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Humidity add-on switch to monitor the formation of condensed water FAS 250VAC

Order no. 42081012

Description of the switch

The hygrostat module on PCB with Polyga® measuring element is arranged on a base plate such that the measuring element is immediately next to the base plate. Protected by the housing, relative humidity near to dew point can form in the interior. The base plate is adjacent to the cooling pipe and transfers coldness to the measuring element. The set point can be adjusted in the interior and has to be adapted accordingly to the local conditions. The microswitch of the hygro module switches a changeover contact potential-free. The humidity add-on switch does not require a supply voltage resp. auxiliary energy.

Adjusting the switching point

It is important to adjust the correct switching point for the equipment. A set point value that is too high can cause dew to form as the conditions at the measuring point are not constant. The measuring point of the humidity controller should be selected such that there is no build-up of condensate on or in the device.
Tests have shown that good results are achieved at a switching point of 80%rh. The set point can be adapted to the equipment. Open the covering cap for that purpose and finely adjust the set point.

Technical Data

range of operation ..... 50...95%rh
accuracy ..... +/-3%rh
switching difference
(microswitch) ref. to 50%rh ..... approx. 4%rh

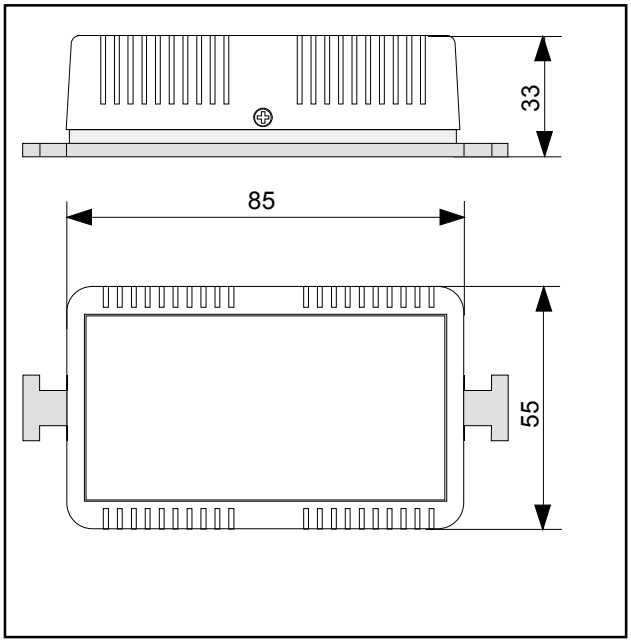
breaking capacity
max. 250VAC and
0,1 ... 5A ohmic load for dehumidifying
0,1 ... 1A for inductive load with cos φ = 0.7
lifetime ..... 100.000 breaking cycles

allowable operating temperature ..... 0...60°C
temperature coefficient ....
..... -0.2%rh/K relating to 20°C and 50%rh
half-life period at v=2m/sec 1.2min
mounting position ..... as you like
contacting ..... connecting terminals

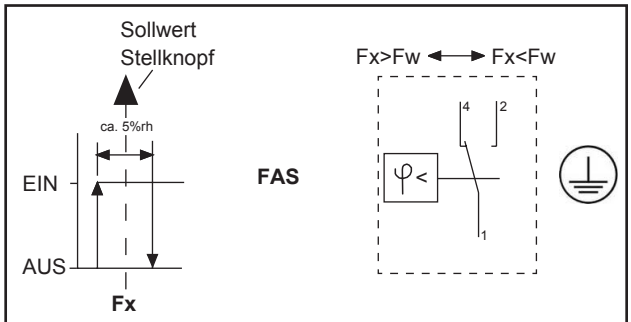
purpose of sensing control ..... humidity sensing control
nominal cross-sectional area of the conductors.....
..... up to 2.5 mm^2 for fixed wiring conductors (single wire)
.... up to 1.5 mm^2 for flexible cord conductors (fine-stranded)
type of protective earth conductor ..... bow terminal
action 1.C.L
degree of pollution 3
rated impulse voltage 4kV
ball indentation test for temperature ..... 92°C
electromagnetic compatibility
directive 2006/95/EG
applied standards
DIN EN 60730-1 ..... issue 12/10
DIN EN 60730-2-13 ..... issue 09/08

protective system IP20
measuring element .....
.....Polyga®-measuring element, water resistent
dimensions 115x70x47mm
weight ..... approx. 92 g

Dimensions diagram



Connection diagram



The electrical connection must only be carried out by properly qualified personnel.
It is essential to ensure that the device is earthed via an accordingly marked earthing screw.

Fx actual value of the relative humidity
Fw setpoint value of the rel. humidiy set at the adjusting knob

If the rel. humidity Fx (actual value) falls below the setpoint value Fw, contact 1/4 opens and contact 1/2 closes.

Notes on use

If condensed water formation is to be monitored in a room, the most humid position should first be established. The coldest position does not necessarily have to be the most humid position (see hx diagram). Please ensure that any changes in the room do not result in a different, more humid spot. The humidity add-on switch FAS 250VAC must be mounted in such a way that there is good heat contact with the selected position. Please note also that any condensate must not get into the interior of the housing. Attachment is made by using the supplied binders which can be used for pipes with diameters of up to 50mm.The housing must not be exposed to any outside heat as this may cause incorrect measurements.
The mounting location should be chosen so that a representative measurement of the air humidity can be guaranteed, i.e. the ambient air must be able to reach the measuring element within the casing without obstacles. The FAS 250VAC should be exposed to the flow of air with a minimum air speed of 0.2 m/s.

MAINTENANCE

The measuring element is maintenance-free in pure ambient air. Aggressive media containing solvent can cause measuring errors depending on the type and concentration. As with almost all humidity measuring elements, deposits which eventually form a water-repellent film over the measuring element are harmful (such as resin aerosols, lacquer aerosols, smoke deposits etc.).

No warranty is provided for defects and damage caused either by improper use or by any interference with internal components.

Notes on voltage
The measurement location of the humidity controller should be selected such that there is no build-up of condensate on or in the device. This applies particularly for operation with a voltage higher than 48V. If the voltage is higher, there is a risk of voltage arcing in the event of water condensation on the microswitch or connecting terminals which might destroy the controller.