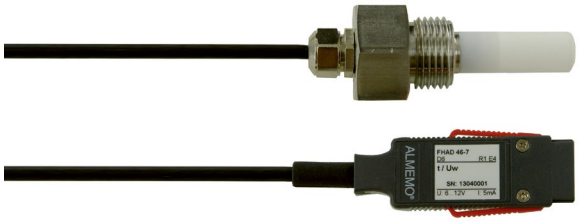
Digital sensor for measuring temperature and humidity FHAD 46-C7



Pressure-sealed variant up to 16 bar,
with ALMEMO® D6 plug

- Compact sensor made from stainless steel
- Screw thread, for pressure pipes
- Option - adapter for compressed air pipes
- Capacitive digital sensor for humidity and temperature. Additionally EEPROM data storage medium in the multi-sensor module.
- The sensor module is thoroughly adjusted. All sensor characteristic and adjustment data are stored on the data storage medium of the sensor module itself. In the process of readjusting the individual sensors, the adjustment values are directly saved on the data storage medium of the sensor module.
- Every sensor module has a unique serial number saved on the humidity sensor. The serial number is either displayed in the sensor menu of the measuring instrument or in the ALMEMO® Connect software. Hence, calibrated sensor modules can clearly be assigned to the calibration certificate.
- Replacement sensor modules are inexpensive: The sensor module is pluggable and can simply be 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 humidity variables are calculated from the two primary measuring channels (real measurable variables): temperature, relative humidity
- Three measuring channels are programmed: temperature (°C, T, t), relative humidity (%H, RH, Uw), dewpoint (°C, DT, td). One further humidity variable 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). The configuration of the channels and the input of the system pressure for the automatic pressure compensation of the pressure dependent humidity variables is performed on the ALMEMO® V7 measuring instrument or directly on the PC using the USB adapter cable ZA1919AKUV (see chapter "ALMEMO® Network technology").

Technical data

Operative range	-20 to +80 °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	up to 16 bar
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

ALMEMO® connecting cable	
PVC Length (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	3 mA
Mechanical design	
Sensor	Stainless steel, diameter 12 mm
	Overall length approx. 77 mm
Filter cap	PTFE sinter filter SK6
Process connection	Male thread G 1/2-inch
	Fitted length 48 mm, Width across flats 27
Screw-fit cable gland	Splash-protected



Adapter for
compressed air pipes

Accessories

	Order no.
Adapter for compressed air pipes	**ZB96467AP**
PTFE sinter filter (spare)	**ZB9600SK6**
Stainless-steel sinter filter	**ZB9600SK8**

Variants

	Order no.
Digital sensor for temperature and humidity, filter cap PTFE, pressure-sealed variant, with fitted cable and ALMEMO® D6 plug, manufacturer's test certificate	
Connecting cable, length 2 meters	**FHAD46C7**
Connecting cable, length 5 meters	**FHAD46C7L05**
Connecting cable, length 10 meters	**FHAD46C7L10**
Replacement sensor element, digital, adjusted, plug-in	**FH0D46C**

DAkkS accredited calibration or factory calibration KH9xxx, temperature, humidity, 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.