Data logger ALMEMO® 202-S and ALMEMO® 204





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

Two or 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_2 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 µS/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® 202-S and ALMEMO® 204 provides numerous outstanding functions for special applications using digital ALMEMO® D6 sensors and the latest ALMEMO® D7 sensors.

Two or 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® 202-S and 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® 202-S and ALMEMO® 204 data logger ensuring high-speed serial transmission of all measured values.
The measuring ranges of ALMEMO® D7 plugs are independent of the ALMEMO® measuring instrument being used and can be expanded as and when required for new applications.
Measured values can be displayed with up to 8 digits (depending on range) and the units with up to 6 characters. Sensor designation and information can be up to 20 characters.
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.
The ALMEMO® D7 plug can process up to 10 channels for measured values and function values. This includes new applications, especially for multi-purpose sensors (e.g. Meteo sensors) and for linking up to complex third-party devices (e.g. chemical analysers, power analysers).

Digitize and calibrate the existing sensor technology
Using the ALMEMO® D7 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.

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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.
The sensor display shows the measured values together with all relevant sensor-specific functions, e.g. temperature compensation, atmospheric pressure compensation. Measured values, peak values, average values, and limit values can all be displayed in an easy-to-understand way in various forms, namely lists or bar charts.

With ALMEMO® 202-S, 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® 202-S and 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.
The required measuring ranges are selected (with ALMEMO® D7 sensors up to 10 measuring channels) and other relevant sensor parameters are configured, e.g. moving average, atmospheric pressure compensation, temperature compensation.

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.
This option is possible with all digital ALMEMO® plug versions. Standard connector (DIGI), ALMEMO® D6 and D7 plugs.

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ALMEMO® Measuring network



LAN network



Wired network, up to 99 devices, up to 50 m cable length

Accessories

	Order no.
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 / 0.25 A, electrically isolated	ZA2690UK
Rubberized impact protection, gray	ZB2490GS2
Magnetic fastening	ZB2490MH
DIN rail mounting	ZB2490HS
Instrument case	ZB2490TK2

Connecting cables

	Order no.
USB data cable, electrically isolated	ZA1919DKU
Ethernet data cable, electrically isolated	ZA1945DK
WLAN module, wireless WLAN connection	ZA1739WL
Analog output cable, galvanically isolated, 1 x 20 mA	ZA1601RI
Analog output cable, galvanically isolated, 2 x 10 V	ZA1602RU
V24 data cable, electrically isolated	ZA1909DK5
Network technology, wireless modules: see chapter Network technology	

Technical data

Measuring inputs:	
ALMEMO® 202-S	2 ALMEMO®-input sockets
ALMEMO® 204	4 ALMEMO®-input sockets for all digital ALMEMO® D6 and D7 sensors and for ALMEMO® standard sensors with the DIGI measuring range
Precision class:	depends on the digital ALMEMO® sensor used
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).
Channels:	
ALMEMO® 202-S	up to 20 measuring channels (depending on sensor)
ALMEMO® 204	up to 40 measuring channels (depending on sensor)
Sensor power supply:	9 / 12 V, maximum 0.4 A
Outputs:	2 ALMEMO® sockets suitable for all output modules (analog / data / trigger / relay cables, etc.)

Standard equipment:	
Display:	Graphics display, 128 x 64 pixels, 8 rows Illumination: 2 white LEDs
Keypad:	7 silicone keys (of which 4 soft-keys)
Date and time-of-day:	Real-time clock, buffered by device battery
Single value memory, internal:	10 measured values, can be called onto display
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 30 V, 0.25 A	
Current consumption (without input and output modules):	
Active mode:	approx. 35 mA
with display illumination:	approx. 70 mA
Sleep mode:	approx. 0.05 mA
Housing:	127 x 83 x 42 mm (LxWxH), ABS Weight 290 g
Environmental conditions see general technical data	

Data logger, professional measuring instrument, latest V7 generation
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)

ALMEMO® 202-S



Data logger, 2 Measuring inputs

Option	Order no.
Multi-point adjustment and / or linearization can - with all digital ALMEMO® plug versions - be programmed by users themselves	**OA202KL**

Standard delivery	Order no.
Measuring instrument, batteries, instruction manual, data logger, **ALMEMO® 202-S professional measuring instrument**	**MA202S**
Measuring instrument, batteries, rubberized impact protection ZB2490GS1, mains adapter ZA1312NA12, USB data cable ZA1919DKU, device case ZB2490TK2, instruction manual, data logger, **ALMEMO® 202-S professional measuring instrument in a carrying case kit**	**MA202SKSU**

ALMEMO® 204



Data logger, 4 Measuring inputs

Option	Ordner 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**

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