

ALMEMO® MEASURING INSTRUMENTS

new!

ALMEMO® 2450-1L
Measuring instrument with display,
more than 35 measuring ranges with just one
measuring input



Technical features :

- ▶ Handy display device with 1 ALMEMO® input socket and 4 channels.
- ▶ Generously dimensioned 2-row static 7 / 16 segment display including units.
- ▶ Easy and convenient to operate by means of 7 keys.
- ▶ More than 35 measuring ranges for thermocouple and NTC sensors; ready-to-use connectors are available for customer-specific thermocouple sensors (see Chapter 08), Capacitive humidity sensors, dew-point sensors, moisture detection probes, moisture in wood, FHA636MF (see Chap. 09), Pressure transducers, FDA602L/D, FD8214, FD8612, speed transducers, turbine flow meters (see Chapter 11), Split-core type transformers FEA604, voltage and current measuring modules ZA990xAB (see Chapter 12), Meteorological radiation probe head FLA613 (see Chapter 13), Carbon dioxide sensor, hand-held, FYA600CO2H, carbon monoxide probe, ozone probe (see Chapter 16), Infra-red temperature sensor FIA908CSH (see Chapter 18).
- ▶ Support for ALMEMO® connectors with multi-point calibration.
- ▶ Measuring functions : Measured value, zero-setting, saving of maximum / minimum values, hold function.
- ▶ Test functions : Segment monitoring, range monitoring, sensor breakage indication, battery voltage check and display.

Extent of the delivery

Measuring instrument ALMEMO® 2450-1L
1 measuring input for ALMEMO® sensors, LC display, 7 keys including 3 AA alkaline batteries and operating instructions including manufacturer's test certificate

Order No. MA24501L

Technical data :

Measuring input	1 ALMEMO® socket for 1 ALMEMO® sensor
Channels	Maximum 4 (sensor-type-specific, measuring and function channels)
A/D converter	delta-sigma, 15-bit resolution
Input current	< 2 nA
Input measuring range	-260 mV to +2.6 V
Overload range	-4 to +5 V
Measuring ranges	(see pages 01.06 / 01.07) NiCr-Ni (K), NiCroSil-Nisil(N), Fe-CuNi (L), Cu-CuNi (U), Cu-CuNi (T), PtRh10-Pt (S), NTC, Fe-CuNi (J) -200 to +950 °C
Voltage	-26 to +26 mV, -260 to +260mV, 0 to +2.6 V
Current	0 to 32 mA, 4 to 20 mA
Moisture, capacitive	0 to 100 % r. H.(%rH, HcrH, HrH)
Dew point, mixture ratio, partial vapor pressure, enthalpy, digital input (0/100 %), rotating vanes, frequency, pulse, rotational speed, digital	
Resolution	see pages 01.06 / 01.07
Linearization accuracy	see pages 01.06 / 01.07
Measuring rate	2.5 mops (measuring operations per second)
System accuracy	±0.1% of meas. value ±3 digits
Nominal temperature	22°C ± 2K
Temperature drift	0.01% / K
Cold junction compensation	effective in the range -30 to +80 °C (accuracy: ±0.2 K ±0.01K /°C)
Connector supply	Battery: 9 V, max. 150 mA
Option U	9 V, maximum 80 mA
Outputs	none
Standard equipment	
LC display 7 segments	Measured value 5 char., 15 mm
16 segments	Function 4½ char., 9 mm Units 2 characters, 9 mm 9 symbols
Keypad	7 silicone keys
Power supply	
Battery	3 AA alkaline batteries
Current consumption	10 mA without input modules
Housing	ABS (maximum 70 °C) (LxWxH) 127 x 83 x 42 mm
Operating temperature	-10 to +60 °C
Atmospheric humidity (ambient)	10 to 90 % r. H. (non-condensing)

Options

Top hat rail mounting	OA2450HS
RS485 interface, built-in, including OA2450U with Power supply, electr. isol., 9 to 30 VDC, 80 mA, including ALMEMO® connector for socket DC	OA2450I

Accessories

Instrument case	ZB2490TK
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04/2007 We reserve the right to make technical changes.

ALMEMO® 2450-1 Measuring instrument with more than 35 measuring ranges with just one measuring input, interface and option with internal analog output



Technical features :

- ▶ Handy display device with 1 ALMEMO® input socket and 4 channels.
- ▶ Generously dimensioned 2-row static 7 / 16 segment display including units.
- ▶ Easy and convenient to operate by means of 7 keys.
- ▶ More than 35 measuring ranges for thermocouple and NTC sensors; ready-to-use connectors are available for customer-specific thermocouple sensors (see Chapter 08), Capacitive humidity sensors, dew-point sensors, moisture detection probes, moisture in wood, FHA636MF (see Chap. 09), Pressure transducers, FDA602L/D, FD8214, FD8612, speed transducers, turbine flow meters (see Chapter 11), Split-core type transformers FEA604, voltage and current measuring modules ZA990xAB (see Chapter 12), Meteorological radiation probe head FLA613 (see Chapter 13), Carbon dioxide sensor, hand-held, FYA600CO2H, carbon monoxide probe, ozone probe (see Chapter 16), Infra-red temperature sensor FIA908CSH (see Chapter 18).
- ▶ Support for ALMEMO® connectors with multi-point calibration.
- ▶ Measuring functions : Measured value, zero-setting, saving of maximum / minimum values, hold function.
- ▶ Test functions : Segment monitoring, range monitoring, sensor breakage indication, battery voltage check and display.

Measuring instrument 2450-1 with ALMEMO® interface:

- ▶ 2 ALMEMO® output sockets for all interface cables, network cables, trigger / relay cables
- ▶ Complete sensor and device programming
- ▶ ALMEMO® socket DC for mains adapter.
- ▶ **Option with electrically isolated internal analog output :** ALMEMO® socket P0 for analog output (scalable with keyboard).

Extent of the delivery

Measuring instrument ALMEMO® 2450-1
1 measuring input for ALMEMO® sensors, LC display, 7 keys plus interface via 2 ALMEMO® output sockets A1, A2 and 1 ALMEMO® socket DC for mains adapter including 3 AA alkaline batteries and operating instructions including manufacturer's test certificate

Order No. MA24501

Technical data :

Measuring input	1 ALMEMO® socket for 1 ALMEMO® sensor
Channels (sensor-type-specific, measuring and function channels)	Maximum 4
A/D converter	delta-sigma, 15-bit resolution
Input current	< 2 nA
Input measuring range	-260 mV to +2.6 V
Overload range	-4 to +5 V
Measuring ranges (see pages 01.06 / 01.07)	NiCr-Ni (K), NiCroSil-NiSil(N), Fe-CuNi (L), Cu-CuNi (U), Cu-CuNi (T), PtRh10-Pt (S), NTC, Fe-CuNi (J) -200 to +950 °C
Voltage	-26 to +26 mV, -260 to +260mV, 0 to +2.6 V
Current	0 to 32 mA, 4 to 20 mA
Moisture, capacitive	0 to 100 % r. H. (%rH, HrH, HrH)
Dew point, mixture ratio, partial vapor pressure, enthalpy, digital input (0/100 %), rotating vanes, frequency, pulse, rotational speed, digital	
Resolution	see pages 01.06 / 01.07
Linearization accuracy	see pages 01.06 / 01.07
Measuring rate	2.5 mops (measuring operations per second)
System accuracy	±0.1% of meas. value ±3 digits
Nominal temperature	22°C ± 2K
Temperature drift	0.01% / K
Cold junction compensation	effective in the range -30 to +80 °C (accuracy: ±0.2 K ±0.01K / °C)
Connector supply Option U	Battery / mains: 9 V, max. 150 mA 9 V, maximum 80 mA
Outputs with option OA2450Rx only	2 ALMEMO® sockets for all interface cables, version V6 1 ALMEMO® socket P0 for internal analog output
Standard equipment	
LC display 7 segments	Measured value 5 char., 15 mm Function 4½ char., 9 mm
16 segments	Units 2 characters, 9 mm
Keypad	9 symbols 7 silicone keys
Power supply	
Battery	3 AA alkaline batteries
Current consumption	10 mA without input modules
Mains adapter :	ZA1312NA1 230 VAC to 12 VDC, 200 mA, electrically isolated, via ALMEMO® socket DC
Housing	ABS (maximum 70 °C) (LxWxH) 127 x 83 x 42 mm
Operating temperature	-10 to +60 °C
Atmospheric humidity (ambient)	10 to 90 % r. H. (non-condensing)

Options

Top hat rail mounting	OA2450HS
Power supply, electr. isol., 9 to 30 VDC, 80 mA, including ALMEMO® connector for socket DC	OA2450U
Analogue outputs, electrically isolated , built-in, including ALMEMO® connector for socket P0	
Single analog output, 0 to 10 V (0.5 mV / digit)	OA2450R2
Single analog output, 0 to 20 mA (1 µA / digit)	OA2450R3
Double analog output, 0 to 10 V (0.5 mV / digit)	OA2450R22
Double analog output, 0 to 20 mA (1 µA / digit)	OA2450R32

Accessories

Mains adapter 12 V, 200 mA, with ALMEMO® connector	ZA1312NA1
DC adapter cable	
10 to 30 VDC, 12 V / 0.25 A, electrically isolated	ZA2690UK
Analogue output cable, -1.25 to +2.0 V, 0.1 mV / digit, V6	ZA1606RK
V24 data cable, electrically isolated, maximum 115.2 KB	ZA1909DK5
USB data cable, electr. isol., maximum 115.2 KB	ZA1919DKU
Ethernet data cable, electr. isol., maximum 115.2 KB	ZA1945DK
Instrument case	ZB2490TK

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