

# Elexant 450c / Elexant 450c-Modbus

## CONNECT AND PROTECT

### Electronic controller for pipe freeze protection and temperature maintenance systems

#### PRODUCT OVERVIEW



The nVent RAYCHEM Elexant 450c controller is designed for operation with the nVent RAYCHEM heating cables.

The Elexant 450c is available in 2 versions:

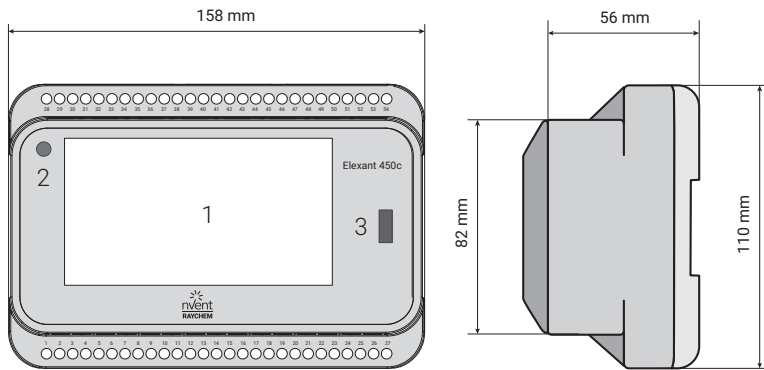
- **Elexant 450c** standard version
- **Elexant 450c-Modbus** version allowing flexible Modbus connectivity for remote monitoring, configuration, and ease of integration in a Building Management System (BMS).

#### Features

- Intuitive set-up and programming of the unit with a 4,3" colour touch screen
- Flexible temperature control of pipe freeze protection and temperature maintenance systems
- Controls 2 independent heating circuits
- Pipe line sensing and/or ambient sensing
- Proportional Ambient Sensing Control (PASC) algorithm for enhanced energy savings in ambient sensing mode
- Alarm relay with change over contact to signal power, temperature or communication problems
- Pipe line temperature monitoring with high and low temperature alarm
- Offsite configurable - can be set up prior to final installation
- DIN rail panel mountable
- The Elexant 450c-Modbus is equipped with a RS485 port for Modbus communication to a BMS system which can be used for configuration, monitoring and alarm purposes.

## PRODUCT SPECIFICATIONS

### Typical enclosure dimensions and module layout



1. Touch screen, size 4.3"
2. LED: Flashes green in operation mode
3. USB port

### Enclosure

Dimensions	158 mm x 110 mm x 56 mm
Ingress protection class	IP20
Material	PPE
Mounting option	DIN-Rail mountable 35 mm, in panel
Storage temperature	-20°C to +50°C
Flammability class	D category (DIN EN60730/VDE0631-1)
Weight	550 g

### Technical details

Supply voltage	230 VAC -15/+10%; 50 Hz
Power consumption	4 VA
Output relay / contactor / heating cable	2 x 4 A / 230 VAC
Power supply terminals	3 x 1.5 mm <sup>2</sup>
Heating cables terminals contactor	2 x 2 x 1.5 mm <sup>2</sup>
Alarm terminals	3 x 1.5 mm <sup>2</sup>
Sensor terminals	2 x 2 x 1.5 mm <sup>2</sup>
Modbus terminals	3 x 1.5 mm <sup>2</sup>
Alarm relay	Single pole double throw relay, voltage – free, rating 2 A/250 VAC
Real time clock	Automatic summer/winter time and leap year connection
Clock back up	3 years
Clock accuracy	+/- 10 minutes per year
Keylock	Password protection for parameter settings
USB Port	For preset-up in power off mode and firmware upgrade
Settings	All settings are stored in non-volatile memory
Exposure temperature	0°C to +40°C

### Programming

Selectable temperature ranges	0°C to +80°C (when used with SM-PT100-2 up to +245°C)
Min and max temperature limit range	-40°C to +85°C (when used with SM-PT100-2 up to +250°C)
Operation modes	Pipe line sensing, Ambient sensing mode (P.A.S.C. Proportional Ambient Temperature Sensor Control); OFF



## Communication (Elexant 450c-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

## APPROVALS

For use in non-hazardous areas

## Product certification



\*pending

## Electromagnetic Compatibility (EMC)

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

## ORDERING INFORMATION

	ELEXANT 450c	ELEXANT 450c-Modbus
Part number	1244-021970	1244-022623
EAN code	5414506021356	5414506022667
Weight	550 g	550 g
In package	1 control unit DIN rail, 1 line sensor 5 m	1 control unit DIN rail, 1 line sensor 5 m

## Accessories

Product description	PCN number
SENSOR-NTC-10M (-40°C ... +90°C)	1244-015847
Sensor Module for PT 100 (up to +250°C) SM-PT100-2	1244-022442
PT-100 Sensor HARD-78 (-40°C ... +150°C)	213430-000
PT-100 Sensor MONI-PT100-260/2 (-50°C ... +260°C)	1244-006615
GM-TA-AS NTC-Sensor / Ambient sensor in enclosure	1244-017965
nVent RAYCHEM PB-POWERBANK	1244-020365

**Important:** The nVent RAYCHEM Elexant 450c / Elexant 450c-Modbus controller is for use with the nVent RAYCHEM heating cables only. The warranty and system listing will be invalidated if the Elexant 450c / Elexant 450c-Modbus controller is used with other heating cables.

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