ALMEMO® Measuring Instruments

ALMEMO® 2470

ALMEMO® professional measuring instrument with data logger function
Functions for all application areas, 1 or 2 measuring inputs
Also with integrated sensor for temperature, atmospheric humidity, atmospheric pressure

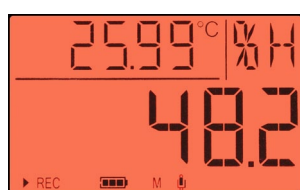## Technical data and functions, ALMEMO® 2470 series

- Segmented color display with bright, white illumination Clear and easy-to-understand display of programming and measured values in 5 different colors and alarm display on a red background
- In the event of a limit value being overshot / undershot various freely configurable alarm messages are available, namely acoustic signal, visual LED signal, alarm display on a red background.
- With the 2470-1S /-2S these alarm messages are also configurable for long-term recording; in sleep mode the messages remain active and the most recent measured value is displayed continuously.
- Good measuring accuracy, measuring rate up to 10 measuring operations per second (mops)

- More than 65 standard measuring ranges
- Support for ALMEMO® plugs with multi-point adjustment, special linearization, and special measuring ranges
- Easy and convenient to operate by means of 7 keys, with configurable locking for keys and functions
- Measuring functions : Maximum and minimum values, measured value smoothing, zero-setting, sensor adjustment
- Programming functions : Limit values, sensor correction with base value and factor
- All ALMEMO® functions programmable via interface
- Modern, compact housing

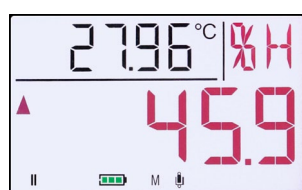## Technical data, ALMEMO® 2470 series

Precision class	A (see page 01.04)	Power supply	1 ALMEMO® DC socket
Measuring rate	2.5 / 10 measuring operations per second	Mains adapter	ZA1312NA10 100 to 230 VAC to 12 VDC, 2A,electrically isolated
Sensor power supply	Battery mode	DC adapter cable, el. isol.	ZA2690UK 10 to 30 V, 0.25 A
	Sensor voltage 6 V, 400 mA	Current consumption (without input and output modules)	
	9 V, 300 mA and 12 V, 200 mA	Active without illumination	approx. 12 mA
With mains adapter	12 V, 400 mA	Active with illumination	approx. 30 mA
Standard equipment		Sleep mode	approx. 60 µA
Display 16 segments	Measured value 5 characters, 15 mm	Housing	127 x 83 x 42 mm (LxWxH)
	Units 2 characters, 9 mm		ABS, 290g
7 segments	Function 4½ characters, 9 mm		
	21 symbols, Illumination 2 RGB LEDs		
Keypad	7 silicone keys		

ALMEMO® 2470 series, accessories

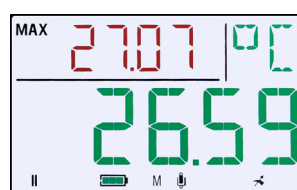|	Order no.		Order no.
Rubberized impact protection, gray	**ZB2490GS2**	DC cable 10 to 30 V, 12 V / 0.25 A, electr. isol.	**ZA2690UK**
Instrument case	**ZB2490TK2**	DIN rail mounting	**ZB2490HS**
Mains adapter 12 V / 2 A	**ZA1312NA10**	Magnetic fastening	**ZB2490MH**

Automatic alarm (red background). Display shows incorrect measured value

Dual display
1. Humidity Measured value overshoots limit value (red).
2. Temperature

1. Measured value is inside limit values (green).
2. Peak value MAX overshoots limit value (red)

Programming of
1. Save-to-memory cycle
2. Sleep mode

ALMEMO® Measuring Instruments

ALMEMO® 2470-1S	ALMEMO® 2470-1SCRH

**Professional measuring instrument,
1 measuring input
Data logger with integrated memory**

**Professional measuring instrument,
1 measuring input, Data logger with integrated memory, Integrated sensor for temperature, atmospheric humidity, atmospheric pressure**

Technical data and functions

- Technical data and functions as for ALMEMO® 2470 series
- Data logger functions: Internal EEPROM, memory cycle, real-time clock
- Long-term recording in sleep mode with AA batteries
- Operating time up to 1.5 years with memory cycle of 15 minutes and temperature / humidity sensor.

Technical data and functions

- Technical data and functions, as for ALMEMO® 2470 series
- Data logger functions
- Internal EEPROM, memory cycle, real-time clock
- Long-term recording in sleep mode with AA batteries
- Operating time up to 1.5 years with memory cycle of 15 minutes and temperature / humidity sensor.

Technical data

Measuring inputs	1 ALMEMO® input socket
Outputs	ALMEMO® DC socket for mains adapter or USB cable with supply ZA 1919 DKU5
Memory, internal	EEPROM sufficient for 100,000 measured values
Date and time-of-day	Real-time clock, buffered by device battery
Power supply	3 AA batteries

Technical data

Measuring inputs	1 ALMEMO® input socket
Outputs	ALMEMO® DC socket for mains adapter or USB cable with supply ZA 1919 DKU5
Memory, internal	EEPROM sufficient for 100,000 measured values
Date and time-of-day	Real-time clock, buffered by device battery
Power supply	3 AA batteries

Digital sensor for humidity / temperature / air pressure FH0D 46-C2, slotted sensor cap, plugged in on the measuring instrument.
General description and technical data (see chapter „Atmospheric humidity").

Connecting cable	Order no.
USB data cable with 5-V power supply	**ZA1919DKU5**

Connecting cable	Order no.
USB data cable with 5-V power supply	**ZA1919DKU5**

Standard delivery	Order no.
Batteries, operating instructions, manufacturer's test certificate **Professional measuring instrument ALMEMO® 2470-1S**	**MA24701S**

Standard delivery	Order no.
Batteries, digital plug-in sensor for temperature, atmospheric humidity and air pressure, operating instructions, manufacturer's test certificate. **Professional meas. instrument ALMEMO® 2470-1SCRH**	**MA24701SCRH**

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.

ALMEMO® Measuring Instruments

ALMEMO® 2470-2

Professional measuring instrument, 2 measuring inputs

Technical data and functions

- Technical data and functions, as for ALMEMO® 2470 series
- Power supply, 3 AA rechargeable NiMH batteries, with charging via the device itself.

Technical data

Measuring inputs	2 ALMEMO® input sockets el. isol., with semicond. relays (50 V)
Additional channels	4 channels, device-internal (e.g. difference)
Outputs	ALMEMO® sockets A1 and A2, suitable for all output modules (analog, data, trigger, relay cables, etc.) (see chapter „Networking")
Individual value memory	99 individual measured values
Power supply	3 AA rechargeable NiMH batteries Integrated charge circuitry

Connecting cables | Order no.

USB data cable, electrically isolated	**ZA1919DKU**
USB data cable with 5-V power supply	**ZA1919DKU5**
V24 data cable, electrically isolated	**ZA1909DK5**
Ethernet data cable, electrically isolated	**ZA1945DK**
Analog output cable, -1.25 to +2.0 V, 0.1 mV / digit	**ZA1601RK**
Trigger and relay cable (2 relays, 500 mA, 50 V)	**ZA1006EKG**
Network technology, Bluetooth modules (see chapter „Networking")	

Standard delivery | Order no.

Rechargeable batteries, operating instructions, manufacturer's test certificate, carry case, mains unit
Professional measuring instrument ALMEMO® 2470-2
MA24702KN

ALMEMO® 2470-2S

Professional measuring instrument, 2 measuring inputs, Data logger with internal memory

Technical data and functions

- Technical data and functions, as for ALMEMO® 2470 series
- Power supply, 3 AA rechargeable NiMH batteries, with charging via the device itself
- Data logger functions: Internal EEPROM or external memory connector (accessory), memory cycle, real-time clock
- Long-term recording in sleep mode, internal memory, AA rechargeable NiMH batteries. Operating time up to 1 year with memory cycle of 15 minutes and temperature / humidity sensor.

Technical data

Measuring inputs	2 ALMEMO® input sockets el. isol., with semicond. relays (50 V)
Additional channels	4 channels, device-internal (e.g. difference)
Outputs	ALMEMO® sockets A1 and A2, suitable for all output modules (analog, data, trigger, relay cables, etc.) (see chapter „Networking")
Memory, internal EEPROM	sufficient for 100,000 measured values
Date and time-of-day	Real-time clock, buffered by device battery
Power supply	3 AA rechargeable NiMH batteries Integrated charge circuitry

Accessories | Order no.

Memory connector with micro SD card	**ZA1904SD**

Connecting cables | Order no.

USB data cable, electrically isolated	**ZA1919DKU**
USB data cable with 5-V power supply	**ZA1919DKU5**
V24 data cable, electrically isolated	**ZA1909DK5**
Ethernet data cable, electrically isolated	**ZA1945DK**
Analog output cable, -1.25 to +2.0 V, 0.1 mV / digit	**ZA1601RK**
Trigger and relay cable (2 relays, 500 mA, 50 V)	**ZA1006EKG**
Network technology, Bluetooth modules (see chapter „Networking")	

Standard delivery | Order no.

Rechargeable batteries, operating instructions, manufacturer's test certificate, carry case, mains unit
Professional measuring instrument ALMEMO® 2470-2S
MA24702SKN

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.