

# 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 overshoot / 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 (IP54 option)

### Technical data, ALMEMO® 2470 series

Precision class	A (see page 01.04)
Measuring rate	2.5 / 10 measuring operations per second
Sensor power supply	Battery mode Sensor voltage 6 V, 400 mA 9 V, 300 mA and 12 V, 200 mA
With mains adapter	12 V, 400 mA
Standard equipment	
Display	16 segments Measured value 5 characters, 15 mm Units 2 characters, 9 mm 7 segments Function 4½ characters, 9 mm 21 symbols, Illumination 2 RGB LEDs
Keypad	7 silicone keys

Power supply	1 ALMEMO® DC socket
Mains adapter	ZA1312NA10 100 to 230 VAC to 12 VDC, 2A, electrically isolated
DC adapter cable, el. isol.	ZA2690UK 10 to 30 V, 0.25 A
Current consumption (without input and output modules)	
Active without illumination	approx. 12 mA
Active with illumination	approx. 30 mA
Sleep mode	approx. 60 µA
Housing	127 x 83 x 42 mm (LxWxH) ABS, 290g

### ALMEMO® 2470 series, accessories

		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® 2470-1S



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

### 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

## ALMEMO® 2470-1SCRH



**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

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

USB data cable with 5-V power supply

### Order no.

**ZA1919DKU5**

### Connecting cable

USB data cable with 5-V power supply

### Order no.

**ZA1919DKU5**

### Option

Measuring instrument IP54  
(if water-proof plugs / sensors are used)

### Order no.

**OA2470W**

### Option

Measuring instrument IP54  
(if water-proof plugs / sensors are used)

### Order no.

**OA2470W**

### Standard delivery

Batteries, operating instructions, manufacturer's test certificate  
**Professional measuring instrument ALMEMO® 2470-1S  
MA24701S**

### Order no.

### Standard delivery

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**

### Order no.

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

### Option

	Order no.
Measuring instrument IP54 (if water-proof plugs / sensors are used)	<b>OA2470W</b>

### Standard delivery

	Order no.
Rechargeable batteries, operating instructions, manufacturer's test certificate, carry case, mains unit <b>Professional measuring instrument ALMEMO® 2470-2</b>	<b>MA24702KN</b>

## 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	<b>ZA1904SD</b>

### Connecting cables

	Order no.
USB data cable, electrically isolated	<b>ZA1919DKU</b>
USB data cable with 5-V power supply	<b>ZA1919DKU5</b>
V24 data cable, electrically isolated	<b>ZA1909DK5</b>
Ethernet data cable, electrically isolated	<b>ZA1945DK</b>
Analog output cable, -1.25 to +2.0 V, 0.1 mV / digit	<b>ZA1601RK</b>
Trigger and relay cable (2 relays, 500 mA, 50 V)	<b>ZA1006EKG</b>
Network technology, Bluetooth modules (see chapter „Networking“)	

### Option

	Order no.
Measuring instrument IP54 (if water-proof plugs / sensors are used)	<b>OA2470W</b>

### Standard delivery

	Order no.
Rechargeable batteries, operating instructions, manufacturer's test certificate, carry case, mains unit <b>Professional measuring instrument ALMEMO® 2470-2S</b>	<b>MA24702SKN</b>

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.