

DEW POINT SENSOR TF 3 G/M-22 AND TF 3 P/R-22

for surface mounting in cooling ceilings as well as on cold water-carrying pipes and systems to protect against condensation

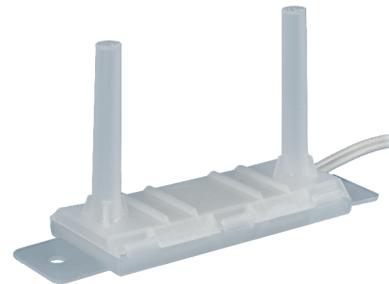


product data sheet

dew point sensor TF 3 G/M-22



dew point sensor TF 3 P/R-22



FIELD OF APPLICATION

Description	TF 3 G/M-22	TF 3 P/R-22
suitable for	<ul style="list-style-type: none">▪ gypsum board ceilings with applied capillary tube mat▪ metal panel/metal tile ceilings with glued capillary tube mat	<ul style="list-style-type: none">▪ plaster ceilings with integrated capillary tube mat▪ cold water-carrying pipes

FUNCTION

The Clina dew point sensor TF 3_ is suitable for surface mounting in chilled ceilings and on pipes and systems that transport cold water. There it reliably and accurately monitors the dew point, i.e. the moment at which the moisture in the air begins to condense.

The Clina dew point sensor registers any condensation that may occur on the cooling ceiling or on cold water-carrying pipes and changes its electrical resistance in the process. This resistance change in the sensor is detected by the room temperature controller type TR 1 B, TR 2/3 or TR 2/3 F, leads to the closing of the control valve and thus effectively protects the chilled ceiling from damage by condensation. If a central control system is used a switching signal is provided via the converter type TK 1-PF or TK 2-PF if there is a risk of dew point.

Two variants are available, the TF 3 G/M-22 and TF 3 P/R-22, which differ only in the housing shape.

MEASUREMENT PRINCIPLE

The Clina dew point sensor consists of a circuit board with high electrical resistance. As air humidity increases, the conductivity of the sensor also increases respectively the resistance de-creases. If the resistance reaches a value of approx. 8 M Ω due to an increase in humidity, the controller switches off cooling. It is switched on again when the resistance has increased to approx. 16 M Ω due to lower humidity.

FUNCTIONAL TEST

The only way to check the proper functioning of the dew point sensor is to moisten the sensor. To do so, you have to moisten the dew point sensor (in an electrically connected state) by spraying or breathing on it. This should have the effect that the cooling switches off. The electrical resistance is not a defined value and in a dry state the value is approx. 16 M Ω or even higher, depending on temperature and humidity. In any case, the decisive factor is the decrease of resistance and the related switching of the room temperature controller or converter in the event of a risk of condensation.

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TECHNICAL DATA

Description	TF 3 G/M-22	TF 3 P/R-22
Field of application	<ul style="list-style-type: none"> gypsum board ceiling metal panel/metal tile ceilings 	<ul style="list-style-type: none"> plaster ceilings pipes
Figure		
Material	housing: plastic circuit board: gold plated	housing: plastic circuit board: gold plated
Fixing material	clips: polypropylene	Omegaclips: polypropylene
Dimensions housing L x W x H	70 mm x 20 mm x 7 mm	70 mm x 20 mm x 7 mm
Connecting cable	2-core cable length 10 m, 2 x 0,14 mm ² (extendable up to 50 m with shielded cable, non-halogen)	2-core cable length 10 m, 2 x 0,14 mm ² (extendable up to 50 m with shielded cable, non-halogen)
Connection exclusively for direct connection	<ul style="list-style-type: none"> to room temperature controller TR 1 B, TR 2/3 or TR 2/3 F to central control system via converter TK 1-PF or TK 2-F 	<ul style="list-style-type: none"> to room temperature controller TR 1 B, TR 2/3 or TR 2/3 F to central control system via converter TK 1-PF or TK 2-F
Operating voltage	24 V AC/DC 50 Hz	24 V AC/DC 50 Hz
Supply voltage	<ul style="list-style-type: none"> from room temperature controller from converter 	<ul style="list-style-type: none"> from room temperature controller from converter
Allowed ambient temperature	0...50 °C	0...50 °C
Switching point for dew point	approx. 8 MΩ corresponds to approx. 95 % rel. humidity	approx. 8 MΩ corresponds to approx. 95 % rel. humidity