

ALMEMO® 5690-1M09

Technical data and functions

- Technical data and functions, as for ALMEMO® 5690 series
- Master measuring circuit, 9 ALMEMO® input sockets, electrically isolated, suitable for 9 ALMEMO® sensors
- Up to 9 ALMEMO® connectors; special ranges / multi-point calibration / linearization possible (only on master measuring circuit)
- Expansion up to 99 inputs by means of various selector switch boards, maximum 99 measuring channels
- Data logger option with internal EEPROM or external ALMEMO® memory connector with micro SD card

Technical data

Technical data, as for ALMEMO® 5690 series

Measuring inputs	9 ALMEMO® input sockets Expansion up to 99 inputs by means of selector switch boards
Measuring channels	Expansion up to maximum 99 measuring channels
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
Outputs	2 ALMEMO® sockets, suitable for all output modules (analog / data / trigger / relay cables, etc.) Alarm signal transmitter, internal
Operation	1 key, 5 LEDs, 2 coding switches

Accessories

Memory connector with micro SD, including USB card reader (see chapter „General accessories“)	ZA1904SD
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Expansions

Selector switch boards U-A10, U-MU, U-TH, U-KS	(see page 01.40)
Relay / trigger / analog board, 2 slots Per system up to 7 boards are supported. (see chapter „Output modules“)	ES5690RTA5

Optionen

Internal data memory sufficient for 100,000 values	OA5690S
Multi-point adjustment, special linearization, management of calibration data	OA5690KL
Temperature ranges for 8 refrigerants (see 10.08)	SB0000R2
Measuring rate for 1 measuring channel, 400 mops (SD card required)	SA0000Q4

Standard delivery

Precision measuring instrument, data acquisition system with master measuring circuit board MM-A9, mains plug assembly ZB1212NA9, Operating instructions, manufacturer's test certificate

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

ALMEMO® Measuring Instruments

ALMEMO® 5690-1M09TG1



Dimensions:
77 x 145 x 218 mm
(WxHxD)

Data acquisition system in desktop housing TG1, 9 inputs,
1 free slot
MA56901M09TG1
Expansion with
1 U-MU board or U-TH or U-KS (10 inputs)

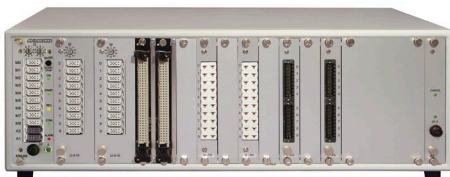
ALMEMO® 5690-1M09TG3



Dimensions:
179 x 158 x 232 mm
(WxHxD)

Data acquisition system in desktop housing TG3, 9 inputs,
6 free slots
MA56901M09TG3
Expansion with
3 U-A10 boards or U-TH (30 inputs)
or 6 U-MU boards or U-KS (60 inputs)
or 3 RTA5 boards

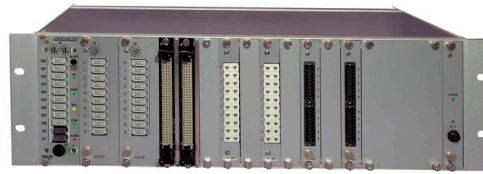
ALMEMO® 5690-1M09TG8



Dimensions:
444 x 158 x 232 mm
(WxHxD)

Data acquisition system in desktop housing TG8, 9 inputs,
19 free slots
MA56901M09TG8
Expansion with
9 U-A10 boards or U-TH or U-MU or U-KS (90 inputs) or 7
RTA5 boards

ALMEMO® 5690-1M09BT8



Dimensions:
483 x 132 x 273
mm (WxHxD)

Data acquisition system in 19-inch rack housing, 9 inputs,
19 free slots
MA56901M09BT8
Expansion with
9 U-A10 boards or U-TH or U-MU or U-KS (90 inputs)
or 7 RTA5 boards



Carry case, aluminum profile frame ZB5600TK3
for ALMEMO® 5690-1/ -2



Rack case with handle ZB5090RC
for ALMEMO® 5690-xxBT8 in 19-inch rack housing

ALMEMO® 5690-2M09

Technical data and functions

- Technical data and functions, as for ALMEMO® 5690 series
- Master measuring circuit, 9 ALMEMO® input sockets, electrically isolated, suitable for 9 ALMEMO® sensors
- Up to 9 ALMEMO® connectors; special ranges / multi-point calibration / linearization possible (only on master measuring circuit)
- Expansion up to 99 inputs by means of various selector switch boards, maximum 99 measuring channels
- Generously dimensioned graphics display, bright illumination, large display of measured values
- Measured values can be displayed graphically in line chart or bar chart form or numerically in various sizes.
- 3 user-defined menus can be freely configured from a range of 50 functions.
- Easy to operate by means of 4 soft-keys and cursor block, menu-guided with wizards and context-sensitive help windows
- Choice of languages : German, English, French (other options also available)
- Data logger with micro SD (standard)
- Option, internal EEPROM.

Technical data

Technical data, as for ALMEMO® 5690 series		Outputs	2 ALMEMO® sockets, suitable for all output modules (analog / data / trigger / relay cables, etc.) Alarm signal transmitter, internal
Measuring inputs	9 ALMEMO® input sockets Expansion up to 99 inputs by means of selector switch boards	Display	Graphics display 128 x 128 pixels, 16 rows Illumination 5 white LEDs, 3 brightness levels
Measuring channels	Expansion up to maximum 99 measuring channels	Operation	9 keys (4 soft-keys and cursor block) 9 status LEDs on front panel
Memory	Micro SD card, integrated drive		
Internal memory (option S)	Internal EEPROM sufficient for 100,000 measured values, configurable as linear or ring memory		

Expansions

Expansions	Order no.
Selector switch boards U-A10, U-MU, U-TH, U-KS Relay / trigger / analog board, 2 slots Per system up to 7 boards are supported. (see chapter „Output modules“)	(see page 01.40) ES5690RTA5

Options

Options	Order no.
Internal data memory sufficient for 100,000 values	OA5690S
Multi-point adjustment, special linearization, management of calibration data	OA5690KL
Temperature ranges for 8 refrigerants (see 10.08)	SB0000R2
Measuring rate for 1 measuring channel, 400 mops (SD card required)	SA0000Q4

Standard delivery

Precision measuring instrument, data acquisition system with graphics display and operating controls, master measuring circuit board MM-A9, micro SD card, USB card reader, mains plug assembly ZB1212NA9, operating instructions, manufacturer's test certificate

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

ALMEMO® Measuring Instruments

ALMEMO® 5690-2M09TG3



Dimensions:
179 x 158 x 232 mm
(WxHxD)

Data acquisition system in desktop housing TG3, 9 inputs,
6 free slots
MA56902M09TG3
Expansion with
3 U-A10 boards or U-TH (30 inputs)
or 6 U-MU boards or U-KS (60 inputs)
or 3 RTA5 boards

ALMEMO® 5690-2M09WG3



Dimensions:
209 x 207 x 153 mm (WxHxD)
(width includes fastening strips)

Data acquisition system in wall-mounted housing WG3,
9 inputs, 1 free slot
MA56902M09WG3
Expansion with
3 U-A10 boards or U-TH (30 inputs)
or 6 U-MU boards or U-KS (60 inputs)
or 3 RTA5 boards
The boards have their connections facing downwards. To facilitate wall-mounting four holes (5.3 mm) are provided on the protruding strips to the left and right of the housing's backplate (which cannot itself be removed).

ALMEMO® 5690-2M09TG8



Dimensions:
444 x 158
x 232 mm
(WxHxD)

Data acquisition system in desktop housing TG8, 9 inputs,
19 free slots
MA56902M09TG8
Expansion with
9 U-A10 boards or U-TH or U-MU or U-KS (90 inputs)
or 7 RTA5 boards

ALMEMO® 5690-2M09BT8



Dimensions:
483 x 132
x 273 mm
(WxHxD)

Data acquisition system in 19-inch rack housing, 9 inputs,
19 free slots
MA56902M09BT8
Expansion with
9 U-A10 boards or U-TH or U-MU
or U-KS (90 inputs) or 7 RTA5 boards

ALMEMO® 5790-2M09IG2

Technical data and functions

- Technical data and functions, as for ALMEMO® 5690 series
- Robust aluminum housing, protective class IP65
- Master measuring circuit, 9 ALMEMO® input sockets, electrically isolated, suitable for 9 ALMEMO® sensors
- Up to 9 ALMEMO® connectors; special ranges / multi-point calibration / linearization possible (only on master measuring circuit)
- Expansion up to 29 inputs by means of various selector switch boards
- Generously dimensioned graphics display, bright illumination, large display of measured values
- Measured values can be displayed graphically in line chart or bar chart form or numerically in various sizes.
- 3 user-defined menus can be freely configured from a range of 50 functions.
- Easy to operate by means of 4 soft-keys and cursor block, menu-guided with wizards and context-sensitive help windows
- Choice of languages : German, English, French (other options also available)
- Data logger option with internal EEPROM or external ALMEMO® memory connector with micro SD card

Technical data

Technical data, as for ALMEMO® 5690 series

Measuring inputs	9 ALMEMO® input sockets Expansion up to 29 inputs by means of selector switch boards	Power supply	9 status LEDs on front panel Mains unit ZB1212NA6, installed on a fixed basis, 100 to 240 VAC, connected via appliance socket, including safety connecting cable
Measuring channels	Expansion up to maximum 99 measuring channels	Screwed cable glands	Plastic, with multiple inserts, slotted 24 drilled holes for cables d= 4 mm 2 drilled holes for cables d= 7 mm for all supply lines (sensor cables, output cables, e.g. data cable, mains supply cable) including dummy plugs for all holes
Internal memory (option S)	Internal EEPROM sufficient for 100,000 measured values, configurable as linear or ring memory	Housing	Aluminum
External memory (accessory)	ALMEMO® memory connector with micro SD card	Dimensions	233 x approx. 350 x 121 mm (WxHxD) (height includes PGs) 19-inch design Plastic insert, 16 DUs
Outputs	2 ALMEMO® sockets, suitable for all output modules (analog / data / trigger / relay cables, etc.) Alarm signal transmitter, internal	Weight	approx. 6 kg
Display		Protective class	IP65
Graphics display	128 x 128 pixels, 16 rows	Wall-mounting	4 x M4 thread, including 2 aluminum profiles
Illumination	5 white LEDs, 3 brightness levels		
Operation	9 keys (4 soft-keys and cursor block)		

Accessories

Order no.

Memory connector with micro SD, including USB card reader (see chapter „General accessories“)

ZA1904SD

Expansions

Order no.

Selector switch boards U-A10, U-MU, U-TH, U-KS

(see page 01.40)

Relay / trigger / analog board, 2 slots, maximum 1 board (see chapter „Output modules“)

ES5690RTA5

Options

Order no.

Internal data memory sufficient for 100,000 values

OA5690S

Multi-point adjustment, special linearization, management of calibration data

OA5690KL

Temperature ranges for 8 refrigerants (see 10.08)

SB0000R2

Measuring rate for 1 measuring channel, 400 mops (SD card required)

SA0000Q4

Power supply via rechargeable battery module

OA5790A

Rechargeable battery set (8 NiMH cells, 1600 mAh), 1 slot

ES5690AP

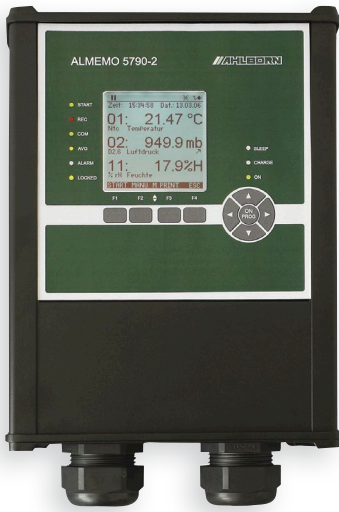
Standard delivery

Precision measuring instrument, data acquisition system with graphics display and operating controls, master measuring circuit board MM-A9, mains unit ZB1212NA6 installed on a fixed basis, safety connecting cable, operating instructions, manufacturer's test certificate

DAkKS or works calibration KE90xx, electrical, for measuring instrument (see chapter „Calibration certificates“).

DAkKS calibration meets all the requirements regarding test resources laid down in DIN EN ISO/IEC 17025.

ALMEMO® 5790-2M09IG2



Dimensions:
233 x approx. 350 x 121mm
(WxHxD)
(with PGs)

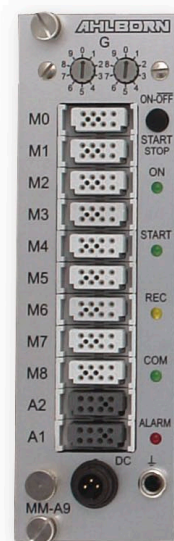
Data acquisition system in industrial housing, 9 inputs, 2 free slots
Expansion with 1 U-A10 board U-TH or 2 U-MU boards U-KS or 1 RTA5 board

MA57902M09IG2

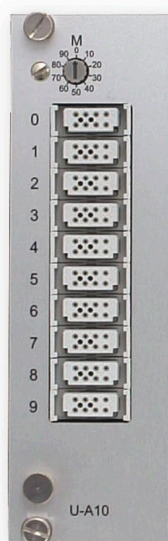
ALMEMO® Measuring Instruments

Master measuring circuit board, selector switch boards, and expansions for the ALMEMO® 5690-1M09 and 5690-2M09 systems

10/2013 • We reserve the right to make technical changes.



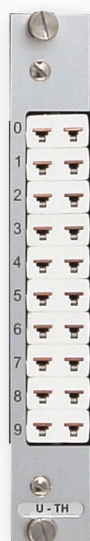
Master measuring circuit board
MM-A9



U-A10



U-MU



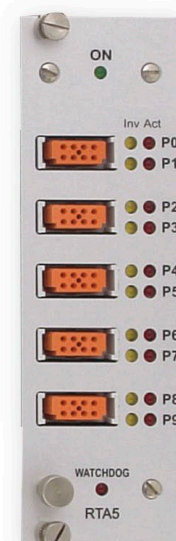
U-TH



U-KS (U/I)



AP



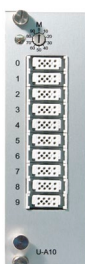
RTA5

Selector switch boards for ALMEMO® 5690-1M09 and 5690-2M09

Technical data and functions of selector switch boards

- Selector switch boards for expanding the ALMEMO® 5690-1M09 and 5690-2M09 systems by additional inputs
- There are several design variants for different installations / input plugs.

Selector switch boards U-A10



10 inputs for ALMEMO® single connectors
For flexible applications with individual sensors and measuring signals.

Technical data

Measuring inputs	10 ALMEMO® input sockets, electrically isolated
Measuring ranges	All ranges (see page 01.06)
Sensor supply	12 V, max. 0.3 A (per system max. 2.5 A)
Footprint	2 slots

Standard delivery

Selector switch board U-A10

Order no.

ES5690UA10

ALMEMO® connector must be ordered separately.

Selector switch boards U-MU



10 inputs for ALMEMO® 10 MU connectors
For permanently installing groups of 10, especially temperature sensors.

Technical data

Measuring inputs	10 inputs, electrically isolated, socket strip for ALMEMO® 10-way MU connector
Measuring ranges	all thermocouples, Pt100, Ni100, ohms, 2.6 V, 260 mV, 55 mV, 26 mV
Sensor supply	None
Footprint	1 slot

Standard delivery

Selector switch board U-MU
ALMEMO® 10-way MU connector

Order no.

ES5690UMU
ZA5690MU

Selector switch boards U-TH



10 inputs for miniature thermal connectors
For any individual thermocouple temperature sensors with miniature thermal connector.

Technical data

Measuring inputs	10 miniature thermal sockets, electr. isolated ALMEMO® sensor parameters are saved in the measuring instrument.
Measuring ranges	all thermocouples
Sensor supply	None
Footprint	2 slots

Standard delivery

Selector switch board U-TH
 Miniature thermal connectors must be ordered separately.

Order no.

ES5690UTH

Selector switch boards U-KS



10 nputs, electrically isolated, sensor connection via socket block
For permanently installing groups of 10.

Technical data

Measuring inputs	10 inputs, electrically isolated, male strip connector for socket block ALMEMO® sensor parameters are saved in the measuring instrument.
Measuring ranges	Pt100, Ni100, NTC, ohms, 2.6V, 260mV, 55mV, 26mV
Sensor supply	None
Footprint	1 slot

Standard delivery

Selector switch board U-KS
 including socket block
 Socket block (spare)

Order no.

ES5690UKS
ZB5600KS

Selector switch boards U-KSU



10 inputs, electrically isolated, sensor connection via socket block
For permanently installing groups of 10 with voltages 10 V

Technical data

Measuring inputs	10 inputs, electrically isolated, male strip connector for socket block ALMEMO® sensor parameters are saved in the measuring instrument.
Measuring ranges	Voltage -26 to +26 V (integrated divider)
Accuracy, divider	±0.1 % of measured value
Sensor supply	None
Footprint	1 slot

Standard delivery

Selector switch board U-KSU
 including socket block
 Socket block (spare)

Order no.

ES5690UKSU
ZB5600KS

Selector switch boards U-KSI



10 inputs, electrically isolated, sensor connection via socket block
For permanently installing groups of 10 with currents 20mA

Technical data

Measuring inputs	10 inputs, electrically isolated, male strip connector for socket block ALMEMO® sensor parameters are saved in the measuring instrument.
Measuring ranges	Current -32 to +32 mA (integrated shunt)
Accuracy, shunt	±0.1 % of measured value
Sensor supply	None
Footprint	1 slot

Standard delivery

Selector switch board U-KSI
 including socket block
 Socket block (spare)

Order no.

ES5690UKSI
ZB5600KS