

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, CO₂ 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® 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.

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.

ALMEMO® Measuring network

LAN network



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

Accessories

Memory plug with Micro-SD incl. USB card reader (see chapter General Accessories)
 Mains adapter 12 V / 1.5 A
 DC adapter cable, 10 to 30 VDC, 12 V / 0.25 A, electrically isolated
 Rubberized impact protection, gray
 Magnetic fastening
 DIN rail mounting
 Instrument case

Order no.

ZA1904SD
 ZA1312NA12
 ZA2690UK
 ZB2490GS2
 ZB2490MH
 ZB2490HS
 ZB2490TK2

Connecting cables

USB data cable, electrically isolated
 Ethernet data cable, electrically isolated
 WLAN module, wireless WLAN connection
 Analog output cable, galvanically isolated, 1 x 20 mA
 Analog output cable, galvanically isolated, 2 x 10 V
 V24 data cable, electrically isolated
 Network technology, wireless modules: see chapter Network technology

Order no.

ZA1919DKU
 ZA1945DK
 ZA1739WL
 ZA1601RI
 ZA1602RU
 ZA1909DK5

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:	6 / 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 and general technical data see page 16 onwards	

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

ALMEMO® 204



Data logger, 4 Measuring inputs

Option

Order no.

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

OA202KL

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® 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

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