

ALMEMO® MEASURING INSTRUMENTS

ALMEMO® 5690-1M

**Data acquisition system with master measuring board 9 to 99 measuring inputs,
2 outputs for RS232, Ethernet, analog,
Memory with drive for micro SD card
or internal 512-KB EEPROM (option S)**



Our data acquisition systems are modular and can be individually configured for your specific measuring task. We look forward to providing you with competent, personal advice. Please feel free to ask for a demonstration and let our specialists introduce you to the large number of options regarding the application and configuration.

Technical features common to all ALMEMO® 5690-1M09 and 5690-2M09 systems

- ▶ Master measuring board, 9 ALMEMO® input sockets, electrically isolated, for 9 ALMEMO® sensors, 31 additional channels (maximum), (of which 4 internal function channels).
- ▶ Up to 9 ALMEMO® connectors with special measuring ranges / multi-point calibration / linearization (on the master measuring circuit only)
- ▶ Extendible up to 99 inputs with various selector switch boards and maximum 99 meas. channels.
- ▶ 2 ALMEMO® output sockets for digital interfaces, analog outputs, trigger input, and alarm contacts.
- ▶ Option EEPROM with capacity for 100,000 measures values, internally configurable as linear or ring memory.

Technical features common to all ALMEMO® 5690-1 systems without display

- ▶ Data logger with external memory connector and micro SD card (accessory), recording in standard FAT16 file format, transfer to PC via USB card reader

Technical features common to all ALMEMO® 5690 systems see page 01.27

Types and ordering information

Master measuring circuit with 9 inputs, up to 99 measuring inputs via selector switch boards (to be ordered extra, see page 01.30)
2 output sockets, cascable interface, real-time clock, 1 key, mains adapter 12 VDC, 2.5 A
19" desk-top housing 12 DU, shielded, Dimensions: 77 x 145 x 218 mm (WxHxD), 1 slot
19" desk-top housing 32 DU, shielded, Dimensions: 179 x 158 x 232 mm (WxHxD), 6 slots
19" desk-top housing 84 DU, shielded, Dimensions: 444 x 158 x 232 mm (WxHxD), 19 slots
19" sub-rack 84 DU, Dimensions: 483 x 132 x 273 mm (WxHxD), 19 slots

Options for all ALMEMO® 5690-1M09 and 5690-2M09 systems

- S: Internal EEPROM with capacity for 100,000 measures values
- KL: Linearization, multi-point calibration, and calibration data management (see 01.17 / 03.03)
- R: Temperature ranges for 8 coolants (see page 11.08)
- Q4: 400 mops measuring rate for 1 measuring channel (see 01.05)

Accessories for all ALMEMO® 5690-1 systems without display

Memory connector with micro SD card and USB card reader (see page 04.03)

Order no. MA56901M09TG1
Order no. MA56901M09TG3
Order no. MA56901M09TG8
Order no. MA56901M09BT8

Order no. OA5690S
Order no. OA5690KL
Order no. SB0000R2
Order no. SA0000Q4

Order no. ZA1904SD

ALMEMO® MEASURING INSTRUMENTS

01

ALMEMO® 5690-2M09

Data acquisition systems with graphics display
Master measuring circuit with 9 to 99 measuring inputs

2 outputs for RS232, Ethernet, analog,
Memory with drive for micro SD card
or internal 512-KB EEPROM (option S)

new!



Wall-mounted housing WG3

Technical features common to all ALMEMO® 5690-1M09 and 5690-2M09 systems

see catalog, ALMEMO® 5690-1M09

Technical features common to all ALMEMO® 5690-2 systems with graphics display

- ▶ Ideal display with large, brightly illuminated graphics
- ▶ Easy and convenient to operate by means of 4 soft-keys and cursor block; comprehensive menu system with wizards and context-sensitive help windows
- ▶ Choice of languages : German, English, French (others also available)
- ▶ 9 measuring menus (3 can be freely configured by the user from a range of 50 functions)
- ▶ Measured values can be displayed graphically in line chart or bar chart form and from 1 to 20 measured values can be displayed numerically in various sizes.
- ▶ 8 programming menus for easy-to-understand parametrization of cycles, times, memory, device locking, output modules, and power supply Sensor programming with range, units, designation, scaling, error correction, etc.
- ▶ 9 LEDs for indicating various operating states
- ▶ Data logger with micro SD card, provided as standard, recording in standard FAT16 file format, transfer to PC via USB card reader

Technical features common to all ALMEMO® 5690 systems see page 01.27

Types and ordering information

Graphics display with illumination, 9 keys, master measuring circuit with 9 inputs, up to 99 measuring inputs via selector switch boards (to be ordered extra, see page 01.30), micro SD card memory and USB card reader, 2 output sockets, cascable interface, real-time clock, 1 key, mains adapter 12 VDC, 2.5 A

19" desk-top housing 32 DU, shielded, Dimensions: 179 x 158 x 232 mm (WxHxD), 6 slots

19" desk-top housing 84 DU, shielded, Dimensions: 444 x 158 x 232 mm (WxHxD), 19 slots

19" sub-rack 84 DU, Dimensions: 483 x 132 x 273 mm (WxHxD), 19 slots

New In Wall-mounted housing, 32 DUs. The slide-in modules have their connections showing downwards. For wall-mounting there are 4 holes (5.3 mm) on the left and right sides of the housing's backplate (which cannot itself be removed). Dimensions (WxHxD) 209 x 207 x 153 mm (width includes fastening strip), 6 plug-in slots

Order no. MA56902M09WG3

Order no. MA56902M09TG3

Order no. MA56902M09TG8

Order no. MA56902M09BT8

Options for all ALMEMO 5690-1M09 and 5690-2M09 systems

- S: Internal EEPROM with capacity for 100,000 measures values
- KL: Linearization, multi-point calibration, and calibration data management (see 01.17/03.03)
- R: Temperature ranges for 8 coolants (see page 11.08)
- Q4: 400 mops measuring rate for 1 measuring channel (see 01.05)

Order no. OA5690S

Order no. OA5690KL

Order no. SB0000R2

Order no. SA0000Q4

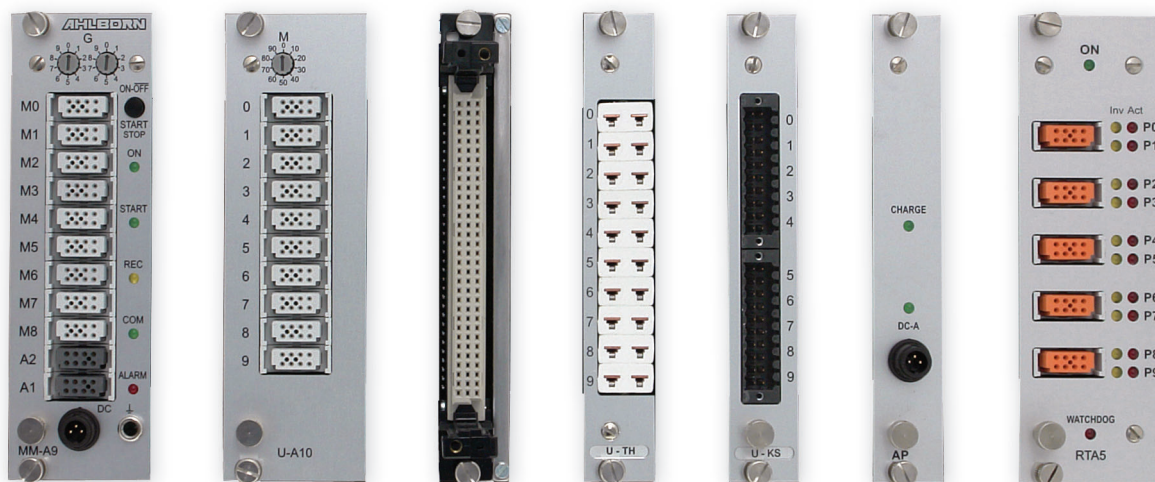
ALHORN
www.alhorn.com

supplyLAB
www.supplylab.pt

ALMEMO® MEASURING INSTRUMENTS

Master measuring board, Selector switch boards and expansions for the ALMEMO 5690-1M09 und 5690-2M09 systems

Our data acquisition systems are modular and can be individually configured for your specific measuring task.



Master meas. board
MM-A9

U-A10

U-MU

U-TH

U-KS (U/I)

AP

RTA5

Technical Data and ordering information

Master measuring board

Channels

A/D converter
Supply current

9 ALMEMO® input sockets, electr. isol., with semiconductor relays
9 primary channels, 27 additional channels for double sensors and function channels,
4 internal function channels
delta-sigma, 24-bit, 2.5 / 10 / 50 measuring operations per second, electrically isolated
For system boards and sensor supply. Entire system, max. 2.5 A, per board max. 0.5 A

Selector switch boards:

U-A10

10 electrically isolated inputs for ALMEMO® flat connectors, 10 to 40 channels, with sensor supply, 2 plug-in slots

Order no. ES5690UA10

U-MU

10 electrically isolated inputs, sensor connection with 10x MU connector, 10 to 40 channels, without sensor supply, ranges only, for all thermocouples, Pt100, Ni100, NTC, ohms, 2.6 V, 260 mV, 55 mV, 26 mV, 1 plug-in slot

Order no. ES5690UMU
Order no. ZA5690MU

ALMEMO® 10-fold connector (see page 03.15)

U-TH

10 electr. isol. inputs for all thermocouples with miniature thermal connector, 10 to 40 channels, 1+1 plug-in slots (dummy panel needed)

Order no. ES5690UTH

U-KS

10 electr. isol. inputs, sensor connection with clamp connector, 10 to 40 channels, without sensor supply, ranges only, Pt100, Ni100, NTC, ohms, 2.6 V, 260 mV, 55 mV, 26 mV, incl. clamp connector, 1 plug-in slot

Order no. ES5690UKS

U-KSU U-KSI

10 electrically insulated inputs, sensor connection with clamp connector, 10 to 40 channels, without sensor supply, one slot
all inputs for 10 V with 100:1 divider, incl. clamp connector
all inputs for 20 mA with shunt, ranges mA and % (4 to 20 mA)

Order no. ES5690UKSU
Order no. ES5690UKSI

Expansion:

AP

Rechargeable battery pack (8 cells NiMH, 1600mAh),
1 free slot with intelligent high-speed charging (3.5h) Supply current: Entire system max. 1.5A

Order no. ES5690AP

RTA5

Relay / trigger / analog module (see page 04.08) 2 slots
Per system up to 7 slide-in modules RTA5 are supported.

Order no. ES5690RTA5

Technical data

For all ALMEMO® 5690-1M09 and 5690-2M09 systems

Memory (option S)	Internal 512-KB EEPROM (100,000 measured values)
Date and time-of-day	Real-time clock, buffered with lithium battery
Outputs	2 ALMEMO®-sockets for all output moduls (analog, data, trigger, relais cable etc.) internal alarm transmitter
Power supply	Mains adapter ZB1212NA9 90 ... 260 VAC, 12 VDC, 2.5 A DC adapter cable, electrically isolated ZB3090-UK2 10 to 30 VDC, 12 VDC, 1.25 A Rechargeable battery module (8 NiMH cells, 9 to 11 V, 1600 mAh) with intelligent high-speed charging (3.5 hours)

For further general data, please refer to the technical specifications, page 01.05

For all ALMEMO® 5690-1 systems without display

Operation:	1 key, 5 LEDs, 2 coding switches
------------	----------------------------------

For all ALMEMO® 5690-2 systems with display

Display	Graphics display, 128 x 128 pixels, 16 rows, illumination 5 white LEDs, 3 brightness levels
Operation	9 keys (4 soft-keys and cursor block), 9 status LEDs on the front panel
Memory	micro SD card and USB card reader

Accessories for all ALMEMO® 5690 systems

Micro SD card, (see page 04.03)

ALMEMO® 10x connector (64-pin) for connecting 10 sensors (see page 03.15)*

Socket terminal strips (2x) including dust covers for system board KS(U/I)

DC power cable, 10 to 30 V, 12 V / 1.25 A, electrically isolated

Trigger and alarm cable (2 relays, 1 Ω , 0.5 A, 50 V)

USB data cable, electrically isolated, maximum 115.2 kilobaud

V24 data cable, electrically isolated, maximum 115.2 kilobaud

Ethernet data cable, electrically isolated, maximum 115.2 kilobaud

Network cable, electrically isolated, maximum 115.2 kilobaud

Carry case, aluminum profile frame / ABS (acrylonitrile butadiene styrene) for ALMEMO 5690 (see 07.07)

Rack case with carrying handle for ALMEMO 5690xxBT8 in 19-inch sub-rack (see page 07.07)

For more accessories, please refer to main catalog, "Output modules and network technology".

Order no. ZB1904SD

Order no. ZA5690MU

Order no. ZB5600KS

Order no. ZB3090UK2

Order no. ZA1006EKG

Order no. ZA1919DKU

Order no. ZA1909DK5

Order no. ZA1945DK

Order no. ZA1999NK5

Order no. ZB5600TK3

Order no. ZB5090RC

* The current MU connector version, ZA5690MU, can only be used in conjunction with the new ALMEMO® 5690 systems.

The old MU connector version, ZA5590MU, can of course be used in conjunction with the old ALMEMO® 5590/5990 systems but is subject to certain restrictions with the current 5690 systems (e.g. only 1 measuring channel per input, no multi-point adjustment or connector linearization).



Carry case, universal, high, aluminum profile frame for ALMEMO® 5690-1M/-2M
Order no. ZB5600TK3



Rack case with carrying handle, for ALMEMO® MA5690xxBT8 measuring systems, in 19-inch sub-rack
Order no. ZB5090RC