



Product info sheet
Room humidistat

with Polyga®- humidity measuring element **HG120**
 with one or two changeover contacts **HG120-2**
 or inner rotary knob **HG120i**
HG120-2i

Technical Data

measuring element Polyga®-measuring element,
 water resistant
 control range 40...90%rh
 breaking capacity
 max. 250VAC and
 0.1 ... 5A ohmic load for dehumidifying
 0.1 ... 2A ohmic load for humidifying
 0.1 ... 1A for inductive load (power factor >0.8)
 lifetime > 6.000 breaking cycles
Please observe the notes on voltage.

optional microswitch with gold contact

breaking capacity
 max. 48 VAC and
 1...100 mA

optional microswitch up to 10 A

max. 250VAC and
 0.1 ... 10A ohmic load for dehumidifying
 0.1 ... 3A ohmic load for humidifying
 0.1 ... 1.5A for inductive load (power factor >0.8)

allowable ambient temperature 0...60°C
 air-speed 0.2...8 m/s
 installation altitude ≤ 4.000m above sea level
 influence of temperature
 ref. to 23 °C ≤ +/- 0.2 % r.h. / K
 typ. response time t_{50} at v=2m/s 1.2min
 fixing slots in housing base
 installation position preferably with ventilation slots
 at right-angles to wind direction
 contacting connecting terminals

applied directives / standards

low-voltage directive 2014/35/EU
 EMC directive 2014/30/EU
 DIN EN 60730-1:2012-10
 DIN EN 60730-2-13:2008-09

action 2.C
 rated impulse voltage 4 kV
 ball indentation test for temperature 92°C
 housing solid plastic, light grey
 protective system IP20
 degree of pollution 2
 dimensions 115x70x47 mm
 weight approx. 120 g

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. In the case of voltage below 48V, the humidity controller can be used up to 100%rh.

Type Survey

Type	Order no.	Type of contact
HG120	42042011	changeover contact: 1 x max. 5 A
HG120-2	42042221	changeover contact: 2 x max. 5 A
HG120i	42042012	changeover contact: 1 x max. 5 A, with internal scale
HG120-2i	42042222	changeover contact: 2 x max. 5 A, with internal scale
HG120 10A	42043011	changeover contact: 1 x max. 10 A

Description of the humidistat

The humidity measuring element which is manufactured by Galltec under the name Polyga®, consists of several plastic fabric bands each with 90 individual fibres with a diameter of 3 µm each. The fibres are provided with hygroscopic characteristics by a special process. The measuring element adsorbs and desorbs moisture. The effect, swelling predominantly in longitudinal direction, is transmitted via a lever system to a microswitch with a small switching distance. The measuring element responds to the change in air humidity. It is possible to adjust the lever system by setting the adjustment knob so that the microswitch is actuated when the set air humidity is reached.

The fan shaped measuring element is accommodated inside the housing and must be protected against coarse dust, dirt and water. The humidistats are designed for pressureless systems. The installation location must be selected so that condensed water cannot enter the inside of the housing. The installation position preferably with ventilation slots at right-angles to wind direction.

In the case of the humidistat type HG120-2, a second microswitch is positioned parallel to the first microswitch. The switch point of the second microswitch is connected to the switch point of the first microswitch. The switch distance (neutral zone) is set by the factory to +6%rh. (If desired other switch distances up to approx. 12%rh can be set by the factory)

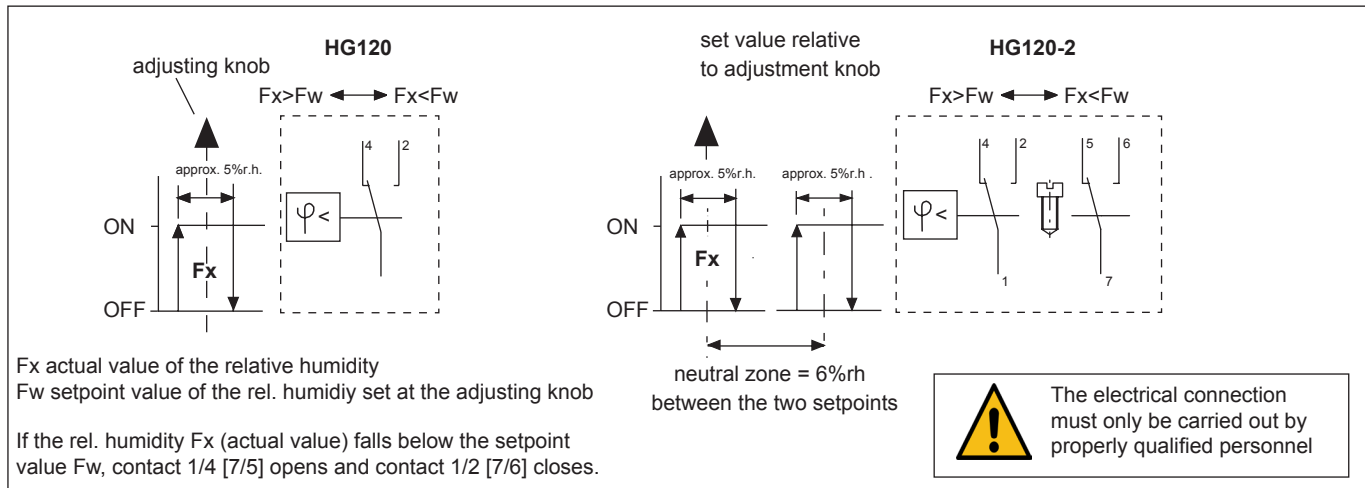
Application

The humidistat type **HG120** is used as an on-off controller to control the relative air humidity in climatic cabinets. It is used to control air humidifying and dehumidifying in offices and computer rooms. Other areas of use are storage of foodstuffs and luxury foods, cooling rooms for fruit and vegetables, greenhouses for gardening use, the textile industry, the paper and printing industry, the film industry and hospitals.

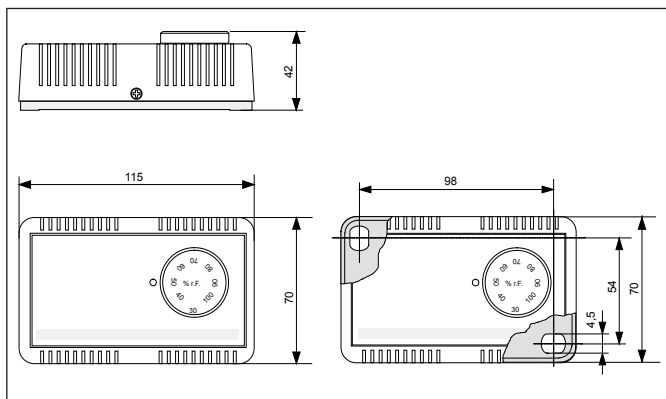
The room humidistat **HG120-2** is equipped with a 2nd microswitch. It can be used as a 2-level controller or as a max-min controller.

Room humidistats with internal adjusting knob and scale are available for all variations. These types have got a lower-case „i“ at the end, e.g. **HG120i**.

Slot diagram



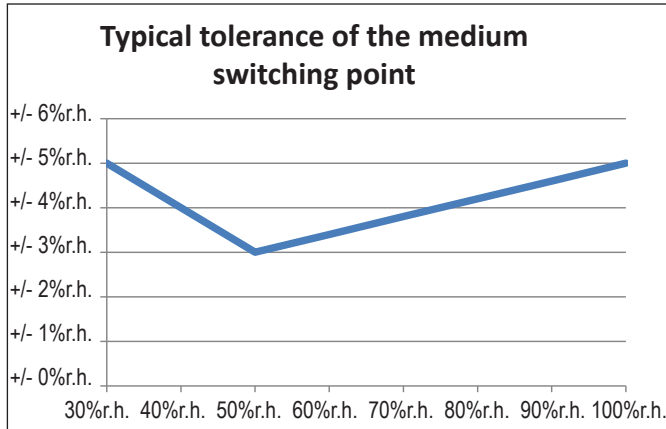
Dimensions diagram



Mounting

has to be carried out by properly qualified personnel

- * The humidistat must not come into direct contact with water, e.g. splashed water when cleaning the climatic chamber etc.
- * The mounting location should be chosen so that a representative measurement of the air humidity can be guaranteed, i.e. the humidity readings at the mounting location should correspond to those in the room as far as possible.
- * The humidistat should be exposed to the flow of air.
- * When mounting the humidistat on a patress, avoid external air getting onto the humidity measuring element of the humidistat by sealing it appropriately.



1-point-adjustment at 48 % r.h. / 23 °C
 Long-term drift: $\leq \pm 1\%r.h.$ p.a.

Cleaning instruction

1. Disconnect the device from the power supply
2. Remove the cover. Clean the cord shaped measuring element using a soft brush and clean water. Do not use a detergent as it cannot be dispersed.
It is important that no water is allowed to get onto the other components, particularly microswitches, terminals or printed circuit boards.
3. Air drying. Do not use warm or hot air (hair dryer).

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. Deposits which eventually form a water-repellent film over the measuring element are harmful (such as resin aerosols, lacquer aerosols, smoke deposits etc.).

Typical switching differential with typical tolerance

Setpoint value humidity	Switching differential	Tolerance
50 % r.h.	5 % r.h.	+/- 1,5 % r.h.
60 % r.h.	4 % r.h.	+/- 1,5 % r.h.
70 % r.h.	4 % r.h.	+/- 1,5 % r.h.
80 % r.h.	3 % r.h.	+/- 1 % r.h.
90 % r.h.	3 % r.h.	+/- 1 % r.h.

Physical influence of temperature on the relative air humidity

at a temperature fluctuation of $\pm 1K$ referred to various room temperatures.

	10°C	20°C	30°C	50°C
10%rh	+/-0,7%rh	+/-0,6%rh	+/-0,6%rh	+/-0,5%rh
50%rh	+/-3,5%rh	+/-3,2%rh	+/-3,0%rh	+/-2,6%rh
90%rh	+/-6,3%rh	+/-5,7%rh	+/-5,4%rh	+/-4,6%rh

It is thus of extreme importance that the temperature is constant for measurements of the relative air humidity. The air must be homogenous.

Contact with the inner parts of the humidistat nullifies the warranty.