

# ALMEMO® MEASURING INSTRUMENTS

**new!**

**ALMEMO® 2490-1L**  
Universal measuring instrument for all ALMEMO® sensors with just one measuring input, with memory for 100 measured values, and option with internal analog output

**ALMEMO® 2490-1**  
Universal measuring instrument plus interface



**Technical features :**

- ▶ 1 ALMEMO® input socket for 1 ALMEMO® sensor, 4 channels.
- ▶ Memory sufficient for 100 measured values, can be called up and viewed in the display
- ▶ High-resolution A/D converter, 16-bit, 10 mops.
- ▶ More than 65 standard measuring ranges.
- ▶ Support for ALMEMO® connectors with multi-point calibration, special linearization, and special measuring ranges.
- ▶ Generously dimensioned 2-row static 7 / 16 segment display including units.
- ▶ Easy and convenient to operate by means of 7 keys
- ▶ Measuring functions :  
Measured value, zero-setting, sensor adjustment, saving of maximum / minimum values, memory for 100 measured values, cold junction compensation, and temperature compensation.
- ▶ Test functions :  
Segment monitoring, range monitoring, sensor breakage indication, battery voltage check and display.

**Option with electrically isolated internal analog output :**

- ▶ ALMEMO® socket P0 for internal analog output (scalable with keyboard), ALMEMO® socket DC for mains adapter.

**Universal measuring instrument ALMEMO® 2490-1 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

**Extent of the delivery**

(Includes 3 AA alkaline batteries, operating instructions, and manufacturer's test certificate )

Universal measuring instrument ALMEMO® 2490-1L  
1 measuring input, memory for 100 measured values,  
LC display, 7 keys

**Order no. MA2490-1L**

Universal measuring instrument ALMEMO® 2490-1 like 2490-1L,  
plus interface via 2 ALMEMO® output sockets A1, A2, and  
1 ALMEMO® socket DC for mains adapter

**Order no. MA2490-1**

**Technical data :**

Measuring inputs	1 ALMEMO® input socket for 1 ALMEMO® sensor
Channels	Per sensor, max. 4 channels (sensor-type-specific, measuring and function channels)
A/D converter	delta-sigma, 16-bit For technical data see page 01.05.
Measuring ranges	as on page 01.06, but
Volts DC	-2.0 to +2.6 V
Milliamperes DC	-26 to +26 mA
System accuracy	±0.03 % of meas. val. ±3 digits
Connector supply	Battery / mains: 9 V, max. 150 mA
Option U	9 V, maximum 80 mA
Outputs	
with option OA2490Rx only	1 ALMEMO® socket P0 for internal analog output
on ALMEMO® 2490-1 only	2 ALMEMO® sockets for all interface cables
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	approx. 20 mA without input modules
Mains adapter	ZA1312NA1 230 VAC to 12 VDC, 200 mA
Housing	ABS (maximum 70 °C) (LxWxH) 127 x 83 x 42 mm

Other general data see Technical Data, page 01.05

**Options :**

Top hat rail mounting	OA2490HS
RS485 interface, built-in, including OA2490U	OA2490I
Power supply, electrically isolated, 9 to 30 VDC, 80 mA, including ALMEMO® connector for socket DC	OA2490U
Analogue outputs, electrically isolated , built-in, including ALMEMO® connector for socket P0	
Single analog output, 0 to 10 V (0.5 mV / digit)	OA2490R2
Single analog output, 0 to 20 mA (1 µA / digit)	OA2490R3
Double analog output, 0 to 10 V (0.5 mV / digit)	OA2490R22
Double analog output, 0 to 20 mA (1 µA / digit)	OA2490R32

**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
Analog output cable, -1.25 to +2.0 V, 0.1 mV / digit, V6	ZA1606RK
V24 data cable, electr. isol., 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

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

# ALMEMO® MEASURING INSTRUMENTS

**new!**

01

**ALMEMO® 2490-2L**  
**Universal measuring instrument**  
**for all ALMEMO® sensors, with 2 measuring**  
**inputs, with memory for 100 measured values,**  
**option with internal analog output**

**ALMEMO® 2490-2**  
**Universal measuring instrument plus interface**



## Technical features :

- ▶ 2 ALMEMO® input sockets for 2 ALMEMO® sensors, 8 channels, 4 internal function channels (e.g. differential values)
- ▶ Memory sufficient for 100 measured values, can be called up and viewed in the display
- ▶ High-resolution A/D converter, 16-bit, 10 mops
- ▶ More than 65 standard measuring ranges
- ▶ Support for ALMEMO® connectors with multi-point calibration, special linearization, and special measuring ranges
- ▶ Generously dimensioned 2-row static 7 / 16 segment display including units
- ▶ Easy and convenient to operate by means of 7 keys
- ▶ Measuring functions : Measured value, zero-setting, sensor adjustment, saving of maximum / minimum values, memory for 100 measured values, cold junction compensation, and temperature compensation
- ▶ Test functions : Segment monitoring, range monitoring, sensor breakage indication, battery voltage check and display

## Option with electrically isolated internal analog output :

- ▶ ALMEMO® socket P0 for internal analog output (scalable with keyboard), ALMEMO® socket DC for mains adapter.

## Universal measuring instrument ALMEMO® 2490-2 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.

## Extent of the delivery

Includes 3 AA alkaline batteries, operating instructions, and manufacturer's test certificate

Universal measuring instrument ALMEMO® 2490-2L  
 2 measuring inputs, memory for 100 measured values, LC display, 7 keys **Order no. MA2490-2L**

Universal measuring instrument ALMEMO® 2490-2  
 like 2490-2L, plus interface via 2 ALMEMO® output sockets A1, A2, and 1 ALMEMO® socket DC for mains adapter **Order no. MA2490-2**

## Technical data :

Measuring inputs	2 ALMEMO® input sockets for 2 ALMEMO® sensors
Channels	Per sensor, max. 4 channels (sensor-type-specific, measuring and function channels), plus 4 internal function chan.
A/D converter	delta-sigma, 16-bit For technical data see page 01.05.
Measuring ranges as on page 01.06, but	
Volts DC	-2.0 to +2.6 V
Milliamperes DC	-26 to +26 mA
System accuracy	±0.03 % of meas. val. ±3 digits
Connector supply	Battery / mains: 9 V, max. 150 mA
Option U	9 V, maximum 80 mA
Outputs	
with option OA2490Rx only	1 ALMEMO® socket P0 for internal analog output
on ALMEMO® 2490-2 only	2 ALMEMO® sockets for all interface cables, version V6
Standard equipment	
LC display 7 segments	Measured value 5 char., 15 mm Function 4½ characters, 9 mm
16 segments	Units 2 characters, 9 mm 9 symbols
Keypad	7 silicone keys
Power supply	
Battery	3 AA alkaline batteries
Current consumption	approx. 20 mA without input modules
Mains adapter	ZA1312NA1 230 VAC to 12 VDC, 200 mA
Housing	ABS (maximum 70 °C) (LxWxH) 127 x 83 x 42 mm

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Analog outputs, electrically isolated, built-in, including ALMEMO® connector for socket P0	
Single analog output, 0 to 10 V (0.5 mV / digit)	OA2490R2
Single analog output, 0 to 20 mA (1 µA / digit)	OA2490R3
Double analog output, 0 to 10 V (0.5 mV / digit)	OA2490R22
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