Heat-tracing remote monitoring module

Product overview

The DigiTrace remote monitoring module (RMM2) provides temperature monitoring capability for the 200N heat-tracing control and monitoring unit. 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 200N 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

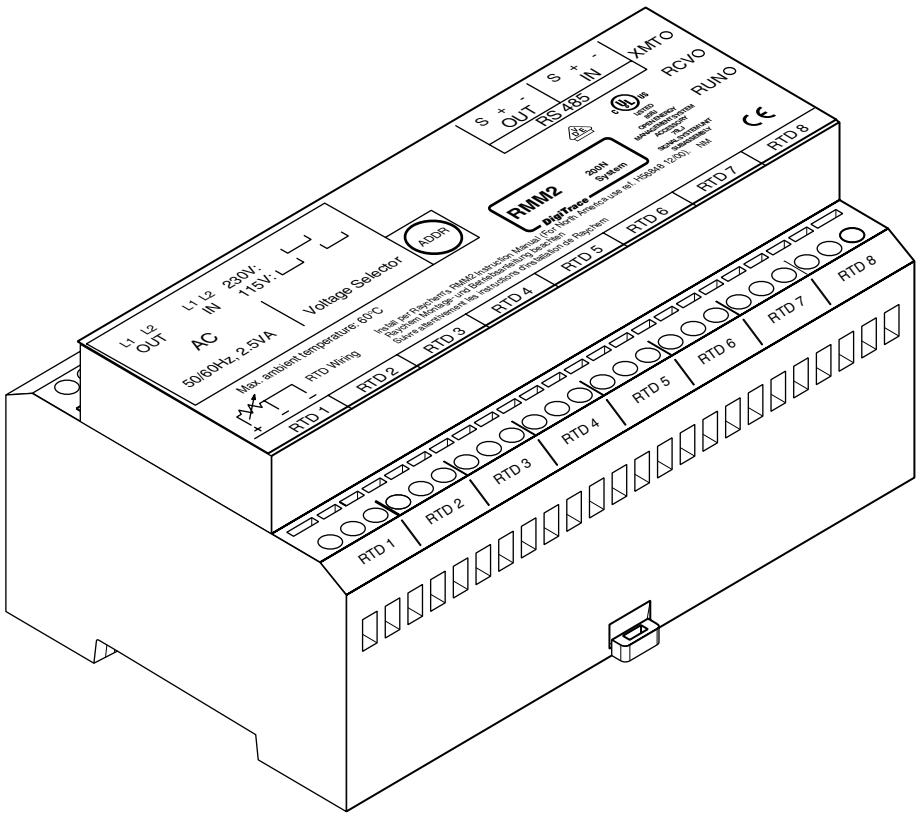
The RMM2 modules are used to collect temperatures for control and monitoring of the heat-tracing system by the 200N control panel. The RMM2s are placed near desired measurement locations in ordinary or hazardous locations. Multiple temperature sensor inputs are networked over a single cable, significantly 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 200N panel. Additional alarms are triggered for failed temperature sensors and communication errors. Alarms may be reported remotely through an alarm relay in the 200N or through an RS-485 connection to a host computer supporting the Modbus™ protocol.

Configurations

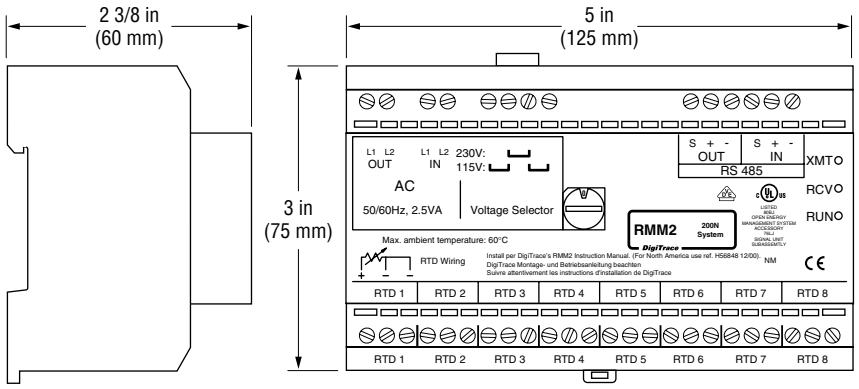
The RMM2 clips to a DIN 35 rail and can be mounted in a choice of enclosures, as required for the area classification and environment. For aggressive environments and Division 2 hazardous locations, Tyco Thermal Controls offers a glass reinforced polyester NEMA 4X enclosure. For Division 1 locations, a NEMA 7 enclosure is available.



RMM2 without enclosure

Dimensions

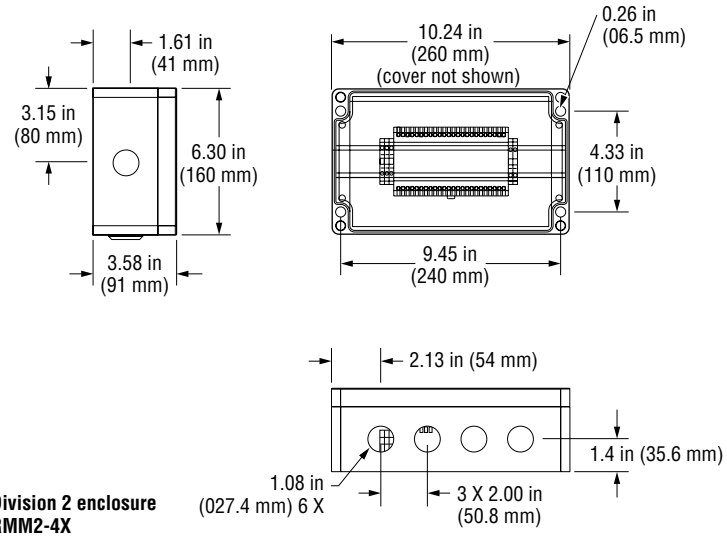
Figure 1



General	RMM2
Area of use (with appropriate enclosure)	Nonhazardous or Hazardous Locations
Approvals	Nonhazardous Locations c UL us
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	NEMA 4X
Approvals	Hazardous Locations c UL us 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" NPT conduit entrance holes, four plugged
Mounting	Surface mounting dimensions are shown in Figure 2
RMM2 with Division 1 enclosure	RMM2-7
Protection	NEMA 4, 7 and 9
Approvals	Hazardous Locations c UL us Class I, Division 1, Groups B, C, D Class II, Division 1, Groups E, F, G
Material	Cast copper-free aluminum
Entries	Six 3/4" NPT threaded entries, four plugged
Mounting	Surface mounting dimensions are shown in Figure 3
Temperature sensor inputs	
Type	100 Ω platinum RTD, 3-wire, α =.00385 Ω/Ω/°C
Quantity per RMM2	Up to 8 RTDs can be extended with a 3-conductor shielded cable of 20 Ω max. per conductor.
Communication to 200N	
Type	RS-485
Cable	1 shielded twisted pair
Length	4000 ft (1200 m) max.
Quantity	Up to 16 RMM2s may be connected to one 200N
Address	Switch-selectable on RMM2, 16 addresses, 0–9, A-F

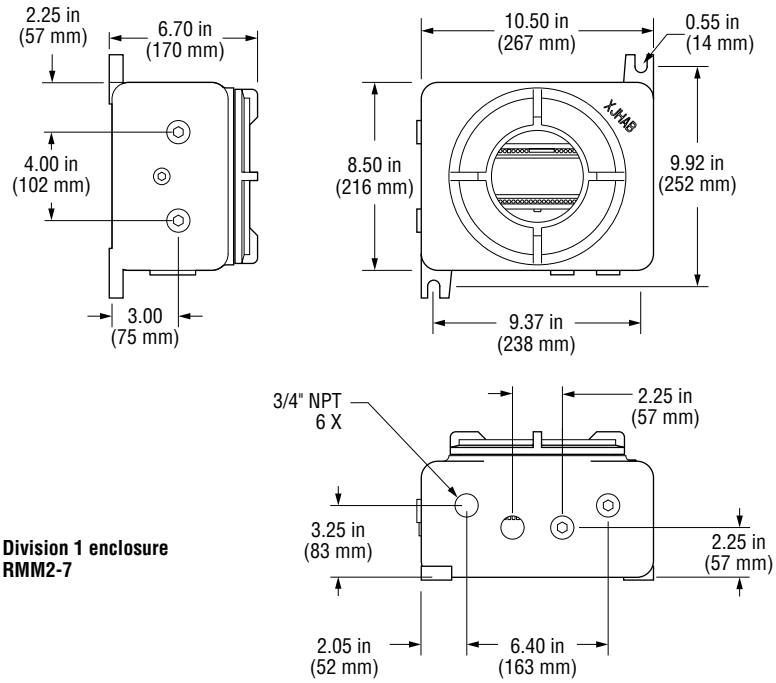
Enclosure dimensions

Figure 2



Division 2 enclosure
RMM2-4X

Figure 3



Division 1 enclosure
RMM2-7

Connection terminals

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

Ordering details	Catalog no.	Part no.	Weight
MoniTrace remote monitoring module (RMM2)			
RMM2, 8 RTD inputs, no enclosure	RMM2	051778-000	1.5 lb (0.7 kg)
RMM2 with NEMA 4X enclosure	RMM2-4X	523420-000	4 lb (1.8 kg)
RMM2 with NEMA 7 enclosure	RMM2-7	477398-000	20 lb (9.1 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)