

REFERENCE INSTRUMENT

High-precision temperature measuring instrument ALMEMO® 1020-2
Measuring by means of thermocouples
Types N, S, R, B, Resolution 0.01 K, up to 1800°C



Technical features

- ▶ Temperature measurement with very high resolution, precision, and linearity, by means of thermocouples types N, S, R, B
- ▶ Suitable as reference device in calibration laboratories and quality assurance procedures
- ▶ Very high level of accuracy - thanks to multi-point adjustment of the thermocouple temperature sensor (on leaving our factory)
- ▶ Each temperature sensor has its own cold junction stored in the ALMEMO® plug or externally. The cold junction temperature in the ALMEMO® plug is measured to a very high resolution 0.001 K by means of an NTC sensor.
- ▶ Two electrically isolated measuring inputs for thermocouples, types N, S, R, B
- ▶ Resolution 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, differential, measuring point list, cold junction temperature
- ▶ 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
- ▶ Device configuration: Illumination, contrast, device address, baud rate
- ▶ Choice of language: German, English, French

Accessories

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

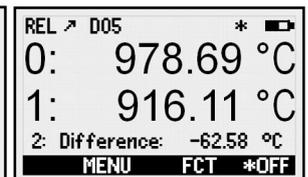
Technical data:

ALMEMO® 1020-2

Measuring inputs	2 ALMEMO® input sockets for thermocouples
Electrical isolation	Semiconductor relay (50 V)
A/D converter	Delta-sigma, 24-bit, 1.25 mops
Measuring ranges	
NiCrSi-NiSi	Type N -200 to +1300 °C
PtRh10-Pt	Type S -50 to +1768 °C
PtRh10-Pt	Type R -50 to +1768 °C
PtRh30-PtRh6	Type B +250 to +1820 °C
Resolution	0.01 K
Accuracy	±0.1 K ±1 digit in the range
Type N	-200 to +1300 °C
Type S	+50 to +1760 °C
Type R	+100 to +1760 °C
Type B	+500 to +1800 °C
Nominal conditions	23 °C ±2 K, 1013 mbar, battery operation
Temperature drift	typical 10 ppm / K
Cold junction temperature	Measuring operations with 0.001 K resolution
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 softkeys)
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	approx. 20 mA
With illumination	approx. 40 mA (without input and output modules)
Housing	127 x 83 x 42 mm (LxWxH) ABS (maximum 70 °C); 290 g



Menu selection



Measuring menu



Function menu



Measuring points list

04/2012 We reserve the right to make technical changes.

Variants

High-precision temperature measuring instrument with accessories, evaluation software, and thermocouple sensor Complete set including DKD / DAkkS calibration certificate

ALMEMO® 1020-2 measuring instrument including 3 AA alkaline batteries, desktop power supply unit ZA1312NA7, USB data cable ZA1919DKU, instrument case, and evaluation software ALMEMO® View SW5500AV (see page 06.16)

Set with sheathed thermocouple sensor, NiCroSil-NiSil, type N, class 1, FTAN926L0500P2, up to 1150 °C

Stainless steel jacket, d= 6 mm, L= 500 mm, 1.5-meter thermal line, ALMEMO® plug, DKD / DAkkS calibration certificate for 0° / 100° / 500° / 1000 °C, including adjustment

Order no. SP10202ND

Set with thermocouple sensor, PtRh10-Pt, type S, class 1, FTAS918L0500P2, up to 1400 °C

Thermowire d= 0.5 mm, ceramic protective tube, d= 8 mm, L= 500 mm, 1.5-meter compensation line, ALMEMO® plug, sensor case, DKD / DAkkS calibration certificate for 500° / 1000° / 1200 °C, including adjustment

Order no. SP10202S1D

Set with thermocouple sensor, PtRh10-Pt, type S, class 1, with external cold junction, FTAS908L0500P2, up to 1600 °C

Thermowire d= 0.5 mm, ceramic protective tube, d= 8 mm, L= 500 mm, approx. 0.7-meter thermal line as far as cold junction, stainless steel protective tube, d= 5 mm, L= 250 mm, 2-meter line (stranded copper wire), ALMEMO® plug, sensor case, DKD / DAkkS calibration certificate for 500° / 1000° / 1200 °C, including adjustment

Order no. SP10202S2D