ALMEMO® MEASURING INSTRUMENTS

ALMEMO® 2450-1L
compact measuring instrument, 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.

Technical data :

Measuring input	1 ALMEMO® socket
Channels	Maximum 4
(sensor-type-specific, measuring and function channels)	
A/D converter	delta-sigma, 15-bit resolution technical data see page 01.05
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
	Double connectors with 2 x differential voltage / differential current (input D - B) are not possible.
Humitity, 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
Connector supply	Battery: 9 V, max. 0.5 A
Outputs	none
Standard equipment	
LC display 7 segments	Measured value 5 char., 15 mm Function 4½ char., 9 mm
16 segments	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)

Option
IP54 protection (if water-proof connectors are used)   OA2450W

Accessories
Top hat rail mounting	ZB2490HS
Rubberized impact protection, gray	ZB2490GS2
Magnetic fastening	ZB2490MH
Instrument case	ZB2490TK

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

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

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 RS485: via ALMEMO® socket DC.

► Option with electrically isolated internal analog output : ALMEMO® socket P0 for analog output (see Chapter 02 ALMEMO® transmitters).

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 adapterincluding 3 AA alkaline batteries and operating instructions including manufacturer's test certificate

Order no. MA24501

Technical data :

Measuring input	1 ALMEMO® socket
Channels	Maximum 4
(sensor-type-specific, measuring and function channels)	
A/D converter	delta-sigma, 15-bit resolution technical data see page 01.05

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
	Double connectors with 2 x differential voltage / differential current (input D - B) are not possible.
Humitity, 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
Connector supply	Battery / mains: 9 V, max. 0.5A
Option U	9 V, maximum 70 mA
Outputs	2 ALMEMO® sockets for all interface cables
with option OA2450I	RS485 interface internal, electrically isol., via socked DC
Standard equipment	
LC display 7 segments	Measured value 5 char., 15 mm Function 4½ char., 9 mm
16 segments	Units 2 characters, 9 mm 9 symbols
Keypad	7 silicone keys
Power supply	10 ... 30V DC not electr. isol.
Battery	3 AA alkaline batteries
Current consumption	10 mA without input modules
Mains adapter :	ZA1312NA7 230 VAC to 12 VDC,
1A, 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

Power supply, electr. isol., 9 to 30 VDC, 80 mA, including ALMEMO® connector for socket 10...30V DC	OA2450U
RS485 interface, built-in, including Option U	OA2450I
Analog outputs, electrically isolated , built-in see Chapter 02 ALMEMO® transmitters	
IP54 protection (if water-proof connectors are used)	OA2450W

Accessories

Top hat rail mounting	ZB2490HS
Rubberized impact protection,gray	ZB2490GS2
Magnetic fastening	ZB2490MH
Mains adapter 12 V, 1A, with ALMEMO® connector	ZA1312NA7
DC adapter cable 10 to 30 VDC, 12 V / 0.25 A, electrically isolated	ZA2690UK
Analog 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