



## CONNECT AND PROTECT

ACS-30

Multiple application control & monitoring  
system for electrical heat tracing

  
nvent

**RAYCHEM**

# Total Control & Monitoring for a Building's Heat Tracing Systems

**NVENT RAYCHEM ACS-30 IS A MULTI-APPLICATION CENTRALISED CONTROL & MONITORING SYSTEM WITH DISTRIBUTED CONTROL PANELS PRECONFIGURED FOR ALL COMMERCIAL & RESIDENTIAL BUILDING HEATING APPLICATIONS:**

- hot water temperature maintenance
- pipe frost protection
- greasy waste and fuel flow maintenance
- freezer frost heave prevention
- floor heating
- roof & gutter de-icing
- surface snow melting

The ACS-30 features a centralised User Interface Terminal (UIT), which interfaces with up to 52 power & control modules (PCMs) distributed throughout the building at the required locations. The UIT features a touch-screen display and provides intuitive application based control.

All heating cable circuits are controlled & monitored from the UIT providing status updates for up to 260 heating circuits.





# The ACS-30 Control & Monitoring System Offers Significant Benefits:



## 1. ENERGY SAVINGS

---

- 24/7 time-clock control and schedulers
- Energy Monitoring of individual circuits displaying both real time and cumulative kWh
- Proportional Ambient Sensing Control (PASC)
- Hot Water Maintenance control with economy set back & line temperature monitoring function
- System switching via multi-sensor control devices for ambient and surface temperature as well as moisture sensors

## 2. BUILT-IN SAFETY

---

- Integrated electrical and circuit protection in accordance with European electrical norms
- Automated self-test feature to ensure all circuits are functional, even when not in use
- Local and remote alarm outputs
- Distributed control panels contain circuit control logic in the event of network communication failure
- Loss of power indication and alarm
- Low/high temperature alarm
- Earth leakage monitoring, circuit by circuit, with alarm function



## 3. COMMUNICATION

---

- Link the heating cable system to the BMS for load shedding, weather control integration, HVAC management, and fire control systems
- ModBus RTU protocol can be programmed directly into BMS
- ProtoNode pre-programmed multi-protocol gateways are available for translating to BacNet and MetaSys N2 systems.

## 4. DISTRIBUTED CONTROL

---

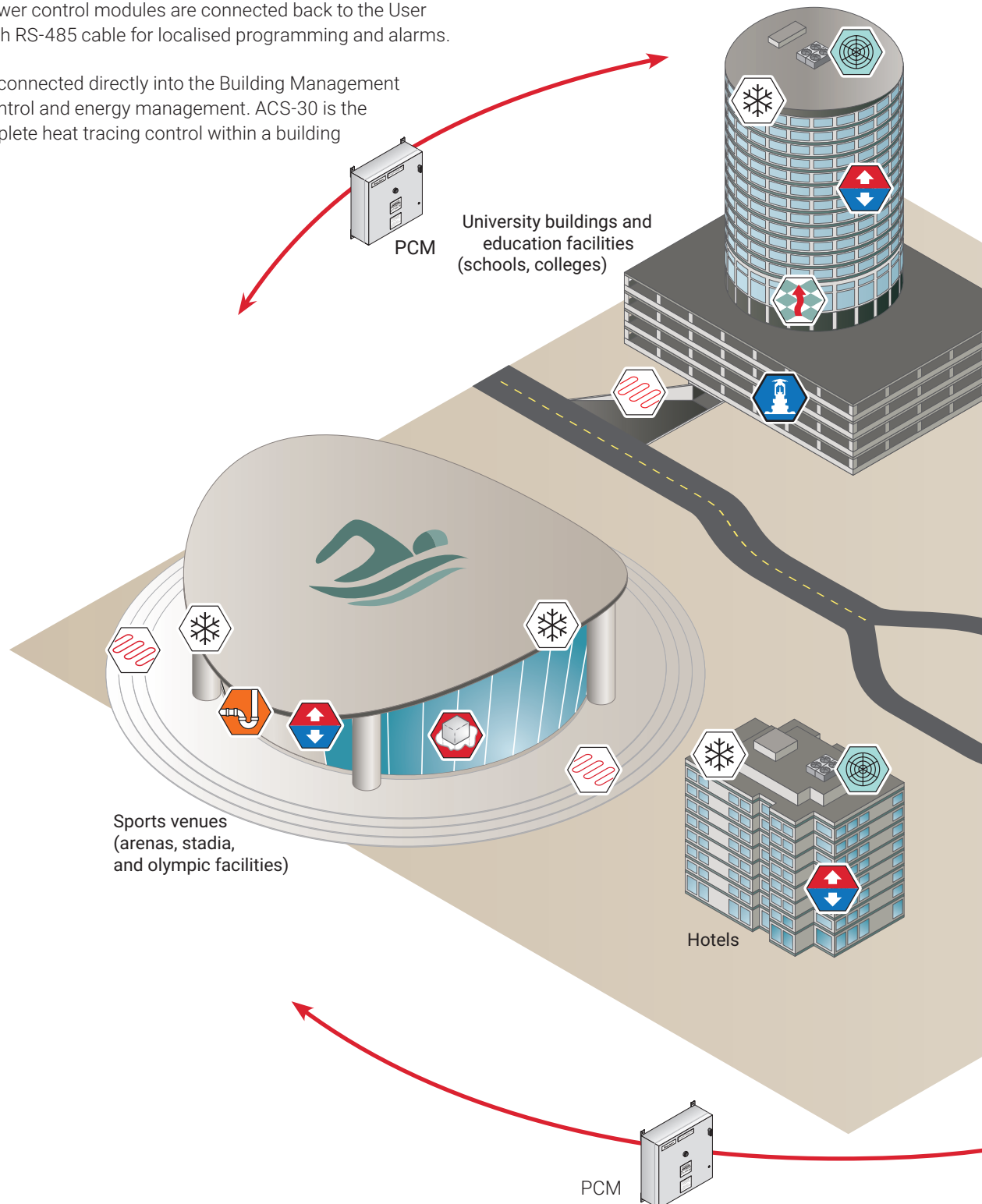
- Power control panels placed at convenient power positions throughout the building
- Avoid expensive power distribution wiring
- Expandable to meet building modification requirements or new system installations within a building
- Single user-interface terminal to monitor all of the heating circuits with data logging

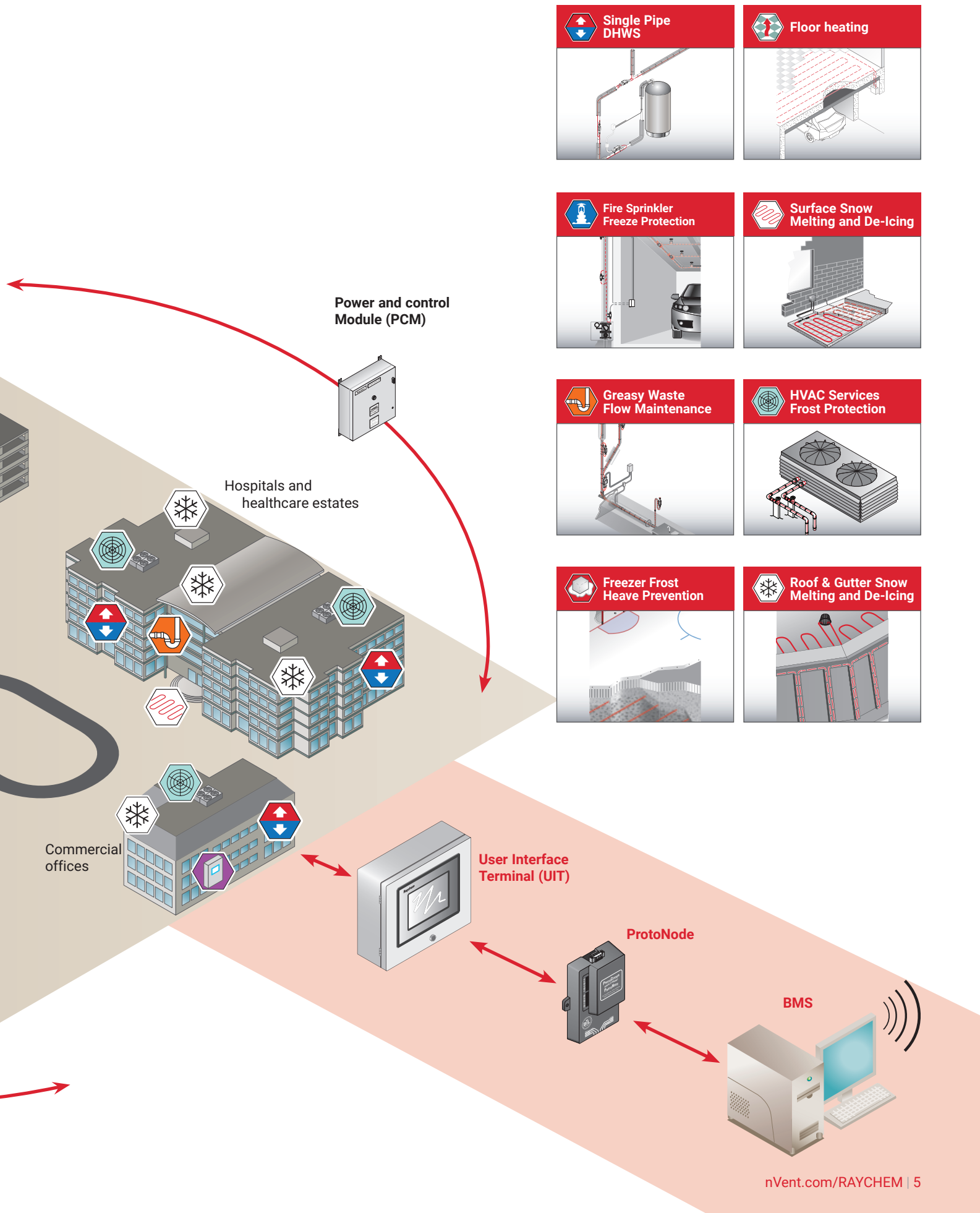
# Application-Based Distributed Control System

**THE ACS-30 EMPLOYS A MODULAR DESIGN PHILOSOPHY, ALLOWING FLEXIBLE SYSTEM DESIGN, INSTALLATION AND FUTURE DEVELOPMENT WITHIN BUILDINGS. THE DISTRIBUTED POWER AND CONTROL MODULES (PCMs) ALLOW CONVENIENT INSTALLATION AT THE HEATING APPLICATION.**

The PCMs can be used for multiple heating applications, so dedicated independent controllers are not required. For more sophisticated and cost effective temperature control, sensors may be shared between similar heating cable circuits. The power control modules are connected back to the User Interface Terminal with RS-485 cable for localised programming and alarms.

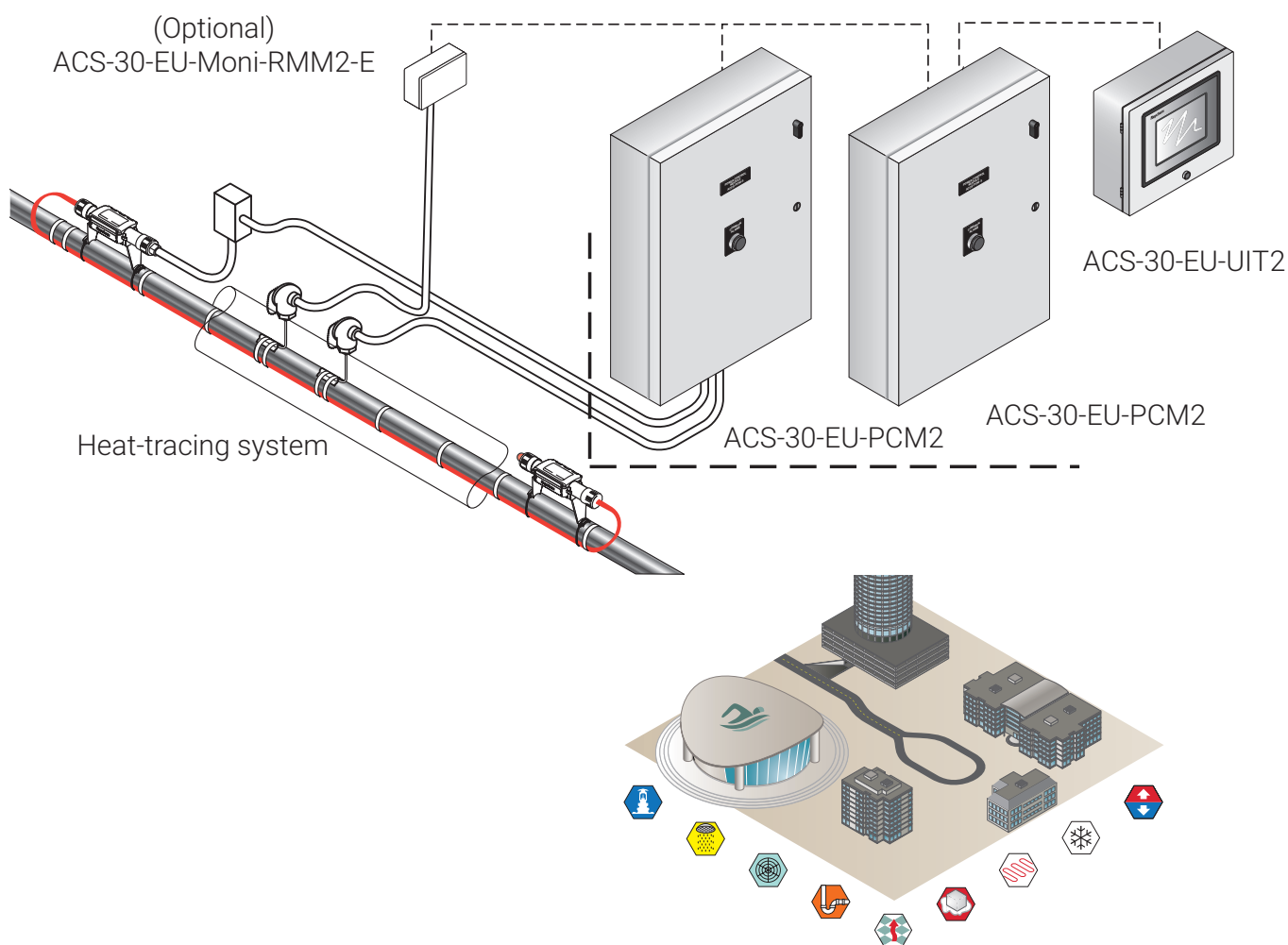
The UIT may then be connected directly into the Building Management System for further control and energy management. ACS-30 is the total solution for complete heat tracing control within a building or group of buildings.





# ACS-30

THE ACS-30 SYSTEM CONSISTS OF THE USER INTERFACE TERMINAL (UIT), UP TO 52 DISTRIBUTED CONTROL PANELS, RMM2 REMOTE TEMPERATURE MONITORING MODULES AND THE PROTONODE MULTI-PROTOCOL GATEWAY. FOR GROUND SURFACE SNOW MELTING & DE-ICING AND ROOF AND GUTTER DE-ICING, ADDITIONAL MULTI-SENSOR MODULES CAN BE ADDED TO ENSURE THAT SYSTEMS ARE ONLY OPERATIONAL WHEN NEEDED AND THAT ENERGY CONSUMPTION IS MINIMISED.



## ACS-30-EU-UIT2

The ACS-30 User Interface Terminal is an enclosure-mounted colour touchscreen display designed for use at indoor or outdoor nonhazardous locations with ACS-30-EU-PCM2 distributed control & monitoring panels. The UIT has an LCD colour display with touch-screen technology, and provides an easy user interface for programming without keyboards or external interfaces. It has nVent RAYCHEM RS-485, RS-232, or 10/100Base-T Ethernet communications ports that allow communication with Building Management Systems. The UIT has three user programmable alarm relays for user specified communication of alarm conditions.

### ACS-30-EU-MONI-RMM2-E



The nVent RAYCHEM RMM2 Remote Monitoring Module provides up to eight additional resistance temperature detectors (RTDs) to measure additional temperatures for control and monitoring of the heat-tracing circuits. Multiple RMM2s communicate with a single UIT to provide centralised monitoring of temperatures.

Up to 16 RMM2s for a total monitoring capability of 128 additional temperature points can be connected in series with the ACS-30 via RS-485 network. The RMM2s are placed at desired measurement locations. The RMM2 is available pre-installed inside a polycarbonate enclosure for easy installation and connection.

### ACS-30-EU-PCM2



The ACS-30 PCMs provides power connection, with built-in electrical safety devices, line current sensing, alarming, switching (electromechanical relays) and RTD inputs for the heat-tracing circuits when used with the UIT. The ACS-30 PCM enclosure is rated IP54 to EN60439 and is approved for nonhazardous indoor or outdoor locations.

Up to 52 ACS-30 PCMs panels may be connected in series with the UIT on an RS-485 network, with a maximum of 260 heating circuits. The ACS-30 PCM contains control logic circuitry to continue heating cable operation in the event of communication failure with the UIT.

### PROTONODE



The ProtoNode is an external, high performance multi-protocol gateway for applications needing protocol translation between Building Management Systems (BMS) using, BACnet® or Metasys® N2 and the ACS-30 control system.

### ACS-30-EU-VIA-DU-20-MOD



The RAYCHEM ACS-30-EU-VIA-DU-20 Module for the ACS-30 system provides smart sensor input for surface snow melting and de-icing applications. The module provides ground temperature and moisture sensing for the ACS-30 control system. The module can be positioned near to the heated area and is connected to the PCM module via a 3-wire cable. The module is provided with a 15m external ground temperature and moisture sensor to be positioned at the heated surface.

### ACS-30-EU-EMDR-10-MOD



The RAYCHEM ACS-30-EU-EMDR-10 Module for the ACS-30 system provides smart sensor input for roof & gutter de-icing applications. The module provides temperature & moisture sensing input for the ACS-30 control system. The module can be positioned near to the heated area and is connected to the PCM module via a 3-wire cable. The module is provided with a 4m external temperature and moisture sensor to be positioned at the heated surface. The sensor cold lead cable can be extended to a maximum length of 100m (using 3 x 1.5mm<sup>2</sup> cable).



## ACS-30: Product references & descriptions

PCN	Product Name	Product Description	EAN Number
1244-012864	ACS-30-EU-UIT2	User Interface module for the ACS-30 Control & Monitoring system	5414506014303
1244-012865	ACS-30-EU-EMDR-10-MOD	Gutter & Roof snow melting sensor module for the ACS-30 control & 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 & monitoring system	5414506014327
1244-012867	ACS-30-EU-Moni-RMM2-E	Remote monitoring module for the ACS-30 Control & Monitoring system	5414506014334
1244-012868	ACS-30-EU-PCM2-5-20A	Power Control Module for ACS-30 (5 circuit module with 20Amp electrical protection per circuit)	5414506014341
1244-012869	ACS-30-EU-PCM2-10-20A	Power Control Module for ACS-30 (10 circuit module with 20Amp electrical protection per circuit)	5414506014358
1244-012870	ACS-30-EU-PCM2-15-20A	Power Control Module for ACS-30 (15 circuit module with 20Amp electrical protection per circuit)	5414506014365
1244-012871	ACS-30-EU-PCM2-5-32A	Power Control Module for ACS-30 (5 circuit module with 32Amp electrical protection per circuit)	5414506014372
1244-012872	ACS-30-EU-PCM2-10-32A	Power Control Module for ACS-30 (10 circuit module with 32Amp electrical protection per circuit)	5414506014389
1244-012873	ACS-30-EU-PCM2-15-32A	Power Control Module for ACS-30 (15 circuit module with 32Amp electrical protection per circuit)	5414506014396

### United Kingdom

Tel 0800 969 013  
Fax 0800 968 624  
salesthermalUK@nvent.com

### Ireland

Tel 1800 654 241  
Fax 1800 654 240  
salesIE@nvent.com

### South East Asia

Tel +65 67685800  
Fax +65 67322263

### Australia

Tel +61 2 97920250  
Fax +61 2 97745931

### India - Noida

Tel +91 120 464 9500  
Fax +91 120 464 9548  
NTMinfome@nvent.com

### India - Mumbai

Tel +91 22 6775 8800/01  
Fax +91 22 2556 1491  
NTMinfome@nvent.com

### UAE

Tel +971 4 378 1700  
Fax +971 4 378 1777  
NTMinfome@nvent.com

Our powerful portfolio of brands:

**CADDY ERICO HOFFMAN RAYCHEM SCHROFF TRACER**



**nVent.com/RAYCHEM**