

## ALMEMO® 204



ALMEMO® data logger, professional measuring instrument of the latest V7 generation.

Four measuring inputs for all digital ALMEMO® D6 and D7 sensors, for ALMEMO® standard sensors with the DIGI measuring range.

## Applications

ALMEMO® devices can be used for a variety of applications, examples:

**Monitoring the indoor climate conditions:** temperature, air humidity, CO<sub>2</sub> level, air flow.

**Measuring the illumination and the UV exposure at the workplace:** illuminance in lux, UV index.

**Mobile measurements in ventilation systems:** air velocity, temperature, air humidity.

**Meteorological station with meteo multi sensor and radiation sensors:** air velocity, wind direction, temperature, air humidity, atmospheric pressure, global radiation, UV radiation, UV index.

**Monitoring temperatures in test stands and in industrial processes:** temperature, non-contact measurement (infrared sensor).

**Mobile test measurement in heating furnaces and climatic chambers:** temperature, air humidity, dew point, absolute humidity.

**Measuring the quality of deionized process water (ultrapure water):** electrical conductivity in the lower range of few  $\mu\text{S/cm}$ .

**Test measurement of process water and waste water in industry (i.a. chemistry, pharmacy, paper, food):** pH value, redox value, electrical conductivity, temperature.

Test measurements in compressed air systems: fast pressure measurement (up to 500 mops), dew point measurement (residual moisture).

**Measuring AC and DC voltage signals with high galvanic isolation:** voltage/power/output DC (up to 1000 mops), true RMS value AC.

## Technical data and functions

### Data logger of the latest V7 generation

The professional measuring instrument ALMEMO® 204 provides numerous outstanding functions for special applications using digital ALMEMO® D6 sensors and the latest ALMEMO® D7 sensors.

### Four measuring inputs for all digital ALMEMO® D6 and D7 sensors

All new digital ALMEMO® D6 and D7 sensors for a wide variety of measurable variables can be connected and evaluated. ALMEMO® standard sensors with the DIGI measuring range can also be used, e.g. for crossflow turbines and high-voltage modules for thermocouples, and DC and AC voltages. The ALMEMO® 204 supports all ALMEMO® functions.

### New digital ALMEMO® D7 sensors

With these digital ALMEMO® D7 sensors the ALMEMO® system is enhanced by many new functions and applications. ALMEMO® D7 sensors operate via an all-digital interface to the ALMEMO® 204 data logger ensuring high-speed serial transmission of all measured values. Each ALMEMO® D7 sensor has its own processor. They all work in parallel at their own sensor-specific sampling rate. D7 sensors thus attain very high measuring speeds in dynamic measuring operations.

### Digitize and calibrate the existing sensor technology

Using the ALMEMO® V7 input plugs the existing sensor technology can easily be digitized. For digital sensors the overall accuracy of the measurement is independent from the ALMEMO® V7 display device / data logger. The complete measuring chain, consisting of sensor and connected ALMEMO® D7 measurement plug, can be calibrated. The accuracy during the calibration process can be increased by using multi-point adjustment.

### Data logger for all storage applications

To save measured values a large flash memory is integrated. For monitoring tasks it can also be configured as a ring memory. For larger amounts of data, an external memory is available featuring a plug-in SD card. For autonomous long-term monitoring the data logger can also be run in energy-saving sleep mode.

### One measuring instrument for every need

This compact, handy device can, as an option, be fitted with rubberized impact protection for mobile use. The latest energy saving technology ensures long operating times. For stationary applications a H-rail mounting is available.

**Bright graphics display, easy and convenient operation by means of soft-keys**

The white, illuminated graphics display ensures that functions and measured values can be viewed in the clearest way possible. The device is easy and convenient to operate by means of 4 soft-keys and a cursor block. The menu guidance is clearly structured and easy to understand.

Users can even configure their own customized user menus from a range of 50 different parameters to display exactly those parameters required by a particular application. Choice of languages: German, English, French.

**End-to-end programming of all parameters for ALMEMO® D6 and D7 sensors**

The ALMEMO® 204 professional measuring instrument provides a programming menu for the end-to-end programming of all the parameters needed for digital ALMEMO® D6 and D7 sensors.

**Other equipment**

The two ALMEMO® output sockets can be used to connect a PC / network and an ALMEMO® output interface with relays and analog output at the same time. With option KL it is possible - for a digital ALMEMO® sensor (i.a. ALMEMO® D6 / D7 temperature or pressure sensors) to program multi-point adjustment or linearization in the ALMEMO® plug itself.

**Accessories**

	<b>Order no.</b>
Memory plug with Micro-SD incl. USB card reader (see chapter General Accessories)	ZA1904SD
Mains adapter 12 V / 1.5 A	ZA1312NA12
DC adapter cable, 10 to 30 VDC, 12 V / 0.25A, electrically isolated	ZA2690UK
Rubberized impact protection, gray	ZB2490GS2
Magnetic fastening	ZB2490MH
DIN rail mounting	ZB2490HS
Instrument case	ZB2490TK2

**Connecting cables**

	<b>Order no.</b>
USB data cable, electrically isolated	ZA1919DKU
Ethernet data cable, electrically isolated	ZA1945DK
Analog output cable, galvanically isolated, 1 x 20mA	ZA1601RI
Analog output cable, galvanically isolated, 2 x 10V	ZA1602RU
V24 data cable, electrically isolated	ZA1909DK5

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**Data logger, professional measuring instrument, latest V7 generation**  
**Four measuring inputs for all digital ALMEMO® D6 and D7 sensors,**  
**for ALMEMO® standard sensors with the DIGI measuring range**  
**Data logger with internal memory or with external memory connector (accessory)**

**Technical data**

Measuring inputs:	4 ALMEMO®-input sockets for all digital ALMEMO D6 and D7 sensors and for ALMEMO® standard sensors with the DIGI measuring range	Standard equipment:	
Precision class:	depends on the digital ALMEMO® sensor used	Display:	Graphics display, 128 x 64 pixels, 8 rows Illumination: 2 white LEDs
Measuring rate:	total sampling rate up to 1000 mops for ALMEMO® D6 sensors and ALMEMO® standard sensor (DIGI): 10 and 2.5 mops, for ALMEMO® D7 sensors: up to 1000 mops (depending on sensor).	Keypad:	7 silicone keys (of which 4 soft-keys)
Channels:	up to 40 measuring channels (depending on sensor)	Date and time-of-day:	Real-time clock, buffered by device battery
Sensor power supply:	6 / 9 / 12 V, maximum 0.4 A	Single value memory, internal:	10 measured values, can be called onto display
Outputs:	2 ALMEMO® sockets suitable for all output modules (analog / data / trigger / relay cables, etc.)	Memory:	8 MB internal, approx. 400 000 measured values (depending on number of channels)
		Power supply:	
		Battery set:	3 AA alkaline batteries
		Mains adapter:	ZA1312NA12 100 to 240 VAC to 12 VDC, 1.5 A galvanically isolated
		DC-adapter cable galvanically isolated:	ZA2690-UK, 10 to 30V, 0.25A
		Current consumption (without input and output modules):	
		Active mode:	approx 35mA
		with display illumination:	approx. 70mA
		Sleep mode:	approx. 0.05 mA
		Housing:	127 x 83 x 42 mm (LxWxH), ABS Weight 290g
		Environmental conditions and general technical data	see page 01.04 onwards

**Option****Order no.**

Multi-point adjustment and / or linearization can - with all digital ALMEMO® plug versions - be programmed by users themselves **OA204KL**

**Standard delivery****Order no.**

Measuring instrument, batteries, instruction manual, data logger,  
**ALMEMO® 204 professional measuring instrument**

**MA204**

Measuring instrument, batteries, rubberized impact protection ZB2490GS1,  
 mains adapter ZA1312NA12, USB data cable ZA1919DKU, device case ZB2490TK2,  
 instruction manual, data logger,  
**ALMEMO® 204 professional measuring instrument in a carrying case kit**

**MA204KSU**