SIEMENS

QFA1...



Room Hygrostats

for relative humidity

- Hygrostat with single-pole microswitch
- · Humidity measuring element made of stabilized plastic texture
- Setpoint knob for the upper switching point
- For controlling humidification equipment
- · For controlling dehumidification equipment
- · For mounting directly on the wall or on a recessed conduit box

Use

The room hygrostats are used for controlling and monitoring relative humidity in ventilation or air conditioning plant.

They ensure room humidity control within the selectable range of 30 to 90 % relative humidity by controlling humidification or dehumidification equipment.

They can also be used for monitoring minimum or maximum humidity levels.

Type summary

Туре	Setpoint setting	Switching differential ¹⁾		Setpoint
reference	range	Statically	Dynamically	knob
QFA1000	30…90 % r. h.	Approx. 4 % r.h.	6 % r.h.	Internally
QFA1001	3090 % r. h.	Approx. 4 % r.h.	6 % r.h.	Externally

1) The static switching differential is determined at a constant ambient humidity by turning the setting knob.

The dynamic switching differential is determined by changing the ambient humidity while maintaining the same setpoint adjustment; only the dynamic switching differential is of practical value.

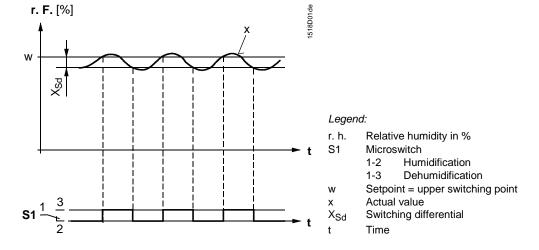
Building Technologies

When ordering, please give name and type reference, e.g.: Room hygrostat QFA1001

Mode of operation

The room hygrostat acquires the relative humidity of the ambient air via its humidity measuring element, which is made of stabilized plastic texture. This plastic band actuates a microswitch depending on the relative humidity. The microswitch has a fixed switching differential Xsd and a potential-free contact output. If the actual humidity deviates from the adjusted setpoint, the hygrostat switches the humidification or dehumidification equipment as shown in the following function diagram.

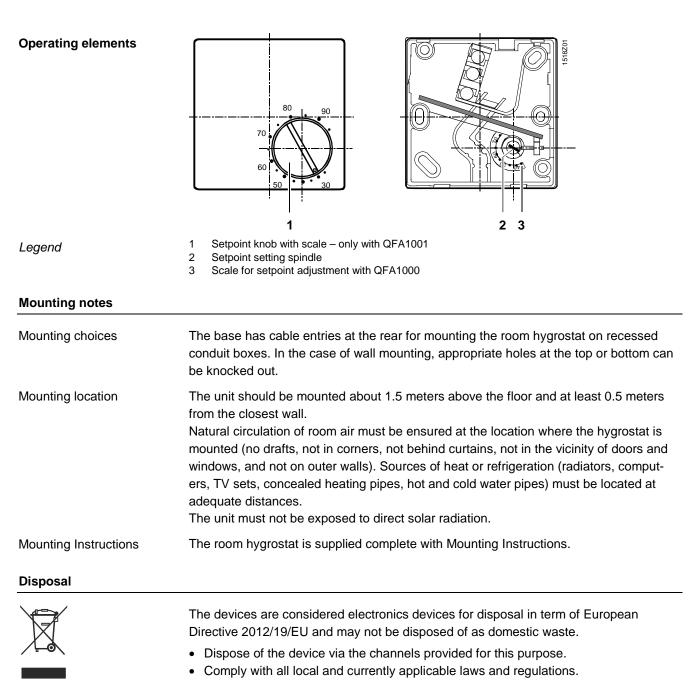
Function diagram



Due to the measuring element's aging effect, the switching point drifts slowly and constantly. For this reason, recalibration may be required in due time. At temperatures other than the calibration temperature, the switching point drifts systematically (temperature influence). Also, in the case of fast humidity changes, the switching point will temporarily be shifted.

Mechanical design	
QFA1001	The room hygrostat is designed for wall mounting. It fits on most commercially available recessed conduit boxes. The cables are introduced either from the rear (recessed conduit boxes) or from above (surface-run wires), after knocking out the cable inlet tongues.
	The unit consists of base and cover.
	Base and cover can be separated (snap-on connection).
	The base accommodates the humidity measuring element, setpoint setting element with setting spindle, scale, microswitch and screw terminals. The cover carries the removable setpoint knob with its imprinted scale.
QFA1000	This model is of the same basic design as the QFA1001, but there is no external setpoint knob. The setpoint can only be adjusted when the cover is removed.

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Technical data

Functional data	Setpoint setting range	3090 %	
	Humidity measuring element	stabilized plastic texture band	
	Control mode	2-position	
	Time constant (v = 0.2 m/s)	approx. 5 min	
	Switching differential X _{Sd}	refer to "Type summary"	
	Setting accuracy ¹⁾	±5 % r.h.	
	Temperature influence	+0.5 % r.h./K	
	Humidity calibration at	55 % r.h., 23 °C	
	Long-term stability	approx1.5 % r.h./a	
	Type of switch	microswitch (1-pole potential-free changeover switch)	
	Contact rating		
	Maximum	5(3) A, AC 250 V	
	Minimum	100 mA, AC 24 V	
	External protection	Fuse slow max. T5A	
Degree of protection	Protection degree of housing	IP20 according to EN 60529	
	Protection class	II according to EN 60730-1	
Electrical connection	Screw terminals for	max. 2 x 1.5 mm ²	

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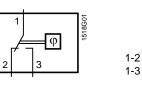
Environmental conditions	Perm. ambient temperature	040 °C
	Noncondensing	−25+40 °C
Materials and colors	Base	PPS Fortron, glassfiber-reinforced, black
	Cover	PC Lexan 940, pure-white
	Humidity measuring element	plastic texture
Directives and Standards	Product standard	EN 60730-1
		Automatic electrical controls for household
		and similar use
	EU Conformity (CE)	CE1T1518xx ²⁾
Weight	QFA1001	0.090 kg
	QFA1000	0.090 kg

1) Can be improved by recalibrating on site

2) The documents can be downloaded from http://siemens.com/bt/download.

Connection diagrams

Internal diagram



Humidification Dehumidification

Connection diagrams

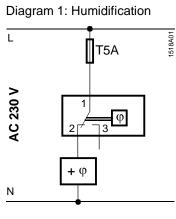
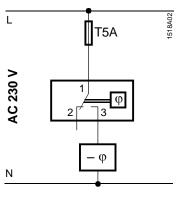
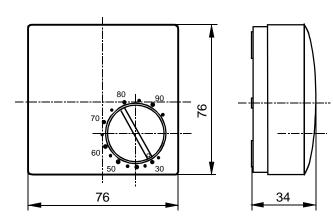


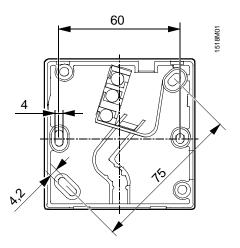
Diagram 2: Dehumidification



Dimensions

QFA1000, QFA1001





Dimensions in mm

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