Operating Instructions

for

Room Hygrostat

Model: AFS-G2

1. Contents

1. Contents....2
2. Note....3
3. Instrument Inspection....3
4. Regulated Usage....4
5. Operating Principle....4
6. Mechanical Connection....5
7. Electrical Connection....6
8. Operation....7
9. Maintenance....8
10. Technical Data....9
11. Order Codes....9
12. Dimensions....9
13. Disposal....10
14. EU Declaration of Conformance....11

Manufactured and sold by:

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2. Note

Please read and take note of these operating instructions before unpacking and operating the unit, and follow the instructions precisely as described herein.
The instruction manuals on our website www.kobold.com are always for currently manufactured version of our products. Due to technical changes, the instruction manuals available online may not always correspond to the product version you have purchased. If you need an instruction manual that corresponds to the purchased product version, you can request it from us free of charge by email (info.de@kobold.com) in PDF format, specifying the relevant invoice number and serial number. If you wish, the operating instructions can also be sent to you by post in paper form against an applicable postage fee.

Operating instructions, data sheet, approvals and further information via the QR code on the device or via www.kobold.com

The devices are only to be used, maintained and serviced by persons familiar with these operating instructions and with any applicable regulations concerning procedural safety and accident prevention.

When installed in machines, EG commissioning is prohibited until it is established that the machine meets the general requirements of the guideline.

3. Instrument Inspection

These devices are inspected before shipping and sent out in perfect condition.

Should damage to a device be visible, we recommend a thorough inspection of the delivery packing. In case of damage, please inform your parcel service/ forwarding agent immediately, as they are responsible for damage incurred during transit.

Scope of delivery:
- Measuring Unit Model AFS-G2

4. Regulated Usage

The AFS-G2 is to be installed only in the specified applications. Every usage which exceeds the specifications is considered to be non-specified. Any damages resulting therefrom are not the responsibility of the manufacturer. The user assumes all risk for such usage. The application specifications include the installation, start-up and service requirements specified by the manufacturer.

5. Operating Principle

The room Hygrostat AFS-G2 is a two-position controller for regulating relative humidity. The moisture sensing element in the sensor is comprised of several strips of plastic fabric, each with 90 fibers of 3 µm diameter. These plastic fibers undergo a special process to acquire hygroscopic properties, meaning that they will both absorb and release moisture. The molecular structure of the fibers changes when they absorb water, giving rise to a measurable change in length. The length of the plastic fibers is thus a measure of the relative humidity. The swelling effect, acting primarily in longitudinal direction, is transferred over a suitable lever system to a microswitch with an extremely small changeover movement (hysteresis).

The measuring element reacts quickly and accurately to the change in humidity. The setpoint is set with the setpoint button so that the microswitch is actuated by the lever system when the humidity setpoint is reached.

The special treatment of the measuring element ensures that its hygroscopic properties remain stable, so that sensitivity is maintained unless destroyed by an external influence.

The harp-shaped measuring element is mounted inside the housing and should be protected against entry of coarse dust, dirt and water. The Hygrostat is designed for unpressurized systems.

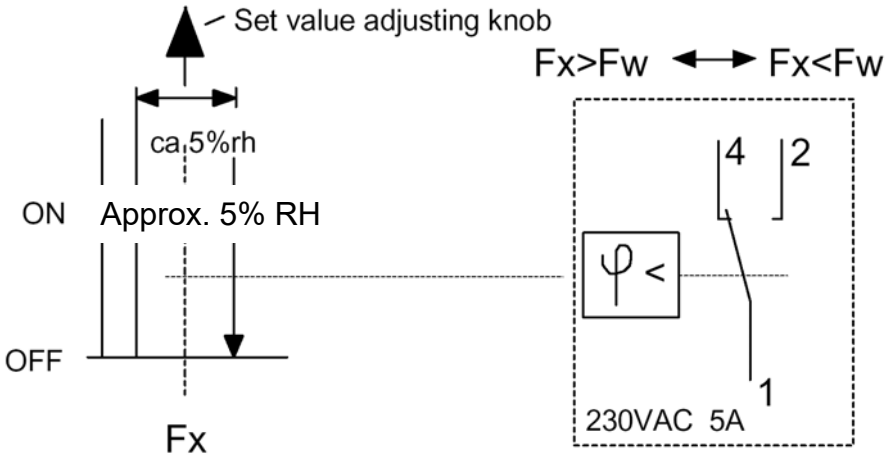
6. Mechanical Connection

- The Hygrostat must not be exposed to any direct water contact, e.g. splash water when cleaning the air-conditioned room, etc.
- The place of installation must be selected so that a representative air humidity measurement is guaranteed, i.e. the measured humidity values at the place of installation should correspond to those of the room as closely as possible.
- If possible, the Hygrostat should be located in the airflow.
- The installation position should be chosen to prevent condensed water from entering the housing. The instrument can be installed in any position, but the ventilation slots should be at right angles to the wind direction if possible.
- 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 if there is water condensation on the microswitch or connecting terminals, which might destroy the controller. In the case of voltages below 48V, the humidity controller can be used up to 100%RH. The humidity controller should not be used in aggressive media.
- Mounting:
  Physical Mounting: via slots in housing base.
  Mounting position: Arbitrary, preferably with the ventilation slots at right angles to the wind direction.

7. Electrical Connection

Important! Check that the electrical power supply to the instrument complies with the operating data for the instrument.

- Make sure that the electrical power cables have been disconnected from the supply.
- Connect the power supply and the output signal according to the connection diagram shown below.



Fx = Relative humidity of the air (actual value)
Fw = Humidity adjusted on the knob (set value).

If the relative humidity (Fx) falls below the setpoint value (Fw), the contact 1-4 opens, and the contact 1-2 closes.

8. Operation

It is of extreme importance that the temperature is constant for measurements of the relative air humidity. The air must be homogenous, e.g. possess constant humidity and temperature for the entire duration of the measurement.

Influences of the relative air humidity
For a temperature fluctuation of ±1 °C 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

9. Maintenance

When the device is used in clean air, the measuring element is maintenance-free. Aggressive and solvent vapors, depending on their type and concentration, may cause faulty measurements and sensor failure. Water-repellent and protective film-forming deposits on the sensor, like resin aerosols, lacquer aerosols, fumigant substances etc., are harmful to almost all types of humidity sensors and should be avoided.

10. Technical Data

Operating instructions, data sheet, approvals and further information via the QR code on the device or via www.kobold.com

11. Order Codes

Operating instructions, data sheet, approvals and further information via the QR code on the device or via www.kobold.com

12. Dimensions

Operating instructions, data sheet, approvals and further information via the QR code on the device or via www.kobold.com

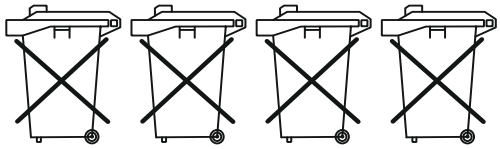
13. Disposal

Note!

- Avoid environmental damage caused by media-contaminated parts
- Dispose of the device and packaging in an environmentally friendly manner
- Comply with applicable national and international disposal regulations and environmental regulations.

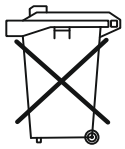
Batteries

Batteries containing pollutants are marked with a sign consisting of a crossed-out garbage can and the chemical symbol (Cd, Hg, Li or Pb) of the heavy metal that is decisive for the classification as containing pollutants:



1. „Cd" stands for cadmium
2. „Hg" stands for mercury
3. „Pb" stands for lead
4. „Li" stands for lithium

Electrical and electronic equipment



14. EU Declaration of Conformance

We, KOBOLD Messring GmbH, Nordring 22-24, 65719 Hofheim, Germany, declare under our sole responsibility that the product:

Hygrostat **Model: AFS-G2..**

to which this declaration relates is in conformity with the following EU directives stated below:

2014/35/EU	**Low Voltage Directive**
2011/65/EU	**RoHS**
2015/863/EU	Delegated Directive (RoHS III)

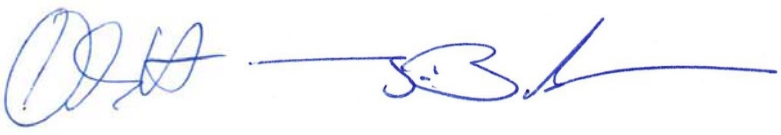
According to article 2.2 of the EMC directive 2014/30/EU this directive does not apply to the product mentioned above due to the inherent of its physical characteristics.

Also, the following standards are fulfilled

EN 60730-1:2012 Automatic electrical controls for household and similar use - Part 1: General requirements

EN 60730-2-13:2008 Automatic electrical controls for household and similar use - Part 2-13: Particular requirements for humidity sensing controls

Hofheim, 01 September 2023



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