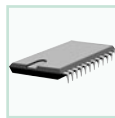
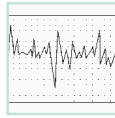
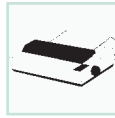


# ALMEMO® MEASURING INSTRUMENTS

**new!**

**ALMEMO® 2590-2, 2590-3S, 2590-4S**  
**Universal measuring instruments with**  
**2, 3, or 4 measuring inputs, with**  
**measured value memory either**  
**internal or with memory card, and 2**  
**outputs USB, RS232, Ethernet, analog**



**Technical features :**

- ▶ Modern, compact housing (IP54 option is available on request)
- ▶ 2, 3, or 4 input sockets, electrically isolated, for all ALMEMO® sensors, 4 additional internal function channels
- ▶ 2 ALMEMO® output sockets for digital interfaces, analog output, trigger input, alarm contacts, memory card
- ▶ High-resolution A/D converter, 16-bit, 10 mops
- ▶ Graphics display with white illumination, easy and convenient operation by means of 4 soft-keys and cursor block,
- ▶ Clear and easy-to-understand menu system : 3 measuring menus (1 menu can be freely configured by user from a range of 50 functions), measured values displayed numerically, 1 to 12 measured values can be displayed in two sizes or graphically in bar chart form.
- ▶ Intelligent sensor readings with sensor-specific functions : Cold junction compensation, temperature compensation, and atmospheric pressure compensation
- ▶ Measuring functions : Measured value, zero-setting, setpoint adjustment
- ▶ Function menus : Maximum value, minimum value, memory for 99 measured values, average value over time / individual values / measuring points, smoothing, easy and convenient volume flow with centre measuring, two-point adjustment, scaling, data logger with configuration menus
- ▶ Option VN: volume flow with array measuring per VDI2080
- ▶ Programming menus ensuring clear and easy-to-understand sensor programming, range, units, designation, right through to special functions, configuration of device parameters and of output modules
- ▶ Multi-point calibration and special ranges in the ALMEMO® connector, e.g. 50.000 Ω, 100 kΩ, NTC -5.000 to 46.000 °C
- ▶ Choice of languages : German, English, French (other options also available)
- ▶ Type 2590-3S and 2590-4S with EEPROM with capacity for 7 ... 12000 measured values, internally configurable as linear or ring memory
- ▶ Memory connector with pluggable MMC card
- ▶ Sleep mode for long-term recording

**Technical data :**

<b>Measuring inputs:</b>	<b>2590-2</b>	2 ALMEMO®-input sockets
	<b>2590-3S</b>	3 ALMEMO®-input sockets
	<b>2590-4S</b>	4 ALMEMO®-input sockets
Electrically isolated	Semiconductor relay (50 V)	
Channels	4 channels / connector for double sensors and function channels, 4 internal channels (e.g. differential)	
A/D converter	Delta-sigma 16-bit, 2.5 or 10 mops (see Technical data, page 01.05)	
Sensor power supply	Battery 9, maximum 150 mA; mains adapter, 12 V, maximum 150 mA	
<b>Outputs</b>	2 ALMEMO® sockets for all output modules (analog, data, trigger, relay cables, memory etc.)	
<b>Standard equipment</b>		
Display	Graphics, 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 with internal battery	
Internal memory	2590-xS only: 59-KB EEPROM (7 ... 12000 meas.values)	
<b>Power supply</b>		
Battery	3 AA alkaline batteries	
Mains adapter	ZA1312NA1 230 VAC to 12 VDC, 200 mA, electrically isolated	
DC adapter cable, electr. isol.	ZA2690-UK 10 to 30 V, 250 mA	
Current consumption	active mode approx. 20 mA without lighting approx. 40 mA	
Input and output modules	Sleep mode approx. 0.05 mA	
Housing	(LxWxH) 127 x 83 x 42 mm, ABS (maximum 70 °C), 290 g	

Other general data see Technical Data, page 01.05

**Product overview :**

**Universal measuring instrument ALMEMO® 2590-2**  
2 inputs, 2 outputs, Cascadable interface, LCD graphics screen, 7 keys, real-time clock MA25902

**Universal measuring instrument ALMEMO® 2590-3S**  
like the ALMEMO® 2590-2, but with 3 inputs and 59-KB EEPROM MA25903S

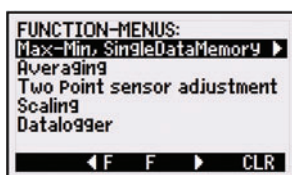
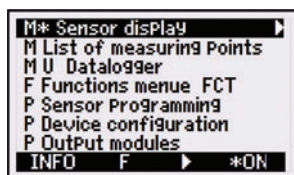
**Universal measuring instrument ALMEMO® 2590-4S**  
like the ALMEMO® 2590-2, but with 4 inputs and 59-KB EEPROM MA25904S

**Options:**  
Volume flow with array measuring per VDI2080 OA2590VN  
Temperature ranges for 8 coolants SB0000R2  
Top hat rail mounting OA2590HS

**Accessories:**  
Mains adapter 12V/200mA ZA1312NA1  
DC adapter cable, 10 to 30 V DC, 12 V / 0.25 A, electr. isol. ZA2690UK  
Memory connector with MMC card, including USB card reader ZA1904MMC  
Analog output cable, -1.25 to 2.0 V, 0.1 mV / digit ZA1601RK  
Trigger and alarm cable (2 relays, 1 ohm, 300 mA, 50 V) ZA1006EGK  
USB data cable, electr. isol., maximum 230.4 KB ZA1919DKU  
V24 data cable, electr. isol., maximum 115.2 KB ZA1909DK5  
Ethernet data cable, electr. isol., maximum 115.2 KB ZA1945DK  
Network cable, electr. isol., max. 115.2 KB ZA1999NK5  
Instrument case ZB2490TK  
Network technology, Bluetooth modules, see Chapter 05

Menu selection

Function menus



07/2007 We reserve the right to make technical changes.

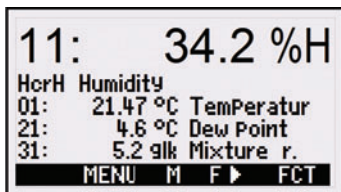
# ALMEMO® MEASURING INSTRUMENTS

## Universal-Measuring Instruments ALMEMO® 2590

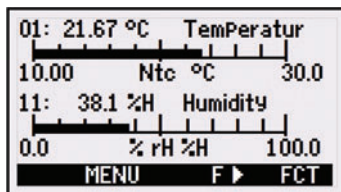
07/2007 We reserve the right to make technical changes.

### Measured Value Display (Examples):

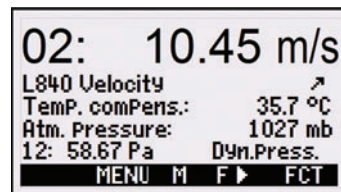
Sensor reading with large measured value. For each sensor type further important measurable variables or parameters are also displayed automatically:



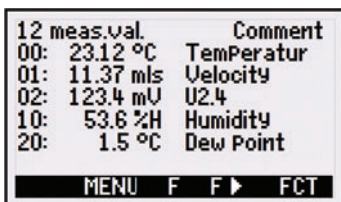
Humidity Display with further humidity variables, e.g. temperature, dew point, mixture ratio



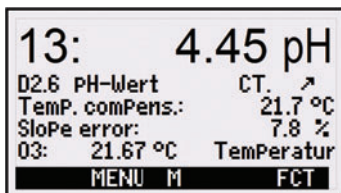
Temperature / humidity display in bar chart form



Flow Display, measured value with automatic temperature compensation, and atmospheric pressure compensation



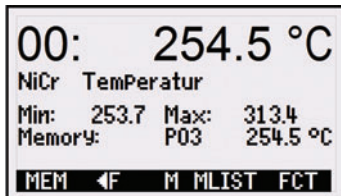
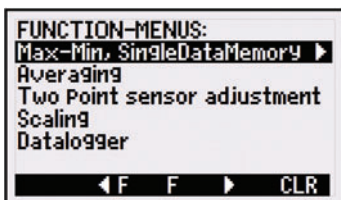
List of measuring points providing a complete and clearly understandable overview of all sensors connected



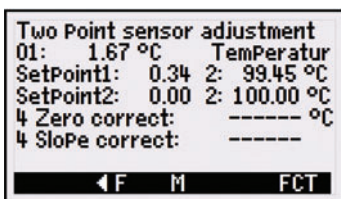
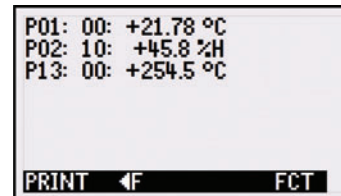
pH-Display, measured value with automatic temperature compensation

### Function Menues:

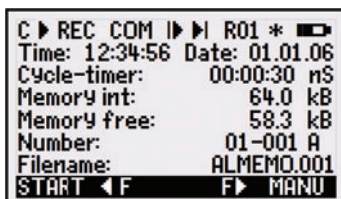
Each measured value reading can be linked to 1 function menu :



Temperature Display with 100 Points Memory for Single Values

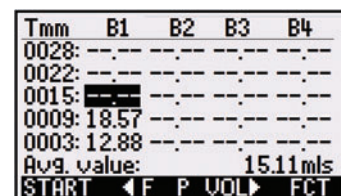
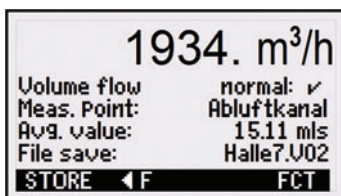
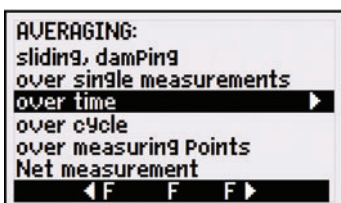


Two-point adjustment for purposes of correcting sensors (e.g. temp., force)



Data logger function for cyclic saving

### Selecting the average value function:



Option VN : Volume flow with array measuring in the flow channel