

Panels for Roof and Gutter De-Icing and Surface Snow Melting and for connection to Building Management System (BMS)

DESCRIPTION



The Raychem SBS control panel range provides a complete solution for Raychem self-regulating heating cables for roof and gutter de-icing and surface snow melting.

The models in this series control up to 12 heating circuits. To ensure safe operation, the control panel is equipped with circuit breakers (C-type) and 30 mA residual current protection for safe operation. The pre-installed Elexant 650c-Modbus control unit can operate 2 zones with different parameters independently of one another. The Elexant 650c-Modbus is also allowing flexible Modbus connectivity for remote monitoring, configuration, and ease of integration in a Building Management System (BMS).

The control panel is pre-wired and only needs to be connected to a main power supply (400 VAC, 3P/N/PE). Sensors are to be ordered separately.

ADVANTAGES

- Fast connection of multiple heating circuits directly to the control panel
- No additional connections or junction boxes required
- Connection of 3–12 heating circuits to a single control panel
- Circuit over-current and RCD protection integrated directly into the control panel
- No separate safety devices required
- Complete system directly from the manufacturer
- The system and components have been selected for optimal use as a roof and gutter de-icing and surface snow melting
- Collective error/alarm
- The panel is equipped with a RS485 port for Modbus communication to a BMS system which can be used for configuration, monitoring and alarm purposes.

TECHNICAL DATA

Control setting	Each Elexant 650c-Modbus controller can control up to 2 separate groups of 3 circuits with independent parameters and control mode.
Panel supply voltage	400 VAC 3P/N/PE
Heater circuit supply voltage	230 VAC
Sensor	Moisture and temperature gutter and ground snow sensors (ordered separately)
Approvals	CE (IEC61439-2), UKCA
Main switch	According to selected model (32–100 A)
RCD	30 mA
Line circuit breakers	According to selected model, C-type, per heating circuit
Panel material	Coated metal
IP rating	IP65
Ambient temperatures	+10°C to +35°C

Colour	RAL 7035 (Light Grey)
Installation location	Indoor
Alarm function	1 potential free alarm contact in panel; 1 alarm light in the door
Operation mode switch	Auto/Manual
	Auto = Control in function (standard mode)
	Manual = all heating circuits switched on (uncontrolled operation)

COMMUNICATION (ELEXANT650C-MODBUS)

Communication port	RS-485
Type	2-wire RS-485
Cable	One shielded twisted pair (not included)
Length	1,200 m (4,000 ft.) maximum
Quantity	Up to 247 devices per port
Data rate	2400, 4800, 9600, 19200 baud
Parity	None, even, odd
Stop bits	1, 2
Protocol	Modbus RTU

RELATED PRODUCTS

The control panel SBS-SMDI-E650c can be operated with the following Raychem roof and gutter de-icing and surface snow melting heating cables:

EM2-XR Self-regulating heater cable (90 W/m @ 0°C)

IceStop GM-2X (T)

WINTERGARD Cable & Mat

FroStop Black

Customized versions of the SBS-SMDI-E650c panels can be also operated with the GM2-CW and EM2-MI cables.

TECHNICAL DATA PANEL

Panel type			SBS-SMDI-E650c-3xXXA	SBS-SMDI-E650c-6xXXA	SBS-SMDI-E650c-9xXXA	SBS-SMDI-E650c-12xXXA
Max. quantity of heating circuits			3	6	9	12
Quantity of contactors			2	2	3	4
Max. quantity of Elexant 650c-Modbus controllers			1	1	2	2
Max. power output kW			28	43	75	86
Circuit breaker on-site max. A			3 pole x 40 A	3 pole x 80 A	3 pole x 100 A	3 pole x 132 A
Enclosure mounting			Wall-mounted	Wall-mounted	Wall-mounted	Wall-mounted
Dimension	Width	mm	400	600	800	800
	Height	mm	600	600	800	800
	Depth	mm	210	210	210	210
Weight	Approx.	kg	32	32	54	56

REFERENCE DATA

Product name	Item number	Product description	EAN numbers
SBS-SMDI-E650C-3X16A	2000003965	Control panel for max. 3 heating circuits, 16 A (including 1 controller Elexant 650c-Modbus with Modbus connectivity)	5414506025040
SBS-SMDI-E650C-6X16A	2000003966	Control panel for max. 6 heating circuits, 16 A (including 1 controller Elexant 650c-Modbus with Modbus connectivity)	5414506025057
SBS-SMDI-E650C-9X16A	2000003967	Control panel for max. 9 heating circuits, 16 A (including 1 controller Elexant 650c-Modbus with Modbus connectivity)	5414506025064
SBS-SMDI-E650C-12X16A	2000003968	Control panel for max. 12 heating circuits, 16 A (including 1 controller Elexant 650c-Modbus with Modbus connectivity)	5414506025071
SBS-SMDI-E650C-3X32A	2000003961	Control panel for max. 3 heating circuits, 32 A (including 1 controller Elexant 650c-Modbus with Modbus connectivity)	5414506025088
SBS-SMDI-E650C-6X32A	2000003962	Control panel for max. 6 heating circuits, 32 A (including 1 controller Elexant 650c-Modbus with Modbus connectivity)	5414506025095
SBS-SMDI-E650C-9X32A	2000003963	Control panel for max. 9 heating circuits, 32 A (including 1 controller Elexant 650c-Modbus with Modbus connectivity)	5414506025101
SBS-SMDI-E650C-12X32A	2000003964	Control panel for max. 12 heating circuits, 32 A (including 1 controller Elexant 650c-Modbus with Modbus connectivity)	5414506025118
SBS-SMDI-E650C-3X20A	2000003969	Control panel for max. 3 heating circuits, 20 A (including 1 controller Elexant 650c-Modbus with Modbus connectivity)	5414506025125
SBS-SMDI-E650C-6X20A	2000003970	Control panel for max. 6 heating circuits, 20 A (including 1 controller Elexant 650c-Modbus with Modbus connectivity)	5414506025132
SBS-SMDI-E650C-9X20A	2000003971	Control panel for max. 9 heating circuits, 20 A (including 1 controller Elexant 650c-Modbus with Modbus connectivity)	5414506025149
SBS-SMDI-E650C-12X20A	2000003972	Control panel for max. 12 heating circuits, 20 A (including 1 controller Elexant 650c-Modbus with Modbus connectivity)	5414506025156
SBS-MONT-ELEXANT-650C	2000004520	Optional additional electronic controller Elexant 650c-Modbus for SBS-SMDI-E650c-9XXXA or SBS-SMDI-E650c-12XXXA, with installation in the control panel; can operate 2-heating zones independently (This item must be ordered separately)	5414506025231
SENSOR-NTC-10M	1244-015847	Additional sensor without enclosure, 10 m, NTC type	5414506015119
GM-TA-AS	1244-017965	Ambient sensor in plastic enclosure, NTC type	5414506018387
E650C-G	1244-022794	Moisture and temperature sensor for surface snow melting, 20 m, with housing and protective cover	5414506024661
E650C-G-HOUSING	1244-022796	Spare housing and protective cover for surface snow melting sensor	5414506024685
E650C-R	1244-022795	Moisture and temperature sensor for roof and gutter de-icing, 6 m, with zinc mounting bracket	5414506024678
E650C-R-BRACKET-ZN	1244-022798	Spare mounting bracket for roof and gutter de-icing sensor, zinc	5414506024708
E650C-R-BRACKET-CU	1244-022799	Spare mounting bracket for roof and gutter de-icing sensor, copper	5414506024715
SM-TF130-DI	1244-022836	External module for the ice rain feature and panel alarm digital input	5414506025019
GM-SEAL-02	1244-012310	Adhesive for roof and gutter brackets, polyurethane glue, 300 ml bottle	5414506014440

Note: customized panels can be ordered, please contact Chemelex.

MOST COMMON POSSIBLE ADDITIONAL OPTIONS

- Installation outdoors
- Installation of a heater
- Rain sheet cover
- Lightning protection

INSTALLATION INSTRUCTION

The panel is supplied with complete circuit and connection diagrams. A qualified electrician must carry out all work on electrical systems in compliance with the applicable regulations and standards.

