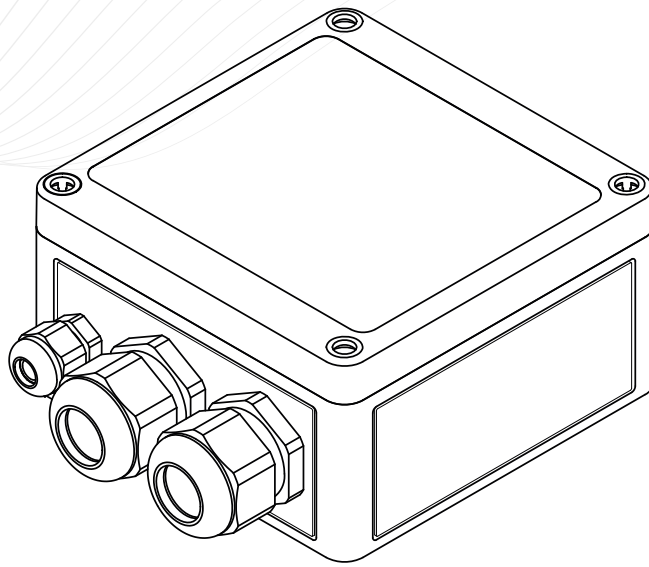


OPERATION- MANUAL



ELTC-05

Frost protection thermostat
with connection possibility for 1 trace heater

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IMPORTANT INFORMATION

- RETAIN FOR LATER USE



Please follow these instructions for proper and safe use of the ELTC-05 frost protection thermostat.
Please retain these instructions for later reference purposes (for example in the system documentation).

- FOR DISPOSAL



The WEEE logo indicates that this product must not be disposed of with residential waste.

Further information about disposal and recycling of old electrical and electronic devices and where to find collection points is available from your local disposal company or from the manufacturer from which you bought the product.



ATTENTION

Refers to a potentially dangerous situation.
If it is not prevented, there is a risk of damage or malfunction.



DANGER

Refers to an extremely dangerous situation. If it is not prevented there is risk of death or at least a high risk of serious injuries.



NOTE

Important information and instructions for safe, effective and environmentally compatible usage.



WARNING

Refers to a dangerous situation. If it is not prevented there is risk of injury or at least a high risk of material damage.

Proviso

We reserve the right to make technical changes. Changes, errors or misprints shall not form the basis for any claim to compensation for damages. Comply with the applicable and currently valid standards and regulations for safety-related components and systems.

eltherm GmbH Ernst-Heinkel-Str. 6-10 57299 Burbach T.: +49 2736 4413-0 F.: +49 2736 4413-50 info@eltherm.com	Document: 86430506100XX		Operation Manual ELTC-05 frost protection thermostat	
	Author:	Peter Schmidt	Datum:	03.04.2003
	Revision: 03	Jonas Schmidt	Datum:	25.06.2024

INTRODUCTION

The electronic temperature controller of the ELTC-05 series can be used as an air or surface thermostat with remote sensor. Cable glands and terminals are fitted for the electrical connection. The device is supplied in a splash-proof plastic housing for wall mounting, which is fitted with a grey housing cover. The controller should be installed outdoors, protected from direct sunlight. The setpoint of the thermostat is fixed at 3 °C. If the temperature measured by the sensor is below the set target value, the relay contact closes and the heating cable is switched on. When the contact is closed, the yellow LED inside the housing lights up. If the sensor is interrupted or short-circuited, the heating is switched off.

Scope of supply

The scope of delivery of the article includes:

Item no.	Type	Power supply	Number of relays	Temperature sensor Pt100 2-wire (item no. 0650001)	Cable glands
0610092	ELTC-05	230 VAC	1	-	1xM12, 2xM25
0610002	ELTC-05/1	230 VAC	1	5 m PVC connection line	1xM12, 2xM25
0610003	ELTC-05/2	110 VAC	1	5 m PVC connection line	1xM12, 2xM25
0610005	ELTC-05/3	230 VAC	2	5 m PVC connection line	1xM12, 2xM25

All controllers include operating instructions in German and English as a brochure in A5 to A4 print format

Receipt of goods

Upon receipt of goods, check the controller and accessories and compare the details on the type plate with the details on the delivery note to ensure that the correct material has been supplied.

Storage

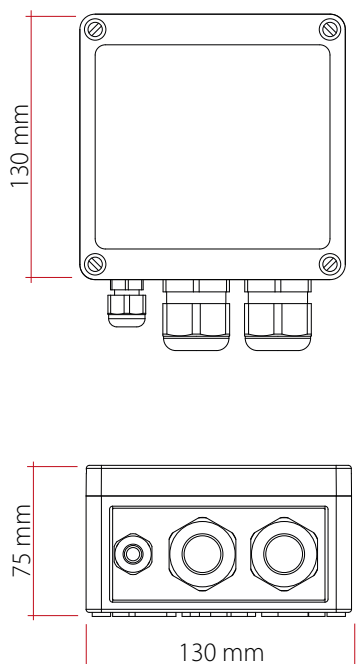
- The product should be stored in a dry place at an ambient temperature of -30°C to 60°C.
- Avoid damage due to improper transport or storage.
- Transport the temperature controller with care. Do not drop it!

TECHNICAL DATA

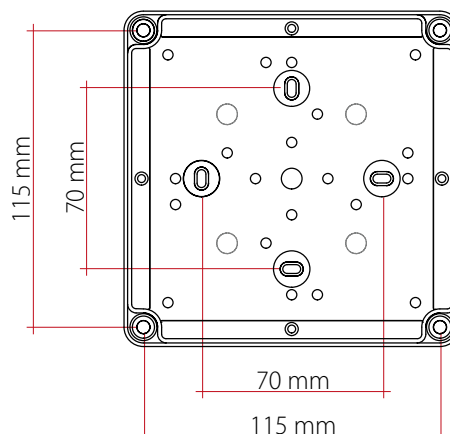
Technical data

Operating voltage	230 VAC or 110 VAC, ±10 %, 50 Hz to 60 Hz
Switching capacity	16 A N/O contact
Measuring input	Pt100, 2-wire
Setpoint temperature range	Permanently set to +3 °C
Ambient temperature	-30 °C to +50 °C
Storage temperature	-30 °C to +50 °C
Switching hysteresis	1 K
Control characteristic	Two-point controller
Output	1 or 2 relay contact
Display	LED on the PCB
Housing material	Polycarbonate
Housing dimensions	130 x 130 x 75 mm (WxHxD)
Protection	IP 66
Mounting	Wall mounting
Weight	approx. 0,5 kg

Dimensions



Drilling pattern

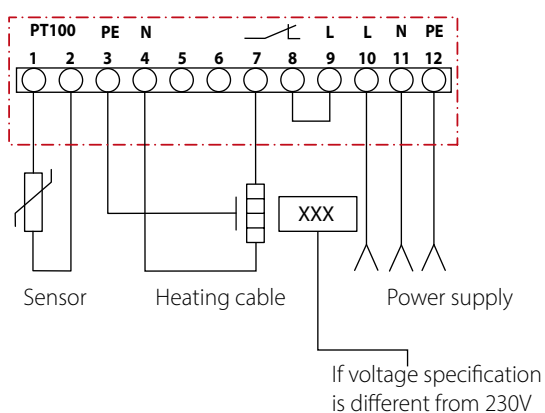


Compatible mounting brackets

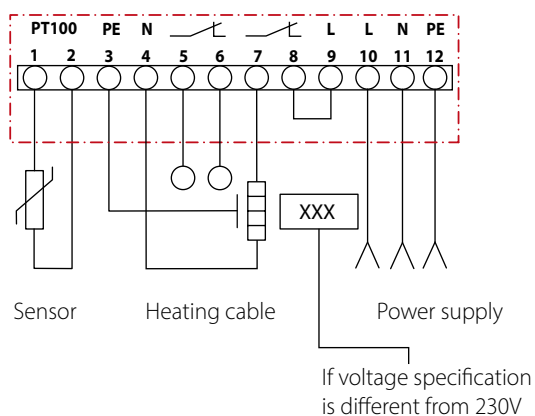
Item no.	Type	Description
0941011	ELMW-11	Mounting bracket for ELTC-05
0941085	EL-VSB 300	Telescopic mounting bracket

Connection diagrams

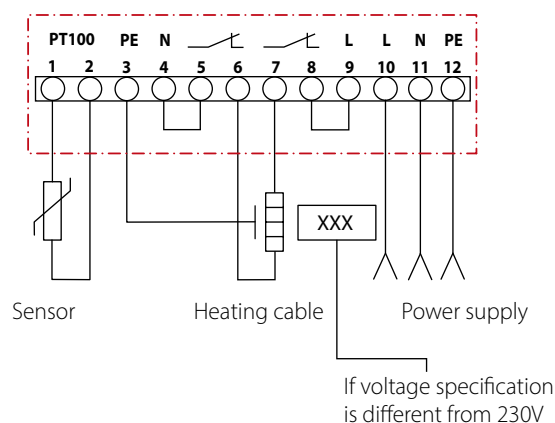
Heating cable 1-pole switched (with one load relay)



Heating cable 1-pole switched



Heating cable 2-pole switched



2 relays for external signalling 230V (xxxV) available

OPERATION OF THE CONTROLLER

Installation and safety instructions

ATTENTION

- Electrical connection / commissioning must be carried out by a qualified electrician.
- The relevant local safety regulations must be observed.
- Observe the connected loads according to the rating plate and the instructions.
- When selecting the installation location, observe the IP protection class and permissible operating temperature. Locations that are protected from direct precipitation and sunlight are favourable.
- Only operate with the cover closed and the screw connection tightened
- Avoid damage, tensile stress, kinking and torsion of the connected cables.
- The sensor cables must be shielded when extended; The shielding must be earthed on one side close to the controller. The cable must not be laid parallel to mains voltage carrying cables. The total line resistance must not be exceed 10 ohms.
- Ensure that the connection terminals have the correct size and dimensions to accommodate the conductors.

ATTENTION

- Persons involved in the installation and testing of electrical trace heating systems should be appropriately qualified for the necessary measures.
- Electrical trace heating systems should be installed under the supervision of a qualified electrician who has completed additional training in electrical trace heating systems.
- Critical work, such as making connections, may only be carried out by qualified personnel.

DANGER

- A fault circuit breaker is required for each circuit.
- Before starting work on heating or connection cables or connection terminals, ensure that the corresponding circuit is switched off and secured against unintentional switching on again.

COMMISSIONING

Installation of the controller

- Prepare the cable ends for installation (strip the insulation). Please observe the relevant assembly instructions.
- Insert the cable into the housing according to type and equipment, do not tighten the cable glands yet.
- Connect the power supply and the temperature sensor to the corresponding terminals on the controller (see section „Connection diagrams“).
- Do not connect the heating cable yet!
- Tighten the terminals hand-tight (torque between 0.6 and 0.8 Nm).
- Connect the heating cable to the corresponding terminals.
- Tighten the terminals hand-tight (torque between 0.6 and 0.8 Nm).
- Unused terminals must be tightened.
- Close all openings (cover, threaded holes, cable entries).
- Excessive tightening of the cable entry can impair the IP protection class!
- Switch on the power supply to the temperature controller.

NOTE

- Check all parts of the ELTC-05 as well as the seals and O-rings.
- All inserted cables must be laid securely.
- The electrical connection should only be made after the cables and housings have been secured.
- Always observe the installation sequence!
- Observe the instructions and data sheets for the products to be installed (e.g. heating cable).
- When using the ELTC-05 as an ambient thermostat: Shorten the sensor cable so that the sensor sleeve can be fastened inside the M12 cable gland. The sleeve should still protrude approx. 15 mm.

OPERATION & MAINTENANCE

- The locally applicable safety regulations must be observed when operating the ELTC-05
- The permissible operating conditions according to the „Technical data“ section (cable type/dimensions, operating temperature, IP protection class) must be observed.
- A visual inspection to ensure that the ELTC-05 is intact and firmly seated must be carried out at suitable intervals depending on the installation location and application.
- Cable entries must be tightened if necessary. Damaged parts must be replaced by specialised personnel.
- Once the repair work has been completed, the ELTC-05 must be checked again (visual inspection).
- Damaged ELTC-05 must not be put into operation.



WARNING

The terminal boxes may only be opened (this also includes loosening cable entries!) when they are de-energised.



NOTE

- If it is necessary to check the temperature setpoints, connect a Pt100 simulator instead of the Pt100 and check the switching functions of the controller.
- Once the check is complete, reconnect the Pt100 sensor and close the cover.

NOTES



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This document can also be found on the eltherm website.
Visit our download area.

