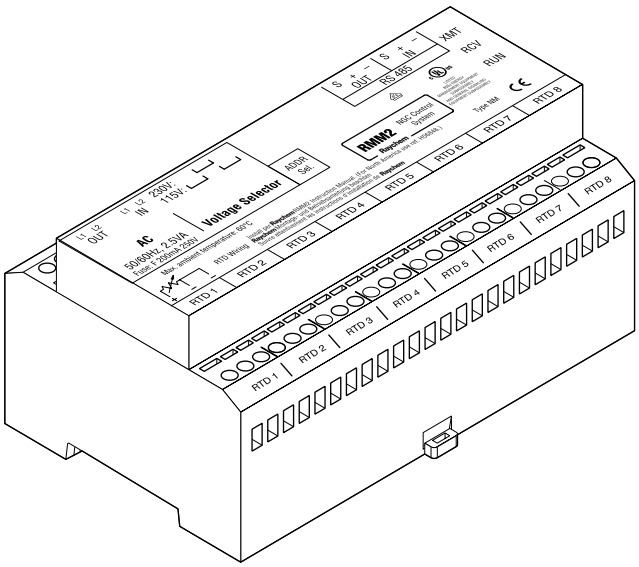
RMM2

HEAT-TRACING REMOTE MONITORING MODULE



RMM2 without enclosure

PRODUCT OVERVIEW

The nVent RAYCHEM remote monitoring module (RMM2) provides temperature monitoring capability for the NGC heat-tracing control and monitoring systems. The RMM2 accepts up to eight RTDs that measure pipe, vessel, or ambient temperatures in a heat-tracing system. Multiple RMM2s communicate with a single NGC controller to provide centralized monitoring of temperatures. A single, twisted pair RS-485 cable connects up to 16 RMM2s for a total monitoring capacity of 128 temperatures.

Control and monitoring

The RMM2 modules are used to aggregate RTD wires in one remote location and send the information back to the control system through a single twisted pair cable. This helps reduce installation costs since only one conduit run returns to the controller, rather than eight. The RMM2s are placed near desired measurement locations in nonhazardous or hazardous locations. Multiple temperature sensor inputs are networked over a single cable, significantly reducing installation cost.

Alarms

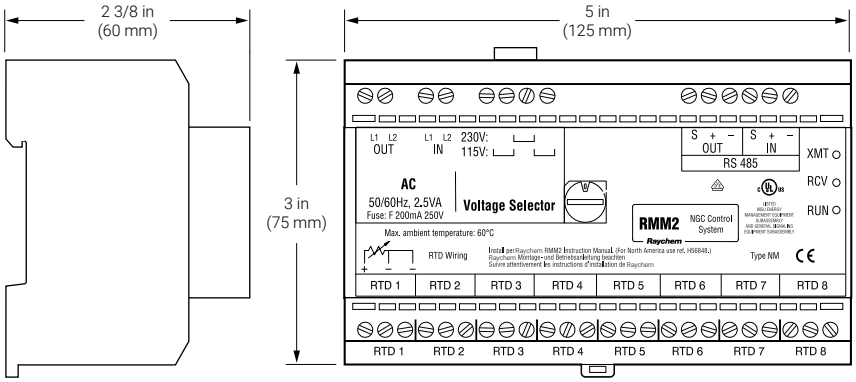
Each temperature sensor connected to a RMM2 may have individual low- and high-temperature alarms. Alarm limits are set and alarm conditions are reported at the control panel. Additional alarms are triggered for failed temperature sensors and communication errors. Alarms may be reported remotely through an alarm relay in the control system or through an RS-485 connection to a host computer supporting the Modbus® protocol.

Configurations

The RMM2 clips to a DIN 35 rail and can be mounted in a choice of enclosures, as required for the area classification and environment. For aggressive environments and Division 2 hazardous locations, nVent offers a glass-reinforced polyester TYPE 4X enclosure.

DIMENSIONS

Figure 1



GENERAL

	RMM2
Area of use (with appropriate enclosure)	Nonhazardous or hazardous locations
Approvals	Nonhazardous locations c UL us LISTED **80BJ ENERGY MANAGEMENT EQUIPMENT SUBASSEMBLY AND GENERAL SIGNALING EQUIPMENT SUBASSEMBLY** **Type NM**
Ambient operating temperature range	−40°F to 140°F (−40°C to 60°C)
Ambient storage temperature range	−40°F to 140°F (−40°C to 60°C)
Relative humidity	5% to 95%, noncondensing
Supply voltage (nominal)	115/230 Vac, ±10%, jumper selectable. (The default voltage is 230 Vac. A jumper is supplied to convert to 115 Vac.)
Internal power consumption	< 3 W

RMM2 WITH DIVISION 2 ENCLOSURE

	RMM2-4X
Protection	TYPE 4X
Approvals	Hazardous locations c UL us LISTED **9Z63 TEMPERATURE INDICATING EQUIPMENT FOR USE IN HAZARDOUS LOCATIONS** Class I, Division 2, Groups A, B, C, D Class II, Division 2, Groups F, G
Material	Glass-reinforced polyester, silicone gasket, stainless steel hardware
Entries	Six 3/4-in (19 mm) NPT conduit entrance holes, four plugged
Mounting	Surface mounting dimensions are shown in Figure 2

TEMPERATURE SENSOR INPUTS

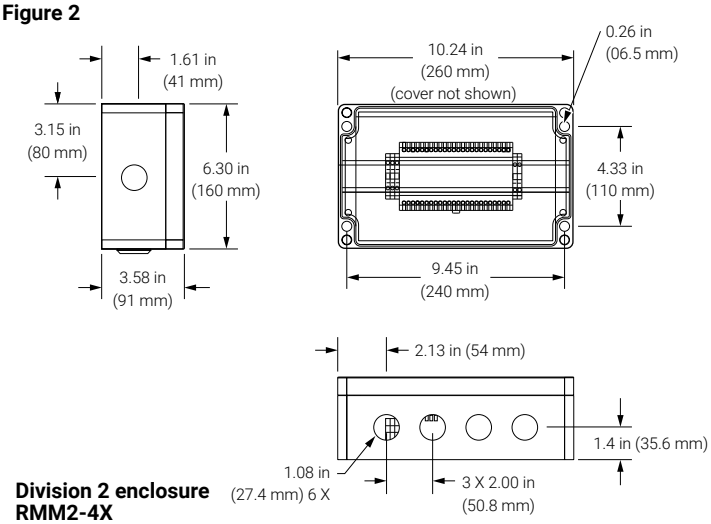
Type	100 Ω platinum RTD, 3-wire, α =0.00385 Ω/Ω/°C
Quantity per RMM2	Up to 8 RTDs can be extended with a 3-conductor shielded cable of 20 Ω maximum per conductor

COMMUNICATION TO NGC CONTROLLER

Type	RS-485
Cable	One shielded twisted pair
Length	4000 ft (1200 m) maximum
Quantity	Up to 16 RMM2s may be connected to one NGC-30
Address	Switch-selectable on RMM2, 16 addresses, 0–9, A-F

ENCLOSURE DIMENSIONS

Figure 2



Division 2 enclosure RMM2-4X

CONNECTION TERMINALS

Power supply	24–12 AWG
RTD, communications	24–12 AWG

ORDERING DETAILS

	Catalog number	Part number	Weight
Remote monitoring module (RMM2)			
RMM2, eight RTD inputs, no enclosure	RMM2	051778-000	1.5 lb (0.7 kg)
RMM2 with TYPE 4X enclosure	RMM2-4X	523420-000	4 lb (1.8 kg)
Cables			
RTD extension cable, 1000-ft reel	MONI-RTD-WIRE	962661-000	20 lb (9.1 kg)
RS-485 cable, 1000-ft reel	MONI-RS485-WIRE	549097-000	17 lb (7.7 kg)

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