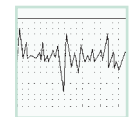# ALMEMO® MEASURING INSTRUMENTS

ALMEMO® 5690-1M
**Data acquisition system with
and 9 to 99 measuring inputs,
2 outputs for RS232, Ethernet, analog,
Memory with drive for multimedia 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.

Technische Merkmale:

▶ Data logger with external memory connector and multimedia card, recording in standard FAT16 file format, transmission to PC via USB card reader

▶ Option EEPROM with capacity for 100,000 measures values, internally configurable as linear or ring memory

▶ Sleep mode for long-term recording

▶ Measuring functions Measured value, zero-setting, setpoint adjustment, maximum and minimum values stored with date and time-of-day, smoothing, average values over time or over measuring points, limit value monitoring, cold junction compensation, temperature compensation, and atmospheric pressure compensation

▶ Sensor programming on the ALMEMO® connector itself

▶ 9 ALMEMO® input sockets, electrically isolated, for 9 ALMEMO® sensors, 31 additional channels (maximum), (of which 4 internal function channels)

▶ Extendible up to 99 inputs with various selector switch boards and maximum 100 meas. channels

▶ High-speed, high-resolution A/D converter, 24-bit, 2.5 to 100 measuring operations per second

▶ *New:* Electr. isol. between measuring inputs and supply

▶ 2 ALMEMO® output sockets for digital interfaces, analog outputs, trigger input, and alarm contacts

▶ 5 LEDs for indicating various operating states in the measuring circuit

▶ *New:* Cold junction measuring with 2 NTCs / insert 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 User-defined linearization, multi-point calibration, and calibration data management

▶ Accessories Rechargeable battery system, 8 AA-type NiMH batteries

▶ *New:* Device software update via interface AMR-Control programming software (included in delivery)

▶ Devices are EMC tested as per industrial standard.

ALMEMO® MEASURING INSTRUMENTS

Technical Data:

Standard equipment

Operation	1 key, 5 LEDs, 2 coding switches
Memory	Multimedia card and USB card reader
Memory (option S)	Internal 512-KB EEPROM (100,000 measured values)
Date and time-of-day	Real-time clock, buffered with lithium battery

Measuring inputs

Master meas. board	9 ALMEMO® input sockets, electr. isol., with semiconductor relays
Channels	9 primary channels, 27 additional channels for double sensors and function channels, 4 internal function channels
A/D converter	delta-sigma, 24-bit, 2.5 / 10 / 50 / 100 measuring operations per second, electrically isolated
Sensor power supply	Mains adapter, 12 V, maximum 400 mA, Rechargeable battery, 9 to 11 V, maximum 200 mA

Selector switch boards

ES 5690-UA10	10 electrically isolated inputs for ALMEMO® flat connectors, 10 to 40 channels, with sensor supply, 2 plug-in slots
ES 5690-UMU	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
ES 5690-UTH	10 electr. isol. inputs for all thermocouples with miniature thermal connector, 10 to 40 channels, 1+1 plug-in slots (dummy panel needed)
ES 5690-UKS	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, 1 plug-in slot
OA 5690-UKSU	Option, inputs with 100:1 divider for 10 V
OA 5690-UKSI	Option, inputs with shunt for 20 mA ranges mA and (4-20 mA)

Dimensions

Dimensions	TG 12 DU	77 x 145 x 218 mm (WxHxD) 1 slot
	TG 32 DU	179 x 158 x 232 mm (WxHxD) 6 slots
	TG 84 DU	444 x 158 x 232 mm (WxHxD) 19 slots
	BT 84 DU	483 x 132 x 273 mm (WxHxD) 19 slots

Outputs

Outputs	2 ALMEMO®-sockets for all output moduls (analog, data, trigger, relais cable etc.) internal alarm transmitter

Power supply

Power supply	Mains adapter:	ZB1212NA3 90..250V, 12V DC, 2A
	DC adapter cable, electr. isolated	ZB3090-UK2, 10..30V, 12V DC ,1.25A
	Rechargeable battery pack	8 NiMH-Akkus 9..11V, 1600mAh

Types and ordering information

9 Inputs, max. 40 Channels, 2 Outputs, cascaded Interface, real time clock, 1 key, Mains adapter 12V/2A

19" desk-top housing 12 DU, 1 free slot	**Order no. MA56901M09TG1**
19" desk-top housing 32 DU, 6 free slots	**Order no. MA56901M09TG3**
19" desk-top housing 84 DU, 19 free slots	**Order no. MA56901M09TG8**
19" desk-top housing 84 DU, 19 free slots	**Order no. MA56901M09BT8**

Options	S:	Internal EEPROM with capacity for 100,000 measures values	**Order no. OA5690S**
	KL:	Linearization, multi-point calibration, and calibration data management	**Order no. OA5690KL**
	R:	Temperature ranges for 8 coolants	**Order no. SB0000R**

furthermore

Rechargeable battery pack (8 cells NiMH, 1600mAh), 1 free slot with intelligent high-speed charging (3.5h)	**Order no. ES5690AP**

Selector switch boards

U-A10 10 inputs for ALMEMO® flat connectors	**Order no. ES5690UA10**
U-MU 10 inputs with 10x MU connector	**Order no. ES5690UMU**
ALMEMO® 10-fold MU connector for 10 sensors, 10-40 channels	**Order no. ZA5690MU**
U-TH mit 10 inputs with miniature thermal connector	**Order no. ES5690UTH**
U-KS mit 10 inputs with clamp connector	**Order no. ES5690UKS**
Option KSU: inputs with 100:1 divider for 10 V	**Order no. OA5690UKSU**
Option KSI: inputs with shunt for 20 mA	**Order no. OA5690UKSI**

Accessories

ALMEMO® memory connector for multimedia card	**Order no. ZA1904MMC**
Multmedia card min. 32 MB	**Order no. ZB1904MMC**
DC adapter cable, 10 to 30 VDC, 12 V / 1.25 mA, electr. isolated	**Order no. ZB3090UK2**
Trigger and alarm cable (2 relays, 1 ohm, 300 mA, 50 V)	**Order no. ZA1000EGK**
ALMEMO® data cable V24 interface, electrically isolated, max. 115.2kB	**Order no. ZA1909DK5**
Ethernet data cable, electr. isol., max. 115.2 KB	**Order no. ZA1945DK**
Network cable, electr. isol., max. 115.2 KB	**Order no. ZA1999NK5**

More accessories, see section ´Output Modules and Network Technology´

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ALMEMO® MEASURING INSTRUMENTS

ALMEMO® 5690-2M
**Data acquisition system with graphics display
and 9 to 99 measuring inputs,
2 outputs for RS232, Ethernet, analog,
Memory with drive for multimedia card
or internal 512-KB EEPROM (option S)**

Technische Vorteile

► Graphic display 128 x 128 dots, 16 rows, Lighting: 5 LEDs, 3 brightness levels
► Easy and convenient operation by means of 4 soft-keys and cursor block, comprehensive menu system with wizards and help windows
► High-speed, high-resolution A/D converter, 24-bit, 2.5 to 100 measuring operations per second
► Data logger with multimedia card and USB card reader
► User-defined linearization, multi-point calibration, and calibration data management

Technical Features:

► Ideal display with large, brightly illuminated graphics
► Easy and convenient operation by means of 4 soft-keys and cursor block, comprehensive menu system with wizards and help windows
► Choice of languages : German, English, French (others also available)
► 9 measuring menus (3 can be freely configured by 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, comments, scaling, error correction, etc.
► 9 LEDs for indicating various operating states
► Data logger with multimedia card, provided as standard, recording in standard FAT16 file format, transmission to PC via USB card reader
► Option EEPROM with capacity for 100,000 measures values, internally configurable as linear or ring memory
► Sleep mode for long-term recording
► Measuring functions Measured value, zero-setting, setpoint adjustment, maximum and minimum values stored with date and time-of-day, smoothing, average values over time or over measuring points, limit value monitoring, cold junction compensation, temperature compensation, and atmospheric pressure compensation
► Sensor programming on the ALMEMO® connector itself
► 9 ALMEMO® input sockets, electrically isolated, for 9 ALMEMO® sensors, 31 additional channels (maximum), (of which 4 internal function channels)
► Extendible up to 99 inputs with various selector switch boards and maximum 100 meas. channels
► High-speed, high-resolution A/D converter, 24-bit, 2.5 to 100 measuring operations per second
► *New:* Electr. isol. between measuring inputs and supply
► 2 ALMEMO® output sockets for digital interfaces, analog outputs, trigger input, and alarm contacts
► 5 LEDs for indicating various operating states in the measuring circuit
► *New:* Cold junction measuring with 2 NTCs / insert 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 User-defined linearization, multi-point calibration, and calibration data management
► Accessories Rechargeable battery system, 8 AA-type NiMH batteries
► *New:* Device software update via interface AMR-Control programming software (included in delivery)
► Devices are EMC tested as per industrial standard.

ALMEMO® MEASURING INSTRUMENTS

Technical Data:

Standard equipment

Display	Graphics 128 x 128 dots, 16 rows, Lighting: 5 LEDs, 3 brightness levels
Operation	9 keys (4 soft-keys and cursor block), 9 status LEDs on the front panel
Memory	Multimedia card and USB card reader
Memory (option S)	Internal 512-KB EEPROM (100,000 measured values)
Date and time-of-day	Real-time clock, buffered with lithium battery

Measuring inputs

Master meas. board	9 ALMEMO® input sockets, electr. isol., with semiconductor relays
Channels	9 primary channels, 27 additional channels for double sensors and function channels, 4 internal function channels
A/D converter	delta-sigma, 24-bit, 2.5 / 10 / 50 / 100 measuring operations per second, electrically isolated
Sensor power supply	Mains adapter, 12 V, maximum 400 mA, Rechargeable battery, 9 to 11 V, maximum 200 mA

Selector switch boards

ES 5690-UA10	10 electrically isolated inputs for ALMEMO® flat connectors, 10 to 40 channels, with sensor supply, 2 plug-in slots
ES 5690-UMU	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
ES 5690-UTH	10 electr. isol. inputs for all thermocouples with miniature thermal connector, 10 to 40 channels, 1+1 plug-in slots (dummy panel needed)
ES 5690-UKS	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, 1 plug-in slot
OA 5690-UKSU	Option, inputs with 100:1 divider for 10 V
OA 5690-UKSI	Option, inputs with shunt for 20 mA ranges mA and (4-20 mA)

Dimensions

	TG 32 DU	179 x 158 x 232 mm (WxHxD) 6 slots
	TG 84 DU	444 x 158 x 232 mm (WxHxD) 19 slots
	BT 84 DU	483 x 132 x 273 mm (WxHxD) 19 slots

Outputs

	2 ALMEMO®-sockets for all output moduls (analog, data, trigger, relais cable etc.) internal alarm transmitter

Power supply

	Mains adapter:	ZB1212NA3 90..250V, 12V DC, 2A
	DC adapter cable, electr. isolated	ZB3090-UK2, 10..30V, 12V DC ,1.25A
	Rechargeable battery pack	8 NiMH-Akkus 9..11V, 1600mAh

Types and ordering information

Graphic display with 3 brightness levels, Multi-Media-Card-Memory and USB card reader, 9 Inputs, max. 40 Channels, 2 Outputs, cascaded Interface, real time clock, 9 keys, Mains adapter 12V/2A

19" desk-top housing 32 DU, 6 free slots	**Order no. MA56902M09TG3**
19" desk-top housing 84 DU, 19 free slots	**Order no. MA56902M09TG8**
19" desk-top housing 84 DU, 19 free slots	**Order no. MA56902M09BT8**

Options	S:	Internal EEPROM with capacity for 100,000 measures values	**Order no. OA5690S**
	KL:	Linearization, multi-point calibration, and calibration data management	**Order no. OA5690KL**
	R:	Temperature ranges for 8 coolants	**Order no. SB0000R**

furthermore

Rechargeable battery pack (8 cells NiMH, 1600mAh), 1 free slot with intelligent high-speed charging (3.5h)	**Order no. ES5690AP**

Selector switch boards

U-A10 10 inputs for ALMEMO® flat connectors	**Order no. ES5690UA10**
U-MU 10 inputs with 10x MU connector	**Order no. ES5690UMU**
ALMEMO® 10-fold MU connector for 10 sensors, 10-40 channels	**Order no. ZA5690MU**
U-TH mit 10 inputs with miniature thermal connector	**Order no. ES5690UTH**
U-KS mit 10 inputs with clamp connector	**Order no. ES5690UKS**
Option KSU: inputs with 100:1 divider for 10 V	**Order no. OA5690UKSU**
Option KSI: inputs with shunt for 20 mA	**Order no. OA5690UKSI**

Accessories

Multmedia card min. 32 MB	**Order no. ZB1904MMC**
DC adapter cable, 10 to 30 VDC, 12 V / 1.25 mA, electr. isolated	**Order no. ZB3090UK2**
Trigger and alarm cable (2 relays, 1 ohm, 300 mA, 50 V)	**Order no. ZA1000EGK**
ALMEMO® data cable V24 interface, electrically isolated, max. 115.2kB	**Order no. ZA1909DK5**
Ethernet data cable, electr. isol., max. 115.2 KB	**Order no. ZA1945DK**
Network cable, electr. isol., max. 115.2 KB	**Order no. ZA1999NK5**

More accessories, see section ´Output Modules and Network Technology´

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