

ALMEMO® MEASURING INSTRUMENTS

ALMEMO 8590-9, 8690-9A

Data acquisition module with 9 inputs, 2 outputs for RS232, Ethernet, analog Memory with external connector and micro SD card or internal 512-KB EEPROM (option S)



Technical Features:

- ▶ 9 ALMEMO® input sockets, electrically isolated, for 9 ALMEMO® sensors, 36 sensor channels, 4 additional internal function channels.
- ▶ 2 ALMEMO® output sockets for digital interfaces, analog output, trigger input, alarm contacts, memory card.
- ▶ High-speed, high-resolution A/D converter, 24-bit, 50 measuring operations per second.
New Electrically isolated between measuring inputs and supply.
- ▶ Programming of sensor parameters in the connector, can be modified via interface using the supplied AMR-Control software.
- ▶ Measuring functions : Measured value, zero-setting, sensor adjustment, maximum / minimum values stored with date, time-of-day, smoothing, average values over time or measuring points, limit value monitoring, temperature compensation, atmospheric pressure compensation.
- ▶ **New** Cold junction measuring with 2 NTCs and interpolation Ranges : Pt100 0.000 to 65.000°C, timer 6500.0 seconds.
- ▶ **New** Special ranges in the ALMEMO® connector, provided as standard, e.g. 0.000 to 50.000 ohms, NTC -5.000 to 46.000 °C, YSI 400 etc.
- ▶ **New** Option KL Multi-point calibration, calibration data management, user-defined linearization.
- ▶ 5 LEDs for indicating various operating states.
- ▶ Data logger with memory connector and micro SD card, recording in standard FAT16 file format, transmission to PC using card reader.
- ▶ Option : EEPROM with capacity for 100,000 measured values, internally configurable as linear or ring memory.
- ▶ Sleep mode for long-term recording.
- ▶ Device programming using the supplied AMR-Control software, i.e. date and time-of-day, cycle, start and end of measuring, measuring rate, etc.
- ▶ Key for switching on, start / stop measuring.
- ▶ Variant with rechargeable battery system, 8 AA-type NiMH batteries, high-speed charging.
- ▶ **New** Device software update via interface.
- ▶ **New** Trigger variants, process control using command macros.

Technical Data:

Measuring inputs	9 ALMEMO® input sockets, electr. isol., with semiconductor relays (50 V)
Channels	9 primary channels, max. 32 additional channels for double sensors and function channels (e.g. differential values)
A/D converter	Delta-sigma, 24-bit, 50 measuring operations per second, electr. isolated For technical specifications, see p. 01.05.
Sensor power supply	Mains adapter, 12 V, max. 0.5A Rechargeable bat., 9 to 12 V, max. 0.5A
Outputs:	2 ALMEMO® sockets for all output modules (analog, data, trigger, relay cables, memory etc.)

Standard equipment:

Operation :	1 key
Memory :	External memory connector ZA1904-SD
Option S :	Internal 512-KB EEPROM (100,000 meas. val.)
Date and time-of-day	Real-time clock, buffered with lith. battery

Power supply:

Mains adapter	230 VAC to 12 VDC, electrically isolated 1000 mA ZB1212NA7 2.5A ZB1212NA9
DC adapter cable	10 to 30 V, 250 mA, electr. isolated 250mA ZB3090UK 1.25A ZB3090-UK2
Rechargeable battery	8 NiMH rechargeable batteries, 1600mAh pack (8690-9A only) 2.5-hour high-speed charging, internal
Current consumption	without input and output modules :
Active mode	approx. 25 mA
Sleep mode	approx. 0.05 mA

Housing:

8590-9 : (LxWxH)	180 x 49 x 137 mm, polystyrene
8690-9A : (LxWxH)	218 x 77 x 145 mm, polystyrene

For further general data, see technical specifications, page 01.05.

Product overview:

Data acquisition module ALMEMO 8590-9,
8-DU housing, without bus, 9 inputs, 2 outputs,
real-time clock, mains adapter 1000 mA

MA85909

Data acquisition module ALMEMO 8690-9A,
12-DU housing, shielded, with bus, 2 plug-in slots, 9 inputs, 2
outputs, real-time clock, with rechargeable battery pack and
mains adapter for charging, 2.5A

MA86909A

Option S: Internal data memory, 512-KB EEPROM

OA8590S

Option KL: (see pages 01.17 and 03.03)

OA8590KL

Multi-point calibration, linearization

Option R: (see page 11.08)

Temperature ranges for 8 coolants

SB0000R2

Option Q4 : 400 mops measuring rate (see 01.05)

SA0000Q4

Top hat rail mounting

OA2290HS

Accessories:

DC adapter cable, 10 to 30 VDC, 12 V / 250 mA, electr. isolated	
250mA	ZB3090UK
1.25mA	ZB3090UK2
Memory connector with micro SD card	
and USB card reader (see page 04.03)	ZA1904SD
Analog output cable, -1.25 to 2.0 V, 0.1 mV / digit	ZA1601RK
Trigger and alarm cable (2 relays, 1 Ω , 0.5A, 50 V)	ZA1006EKG
V24 data cable, electr. isol., maximum 115.2 KB	ZA909DK5
Ethernet data cable, electr. isol., maximum 115.2 KB	ZA1945DK
Network cable, electr. isol., maximum 115.2 KB	ZA1999NK5
Network technology, Bluetooth modules, see Chapter 05	