

## Technical Data Sheet

### RLNI-W R-290, Water-cooled

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

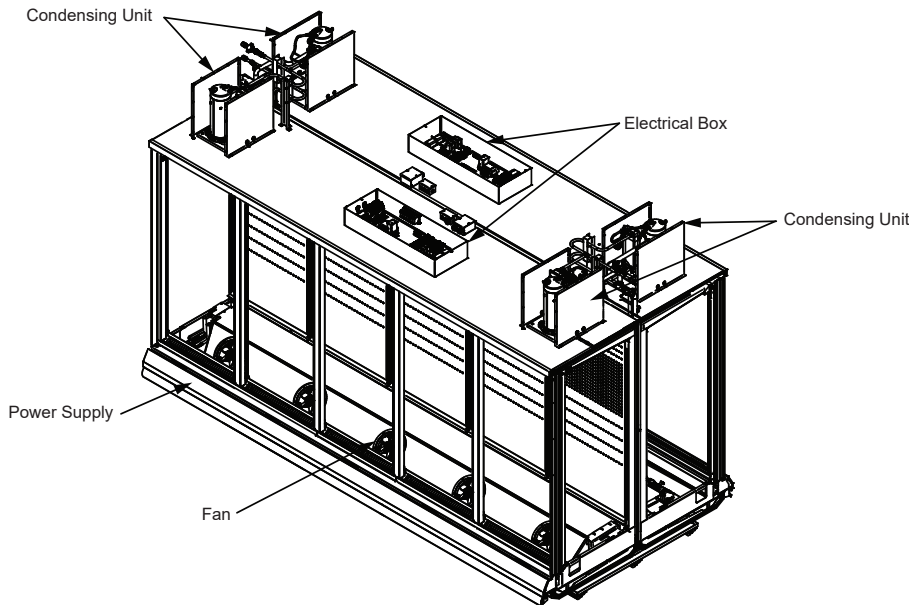
Applications  
Frozen Food, Ice Cream

P/N 3086860 Rev E  
June 2024

Models Covered:  
RLNI4W, RLNI5W

## Table of Contents

|                           |    |
|---------------------------|----|
| Performance Data          | 2  |
| Product Data              | 2  |
| Cross-section View        | 3  |
| Plan View                 | 4  |
| Top Views                 | 5  |
| Electrical Specifications | 6  |
| Estimated Shipping Weight | 7  |
| Shelf Options             | 7  |
| Wiring Diagram(s)         | 8  |
| Revision History          | 14 |



Portion of parts removed for clarity.  
5-door merchandisers shown.  
Standard electrical connections are at the top left of the merchandiser.

## 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.

# RLNI-W

Frozen Food / Ice Cream

## Refrigeration Data <sup>1</sup>

| RLNI-W      |                       | Optimal Shelf Life |                |
|-------------|-----------------------|--------------------|----------------|
| Application |                       | Frozen Food (FF)   | Ice Cream (IC) |
| Temperature | Discharge Air °F (°C) | -3 (-19.5)         | -10 (-23)      |
| Fan Speed   | RLNI-W RPM            | 1550               | 1550           |

### 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 (per side)

|                         |        |
|-------------------------|--------|
| Total Heat of Rejection | BTU/Hr |
| 4 Dr                    | 11,244 |
| 5 Dr                    | 12,234 |

### Defrost Data

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

<sup>3</sup> (± 15% based on case configuration and product loading).

### RLNI-W

#### Cooling Water Pressure Drop <sup>4</sup>

|      |     |
|------|-----|
|      | PSI |
| 4 Dr | 5   |
| 5 Dr | 5   |

#### Cooling Water Design TD

10°F

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

### RLNI-W

#### Glycol/Water Flow Rate (per side) <sup>5</sup>

|      | GPM | LPM  |
|------|-----|------|
| 4 Dr | 2.5 | 9.5  |
| 5 Dr | 3.0 | 11.4 |

#### Charge per unit <sup>6</sup>

|      |         |        |       |
|------|---------|--------|-------|
| 4 Dr | 0.33 lb | 5.3 oz | 150 g |
| 5 Dr | 0.33 lb | 5.3 oz | 150 g |

<sup>5</sup> Separate water connections (inlet and outlet) are required for each side.

<sup>5</sup> 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).

<sup>6</sup> Maximum R290 charge per condensing unit = 150 g.

<sup>6</sup> 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 (per side)

|   |   |
|---|---|
| Gross Refrigerated Volume <sup>7</sup> (Cu Ft/Dr) | 31.17 ft <sup>3</sup> /dr (0.88 m <sup>3</sup> /dr) |
| AHRI Total Display Area <sup>8</sup> (Sq Ft/Dr)   | 13.04 ft <sup>2</sup> /dr (1.21 m <sup>2</sup> /dr) |
| Shelf Area <sup>9</sup> (Sq Ft/Dr)                | 28.50 ft <sup>2</sup> /dr (2.65 m <sup>2</sup> /dr) |

<sup>7</sup> AHRI Gross Refrigerated Volume: Refrigerated Volume/Unit of Length, ft<sup>3</sup>/dr [m<sup>3</sup>/dr]

<sup>8</sup> Computed using AHRI 1200 standard methodology: Total Display Area, ft<sup>2</sup> [m<sup>2</sup>]/Unit of Length, door

<sup>9</sup> Shelf surface area is composed of bottom deck plus standard shelf complement for this model: (5) 22-inch shelves, evenly distributed vertically.

Reach-in Multideck Merchandiser, 6 Display Levels, Low Bottom, Narrow Height Front, Island, Water-cooled, Self-Contained R-290

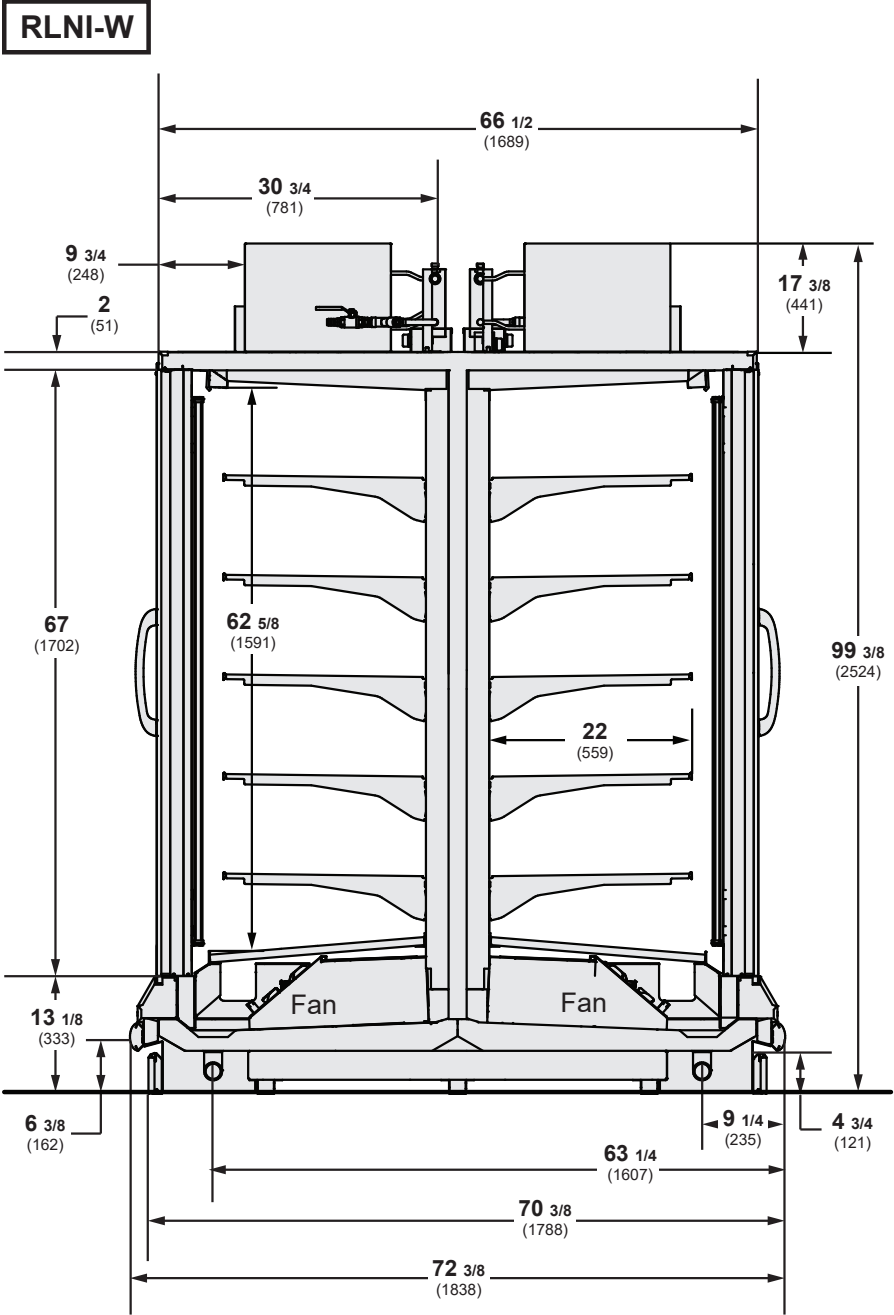
**RLNI-W**  
Frozen Food / Ice Cream

**DOE 2017**  
Energy Efficiency  
Compliant

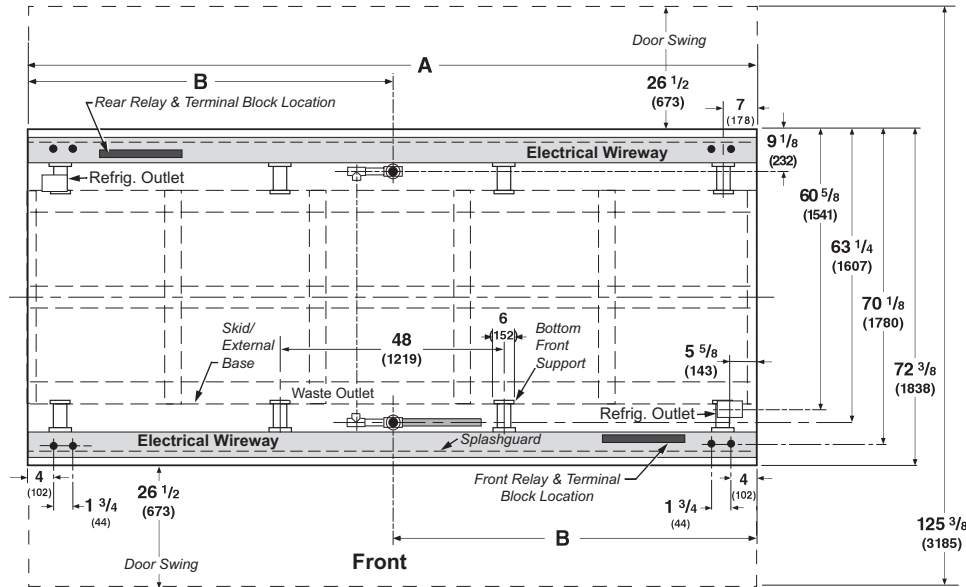
Husmann refrigerated merchandisers configured for sale for use in the United States meet or surpass the requirements of the DOE 2017 energy efficiency standards.

Dimensions shown as in. and (mm).

Shelf complement shown as tested:  
Five rows of shelves per door (22-in) spaced equally between bottom display pan and interior top panel.



Dimensions shown as in. and (mm).



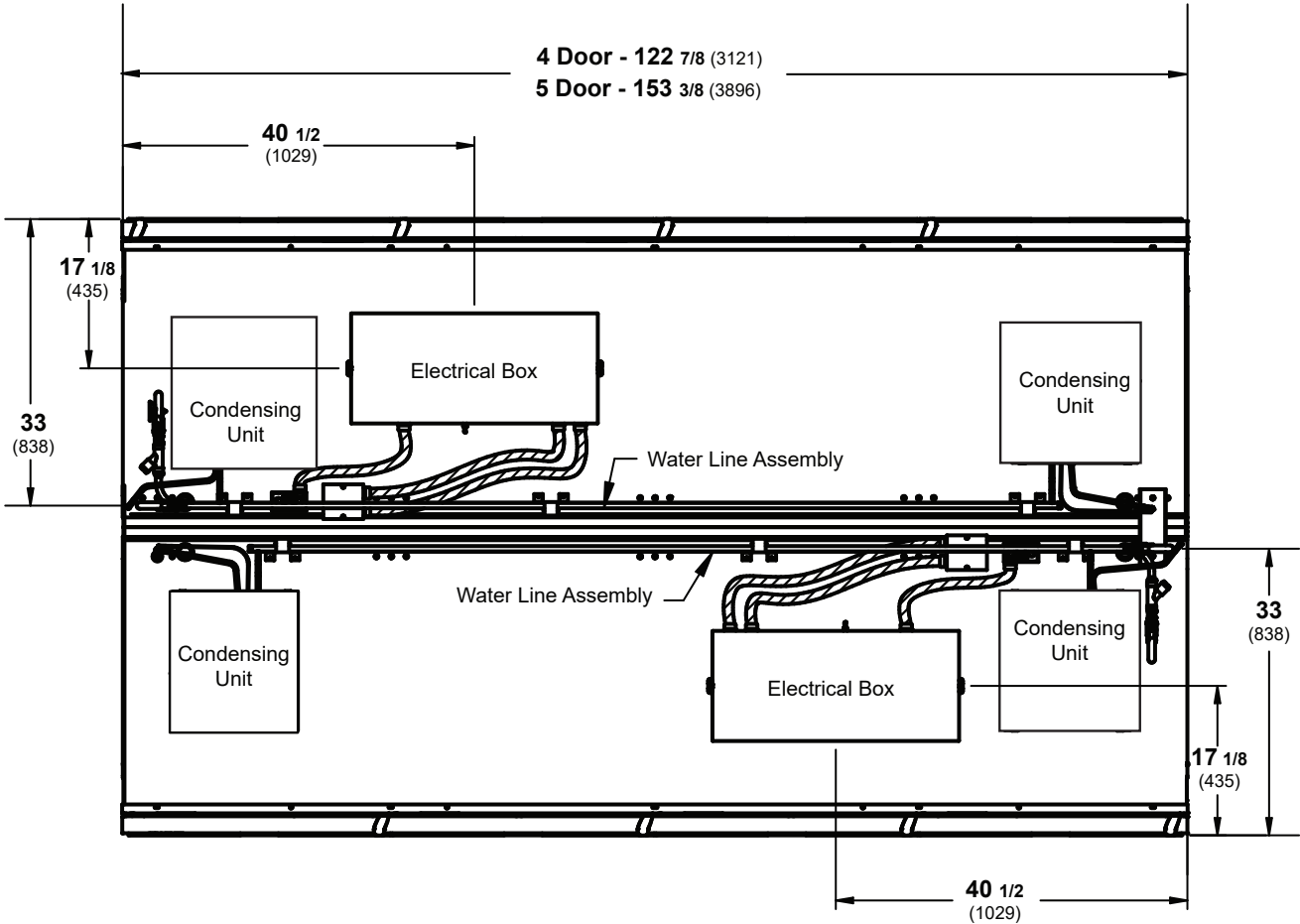
(5 Door Model shown above)

|  | 4 Dr           | 5 Dr           |
|--|----------------|----------------|
| <b>General</b>   |                |                |
| (A) Case Length (without ends or partitions) (Each solid end adds approximately 2 3/8 in. (60 <sup>o</sup> smm) 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.) | 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.)  | 72 3/8 (1837)  | 72 3/8 (1837)  |
| Back of case to rear of splashguard  | 68 1/2 (1740)  | 68 1/2 (1740)  |
| Width of Skidrail  | 3 3/4 (95)     | 3 3/4 (95)     |
| Width of bottom front support  | 6 (152)        | 6 (152)        |
| Stub-up area between front skidrail and splashguard  | 9 (229)        | 9 (229)        |
| <b>Electrical Service (Field Electrical Wiring Connection)</b>   |                |                |
| RH End of case to center of Electrical Wiring Connection (top of case)   | 26 1/2 (673)   | 26 1/2 (673)   |
| Back O/S of case to center of Electrical Wiring Connection<br><i>*NOTE: Electrical Wiring Connection point is at terminal.)</i>  | 47 1/2 (1207)  | 47 1/2 (1207)  |
| <b>Waste Outlets (with required drain extension)</b>   |                |                |
| (B) RH End of case to the center of waste outlet   | 46 1/4 (1175)  | 76 5/8 (1946)  |
| Back O/S of case to center of waste outlet(s)  | 63 1/4 (1607)  | 63 1/4 (1607)  |
| Schedule 40 PVC drip pipe  | 1 1/4 (32)     | 1 1/4 (32)     |
| <b>Water Seal</b>  |                |                |
| Edge of water seal to center of waste outlet <i>**NOTE: Field installed water seal outlets, tees, and connectors are shipped with case.</i>  | 13 (330)       | 13 (330)       |

# Engineering Top View

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

## RLNI-W Top Views



RLNI-W

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

**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**

*ELECTRICAL DATA IS PER SIDE — TWO CIRCUITS REQUIRED PER CASE*

**Number of Fans**

|          |             |             |
|----------|-------------|-------------|
|          | <b>4 Dr</b> | <b>5 Dr</b> |
| 8.25-in. | 4           | 5           |

|  |         |               | <b>Amperes</b> |             | <b>Watts</b> |             |
|--|---------|---------------|----------------|-------------|--------------|-------------|
|  |         |               | <b>4 Dr</b>    | <b>5 Dr</b> | <b>4 Dr</b>  | <b>5 Dr</b> |
| <b>Energy Efficient Evaporator Fan</b> |         |               |                |             |              |             |
| 120V                                   | 50/60Hz | Innovator     | 1.20           | 1.50        | 72           | 90          |
| 120V                                   | 50/60Hz | Innovator III | 1.20           | 1.50        | 72           | 90          |

|   |         |               | <b>Amperes</b> |             | <b>Watts</b> |             |
|---|---------|---------------|----------------|-------------|--------------|-------------|
|   |         |               | <b>4 Dr</b>    | <b>5 Dr</b> | <b>4 Dr</b>  | <b>5 Dr</b> |
| <b>Door Anti-Sweat Heaters (on fan circuit)</b> |         |               |                |             |              |             |
| 120V  | 50/60Hz | Innovator     | 3.00           | 3.80        | 364          | 455         |
| 120V  | 50/60Hz | Innovator III | 1.70           | 2.20        | 208          | 260         |

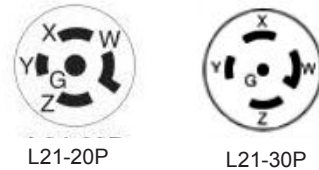
|  |         |               | <b>Amperes</b> |             | <b>Watts</b> |             |
|--|---------|---------------|----------------|-------------|--------------|-------------|
|  |         |               | <b>4 Dr</b>    | <b>5 Dr</b> | <b>4 Dr</b>  | <b>5 Dr</b> |
| <b>Frame Anti-Sweat Heaters (on fan circuit)</b> |         |               |                |             |              |             |
| 120V   | 50/60Hz | Innovator     | 1.57           | 1.97        | 188          | 236         |
| 120V   | 50/60Hz | Innovator III | 1.57           | 1.97        | 188          | 236         |

**Condensing Unit (208V, 3 ph, 60 Hz) Standard**

**NOTE:** One compressor can start at a time.

|                |         |         |
|----------------|---------|---------|
| Compressor RLA | 11.2    | 11.9    |
| Compressor LRA | 58/unit | 58/unit |

**NEMA Plug**



**Merchandise Circuit Requirements (208V, 3 Ph, 60 Hz)**

|  |      |      |
|--|------|------|
| Total Amps                             | 15.7 | 17.3 |
| Maximum Current Capacity (MCA)         | 18.0 | 21.0 |
| Maximum Over Current Protection (MOPD) | 20   | 25   |

**Optional Electrical Plug - NEMA**

L21-20P (4 dr) L21-30P (5 dr)

**NOTE:** MOPD for RLNI5W is 25 amps for hard-wired cases. Cord-connected cases use a 30 amp plug, and must be connected to a 30 amp receptacle.

|                |                  |  | <b>Amperes</b> |             | <b>Watts</b> |             |
|----------------|------------------|--|----------------|-------------|--------------|-------------|
|                |                  |  | <b>4 Dr</b>    | <b>5 Dr</b> | <b>4 Dr</b>  | <b>5 Dr</b> |
| <b>Defrost</b> |                  |  |                |             |              |             |
| 120V           | Drain Heaters    |  | 2.00           | 2.5         | 240          | 300         |
| 208V           | Electric Defrost |  | 13.46          | 16.82       | 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. FOR SALE FOR USE IN THE U.S.A.**

|                              |  |  | <b>Amperes</b> |             | <b>Watts</b> |             |
|------------------------------|--|--|----------------|-------------|--------------|-------------|
|                              |  |  | <b>4 Dr</b>    | <b>5 Dr</b> | <b>4 Dr</b>  | <b>5 Dr</b> |
| <b>STANDARD LED LIGHTING</b> |  |  |                |             |              |             |
| Ultra (120V)                 |  |  | 0.65           | 0.80        | 78           | 96          |
| Ultra (220V Export)          |  |  | 0.35           | 0.43        | 78           | 96          |

**ENDS or PARTITIONS**

*Each standard end, each insulated partition, view end adds 2 <sup>3</sup>/<sub>8</sub> in. (60<sup>^</sup>smm) to case line up.*

**PHYSICAL DATA**

Merchandiser Drip Pipe (in.) 1 <sup>1</sup>/<sub>4</sub>  
Schedule 40 PVC

**ESTIMATED SHIPPING WEIGHT †**

| <b>Case</b>    | <b>4 Dr</b> | <b>5 Dr</b> | <b>Solid End<br/>(each)</b> |
|----------------|-------------|-------------|-----------------------------|
| <b>lb (kg)</b> | 3190 (1538) | 3748 (1790) | 110 (50)                    |

† Actual weights will vary according to optional kits included.

\*\*NOTE: Case joint add approximately <sup>1</sup>/<sub>8</sub> to length of lineup for gasket material.

**Shelf Options**

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

20-inch, 22-inch

Contact engineering for non-standard display recommendations.

Optimal number of Shelves: 5 per door

Maximum number of Shelves: 5 per door

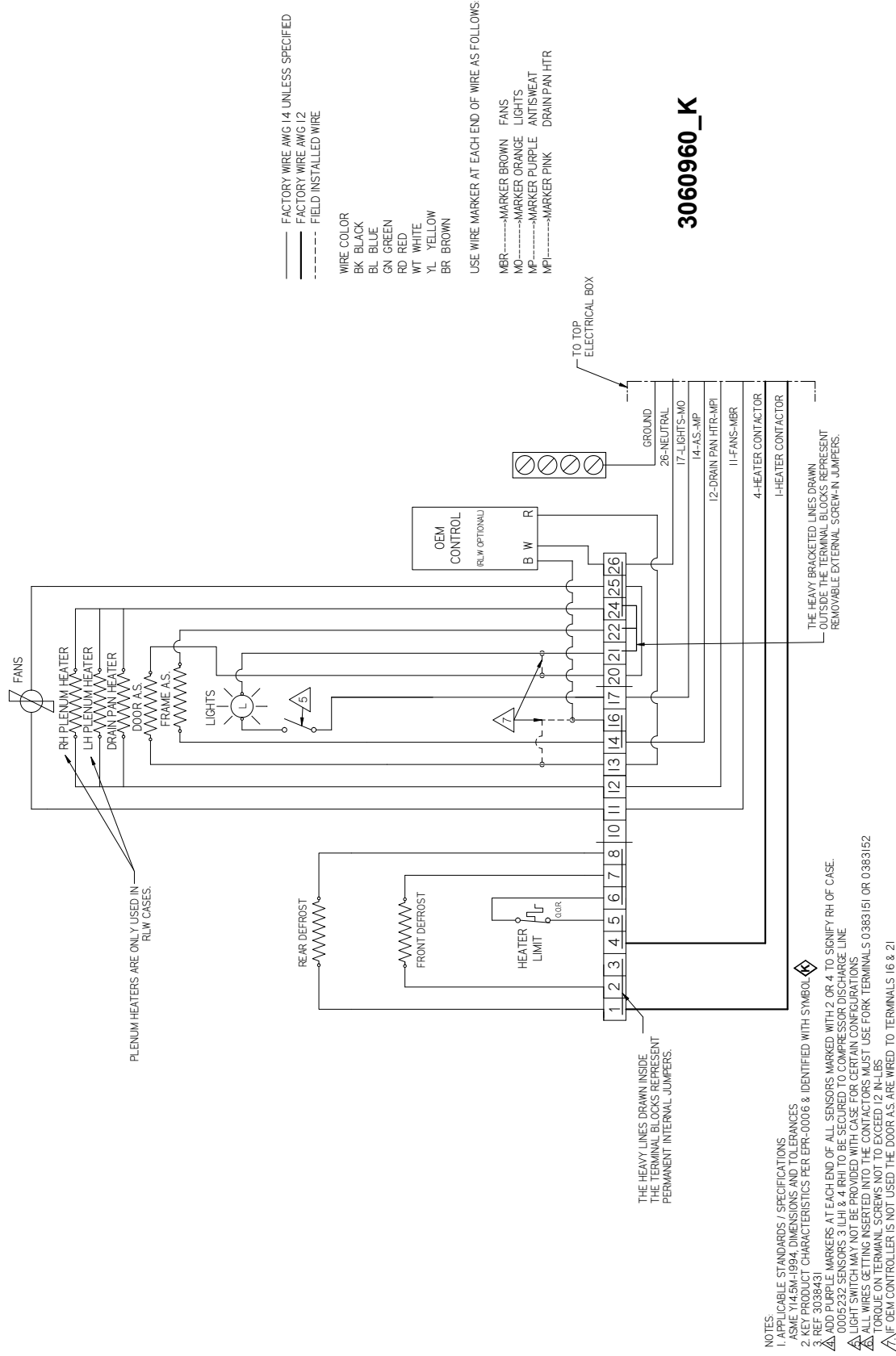
Standard shelf complement for test purposes: (5 per door) 22-inch shelves, evenly distributed vertically

# RLNI-W

## Frozen Food / Ice Cream

# CoreLink Propane

## Wiring - 4 Door

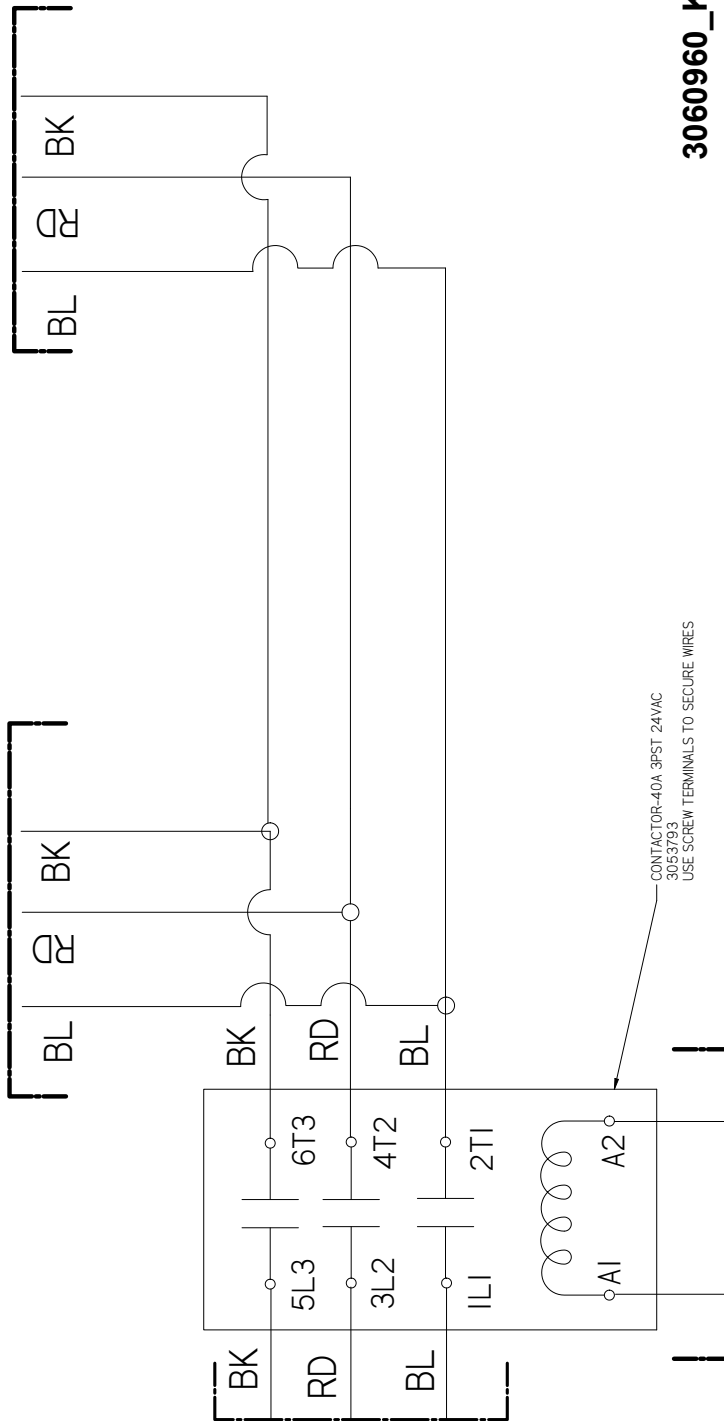






**RLNI-W**  
Frozen Food / Ice Cream

**CoreLink Propane**  
Wiring - 4 Door



**3060960\_K**

- 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. LIGHT SWITCH MAY NOT BE PROVIDED WITH CASE FOR CERTAIN CONFIGURATIONS
  6. ALL WIRES GETTING INSERTED INTO THE CONTACTORS 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

# CoreLink Propane Wiring - 5 Door

# RLNI-W Frozen Food / Ice Cream

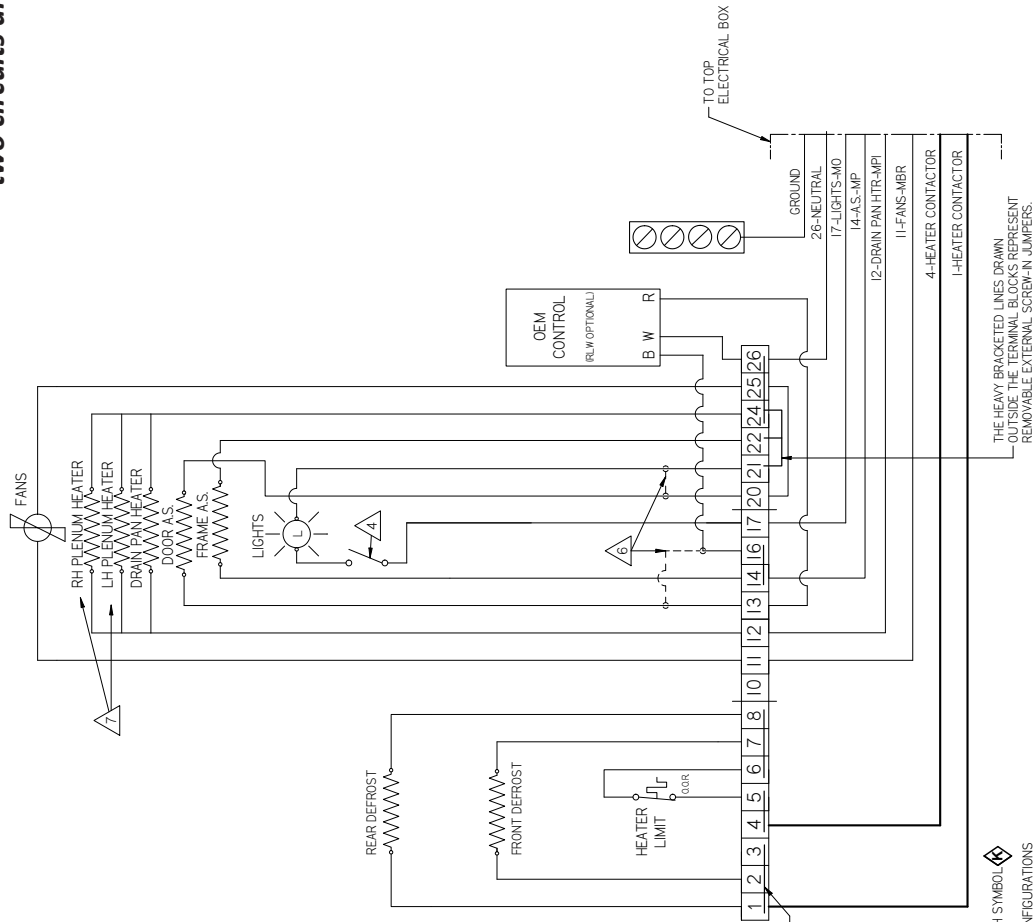
*Wiring diagram is per side -  
two circuits are required per case.*

— 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  
 MPI-----MARKER PINK DRAIN PAN HTR



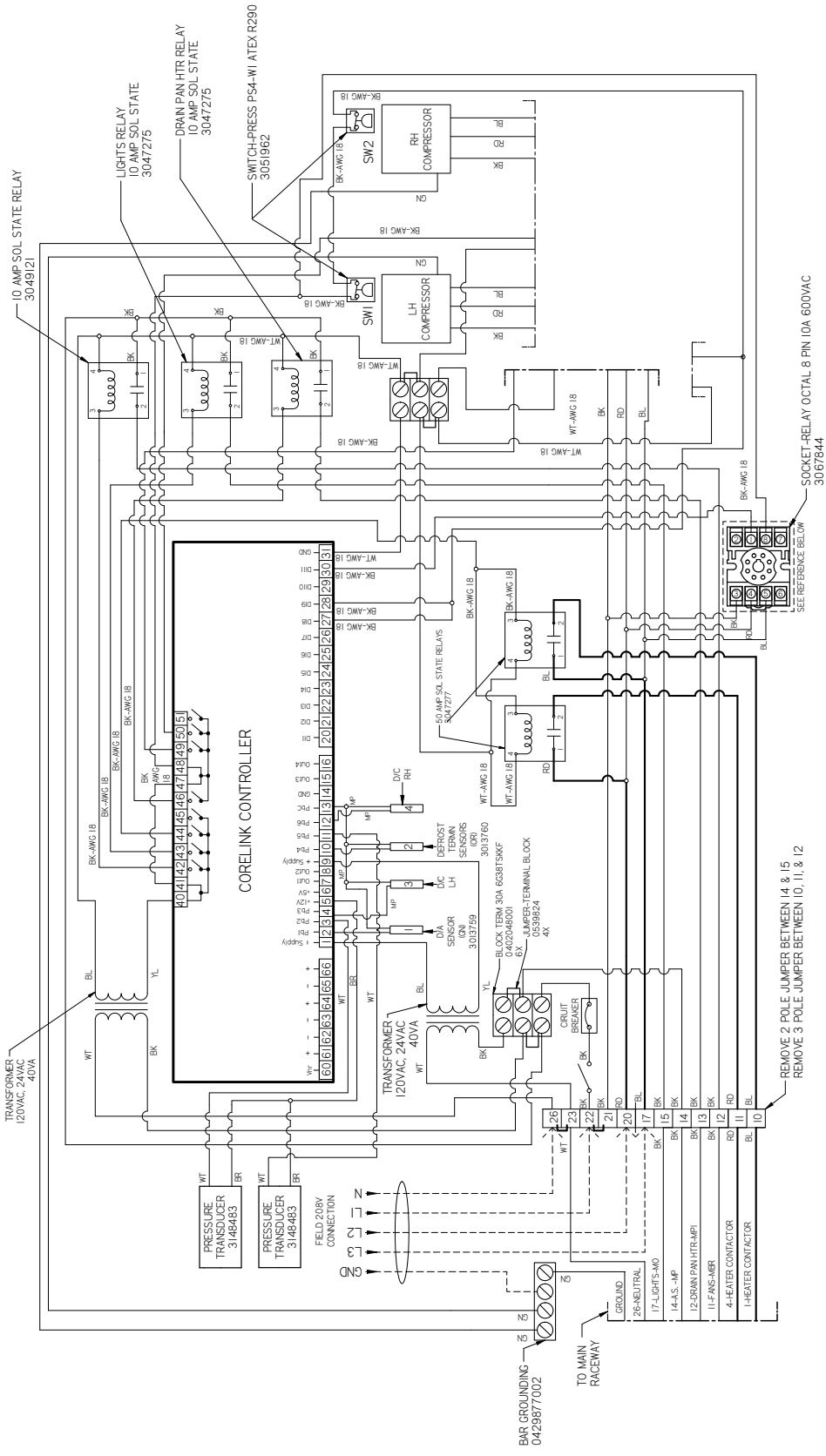
**3082783\_G**

- 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. LIGHT SWITCHWAY NOT BE PROVIDED WITH CASE FOR CERTAIN CONFIGURATIONS
  5. ALL WIRES GETTING INSERTED INTO THE CONTACTORS MUST USE FORK TERMINALS 0383151 OR 0383152
  6. TORQUE ON TERMINAL SCREWS NOT TO EXCEED 12 IN-LBS
  7. HEATER CONTACTORS ARE NOT USED IN THE DOOR A.S. ARE WIRED TO TERMINALS 16 & 21
  8. PLENUM HEATERS ARE ONLY USED IN RLNI CASES

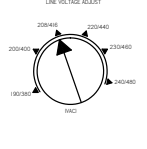
THE HEAVY LINES DRAWN INSIDE THE TERMINAL BLOCKS REPRESENT PERMANENT INTERNAL JUMPERS.

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

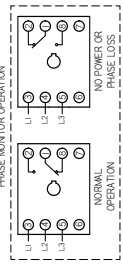
*Wiring diagram is per side -  
two circuits are required per case.*



**3082783\_G**



PHASE MONITOR SETTING



REMOVE 2 POLE JUMPER BETWEEN 14 & 15  
REMOVE 3 POLE JUMPER BETWEEN 10, 11 & 12

- NOTES
1. APPLE CABLE STANDARDS / SPECIFICATIONS
  2. ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED
  3. KEY PRODUCT CHARACTERISTICS PER EPR-0008 & IDENTIFIED WITH SYMBOL
  4. LIGHT SWITCH MAY NOT BE PROVIDED WITH CASE FOR CERTAIN CONFIGURATIONS
  5. ALL WIRES GETTING INSERTED INTO THE CONTACTORS MUST USE FORK TERMINALS 0383151 OR 0383152
  6. TORQUE ON TERMINAL SCREWS NOT TO EXCEED 12 IN-LBS
  7. IF DEMO CONTROLLER IS NOT USED THE DOOR A.S. ARE WIRED TO TERMINALS 16 & 21
  8. PLENUM HEATERS ARE ONLY USED IN RLW CASES



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



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](https://parts.hussmann.com)

Call toll free: 1.855.487.7778

---

## Revision History

Revision A: February 2019: Original Issue

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

Revision C: June 2020: Updated electrical data on page 6.

Revision D: April 2022: Updated wiring diagrams.

Revision E: June 2024: Updated cover logos.