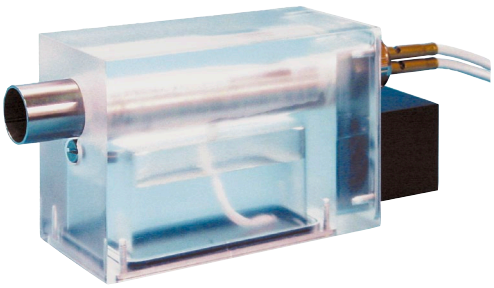
10/2013 • We reserve the right to make technical changes.

Digital psychrometers, FNAD 46 series 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 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
- High-precision NTC sensors for dry temperature and wet temperature
- Temperatures are measured using a 24-bit 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“ page 05.05).

Technical data, FNAD 46 series

Psychrometer	
Humidity measuring range	10 to 100% RH
Measuring system	psychrometric
Accuracy	±1 % RH under nominal conditions
Nominal conditions	+25 °C ±3 K, 1013 mbar, 50 % RH
Temperature sensors	2 x NTC type N
Accuracy	0 to +70 °C ± 0.1 K, +70 to +90 °C ± 0.4 K

Digital atmospheric pressure sensor (integrated in ALMEMO® D6 plug)	
Measuring range	700 to 1100 mbar
Accuracy	±2.5 mbar (at 0 to +65 °C)
A/D converter incorporated in ALMEMO® D6 plug	
Inputs	2 NTC sensors (clamped connection in plug)
Measuring range	-50.00 to +125.00 °C
Precision class	AA (see page 01.05)
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 series (see page 08.14)

Technical data

Operating temperature	0 to +60 °C (no ice)
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.
Extension pipe, 200 mm long	**ZB9846VR**
Plastic suction hose, 300 mm long	**ZB9846PS**
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	**FNAD46**
DAkkS/DKD or factory calibration KH91xx, temperature, humidity, for digital sensor (see chapter „Calibration certificates“)	

Stationary digital psychrometer FNAD 46-3



Version optimized for long-term measuring operations

General description and common technical data
FNAD 46 series (see page 08.14)

Technical data

Operating temperature	0 to +90 °C (no ice)
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	**ZB5090VK05**
Spare wicks (2 pieces)	**ZB98462ED**

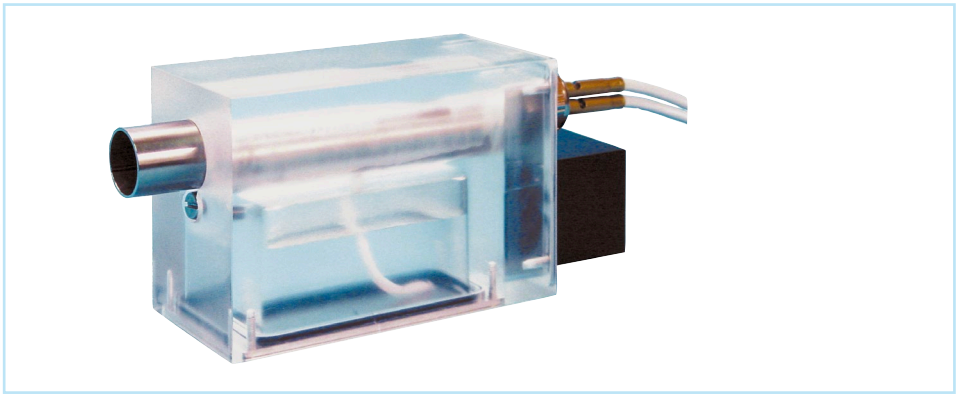
Variants

	Order no.
Digital psychrometer with NTC sensor Psychrometer, fitted cable, with ALMEMO® D6 plug, integrated digital atmospheric pressure sensor, mains unit, water bottle, two wicks, carry case	**FNAD463**
DAkkS/DKD or factory calibration KH91xx, temperature, humidity, for digital sensor (see chapter „Calibration certificates“)	

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Psychrometer FPA 8363



- Optimized version for long-term measuring operations
- Especially suitable for high temperatures
- Operative range 0 to 90 °C, 10 to 100% RH
- Possible variables
  dry temperature, relative humidity, dewpoint,
  mixture ratio, wet temperature, partial vapor pressure.

Technical data

Humidity	
Measuring range	10 to 100% RH
Measuring system	psychrometric
Accuracy	±1 % RH under nominal conditions
Nominal conditions	+25 ±3 °C, 1013 mbar, 50% RH
Temperature	
Sensors	2 x Pt100
Accuracy	IEC 751, class B ALMEMO® adjusted

Electrical supply	
Operating voltage	12 VDC via mains plug (cable approx. 2 meters)
Current consumption	approx. 40 mA
Mechanical design	
Housing	Plastic PMMA
Dimensions	175 x 50 x 75 mm (LxWxH)
Weight	approx. 890 g
Cable	FEP / silicone, 5 meters with ALMEMO® plug 2 cables, 2 plugs

Accessories — Order no.

new: ALMEMO® plug-in pressure probe for measuring barometric pressure 700 to 1100 mbar without pressure connection sleeve (version with pressure connection sleeve) (see page 10.10)
Technical data (see page 10.10) **FDAD12SA**
including programming for automatic atmospheric pressure compensation (comment *P) **OA9000PK**

Spare wicks (2 pieces) **ZB98462ED**
Extension cable for mains units,
3-pin bayonet coupling, length 5 meters **ZB5090VK05**

Variants — Order no.

(including mains plug, water bottle, two wicks) Psychrometer with 2 x Pt100 sensors, including connecting cable (two ALMEMO® plugs) **FPA8363**

DAkkS/DKD or factory calibration KH91xx, temperature, humidity, for sensor or measuring chain (sensor + device)
(see chapter „Calibration certificates“)