



PROFACTOR[®]
DER DEUTSCHE QUALITÄTSSTANDARD

EN

TECHNICAL DATA SHEET AND USER MANUAL



**PRODUCT
CODE**

**PF TR 642
PF TR 643**

**ELECTROMECHANICAL
ROOM THERMOSTAT**

1. PURPOSE AND SCOPE

The PROFACTOR® PF TR 642 and PF TR 643 electromechanical room thermostats are designed for the automatic control of water-based and electric heating systems, as well as for monitoring and maintaining the desired room temperature. The thermostats are used to control pumps, burners, thermoelectric actuators for two-position valve regulation (commonly used in underfloor heating systems), solenoid valves, and other devices — provided that the controlled equipment meets the thermostat's technical specifications.

The PROFACTOR® PF TR 642 and PF TR 643 thermostats are not intended for installation in environments with high humidity or aggressive atmospheres. Depending on the room temperature increase or decrease, the thermostats can open or close contacts (the operating mode is selected during wiring). Both PF TR 642 and PF TR 643 thermostats are equipped with a manual power switch and an operation indicator light.

2. TECHNICAL SPECIFICATIONS

Product Code	PF TR 642	PF TR 643
Set temperature range	+10°C to +30°C	
Operating voltage	230V AC, 50 Hz	
Switching current	16 (4) A	10 (3) A
Temperature differential	1°C	
Contacts	Ag (switching or breaking)	
Safety class	II (IEC 60730)	
Enclosure protection rating	IP20 (IEC 60529)	
Weight, g	170	165

3. DESIGN

The PROFACTOR® PF TR 642 and PF TR 643 room thermostats are in an accordance with IEC 60730.

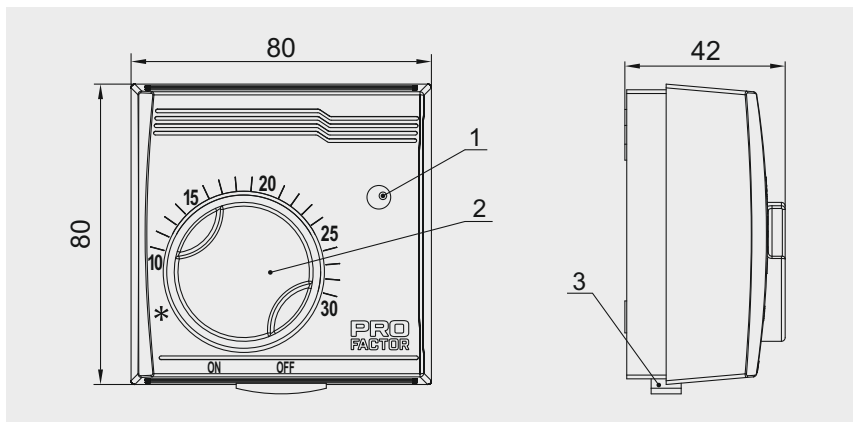
The temperature-sensitive element is a hermetically sealed, electrically welded stainless steel membrane chamber filled with gas.



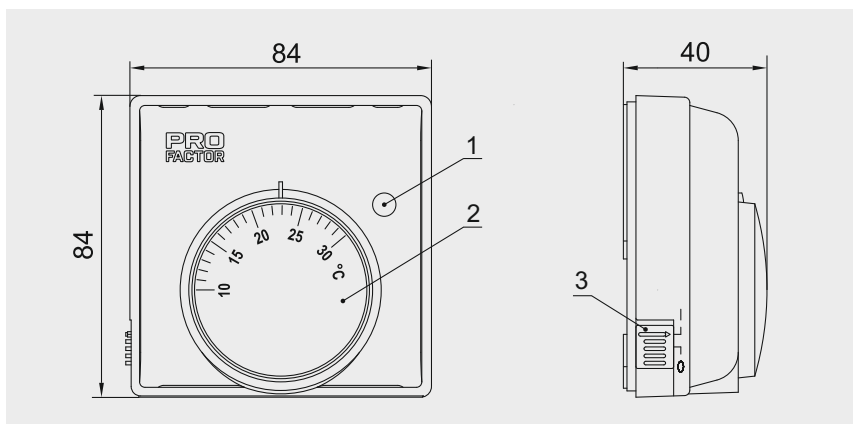
The contact block is a single-pole potential-free switch, preceded in the circuit by a manual power switch. The contact block is located beneath the membrane chamber and has external terminals for wire connection.

The entire thermostat unit is mounted in a housing made of non-flammable ABS plastic.

Room Thermostat PF TR 642:



Room Thermostat PF TR 643:



1 – Indicator light

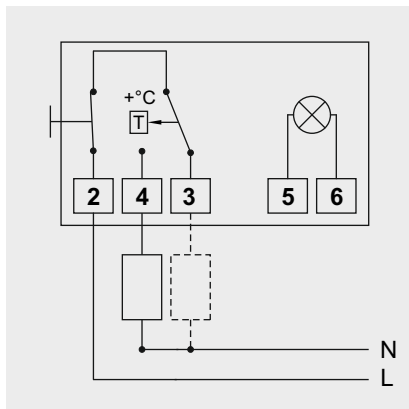
2 – Adjustment knob

3 – Manual power switch

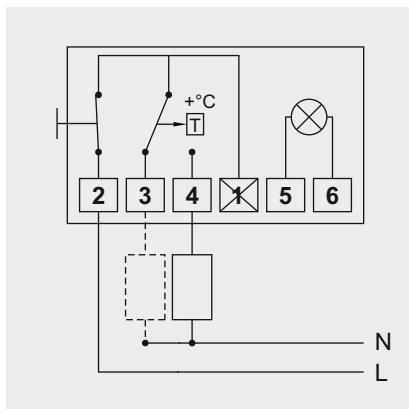
4. OPERATING PRINCIPLE

The PROFACTOR® PF TR 642 and PF TR 643 room thermostats operate on the principle of gas thermal expansion inside a membrane chamber. When the temperature rises, the gas in the membrane chamber expands, causing the chamber itself to expand and press against the stem. The stem closes contact "4" when the set temperature is exceeded and opens contact "3".

Electrical diagram of the PF TR 642 thermostat:



Electrical diagram of the PF TR 642 thermostat:



2 – Phase contact

3 – Normally closed contact(opens when the set temperature is exceeded)

4 – Normally open contact(closes when the set temperature is exceeded)

5, 6 – Indicator light contacts

Contact "1" is not present in the PF TR 642 thermostat circuit. In the PF TR 643 thermostat circuit, it is not used by default, but it can serve as the phase contact instead of contact "2" if a manual power switch is not required.

5. INSTALLATION INSTRUCTIONS

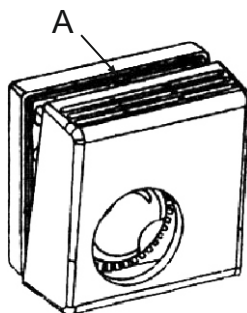
All installation, removal, and repair operations must be carried out only by qualified personnel with appropriate training and when the power supply is disconnected.

The room thermostat should be installed at a height of approximately 1.5 meters above the floor, in an area with a relatively stable average room temperature.

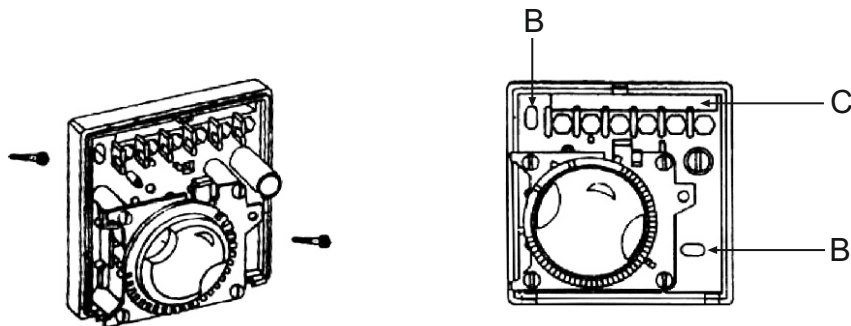
The thermostat must not be isolated from normal air convection in the room and must not be installed in unventilated areas, places with constant drafts, direct sunlight, or near doors, windows, heating appliances, or other potential sources of air or heat flow.

Room Thermostat PF TR 642:

1. Detach the cover by releasing the latch "A".



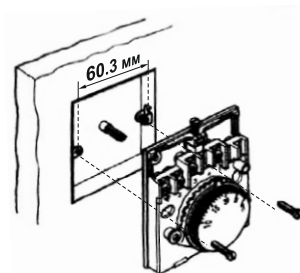
2. Mount the device on the wall using two screws (maximum diameter 3.5 mm), through the holes "B" – "B" in the base.



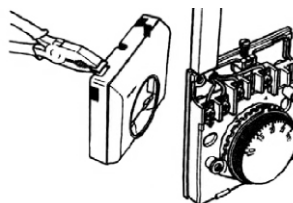
Route the cable through the special opening "C" in the base and connect it to the terminals according to the wiring diagram shown in paragraph 4.

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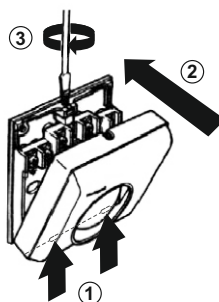
2. Mount the thermostat unit on the wall using two screws and wall plugs, or two screws included in the package.



4. If the cable is routed on the wall surface, make a notch in the thermostat cover using pliers, as shown in the illustration.



6. Reinstall the thermostat cover and secure it with the fixing screw.



6. OPERATING AND MAINTENANCE

To set the desired room temperature, rotate the adjustment knob until the required temperature value aligns with the control indicator.

It is forbidden to use the thermostat in explosive or aggressive environments.

Maintenance of the thermostat must be performed only when it is disconnected from the power supply. During maintenance, clean the device with a damp cloth. Avoid getting water on the thermostat. Do not use cleaning agents, abrasives, aggressive chemicals, sharp objects, or high-pressure devices for cleaning.

7. WARRANTY OBLIGATIONS

The warranty period is 12 months from the date of sale to the end consumer. Throughout the entire warranty period, the manufacturer guarantees the proper functioning of the product and its compliance with safety requirements, provided that the consumer follows the rules for storage, transportation, installation, operation, and maintenance of the product. The warranty covers all defects arising through the manufacturer's fault.

The warranty does not cover defects resulting from:

- Violation of storage, transportation, installation, operation, or maintenance conditions;
- Exposure to substances aggressive to the materials of the product;
- Signs of mechanical damage;
- Damage caused by fire, natural disasters, or other force majeure circumstances;
- Damage caused by improper actions of the user;
- Evidence of unauthorized interference with the product design.

The product described in this technical manual is a technically complex device that must be installed by a qualified specialist with appropriate experience working with this type of equipment.

Installation and commissioning must be carried out by an authorized and certified company.

Profactor Armaturen GmbH reserves the right to make changes to the product design that do not affect its technical characteristics or functional features.



INTERNATIONAL WARRANTY CARD

NAME OF THE PRODUCT

PRODUCT CODE, SIZE

QUANTITY

SELLER NAME AND ADDRESS

DATE OF PURCHASE

SELLER STAMP

SELLER SIGNATURE

For the warranty term refer to the Warranty obligation clause in the technical manual

FOLD LINE

FOLD LINE

In case of any claims to the product quality the following documents should be submitted:

1. Application with customer and product details:

- Name of the customer, actual address and phone number
- Article of the product
- Reason for the claim and photo
- Plumbing system where installed (name, address, phone number)

2. Invoice copy and receipt

3. Warranty card

RETURN/EXCHANGE COMMENTS

DATE

SIGNATURE



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