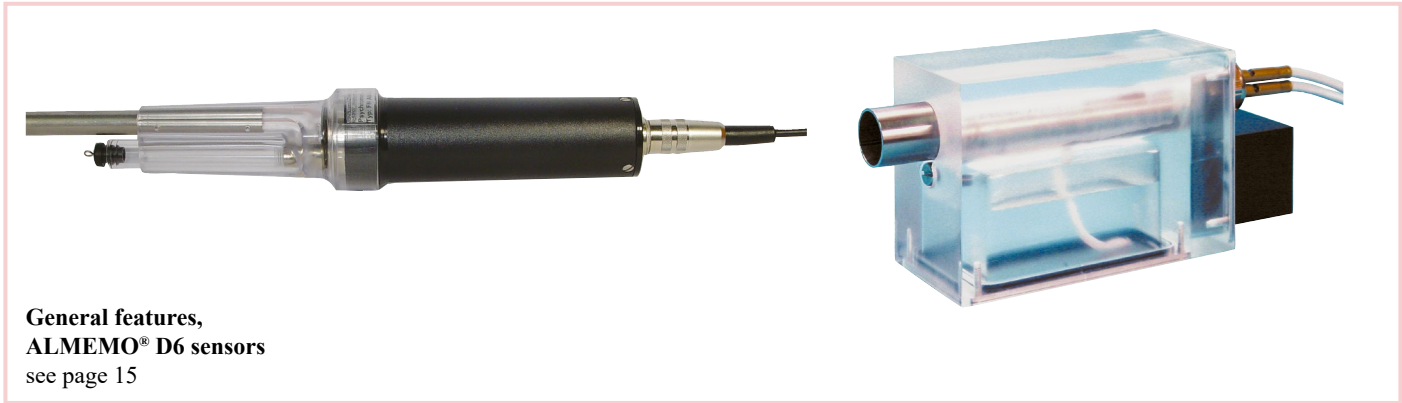


Digital psychrometers, FNAD 46 and FNAD 46-3 with ALMEMO® D6 plug with integrated atmospheric pressure sensor, for automatic pressure compensation



General features,  
ALMEMO® D6 sensors  
see page 15

- A digital atmospheric pressure sensor integrated in the ALMEMO® D6 plug itself provides automatic pressure compensation for all pressure-dependent humidity variables.
- 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 variable Absolute humidity in g/m³
- High-precision NTC sensors for dry temperature and wet temperature
- Temperatures are measured using a A/D converter incorporated in the ALMEMO® D6 plug.
- The humidity variables are calculated from the three primary measuring channels (real measurable variables):  
Dry temperature, wet temperature, atmospheric pressure
- Freely selectable measurable variables  
Four measuring channels are programmed (at our factory):  
dry temperature (°C, TT, t), wet temperature (°C, HT, tw), relative humidity (%H, RH, Uw), atmospheric pressure (mbar, AP, p)
- Other humidity variables can also be selected:  
dewpoint (°C, DT, td), 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 directly on a PC using USB adapter cable ZA 1919 AKUV. (see chapter „Networking“).

Technical data, FNAD 46 and FNAD 46-3

Digital atmospheric pressure sensor  
(integrated in ALMEMO® D6 plug)

Measuring range	700 to 1100 mbar
Accuracy	±2.5 mbar (at 23 °C ±5 K)
A/D converter incorporated in ALMEMO® D6 plug	
Inputs	2 NTC sensors (clamped connection in plug)
Resolution	0.01 K

Linearization	error-free computing method according to Galway Steinhart (no approximations)
Accuracy	±0.05 K
Nominal temperature	23 °C ±2 K
Temperature drift:	0,004 %/K (40 ppm)
Calculated humidity variables	Analytic equation (not an approximation)
Refresh rate	0.4 seconds for all four channels

Hand-held digital psychrometer FNAD 46



For test measurements

General description and common technical data  
FNAD 46 (see page 205)

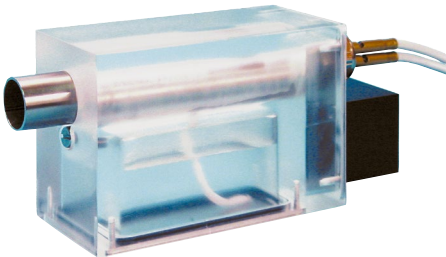
Technical data

Operating temperature	0 to +60 °C (no ice)
Humidity measuring range	10 to 100% RH
Measuring system	psychrometric
Accuracy	±1 % RH under nominal conditions
Accuracy in measuring range	10... 100 % r. h.: typ. ±1 % r. h. at 25°C ±3K, 1013 mbar
Nominal conditions	+25 °C ±3 K, 1013 mbar, 50 % RH
Temperature sensors	2 x NTC type N
Accuracy	±0,2 K at 0 to 60 °C
Ventilator power supply	via ALMEMO® D6 plug
Housing	Plastic
Dimensions	Ø 50 mm, length 245 mm
Weight	approx. 300 g
Sensor connector	Built-in plug
ALMEMO® connecting cable	coupling, 1.5 meters, PVC cable with ALMEMO® D6 plug
Supply voltage	9 to 13 VDC
Current consumption	20 mA

Accessories	Order no.
Spare wicks (2 pieces)	ZB9846ED

Variants	Order no.
Hand-held digital psychrometer with NTC sensor Hand-held psychrometer, connecting cable with ALMEMO® D6 plug, integrated digital atmospheric pressure sensor, water bottle, two wicks	<b>FNAD46</b>

Stationary digital psychrometer FNAD 46-3



Version optimized for long-term measuring operations  
Automatic humidification of the wick after filling the water  
tank.

General description and common technical data  
FNAD 46-3 (see page 205)

Technical data

Operating temperature	0 to +90 °C (no ice)
Humidity measuring range	10 to 100% RH
Measuring system	psychrometric
Accuracy	±1 % RH under nominal conditions
Accuracy in measuring range	10... 100 % r. h.: typ. ±1 % r. h. at 25°C ±3K, 1013 mbar
Nominal conditions	+25 °C ±3 K, 1013 mbar, 50 % RH
Temperature sensors	2 x NTC type N
Accuracy	±0,2 K at 0 to 70 °C, ±0,4 K at 70 to 90 °C
Ventilator power supply	12 VDC via mains unit, cable approx. 1.5 meters (included in delivery)
Housing	Plastic PMMA
Dimensions	175 x 50 x 75 mm (LxWxH)
Weight	approx. 890 g
ALMEMO® connecting cable	Cable, FEP / silicone, 5 meters with ALMEMO® D6 plug
Supply voltage	6 to 13 VDC
Current consumption	4 mA

Accessories	Order no.
Extension cable for mains units, 3-pin bayonet coupling, length 5 meters	<b>ZB5090VK05</b>
Spare wicks (2 pieces)	<b>ZB98462ED</b>

Variants	Order no.
Digital psychrometer with NTC sensor Psychrometer, fitted cable, with ALMEMO® D6 plug, integ- rated digital atmospheric pressure sensor, mains unit, water bottle, two wicks, carry case	<b>FNAD463</b>

DAkkS or factory calibration KH91xx, temperature, humidity, for digital sensor, see chapter „Calibration certificates“.  
DAkkS calibration meets all the requirements regarding test resources laid down in DIN EN ISO/IEC 17025.