ControlTec Smart SMC Controller

Instruction manual ●

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1. Safety rules

Note: !

For safe operation of the device, before
the first use, read this installation manual
and all the labels supplied with the
product. The manual contains vital
information concerning safety, proper
installation and operation of the device.

• The controller should be installed by a certified
electrician. All electrical connections and power
supply should comply with the domestic safety
regulations. The electrician must take the
necessary precautions, also make sure that the
device itself and its wiring is insulated or
protected against the influence of strong
sources of electromagnetic disturbances.

• For smooth operation of the snow & ice
protection system, proper sensors and heating
elements are required. All items necessary for
the installation should be mounted according
to the included instructions in manual.

• Incorrect installation or operation of the
snow & ice protection system may result in
the damage to the device, body harm or even
death.

• Before installation, de-installation, maintenance
operations or cleaning of the device, power
supply of the controller must be de-connected,
all terminals and electrical cables must not be

live. Before re-activation, please make sure that all the cables have been re-connected properly.

• The controller can be used only if the entire heating system fulfils domestic safety standards in force, and the device itself has been installed in compliance with this manual and regulations in force.

• Do not install or use the controller in case its casing becomes damaged.

• Do not attempt to repair or modify the device on your own. The controller does not have any parts which could require the user's intervention. In case the device becomes damaged or proves faulty, please return it to the ELEKTRA authorised service shop. In case of any attempt to repair the device on your own, the warranty could become void.

• The manufacturer will not bear any responsibility for damage resulting from ignoring the safety regulations, the heating system not installed in accordance with this manual, improper operation or maintenance.

2. Application

The main features of the ControlTec Smart SMC:

• Automatic control of the heating system.

• Detection of snowfall and freezing rain.

• Compatible with moisture sensors to gutters and driveways.

• Compatible with built-in and stand-alone temperature sensors.

• Two separate heating zones or the joint zones mode.

• Cut-off function at low temperatures.

• Remote or manual heating system activation.

• Remote or manual stand by mode.

• Adjustment of the moisture detector heater's power output to prevent incorrect operation due to freezing snow build up over the sensor or the sensor overheating effect.

• Built-in WiFi module for internet control.

• Ethernet port for network connection in places with poor WiFi coverage.

• Control the device via a web browser on any device.

• Signalling of work status and errors by LEDs and remote.

• Signalling of internal errors, sensor failure and network errors using a potential-free relay.

• Automatic software update.

- Recording of statistical data on the operation of the heating system and a log of events.

- Possibility to manage multiple controllers by the installer in the share process.

- Integrated remote management at multiple locations.

The link to the server manages the SMC controller. The creation of an Installer account enables the management of own and users' controllers. Creating a User account allows to manage your own controllers in various locations.

ControlTec Smart SMC is an electronic device for automatic control of the snow & ice protection system's operation dedicated for heating outdoor areas. The system consists of the ControlTec Smart SMC controller, temperature and moisture sensor for outdoor operation and heating cables or mats.

The system is dedicated to support prevention of ice formation on the surfaces of drives, car parks, pavements, stairs, gutters or any other surfaces where deposition of ice or snow can become dangerous and disturb proper operation. The controller regulates the operation of the system basing on parameter read-outs from temperature and moisture sensors. Snow melting process commences automatically with precipitation and ambient temperature decrease.

Binding the system's operation with current weather conditions results in effective power consumption. Such operation thus decreases the system's operating costs.

The controller can operate with the following sensor types:

- ETOG-56T – temperature and moisture sensor for inground installation;
- ETF-744\99 – air temperature sensor;
- ETOR-55 – moisture sensor for gutter and roof channel installation.

Operation of the system can be customized according to the user's requirements by setting the start-up temperature and the moisture sensor's sensitivity level, translating onto weather conditions for the heating system to start its operation.

ControlTec Smart SMC can independently control heating systems in two zones (each is equipped with own sets of sensors) or operate in a coupled mode (both zones are then controlled via one or two sets of sensors).

Additionally, ControlTec Smart SMC has got the functionality of adjusting the sensors heater's power to the ambient temperature, thus enabling to optimize moisture measurement regarding specific local weather conditions where the installation operates.

The regulation is possible for sensor's operating temperature, heater's power and the slope of the (linear) heating characteristics.

Temperature measured by the sensor T [ºC]
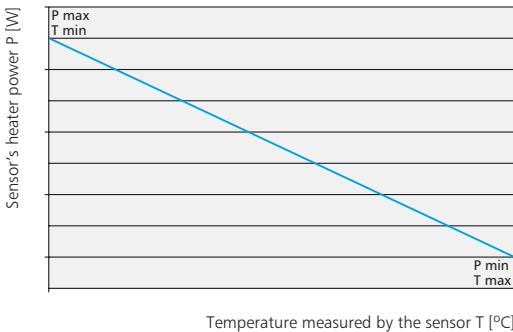
This solution minimizes the negative effects which make a start of the heating system unproperly such as an freezing snow (igloo) above the sensor in sudden snowfall and raising the tempe-rature around the sensor in the absence of snowfall.

ControlTec Smart SMC can remotely control the ice protection system from the computer server level. Communication with the server is executed with the WiFi wireless internet connection or the TCP\IP protocol Ethernet connection. Due to this feature, the remote controller setting is possible, and so are collecting operation statistics for the system and failure detection.

After connecting the controller the functions such as configuration change, activation and deactivation of the system, operation status or errors and automatic software update are available on any device using a web browser. The connected controller keeps a permanent record of statistical operation data of the heating system and a log of events in the system.

Note: !

Remote control is enabled after registering the controller on the internet homepage: smc.elektra.eu.

Remote control is executed through the service available from any internet browser.

Users can set-up their own accounts with the functionality of adding and operating own controllers in various locations. Installers can set-up their own accounts with the functionality of adding and operating own controllers, as well as joining the users' locations, and thus managing the users' devices.

3. Technical data

Power supply	230/240 V AC, 50 Hz
Power consumption	
Normal operation mode	max. 22 W
Stand-by mode	max. 3 W
Operating conditions	ambient temperature
	-10°C ÷ 40°C
	(14°F ÷ 104°F)
Storage conditions	ambient temperature
	-10°C ÷ 40°C
	(14°F ÷ 104°F)
Hysteresis	0.3°C (0.5°F)

Casing	9 modules, PPE, for DIN (TS35) bus installation acc. the DIN 43880 and DIN EN 60715 standards
IP rating	IP20
Weight	412 g
Dimensions H/W/D	95/160/75 mm
Electrical connectors	screw terminals, max. 1.5 mm^2 for stranded wires and 2.5 mm^2 for solid wires
WiFi	802.11b\g\n (n – for 2.4 GHz frequency only), frequency range 2400 ÷ 2483.5 MHz 802.11n MCS 0-7 for 20 MHz and 40 MHz bandwidth
Ethernet connector	Ethernet serial interface (100base-T type, RJ45 jack connector, TCP\IP protocols)
Display	LCD 124x64 pixel
Temperature measurement range	sensor-dependent, -25.0°C ÷ 50.0°C (-13.0°F ÷ 122.0°F)
Temperature measurement accuracy	0.1°C (0.2°F)

4. Construction
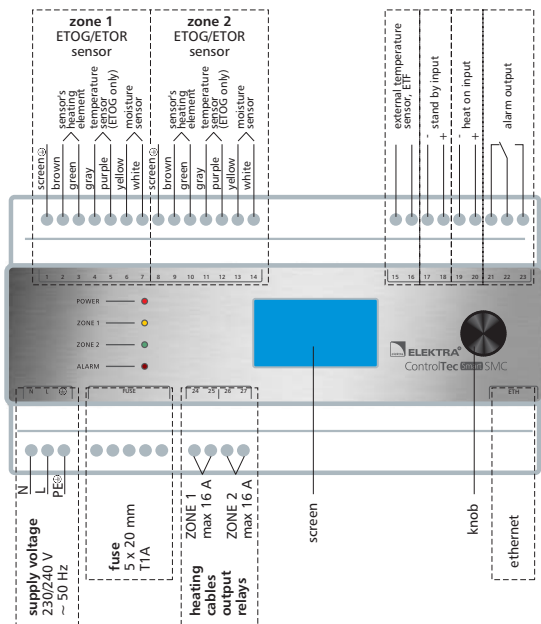
Construction schematics of the ControlTec Smart SMC controller with sensors' connections

LEDs

POWER – signals operation of the controller;
ZONE1 – signals heating start-up in zone 1;
ZONE2 – signals heating start-up in zone 2;
ALARM – signals failure detection.

Description of connectors

terminal	color marking	connection
N	neutral wire	power supply, 230/240 V AC 50 Hz
L	line wire	power supply, 230/240 V AC 50 Hz
PE	⏚	protective earth - grouding wire
1	⏚	sensor's cable screen
2, 3	brown, green	sensor's heating zone 1, ETOG\ETOR
4, 5	gray, purple	temperature sensor zone 1, ETOG
6, 7	yellow, white	moisture sensor zone 1, ETOG\ETOR
8	⏚	sensor's cable screen
9, 10	brown, green	sensor's heating zone 2, ETOG\ETOR
11, 12	gray, purple	temperature sensor zone 2, ETOG
13, 14	yellow, white	moisture sensor zone 2, ETOG\ETOR
15, 16		external temperature sensor, ETF
17, 18		STAND BY input connector - remote control, potential free
19, 20		HEAT ON input - remote control, potential free
21		alarm output, max. 1 A, NC, potential free
22		alarm output, max. 1 A, COM, potential free
23		alarm output, max. 1 A, NO, potential free
24, 25		output relay for heating cable, zone 1, max. 16 A, potential free
26, 27		output relay for heating cable, zone 2, max. 16 A, potential free
ETH		Ethernet port

5. Installation instructions

5.1. General information

ControlTec Smart SMC is a control device for the snow & ice protection system. For the system to function properly, the correct selection of sensors and heating elements is required, depending on their intended applications. Each system must include temperature and moisture sensors. ControlTec Smart SMC is able to control two systems independently, or in a coupled operation mode, when separate sensors for each heating zone are not required.

A single system, so a properly selected set of sensors and heating elements, constitute one zone. This could be:

• **A single inground system:** control over the heating elements is then executed basing on the ETOG (or ETF) sensor temperature measurements and the ETOG sensor moisture measurements, for zones 1 or 2.

• **A single roof system:** control over the heating elements is then executed basing on the ETF sensor temperature measurements and the ETOR sensor moisture measurements, for zones 1 or 2.

• **A double inground system:** consists of two single in-ground systems. Control over the heating elements is then executed basing on the ETOG (or ETF) sensor temperature measurements and the ETOG sensor moisture measurements, for zones 1 or 2.

Selection of the built-in ETOG or external ETF temperature sensor can be made independently for each zone. A coupled operation for zones is also possible, basing on readings from one zone sensors only (see: joint zones mode p. 20).

• **A double roof system:** consists of two single roof systems. Control over the heating elements is then executed basing on the ETF sensor temperature measurements and the ETOR sensor moisture measurements, for zones 1 or 2. A coupled operation for zones is also possible, basing on readings from one zone sensors only (see: joint zones mode p. 20).

• **An in-ground and roof system:** consists of two separate single systems (one in-ground system and one roof system).

Control over the heating elements of the in-ground system is then executed basing on the ETOG (or ETF) sensor temperature measurements and the ETOG sensor moisture measurements, for zone 1.

Control over the heating elements of the roof system is then executed basing on the ETF sensor temperature measurements and the ETOR sensor moisture measurements, for zone 2.

Selection of the built-in ETOG or external ETF temperature sensor can be made independently for each zone. A coupled operation for zones is also possible, basing on readings from one zone sensors only (see: joint zones mode p. 20).

5.2. Installation

Note: !

All installation and assembly works
should be executed by qualified personnel,
in compliance with the domestic safety
regulations. Before installation, de-installa-
tion, maintenance operations or cleaning
of the device, power supply of the
controller must be de-connected,
all terminals and electrical cables **must
not** be live.

ControlTec Smart SMC should be mounted in
a place which is not vulnerable to flooding,
sudden temperature changes or direct sun
exposition. The controller should be installed
indoors, on a DIN bus, using an approved panel
or inside an electric switchboard box compliant
with the domestic OSH regulations for in-house
electrical systems.

Connection

To connect the system's elements to the
ControlTec Smart SMC unscrew the nipple bolt
using a flat head screwdriver, slide the wire into
the terminal and then tighten the bolt to make
sure that the wire has been properly clamped.

Note: !

All sensors and heating elements
should be installed in compliance with
the installation and maintenance
instructions.

When the controller has been installed, it is
recommended to connect every element of the
system one by one, acc. the schematics and
description of connectors (see Schematics p. 12),
taking into account the following installation
sequence:

**5.2.1. Connecting power supply conductors of
the heating cables for each of the zones:**

Zone 1: connect the power supply of the heating
cable or contactor coil to terminals 24 and 25.

Zone 2: connect the power supply of the heating
cable or contactor coil to terminals 26 and 27.

Note: !

Power supply of the heating elements
should be connected as the last!
(see: 12, 13).

5.2.2. Connecting sensors

• ETOG sensor – temperature and moisture
measurement, ground sensor:

  Zone 1: connect ETOG sensor
  to terminals 1 ÷ 7.

  Zone 2: connect ETOG sensor
  to terminals 8 ÷ 14.

• ETOG and ETF sensors – ETOG ground sensor moisture measurement, ETF sensor temperature measurement:

Zone 1: connect ETOG sensor to terminals 1, 2, 3, 6, 7; connect ETF sensor to terminals 15, 16.

Zone 2: connect ETOG sensor to terminals 8, 9, 10, 13, 14.

In case ETF sensor and ETOG sensor become selected, ETOG will take moisture readings while ETF will take temperature readings. ETOG temperature readings are then ignored.

• ETOR and ETF sensors – ETOR gutter sensor moisture measurement, ETF sensor temperature measurement:

Zone 1: connect ETOR sensor to terminals 1, 2, 3, 6, 7; connect ETF sensor to terminals 15, 16.

Zone 2: connect ETOR sensor to terminals 8, 9, 10, 13, 14.

Zones 1 and 2 can be controlled independently from each other, e.g. zone 1 – ETOG sensor and zone 2 – ETOR and ETF sensors.

Depending on whether the controller manages one snow & ice protection system (zone 1) or two systems (zones 1 and 2), the sensors need to be switched on and settings selected in the menus of each of the zones. To do this, proceed to MENU settings of the relevant zone. (see: MENU STRUCTURE, SETUP\ZONE1 and SETUP\ZONE2 (p. 25-26).

5.2.3. Connection with server

For effective communication with the server, select WiFi in the controller's menu and enter SSID and network password, or connect the cable with the RJ45 jack to the ETH port. Enter connection settings in the menu SETUP\NETWORK (p. 27).

6. User instructions

6.1. Principles of operation

The snow & ice protection system operates fully automatically. Temperature and moisture measurements are taken continuously, and sensor data is transferred to the controller simultaneously. The heating is switched on when specific conditions occur, and so temperature above the switch off temperature value but below switch-on temperature value, with moisture detected. Incase the temperature drops below the switch-on value, moisture detection is executed:

• With no moisture detected, the sensor's heater is switched on. It will be switched off when the heating cables will have been turned on (moisture detected), or if the temperature increases above the switch-on value, with no moisture detected.

• With moisture detected – the heating cable will turn on. The main heater will operate until either moisture disappears or temperature increase above the switch-on value.

Setting min. heating time (Afterrun) is possible, and so determining how long the heating cables will maintain operation after moisture disappears. Temperature drop below the switch off value will not turn the heating cables on. **19**

6.2. Features

6.2.1 Temperature calibration

Temperature calibration is based on taking temperature reading with a controller-independent sensor (reference measurement) and comparison with the value taken by the controller's sensor.

Calibration of the temperature reading from the particular sensor can be entered in the settings of the zones. (see: MENU STRUCTURE, SETUP\ZONE1 and SETUP\ZONE2 (p. 25, 26).

Calibration is made by comparison of the reference sensor's temperature with the controller sensor's temperature reading, following the formula:

reference reading − controller's reading =
= temperature calibration value

Enter this value in the temperature calibration (Temp. calib.) field.

6.2.2 Joint zones

In the zone coupled operation mode, heating circuits of both zones are turned on and off at the same time. If one zone returns conditions acc. settings in the menu SETUP\ZONE1 or SETUP\ZONE2, heating is turned on in both zones. When the turn on conditions in both zones change, and the min. heating time is over, heating in both zones is turned off.

• Setting the coupled operation time for one zone will copy the turn on temperature, switch off temperature and min. heating time values from the currently selected zone to the other one.

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- With the coupled operation mode on, all changes in switch on temperature, switch off temperature and min. heating time values in one of the zones will result in consequent changes of these values for the other zone.

- If one of the zones has been turned on when the coupled operation mode has been switched on, the other zone will consequently become turned on, and the switch off time for both zones will be the same.

- If one zone lacks a sensor (or the sensor is off) when the coupled operation mode has been switched on, both heating circuits are controlled via the sensor turned on in the other zone.

6.2.3 Failure signalling

Failures are signalled with the LED light on, failure information is sent to the server. ControlTec Smart SMC will detect failures of the:

- temperature sensor;

- moisture sensor;

- network operation.

"ALARM" LED light will turn on when the failure has been detected of the:

- zone – the LED light will turn on and alarm contact will become active;

- network operation (no server connection), with the option "Network alarm" active – the LED light will turn on but the alarm contactor will remain inactive.

6.2.4 STAND BY mode
This mode serves switching one zone into the stand by mode (the heating will be turned off). To activate the **STAND BY** mode, please select the option **Force operation: stand by** in the **MENU** – **SETUP\ZONE1** or **SETUP\ZONE2** (see: MENU STRUCTURE, SETUP\ZONE1 and SETUP\ZONE2, p. 25, 26).

Note: !

It is also possible to activate the STAND BY mode by applying voltage 24 ÷ 46 V DC to terminals 17 and 18 (see: the schematics and description of connectors p. 12, 13).

6.2.5 HEAT ON mode: FORCED HEATING
This mode serves manual control of the heating for the particular zone (forced heating). To activate the **HEAT ON** mode, please select the option **Force operation: heating** in the **MENU** – **SETUP\ZONE1** or **SETUP\ZONE2** (see: MENU STURCTURE, SETUP\ZONE1 and SETUP\ZONE2, p. 25, 26).

Note: !

It is also possible to activate the HEAT ON mode by applying voltage 24 ÷ 46 V DC to terminals 19 and 20 (see: the schematics and description of connectors p. 12, 13).

7. Operation

To operate the ControlTec Smart SMC controller, use the rotating knob for programming and observe the LCD display. Turn the knob to change the displayed screen or selected option, press once to activate your selection.

Turn the knob for the displayed arrow to move to the desired option and press the knob to confirm the selection.

To change settings, turn the knob until the option to change is displayed.

Confirm your selection by pressing the knob. To return to the previous screen, press and hold the knob for 1 sec.

7.1. Menu structure

1. INFO – after starting visible INFO screen
shows the current status of the device.

	Zone 1	Zone 2
INFO --------------		
	(1)	(2)
Temp.:	13°C	13°C
Moisture:	yes	no
Sens. heater:	on	off
Heating:	off	on
Network:	connected	
Heat force:		

Temp.   - temperature value from sensor
Moisture   - moisture detection by sensor
Sens. heater - sensor's heater operating status
Heating   - outputs operating status
Network   - network connection status
Heat force - forced operation of the controller
    • cancel (blind line) function off
    • stand by - forced deactivation of the zone
    • heating - forced activation of the zone

2. NETWORK – connection with the server

NETWORK ---------------	
Status:	connected
IP:	192.168.0.0
Mask:	255.255.255.0
Gate:	10.1.2.1
MAC:	FCC00D0D0D0D
PIN:	000000

Status - connected - device registered
    • network error - damaged or wrong cable, switch or router without power
    • server error - device not connected to server or internet network problem
    • WiFi error - WiFi connection error, authentication failure - equivalent of
     the network error
    • unregistered - device is correctly connected to the network
     but unregistered on the server
IP   - IP address
Mask - subnet mask
Gate - network gateway
MAC - MAC address
PIN   - PIN code for registration of the device on the server

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3. SETUP\SYSTEM – controller settings

```
SETUP\SYSTEM ----------

Language:                    ENG
Temperature unit:             °C
Network alarm:                off
Factory reset:
Restart system:
```

Language   - language selection (3 options available: English, Polish, Russian)
Temperature unit - temperature scale selection - Celsius (°C) or Fahrenheit (°F)
Network alarm   - off\on alarm of the network error
Factory reset   - reset the device to the default factory settings
Restart system   - restart the device without settings loss

4. SETUP\ZONE1 – zone 1 settings, conditions for the heating to start-up

```
SETUP\ZONE1 ---------

Temp. sensor:                ETOG
Moist. sensor:               ETOG
Joint zones mode:             off
Afterrun:                    2:00
Moist. sensit.:              norm
Temp. calib:                0.0°C
Switch-on T:                3.0°C
Cut-off T:                    off
Sens. T min.:            -25.0°C
Sens. T max:              10.0°C
Sens. P min.:              1.0 W
Sens. P max:               8.0 W
Force:
Factory reset:
```

Temperature sensor: - selection of temperature sensor: off/ETOG/ETF
Moisture sensor: - selection moisture sensor: off/ETOG/ETOR
Joint zones mode: - joint work of both zones: off/on
Afterrun time: - extended time of the system operating after the set
                            conditions of temperature and moisture stopped - 0-24h.
Moisture sensor sensitivity: - selection of moisture sensor's sensitivity, 5 level scale:
                            min/low/norm/high/max
Temperature calibration: - temperature calibration setting for ETOG or ETF sensor:
                            -5°C ÷ 5°C (23°F ÷ 41°F)
Switch on temperature: - activation temperature setting for zone 1
                            -25°C ÷ 50°C (-13°F ÷ 122°F)
Switch off temperature   - the lowest operation temperature setting for the system,
                            zone 1. Any lower temperature will activate the system's
                            stand by mode. Bottom temperature value is -25°C (-13°F)
Sensor temperature min.   - setting of the sensor's heater heating range in the linear
                            function of the ambient temperature. This option allows to
                            set minimum temperature for the maximum sensor's power.
                            Setup range: -25°C ÷ 50°C (-13°F ÷ 122°F)

Sensor temperature max.	- setting of the sensor's heater power range in the linear function of the ambient temperature. This option allows to set maximum temperature for the minimum sensor's power. Setup range: -25°C ÷ 50°C (-13°F ÷ 122°F)
Sensor power min.	- setting of the sensor's heater power range in the linear function of the ambient temperature. This option allows to set minimum sensor's power for the maximum temperature. Setup range: 1 W ÷ 8 W
Sensor power max.	- setting of the sensor's heater power range in the linear function of the ambient temperature. This option allows to set maximum sensor's power for the minimum temperature. Setup range: 1 W ÷ 8 W (see p. 9)
Force	- manual heating activation/deactivation for zone 1: cancel/sleep/heating
Factory reset	- this option retrieves all factory settings for zone 1. All user\installer's settings will be lost

5. SETUP\ZONE2 – zone 2 settings, conditions for the heating to start-up

```
SETUP\ZONE2 ---------

Temp. sensor:          ETOG
Moist. sensor:         ETOG
Joint zones mode:       off
Afterrun:              2:00
Moist. sensit.:        norm
Temp. calib:         0.0 °C
Switch-on T:         3.0 °C
Cut-off T:              off
Sens. T min.:       -25.0°C
Sens. T max:         10.0°C
Sens. P min.:         1.0 W
Sens. P max:          8.0 W
Force:
Factory reset:
```

Temperature sensor:	- selection of temperature sensor: off/ETOG/ETF
Moisture sensor:	- selection of moisture sensor: off/ETOG/ETOR
Joint zones mode:	- joint work of both zones: off/on
Afterrun time:	- extended time of the system operating after the set conditions of temperature and moisture stopped - 0-24h
Moisture sensor sensitivity:	- selection of moisture sensor's sensitivity, 5 level scale: min/low/norm/high/maxi
Temperature calibration:	- temperature calibration setting for ETOG or ETF sensor: -5°C ÷ 5°C (23°F ÷ 41°F)
Switch on temperature:	- activation temperature setting for zone 2.: -25°C ÷ 50°C (-13°F ÷ 122°F)
Switch off temperature	- the lowest operation temperature setting for the system, zone 1. Any lower temperature will activate the system's stand by mode. Bottom temperature value is -25°C (-13°F)
Sensor temperature min.	- setting of the sensor's heater power range in the linear function of the ambient temperature. This option allows to set minimum temperature for the maximum sensor's power. Setup range: -25°C ÷ 50°C (-13°F ÷ 122°F)
Sensor temperature max.	- setting of the sensor's heater power range in the linear function of the ambient temperature. This option allows to set maximum temperature for the minimum sensor's power. Setup range: -25°C ÷ 50°C (-13°F ÷ 122°F)

Sensor power min.	- setting of the sensor's heater power range in the linear function of the ambient temperature. This option allows to set minimum sensor's power for the maximum temperature. Setup range: 1 W ÷ 8 W
Sensor power max.	- setting of the sensor's heater power range in the linear function of the ambient temperature. This option allows to set maximum sensor's power for the minimum temperature. Setup range: 1 W ÷ 8 W (see p. 9)
Force	- manual heating activation/deactivation for zone 1: cancel/sleep/heating
Factory reset	- this option retrieves all factory settings for zone 1. All user\installer's settings will be lost

6. SETUP\NETWORK – connection with the server, network settings

```
SETUP\NETWORK -----------

Net:                        Ethernet
DHCP:                             on
IP:                    192.168.0.0
Mask:                255.255.255.0
Gate:                      10.1.2.1
DNS1:                       8.8.8.8
DNS2:                       8.8.8.8
SSID:                      yourSSID
PASS:                     ********
```

Net	- Ethernet / WiFi
DHCP	- DHCP communication protocol status
IP	- IP address
Mask	- subnet mask
Gate	- network gateway
DNS1	- Domain name system address 1
DNS2	- Domain name system address 2
SSID	- wireless network name
PASS	- WIFI Password

7. SETUP\CLOCK – time and date settings

```
SETUP\CLOCK ----------

Time:                         12:00
Date:                    01.01.2018
Zone:                        +01:00
DST:                            off
```

Time	- current hour
Data	- current date
Zone	- time zone
DST	- daylight saving time setting

7.2. Cleaning

Before cleaning, de-connect the power supply. To remove any dust or dirt, wipe the device clean with a dry cloth. In case of significant dust deposition, use a vacuum cleaner with a suction brush.

Do not use water or detergents for cleaning. The device should not be cleaned with compressed air.

7.3. Fuse replacement

Note: !

Before replacing the fuse, de-connect the controller's power supply.

A 5 x 20 mm T1A fast fuse should be used in the device. To replace the blown fuse, gently lift its holder (the top part), remove the blown fuse from its holder, insert a new one and replace the holder.

7.4. Factory settings

Setup\System	Language: Temperature unit: Network alarm:	English °C off
Setup\Zone1 Setup\Zone2	Sensors: Joint zones mode: Afterrun: Moisture sensor: Temperature calibration: Switch on temperature: Switch off temperature: Temperature min.: Temperature max.: Power max.: Power min.	off off 2:00 h normal 0.0°C 3.0°C off -25.0°C 10.0°C 8.0 W 1.0 W
Setup\Network	DHCP: Mask: Gate: DNS1, DNS2:	off 255.255.255.0 10.1.2.1 8.8.8.8
Setup\Time	Time zone: DST:	+01:00 off

8. Warranty

ELEKTRA grants a 3 year-long warranty (from the date of purchase) for ELEKTRA ControlTec Smart SMC.

Warranty conditions

1. Warranty claims require:

   a. that the device has been executed in full accordance with the Installation Instructions herein,

   b. presentation of the proof of purchase of the device under complaint.

2. The Warranty loses validity if any attempt at repair has been undertaken by an unauthorised installer.

3. The Warranty does not cover the damages inflicted as a result of:

   a. mechanical fault,

   b. incompatible power supply,

   c. lack of adequate surge protector, overload and residual-current device (RCD) in electric systems supplying controller,

   d. use of sensors different than ELEKTRA ETOG, ETOR, ETF.

4. Within the Warranty herein, ELEKTRA undertakes to bear exclusively the costs required to cover the necessary repairs to the device itself, or to replace the device.

Note:

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The Warranty claims must be registered with the proof of purchase, in the place of purchase or the offices of ELEKTRA company.