Digital sensor for temperature, humidity, atmospheric pressure FHAD 46-4AG in protective all-weather housing with ALMEMO® D6 plug



- ***new:*** All relevant ambient parameters are measured with one sensor.
- Suitable for mounting on a wall or a mast
- ***new*** Sensor cable up to 100 meters long, clamped in terminal box
- Digital capacitive humidity sensor with integrated signal processor
- All sensor characteristics and adjustment data are stored in the humidity sensor element itself.
- Humidity sensor element, plug-in
- Spare elements are inexpensive; a replacement can be fitted on site quickly and easily by virtually anyone; it will be fully accurate and need no special adjustment.
- ***new*** Automatic atmospheric pressure compensation is provided for pressure-dependent humidity variables by means of a digital atmospheric pressure sensor integrated in the terminal box.
- ***new*** Humidity calculation on the basis of formulae as per Dr. Sonntag and the enhancement factor as per W. Bögel (correction factor fw(t,p) for real mixed gas systems) This substantially widens the measuring range and improves the accuracy of humidity variable calculations.
- ***new*** Humidity variable, Absolute humidity in g/m³
- The humidity variables are calculated from the three primary measuring channels (real measurable variables) : Temperature, relative humidity. and atmospheric pressure.
- Four measuring channels are programmed (at our factory): Temperature (°C, T,t), Relative humidity (%H, RH, Uw), Dew point (°C, DT, td), Atmospheric pressure (mbar, AP, p), Other humidity variables can also be selected: Mixture (g/kg, MH, r), Absolute humidity (g/m³, AH, dv), Vapor pressure (mbar, VP, e), Enthalpy (kJ/kg, En, h). This device can be configured on a PC using USB adapter cable ZA 1919 AKUV. (see “General accessories for ALMEMO® D6 sensors” page 04.05).

On request

new: Temperature sensor Pt100 in protective all-weather housing FPA930AG

Technical Data

Operative range	-30 to +60 °C, 5 to 98 % RH
Digital temperature / humidity sensor (including A/D converter)	
Humidity	
Measuring range	0 to 100 % RH
Sensor	CMOSens® technology
Accuracy	±1.8 % RH in range 10 to 90 % RH at nominal temperature
Hysteresis	typical ±1 % RH
Nominal temperature	25 °C
Sensor operating pressure	Atmospheric pressure
Temperature	
Sensor	CMOSens® technology
Accuracy	±0.3 K at +25 °C ±0.4 K at +10 to +40 °C ±1.3 K at -20 to +80 °C
Reproducibility	typical ±0.1 K

Digital atmospheric pressure sensor (integrated in the terminal box)	
Measuring range	700 to 1100 mbar
Accuracy	±2.5 mbar (at 0 to +65 °C)
ALMEMO® connecting cable	
PVC, for available lengths see variants with ALMEMO® D6 plug	
ALMEMO® D6 plug	
Refresh time	2 second for all four channels
Supply voltage	6 to 13 VDC
Current consumption	12 mA
Mechanical design	
Sensor tube	Plastic, diameter 12 mm
Filter cap	Metal-mesh filter, SK7
All-weather protection	Ø 105 mm, height approx. 110 mm
Terminal box	51 x 53 x 36 mm
Screw-fit cable gland	Splash-protected

Accessories	Order no.
ALMEMO® transmitter 2450-1 with double analog output 10 V or 20 mA	MA24501R02
(For other data, options, accessories, see page 01.50)	

Standard delivery	Order no.
Digital sensor for temperature, humidity, atmospheric pressure in protective all-weather housing with connecting cable and ALMEMO® D6 plug, manufacturer's test certificate, 2 fixtures for mounting on a mast	
Connecting cable	
Length = 5 meters	**FHAD464AGL05**
Length = 10 meters	**FHAD464AGL10**
Length = 20 meters	**FHAD464AGL20**
Length = 40 meters	**FHAD464AGL40**
Length = 100 meters	**FHAD464AGL100**
Replacement sensor element, digital, adjusted, plug-in	**FH0D46**
DAkkS / DKD or factory calibration KH9xxx, temperature, humidity, and KD92xx, atmospheric pressure, for digital sensor (see chapter Calibration certificates)	

10/2013 • We reserve the right to make technical changes.