

RMM3

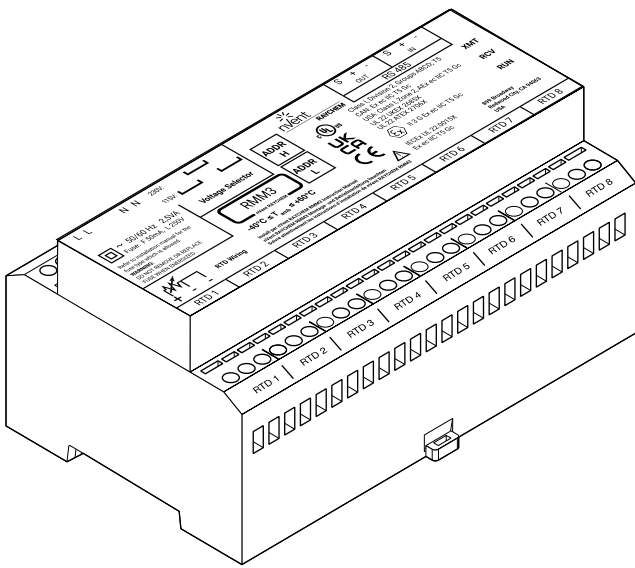


RAYCHEM

CONNECT AND PROTECT

Heat-tracing remote monitoring module

PRODUCT OVERVIEW



RMM3 without enclosure

The nVent RAYCHEM remote monitoring module (RMM3) provides temperature monitoring capability for the Elexant and NGC heat-tracing control and monitoring systems. The RMM3 accepts up to eight RTDs that measure pipe, vessel, or ambient temperatures in a heat-tracing system. Multiple RMM3 units communicate with a single nVent RAYCHEM User Interface providing centralized monitoring of temperatures. A single, twisted pair RS-485 cable connects up to 247 RMM3 units.

Control and monitoring

The RMM3 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 RMM3 units 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

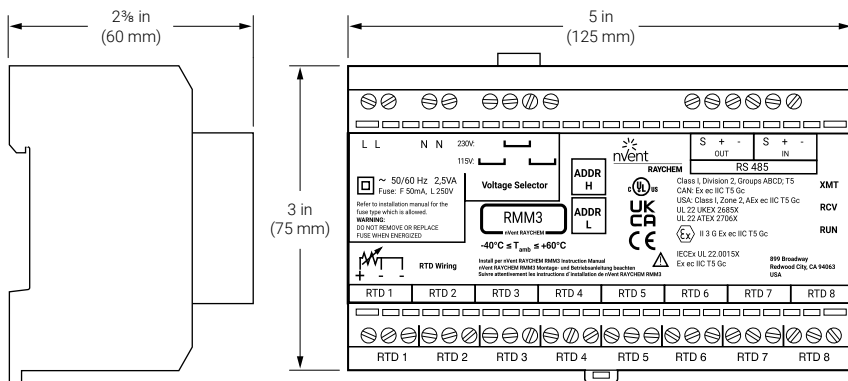
Each temperature sensor connected to a RMM3 unit may have individual low- and high-temperature alarms. Alarm limits are set and alarm conditions are reported at the control panel. Additional alarms are triggered for failed temperature sensors and communication errors. Alarms may be reported remotely through an alarm relay in the control system or through an RS-485 connection to a host computer supporting the Modbus® protocol.

Configurations


The RMM3 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	Hazardous location  Class I Division 2 Group A, B, C, D T5
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
RMM3 Supply voltage (nominal)	115/230 Vac, jumper selectable. (The default voltage is 230 Vac. A jumper is supplied to convert to 115 Vac.)
RMM3-24Vdc supply voltage (nominal)	24 Vdc (10-30 Vdc)
Internal power consumption	< 3 W

RMM3 WITH DIVISION 2 ENCLOSURE

	RMM3-4X
Protection	TYPE 4X
Approvals	Hazardous location  Class I Division 2 Group A, B, C, D T5
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

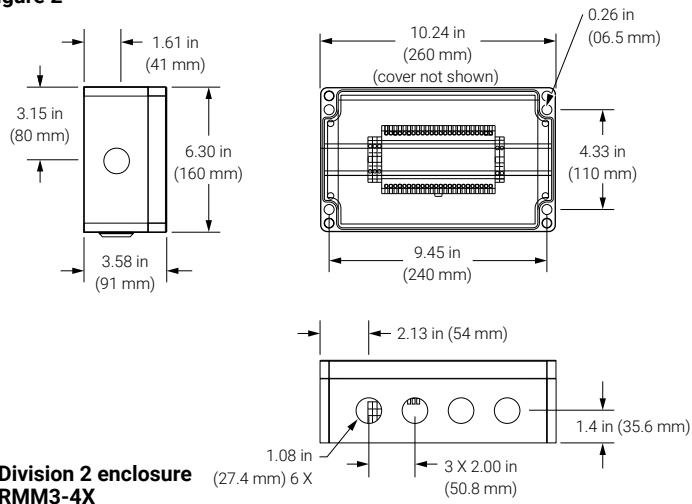
Type	100 Ω platinum RTD, 3-wire, $\alpha = 0.00385 \Omega/\Omega/^\circ\text{C}$
Quantity per RMM3	Up to 8 RTDs can be extended with a 3-conductor shielded cable of 20 Ω maximum per conductor

COMMUNICATION TO NGC CONTROLLER

Type	RS-485
Cable	One shielded twisted pair
Length	4000 ft (1200 m) maximum
Address	Switch-selectable on RMM3, address range 1-247

ENCLOSURE DIMENSIONS

Figure 2



Division 2 enclosure
RMM3-4X

CONNECTION TERMINALS

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

ORDERING DETAILS

	Catalog number	Part number	Weight
Remote monitoring module (RMM2)			
RMM3, eight RTD inputs, no enclosure	RMM3	1244-022749	1.5 lb (0.7 kg)
RMM3-24VDC, eight RTD inputs, no enclosure	RMM3-24VDC	1244-022782	1.5 lb (0.7 kg)
RMM3 with TYPE 4X enclosure	RMM3-4X	523420-001	4 lb (1.8 kg)
RMM3-24VDC with TYPE 4X enclosure	RMM3-24VDC-4X	523420-002	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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