Raychem

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ACS-30

Multiple Application Control & Monitoring
System for Electrical Heat Tracing

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Total Control and Monitoring for a Building's Heat Tracing Systems

Raychem ACS-30 is a multi-application centralised control & monitoring system with distributed control panels preconfigured for all commercial and 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 and monitored from the UIT providing status updates for up to 260 heating circuits.

ACS-30: PRODUCT REFERENCES & DESCRIPTIONS

PCN	Product Name	Product Description	EAN Number
1244-022626	ACS-30-EU-UIT3	User Interface module for the ACS-30 Control & Monitoring system	5414506024456
2000003973	ACS-30-EU-ELEXANT650C-SMDI-MOD	Surface snow melting and roof and gutter de-icing sensor module for the ACS-30 control & monitoring system	5414506025163
2000003974	ACS-30-EU-RMM3	Remote monitoring module for the ACS-30 Control & Monitoring system, 230 V	5414506025170
2000003975	ACS-30-EU-RMM3-24VDC	Remote Monitoring Module for the ACS-30 multi-application control & monitoring device, 24 V	5414506025187
2000004257	ProtoNode-RER-10K	BACnet MSTP/IP and Metasys N2 protocol gateway	715629422071
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

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
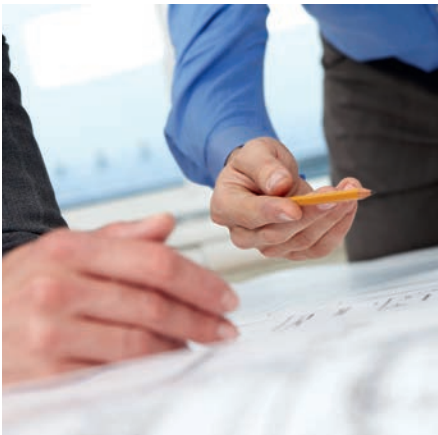
3. COMMUNICATION

- 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® or 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
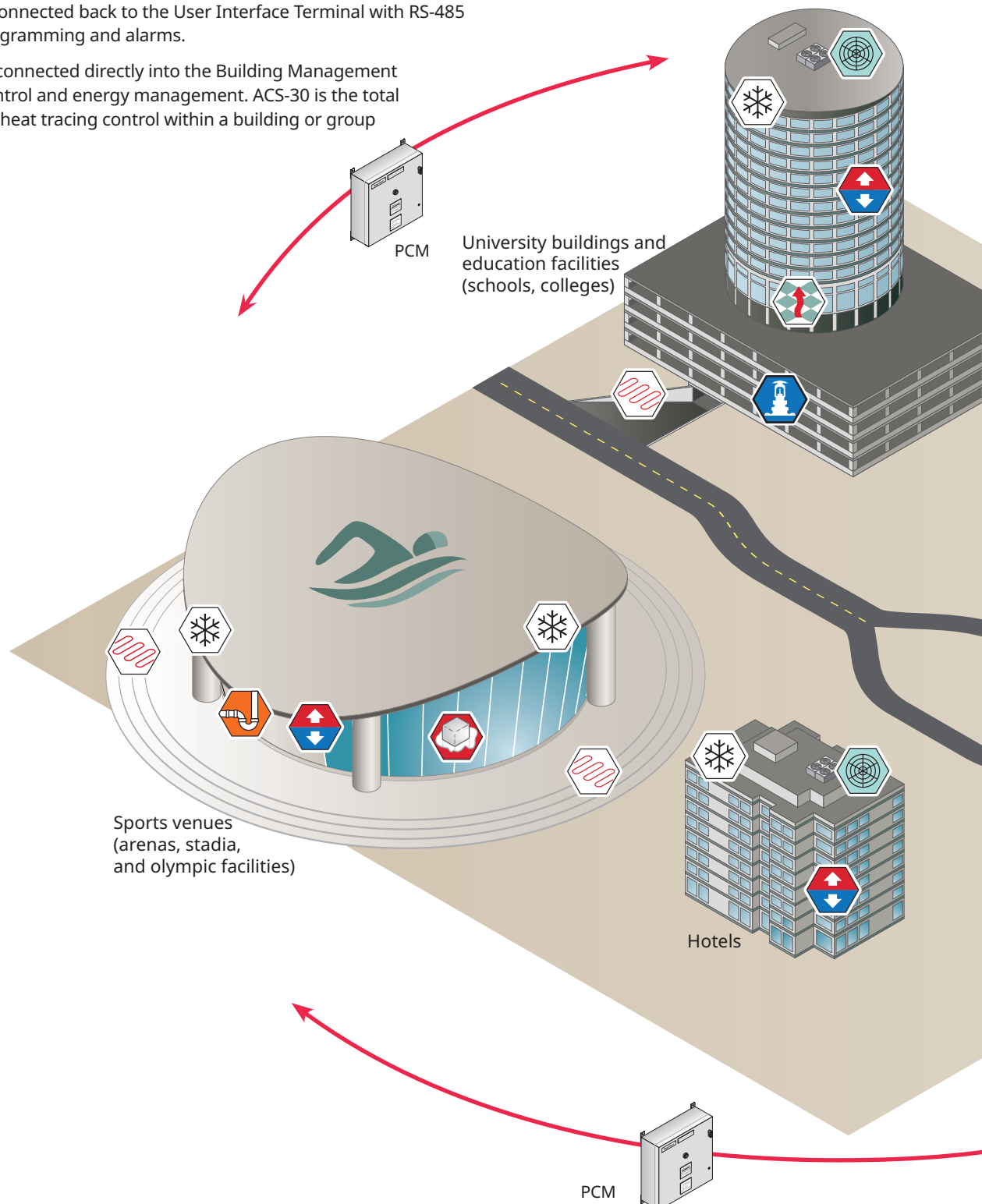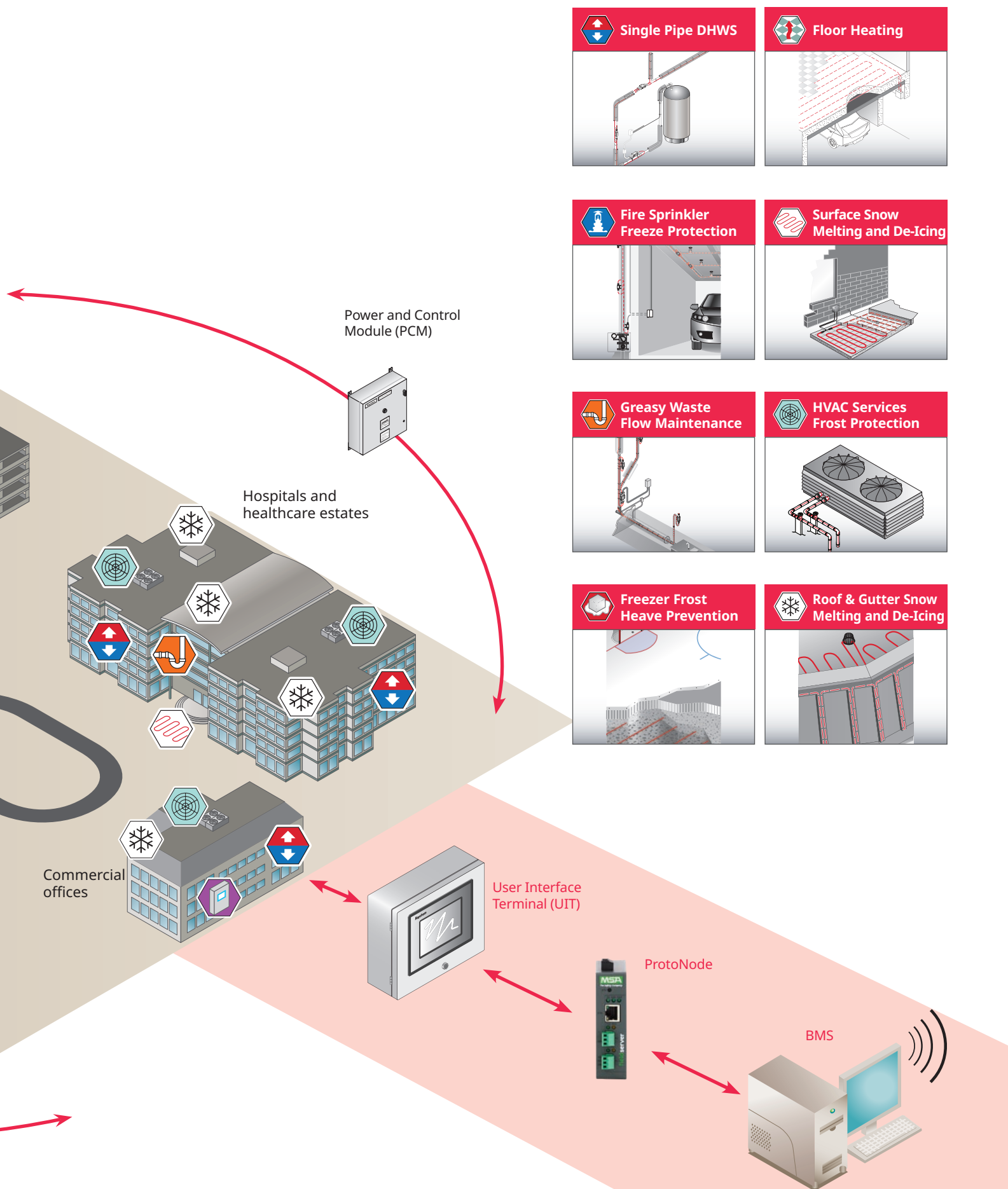
Application-Based Distributed Control System

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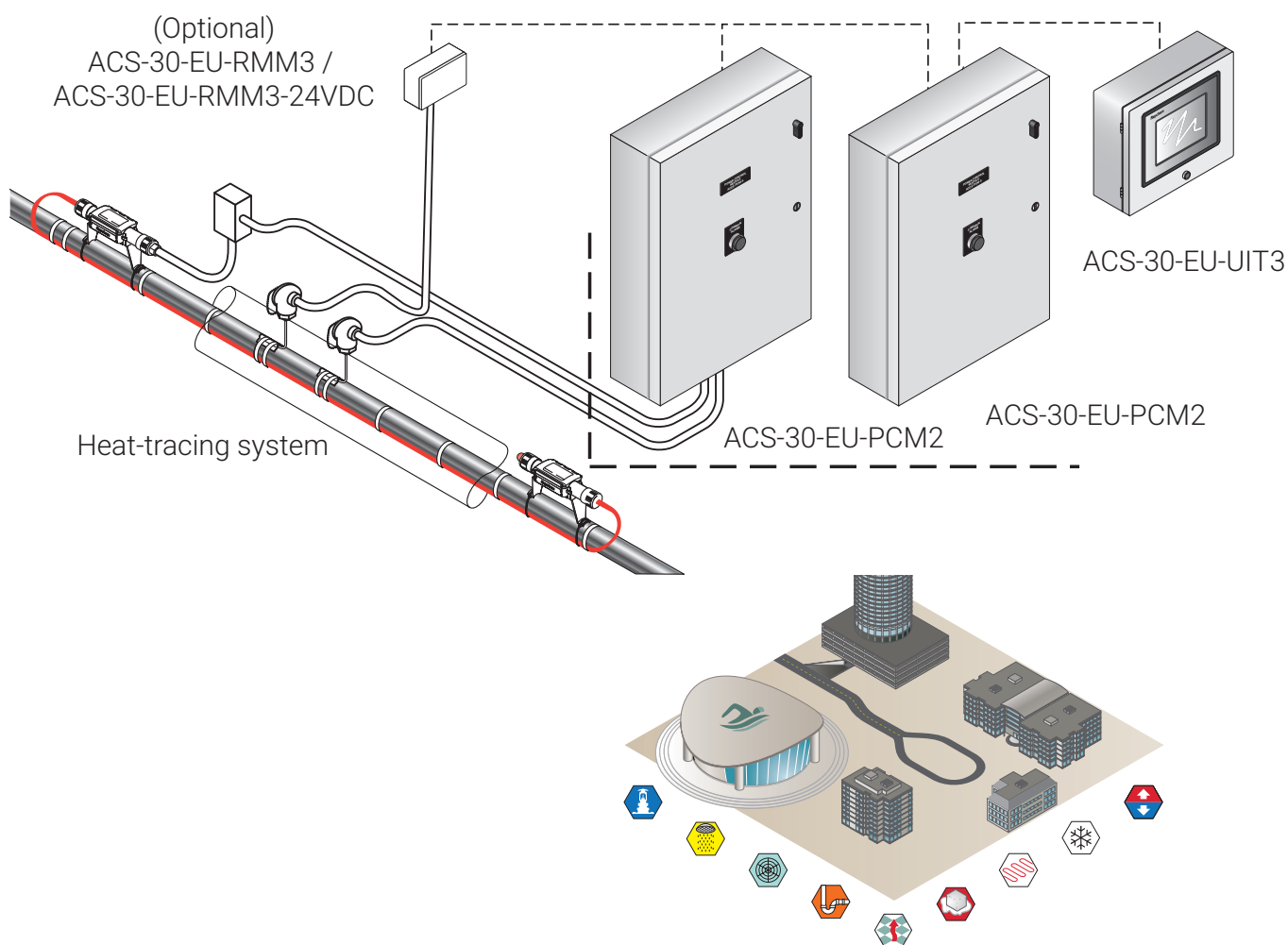
The UIT may then be connected directly into the Building Management System for further control and energy management. ACS-30 is the total solution for complete heat tracing control within a building or group of buildings.

PCM

University buildings and education facilities (schools, colleges)

Sports venues (arenas, stadia, and olympic facilities)

Hotels

PCM

Single Pipe DHWS

Floor Heating

Fire Sprinkler Freeze Protection

Surface Snow Melting and De-Icing

Greasy Waste Flow Maintenance

HVAC Services Frost Protection

Freezer Frost Heave Prevention

Roof & Gutter Snow Melting and De-Icing

Power and Control Module (PCM)

Hospitals and healthcare estates

Commercial offices

User Interface Terminal (UIT)

ProtoNode

BMS

ACS-30

The ACS-30 system consists of the User Interface Terminal (UIT), up to 52 distributed control panels, RMM3 remote temperature monitoring modules and the ProtoNode multi-protocol gateway. For ground surface snow melting & de-icing and roof & 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.

(Optional)
ACS-30-EU-RMM3 /
ACS-30-EU-RMM3-24VDC

ACS-30-EU-UIT3

Heat-tracing system

ACS-30-EU-PCM2

ACS-30-EU-PCM2

ACS-30-EU-UIT3

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 Raychem RS-485, RS-232, or 10/100Base-T Ethernet communications ports that allow communication with Building Management Systems (BMS). The UIT has three user programmable alarm relays for user specified communication of alarm conditions.

ACS-30-EU-RMM3 / ACS-30-EU-RMM3-24VDC

The Raychem RMM3 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 RMM3s communicate with a single UIT to provide centralised monitoring of temperatures.

Up to 247 RMM3s for a total monitoring capability of additional temperature points can be connected in series with the ACS-30 via RS-485 network. The RMM3s are placed at desired measurement locations. The RMM3 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-ELEXANT650C-SMDI-MOD

The RacheM ACS-30-EU-ELEXANT650C-SMDI-MOD Module for the ACS-30 system provides smart sensor input for surface snow melting and roof and gutter de-icing applications. The module provides ground or gutter temperature and moisture sensing for the ACS-30 control system.

North America
Tel +1 800 545 6258
info@chemelex.com

Europe, Middle East, Africa, India
Tel +32 16 213 511
Fax +32 16 213 604
info@chemelex.com

Asia Pacific
Tel +86 21 2412 1688
infoAPAC@chemelex.com

Latin America
Tel +1 713 868 4800
info@chemelex.com

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