

HSC 120: Room humidistat

How energy efficiency is improved

Enables humidity control devices to be switched on according to needs

Features

- Monitoring and regulation of relative air humidity in rooms by controlling fans, drying units and air humidifiers
- Variable relative humidity as setpoint based on printed scale in % rh
- Measurement taken via a measuring element of stabilised synthetic textile tape.
- Micro-switch with single-pole changeover contact

Technical data

Power supply		
	Max. load	5(3) A, 250 VAC
	Min. load	100 mA, 24 VAC/DC
Parameters		
	Setting range	30...90% rh, no condensation
	Setting accuracy ¹⁾	± 5% rh
	Humidity calibration at	55% rh, 23 °C
	Switching difference X_{sd} ²⁾	Typ. 8% rh (approx. 3% rh at adjustment point)
	Switching tolerance	Max. 3% rh
	Long-term stability	Approx. -1.5% rh/a
	Time constant in moving air (0.2 m/s)	Approx. 5 minutes
	Temperature effect	0.5% rh/K
	Switching cycles	> 100 000
Ambient conditions		
Operation	Temperature	0...50 °C
Storage and transport	Ambient humidity	10...95% rh non-condensing
	Temperature	-25...70 °C without condensation
Construction		
	Dimensions W × H × D	76 × 76 × 34 mm
	Weight	0.1 kg
	Housing	Pure white (RAL 9010)
	Housing material	Plastic, flame retardant, UL94 V0, UV stabilised
	Connection terminals	Screw terminals, for wire or braid, 0.5...1.5 mm ² (AWG 21...16)
Standards, directives		
	Type of protection	IP 30 (EN 60730-1), operating status
	Protection class	II (EN 60730)
	Environment class	3K3 (IEC 60721-3-3)
CE conformity according to	EMC Directive 2014/30/EU	EN 60730-1
	Low-Voltage Directive 2014/35/EU	EN 60730-1, EN 60730-2-11
	RoHS-D 2011/65/EU & 2015/863/EU	EN IEC 63000
Overview of types		
Type	Features	
HSC120F002	Room humidistat with external setpoint adjuster	
HSC120F012	Room humidistat with internal setpoint adjuster	

¹⁾ The setting accuracy of the humidistat is valid for the calibration point ±5% rh at 55% rh and 23 °C following initial calibration at the factory. See diagram "Setting accuracy". In general, humidity sensors (humidistats) are subject to increased ageing if they are used and/or stored in very contaminated air or aggressive gases. The humidistat may start to drift and its linearity may change under these conditions. If used in very contaminated air, the warranty does not cover a premature re-calibration or the replacement of the complete humidistat.

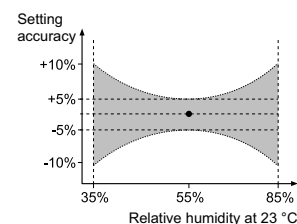
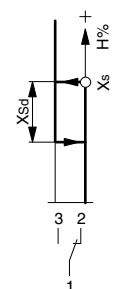
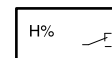
²⁾ The switching difference depends on the ambient temperature.



HSC120F002



HSC120F012



Accessories

Type	Description
0362225001	Intermediate plate, pure white, for wall mounting on recessed junction box

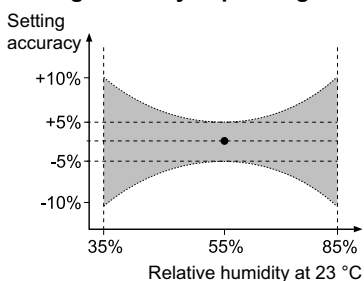
Description of operation

The HSC 120 room humidistat switches equipment such as a fan or humidifier on and off to regulate the relative humidity. Depending on the type, the switching point can be specified via an external or internal setpoint adjuster.

The measuring element consists of a synthetic textile strip with hygroscopic properties.

When the relative air humidity in the room is increasing, contacts 1-2 are opened and 1-3 closed after the setpoint has been reached. Setpoint X_S corresponds to the upper change-over point. The contact is reset when the humidity value has fallen back below the upper switching point by the switching difference X_{SD} and the switching hysteresis has been exceeded.

Setting accuracy depending on the relative humidity



Intended use

This product is only suitable for the purpose intended by the manufacturer, as described in the "Description of operation" section.

All related product regulations must also be adhered to. Changing or converting the product is not admissible.

Improper use

HSC 120 is not suitable for safety applications.

The product must not be used outdoors or in rooms where there is a risk of condensation. Condensation can have a negative effect on the measuring accuracy.

Engineering and fitting notes

Notes



- The room humidistats may only be opened, installed and connected by a qualified electrician.
- A qualified electrician is required to adjust the setpoint on the HSC120F012 with an internal setpoint adjuster. The external setpoint adjuster of the HSC120F002 may also be operated by non-professionals without restriction.
- Brass parts of the product may contain lead. U.S. California Proposition 65 was not taken into consideration.

Fitting

The HSC 120 is suitable for recessed and surface mounting. The housing base has feeds for cables from the wall. With surface-mounting, openings can be made above or below as required.

NOTICE!



- Impairment of function and calibration.
 - ▶ Do not touch internal parts, such as the measuring element or synthetic textile strip and its mountings.

A fitting height of 140 to 150 cm is recommended. The distance to a device above must be at least five millimetres.

The bottom part of the device can be pre-assembled and wired separately from the cover.

Route the power cable according to the standard and protect it from mechanical stress.

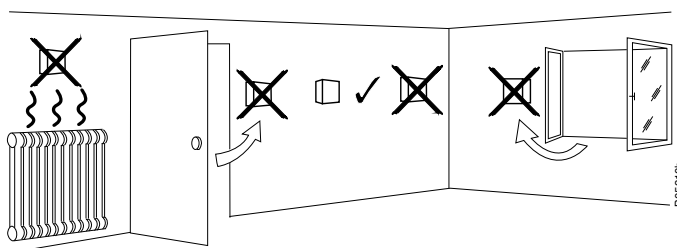
**Note**

The following fitting instructions must be observed:

- Incorrect fitting can lead to incorrect measuring results. The place of installation must also be chosen carefully to ensure reliable measurement.
- During operation, the device must be firmly screwed in place and free from vibrations. Open operation without cover is not permitted.
- The air vents must not be covered or sealed.

Avoid:

- Poorly insulated exterior walls
- Heat sources (e.g. radiators, lamps, heating pipes)
- Doors and windows with draughts
- Direct sunlight
- Corners of rooms and alcoves
- Proximity to wardrobes, cupboards, shelves and other furnishings. These can prevent the flow of room air around the sensor.



Also, air flowing from the ducts and pipes of the electrical installation can cause measurement errors. Empty pipes and installation pipes should therefore be well sealed.

Switching point shift

The normal ageing process of the measuring element causes a gradual and persistent shift in the switching point. This means recalibration may be necessary.

At temperatures other than the compensation temperature, the switching point is shifted systematically (temperature effect). Similarly, if the humidity changes quickly, the change-over point is shifted temporarily.

Removal

Disconnect the device from the power supply before disassembly.

Remove the device cover as follows:

1. Insert a flat blade screwdriver about 7 mm wide into the first notch at the bottom edge and carefully push up the latch until the cover is released.
2. Repeat the first step with the second notch.
3. Tilt off the cover slightly and remove it.

Additional information

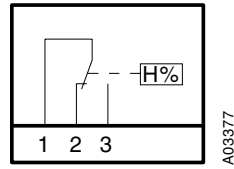
Fitting instructions for HSC120F002	P100013519
Fitting instructions for HSC120F012	P100013250
Declaration on materials and the environment	MD 24.013

Disposal

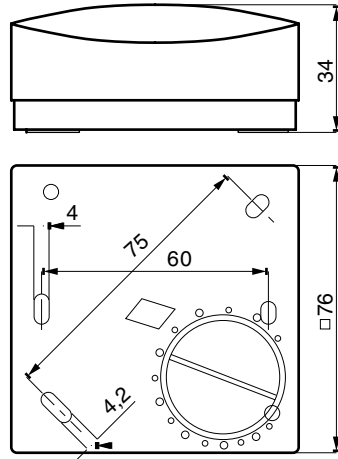
When disposing of the product, observe the currently applicable local laws.

More information on materials can be found in the Declaration on materials and the environment for this product.

Connection diagram



Dimension drawings



Accessories

0362225001

