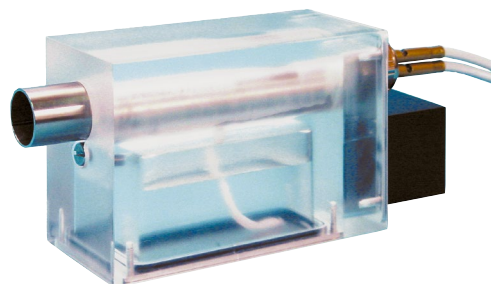


## Digital psychrometers, FNAD 46 and FNAD 46-3 with ALMEMO® D6 plug with integrated atmospheric pressure sensor, for automatic pressure compensation



General features,  
ALMEMO® D6 sensors  
see page 01.08

- **new:** A digital atmospheric pressure sensor integrated in the ALMEMO® D6 plug itself provides automatic pressure compensation for all pressure-dependent humidity variables.
- **new:** Humidity calculation on the basis of formulae as per Dr. Sonntag and the enhancement factor as per W. Bögel (correction factor  $f_w(t,p)$  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  $g/m^3$
- 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 ( $^{\circ}C$ , TT, t), wet temperature ( $^{\circ}C$ , HT, tw), relative humidity (%H, RH, Uw), atmospheric pressure (mbar, AP, p)
  - Other humidity variables can also be selected:  
dewpoint ( $^{\circ}C$ , DT, td), mixture (g/kg, MH, r), absolute humidity ( $g/m^3$ , 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	$\pm 2.5$ mbar (at $23^{\circ}C \pm 5$ 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	$\pm 0.05$ K
Nominal temperature	$23^{\circ}C \pm 2$ 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



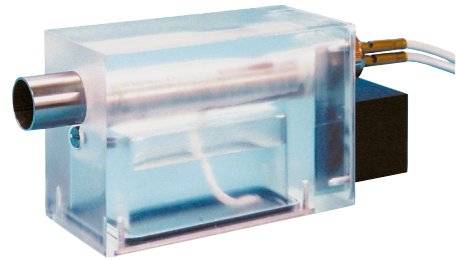
**Hand-held digital psychrometer FNAD 46**

For test measurements

General description and common technical data  
FNAD 46 (see page 08.18)

**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

**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 08.18)

**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**

Spare wicks (2 pieces)

**Order no.**

ZB9846ED

**Variants**

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

**Order no.**

FNAD46

**Accessories**

Extension cable for mains units,  
3-pin bayonet coupling, length 5 meters  
Spare wicks (2 pieces)

**Order no.**

ZB5090VK05  
ZB98462ED

**Variants**

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

**Order no.**

FNAD463