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Johnson Controls MR4PMUHV-12C

Johnson Controls MR4PMUHV-12C Defrost Control User Manual

1. Introduction

The Johnson Controls MR4PMUHV-12C Defrost Control is engineered for use in refrigeration and freezer units, supporting both hot gas and electric heat defrost methods. This control unit offers flexible defrost termination options, allowing selection between time-based or temperature-based methods. It integrates essential control functions including compressor management, defrost cycle management, fan operation control, and alarm management, providing a comprehensive solution for HVAC systems.



Figure 1: Johnson Controls MR4PMUHV-12C Defrost Control unit and included temperature sensors. The central gray unit features a digital display and control buttons, while two coiled gray cables with metallic tips represent the temperature sensors.

2. WHAT'S IN THE BOX

- Johnson Controls MR4PMUHV-12C Defrost Control Unit
- Temperature Sensors (2 units)

3. Key Features

- Integrated Functionality: Combines multiple control functions into a single unit, offering a costeffective solution.
- Flexible Mounting: The control unit and relay pack can be mounted together or separately to suit various installation requirements.
- Accurate Temperature Sensing: Utilizes interchangeable temperature sensors for reliable performance, supporting wiring up to 300 ft. with offset compensation for longer runs.
- Clear Temperature Display: An easily readable display shows either evaporator or process temperature at the press of a button.
- Heavy-Duty Relays: Equipped with robust relays for direct control of compressors, fans, defrost

4. SETUP AND INSTALLATION

Proper installation is crucial for the safe and efficient operation of the defrost control. Always ensure power is disconnected before beginning any installation or wiring procedures.

- 1. **Safety First:** Disconnect all power to the refrigeration or freezer unit before proceeding. Follow all local electrical codes and safety guidelines.
- 2. **Mounting:** Select a suitable location for mounting the control unit and, if applicable, the separate relay pack. Ensure adequate ventilation and protection from moisture. The flexible design allows for combined or separate mounting.

3. Wiring Connections:

- Connect the 24VAC power supply to the designated terminals on the control unit.
- Wire the compressor, fans, and defrost heaters to the heavy-duty relay terminals as per the wiring diagram provided with the product.
- Connect any external alarm systems to the dedicated alarm terminals.
- 4. **Sensor Installation:** Install the temperature sensors in the appropriate locations within the evaporator or process area as required for accurate temperature monitoring. Ensure sensor cables are routed safely and securely.
- 5. **Initial Power-Up:** Once all connections are secure and verified, restore power to the unit. The control unit display should illuminate.

5. OPERATION

After successful installation, the MR4PMUHV-12C is ready for configuration and operation.

- 1. **Display Overview:** Upon power-up, the digital display will show the current temperature. Pressing the designated button (refer to product-specific labeling) allows toggling between evaporator and process temperature readings.
- 2. **Setting Defrost Parameters:** Access the control unit's menu (typically via dedicated buttons) to configure defrost settings. This includes:
 - Defrost Interval: Set the frequency at which defrost cycles occur.
 - Defrost Duration: Specify the maximum time for a defrost cycle.
 - Defrost Termination Method: Choose between time-based termination (defrost ends after a set duration) or temperature-based termination (defrost ends when a specific temperature is reached).
 - Fan Delay: Configure any fan delay settings post-defrost.
- 3. **Alarm Settings:** Configure temperature thresholds for alarms to ensure optimal operating conditions and prompt notification of deviations.
- 4. **Monitoring:** Regularly check the display for current temperatures and system status.

6. MAINTENANCE

Routine maintenance helps ensure the longevity and reliable performance of your defrost control unit.

• Cleaning: Periodically clean the exterior of the control unit with a soft, dry cloth. Avoid using abrasive cleaners or solvents.

- Wiring Inspection: Annually inspect all wiring connections for tightness and signs of wear or corrosion. Ensure all connections are secure.
- **Sensor Check:** Verify that temperature sensors are securely in place and free from damage. Ensure their placement continues to provide accurate readings.
- Functionality Test: Periodically observe the defrost cycles to confirm they are initiating and terminating correctly according to programmed settings.

7. TROUBLESHOOTING

This section provides guidance for common issues. For complex problems, contact qualified service personnel.

• Unit Not Powering On:

- Check the 24VAC power supply connection.
- Verify that the circuit breaker or fuse supplying power to the unit is not tripped or blown.

• Incorrect Temperature Readings:

- Ensure temperature sensors are correctly installed and not damaged.
- Check sensor wiring for loose connections or breaks.
- Verify sensor calibration if possible (refer to advanced settings).

• Defrost Cycle Not Initiating/Terminating:

- Review defrost interval and duration settings in the control unit's menu.
- Confirm the selected defrost termination method (time or temperature) is appropriate for the application.
- · Check wiring to defrost heaters or hot gas valve.

· Alarms Activating Unexpectedly:

- · Verify alarm setpoints are correctly configured.
- Check for actual temperature deviations that might be triggering the alarm.

8. SPECIFICATIONS

| Model Number | MR4PMUHV-12C |
|-----------------------|---|
| Product Dimensions | 10.5 x 5.5 x 6.5 inches |
| Item Weight | 3.17 Pounds (3.2 Pounds listed elsewhere) |
| Brand | Johnson Controls |
| Material | Plastic |
| Operating Temperature | 32 Degrees Fahrenheit (0°C) |
| Manufacturer | Johnson Controls Inc |

9. WARRANTY AND SUPPORT

For information regarding product warranty, technical support, or service, please contact Johnson Controls directly or refer to the official documentation included with your purchase. Keep your proof of purchase for warranty claims.

Johnson Controls Contact Information: Please visit the official Johnson Controls website for the most current contact details and support resources.

Related Documents - MR4PMUHV-12C



Johnson Controls A421 Series Electronic Temperature Controls with Off-Cycle Defrost Installation Instructions

Comprehensive installation guide for Johnson Controls PENN A421 Series Electronic Temperature Controls, featuring off-cycle defrost functionality. Covers product overview, applications, dimensions, mounting, wiring, setup, adjustments, troubleshooting, and technical specifications.



A419 Series Electronic Temperature Controls with Display and NEMA 1 or NEMA 4X Watertight Enclosures

This technical bulletin from Johnson Controls details the A419 Series Electronic Temperature Controls, designed for single-stage refrigeration and HVAC applications. It covers features, benefits, NEMA 1 and NEMA 4X enclosure options, operation, wiring, adjustments, troubleshooting, fault codes, ordering information, and technical specifications.



Johnson Controls A19 Series Remote Bulb Control - Temperature Sensors

Detailed specifications and selection guide for Johnson Controls A19 Series remote bulb temperature controls, used in HVAC, heating, ventilating, and refrigeration applications. Includes model numbers, electrical ratings, and features.



PENN A19 Series Remote Bulb Control Catalog Page | Johnson Controls

Catalog page for the PENN A19 Series Remote Bulb Controls, featuring single-stage temperature controls with liquid-filled sensing elements. Includes selection charts, technical specifications, replacement parts, and contact information.





This user information manual provides detailed instructions and guidance for the Johnson Controls Hx 3 Touch Screen Thermostat (Model: S1-THXU430W), covering installation, features, operation, app connectivity, and settings.



Johnson Controls R-410A XX Series Installation Manual

Installation manual for Johnson Controls R-410A XX Series commercial heat pump units (6-10 Ton). Covers general information, safety, installation procedures, operation, electrical data, and troubleshooting for HVAC systems.

Documents - Johnson Controls - MR4PMUHV-12C



[pdf] Datasheet Catalog

MR4PMUHV Electronic Temperature Defrost Control with Relay Pack Catalog Page Datasheet Johnson Controls Rp4mruhv 1c For Use With Mr4pmuhv 12c Cntl defrost Not Included Blackhawk Supply 1927380 blackhawksupply net docs jci

Code No. LIT-1927380 Issued June 2018 MR4PMUHV Electronic
Temperature/Defrost Control with Relay Pac ... s MR4PMUHV Electronic
Temperature/Defrost Control with Relay Pack Product Code Number Description
MR4PMUHV-12C Relay pack defrost control with two A99BB-200C sensors Repair
Parts Product Code Numb...

lang:en score:38 filesize: 53.8 K page_count: 1 document date: 2018-06-21



[pdf] Catalog

MR4PMUHV Electronic Temperature Defrost Control with Relay Pack Catalog Page Johnson Controls 12 5284 media statesupply filemanager 5 2 |||

Code No. LIT-1927380 Issued November 13, 2015 MR4PMUHV Electronic Temperature/Defrost Control with R ... s MR4PMUHV Electronic Temperature/Defrost Control with Relay Pack Product Code Number Description **MR4PMUHV-12C** Relay pack defrost control with two A99BB-200C sensors Repair Parts Product Code Numb...

lang:en score:28 filesize: 52.64 K page_count: 1 document date: 2015-11-12



[pdf] User Manual Troubleshooting Guide Dimension Guide Technical Bulletin
MR4PMUHV Electronic Temperature Defrost Control with Relay Pack Product Technical Bulletin July 25
2002 Karl J Jacobs package consolidates the functions of a thermostat digital display timer and defrost
termination switch Figure 1 Features Benefits TSingle Package Provides functionality multiple control
components at cost effective price Manual Button Enter Evaporator Fan Status LED Compressor Output
Up Down 2 Module Front Panel Installation See Mounting Wiring for installation information Dimensions 3
5 8 92 61 7 15 16 202 4 44 42 6 152 76 Initiating Cycle For additional about how to program them see
Programming 125190 cgproducts johnsoncontrols MET met 80

Product/Technical MR4PMUHV Issue Date July 25, 2002 MR4PMUHV Electronic Temperature/Defrost Control ... e off. Replace control. Ordering Information Table 6: Ordering Information Item Code Description MR4PMUHV-12C Relay pack temperature/defrost control with two A99B sensors MR4PM12C-12C Replacement ... lang:en score:23 filesize: 270.88 K page_count: 13 document date: 2002-07-30



[pdf] Catalog

MR4PMUHV Electronic Temperature Defrost Control with Relay Pack Catalog Page Code No LIT 1927380 cgproducts johnsoncontrols 80 CAT

MR4PMUHV Electronic Temperature/Defrost Control with Relay Pack Catalog Page LIT-1927380 2020-04-22 ... rts Table 1: MR4PMUHV Electronic Temperature/ Defrost Control with Relay Pack Product Code Number **MR4PMUHV-12C** Description Relay pack defrost control with two A99BB-200C sensors Table 2: Repair Pa...

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MR4PMUHV Electronic Temperature Defrost Control with Relay Pack strawj PENN 12C Cntl 240 120 Vac T Stromquist Company 1927380 lit stromquist docs EXCALIBR CAT |||

Controls Group 507 E. Michigan Street P.O. Box 423, Milwaukee, WI 53202 Code No. LIT-1927380 mr4p ... cify the code number from the following selection chart. Selection Chart Code Number Description **MR4PMUHV-12C** Relay pack defrost control with two A99BB-200C sensors The MR series incorporates cont...

lang:en score:22 filesize: 37.92 K page_count: 1 document date: 2001-12-13



[pdf] Specifications Catalog

MR Series Defrost Control Modules Catalog Page The performance specifications are nominal and conform to acceptable industry standards For applications at conditions beyond these consult the local Johnson Controls office MR4PMUHV 12C Product Overview s3 supplyhouse product files MR Series Defrost Control Modules Description The MR Series Controls are versatile, microprocessor-based, multifunction, programmable temperature controls. Depending on the model chosen, the MR Series Controls can also manage alarm, defrost cycle active or passive defrost , and evaporator fan func...

lang:en score:21 filesize: 114.09 K page_count: 2 document date: 2007-02-05



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Single-Stage Electronic Temperature Controls A421 Series Electronic Temperature Controls Continued ... s MR4PMUHV Electronic Temperature/Defrost Control with Relay Pack Product Code Number Description **MR4PMUHV-12C** Relay pack defrost control with two A99BB-200C sensors Repair Parts Product Code Numb...

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[pdf] Troubleshooting Guide Datasheet Technical Bulletin Catalog

MR4PMUHV Electronic Temperature Defrost Control with Relay Pack Download Product Datasheet HVAC USA 12C MR4PM12C signed hvacusa media datasheetfiles |||

Master Catalog Temperature Controls Section Product/Technical Bulletin Issue Date 125 A 1098 MR4PM ... h Relay Pack Product/Technical Bulletin Ordering Information Table 4: Order Information Item Code **MR4PMUHV-12C** MR4PM12C-12C RP4MRUHV-1C A99B-9108 Description Shipping weight Relay pack defrost co... lang:en score:20 filesize: 565.26 K page_count: 12 document date: 2015-05-12



[pdf] Troubleshooting Guide Technical Bulletin

MR4PMUHV Electronic Temperature Defrost Control with Relay Pack Product Technical Bulletin Karl J Jacobs Jul 25 2002 · One convenient package consolidates the functions of a thermostat digital display timer and defrost termination switch Figure 1 UTF 8 Q 125190 filename* docs johnsoncontrols bas api khub documents O2WIm8 Yo U5Wt55 f5azQ content |||

Product/Technical MR4PMUHV Issue Date July 25, 2002 MR4PMUHV Electronic Temperature/Defrost Control ... e off. Replace control. Ordering Information Table 6: Ordering Information Item Code Description **MR4PMUHV-12C** MR4PM12C-12C RP4MRUHV-1C A99BB-200C Relay pack temperature/defrost control with two A9... lang:en score:19 filesize: 380.66 K page_count: 13 document date: 2019-05-23



[pdf] Troubleshooting Guide Technical Bulletin

MR4PMUHV Electronic Temperature Defrost Control with Relay Pack Product Technical Bulletin July 25 2002 Karl J Jacobs Jul·Setpoint and Differential settings establish the controlled temperature acceptable range Cycle Delay establishes a set time PENN 12C Cntl 240 120 Vac T Stromquist Company 125190 lit stromquist docs EXCALIBR MET |||

Product/Technical MR4PMUHV Issue Date July 25, 2002 MR4PMUHV Electronic Temperature/Defrost Control ... e off. Replace control. Ordering Information Table 6: Ordering Information Item Code Description **MR4PMUHV-12C** Relay pack temperature/defrost control with two A99B sensors MR4PM12C-12C Replacement ... lang:en score:19 filesize: 268.94 K page_count: 13 document date: 2002-07-30



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PUBL 5510 cweissle A421 Series Electronic Temperature Controls A421GEF 02C Low Voltage Type 4X Control NEMA IP67 weathertight enclosure for surface mount applications Rated 24 VAC Class 2 SELV Includes an A99BB 200C temperature sensor with 6 ft 7 1 5 in 0 m cable A99 Sensors Compatible the single stage refrigeration or HVAC equipment Sample control include monitoring and alarming on off of BE Cat Penn SSElectronicTempControls johnsoncontrols media jci be united states commercial files cat penn sselectronictempcontrols

Single-Stage Electronic Temperature Controls A421 Series Electronic Temperature Controls Code No. L ... s MR4PMUHV Electronic Temperature/Defrost Control with Relay Pack Product Code Number Description **MR4PMUHV-12C** Relay pack defrost control with two A99BB-200C sensors Repair Parts Product Code Numb...

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Single-Stage Electronic Temperature Controls A421 Series Electronic Temperature Controls Code No. L ... s MR4PMUHV Electronic Temperature/Defrost Control with Relay Pack Product Code Number Description **MR4PMUHV-12C** Relay pack defrost control with two A99BB-200C sensors Repair Parts Product Code Numb...

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[pdf] Accessories Catalog

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[pdf] User Manual Catalog

PENN Controls Products Catalog 23 nov 2021 — A25 Series Warm Air Limit Control with Manual Reset T22 T25 T26 Line Voltage Wall Thermostat Heating Cooling or and CatalogPUBL5510 Rev 1021 penncontrols media penn controls products catalogpubl5510 rev |||

PENN Controls Products Catalog A full compliment of temperature, pressure, humidity, air flow and fa ... ts Table 80: MR4PMUHV Electronic Temperature/ Defrost Control with Relay Pack Product Code Number **MR4PMUHV-12C** Description Relay pack defrost control with two A99BB-200C sensors Table 81: Repair P... lang:en score:15 filesize: 58.48 M page_count: 368 document date: 2021-10-28



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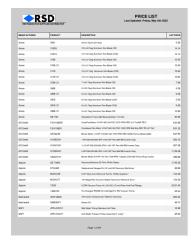
Penn Product Catalog PENN Controls Products Sep 30 2022 — A25 Series Warm Air Limit Control with Manual Reset 8 2A37 1 Ranco® 010 1418 1802 016 594 C30 C1101 Honeywell® T631A T696A T6054 A1005 PUBL5510 catalog penncontrols media penn publ5510 DOWNLOAD Brochures ||| PENN Controls Products Catalog A full compliment of temperature, pressure, humidity, air flow and fa ... ts Table 80: MR4PMUHV Electronic Temperature/ Defrost Control with Relay Pack Product Code Number MR4PMUHV-12C Description Relay pack defrost control with two A99BB-200C sensors Table 81: Repair P... lang:en score:14 filesize: 7.67 M page count: 368 document date: 2022-05-17



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Refrigeration Products Catalog SupplyHouseA19 Series Remote Bulb Control1 1 Specify the control model code number packing nut if required and bulb well gproxysupplyhouse product files Johnson Controls A421ABD 02C Brochure srsltid AfmBOoovoDfpkQfgfGIUb7OGj6pEReYSFVZxW4Na TZx5h3j6kucUV0I |||

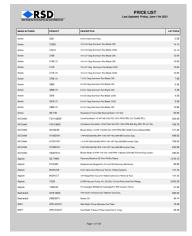
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RSD Price List: Refrigeration and HVAC Parts Catalog

Comprehensive price list from RSD Refrigeration Supplies Distributor, featuring a wide range of HVAC and refrigeration parts from leading manufacturers like Acme, AO Smith, Belimo, Browning, and Mueller. Updated May 6, 2022.

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RSD Refrigeration Supplies Distributor - Comprehensive Price List

Explore the extensive price list from RSD Refrigeration Supplies Distributor, featuring a wide range of HVAC and refrigeration parts, components, tools, and accessories from leading manufacturers like Acme, Browning, Copeland, Honeywell, and more. Updated June 11, 2021.

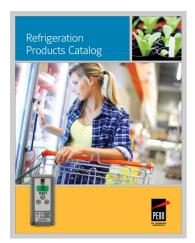
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Refrigeration Products Catalog Johnson Controls R 4 Table of Contents A28 Two Stage Agricultural Thermostat with NEMA 4X Enclosure 64 A36 Series Four Remote Bulb BE CAT PUBL5510 johnsoncontrols media jci be united states refrigeration commercial cat publ5510 en au hk id in latinamerica sg es mx pt br 80 ~

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