Data logger ALMEMO® 8590 /8690



ALMEMO® data logger
Precision measuring instrument for measured data acquisition.
Comprehensive range of functions for all application areas.
Increased measuring accuracy, fast measuring rate
9 measuring inputs.
Operates as data logger or PC interface, also with rechargeable batteries.

Technical data and functions, ALMEMO® 8590 /8690

- Increased measuring accuracy and stability
- Fast measuring rate, up to 50 measuring operations per second. With SD memory card, up to 100 mops, optional for 1 channel up to 500 mops
- 9 measuring inputs, electrically isolated
- Over 65 standard measuring ranges
- Support for ALMEMO® plugs with multi-point adjustment, special linearization, and special measuring ranges
- Option KL for independent multi-point adjustment or special linearization programmable in 30 points and management of calibration data saved in the sensor connector and the measuring instrument
- Higher measuring quality thanks to electrical isolation between measuring inputs and device power supply (device ground)
- Improved cold junction compensation with 2 sensors
- Data logger option: Internal EEPROM sufficient for 100,000 measured values (option S) configurable as linear or ring memory - or memory connector with micro SD (accessory)
- Sleep mode for long-term recording
- 2 ALMEMO® output sockets, suitable for digital interfaces, analog output, trigger input, alarm contacts, memory card
- 5 LEDs for indicating various operating states
- Key for switching on and start / stop measuring
- Complete sensor and device programming by means of ALMEMO® Connect software.

Technical data ALMEMO® 8590 /8690

Precision class	AA (see general technical specifications)
Measuring rate	(100), 50, 10 and 2.5 mops
Measuring inputs Electrical isolation for analog sensors	9 ALMEMO® input sockets with semiconductor relays (50 V) Additional electrical isolation between measuring inputs and power supply (device ground)
Additional channels	4 function channels, device-internal
Outputs	2 ALMEMO® sockets, suitable for all output modules (analog / data / trigger / relay cables, memory, etc.)
Operation	1 key, 5 LEDs, 2 coding switches
Internal memory (option S)	Internal EEPROM sufficient for 100,000 measured values, configurable as linear or ring memory
External memory (accessory)	ALMEMO® memory connector with micro SD card
Date and time-of-day	Real-time clock, buffered with lithium battery
Current consumption (without input and output modules)	
Active mode	approx. 25 mA
Sleep mode	approx. 0.05 mA
Environmental conditions	see general technical data

ALMEMO® 8590 /8690, accessories

	Order no.
Memory connector with micro SD, including USB card reader (see chapter „General accessories“)	**ZA1904SD**
DC adapter cable, 10 to 30 VDC, 12 V / 1 A, electrically isolated	**ZB3090UK2**

ALMEMO® 8590 /8690, connecting cable

	Order no.
USB data cable, electrically isolated	**ZA1919DKU**
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 alarm cable (2 relays, 0.5 A, 50 V)	**ZA1006EKG**
Network technology, wireless modules (see chapter „Networking“)	

11/2025 • We reserve the right to make technical changes.

ALMEMO® 8590-9



Precision measuring instrument, 9 measuring inputs
Data logger option with internal memory or external memory connector (accessory)

Technical data and functions

- Technical data and functions, as for ALMEMO® 8590 / 8690

Technical data

Technical data, as for ALMEMO® 8590 / 8690	
Sensor power supply	Mains adapter 12 V, maximum 0.5 A
Power supply	
Mains adapter	ZB1212NA12 100 to 240 VAC to 12 VDC, 1.5 A, electrically isolated
DC adapter cable	ZB3090UK2 10 to 30 VDC, 1 A, electrically isolated
Housing	180 x 49 x 137 mm (LxWxH) Polystyrene (PS) Weight approx. 490 g

Options

	Order no.
Internal data memory sufficient for 100,000 values	**OA8590S**
Multi-point adjustment, special linearization, management of calibration data	**OA8590KL**
Temperature ranges for 8 refrigerants	**SB0000R2**
Measuring rate for 1 measuring channel, 500 mops (SD card required)	**SA0000Q5**
DIN rail mounting	**OA2290HS**

Standard delivery

Mains plug assembly ZB1212NA12, operating instructions, manufacturer‘s test certificate
Precision measuring instrument ALMEMO® 8590-9 for measured data acquisition **MA85909**

ALMEMO® 8690-9A



Precision measuring instrument, 9 measuring inputs
Data logger option with internal memory or external memory connector (accessory)
Runs on rechargeable batteries, charging via the device itself

Technical data and functions

- Technical data and functions, as for ALMEMO® 8590 / 8690
- Runs on rechargeable batteries, high-speed charging in the device itself using mains unit, included in delivery

Technical data

Technical data, as for ALMEMO® 8590 / 8690	
Rechargeable battery pack	8 rechargeable NiMH batteries, 9 to 11 V, 1600 mAh With intelligent high-speed charging (3.5 hours)
Sensor power supply	
Mains adapter	12 V, maximum 0.5 A
Runs on rechargeable batteries	9 to 11.5 V, maximum 0.5 A
Power supply	
Mains adapter	ZB1212NA12 100 to 240 VAC, to 12 VDC, 1.5 A
DC adapter cable	electrically isolated ZB3090-UK2 10 to 30 VDC, 12 VDC, 1 A
Housing	218 x 77 x 145 mm (LxWxH) Polystyrene (PS) Weight approx. 1.2 kg

Options

	Order no.
Internal data memory sufficient for 100,000 values	**OA8590S**
Multi-point adjustment, special linearization, management of calibration data	**OA8590KL**
Temperature ranges for 8 refrigerants	**SB0000R2**
Measuring rate for 1 measuring channel, 500 mops (SD card required)	**SA0000Q5**
DIN rail mounting	**OA2290HS**

Standard delivery

Rechargeable batteries, mains plug assembly ZB1212NA12, Operating instructions, manufacturer‘s test certificate
Precision measuring instrument ALMEMO® 8690-9A for measured data acquisition **MA86909A**

DAkkS accredited calibration or works calibration KE90xx, electrical, for measuring instrument, see chapter „Calibration certificates“.
DAkkS accredited calibration meets all the requirements regarding test resources laid down in DIN EN ISO/IEC 17025.