



Humidity Measuring Instrument with Analogue Output

Capacitive Method of Measurement



measuring
•
monitoring
•
analysing



- Measurement of Relative Humidity
- Display
- Recommended operating range:
5 ... 95 % rH, 0...60 °C
- Short response times
- Analogue output (4-20 mA)
- Limit contact optional
(open collector)
- For indoors and air ducts
- Capacitive method of measurement
- Display on-site (optional)



KOBOLD companies worldwide:

ARGENTINA, AUSTRIA, BELGIUM, CANADA, CHILE, CHINA, COLOMBIA,
CZECHIA, FRANCE, GERMANY, GREAT BRITAIN, INDIA, IRAN, INDONESIA,
ITALY, MALAYSIA, MEXICO, NETHERLANDS, PERU, POLAND, SINGAPORE,
SLOVAKIA, SPAIN, SWITZERLAND, THAILAND, USA, VENEZUELA, VIETNAM

KOBOLD Messring GmbH
Nordring 22-24
D-65719 Hofheim/Ts.
☎ +49(0)6192 299-0
Fax +49(0)6192 23398
E-Mail: info.de@kobold.com
Internet: www.kobold.com

Model:
AFA-G

Description

Type AFA-G humidity sensors are suited for measuring relative humidity in air or in other non-aggressive gases. The sensors are based on capacitive metrology which is reasonably-priced, maintenance-free and highly accurate. Capacitive humidity sensor elements form the basis of these sensors. An electrode system, a moisture-sensitive polymer layer and a gold layer that is permeable to vapour are situated on a small thin glass or ceramic substrate. Since the hygroscopic polymer layer can absorb water molecules that alter its dielectric constant, this layered system acts as a moisture-dependant capacitor, whose capacitance is a measure of the surrounding relative humidity. The change in capacitance is converted to an electrical output signal by electronics normally mounted on the humidity sensor element. Both parts form a capacitive humidity sensor that can be adjusted using humidity references. Accuracy is approximately $\pm 2\%$.

Besides providing the output signal of 4-20 mA, the measuring instrument allows the measured value to be read off a red LED display at the measuring point. The display is supplied from the 4-20 mA signal current and thus requires no additional power supply. The measuring instruments are also available with a programmable switching output. Sensors from the range are delivered with an aluminium sensor unit and a gauze filter. The connection is made with a right-angle plug according to DIN 43650.

Application examples

- Monitoring and control of air conditioning systems, drying plant, humidifiers and dehumidifiers
- R & D (e.g. environmental engineering)
- Bakery technology
- Households
- Warehousing
- Greenhouses
- Ripening warehouses for food

Order Details (Example: AFA-G)

Model	Description
AFA-G	Humidity measuring instrument with analogue output

Plug-on display/accessories for model AFA-G

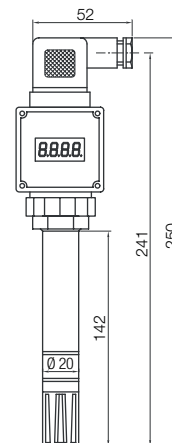
Description	Order number
4-digit LED, plug connector DIN 43650, 2-wire, supply with analogue output	AUF-1000*
as above, but with additional Open Collector output, PNP, max. 90 mA	AUF-1001*
Wall mounting set (see page 3)	AFM

*For more technical details see brochure »Z2«

Technical Details

- Measuring range: 0...100% rH
- Measuring accuracy: $\pm 2\%$ rH (for range 5...95% rH and 10...40°C)
- Additional measurement error: $< 0.1\%$ /K
- Response time: < 20 s
- Ambient temperature: -40...+80°C (with display)
0...+60°C (without display)
- Storage temperature: -40...+80°C
- Protection sensor/electronics: IP 30/IP 65
- Power supply: 12...30 V_{DC}
- Analogue output: 4...20 mA
- Max. load: 650 Ω (at 24 V_{DC})
- Min. air speed: ≥ 1 m/s (at right angles to the sensor)

Dimensions with AUF-1000



Connection plate for duct mounting Model AFA-GB

