

Device description

FW113H5 Duct frost protection monitor

Application

The FW113H5 duct frost protection monitor provides large-area temperature monitoring behind air heaters in ventilation and air conditioning systems.

Type

FW113H5 Duct frost protection monitor with a potential-free changeover switch

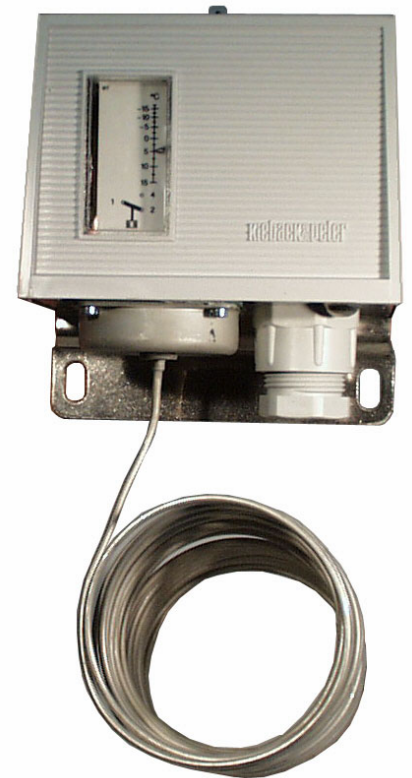
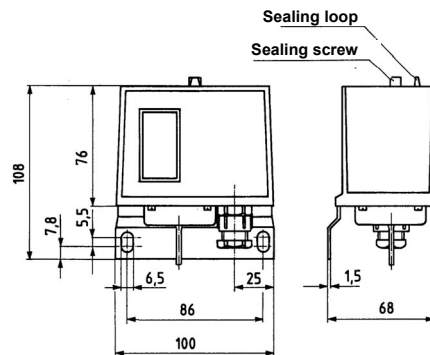
Technical data

Output	Potential-free changeover switch, with reset, max. 16A/AC 250V switching difference approx. 3K
Setting range	Setpoint: 2..13°C, factory setpoint: 5°C
Measuring system	Copper capillary tube, length: 6m. Self-monitoring: frost protection switching is enabled if a damage occurs. Max. temperature at capillary tube: 150°C
Connection	Connection terminal in housing, cable entry PG16
Ambient temperature	At switch housing Maximum temperature: 60°C, Minimum temperature: 4K higher than the setpoint
Degree of protection	IP66
Cover pin	Cover screw can be sealed
Installation position	Capillary tube at the bottom

Accessories

H5 Five capillary tube holders (included)

Dimensions




Installation



Caution

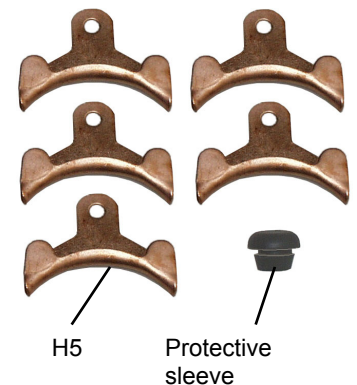
Installation may only be carried out by qualified technicians.

- The FW113H5 duct frost protection monitor is mounted on the console with 2 screws on a flat, vibration-free mounting surface. Installation position: Capillary tube at the bottom.
- Use the protective sleeve provided for the duct hole to guide the capillary tube into the ventilation duct (drill hole Ø 11).
- Select an installation location where the minimum ambient temperature at the switch housing is at least 4K warmer than the setpoint. This also applies for parts of the capillary tube that are outside the air heater.

 **Note** If the ventilation unit is located outdoors or the minimum ambient temperature outside the ventilation duct cannot be ensured, the switch housing in the ventilation unit must be installed behind the air heater.
- The capillary tube must be attached to the switch housing as it is unraveled. Do not damage or kink the capillary tube. The H5 capillary tube holders simplify installation, prevent sharp kinks, and hold the capillary tube in place.
- The 6 m long capillary tube is active along its entire length. The frost protection switching responds to temperatures that are too low at any point along the capillary tube. Install the capillary tube in the direction of the air flow behind the air heater so that the coldest part of the heating coil is recorded.

Included

5 H5 capillary tube holders and protective sleeve for capillary tube entry into the ventilation duct (drill hole Ø 11)

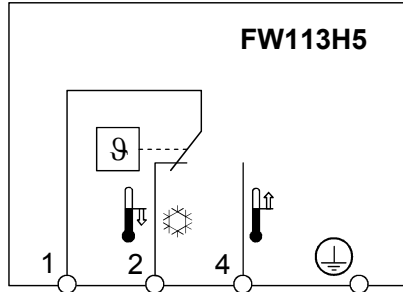


Installation



Electrical installation and unit connection may only be carried out by qualified technicians, e.g. an electrician.

Be sure to comply with local wiring regulations.
The unit must be connected in accordance with the applicable system circuit diagram.



Switching function

The FW113H5 duct frost protection monitor is delivered with a factory setting of 5°C.

If the temperature falls to the factory setpoint of 5°C, the changeover switch switches from terminals 1 – 4 to 1 – 2.

When the temperature rises approx. 3K above the factory setpoint, the changeover switch automatically resets.

Contact position 1 – 2 shows danger of frost.

Setting the setpoint / Testing functionality



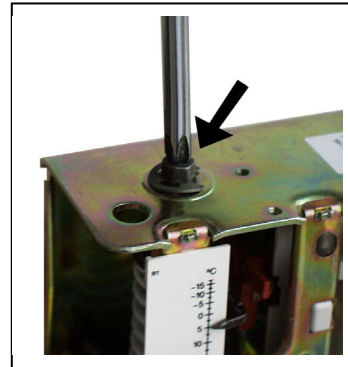
Mains voltage 230V

Only a qualified technician may set the setpoint and test switching functionality. The unit must be disconnected from the power supply when doing so.

The FW113H5 duct frost protection monitor is delivered with a factory setting of 5°C.

If required, this setting may be adjusted as follows:

- Switch off mains power supply.
- Remove the cover (loosen 1 cover screw).
- Adjust the setpoint by turning the setting screw with a screwdriver.
- Replace the cover and screw tightly into place.
- Switch on mains power supply.



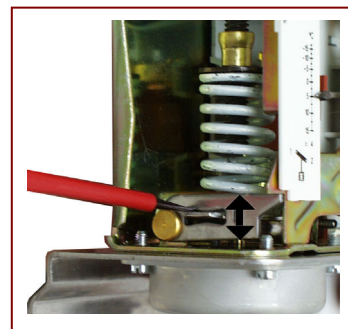
The contact function of the FW113H5 duct frost protection monitor can be tested by the commissioning technician as follows:

- Switch off mains power supply.
- Remove the cover (loosen 1 cover screw)
- Test contact function:
Press with a screwdriver to operate the lever plate (see adjacent figure)

Lever plate: up = Contacts 1 – 2 open
 Contacts 1 – 4 closed
 No risk of frost

Lever plate: down = Contacts 1 – 2 closed
 Contacts 1 – 4 open
 Risk of frost

- Replace the cover and screw tightly into place.
- Switch on mains power supply.



During commissioning, the frost protection switching of the entire system can be triggered and tested by spraying the capillary tube with cold spray along a length of about 20 – 30cm.

