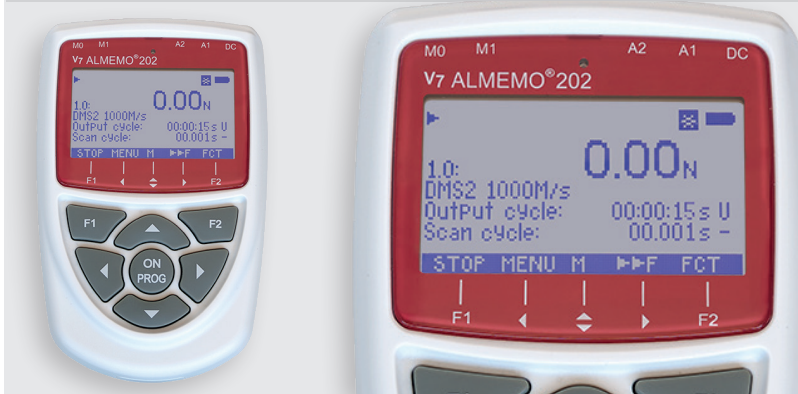


ALMEMO® V7 Measuring Instrument**ALMEMO® 202**

ALMEMO® professional measuring instrument, latest V7 generation with data logger function.

Two measuring inputs for all digital ALMEMO® D7 sensors.

Special functions for applications using ALMEMO® D7 sensors

Technical Data and Functions**Professional measuring instrument from our latest V7 generation**

Professional measuring instrument ALMEMO® 202 provides numerous outstanding functions for special applications using the latest ALMEMO® D7 sensors.

Brightly lit graphics display, easy and convenient operation by means of soft-keys

The white, illuminated graphics display ensures that functions and measured values can be viewed in the clearest way possible. The device is easy and convenient to operate by means of 4 soft-keys and a cursor block. The menu guidance is clearly structured and easy-to-understand.

The sensor display shows the measured values together with all relevant sensor-specific. Measured values, peak values, average values, and limit values can all be displayed in an easy-to-understand way in various forms, namely lists or bar charts.

Users can even configure their own customized user menus from a range of 50 different parameters to display exactly those parameters required by a particular application. Choice of languages : German, English, French

End-to-end programming of all parameters for ALMEMO® D7 sensors

The ALMEMO® 202 professional measuring instrument provides a programming menu for the end-to-end programming of all the parameters needed for digital ALMEMO® D7 sensors. The required measuring ranges are selected (with ALMEMO® D7 sensors up to 10 measuring channels) and other relevant sensor parameters are configured, e.g. moving average.

One measuring instrument for every need

This compact, handy device can, as an option, be fitted with rubberized impact protection for mobile use. The latest energy-saving technology ensures long operating times. For stationary applications a DIN rail mounting is available.

Data logger for all storage applications

To save measured values an external memory is available in the form of a plug-in SD card.

For autonomous long-term monitoring the data logger can also be run in energy-saving sleep mode.

Two measuring inputs for digital ALMEMO® D7 sensors

All new digital ALMEMO® D7 sensors for a wide variety of measurable variables can be connected and evaluated.

The ALMEMO® 202 supports all ALMEMO® functions.

New digital ALMEMO® D7 sensors

With these digital ALMEMO® D7 sensors the ALMEMO® system is enhanced by many new functions and applications. ALMEMO® D7 sensors operate via an all-digital interface to the ALMEMO® 202 professional measuring instrument ensuring high-speed serial transmission of all measured values.

The measuring ranges of ALMEMO® D7 plugs are independent of the ALMEMO® measuring instrument being used and can be expanded as and when required for new applications.

Measured values can be displayed with up to 8 digits (depending on range) and the units with up to 6 characters. Sensor designation and information can be up to 20 characters.

Each connected D7 sensor has its own processor. They all work in parallel at their own sensor-specific sampling rate. D7 sensors thus attain very high measuring speeds in dynamic measuring operations. Scanning times on the ALMEMO® 202 professional measuring instrument can be set individually for quick-acting and slow-acting sensors.

The ALMEMO® D7 plug can process up to 10 channels for measured values and function values. This includes new applications, especially for multi-purpose sensors (e.g. Meteor sensors) and for linking up to complex third-party devices (e.g. chemical analysers, power analysers).

Other equipment

The two ALMEMO® output sockets can be used to connect a PC / network and an ALMEMO® output interface with relays and analog output at the same time.

With option „multi-point adjustment or linearization“ it is possible for a digital ALMEMO® sensor to program multi-point adjustment or linearization in the ALMEMO® plug itself. This option is possible with all digital ALMEMO® plug versions.

ALMEMO® V7 Measuring Instrument

ALMEMO® 202



**Professional Measuring Instrument, Latest V7 Generation
Two Measuring Inputs for all Digital ALMEMO® D7 Sensors
Data Logger with external Memory Connector (Accessory)**

Technical Data

Measuring inputs	2 ALMEMO® input sockets for all digital ALMEMO® D7 sensors
Precision class	depends on the digital ALMEMO® sensor being used
Measuring rate	for ALMEMO® D7 sensors up to 1000 mops
Channels	Up to 20 measuring channels with ALMEMO® D7 sensors
Sensor power supply	6 / 9 / 12 V, maximum 0.4 A
Outputs	2 ALMEMO® sockets, suitable for all output modules (analog / data / trigger / relay cables, etc.)

Standard equipment

Display	Graphics display, 128 x 64 pixels, 8 rows Illumination 2 white LEDs
Keypad	7 silicone keys (of which 4 soft-keys)
Date and time-of-day	Real-time clock, buffered by device battery
Memory, internal	99 measured values, can be called onto display
External mem. (accessory)	ALMEMO® plug-in memory with micro SD card, 512 MB (sufficient for up to 30 million measured values)

Power supply

Battery set	3 AA alkaline batteries
Desktop power supply	230 VAC to 12 VDC, 1 A electrically isolated (accessory)
DC adapter cable	10 to 30 V, 0.25 A (accessory) electrically isolated
Current consumption (without input and output modules)	Active mode approx. 35 mA With display illumination approx. 70 mA Sleepmode approx. 0.05 mA
Housing	127 x 83 x 42 mm (L x W x H) ABS (maximum 70°C) Weight 290g

Accessories

	Article No.
D7 measuring connector ZKD712FS	46598
D7 measuring connector ZKD712FS incl. sensor mounting and connector	49205
Memory connector incl. micro SD card and card reader	49196
Desktop power supply	49197
Power cable for DC voltage, galv. separated	49200
Rubberized impact protection, gray	49199
Magnetic fastening	49201
DIN rail mounting	49202
Network technology, Bluetooth modules	On request

Connecting cables

	Article No.
Connection cable, 3 m, with 7-pin female cable connector series 712 and D7 measuring connector ZKD712FS	10473
Connection cable, 3 m, with 6-pin female cable connector series 581 and D7 measuring connector ZKD712FS	10472
Connection cable, 3 m, with 5-pin female cable connector series 712 and D7 measuring connector ZKD712FS	10475
USB data cable, electrically isolated	49198
Ethernet data cable, electrically isolated	49203
Network technology, Bluetooth modules	On request

Option

	Article No.
Multi-point adjustment and / or linearization can - with ALMEMO® D7 plugs - be programmed by users themselves	On request

Standard delivery

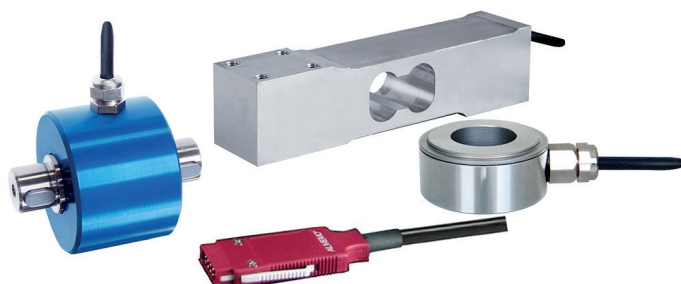
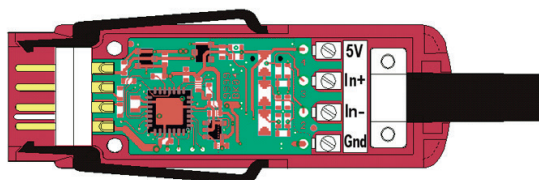
	Article No.
Measuring instrument, batteries, operating instructions, ALMEMO® 202 professional measuring instrument	49195

Digital ALMEMO® D7 Measuring Connector for Bridge Differential mV

For force sensors, torque transducers or load cells based on strain gauges (SG).

High-speed measuring at 1000 measuring operations per second (mops) and resolution 50,000 digits or high-level resolution at up to 200,000 digits and 10 mops

Only for latest ALMEMO® V7 measuring instruments, including precision measuring instrument ALMEMO® 202.



The new ALMEMO® D7 measuring connector successfully combines very different measuring tasks in just one digital connector. High speed - or - high precision
The user can select the preferred configuration quickly and easily on the ALMEMO® V7 measuring instrument itself.

Technical Data and Functions

- The digital ALMEMO® D7 measuring connector uses its own integrated A/D converter. The overall accuracy of the measuring operation is unaffected by the presence of an ALMEMO® V7 display device / data logger. The whole measuring chain, comprising e.g. a force transducer and the connected ALMEMO® D7 measuring connector, can be calibrated end-to-end.
- The measuring rate is determined entirely and exclusively by the integrated A/D converter. On the ALMEMO® V7 measuring instrument all D7 measuring connectors operate in parallel at their own measuring rate. The measuring instrument's very short scan cycle is determined by the measuring rates of the D7 measuring connectors - irrespective of their number.
- For measuring dynamic processes the ALMEMO® D7 measuring connector operates in the high-speed range at a fast conversion rate. The ALMEMO® V7 measuring instrument saves the measured values; the measuring software WinControl displays them in graphical form. If high-level resolution and sta-

ble values are required, e.g. precision transducers for force or torque, the ALMEMO® D7 measuring connector operates in the „High-level resolution“ range but at a reduced conversion rate.

- Measurements are taken using a full bridge with a 4-conductor circuit. The bridge is powered from the ALMEMO® D7 plug.
- The sensor is scaled to its actual physical quantity (e.g. end value 1 kN with characteristic 2 mV / V); this is performed via the ALMEMO® V7 device (device itself or ALMEMO® Control software). - zero-point adjustment, - scaling of end value by entering characteristic mV / V or adjustment by loading the bridge with end value. The assigned units can be up to 6 characters in length. Sensor identification can be programmed with designations up to 20 characters in length.

Technical Data

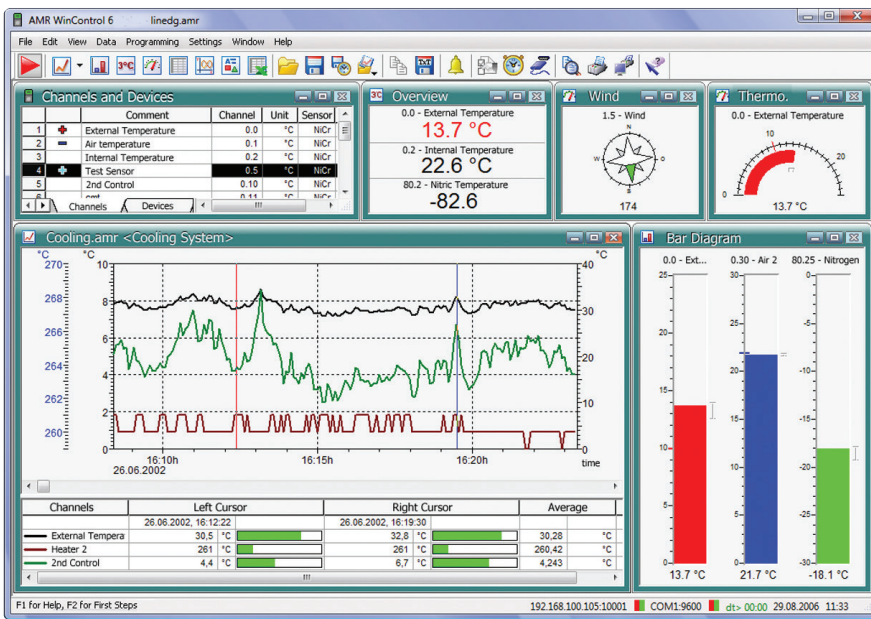
Sensor type	Full bridge, 4 conductors	System accuracy	0.02% +2 digits
Measuring input	electrically interconnected with the power supply (ALMEMO® device ground)	Nominal temperature	+22°C ±2 K
Measuring range	-29.6 to +29.6 mV	Temperature drift	0.003% / K (30 ppm)
Conversion rate, resolution	see variants	Operative range	-10 to +60°C / 10 to 90% RH (non-condensing)
Bridge power supply	5 V, self-calibrating with divider chain Accuracy 0.01% Temperature drift 10 ppm / K	Supply voltage	from 6 V up. from ALMEMO® device (sensor supply voltage)
		Current consumption	approx. 15 mA (without connected sensor)

Variants

Measuring range	Range	Resolution	Measuring rate
-29.6 to +29.6 mV	DMS2*	±50 000 digits	1000 mops
	or DMS1	±200 000 digits	10 mops

* Factory setting : The desired measuring range can be programmed on the ALMEMO® V7 device itself.

Software



State-of-the-art measuring instruments must be able to interconnect with their environment.

Special ALMEMO® software programs give you complete control of the whole measuring setup and ensure convenient device handling.

Once measured values have been acquired by the ALMEMO® measuring instrument, this data can be transmitted to a computer via modem, data line, optic fiber, or radio link.

“ALMEMO®-Control”, the WINDOWS configuration software, is included free-of-charge with all ALMEMO® devices. This software package lets you program all the device parameters and scan all measured data via a single computer. The “WinControl” package has been specially developed for data acquisition and measured data processing with ALMEMO® equipment.

Acquired measured values can be displayed, arithmetically processed, stored, printed out, and exported to other software applications for further processing. ALMEMO® measuring instruments can thus be addressed in an already established corporate network. A demo version of WinControl can be downloaded free-of-charge from www.lorenz-sensors.com.

ALMEMO®-Control : Full Control over the Instrument Setup and Convenient Device Handling

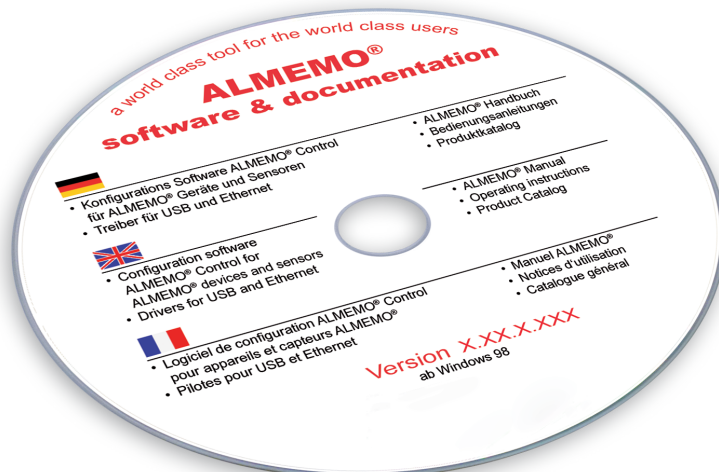
The software ALMEMO®-Control is supplied with each ALMEMO® data logger and allows for the complete programming of the sensors, for the configuration of the measuring instrument and for the read-out of the data memory via serial interface.

The only item required is an ALMEMO® data cable. The integrated terminal even allows to obtain online measurements from the PC.

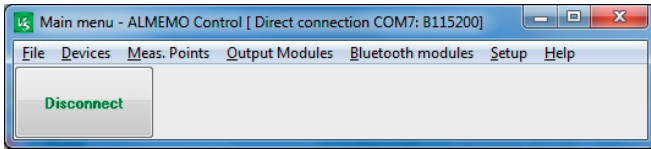
As a result, you can keep a constant overview and can completely control your measuring task!

The latest program version is available for download from:

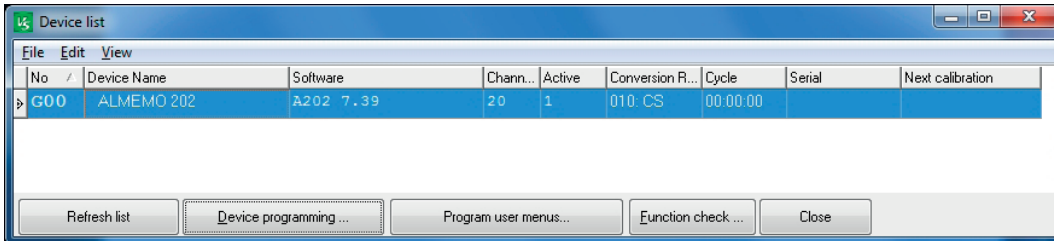
www.lorenz-sensors.com



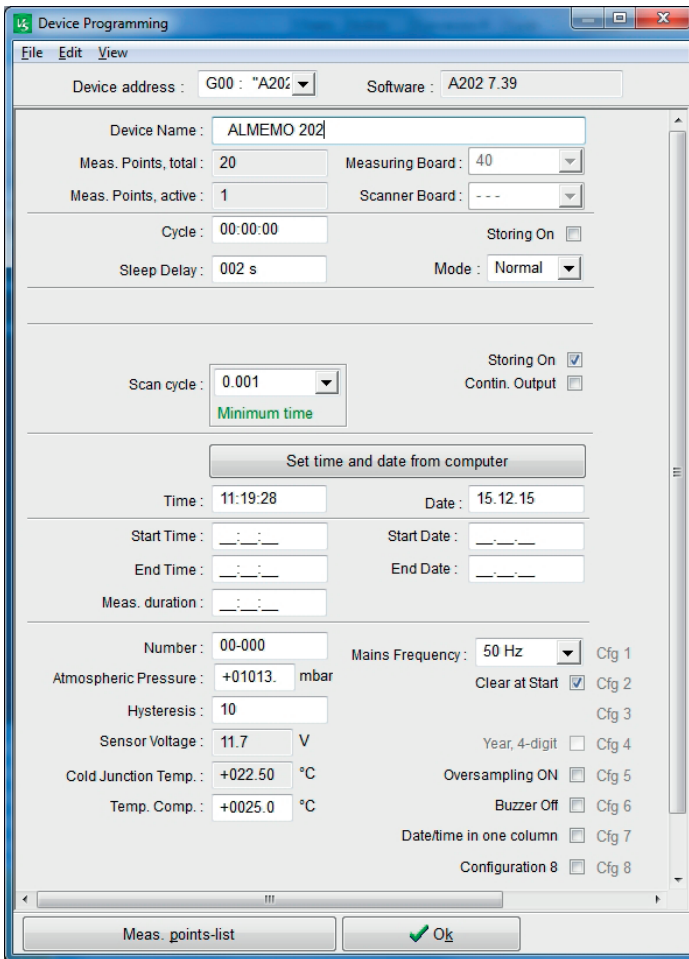
ALMEMO® Control Main Menu



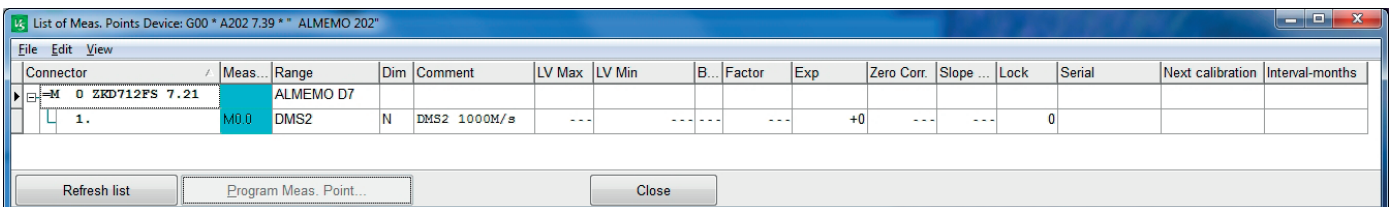
Device List



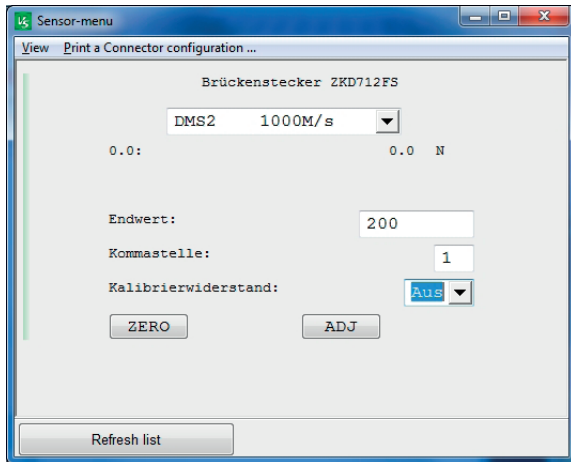
Device Programming



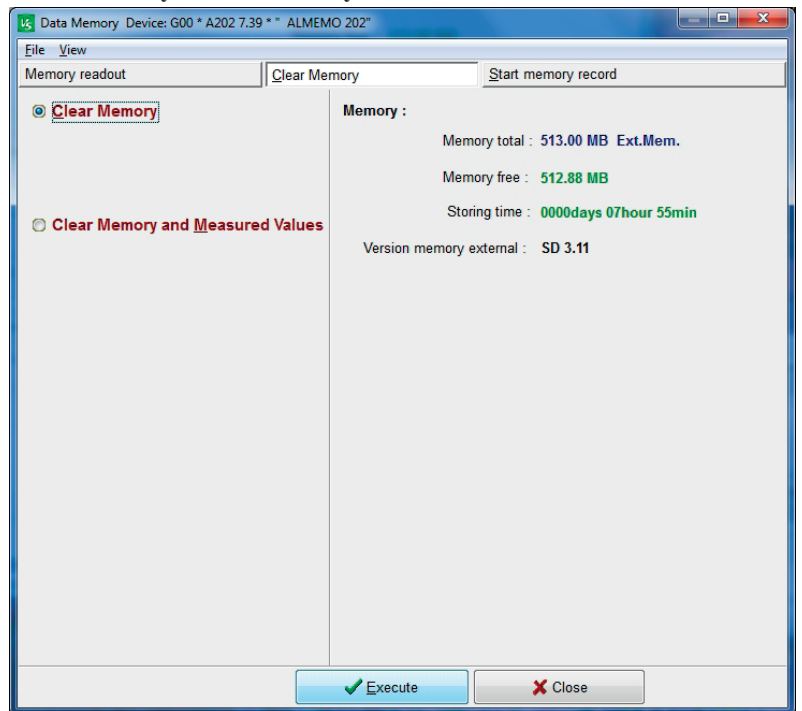
List of Measuring Points



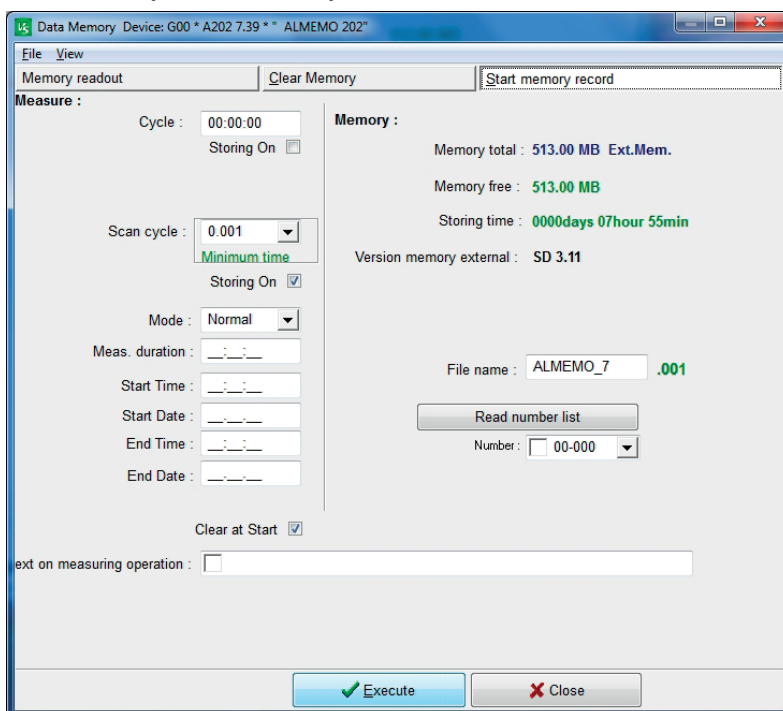
Sensor Menu (Adjustment and Scaling)



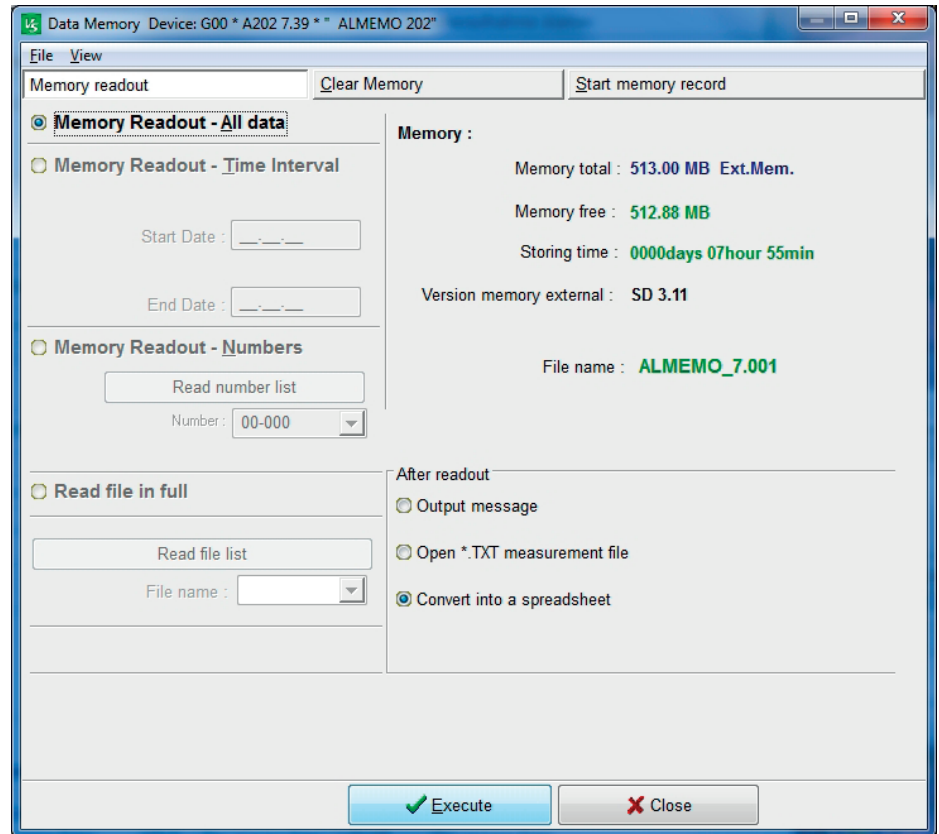
Data Memory: Clear Memory



Data Memory: Start Memory Record



Data Memory: Memory readout and convert into a Spreadsheet



Measured Values in a Spreadsheet

	A	B	C	D
1	MEMORY:		* ALMEMO Control * Ver. AC	
2	ALMEMO	K:		
3	V7	BEREICH:	DMS2	
4	202	KOMMENTAR:	DMS2 1000M/s	
5	SD3.11	GW-MAX:		
6	ALMEMO 7.001	GW-MIN:		
7	DATUM:	ZEIT:	MO.0 N	
8	14.12.2015	16:51:48,245	90,30	
9	14.12.2015	16:51:48,246	90,30	
10	14.12.2015	16:51:48,247	90,30	
11	14.12.2015	16:51:48,248	90,30	
12	14.12.2015	16:51:48,249	90,30	
13	14.12.2015	16:51:48,250	90,30	
14	14.12.2015	16:51:48,251	90,30	
15	14.12.2015	16:51:48,252	90,30	
16	14.12.2015	16:51:48,253	90,30	
17	14.12.2015	16:51:48,254	90,30	
18	14.12.2015	16:51:48,255	90,30	
19	14.12.2015	16:51:48,256	90,30	
20	14.12.2015	16:51:48,257	90,30	
21	14.12.2015	16:51:48,258	90,30	
22	14.12.2015	16:51:48,259	90,30	
23	14.12.2015	16:51:48,260	90,30	
24	14.12.2015	16:51:48,261	90,30	
25	14.12.2015	16:51:48,262	90,30	
26	14.12.2015	16:51:48,263	90,30	
27	14.12.2015	16:51:48,264	90,30	
28	14.12.2015	16:51:48,265	90,30	
29	14.12.2015	16:51:48,266	90,30	
30	14.12.2015	16:51:48,267	104,20	
31	14.12.2015	16:51:48,268	104,20	
32	14.12.2015	16:51:48,269	104,20	
33	14.12.2015	16:51:48,270	104,20	
34	14.12.2015	16:51:48,271	104,20	
35	14.12.2015	16:51:48,272	104,20	
36	14.12.2015	16:51:48,273	104,20	
37	14.12.2015	16:51:48,274	104,20	
38	14.12.2015	16:51:48,275	104,20	
39	14.12.2015	16:51:48,276	104,20	
40	14.12.2015	16:51:48,277	104,20	
41	14.12.2015	16:51:48,278	104,20	
42	14.12.2015	16:51:48,279	104,20	
43	14.12.2015	16:51:48,280	104,20	
44	14.12.2015	16:51:48,281	104,20	
45	14.12.2015	16:51:48,282	104,20	