MR5 SERIES
ELECTRONIC REFRIGERATION CASE CONTROLLERS WITH ADAPTIVE DEFROST

Control what's important.

SMART THINGS COME IN
SMALL PACKAGES

A smarter way to control refrigerated cases.

The advanced MR5 Series of Electronic Refrigeration Case Controllers with Adaptive Defrost combine multi-functionality in a smart controller. And they provide efficiency, ease of installation and use, application flexibility and network integration.

Manage cooling, defrost, alarms, communications and costs.

You get more flexibility to manage refrigeration and freezer performance. Control all aspects of refrigerated spaces and take advantage of:

· Three or four control relays for refrigeration, fans, defrost and alarms

· A wide range of options that allow you to customize control functions

· Simple programming to save installation time and reduce operation cost

It knows when it's time to defrost.

No other refrigeration case controller offers this level of versatility. Set smart adaptive or time defrost cycles, depending on equipment needs. The MR5 is the only refrigeration case controller that integrates a proprietary adaptive control function which "learns" your system, so it defrosts only when required, eliminating unnecessary defrost cycles and increasing energy efficiency.

Plain language programming.

Setting up and installing the MR5 controller doesn't require a degree in software engineering. The engineers at Johnson Controls have taken care of the back end, to make your job easier upfront.

A scrolling alpha-numeric display provides walk-through instructions for each step of the setup process, telling you what needs to be programmed. It automatically indexes to the next programmable parameter. And you can assign a unique name to each controller in your system for easy identification.

Main menu options.

· SYSTEM STATUS · SYSTEM SETUP · REFRIGERATION SETUP
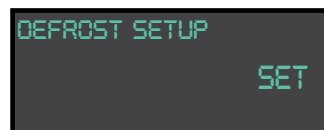· DEFROST SETUP · UNIVERSAL INPUTS · ALARM SETUP · FILE

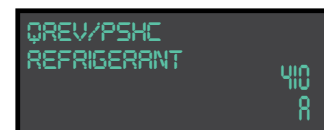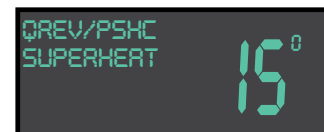*Simulated setup sequence for temperature, defrost and superheat.*

TEMPERATURE SETUP SEQUENCE

| REFRIGERATION SETUP |
| SET |

| SETPOINT |
| 35 122 / -40 |

| DIFFERENTIAL |
| 3 15 / 1 |

DEFROST SETUP SEQUENCE

| DEFROST SETUP |
| SET |

| DEFROST DURATION |
| 30 MIN |

| DEFROST TERMINATION |
| 55 90 / 30 |

SUPERHEAT SETUP SEQUENCE

| QREV/PSHC INSTALLED |
| YES |

| QREV/PSHC SUPERHEAT |
| 15 |

| QREV/PSHC REFRIGERANT |
| 410 A |

Plugged-in connectivity.

MR5 controllers are built with on-board Smart Equipment technology enabling controllers to seamlessly connect to Johnson Controls *Verasys* Networks. Simply plug and play. The network recognizes the controller with minimal commissioning to provide remote monitoring, adjustment, data transfer and reporting to track MR5 system performance.

The MR5 controller easily connects to a control system and other equipment and devices that have embedded controls. It will self-discover and communicate with these Smart Equipment devices, enabling predictive diagnostics,improved energy efficiency and reduced operating costs.

Communications Adapter.

The MR5 Network Communications Adapter is an RS485 communications hub allowing the MR5 controller to communicate on a configurable *Verasys* building control system.

Keeps more than a system running – It keeps a business running.

The MR5 controllers are also smart business tools. Because of their multi-functionality and control capabilities, they can have a positive impact on how your business operates. Users can select alarming for conditions specific to their application and equipment.

Besides high and low temperature alarms, other menu options include door open, man in room, refrigerant leaks, high pressure, and low pressure.

When connected to a *Verasys* Network, you can set up a variety of alarm and notification options, allowing you quick response to out-of-range conditions in your refrigerated systems. Also, the MR5 controller automatically records system temperature, out-of-range durations, alarms, and notifications, greatly simplifying HACCP monitoring and reporting.

Backed by Johnson Controls, the MR5 refrigeration case controllers deliver peace of mind and the freedom to control what's important in your world.

Plain language programming to reduce installation costs

Time-based schedule or adaptive defrost control based on your application requirements

Superheat monitoring and control increases efficiency, when connected to a Johnson Control QREV electronic expansion valve and PSHC superheat controller

Customized alarm and messaging maximizes performance

Remote connectivity provides improved control flexibility

The MR5 Series of Electronic Refrigeration Case Controllers with Adaptive Defrost

Faster, quicker superheat control.

The MR5 controllers communicate with the Quick Response Expansion Valve (QREV) and Precision Superheat Controller (PSHC) to simplify the monitoring and adjusting of superheat levels within the control menu. You can select any of 17 different refrigerants. The system sends alarms if superheat falls out of selected parameters and creates reports.

Quick Response Expansion Valve (QREV) and Precision SuperHeat Controller (PSHC)

Setting and advancing the standard in refrigeration control for 100 years. And counting.

PENN refrigeration controls have long delivered a combination of worry-free dependability, unrivaled quality and industry-leading expertise. We're the one brand that continues to provide innovative controls that match your requirements for increased efficiency, smarter performance and ease-of-use.

A525 Electronic Refrigeration Control

DR5 Multi-Plexed Case Controller

Ordering information

PRODUCT CODE NUMBER	DESCRIPTION
MR534AFDN-00C	MR5 Case Controller with three sensor inputs & four relay outputs.
MR534AFDV-00C	MR5 Case Controller with three sensor inputs & four relay outputs. Includes Network Communications Adapter
MR523AFDN-00C	MR5 Case Controller with two sensor inputs & three relay outputs.
MR523AFDV-00C	MR5 Case Controller with two sensor inputs & three relay outputs. Includes a Network Communications Adapter
ADPT-MR5-RS485	MR5 Network Communications Adapter
A99BB-200C	PTC Sensor with PVC Cable; Cable length 2 m (6-1/2 ft)
A99BB-300C	PTC Sensor with PVC Cable; Cable length 3 m (9-3/4 ft)
A99BB-400C	PTC Sensor with PVC Cable; Cable length 4 m (13-1/8 ft)
A99BB-500C	PTC Sensor with PVC Cable; Cable length 5 m (16-3/8 ft)
A99BB-600C	PTC Sensor with PVC Cable; Cable length 6 m (19-1/2 ft)

NOTE: MR5 Series Controllers do not include sensors. Sensors must be ordered separately.