

Elexant 450c

Operation Manual

Electronic Control Unit For Safe And Efficient Operation Of Pipe-Freeze-Protection Self-Regulating Heating Cable



TABLE OF CONTENTS

ENGLISH

PROGRAM START 3

PARAMETER SETTINGS 5

FACTORY SETTINGS (DEFAULT) 8

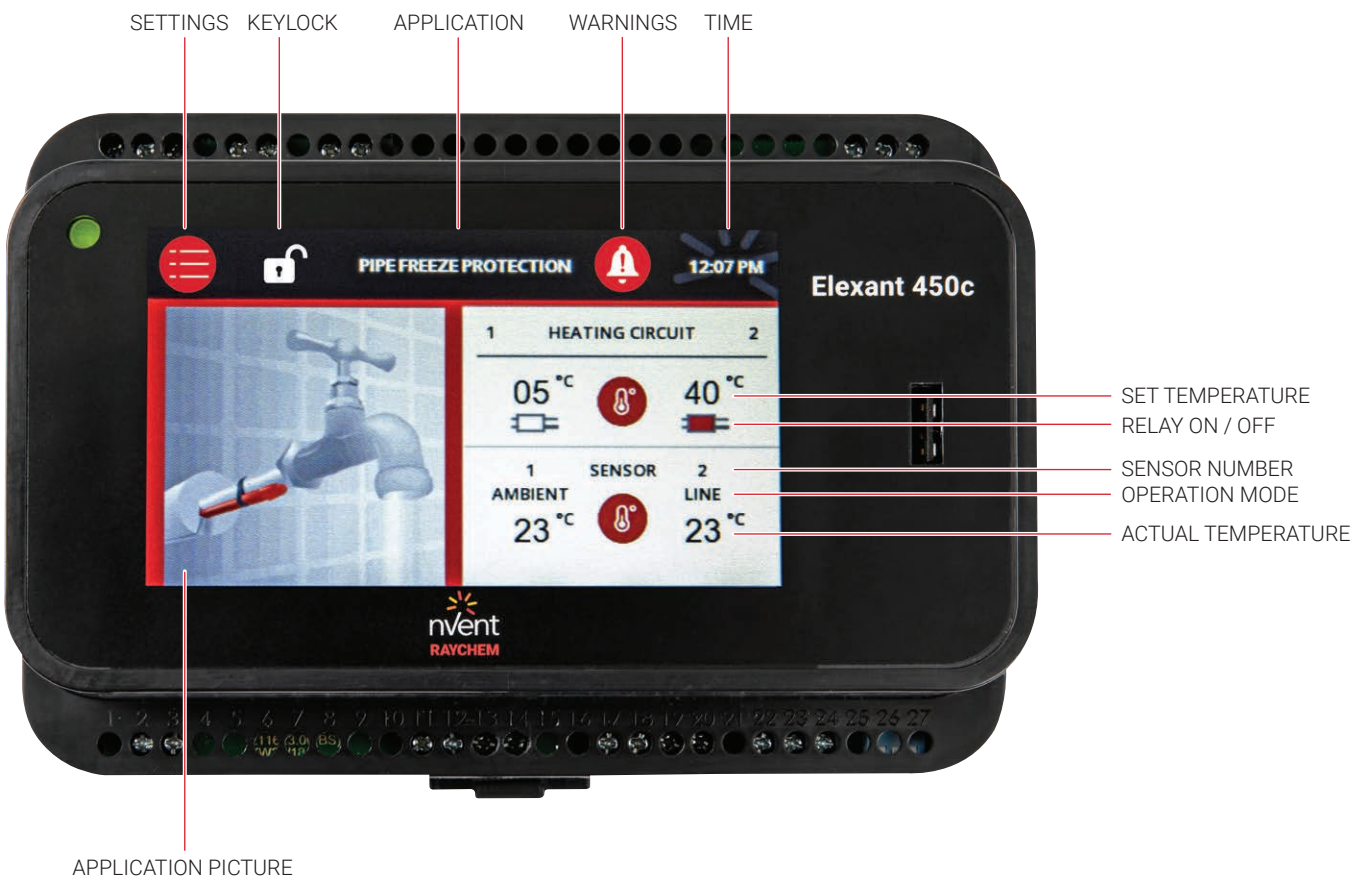
ERROR / ALARMS AND TROUBLESHOOTING..... 8

PROGRAM START

Quickstart:	Navigation: SELECTION back (<-) or next (->)
Language selection	Select your language from the language menu: EN; DE; NL; DA; FR; IT; SV; NO; FI; RU; CZ; PL; SK; LT next (->)
Checking sensor connection	The unit is automatically executing a connection check of the sensors 1 and 2. If there is no sensor connected, the unit will stop the Quickstart process. In this case, power off, connect a sensor and power on again. Note: 1 Sensor needs to be connected at least. back (<-) or next (->)
Country selection	Select a country in this menu: DE; AT; CH; GB; FR; IT; PL; CZ; DK; SE; BE; RU; NO; LT; SK; NL; FI; IE back (<-) or next (->)
Date input	Use the +/- button to select the day, month, and year. back (<-) or next (->)
Time input	Use the up/down arrow keys to set the hour and minute. back (<-) or next (->)
Select heating cable type*	Select the installed pipe freeze protection heating cable: 10XL2-ZH / 15XL2-ZH / 26XL2-ZH / 31XL2-ZH / FS-10C-2X / Other systems back (<-) or next (->)
Operation mode*	Select an operation mode: AMBIENT: Ambient temperature measurement. The operation will be based on PASC (Proportional ambient temperature system control). The unit is working in an energy efficiency mode depending on the outside temperature to operate the heating cable based on an internally calculated duty cycle. LINE : Pipe/line temperature measurement. Assignment of sensors: Sensor 1 for heating circuit 1; sensor 2 for heating circuit 2; a revision of this assignment can be done later in the parameter settings. back (<-) or next (->)
Parameter settings	Default values are set for each parameter. Change the default values by clicking on the arrow sign for each value and enter a new value. back (<-) or next (->)
Pipe diameter*	Select pipe diameter from range DN 10 up to DN 125. back (<-)
Set min. ambient temperature*	The minimum ambient temperature is the minimum expected temperature outside the building. This parameter influences the duty cycle duration. Use the +/- keys to select a temperature. Clicking on the "back" icon (<-) will store the value and show it in plumbing settings. Value Range: From -40°C to 0°C back (<-)
Set temperature*	Select the temperature using the +/- keys. The minimum temperature is 0°C and max. temperature is +80°C back (<-)
Test program start	YES: The test program runs for 30 minutes, during which all parameters will be ignored to check heating cable and connection on site. You can stop the test program at any time. Quickstart completed -> Main screen NO: Quickstart completed -> Main screen

*** Note:** During Quickstart, the selected parameter is valid for heating circuit (zone) 1 and 2. An adjustment per heating circuit (zone) can be done for each individual heating zone in the parameter setting menu after Quickstart is completed.

Main Screen



PARAMETER SETTINGS

System	
Information	General info about the unit name, commissioning date, firmware version, nVent contact info per country and unit serial number.
Test program	Test program YES: The test program runs for 30 minutes, during which all parameters will be ignored to check the heating cable and the connection on site. You can stop the test program at any time. NO: Back to main menu settings
Reset	Confirm: Activate the Quick install menu and return all settings to factory settings. Quickstart process restarts automatically. Cancel: Back to main menu settings
Service	Access for nVent service team
Status	Info on current status of the control unit: Sensor 1: Open/short or temperature value Sensor 2 : Open/short or temperature value SET Point temperature : Value in °C Duty cycle: Value will be displayed only in PASC mode Operation mode: LINE / PASC (heating circuit 1 / heating circuit 2)
Key lock	The unit's parameter input can be protected by a key lock ; Access code: 3000. When key lock is "On", the setup and timer menus' are protected by password. The unit can be unlocked by entering the pre-defined password (3000). After 10 minutes of inactivity on screen or when Lock "on" key is pressed, the unit will automatically lock itself. To deactivate the Key lock function, enter code and activate "OFF". Key lock code cannot be changed.

Heating Cable & Pipe				
	Heating zone 1 Example	Heating zone 2 Example	Parameters	Note
Mode	ON	/ ON	AMBIENT Sensor: ON/OFF LINE Sensor: ON/OFF Default:--- Heating circuit 1: ON ; OFF Heating circuit 2: ON ; OFF Default: ---	Individual adjustments per heating zone. Assign a sensor to each heating zone by activating check mark. AMBIENT: Ambient temperature measurement by PASC – proportional ambient temperature measurement. Energy saving mode; recommended for multiple pipe segments. LINE: Pipe temperature measurement.
Set point	+3°C	/ +3°C	NTC Sensor: Range: 0°C to +80°C PT100 Sensor (with sensor module SM-PT100-2) Range: 0°C to +245°C Default: +3°C	The set temperature is the temperature to ensure to protect the pipe from freezing or to maintain a certain pipe temperature. Select the temperature using the + / – keys for each heating circuit zone individually.

Heating Cable & Pipe

	Heating zone 1 Example	Heating zone 2 Example	Parameters	Note
Min. expected ambient temperature	-15°C	/ -15°C	Range: -40°C to 0°C Default: -15°C	Sensor PASC (AMBIENT) The temperature is the minimal outdoor temperature to be expected and will be used for the ambient temperature (PASC) algorithm only. It will set the correct duty cycle for an optimized and energy saving operation. If the ambient temperature is below this set point, the relay is 100% ON. Select the temperature by using the + / - keys.
Cable type XL-TRACE -1	15XL2-ZH		Heating cable range: 10XL2-ZH 15XL2-ZH 26XL2-ZH 31XL2-ZH FS-C10-2X Other systems Default: ---	Select the type of nVent RAYCHEM heating cable used in your installation, connected to heating zone 1. Other system can be used if the heating cable type is not known or listed.
Cable type XL-TRACE -2		15XL2-ZH	Heating cable range: 10XL2-ZH 15XL2-ZH 26XL2-ZH 31XL2-ZH FS-C10-2X Other systems Default: ---	Select the type of nVent RAYCHEM heating cable used in your installation, connected to heating zone 2. Other system can be used if heating cable type is not known or listed.
Pipe diameter	DN 25	/ DN 25	Range: DN 10 - DN 125 Default: DN 25	Assign the correct pipe diameter per heating zone 1 and/or 2. You can change the value from DN 10 up to DN 125. This has impact in the ambient temperature sensing mode to define the correct duty cycle. Note: In case of multiple pipe sizes per heating zone, select the bigger size of the pipe network.
Low temperature alarm	0°C	/ 0°C	Standard NTC Sensor: Range : -40°C to +78°C Default: 0°C PT_100 Sensor with SM-PT-100-2: Range: -40°C to +78°C Default: 0°C	To determine the low temperature limit. When the value is reached, a warning will appear on the screen. The buzzer tone will be active. The relay will be continuously ON and will not interrupt the unit's functioning. The info status main screen will show the actual pipe temperature.
High temperature alarm	+65°C	+65°C	Standard NTC Sensor: Range : +2°C to +90°C Default: +65°C PT-100 Sensor with SM-PT-100-2: Range: +2°C to +250°C Default: +65°C	To determine the high temperature limit; A warning will appear on the screen when the value is reached. The relay will be continuously OFF and will not interrupt the unit's functioning. Value range: +2°C to +90°C /Standard NTC sensor +2°C to +250°C /Sensor module SM-PT-100-2 for PT-100

Heating Cable & Pipe				
	Heating zone 1 Example	Heating zone 2 Example	Parameters	Note
Heating in case of sensor error	ON	/ ON	Fail Safe: ON/OFF Default: ON	In case of a sensor error (short/open) the heating output (Relay) can be switched OFF by activating a check mark per heating zone. Default: ON; heating system will not be switched OFF in sensor failure mode.
Hysteresis	2 K	/ 2K	Range: 1 - 5 Default: 2K	Adjustable hysteresis above set point.

General Settings		
Language	Choose your language from the language menu.	Languages: EN; DE; NL; DA; FR; IT; SV; NO; FI; RU; CZ; PL; SK; LT
Country	Select a country in this menu. Your selection defines the default values used for time format, pipe diameter and insulation thickness and customer contact data.	Countries DE; AT; CH; GB; FR; IT; PL; CZ; DK; SE; BE; RU; NO; LT; SK; NL; FI; IE
Date	Use the up/down arrow keys to select the year. After a power break of more than 10 days you need to re-enter the date.	Default: 00;00,2018
Time	Use up/down arrow keys to set hour and minute. After a power break of more than 10 days you need to re-enter the time.	Default: 00:00
Alarm tone	An alarm tone will go off inside the unit indicating an error condition. Activate/deactivate the alarm tone by pressing ON/OFF. Note: Alarm messages will be displayed and the alarm relay will switch any time in case of a malfunction.	Default : OFF

FACTORY SETTINGS (DEFAULT)

Language	English
Country	None; To be selected
Date	01/01/2018 or last saved date
Time	00:00 or last saved time
Operation mode	To be selected
Heating cable type	To be selected
Pipe diameter	DN 25
Insulation thickness	30 mm
SET temperature	+3°C
Minimum ambient temperature	−15°C
Heating in sensor failure mode	ON
Low temperature limit	−40°C
High temperature limit	+85°C
Low temperature alarm	0°C
High temperature alarm	+65°C
Alarm sound	OFF
Key lock	ON

ERROR / ALARMS AND TROUBLESHOOTING

Error Code	Elexant 450C	Remedy
E:2.1	SENSOR_1_OPEN	Check sensor connection
E:2.2	SENSOR_1_SHORT	Check sensor and replace it
E:2.3	SENSOR_2_OPEN	Check sensor connection
E:2.4	SENSOR_2_SHORT	Check sensor and replace it
E:3.1	SENSOR_1_TEMP_HIGH	Sensor 1 High temperature alarm
E:3.2	SENSOR_2_TEMP_HIGH	Sensor 2 High temperature alarm
E:4.1	SENSOR_1_TEMP_LOW	Sensor 1 Low temperature alarm
E:4.2	SENSOR_2_TEMP_LOW	Sensor 2 Low temperature alarm
E:5	n/a	
E:6.0	n/a	
E:6.1	INTERNAL_ERROR	Replace unit
E:6.2	INTERNAL_ERROR_RTC	Replace unit
E:6.3	INTERNAL_ERROR_PM	Replace unit
E:6.4	INTERNAL_ERROR_ADC	Replace unit
E:6.5	INTERNAL_ERROR_IP	Replace unit
E:6.6	n/a	

België/Belgique

Tel +32 16 21 35 02
Fax +32 16 21 36 04
salesbelux@nVent.com

Bulgaria

Tel +359 5686 6886
Fax +359 5686 6886
salesee@nVent.com

Česká Republika

Tel +420 606 069 618
czechinfo@nVent.com

Denmark

Tel +45 70 11 04 00
salesdk@nVent.com

Deutschland

Tel 0800 1818205
Fax 0800 1818204
salesde@nVent.com

España

Tel +34 911 59 30 60
Fax +34 900 98 32 64
ntm-sales-es@nVent.com

France

Tél 0800 906045
Fax 0800 906003
salesfr@nVent.com

Hrvatska

Tel +385 1 605 01 88
Fax +385 1 605 01 88
salesee@nVent.com

Italia

Tel +39 02 577 61 51
Fax +39 02 577 61 55 28
salesit@nVent.com

Lietuva/Latvija/Eesti

Tel +370 5 2136633
Fax +370 5 2330084
info.baltic@nVent.com

Magyarország

Tel +36 1 253 7617
Fax +36 1 253 7618
saleshu@nVent.com

Nederland

Tel 0800 0224978
Fax 0800 0224993
salesnl@nVent.com

Norge

Tel +47 66 81 79 90
salesno@nVent.com

Österreich

Tel 0800 29 74 10
Fax 0800 29 74 09
salesat@nVent.com

Polska

Tel +48 22 331 29 50
Fax +48 22 331 29 51
salespl@nVent.com

Republic of Kazakhstan

Tel +7 7122 32 09 68
Fax +7 7122 32 55 54
saleskz@nVent.com

Россия

Тел +7 495 926 18 85
Факс +7 495 926 18 86
salesru@nVent.com

Serbia and Montenegro

Tel +381 230 401 770
Fax +381 230 401 770
salesee@nVent.com

Schweiz/Suisse

Tel +41 (41) 766 30 80
Fax +41 (41) 766 30 81
infoBaar@nVent.com

Suomi

Puh 0800 11 67 99
salesfi@nVent.com

Sverige

Tel +46 31 335 58 00
salesse@nVent.com

Türkiye

Tel +90 560 977 6467
Fax +32 16 21 36 04
ntm-sales-tr@nVent.com

United Kingdom

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



Our powerful portfolio of brands:

CADDY ERICO HOFFMAN RAYCHEM SCHROFF TRACER