

InBin-FR... frost protection thermostat

Electrical frost protection thermostat with internal transducer
 24 VAC/DC supply voltage, output potential free switching contact

InBin - FR3
 InBin - FR6
 InBin - FR... - CT

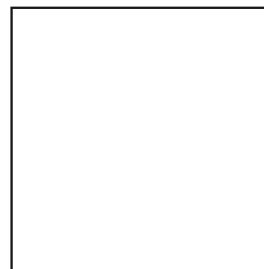
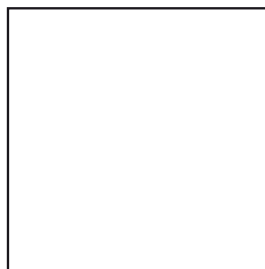
subject to change!

Compact . Easy installation . Universal . Cost effective . Safe

| Type | Capillary length | Supply | Output switch | Max. ratings | Wiring |
|-------------|------------------|-----------|-------------------|-----------------------------|--------|
| InBin - FR3 | 3 m | 24 VAC/DC | pot. free contact | 250 VAC, 0.1A / 30 V, 0.5 A | SB 1.0 |
| InBin - FR6 | 6 m | 24 VAC/DC | pot. free contact | 250 VAC, 0.1A / 30 V, 0.5 A | SB 1.0 |

Product views / Application

InBin-FR6



Description

The new InBin-FR... frost protection thermostat generation (available with 3m and 6m capillary length) is a revolution for switching sensors in HVAC systems, in chemical, pharmaceutical, industrial and Offshore-/Onshore plants.

IP 66 protection, small dimension, universal functions and technical data guarantee safe operation even under difficult environmental conditions.

Highlights

- ▶ Industrial sensor
- ▶ Integrated junction box
- ▶ Power supply 24 VAC/DC
- ▶ Output potential free switching contact
- ▶ LED for switching state indication
- ▶ Compact design and small dimension (L × B × H = 177 × 107 × 66 mm)
- ▶ Robust aluminium housing in protection class IP 66
- ▶ Down to -20°C ambient temperature applicable

| Technical data | InBin - FR... |
|----------------------------------|--|
| Power supply | 24 VAC/DC \pm 20% (19,2...28,8 VAC/DC) 50...60 Hz |
| Current, power consumption | 150 mA, \sim 4 W, internal fuse 500 mA, without bracket, not removable |
| Galvanic isolation | Supply – output 1,5 kV |
| Electrical connection | Terminals 0,14...2,5 mm ² at integrated junction box |
| Cable entry | 2 \times M16 \times 1,5, cable diameter \sim \varnothing 5...10 mm |
| Protection class | Class I (grounded) |
| Display | Actual value indication via LEDs - green: temperature is over setpoint, LEDs – red temperature is under the setpoint |
| Housing protection | IP66 in acc. to IEC 60529 |
| Housing material | Aluminium casting, coated |
| Dimension / weight | L \times W \times H = 177 \times 107 \times 66 mm / \sim 950 g |
| Ambient temperature/-humidity | - 20...+ 50 °C / 0...95 % rH, non condensed, max. temperature capillary +80 °C |
| Maintenance | Maintenance free, nevertheless maintenance must be complied with regional standards, rules and regulations |
| Capillary Length | InBin-FR3: 3m \pm 15cm / InBin-FR6: 6m \pm 20cm |
| Active capillary length | \sim 40 cm |
| Minimum capillary bending radius | 2 cm |
| Temperature range | - 10°C...+ 15°C |
| Hysteresis | \sim 6 K |
| Accuracy of threshold | \pm 3 K |
| Start delay | 5 sec. |
| Output switch | Potential free switching contact |
| Ratings load max. | 0,5 A @ 30 VAC/DC / 0,1 A @ 250 VAC / 0,1 A @ 220 VDC |
| Ratings load min. | 10 mW / 0,1 V / 1 mA |
| Mechanical life | 10 \times 10 ⁶ |
| Electrical life (rated load) | 100 \times 10 ³ |
| Wiring diagram (SB) | SB 1.0 |
| Installation sensor / tubing | safe area |

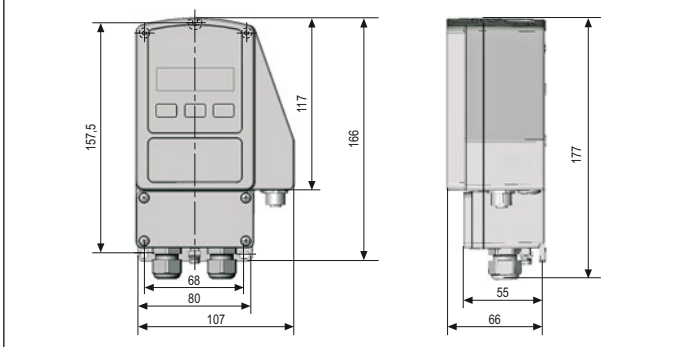
Approvals

| | |
|-----------------------|--|
| CE-Mark | CE |
| EMC directive | 2004/108/EC |
| Low voltage directive | 2006/95/EC |
| Protection type | IP 66 in acc. to EN 60529 |
| Elect. safety | Protection class I (grounded), Over voltage category II acc. to. EN 61010-1 |

Accessories

| | |
|----------------------|---|
| Installation kit 1.3 | Assembly cramp and 4 assembly brackets for InBin-FR3 |
| Installation kit 1.6 | Assembly cramp and 8 assembly brackets for InBin-FR6 |
| MKR | Mounting bracket for round ducts up to \varnothing 600 mm |

Dimensions / Drillings



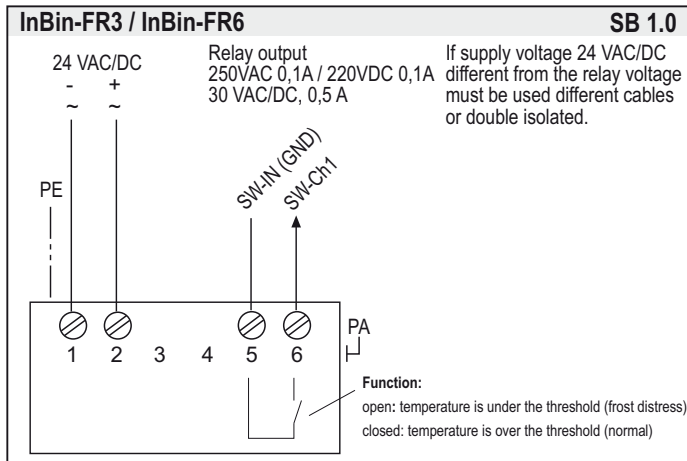
Electrical connection

InBin-FR... transducers are equipped with a 24 VAC/DC power supply. The supply has to be connected at terminal 1 (-/~) and 2 (+/~). The electrical wiring must be realized via integrated junction box.

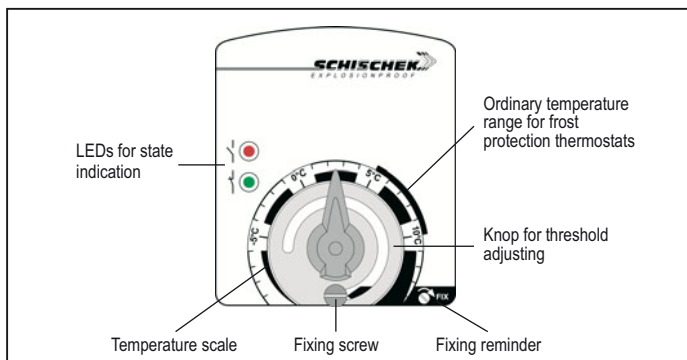
If supply voltage 24 VAC/DC different from the relay voltage must be used different or double isolated cables.

Attention: Do not open covers when circuits alive!

Wiring diagram InBin-FR (terminal box)



Display and Buttons



Important information for installation and operation

Installation, Commissioning, Maintenance

The cable has to be drawn through the cable gland. After electrical connection the cable gland must be fixed tight. IP66 must be fulfilled.

In acc. with operation InBin switches are maintenance free. Nevertheless maintenance must comply with regional standards, rules and regulations.

The sensors must not be opened by the customer. For outdoor installation a protective housing against rain, snow and sun should be applied. For electrical connection use the internal junction box.

Attention: Note the national rules before opening the internal junction box. Cut off the power supply.

A. Supply and Contact

Wires from safety extra low voltage must be separated from others. Only at 24 VAC/DC is supply and signal wires in one cable permitted. All others use separate or double isolated cables. Install overload protection fuse < 10 A.

B. Long cabling

For using long signal wires, shielded cables are recommended. The shield must be connected to the InBin-... switch inside the terminal box.

C. Separate ground wires

Use for supply and signal wires a separate ground.

Installation

