MR Series Defrost Control Modules Catalog Page

LIT-1900003

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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 functions.

The MR Series Controls have large red LED displays. These compact controls are available in panel mount and DIN rail mount varieties. The MR Series Controls use the A99B temperature sensors, which allow remote mounting of the display unit.

All MR Series Controls perform temperature and alarm management. Some models have additional capabilities.

MR1 Series Controls

The MR1 Series provides temperature and alarm management functions. It can replace a temperature control and digital temperature readout.

MR2 Series Controls

The MR2 Series provides temperature, alarm, and defrost cycle management. The MR2 control performs defrost cycle management using time-based, passive, off cycle defrost. It can replace a temperature control, a digital temperature readout, and a defrost timer.

Refer to the *MR Series Refrigeration Temperature Controls Product Bulletin (LIT-125199)* for important product application information.

MR4 Series Controls

The MR4 Series provides temperature, alarm, defrost, and evaporator fan management. The MR4 Series

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provides defrost cycle management with hot gas or electric heat defrost and defrost termination based on time or temperature. The MR4 Series consolidates the functions of a temperature control, a digital temperature readout, a defrost cycle timer, and a defrost termination device.

Refer to the *MR Series Refrigeration Temperature Controls Product Bulletin (LIT-125199)* for important product application information.

Features

- Programmable functions allow adjustment of control settings to meet application needs
- Alarm management functions provide local alarm display and an alarm output relay that can be used to trigger a remote alarm or dial-out modem
- Easily readable LED display displays temperature and other functions quickly and clearly
- Programming button lockout allows user to disable programming buttons and deter accidental or unauthorized changes
- Accurate, interchangeable temperature sensor provides accurate control performance with up to 300 feet of wiring (an adjustable temperature offset is provided for longer wiring)
- Self-test procedure checks control operation by cycling all outputs and testing all LEDs

Repair Information

If the MR Series Defrost Control Modules fails to operate within its specifications, replace the unit. For a replacement control, contact the nearest Johnson Controls® representative.

Applications

Table 1: Applications

Application	MR1	MR2	MR4
Cooling tower pump control	X		
Space and return air temperature control	X		
Convenience store coolers	X	X	X
Convenience store freezers			X
Supermarket display cases for produce		X	X
Reach-in coolers		X	X
Walk-in coolers		X	X
Freezers or coolers with passive defrost, time-based termination		X	X
Freezers with hot gas defrost (temperature or time-based termination			X
Freezers with electrical defrost (temperature or time-based termination)			X

Selection Chart

Table 2: Selection chart

Product Code Number	Description	Ship. Wt. lb (g)
MR1DR24-11C	MR1 Single-Stage, DIN Rail Mount Defrost Control, one A99BB-200C sensor included	0.75 lb (340 g)
MR2PM24-11C	MR2 Two-Stage, Panel Mount Defrost Control, one A99BB-200C sensor included	0.53 lb (240 g)
MR2DR24-11C	MR2 Two-Stage, DIN Rail Mount Defrost Control, one A99BB-200C sensor included	0.79 lb (360 g)
MR4PM24-12C	MR4 Four-Stage, Panel Mount Defrost Control, two A99BB-200C sensors included	0.90 lb (410 g)
MR4DR24-12C	MR4 Four-Stage, DIN Rail Mount Defrost Control, two A99BB-200C sensors included	1.17 lb (530 g)

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MR Series Defrost Control Modules technical specifications

Table 3: MR Series Defrost Control Modules technical specifications

Description		Specification
Power Requirements		24 VAC, 50/60 Hz Class 2 (20 to 30 VAC)
Power Consumption		3.7 VA at 24 VAC
Accuracy		± 1.8F° (± 1°C)
Ambient Conditions	Operating	+14 to +140°F (-10 to +60°C) 0 to 95% RH (noncondensing)
	Storage	-22 to +176°F (-30 to +80°C) 0 to 95% RH (noncondensing)
Dimensions (H x W x D)	Panel Mount	1.38 x 2.95 x 2.68 in. (35 x 75 x 68 mm)
	DIN Rail	4.65 x 2.76 x 2.07 in. (118 x 70 x 53 mm)
Agency Listings		UL Recognized: File E194024, CCN XAPX2 Canadian UL Recognized: File E194024, CCN XAPX8

Table 4: Electrical Ratings of Contacts

Rating Category	120 VAC	240 VAC	24 VDC
Horsepower	1/4	1/2	---
Full Load Amperes	5.8	4.9	---
Locked Rotor Amperes	34.8	29.4	---
Inductive (Non-Motor) Amperes	8	8	8
Pilot Duty VA	275	450	---

Note: Relay outputs must not exceed 20 Amperes total connected load. Open collector transistors on MR1 alarms have a maximum rating of 40 VDC 100 mA. Alarms require external power source.

Figure 1: MR4 DIN Rail Control

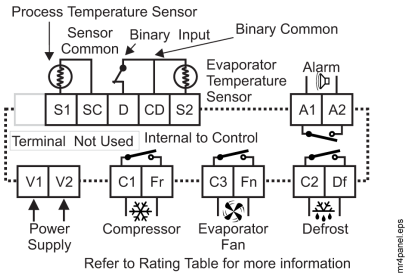
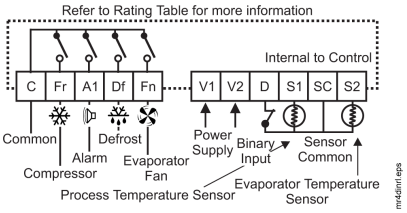


Figure 2: MR4 Panel Mount Control



Product warranty

This product is covered by a limited warranty, details of which can be found at www.johnsoncontrols.com/buildingswarranty.

Software terms

Use of the software that is in (or constitutes) this product, or access to the cloud, or hosted services applicable to this product, if any, is subject to applicable terms set forth at www.johnsoncontrols.com/techterms. Your use of this product constitutes an agreement to such terms.

Single point of contact

APAC	Europe	NA/SA
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Contact information

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