

ALMEMO® 1036-2



Reference measuring instruments for humidity and temperature
High-precision measurement with the Pt100 psychrometer and Pt100 sensors
Resolution Temperature 0.001 K
Relative humidity 0.01 %
Dew point 0.01 K

Technical features

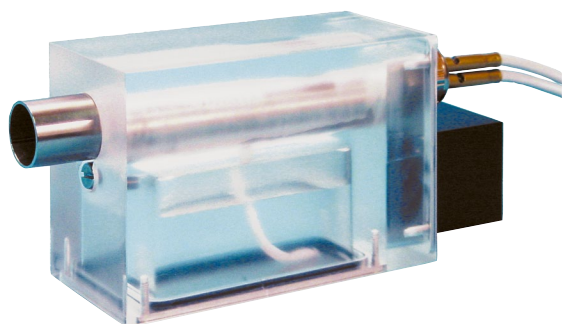
- Humidity measurement with very high resolution, precision, and linearity, using Pt100 psychrometer
- Suitable as reference device in calibration laboratories and quality assurance procedures
- Very high level of accuracy using the Pt100 psychrometer thanks to multi-point adjustment of the two temperature sensors
- Pt100 psychrometer optimized for measuring operations involving high humidity levels performed over long periods
- Automatic atmospheric pressure compensation is provided for pressure-dependent humidity variables by means of a digital atmospheric pressure sensor integrated in the ALMEMO® device.
- 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.
- Resolution : Temperature Pt100 0.001 K, Relative humidity 0.01%, Dew point 0.01 K
- The humidity variables are calculated from the three primary measuring channels (real measurable variables). Dry temperature (°C), humid temperature (°C), atmospheric pressure (mbar)
- Three humidity variables displayed simultaneously, freely selectable: Relative humidity(%), dewpoint(°C), mixture(g/kg), Absolute humidity (g/m³), vapor pressure (mbar), enthalpy (kJ/kg)
- Two electrically isolated measuring inputs for Pt100 sensors
- High-resolution A/D converter, delta-sigma, 24-bit, 1.25 mops (measuring operations per second)
- Two output sockets for digital interface, ALMEMO® memory connector
- Compact, modern, ergonomic design
- Graphics display, illuminated with white light
- Easy and convenient to operate by means of 4 soft-keys and cursor block
- Measured value display : Sensor display (up to 4 measured values), measuring points list, atmospheric pressure
- Measuring functions : Zero-setting, smoothing, maximum / minimum values, individual value memory for 100 values
- Data logger with ALMEMO® memory connector (accessory)
- Sensor programming : Smoothing, designation, measuring range selection, locking
- Device configuration : Illumination, contrast, device address, baud rate, atmospheric pressure
- Choice of language : German, English, French
- Humidity measurement in temperature range -100 to +200 °C, with precision digital capacitive temperature / humidity sensors FHAD 36 Rx, with ALMEMO® D6 connector (Accessories, see chapter „Atmospheric humidity“). Configuration of ALMEMO® D6 sensors on ALMEMO® device itself. For the digital sensors FHAD 36-Rx, it is not possible to program the multi-point adjustment via the measuring instrument.

Technical data ALMEMO® 1036-2

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| Measuring inputs | Two ALMEMO® input sockets for Pt100 psychrometer FPA 836-3P3 or Precision digital capacitive temperature / humidity sensors FHAD 36 Rx | Outputs | Two ALMEMO® sockets for interface cable and ALMEMO® memory connector |
| Electrical isolation | Semiconductor relay (50 V) | Standard equipment | |
| A/D converter | Delta-sigma, 24-bit, 1.25 mops | Display | Graphics display, 128 x 64 pixels, 8 rows Illumination 2 white LEDs |
| Measuring range | Pt100, -200 to +400 °C | Keypad | 7 silicone keys (of which 4 soft-keys) |
| Resolution | 0.001 K | Date and time-of-day | Real-time clock, buffered by battery |
| Measuring current | 1 mA | Individual value memory, internal | 100 measured values |
| Accuracy | ±0.010 K ±1 digit in range -50 to +400 °C | Power supply | |
| Nominal conditions | 23 °C ±2 K, 1013 mbar, battery mode | Battery set | 3 AA alkaline batteries |
| Temperature drift | typical 2 ppm / K | Mains adapter | ZA1312NA12 100 to 240 VAC to 12 VDC, 1.5 A, electrically isolated |
| Calculated humidity quantities | Analytic equation (not an approximation) | Current consumption (without input and output modules) | approx. 20 mA approx. 40 mA |
| Digital atmospheric pressure sensor (integrated in the device) | | With illumination | approx. 40 mA |
| Measuring range | 700 to 1100 mbar | Housing | 127 x 83 x 42 mm (LxWxH) ABS, 290g |
| Accuracy | ±2.5 mbar (at 23 °C ±5 K) | Ambient conditions | see starting on page 01.04. |

| Accessories | Order no. |
|--|------------|
| Ethernet data cable | ZA1945DK |
| ALMEMO® memory connector with micro SD | ZA1904SD |
| Rubberized impact protection, gray | ZB2490GS2 |
| DIN rail mounting | ZB2490HS |
| Spare wicks (2 pieces) | ZB98462ED |
| Extension cable for mains units, 3-pin bayonet coupling, length 5 meters | ZB5090VK05 |

Set with Pt100 psychrometer FPA 836-3P3



Psychrometer FPA 836-3P3

Technical data Pt100 psychrometer FPA 836-3P3

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|--------------------------|---|-------------------------|--|
| Operating temperature | up to +90 °C (no ice) | Housing | Plastic PMMA |
| Humidity measuring range | approx. 10 to 100 % RH | Dimensions | 175 x 50 x 75 mm (LxWxH) |
| Measuring system | psychrometric | Ventilator power supply | 12 VDC via mains unit cable, approx. 1.5 meters (included in delivery) |
| Accuracy | < ±1 % RH under nominal conditions | Connecting cables | 2 cables, each 5 meters, FEP / silicone |
| Nominal conditions | 23 °C ±2 K, 1013 mbar, 50 % RH | ALMEMO® plug | Pt100, resolution 0.001 K |
| Temperature sensors | sheet resistance 2 x Pt100 class B, ALMEMO® adjusted | | |

| Options | Order no. |
|--|-----------|
| <p>Added functions for ALMEMO 1030 and 1036:</p> <ol style="list-style-type: none"> 1. Extension of the measurement range with resolution 0.001 K (P314): -200...560 °C. 2. New measurement range with resolution 0.01 K (P214): -200...850 °C. 3. The 4 sensor specific parameters R0 and A, B, C of the Callendar–Van Dusen equation can be programmed for Pt 100 sensors by the user | OA1030FE |

Standard delivery

Reference measuring instrument for humidity measurement with accessories, evaluation software, and Pt100 psychrometer, Complete set including DAkkS calibration certificate

Reference measuring instrument ALMEMO® 1036-2, with integrated digital atmospheric pressure sensor including 3 AA alkaline batteries, mains unit ZA1312NA12, USB data cable ZA1919DKU, instrument case, and evaluation software ALMEMO View SW5500AV (see page 06.16) and Pt100 psychrometer FPA 836-3P3 including mains unit, water bottle, pair of wicks with DAkkS calibration certificate
 Temperature at approx. +25 °C, relative humidity at approx. 30 % / 75 % RH, and atmospheric pressure in range 700 to 1100 mbar (5 points)

Order no.

SP10362D

| Precision resistance temperature detector Pt100 (Accessories) | Order no. |
|---|-----------------------------|
| Precision temperature sensors for ALMEMO® 1030, 1033, 1036, 8036. Technical data see chapter 01, ALMEMO® 1033 for the operating range -50 ... +400 °C for the operating range -100 ... +660 °C | FPA923L0250 FPA924L0500H |