ACS-30-EU-MONI-RMM2-E

MULTI-APPLICATION HEAT TRACING CONTROL & MONITORING IN COMMERCIAL AND RESIDENTIAL BUILDINGS

DESCRIPTION

The Remote Monitoring Module (RMM) is used to collect sensor/temperature inputs for monitoring of the heat tracing circuits of an ACS-30 control system.

The RMM provides up to 8 sensor inputs per module with feedback to the ACS-30-EU-UIT2 interface. Multiple RMM devices communicate with a single User interface terminal (UIT), providing centralised monitoring feedback.

A single twisted pair RS-485 cable connects up to 16 RMM units providing 128 additional temperature monitoring sensor inputs.

The RMM is remotely located adjacent to the desired measurement locations.

The nVent RAYCHEM ACS-30-EU-MONI-RMM2-E module comes pre-installed inside a compact enclosure.inside a compact enclosure.measurement locations.

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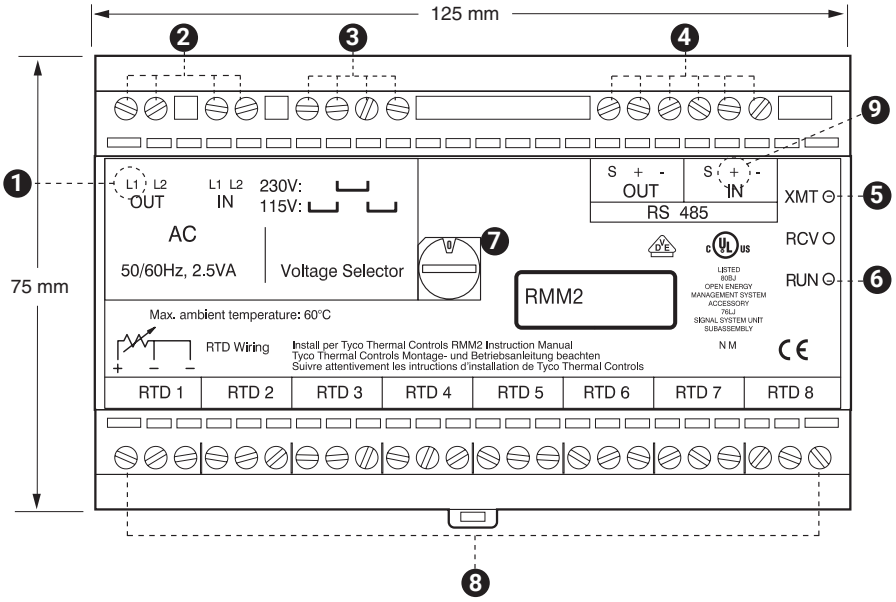
TECHNICAL INFORMATION

Approvals	CE marked
Ambient operating Temperature range	–25°C to +60°C
Mounting	Wall mounting
Dimensions	290 mm x 190 mm x 94 mm
Enclosure type	Polycarbonate
IP rating	IP66
Glands	12 M20 glands with stopping plugs
No. Of RTDs per module	8
Connection Method	RS-485 screened twisted pair to ACS-30-EU-UIT2 interface or ACS-30-EU-PCM2. Note that all devices must be connected in series.
Supply voltage	115/230 VAC, +/–10%, 50/60 Hz (Jumper selectable)
Max. RMMs per UIT	16
Power consumption	3 VA
Temperature Sensors*	PT100., temperature coefficient per IEC 751-1983
Replaceable fuse	F200mA/250V, Wickmann part number 19370-034-K (Fast Blow)

*The sensor cable may be extended with a 3 (+PE) wire signal cable adding 20 Ohms lead resistance maximum. When using 1.5 mm^2 cable this equals ±150 m of cable. When the sensor cable is laid in cable ducts or in the vicinity of high voltage carrying cable the sensor extension cable should be shielded. The shield of the extension cable should be grounded at the controller end only.

REMOTE MONITORING MODULE OVERVIEW



1. Fuse (200 mA, 250V)
2. Terminals for power input with provision for daisy chaining
3. Voltage selector jumpers
4. Terminals for RS-485 bus
5. LEDs which indicate communications activity
6. LED which indicates power to the RMM2-E unit
7. Rotary switch (16 position) to assign RS-485 address
8. Terminals for RTD lead wires
9. Shorting block to select RS-485 termination mode

SAFETY REMARKS

Only for electricians!

Attention: mistakes during connecting up the device can cause damage to the control unit. nVent is not liable for any damage caused by faulty connections and/or incorrect handling.

- Before working on the device, switch off the power supply!
- The device may only be connected and serviced by an authorised, trained electrician.
- Electrical connection has to be carried out accord to the schematics provided with the product.
- Do not lay sensor cables together with other live wires to order avoid electromagnetic interference.
- Local standards for electrical norms must be observed.
- If the device does not function as expected please check all connections and the mains power supply.

OVERVIEW OF INSTALLATION PROCEDURE FOR THE ACS-30-EU-MONI-RMM2-E

A. Mount ACS-30-EU-MONI-RMM2-E enclosure and install cables.

B. Connect power and earth wiring and select voltage operating range.

C. Connect RTD cables to the ACS-30-EU-MONI-RMM2-E.

D. Select RS-485 address for the ACS-30-EU-MONI-RMM2-E and connect the RS-485 bus cables.

E. Initialise or update the ACS-30 network and assign settings for each RTD (using the ACS-30-EU-UIT2 control panel).
network and assign settings for each RTD (using the MoniTrace 200N control panel).

Note: Installation to be performed by suitable trained personnel.

A. MOUNT ENCLOSURE AND INSTALL CABLES

Select a suitable location for the enclosure and mount it on a wall using suitable screws.

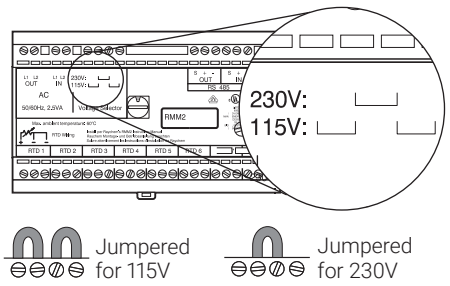
Install power cable(s), RS-485 cable(s) and RTD cables into enclosure using glands supplied.

Keep stopping plugs in unused entries.

B. CONNECT POWER AND EARTH WIRING AND SELECT VOLTAGE OPERATING RANGE

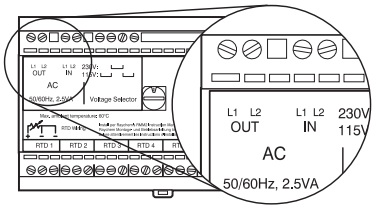
Connect the supplied wire jumpers to the appropriate terminals to select input voltage.

The RMM2 is supplied jumpered for 230 volts



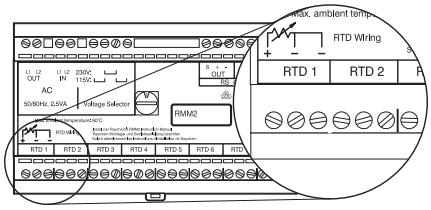
Connect power cable wires to the terminals marked L1 and L2 on the RMM2 module. If power is being daisy chained, be sure to maintain polarity of L1 and L2 wiring for incoming and outgoing wires.

The terminals accept stranded wires from 0.2 – 2,5 mm^2
(0,2 - 4 mm^2 solid wire).



C. CONNECT RTD CABLES

The ACS-30-EU-MONI-RMM2-E has terminals for 8 three-wire RTDs
(Pt 100 temperature sensors, accordingly to IEC 751-1983)
Do not use other types of RTDs.



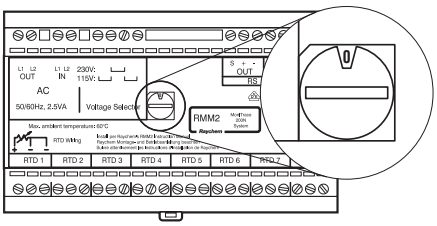
Each RTD has to be connected accordingly to the scheme reported below
If RTD-shield is not earthed elsewhere, connect shield to earth terminal.

Note: Resistance of lead wires from each RTD must not exceed 20ohm (e.g. 150 m with 3 x 1,5 mm2 cable).

If the RTD lead wires are reversed, the ACS-30-EU-UIT2 will give an obviously wrong temperature measurement.

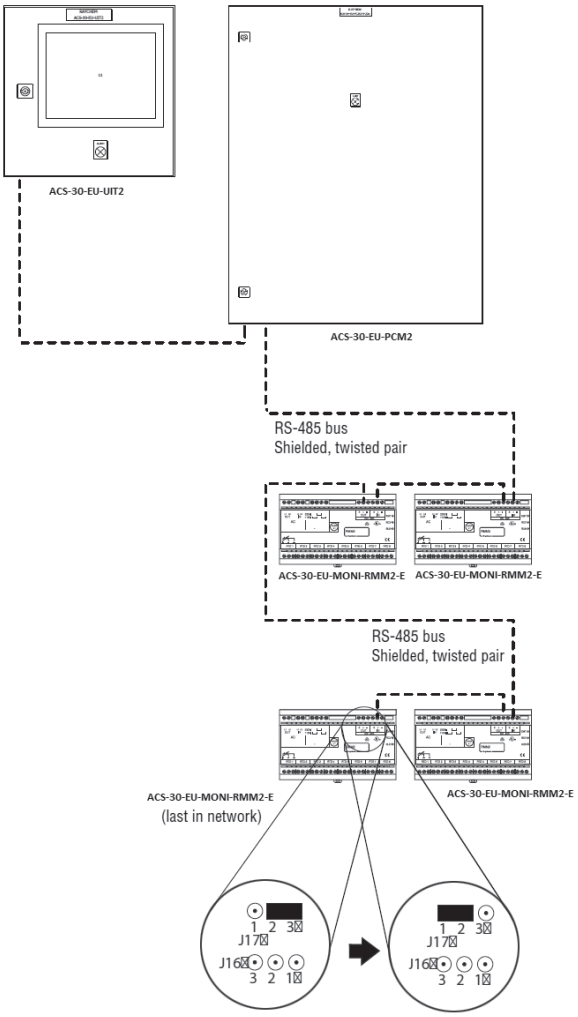
D. SELECT RS-485 ADDRESS AND CONNECT THE RS-485 BUS CABLES

Each ACS-30-EU-MONI-RMM2-E connected to a ACS-30 system must have a unique address; if two RMM2s are assigned the same address, communication faults will result.
The addresses range is 32-47.



To add a new unit to the network, simply connect the RS-485 bus from the last unit to the new one, or insert the new unit between two existing units on the bus. The order in which units are attached to the RS-485 bus does not matter.
Each module must have a unique address and the RS-485 bus must ne a continuous line from the first to the last device connected.

Note: The RS-485 bus operates at 5 V, and equipment connected to it could be damaged by exposure to higher voltages. Take precautions to avoid exposing the RS-485 wiring to discharge of static electricity or other sources of high voltage potential; in particular, avoid contact with the power supply wiring.



The RMM2 has two sets of terminals for connections to the RS-485 bus. One terminal block allows the RMM2 to connect to the RS-485 bus, the second allows a continuation of the bus to other RMM2 units on the network. Observe polarity, which is indicated on the RMM2.

Connect the incoming RS-485 bus to the set of terminals marked “IN”, observing the polarity noted on the cover of the RMM2; use the terminal marked “S” for the shield of the RS-485 cable.

Connect the continuation of the RS-485 bus to the set of terminals marked “OUT” in the same manner (not required for the last RMM2 in the network). Important: Do not connect the shield of the RS-485 cables to the enclosure's grounding terminal. Connect the shield only to the RMM2 terminals provided.

To avoid the potential for spurious ground loops, the RS-485 cable shield should be connected to ground only in the device at the top of the line.

EOL (End Of Line) jumper

For the last RMM2 in the network, terminate the RS-485 bus by removing the shorting block on jumper location J17 from 2–3 (default) and placing it across pins 1–2

Note: in the picture is represented the RMM2 device contained in the ACS-30-EU-MONI-RMM2-E.

E. INITIALIZE OR UPDATE THE ACS-30-EU-UIT2NETWORK AND ASSIGN SETTINGS FOR EACH RTD

Re-scan the network to find the new module installed. Refer to the manual of ACS-30-EU-UIT2 for detailed information.

If necessary due to problems or questions, check function of individual modules.

- Verify that a RMM2 is functioning by confirming that the run LED (6) and the communications LEDs are flashing.
- Verify that the voltage selector jumpers are set to the appropriate range.
- Check all connections.
- Confirm that the RMM2 network does not have any duplicate RS-485 addresses.

PART NUMBERING AND ORDERING DESCRIPTION

PCN	Product Name	Description	EAN Code
1244-012867	ACS-30-EU-MONI-RMM2-E	Remote Monitoring Module for the ACS-30 multi-application control & monitoring device.	5414506014334

RELATED PRODUCTS

PCN	Product Name	Description	EAN Code
1244-012864	ACS-30-EU-UIT2	User Interface module for the ACS-30 Control and Monitoring System	5414506014303
1244-012865	ACS-30-EU-EMDR-10-MOD	Gutter & Roof snow melting sensor module for the ACWS-30 Control and Monitoring System	5414506014310
1244-012866	ACS-30-EU-VIA-DU-20-MOD	Snow melting and surface de-icing sensor module for the ACS-30 Control and Monitoring System	5414506014327
1244-012868	ACS-30-EU-PCM2-5-20A	Power Control Module for ACS-30 (5 circuit module with 20 Amp electrical protection per circuit)	5414506014341
1244-012869	ACS-30-EU-PCM2-10-20A	Power Control Module for ACS-30 (10 circuit module with 20 Amp electrical protection per circuit)	5414506014358
1244-012870	ACS-30-EU-PCM2-15-20A	Power Control Module for ACS-30 (15 circuit module with 20 Amp electrical protection per circuit)	5414506014365
1244-012871	ACS-30-EU-PCM2-5-32A	Power Control Module for ACS-30 (5 circuit module with 32 Amp electrical protection per circuit)	5414506014372
1244-012872	ACS-30-EU-PCM2-10-32A	Power Control Module for ACS-30 (10 circuit module with 32 Amp electrical protection per circuit)	5414506014389
1244-012873	ACS-30-EU-PCM2-15-32A	Power Control Module for ACS-30 (15 circuit module with 32 Amp electrical protection per circuit)	5414506014396

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