# Reference Measuring Instruments

## ALMEMO® 1030-2

**Reference measuring instrument for temperature.
High-precision measuring with Pt100 sensors
Resolution 0.001 K**

- Temperature measurement with very high resolution, precision, and linearity, using Pt100 sensors
- Suitable as reference device in calibration laboratories and quality assurance procedures
- Very high accuracy thanks to multi-point adjustment of the Pt100 temperature sensor
- 2 electrically isolated measuring inputs for Pt100 sensors
- Resolution can be set to 0.001 or 0.01 K.
- Units °C, °F, K
- 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  2 measured values and differential
- 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, units, resolution
- Device configuration:  Illumination, contrast, device address, baud rate
- Choice of language:  German, English, French

## Technical data

| Measuring inputs | 2 ALMEMO® input sockets for Pt100 sensors |
|---|---|
| Electrical isolation | Semiconductor relay (50 V) |
| A/D converter | Delta-sigma, 24-bit, 1.25 mops |
| Measuring range | Pt100, -200 to +400 °C |
| Resolution | 0.001 K or 0.01 K |
| Measuring current | 1 mA |
| Accuracy | ±0.010 K ±1 digit in range -50 to +400 °C |
| Nominal conditions | 23 °C ±2 K, 1013 mbar, battery mode |
| Temperature drift | typical 2 ppm / K |
| **Outputs** | 2 ALMEMO® sockets for interface cable and ALMEMO® memory connector |

| Standard equipment | |
|---|---|
| Display | Graphics display, 128 x 64 pixels, 8 rows |
| Illumination | 2 white LEDs |
| Keypad | 7 silicone keys (of which 4 soft-keys) |
| Date and time-of-day | Real-time clock, buffered by device battery |
| Individual value memory, internal | 100 measured values |

| Power supply | |
|---|---|
| Battery set | 3 AA alkaline batteries |
| Mains adapter | ZA1312NA7 230 VAC to 12 VDC, 1 A, electrically isolated |
| Current consumption (without input and output modules) | |
| | approx. 20 mA |
| With illumination | approx. 40 mA |
| Housing | 127 x 83 x 42 mm (LxWxH) ABS (maximum 70 °C)  290 g |

| **Pt100 temperature sensor  FPA923L0250** | |
|---|---|
| Measuring element | Pt100 as per DIN EN 60751 |
| Class | 1/10 B (DIN EN 60751) at 0 °C |
| Measuring tip | Operative range   -50 to +400 °C |
| Response time $T_{90}$ | 5 seconds |
| Nominal length | 250 mm |
| Shaft | Stainless steel, diameter 3 mm |
| Connecting cable | 2 meters, FEP / silicone |
| ALMEMO® plug | Resolution 0.001 K |
| Other sensor designs are available on request. | |

## Accessories

| | Order no. | | Order no. |
|---|---|---|---|
| Ethernet data cable | ZA1945DK | Rubberized impact protection, gray | ZB2490GS2 |
| ALMEMO® memory connector with micro SD | ZA1904SD | DIN rail mounting | ZB2490HS |

## Standard delivery

**Order no.**

**Reference measuring instrument for temperature measurement with accessories, evaluation software, and Pt100 temperature sensor.  Complete set including DKD calibration certificate:**

Reference measuring instrument ALMEMO® 1030-2 including 3 AA alkaline batteries,  Desktop mains unit ZA1312NA7, USB data cable ZA1919DKU, Instrument case, evaluation software ALMEMO® View SW5500AV  (see page 06.06) and  Pt100 temperature sensor FPA923L0250 with DKD calibration certificate
(2 temperature points at 0 and 100 °C, including adjustment)

**SP10302D**