Digital sensor for temperature, humidity, atmospheric pressure FHAD 46-C4AG in protective all-weather housing with ALMEMO® D6 plug



- All relevant ambient parameters are measured with one sensor.
- Suitable for mounting on a wall or a mast
- Sensor cable up to 100 meters long, clamped in terminal box
- All sensors in 1 multi-sensor module: capacitive digital sensor for humidity and temperature, digital atmospheric pressure sensor. Additional EEPROM data storage medium in the sensor module
- The sensor module is thoroughly adjusted. All sensor characteristic and adjustment data are stored in the data storage medium of the sensor module itself. In the process of readjusting the individual sensors, the adjustment values are directly saved in the data storage medium of the sensor module.
- Replacement sensor modules are inexpensive: The sensor module is pluggable and can be simply exchanged on-site. Full accuracy without any adjustment, especially with calibrated sensors. The ALMEMO® connecting cable and the ALMEMO® measuring instrument have no influence on the calibration.
- The atmospheric pressure is measured directly at the measuring point in the sensor tip. Hence, the atmospheric pressure dependent humidity variables are automatically pressure compensated.
- 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.
- Humidity variables: Absolute humidity in g/m³.
- The humidity variables are calculated from the three primary measuring channels (real measurable variables): temperature, humidity and atmospheric pressure.
- Four measuring channels are rogrammed (ex factory): temperature (°C, T, t), relative humidity (%H, RH, Uw), dew point (°C, DT, td), atmospheric pressure (mbar, AP, p). Alternatively further humidity variables are selectable. Mixture (g/kg, MH, r), absolute humidity (g/m³, AH, dv), vapor pressure (mbar, VP, e), enthalpy (kJ/kg, En, h). The configuration is performed on the ALMEMO® V7 measuring instrument or directly on the PC using the USB adapter cable ZA1919AKUV (Chapter "Network technology").

On request

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 98 % RH
Sensor	CMOSens® technology
Accuracy	±3 % RH in range 10 to 90 % RH
(incl. hysteresis)	±5 % RH in range 5 to to 98 % RH at nominal temperature
Hysteresis	typical ±1 % RH
Nominal temperature	+23 °C ±5 K
Sensor operating pressure	Atmospheric pressure
Temperature	
Sensor	CMOSens® technology
Accuracy	typical ±0.2 K at 5 to 60 °C maximum ±0.4 K at 5 to 60 °C maximum ±0.7 K at -20 to +80 °C
Reproducibility	typical ±0.1 K

Digital atm. pressure sensor (integrated in the multi-sensor module)	
Measuring range	700 to 1100 mbar
Accuracy	±2.5 mbar (at 23 °C ±5 K)
ALMEMO® connecting cable	
PVC, for available lengths see variants with ALMEMO® D6 plug	
ALMEMO® D6 plug	
Refresh time	1 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	PTFE-Sinterfilter, SK6
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 2490-1R02U with double analog output 10 V or 20 mA	**MA24901R02U**
(For other data, options, accessories, see chapter 01 Measuring instruments)	

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	**FHAD46C4AGL05**
Length = 10 meters	**FHAD46C4AGL10**
Length = 20 meters	**FHAD46C4AGL20**
Length = 40 meters	**FHAD46C4AGL40**
Length = 100 meters	**FHAD46C4AGL100**
Replacement multi-sensor module, digital, adjusted, plug-in	**FH0D46C**

DAkkS accredited calibration or factory calibration KH9xxx, temperature, humidity, and KD92xx, atmospheric pressure, for digital sensor, see chapter „Calibration certificates".
DAkkS accredited calibration meets all the requirements regarding test resources laid down in DIN EN ISO/IEC 17025.

11/2025 • We reserve the right to make technical changes.