

ACS-30-EU-ELEXANT650C-SMDI-MOD

Raychem

Multi-application heat tracing Control & Monitoring in commercial and residential buildings

SURFACE SNOW MELTING AND ROOF & GUTTER DE-ICING SENSOR MODULE



Product overview

The Raychem-EU-ELEXANT650C-SMDI-MOD Module for the ACS-30 system provides smart sensor input for surface snow melting and roof & gutter de-icing applications. The module provides ground or roof & gutter 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. Ground temperature and moisture sensor (E650C-G) and roof & gutter temperature and moisture sensor (E650C-R) are sold separately.

The output from the ACS-30-EU-ELEXANT650C-SMDI-MOD module enables the switching of the heating circuits within the power & control module (PCM).

TECHNICAL INFORMATION

Approvals	CE marked, UKCA
Module IP rating	IP55 (enclosure with control device)
Ambient operating temperature range	0 to +35°C (enclosure with control device)
Mounting	Wall mounting
Controller (sensor input)	Elexant 650c-Modbus
Heating cables	Raychem surface snow melting and roof and gutter de-icing cables

ENCLOSURE

Dimensions	332 mm x 262 mm x 132 mm
Enclosure type	Polystyrene box and polypropylene cover
Connections	5 Polyamide Cable Glands (IP68 rated) with stopping plugs

ELECTRICAL PROPERTIES

Supply voltage	230 VAC -15/+10%; 50/60 Hz
Power consumption	Max. 25 VA
Output relay / contactor /heating cable	2 x 4 A / 230 VAC
Power supply terminals	3 x 1,5 mm ²
Heating cables contactor terminals	2 x 2 x 1,5 mm ²
Alarm terminals	3 x 1,5 mm ²

Modbus terminals	3 x 1,5 mm ²
Sensor terminals	2 x 2 x 1,5 mm ²
Alarm relay	Single pole double throw relay, voltage-free, rating 2 A/250 VAC
Real time clock	Automatic summer/winter time and leap year correction
Clock back up	3 years
Clock accuracy	Typ. +/-10 minutes / year
Settings	All settings are stored in a non-volatile memory
Exposure temperature	0°C to +40°C
Storage temperature	-20°C to +50°C

ENCLOSURE

Material	PPE (polyphenylene ether)
Dimensions	158 mm x 110 mm x 56 mm
Ingress protection class	IP20
Weight	550 g
Mounting	DIN-Rail mountable 35 mm
Flammability class	D category (DIN EN60730/VDE0631-1)

SENSOR

	Roofs/Gutters	Surfaces	With SM-TF130-DI Module	
	E650C-R (*)	E650C-G (*)	GM-TA-AS (*)	NTC-SENSOR-10M (*)
Temperature sensor type	NTC	NTC	NTC 2 KOhm/ 25°C, 2 wire	NTC 2 KOhm/ 25°C, 2 wire
Sensor cable length	6 m	20 m	Sensor in a box (no cable attached)	10 m
Temperature range	-20°C to +30°C (for moisture measurement)	-20°C to +30°C (for moisture measurement)	-30°C to +40°C	-40°C to +90°C

(*) not included in the box

APPROVAL



EMC: EN 61000-6-3, EN 61000-6-2

ROOF & GUTTER MOISTURE AND TEMPERATURE SENSOR (E650C-R)

Dimensions (in mm)

E650C-R: Ø 12 mm (without support rings), L 105 mm, M6 thread (including plastic nut and plain washers)

E650C-R-BRACKET-ZN (Zinc) / E650C-R-BRACKET-CU (Copper): W 80 mm, L 132 mm

E650C-R	
Cable connection	Axial
Connection cable	4 x 0.5 mm ² length 6 m
Temperature range	-30°C to 80°C
Temperature range for moisture measurement	-20°C to 30°C

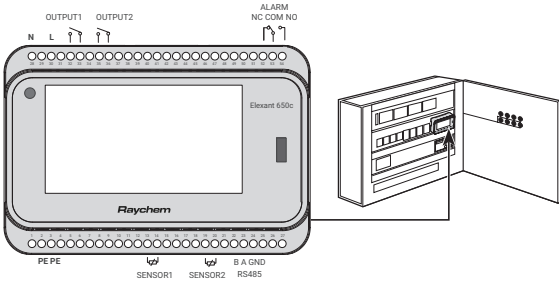
GROUND MOISTURE AND TEMPERATURE SENSOR (E650C-G)

E650C-G: Ø 68 mm, H 31 mm

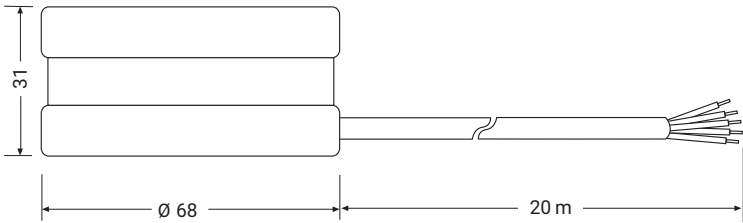
E650C-G-HOUSING: Ø 68 mm, H 67 mm

E650C-G	
Cable connection	To the side
Connection cable	4 x 0.5 mm ² length 20 m
Temperature sensor	NTC
Temperature range	-30°C to 75°C
Temperature range for moisture measurement	-20°C to 30°C
Load capacity	20 kN (based on DIN EN 60598-2-12)

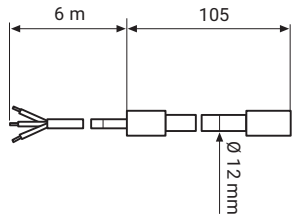
A CONTROLLER



B E650C-G



C E650C-R



FUNCTION

- The ground temperature and moisture are measured with the help of one sensor.
- The sensor is heated so that it can also measure dry snow.
- The control device evaluates the data from the sensor and provides the signal to the PCM to switch on the heater, if the ground temperature falls below a value set by menu and the ground moisture exceeds a value set by menu.

INSTALLATION INSTRUCTIONS

Only for electricians!

Attention: mistakes during connecting up the device can cause damage to the control unit. Chemelex 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 authorised, trained electrician.
- Electrical connection must be carried out according to the enclosed connection diagram.
- Do not lay low voltage cables sensor cables together with other live high voltage cables in order to avoid electromagnetic interference.

- Local standards for electrical connection must be observed.
- If the device does not work please first check all connections and the mains power supply.

PART NUMBERING AND ORDERING DESCRIPTION

PCN	Product Name	Description	EAN Code
2000003973	ACS-30-EU-ELEXANT650C-SMDI-MOD	Surface snow melting & roof and gutter de-icing sensor for ACS-30	5414506025163

RELATED PRODUCTS

PCN	Product Name	Description	EAN Code
1244-022794	E650C-G	Moisture / temperature sensor for surface snow melting, 20 m, with housing and protective cover	5414506024661
1244-022796	E650C-G-HOUSING	Spare housing and protective cover for surface snow melting sensor	5414506024685
1244-022836	SM-TF130-DI	External module for the ice rain feature and panel alarm digital input	5414506025019
1244-022795	E650C-R	Moisture and temperature sensor for roof and gutter de-icing, 6 m, with zinc mounting bracket	5414506024678
1244-022798	E650C-R-BRACKET-ZN	Spare mounting bracket for roof and gutter de-icing sensor, zinc	5414506024708
1244-022799	E650C-R-BRACKET-CU	Spare mounting bracket for roof and gutter de-icing sensor, copper	5414506024715
1244-022626	ACS-30-EU-UIT3	User Interface module for the ACS-30 Control and Monitoring System	5414506024456
2000003974	ACS-30-EU-RMM3	Remote monitoring module for the ACS-30 Control and 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
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