

Device Description

LRF205 Duct Humidity Monitor

Application

The LRF205 duct humidity monitor with two changeover switches is used to monitor and provide 3-point control of the relative humidity in ventilation ducts. Setpoints are set directly on the duct humidity monitor.

Type

LRF205 Duct humidity monitor with two changeover switches for 3-point control

Technical Data

Output 2 changeover switches, voltage-free, switching difference 3% to 6% RH max. AC 250 V, 15 (2) A with non-condensing air, max. AC 24 V in damp spaces
Switching distance of second changeover switch 0% to 15% RH, can be adjusted

Measuring range 30% to 100% RH, working range 35% to 100% RH

Measuring accuracy ± 3.5% RH for > 50% RH / ± 4.0% RH for < 50% RH

Time constant T = 120 s at 2 m/s air velocity

Medium Air, solvent-free, non-aggressive

Temperature Working range: 0°C to +60°C

Air velocity up to 8 m/s, up to 15 m/s with gauze protector (GF2), accessories

Installation position Measuring tube can be installed anywhere from vertically downward to a horizontal position

Degree of protection IP64

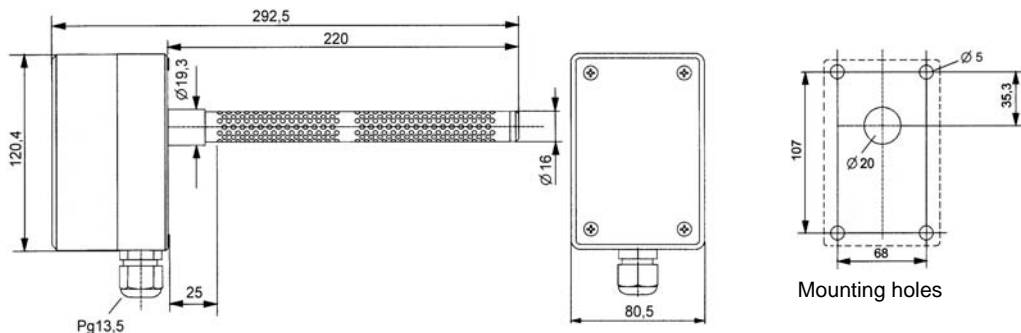
Weight Approx. 0.7 kg



Accessories

GF2 Stainless steel gauze protector to protect against wind for air velocities up to 15 m/s

Dimensions



Installation

Use four screws to mount on the duct after taking off the hood, see fig. "Mounting holes".

Installation



Danger

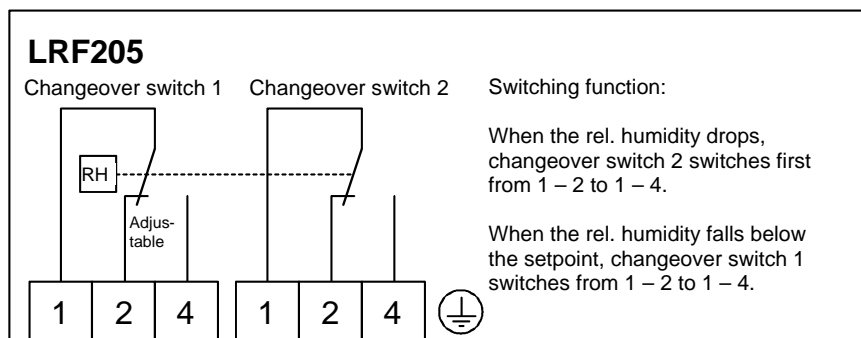
Mains voltage: 230 V

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

Ensure that this process complies with guidelines from the VDE (Association for Electrical, Electronic & Information Technologies) and local wiring regulations.

The device must be connected in accordance with the applicable system wiring diagram.

Connection



Subject to change

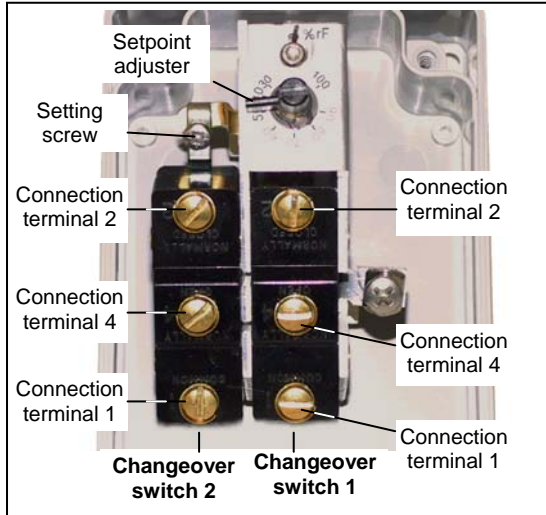
Edition: November 5, 2001

Setting



Mains voltage: 230 V

Settings can only be made on the humidity monitor when the unit is disconnected from the power supply. This may only be carried out by qualified technicians, e.g. the commissioning technician.



The setting knob is located beneath the hood.

Before removing the hood, the power supply of the humidity monitor must be switched off.

Changeover switch 2 switches from terminals 1 – 2 to 1 – 4 when the rel. humidity drops 0% to 15% RH above the setpoint, depending on the setting.

Delivery setting: 6% RH above the setpoint setting.

When the rel. humidity drops, changeover switch 1 switches to the setpoint of terminals 1 – 2 to 1 – 4.

The changeover switch switches back when the rel. humidity increases with a switching difference of 3% to 6% RH.

The switching distance of changeover switch 2 is set on the setting screw. Switch counter-clockwise to increase the switching distance and clockwise to decrease it (1 turn corresponds to approx. 2% RH).

Maintenance

When operated in clean air, the measuring element requires no maintenance.

Depending on type and concentration, polluted or aggressive air, and air containing solvents can cause errors in measurement.

Provided that no damage has been caused by acids, alkalis or other aggressive substances, the functionality of the measuring element can be restored by cleaning it.



Only qualified technicians may clean the measuring element.

Prior to cleaning, the power supply must be switched off and the air duct disconnected from the humidity monitor.

To clean the measuring element, both the measuring tube and the measuring element should be immersed in clear water (20°C). Dirt residue on the surface of the measuring element can be removed with gentle strokes.

We recommend adding a delicate detergent to the water to remove greasy dirt. Since delicate detergents contain chemical substances, the parts must be rinsed in clear water after cleaning.



The measuring system is open to the interior of the housing. The measuring tube may only be immersed vertically to approx. 25 mm below the base of the housing (max. immersion depth approx. 195 mm, measuring tube perforation).

The housing, which includes the switching system, may not come into contact with water since this may cause a short-circuit.

After cleaning, while wet, the humidity monitor displays 100% RH and must be air-dried.

Warning Do not dry with warm or hot air (hairdryer); this will damage the measuring element.

After cleaning and drying the humidity monitor, check the switching point at a constant ambient humidity.

Use the adjustment screw at the end of the measuring tube to make any adjustments.

Clockwise = Lower measurement value

Counter-clockwise = Increase measurement value

After adjustment, re-secure the adjustment screw with locking compound.