

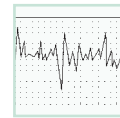
ALMEMO® MEASURING INSTRUMENTS

01

**Universal Data Acquisition System
Computer Interface or Data Logger.**
**With Meas. Circuit Boards and Selector Switch
Boards extendible up to 190 Meas. Inputs.**
ALMEMO® 5990-1



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.



01/2005 We reserve the right to make technical changes.

Technical Features:

- ▶ Modular data acquisition with variable power supply.
- ▶ Ideally suitable for computer-supported ONLINE operation.
- ▶ More than 65 standard measuring ranges.
- ▶ Extendible with active measuring circuit boards and up to 8 passive selector switch boards (consider housing dimensions).
- ▶ Each measuring circuit board with 1 output socket for connecting an analog output or alarm contacts.
- ▶ Internal code switches for setting the device address, easy networking of devices and measuring circuit boards (max. 100).
- ▶ Programming of the universal process control via interface commands, start and end of the data acquisition via interface, limit values or external trigger input, measuring and output cycle free selectable, alarm value output for each measuring point, max/min/averaging cyclic or over the entire duration of the measurement. Data output for ALMEMO® software, printer with printing side-by-side or as a list, table format for further processing with spreadsheet software.
- ▶ Programming of sensor parameters by the AMR-Control software supplied: measuring range, correction of measured values, scaling, dimension, limit value monitoring, graded locking of functions, scaling of the analog output.
- ▶ Option : memory up to 2MB (400 000 meas. values): real time clock with date, single or automatic measuring point scan with storage and output of measured and alarm values, number inputs for identification of measurements or series of measurements.
- ▶ Special version with high-speed, high-resolution delta-sigma A/D converter (up to 50 measuring operations per second)

Types and ordering information:

see page 1.25

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Technical Data:

Power supplies:

Power supply plug-in unit:	standard: via mains adapter, 12VDC, 800mA
Outputs:	2 ALMEMO® sockets (A1, A2), 2 alarm contacts via clamped connection
Option A (OA5590A)	supply via rechargeable battery 1.6Ah, charging time via mains supply unit 800mA
Option U (OA5590U)	electrically isolated DC voltage supply 9 to 36VDC, 1A for car battery, mains supply unit can also be used
Option AU (OA5590AU)	supply via rechargeable battery 0.8Ah, additionally electr. isol. DC voltage supply 10 to 36VDC, 1A, for car battery, battery rechargeable via car battery or mains supply unit

Active electrically isolated master measuring circuit boards:

A/D converter	Multi-slope, integrating, 16-bit For technical data see page 01.05
OA5990G0:	measuring circuit board with 1 ALMEMO® input socket for 1 sensor per sensor, maximum 4 chann. (sensor-type-specific, meas. and function channels). 1 ALMEMO® output socket (A1) for alarm or recording cable, 2 alarm contacts 50V / 300mA via clamped connection, space requirement 1 plug-in slot
Options:	
Option OA5590R1:	scalable analog output 0-2V, electr. isol.
Option OA5590R2:	scalable analog output 0-10V, electr. isol.
Option OA5590R3:	scalable analog output 0/4-20mA, electr. isol.
OA5990G2:	measuring circuit board with 10 ALMEMO® input sockets, electrically isolated, for 10 ALMEMO® sensors per sensor, maximum 4 chann. (sensor-type-specific, meas. and function channels) 1 ALMEMO® output socket (A1) for alarm or recording cable, space requirement 2 plug-in slots
OA5990G3:	meas. circuit board with 64-pin spring contact strip for ALMEMO® 10-fold MU connector, 10 measuring channels (no frequency/double sensors, no sensor supply), 2 alarm contacts, shared for all inputs, space requirement 1 plug-in slot

Options:

OA5590S0	memory, 512kB (100000 measured values) includes buffered real time clock with date memory extension for 2MB (400000 meas. values), only possible with measuring circuit board ES 5590-G2
OA5590S2	

Passive selector switch boards for sequential measurements with master OA5990G2 and OA5990G3

ES 5590-MF:	10 ALMEMO® input sockets, electrically isolated, for 10 ALMEMO® sensors per sensor, maximum 4 chann. (sensor-type-specific, meas. and function channels) 1 ALMEMO® output socket (A1), space requirement 2 plug-in slots
ES 5590-MU:	selector switch board with 64-pin spring contact strip for ALMEMO® 10-fold MU connector 10 measuring channels (no frequency/double sensors, no sensor supply), 2 alarm contacts, shared for all inputs, space requirement 1 plug-in slot

Additional active, electrically isolated measuring circuit boards for simultaneous measuring operations :

A/D converter	Multi-slope, integrating, 16-bit For technical data see page 01.05.
ES5590G0	Measuring circuit board with one ALMEMO® input socket for one sensor, Data and options, as for OA5990G0 (see above)
ES5590G2	Measuring circuit board with 10 ALMEMO® input sockets Data and options, as for OA5990G2 (see above)
ES5590G3	Measuring circuit board with 64-pin spring contact strip for ALMEMO® 10-fold MU connector Data and options, as for OA5990G3 (see above)

Housing dimensions:

19" plastic housing (HxWxD)	158 x 179 x 232 (3 HU, 32 DU) (6 free slots)
19" plastic housing (HxWxD)	158 x 444 x 232 (3 HU, 84 DU) (16 free slots)
19" sub-rack (HxWxD)	132.5 x 483 x 273 (3 HU, 84 DU) (16 free slots)

Ordering Information Summary for ALMEMO® 5990-1



Types and ordering information for 5990-1:

Data acquisition system ALMEMO® 5990-1, 19" 32 DU, in desktop housing with standard power supply plug-in unit including plug-in power supply 12VDC, 800mA

As above, in desktop housing 19" 84 DU including manufacturer's test certificate

As above, in sub rack 19" 84 DU

Compulsory: optionally with one of the following active master measuring circuit boards:

Active master measuring circuit board for 1 ALMEMO® flat connector, 1 plug-in slot

Active master measuring circuit board for 10 ALMEMO® flat connectors, 2 plug-in slots

Active master measuring circuit board for ALMEMO® 10-fold MU connector, 1 plug-in slot

Further options:

Memory 512kB, real time clock and date (for each active measuring circuit board)

Memory extension for 2MB (at option OA5590S0), only possible with ES 5590 G2

Special variant of A/D converter, delta-sigma 24-bit, with conversion rate of 50 meas. op. per second (cannot be retrofitted) (see ALMEMO® Technical Data, page 01.05)

Additional power consumption by device : 10 mA

Supply for rechargeable battery 1.6Ah, charging time via plug-in power supply 2hrs (for each measuring system)

Electrically isolated DC voltage supply 9-36VDC, 1A (for each measuring system)

Supply for rechargeable battery 0.8Ah, electr. isol. DC voltage supply 9-36VDC, 1A (for each measuring system)

Passive selector switch boards for sequential measurements:

Max. 8 boards only usable with master measuring circuit board (OA5990G2 and OA5990-G3):

ES 5590-MF: selector switch board with ALMEMO® flat sockets

ES 5590-MU: selector switch board for ALMEMO® MU connector

Options for system extensions:

Active meas. circuit boards, also available with memory options / 50Hz, for simultaneous measurements:

ES 5590-G0: as plug-in extension (no master)

Scalable analog output 0-2V, electr. isol.

Scalable analog output 0-10V, electr. isol.

Scalable analog output 0/4-20mA, electr. isol.

ES 5590-G2: as plug-in extension (no master)

ES 5590-G3: as plug-in extension (no master)

Accessories:

Data cable, V24 interface, electr. isol.

ALMEMO® 10-fold MU connector

Connector cable for car battery, for options OA5590U and OA5590AU

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

Order No. MA59901TG3

Order No. MA59901TG8

Order No. MA59901BT8

Order No. OA5990-G0

Order No. OA5990-G2

Order No. OA5990-G3

Order No. OA5590S0

Order No. OA5590S2

Order No. SA0000Q2

Order No. OA5590A

Order No. OA5590U

Order No. OA5590AU

Order No. ES5590MF

Order No. ES5590MU

Order No. ES5590G0

Order No. OA5590R1

Order No. OA5590R2

Order No. OA5590R3

Order No. ES5590G2

Order No. ES5590G3

Order No. ZA1909DK5

Order No. ZA5590MU

Order No. ZB5090EK