

# TF

## Frost protection thermostat



*Frost protection thermostat for use in cooling, heating and ventilation systems.*

- Easy installation and wiring
- Manual or automatic reset
- Protection class IP65
- Capillar length 1,8 - 3 - 6 - 15m

### Application

TF...(R) is a device with the task of controlling the temperature of heating and cooling batteries, ventilation ducts and all those applications where frost damage can be prevented. The 15 (8) A switching contact (SPDT) allows use in a variety of functions such as controlling a fan, a shutter, an electric resistance, open or close a heating circuit or cooling circuit, start or stop a circuit pump for heating or cooling, switch off a refrigerator unit or a humidifier, signal an alarm condition through a visual or acoustic device.

### Function

The thermostat TF switches when the temperature sensed by capillary for a minimum length of 50 cm drops below the temperature set on the knob. When temperature increases, the contact returns automatically to the initial position. For R versions it is necessary a manual reset from user to allow the contact to return to the initial position. The gas inside the sensible element increases his volume and with a mechanism acts on the microswitch. The capillary is sensible to temperature for the whole length. The models with range under the cover for setting the setpoint avoids any involuntary change of the set.

### Appearance

The device consists of an ABS base and a transparent polycarbonate self-extinguishing cover, V0 class. The internal parts are made of technopolymer and stainless steel to guarantee its mechanical stability. The sensitive element is in copper filled with gas.

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## Technical data

Sensitive element	Copper capillar filled with gas
Contact	SPDT microswitch
Breaking capacity	15 (8) A, 24...250 V AC
Accuracy	± 1K
Ambient temperature	Max. 55 °C
Ambient humidity	10...90 % UR (non-condensing)
Storage temperature	-30...+60 °C
Storage humidity	95 % UR
Max. bulb temperature	150 °C
Casing	Base in ABS, cover in transparent polycarbonate (PC)
Weight	340g
Protection class	IP65
Isolation class	I

## Models

Article	Temperature range	Hysteresis	Reset	Capillary length
TF18	-10...+10 °C	2 K	Automatic	1,8 m
TF18R	-10...+10 °C	Minimum manual reset	Manual	1,8 m
TF30	-10...+10 °C	2 K	Automatic	3 m
TF30R	-10...+10 °C	Minimum manual reset	Manual	3 m
TF60	-10...+10 °C	2 K	Automatic	6 m
TF60R	-10...+10 °C	Minimum manual reset	Manual	6 m
TF150	-10...+10 °C	2 K	Automatic	15 m
TF150R	-10...+10 °C	Minimum manual reset	Manual	15 m

## Accessories

Article	Description
DBZ-01	Brass pocket 120 mm, Ø external 11 mm, Ø internal 10 mm, connection R 1/2"
DBZ-02	Stainless steel AISI 304 pocket 120 mm, Ø external 12 mm, Ø internal 10 mm, connection R 1/2"
DBZ-05	Set of 6 mounting brackets for capillary of antifrost thermostats



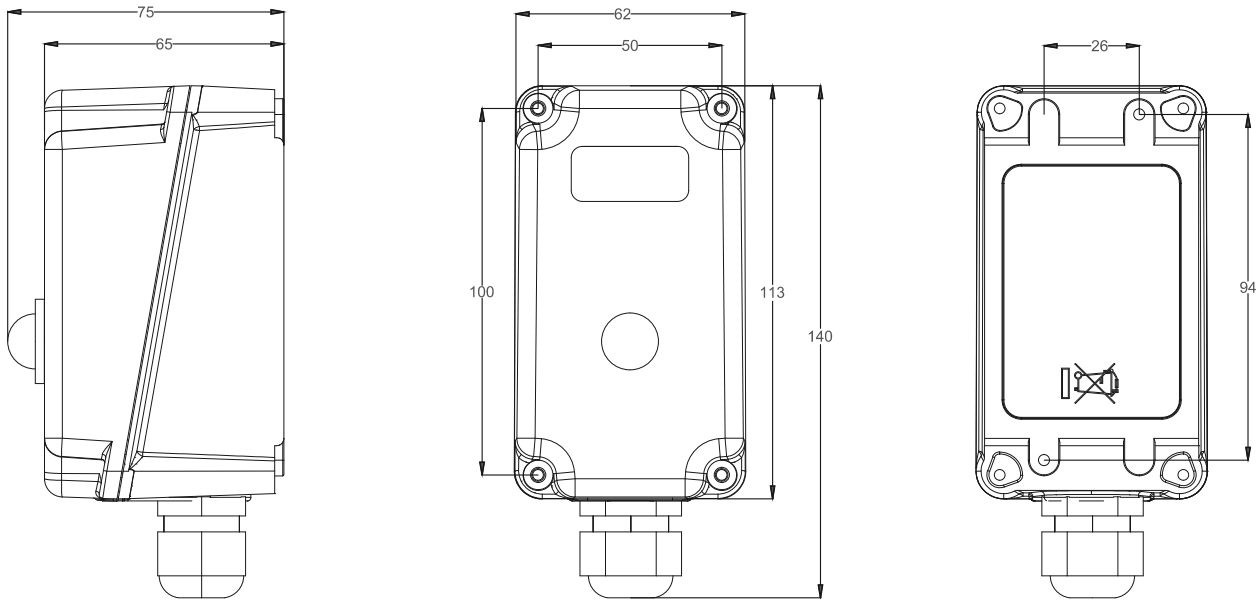
This product carries the CE-mark. More information is available at [www.industrietechnik.it](http://www.industrietechnik.it).

**Low Voltage Directive (LVD) & EMC emissions & immunity standards:** This product conforms to the requirements of the European Low Voltage Directive (LVD) 2006/95/EC and to the requirements of the EMC Directive 2004/108/EC through product standard EN 60335-1.

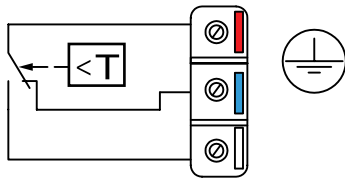
**RoHS:** This product conforms to the Directive 2011/65/EU of the European Parliament and of the Council.

## Dimensions

[mm]



## Wiring



**Heating:** Connect to the red and blue terminal. The contact will open when the temperature rises.

**Cooling:** Connect to the red and white terminal. The contact will open when the temperature drops.

**Signal function:** For service functions, connect a signal lamp to the corresponding opposite contact. The free contact will then close simultaneously (thus acting as a signal contact)

## Documentation

All documentation can be downloaded from [www.industrietechnik.it](http://www.industrietechnik.it).

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