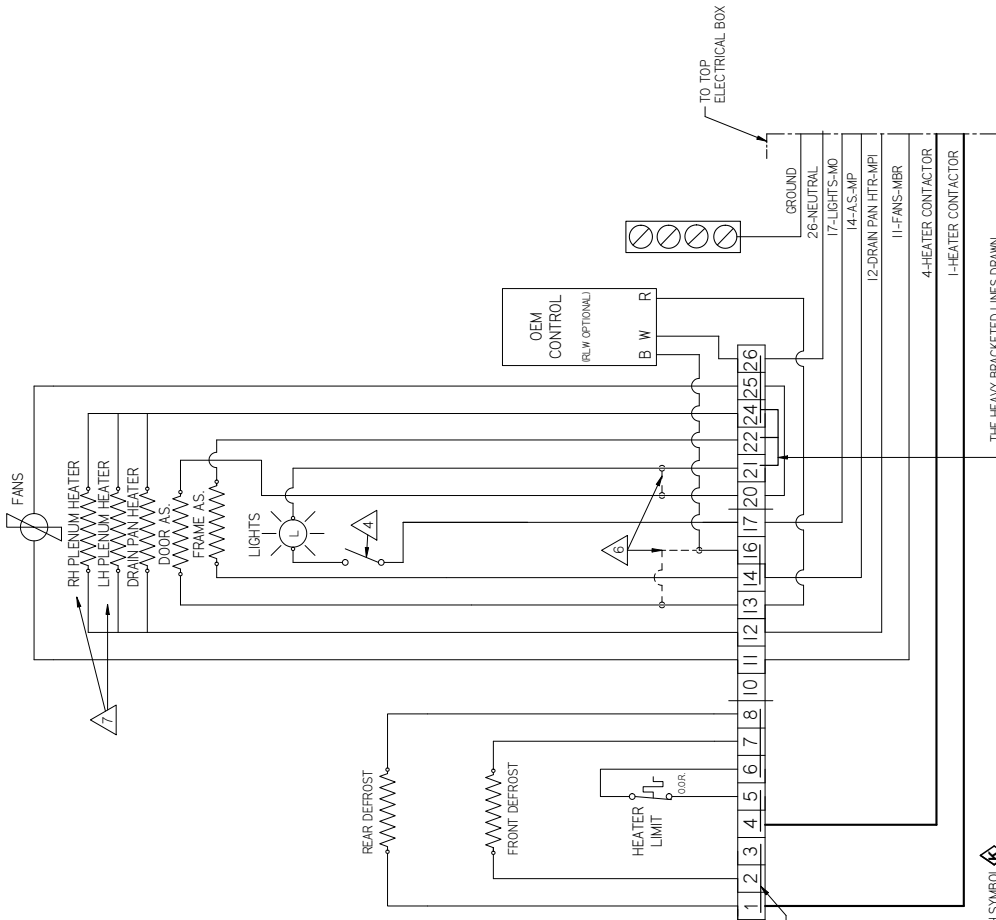
RL-W Frozen Food / Ice Cream

_____ FACTORY WIRE AWG 14 UNLESS SPECIFIED
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 - - - - - FIELD INSTALLED WIRE

WIRE COLOR
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 BL BLUE
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 RD RED
 WT WHITE
 YL YELLOW
 BR BROWN

USE WIRE MARKER AT EACH END OF WIRE AS FOLLOWS.

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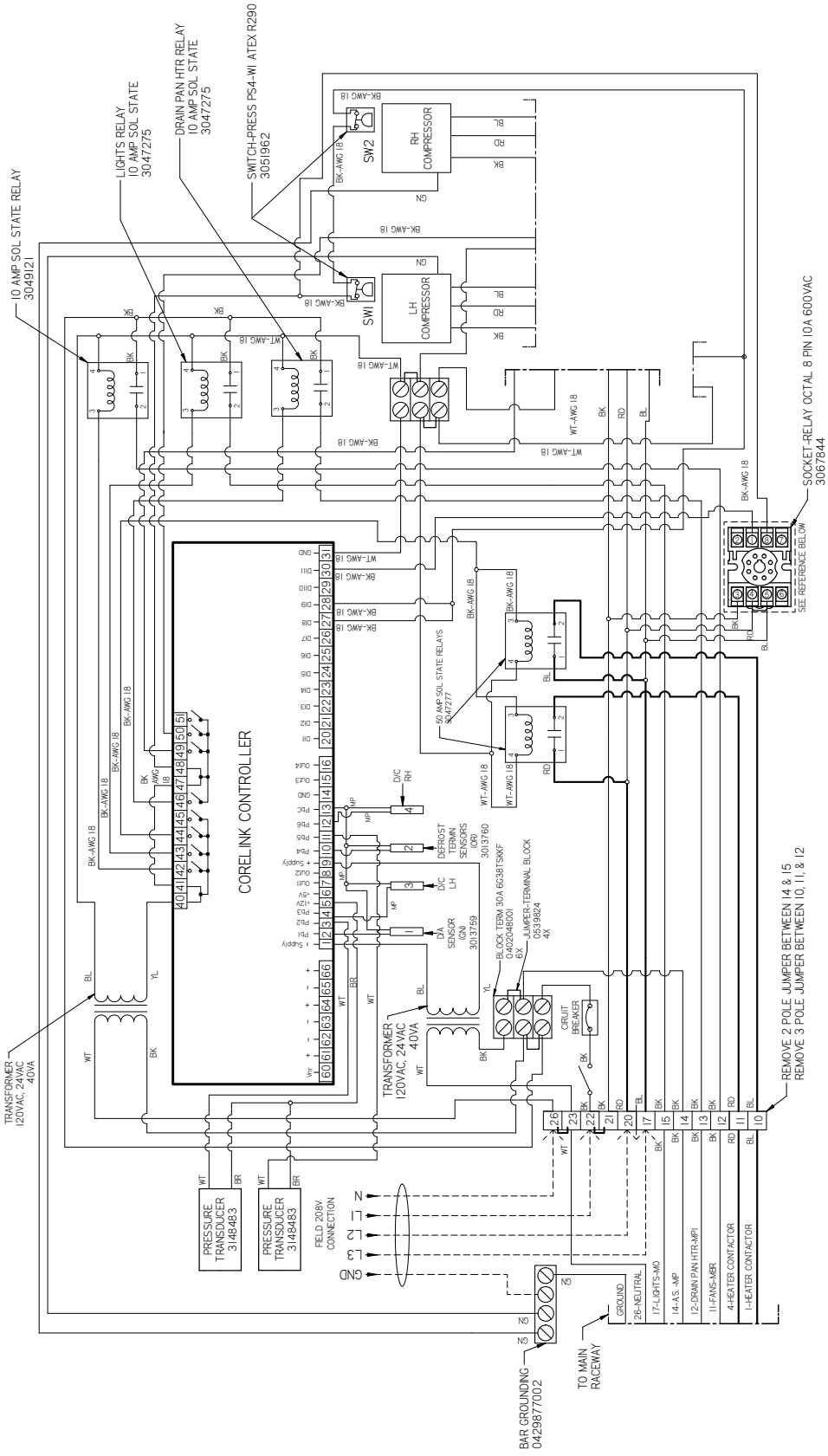
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 6. IF OEM CONTROLLER IS NOT USED THE DOOR AS ARE WIRED TO TERMINALS 16 & 21
 7. PLENUM HEATERS ARE ONLY USED IN RLW CASES

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

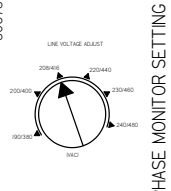
THE HEAVY BRACKETED LINES DRAWN OUTSIDE THE TERMINAL BLOCKS REPRESENT REMOVABLE EXTERNAL SCREW-IN JUMPERS.

RL-W Frozen Food / Ice Cream

CoreLink Propane Wiring - 5 Door



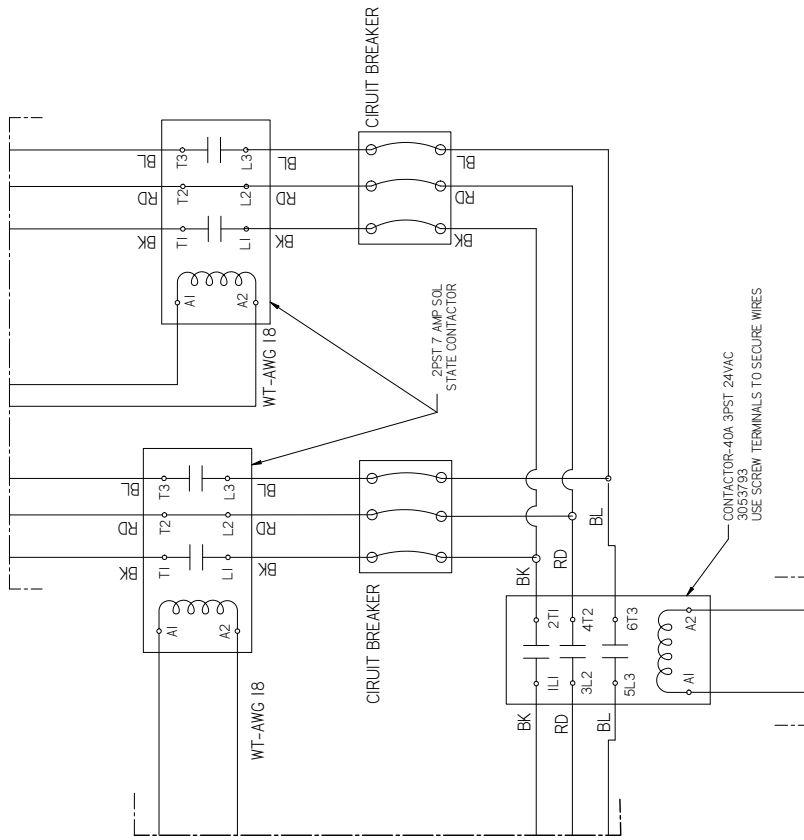
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CoreLink Propane Wiring - 5 Door

RL-W
Frozen Food / Ice Cream

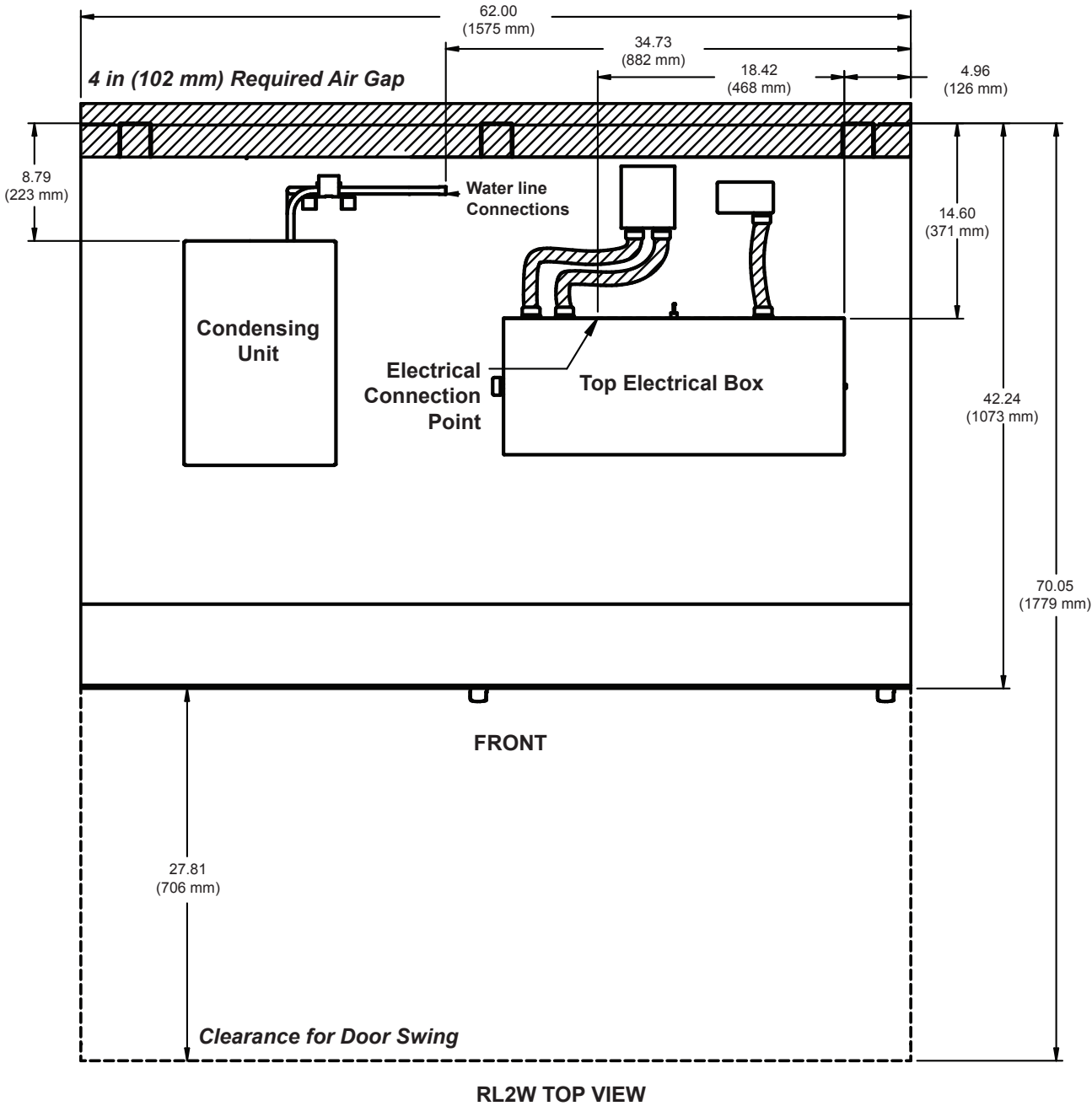


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 2. KEY PRODUCT CHARACTERISTICS PER EPR-0006 & IDENTIFIED WITH SYMBOL
 3. REF. 0383431
 4. WIRING MAY NOT BE PROVIDED WITH CASE FOR CERTAIN CONFIGURATIONS.
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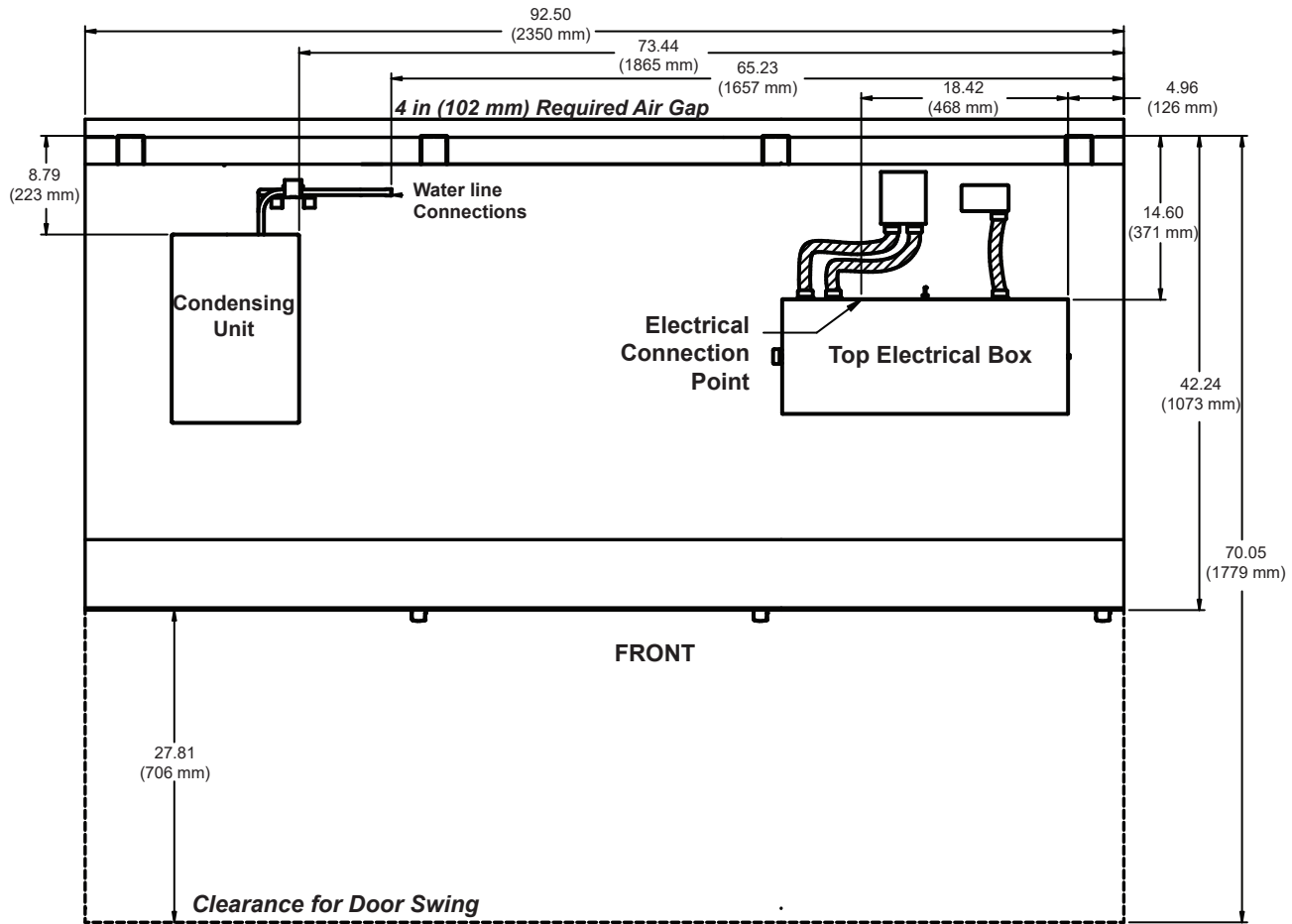
**RL-W
Top Views**

**RL-W
Frozen Food / Ice Cream**



RL-W
Frozen Food / Ice Cream

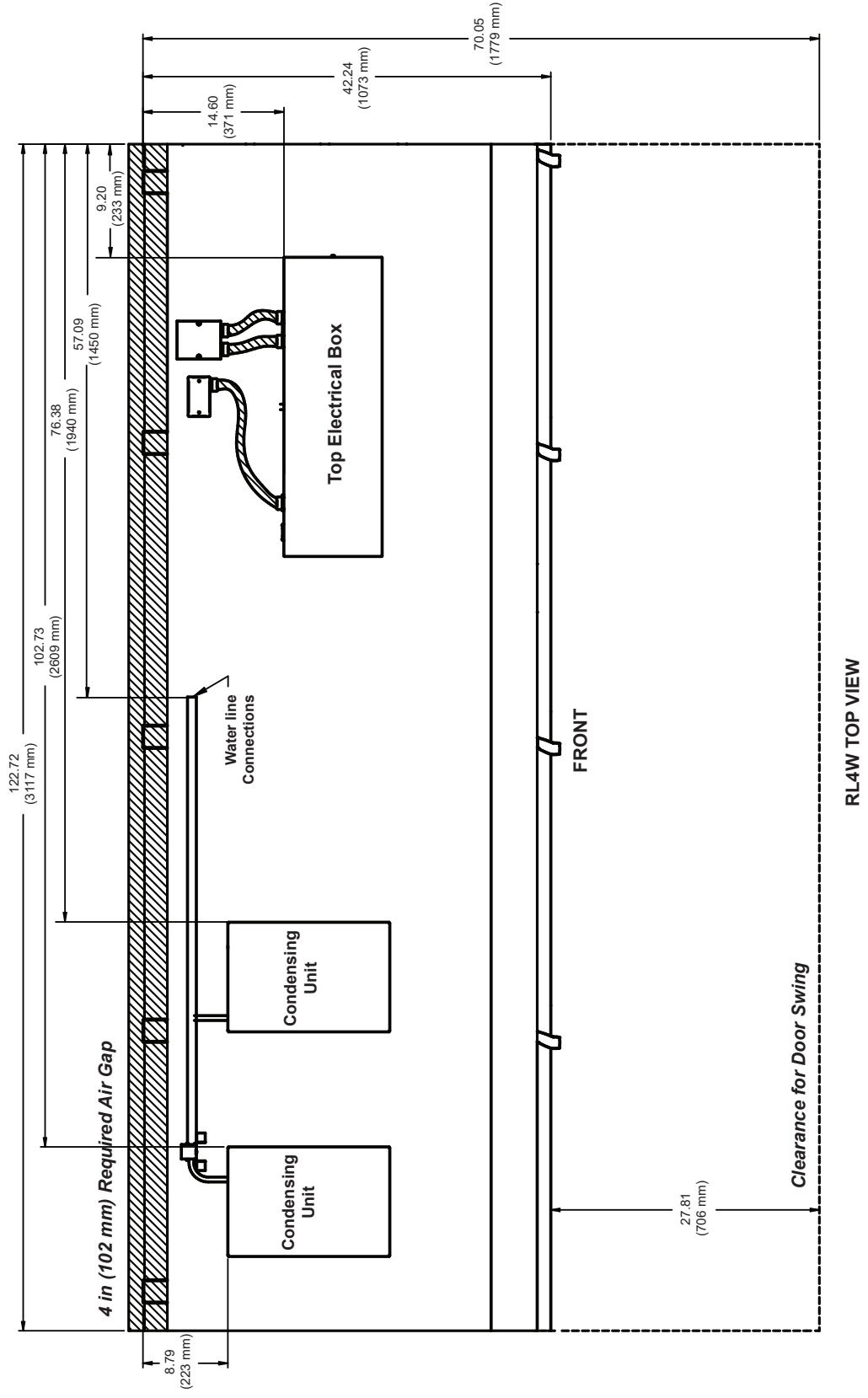
RL-W
Top Views



RL3W TOP VIEW

**RL-W
Top Views**

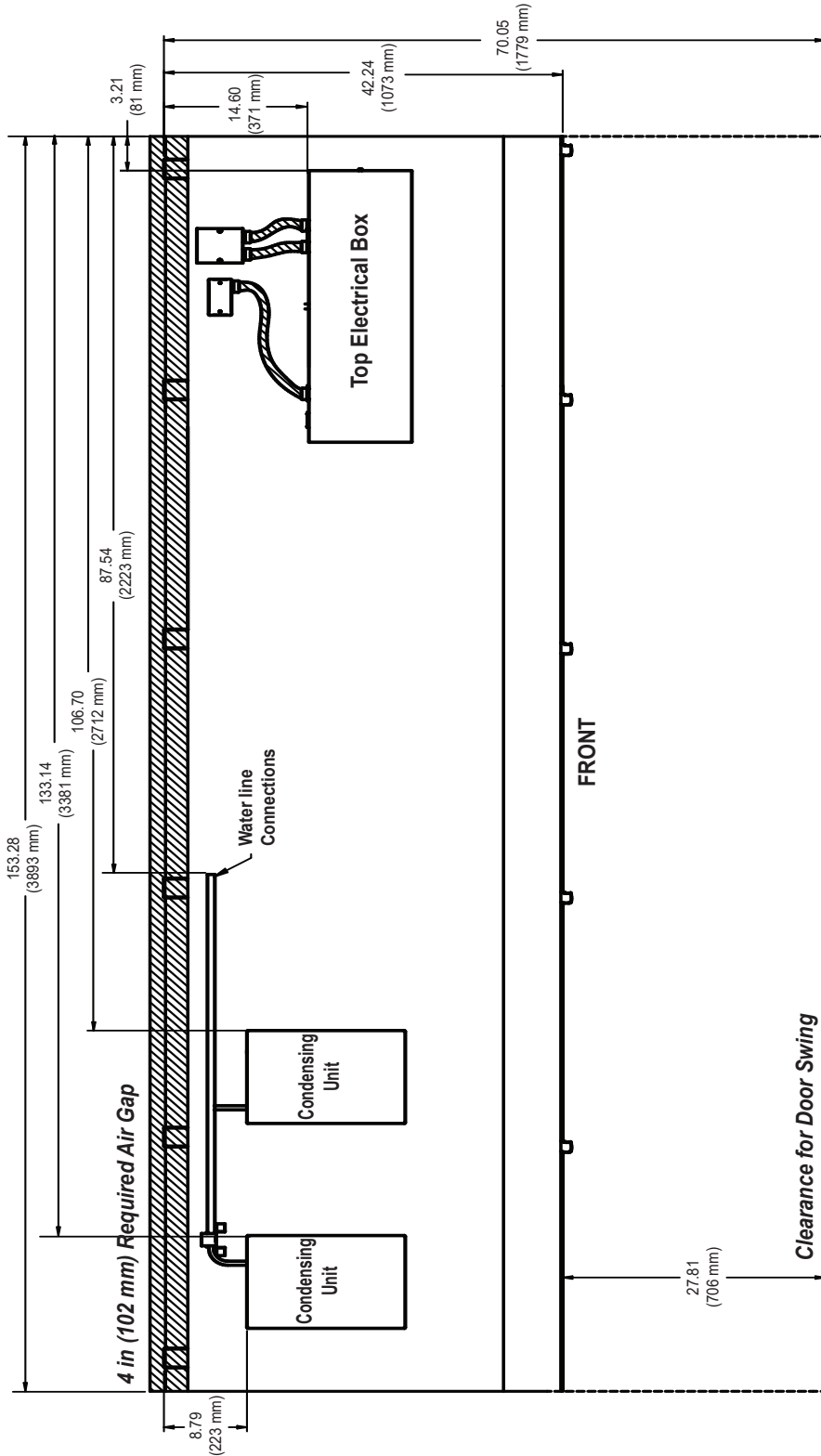
**RL-W
Frozen Food / Ice Cream**



RL-W

Frozen Food / Ice Cream

RL-W Top Views



RL5W TOP VIEW

Revision History

Revision C: May 2018: Updated document to new format.

Revision D: August 2018: Added 3 door 5 door data.

Revision E: January 2019: Updated refrigeration and electrical data. Added new part numbers to Replacement Parts List. Updated wiring diagrams.

Revision F: February 2019: Added wiring diagrams.

Revision G: February 2020: Updated refrigeration data, electrical data, wiring diagrams and top views, and removed replace parts page.

Revision H: June 2020: Updated electrical data on page 5.

Revision J: July 2021: Updated wiring diagrams.

Revision K: April 2022: Updated wiring diagrams.

Revision L: June 2024: Updated cover logos.



Scan the QR code on your mobile device to access additional product information or order parts.

Parts may also be ordered at:

parts.hussmann.com

Call toll free: 1.855.487.7778