

EN

OPERATING MANUAL
HYGROSTAT



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01. Safety

This manual is part of the product. Read these instructions carefully before starting up/using the device and always keep the instructions close to the installation site or on the device itself!

The device was subjected to extensive material, function, and quality checks before delivery. This device can be dangerous if used improperly or not as intended by untrained persons!

Please note the following information:

- The hygrometers must not be exposed to direct water, e.g. splashing water when cleaning the climate room etc.
- The installation location must be chosen so that a representative air humidity measurement is guaranteed, i.e. the humidity values at the installation location should correspond to those of the room.
- The hygrometer should be in the airflow.
- Never use near flammable objects.
- Do not use in the immediate vicinity of water (filled bathtubs, sinks, showers, etc.).
- Do not use in rooms with easily flammable gases or vapors.

- All electrical cables outside the device must be protected from damage (e.g. by animals).
- Extensions of the connection cable must be selected depending on the device's connected load, cable length and intended use.
- Cable extensions may only be fully unwound or uncoiled.
- Any operation or use other than that described in these instructions is not permitted. Failure to comply will invalidate any liability and warranty claims.
- Do not use outdoors.
- The device complies with the essential health and safety requirements of the relevant EU directives.

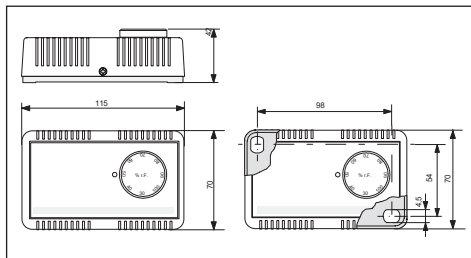
⚠ Work on the electrical equipment may only be carried out by an authorized specialist company!

02. Device description

The HG 120 room hygrometer consists of several fabric strips, each with 90 individual fibres with a diameter of 3 µm each. A special process gives the fibres hygroscopic properties. The measuring element adsorbs and desorbs moisture. The effect, which swells predominantly in the longitudinal direction, is transmitted via a lever system to a microswitch with a confined switching travel. The measuring element reacts quickly and accurately to changes in air humidity. By adjusting the setpoint knob, the lever system is engaged in such a way that the microswitch is actuated when the set air humidity is reached.

The harp-shaped measuring element is housed inside the casing and must be protected from coarse dust, dirt, and water. The hygrometers are designed for pressureless systems. The installation position must be chosen so that condensed water cannot enter the interior of the casing. Installation position is arbitrary, preferably with ventilation slots perpendicular to the wind direction.

⚠ Interfering with the internal parts will void the warranty.



Influence of relative air humidity

at a temperature fluctuation of $\pm 1^\circ\text{C}$ relative 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

03. Application

The HG 120 room hygrostat serves as a two-point controller for regulating relative air humidity in climate cabinets, for controlling humidifiers and dehumidifiers in office and computer rooms. Further areas of application include storage for food and luxury goods, cold rooms for fruit and vegetables, greenhouses for horticultural businesses, textile industry, paper and printing industry, film industry, hospitals. Wherever air humidity needs to be controlled or monitored, the HG 120 can usually also be used.

04. Assembly

- The hygrometers must not be exposed to direct water, e.g. splash water when cleaning the climate room, etc.
- The installation location must be chosen so that a representative air humidity measurement is guaranteed, i.e., the humidity values at the installation location should correspond to those of the room.
- The hygrometer should be in the airflow.

⚠ The measuring location of the humidity controller should be chosen so that no water precipitation can form on or in the device. This applies in particular when operating at a voltage higher than 48 V. At high voltage, there is a risk that water precipitation on the microswitch or the terminal connections may cause flashovers and thus destroy the controller. For voltages below 48 V, the humidity controller can be used up to 100% r.h.

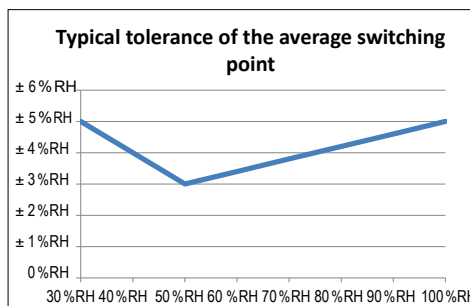
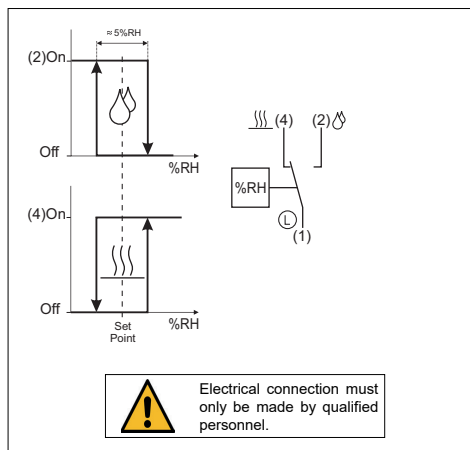
05. Cleaning & Maintenance

The measuring element is maintenance-free with pure circulating air. Aggressive media and solvents can cause incorrect measurements and failure depending on the type. As with almost all humidity sensors, precipitation is harmful, such as resin aerosols, paint aerosols, smoking substances, etc.

Clean the hygrometer with a damp cloth only.

⚠ The device must not be immersed in water or cleaned under running water. Do not use scouring agents or cleaning agents.

06. Circuit diagram



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

Typical switching humidity difference with typical tolerance

Humidity setpoint	Switching humidity difference	Tolerance
50% RH	5 %RH	$\pm 1,5\%$ RH
60%RH	4 %RH	$\pm 1,5\%$ RH
70%RH	4 %RH	$\pm 1,5\%$ RH
80%RH	3 %RH	$\pm 1\%$ RH
90%RH	3 %RH	$\pm 1\%$ RH

07. Technical data

Scale range..... 30 - 100 % r.h.
 Measurement accuracy.....see diagram
 Working range.....40 - 90 % r.h.
 Switching differential relative to 50% RH... see table
 Microswitch switching capacity, maximum load
 ohmic load at "humidification".....2 A, 230 V AC
 at "dehumidification"5 A, 230 V AC
 Inductive load* $\cos \varphi = 0.7$1.0 A, 230 V AC
 Switching capacity, Min.....100 mA, 20 V DC / AC
 Service life.....100,000 cycles
 Recommended voltage.....24 V AC
 Maximum voltage.....250 V AC 50 Hz
 Permissible ambient temperature.....0...60 °C
 Avg. Temperature coefficient: -0.2 %/K with respect
 to 20 °C and 50% RH
 Adjustment.....at avg. Air pressure 430 m a.s.l.
 Permissible air velocity.....15 m/sec
 Half-life at $v=2$ m/sec.....1.2 min
 Mounting.....Screw holes in base
 Installation position...any, slots in direction of airflow
 Contacting.....Terminal blocks in housing
 Electromagnetic compatibility:
 - Immunity.....EN 50 082-2
 - Emission.....EN 50 081-2
 Housing.....impact-resistant plastic, light grey
 IP type of protection.....IP20
 Measuring element...Polyga®-Measuring element,
 water-resistant
 Dimension.....115 x 70 x 47 mm
 Weight.....approx. 0.12 kg

Technical modifications reserved

* Check suitability

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