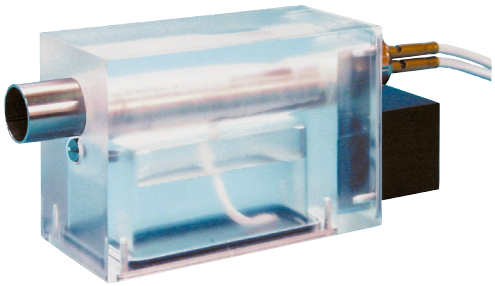
Digital psychrometer, FPAD 36-3 with ALMEMO® D6 plug with integrated atmospheric pressure sensor, for automatic pressure compensation



- Digital temperature sensors (adjusted) with high precision and synchronism up to 90 °C.
- Automatic air pressure compensation with built-in air pressure sensor.
- Stable sensor cable.
- Version optimized for long-term measuring operations
- Automatic humidification of the wick after filling the water tank.

General features of ALMEMO® D6 sensors:
see chapter ALMEMO® Measuring instruments

Technical data and functions

- The two digital Pt100 sensors for dry temperature and wet temperature are characterized by particularly high precision and synchronism up to 90 °C.
  The Pt100 sensors are connected to the digital ALMEMO® D6 connector (as a complete measuring chain) adjusted at 0 °C, 25 °C, 85 °C in the calibration laboratory. The accuracy of the temperature measurement is thus independent of the ALMEMO® measuring instrument. The two digital Pt100 sensors are easily exchangeable in case of service.
- Stable sensor cable with shielding and insulation FEP.
- The digital psychrometer can be operated with any ALMEMO® measuring instrument without affecting its measuring accuracy. The digital psychrometer is calibrated without ALMEMO® device.
- A digital atmospheric pressure sensor integrated in the ALMEMO® D6 plug itself provides automatic pressure compensation for all pressure-dependent humidity variables.
- Humidity calculation (Calculation is done in the ALMEMO® D6 connector) 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
- Temperatures are measured using 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“).

Recommendations for calibration laboratories and quality assurance



ALMEMO® 1036-2

Reference measuring instrument ALMEMO® 1036-2 is ideally suited for use in calibration laboratories and quality assurance procedures. When measuring atmospheric humidity the combination of reference measuring instrument ALMEMO® 1036-2 and precision psychrometer FPA-836-3P3 ensures very high levels of resolution, precision, and linearity. Resolution parameters: temperature Pt100 0.001 K, relative humidity 0.01 %, dewpoint 0.01 K
The measuring instrument incorporates a digital atmospheric pressure sensor for compensation purposes. These devices are offered in a set including the sensor and a DAkkS accredited calibration certificate: Calibration points temperature/humidity at 25 °C / 30 % r.h. and 25 °C / 75 % r.h. and air pressure in the range 700 ... 1100 mbar.
For general description and technical data see Chapter „ALMEMO® reference measuring instruments“.

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

03/2026 • We reserve the right to make technical changes.

Digital stationary psychrometer FPAD 36-3

Technical data

Operating temperature	0...+90 °C (no ice formation)
Humidity measuring range	10 to 100 % RH
Measuring system Accuracy	psychrometric ±1 % RH in the range of 10 to 100 % RH at 10 to 90 °C and 900 to 1050 mbar
Temperature sensors Accuracy	2 x Pt100 class B ALMEMO® adjusted at 0 °C, 25 °C, 85 °C
Ventilator power supply	12 VDC via mains unit, cable approx. 1.5 meters and extension cable 5 m (included in delivery)
Housing	Plastic PMMA
Dimensions	175 x 50 x 75 mm (LxWxH)
Weight	approx. 890 g
ALMEMO® connecting cable	2 Cables, FEP / Wire Shielding, 5 meters to 1 ALMEMO® D6 plug

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 inputs, range Pt100
Resolution	0.01 K
Measuring current	1 mA
Linearization	Calculation procedure (no approximations)
Accuracy	±0.07 K ±2 digits
Nominal temperature	23 °C ±2 K
Temperature drift	0.003 %/K (30 ppm)
Calculated humidity variables	Analytic equation (not an approximation)
Refresh rate	0.3 seconds for all four channels
Supply voltage	6 to 13 VDC
Current consumption	approx. 11 mA

Accessories

	Order no.
Spare wicks (2 pieces)	**ZB98462ED**

Variants

	Order no.
Digital psychrometer with Pt100 sensors Psychrometer, fitted cable, with ALMEMO® D6 plug, integrated digital atmospheric pressure sensor, mains unit, Extension cable for power supply unit, water bottle, two wicks, carry case	**FPAD363**

DAkkS accredited calibration or factory calibration KH91xx, 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.