ALMEMO® Measuring Instruments

Universal ALMEMO® transmitter 2450 / 2490

- **1 or 2 measuring inputs**
- **Various outputs - digital, analog**
- **Various power supplies**

ALMEMO® transmitter - a comparison

	ALMEMO® 2450 **Compact measuring instrument**	**ALMEMO® 2490** **Basic measuring instrument**
Measuring ranges (see Table, page 01.10 / 01.11)	Over 35 measuring ranges, inter alia thermocouples, NTC, temperature / humidity, capacitive	Over 65 measuring ranges, inter alia Pt100, Pt1000, thermocouples, NTC temperature / humidity, capacitive temperature / humidity, psychrometric
Precision class technical data (see page 01.05)	C	B
Measuring inputs	ALMEMO® 2450-1x 1 measuring input	ALMEMO® 2490-1x 1 measuring input ALMEMO® 2490-2x 2 measuring inputs
Other technical data	(see ALMEMO® 2450, page 01.12)	(see ALMEMO® 2490, page 01.14)

Common technical data

Analog outputs	10 V or 20 mA (programmable)
	16-bit DAC, electrically isolated
0.0 to 10.0 V	0.5 mV / digit, load >100 kilohms
0.0 / 4.0 to 20.0 mA	0.1 mA / digit, load <500 ohms
Accuracy	0.1% of meas. v. +0.1% of final v.
Temperature drift	10 ppm / K
Time constant	100 ms

Standard equipment	LCD screen, keypad
Housing	ABS (maximum 70 °C) 127 x 83 x 42 mm (LxWxH)
Operating temperature	-10 to +60 °C
Atmospheric humidity	10 to 90 % RH (non-condensing)

Programming the analog output (Example)
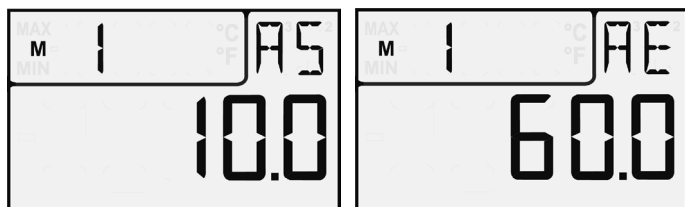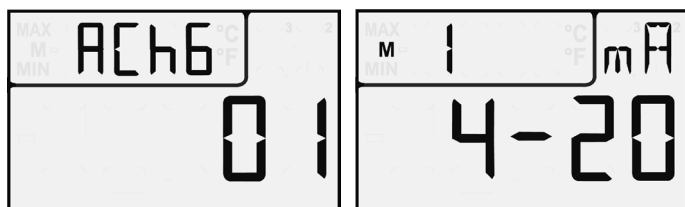
Analog - start   Analog - end

Compact measuring instrument
ALMEMO® 2450-1x
Universal transmitter with display
for a wide variety of ALMEMO® sensors

Technical data

Measuring input	
ALMEMO® 2450-1x	1 ALMEMO® socket

Measuring ranges	(see Table, page 01.10 / 01-11)
	Over 35 measuring ranges, inter alia
	Thermocouples, NTC,
	temperature, humidity, capacitive

Other common data (see page 01.50)

Variants   **Order no.**

Digital transmitter

Measuring input for ALMEMO® sensors, LCD screen, 7 keys, with interface via 2 ALMEMO® output sockets A1, A2, and 1 ALMEMO® DC socket for mains adapter including 3 AA alkaline batteries, operating instructions, manufacturer's test certificate,
Compact measuring instrument ALMEMO® 2450-1
1 measuring input   **MA24501**

Analog transmitter, like the digital transmitter described above, plus integrated analog output via socket P0, electrically isolated (scaling via keypad), including ALMEMO® clamp connectors 2 analog outputs (common ground), electrically isolated, 10 V or 20 mA (programmable)
Compact measuring instrument ALMEMO® 2450-1,
1 Messeingang   **MA24501R02**

Option
Protective class IP54
(if water-proof plugs are used)   OA2450W
Option U Power supply, electrically isolated   OA2450U
Option I RS485 interface   OA2450I

Basic measuring instrument
ALMEMO® 2490-1x / -2x
Universal transmitter with display
for all ALMEMO® sensors

Technical data

Measuring input	
ALMEMO® 2490-1x	1 ALMEMO® socket
ALMEMO® 2490-2x	2 ALMEMO® sockets

Measuring ranges	(see Table, page 01.10 / 01-11)
	Over 65 measuring ranges, inter alia
	Pt100, Pt1000,
	thermocouples, NTC
	Temperature / humidity, capacitive
	Temperature / humidity, psychrometric

Other common data (see page 01.50)

Variants   **Order no.**

Digital transmitter

Measuring input for ALMEMO® sensors, LCD screen, 7 keys, with interface via 2 ALMEMO® output sockets A1, A2, and 1 ALMEMO® DC socket for mains adapter including 3 AA alkaline batteries operating instructions, manufacturer's test certificate
Basic measuring instrument ALMEMO® 2490-1
1 measuring input   **MA24901**
Basic measuring instrument ALMEMO® 2490-2
2 measuring inputs   **MA24902**

Analog transmitter, like the digital transmitter described above, plus integrated analog output via socket P0, electrically isolated (scaling via keypad), including ALMEMO® clamp connectors 2 analog outputs (common ground), electrically isolated, 10 V or 20 mA (programmable)
Basic measuring instrument ALMEMO® 2490-1
1 measuring input   **MA24901R02**
Basic measuring instrument ALMEMO® 2490-2
2 measuring inputs   **MA24902R02**
Option
Protective class IP54
(if water-proof plugs are used)   OA2490W
Option U Power supply, electrically isolated   OA2490U
Option I   RS485 interface   OA2490I

DAkkS or works calibration KE90xx, electrical, for measuring instrument (see chapter „Calibration certificates")
DAkkS calibration meets all the requirements regarding test resources laid down in DIN EN ISO/IEC 17025.

Accessories, options

(please order separately)

Power supply

230 VAC via desktop mains unit 12 V, 1 A	ZA1312NA7
10 to 30 VDC, maximum 80 mA, electrically isolated, integrated including ALMEMO® clamp connector	see option U
10 to 30 VDC, maximum 200 mA, electrically isolated, via DC adapter cable, with banana plugs	ZA2690UK
10 to 30 VDC, not electrically isolated (not suitable for thermocouple measuring) including ALMEMO® clamp connector	ZA1312FS1

Digital interface (see chapter „Networking")

USB interface via ALMEMO® USB cable	ZA1919DKU
Ethernet interface via ALMEMO® Ethernet cable	ZA1945DK
RS232 interface via ALMEMO® RS232 cable	ZA1909DK5
RS485 interface, integrated including ALMEMO® clamp connector	see option I

Limit value contact (see chapter „Output modules")

(Programming via digital interface, see above)
2 normally open contacts, 50 VDC / 500 mA
(can also be programmed as inverted)

via ALMEMO® relay cable, V6, clamped connection	ZA1006EKG
ALMEMO® limit value cable with banana plugs (for electrical socket adapter)	ZA1006GK
Electrical safety socket adapter, 250 V / 6 A (for ALMEMO® limit value cable)	ZB2280RA

Installation

DIN rail	ZB2490HS
Magnet	ZB2490MH