INPUT CONNECTORS

Our Tip:
Make the most of your existing sensor technology !

Our patented intelligent connector makes the ALMEMO® measuring system extraordinarily flexible.
Thus, instead of our pre-configured ALMEMO® sensors, you can use your own existing sensors.

We can supply you with ALMEMO® connectors specially pre-programmed for this purpose with the necessary sensor parameters and the appropriate measuring range. These have six screw terminals and can be easily and conveniently connected.

All devices and connectors offer the following functions :

- Each measuring point can be assigned a specific designation.
- The sensor signals can be scaled.
- Measured values can be corrected for zero-point and gain.

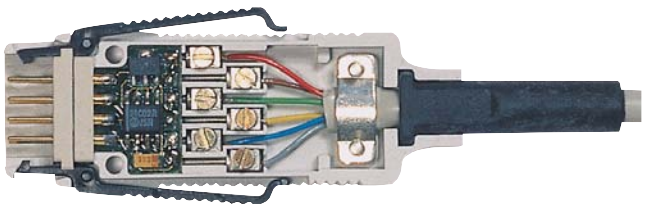
The new measuring instruments with ALMEMO® connectors also offer the following additional functions :

- Multi-point calibration data can be saved in the connector.
- User-defined linearization with up to 30 points can be programmed in the connector.
- Control points with actual / setpoint values tables can be entered quickly and easily via the AMR-Control software.
- Any special measuring ranges programmed in the connector can be processed.
- Calibration schedules can be managed in the connector and are detected automatically.
- The connector's exact designation can be called up.

The already high level of precision and overall performance quality provided by ALMEMO® measuring technology is thus raised even further.

Give us a description of your measuring tasks !
And we shall provide you with comprehensive advice and find the most cost-effective solution.
Please do not hesitate to ask !

ALMEMO® Connector in Original Size



ALMEMO® Sensor Connector
with 6 Screw Terminals
and EEPROM

INPUT CONNECTORS

new!

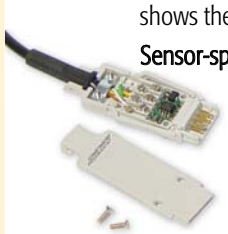
High-precision measuring operations using inexpensive standard sensors - thanks to multi-point correction

Linearization and correction of non-linear sensors

Linearization and correction at over 30 points - performed by the user - without further processing on the PC

Although special-purpose sensors with a non-linear output can usually be connected to existing measuring systems, the lack of linearization in the sensor's output signal means that the measured value will need subsequent correction to make it at all usable. AHLBORN now offers customers a revolutionary new feature - also available with hand-held devices. An option is now available allowing the user to perform linearization and multi-point correction on ALMEMO® measuring instruments. Not only all the relevant sensor characteristics but also the linearization or multi-point correction data are saved in the patented ALMEMO® connector. The measuring instrument automatically recognizes each sensor that is connected to it and shows the appropriate measured values precisely in its display.

Sensor-specific linearization data can be saved by the user in the connector itself.



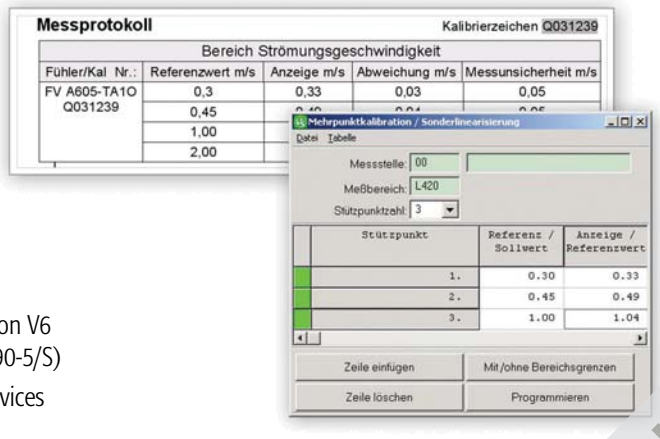
Thanks to further development of the flexible and intelligent ALMEMO® connector it is now possible to save complex tables for linearization or multi-point correction - all in the connector itself. For the user this means that it is now also possible to connect sensors with a non-linear output. The device displays measured values already in linearized form; this ensures that the whole process can be monitored right from the outset. A further advantage is the enormous saving in time when evaluating special measuring operations of this nature. For each sensor the linearization data is saved in the connector; then as soon as the sensor is plugged into the measuring instrument this data is loaded automatically. The linearization table is buffered in the main working memory on the device for the period of the measuring operation in question or for as long as the sensor remains connected. With effect from the ALMEMO® 2690-8 the user can use this "KL" option to program linearization processes of this nature quickly and easily. Individual linearization processes can be applied in the voltage, current, resistance, or frequency ranges. On request - or for other devices - readily pre-programmed connectors can be obtained from the factory. Various already implemented special-purpose linearizations are also available.

High-precision measuring operations - thanks to multi-point correction

A sensor's output signal can also be corrected at various specific points. Inexpensive standard sensors made by third-party manufacturers can be calibrated. Deviations are then saved in the sensor connector as fine corrections. This can be performed either by users themselves or on request in advance at the factory - for example for temperature calibrations. It is now possible to save not only previous characteristics but also over 30 correction points - all in the connector itself.

Programming via software

In the AMR-CONTROL software package the measuring protocol for a multi-point correction or a linearization table can be transferred to a table of reference points. Over 30 such reference points are possible. During a measuring operation the measured values between these are interpolated on a linear basis. The AMR-CONTROL software is included with all our instruments free-of-charge.



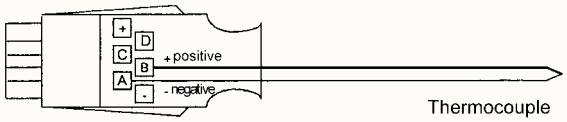
System requirements

Connector - the new generation (code "E4")
For evaluation purposes : ALMEMO® devices in version V6 (2690-8, 2890-8, 8590, 8690, 5690, 2390-8, and 2390-5/S)

For user-defined programming : Option "KL" with devices 2690-8, 2890-9,8590, 8690, and 5690

INPUT CONNECTORS

ALMEMO® Connectors for Thermocouple Types K, N, L, J, T



Variants (with thermal material)

Model	Meas. Range	Resolution	
NiCr-Ni (K)	–200.0 to +1370.0°C	0.1K	**Order no. ZA9020FS**
NiCroSil-NiSil (N)	–200.0 to +1300.0°C	0.1K	**Order no. ZA9021FSN**
Fe-CuNi (L)	–200.0 to +900 °C,	0.1 K	**Order no. ZA9021FSL**
Fe-CuNi (J)	–200.0 to +1000 °C,	0.1 K	**Order no. ZA9021FSJ**
Cu-CuNi (T)	–200.0 to +400 °C,	0.1 K	**Order no. ZA9021FST**

ALMEMO®-D measuring module for thermocouples, types K, J, T, electrically isolated, up to 1000 V Type ZAD 950 AB

new!

- Electrically isolated measurement of thermocouples (in particular bare thermo-wire types) on live parts
- Digital transfer of measured values to the ALMEMO® measuring instrument
- Connecting cable, fitted with ALMEMO® D plug
- *New* A wide variety of connection options (see page 09.06)
  1. Direct connection to the input of an ALMEMO® measuring instrument optional ALMEMO® D extension cable, RS422, up to 100 meters - or over 100 meters using the customer's own cable
  2. For connection to a PC ALMEMO® USB data cable, with power supply
  3. For connection to an RS422 network ALMEMO® coupling with RS422 driver
- Sensor connection via 4-mm safety plug (with screw terminals)

Technical data:

Sensor	Thermocouple
Measuring range ZAD950ABK ZAD950ABJ ZAD950ABT	 NiCr-Ni (K) -200 to 1370 °C Fe-CuNi (J) -200 to 1000 °C Cu-CuNi (T) -200 to 400 °C
Resolution	0.1 K
Linearization accuracy	±0.5 K ±0.05 % of measured value
A/D converter	delta-sigma, 15-bit resolution For technical data see page 01.05.
Electrical isolation	1 kV DC/AC permanent, 4 kV for 1s
Sensor connection	4-mm safety sockets and safety plugs (with screw terminals)
Power supply	6 to 13 VDC via ALMEMO® device
Current consumption	approx. 30 mA
Connecting cable	1.5 meters with ALMEMO® D plug
Housing	Dimensions (LxWxH) 127x83x38mm, ABS (acrylonitrile butadiene styrene)

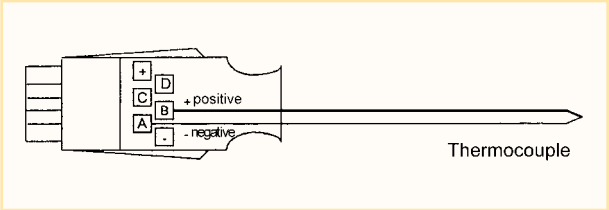
Types :

ALMEMO® D measuring module for NiCr-Ni (K), including 1.5 meters ALMEMO® D connecting cable **Order no. ZAD950ABK**
ALMEMO® D measuring module for Fe-CuNi (J) including 1.5 meters ALMEMO® D connecting cable **Order no. ZAD950ABJ**
ALMEMO® D measuring module for Cu-CuNi (T) including 1.5 meters ALMEMO® D connecting cable **Order no. ZAD950ABT**

Please note : thermocouple must be ordered extra; e.g. thermo-wires see Chapter 08

INPUT CONNECTORS

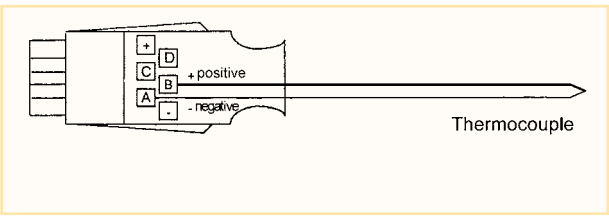
ALMEMO® Connectors for Thermocouple Types U, S, R, B, AuFe-Cr



Types:

Model	Meas. Range	Resolution	
Cu-CuNi (U)	–200.0 to +600.0°C	0.1K	**Order no. ZA9000FSU**
PtRh10-Pt (S)	0.0 to +1760.0°C	0.1K	**Order no. ZA9000FSS**
PtRh13-Pt (R)	0.0 to +1760.0°C	0.1K	**Order no. ZA9000FSR**
PtRh30-PtRh6 (B)	+400.0 to +1800.0°C	0.1K	**Order no. ZA9000FSB**
AuFe-Cr (A)	–270.0 to +60.0°C	0.1K	**Order no. ZA9000FSA**

ALMEMO® connector with integrated cold junction sensor for all thermocouples



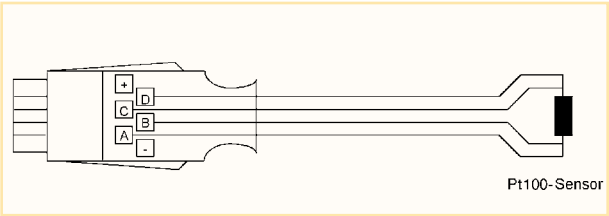
For especially exacting applications demanding the highest possible level of precision or performed under unfavorable conditions (e.g. subject to thermal irradiation)

Programming:
1st channel, NTC, integrated cold junction sensor, resolution 0.01 K
2nd channel, thermocouple, resolution 0.1 K; please specify type !

Types:

Model	Meas. Range	Resolution	
NiCr-Ni (K)	–200.0 to +1370.0°C,	0.1 K	**Order no. ZA9400FSK**
NiCroSil-NiSil (N)	–200.0 to +1300.0°C,	0.1 K	**Order no. ZA9400FSN**
Fe-CuNi (L)	–200.0 to +900°C,	0.1 K	**Order no. ZA9400FSL**
Fe-CuNi (J)	–200.0 to +1000°C,	0.1 K	**Order no. ZA9400FSJ**
Cu-CuNi (T)	–200.0 to +400°C,	0.1 K	**Order no. ZA9400FST**
Cu-CuNi (U)	–200.0 to +600.0°C	0.1 K	**Order no. ZA9400FSU**
PtRh10-Pt (S)	0.0 to +1760.0°C	0.1 K	**Order no. ZA9400FSS**

ALMEMO® Connectors for Pt100 Sensors/Pt1000 Sensors



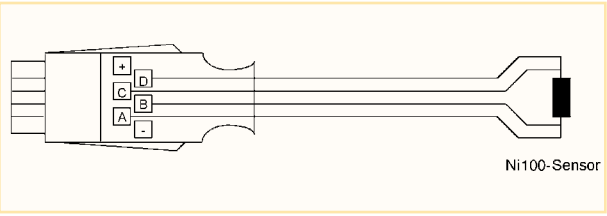
Types:

Model	Meas. Range	Resolution	
Pt100 4-conductors	–200.0 to +850.0°C	0.1K	**Order no. ZA9030FS1**
Pt100 4-conductors	–200.0 to +400.0°C*	0.01K	**Order no. ZA9030FS2**
Pt1000 4-conductors	–200.0 to +850.0°C*	0.1K	**Order no. ZA9030FS4**
Pt1000 4-conductors	–200.0 to +400.0°C*	0.01K	**Order no. ZA9030FS5**
Pt100 4-conductors	-8 to +65.000°C	0.001K (for ALMEMO® up to 2690-8)	**Order no. ZA9030FS7**

*Data may vary depending on device; (see data sheet per device).

INPUT CONNECTORS

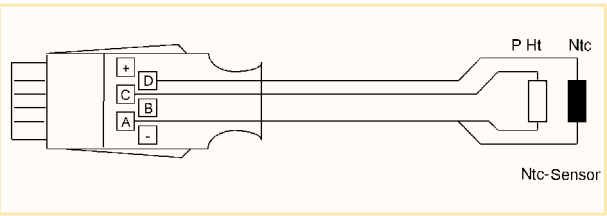
ALMEMO® Connectors for Ni100 Sensors/Ni1000 Sensors



Types:

Model	Meas. Range	Resolution	
Ni100	–60.0 to +240.0°C	0.1K	**Order no. ZA9030FS3**
Ni1000	–60.0 to +240.0°C	0.1K	**Order no. ZA9030FS6**

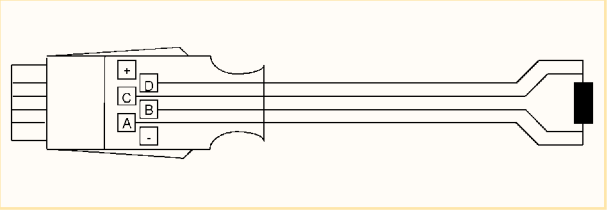
ALMEMO® Connectors for Ntc Sensors



Types:

Model	Meas. Range	Resolution	
Ntc type N	–50.0 to +125.0°C	0.01K	**Order no. ZA9040FS**
2xNtc type N	–50.0 to +125.0°C	0.01 K no electrical isolation	**Order no. ZA9040FS2**

ALMEMO® Connectors for Resistance



Technical data ZA 9003 SS4:

Connection	2-wire
Linearization accuracy:	±0,2 % ± 0,02 kOhm Linearization is saved in the ALMEMO® connector; (this is not available with ALMEMO® 2450, 8390)

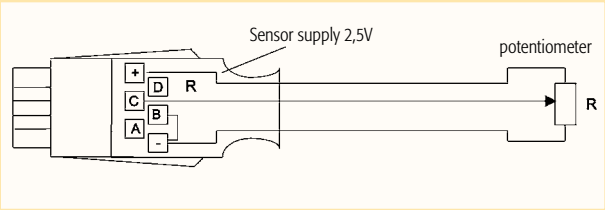
Types:

Model	Meas. Range	Resolution		
Ohm	0.00 to 500.00	0.01Ω *		**Order no. ZA9003FS**
Ohm	0.0 to 5000.0	0.1Ω *		**Order no. ZA9003FS2**
kOhm	0 to 110.00 kOhm	0.01kΩ	new!	**Order no. ZA9003SS4**

*Data may vary depending on device; (see data sheet per device)

INPUT CONNECTORS

ALMEMO® Connectors for Potentiometer pickoffs



Technical Data:

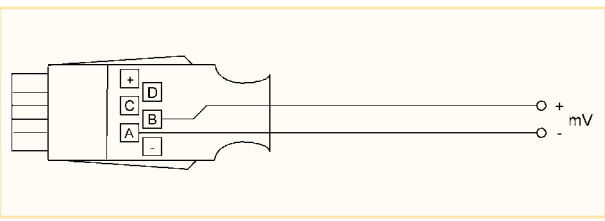
Sensor supply:	2.5 V
Temperature coefficient:	< 50 ppm/K

Types:

Model	Meas. Range	Resolution	
2.6 V DC (differential)	–2.6 to +2.6 *	0.1 mV	**Order no. ZA9025FS3**

*Data may vary depending on device; (see data sheet per device)

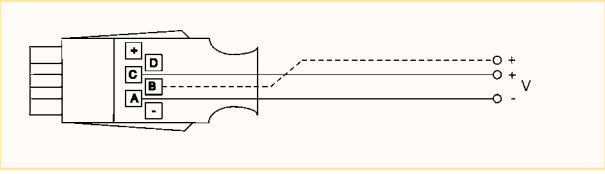
ALMEMO® Connectors for Voltage Millivolt



Types:

Model	Meas. Range	Resolution	
55mVDC	–10.0 to +55.0	1µV	**Order no. ZA9000FS0**
26mVDC	–26.0 to +26.0	1µV	**Order no. ZA9000FS1**
260mVDC	–260.0 to +260.0	10µV	**Order no. ZA9000FS2**

ALMEMO® Connectors for Volt DC



Technical Data:

Accuracy divider:	only 5.5 / 26 V connector, ±0.1% of measured value

Types:

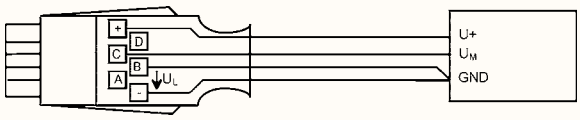
Model	Meas. Range	Resolution		
2.6VDC	–2.6 to +2.6 *	0.1 mV		**Order no. ZA9000FS3**
new!				
5.5VDC (divider 100:1)	–1 to 5.5	0.1 mV		**Order no. ZA9602FS4**
26VDC (divider 100:1)	–26.0 to +26.0	1 mV		**Order no. ZA9602FS**
2 x 26 V DC (2xdivider)	–26.0 to +26.0	1 mV	no electrical isolation	**Order no ZA9602FS2**

*Data may vary depending on device; (see data sheet per device)

INPUT CONNECTORS

ALMEMO® Connectors for DC Millivolt / Volt Differential

for sensors / transmitters, Supply from ALMEMO® device



Technical Data:

Sensor supply	(for voltage see technical data of ALMEMO® device)
Accuracy divider:	only 26V connector ±0,1% of measured value

Types:

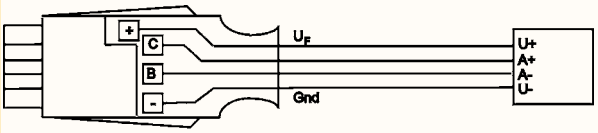
Model	Meas. Range	Resolution	
55 mV DC	–10.0 to +55.0	1 µV	**Order no. ZA9000FS0D**
26 mV DC	–26.0 to +26.0	1 µV	**Order no. ZA9000FS1D**
260 mV DC	–260.0 to +260.0	10 µV	**Order no. ZA9000FS2D**
2.6 V DC	–2.6 to +2.6 *	0,1 mV	**Order no. ZA9000FS3D**

(Connection diagram for connectors with 4 clamps, see below)

*Data may vary depending on device; (see data sheet per device)

ALMEMO® Connectors for DC Millivolt / Volt Differential

for sensors / transmitters, Supply : 12 V from the ALMEMO® device



Technical Data:

Sensor supply U_F:	13.5V ±0.5V
Output current:	100mA at U_G = 12V
	50mA at U_G = 9V
	20mA at U_G = 7V
Accuracy divider:	only 26V connector ±0,1% of measured value (U_G = device voltage)

Types:

Model	Meas. Range	Resolution	
55mV DC	–10.0 to +55.0	1 µV	**Order no. ZA9600FS0V12**
26mV DC	–26.0 to +26.0	1 µV	**Order no. ZA9600FS1V12**
260mV DC	–260.0 to +260.0	10 µV	**Order no. ZA9600FS2V12**
2.6V DC	–2.6 to +2.6 *	0.1 mV	**Order no. ZA9600FS3V12**
26V DC	-26.0 to +26.0	1 mV	**Order no. ZA9602FS3V12**

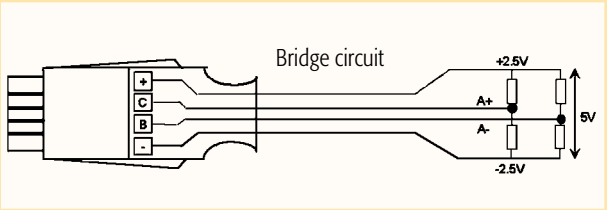
*Data may vary depending on device; (see data sheet per device).

INPUT CONNECTORS

ALMEMO® input connector for measuring bridges,, millivolt / volt differential

new!

With zero-symmetrical voltage supply of ±2.5 V stabilized from the ALMEMO® device



Technical Data:

Sensor supply:	
Voltage U_F:	5V ± 0.05V
Temperature coefficient:	<50ppm/°C
Output current:	max. 100mA
Quiescent current	approx. 3 mA
New Energy saving	So long as the measuring point is not selected, the bridge voltage remains switched OFF.

Types:

Model	Meas. Range	Resolution	
55mV DC	–10,0 to +55,0	1 µV	**Order no. ZA9105FS0**
26mV DC	–26,0 to +26,0	1 µV	**Order no. ZA9105FS1**
260mV DC	–260,0 to +260,0	10 µV	**Order no. ZA9105FS2**
2.6V DC	–2,6 to +2,6*	0,1 mV	**Order no. ZA9105FS3**

*Data may vary depending on device; (see data sheet per device)

ALMEMO® Measuring Module for DC Voltage, with Electrical Isolation, 4kV

Technical Data:

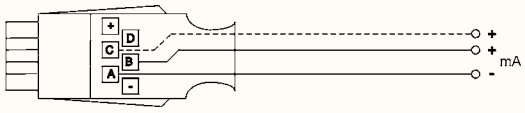
see page 12.05

Types:

Measuring range	Resolution	Overload	Internal resistance	
±2,000 V	0,001V	400 V	800 kΩ	**Order no. ZA9900AB2**
±20,00 V	0,01V	500 V	1 MΩ	**Order no. ZA9900AB3**
±200,0 V	0,1V	500 V	1 MΩ	**Order no. ZA9900AB4**
±400 V	1V	1000 V	4 MΩ	**Order no. ZA9900AB5**

INPUT CONNECTORS

ALMEMO® Connectors for DC Current mA



Technical Data:

Accuracy shunt:	±0,1% of measured value

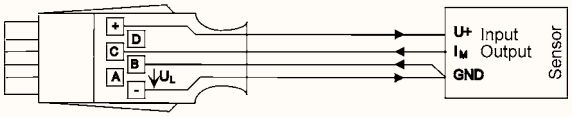
Types:

Model	Meas. Range	Resolution	
32mA DC	–32.0 to +32.0 *	1µA	**Order no. ZA9601FS1**
4/20mA DC	0 to 100%	0.01%	**Order no. ZA9601FS2**
2 x 32 mA DC	–32.0 to +32.0 *	1 µA no electrical isolation	**Order no. ZA9601FS3**
2 x 4/20 mA DC	0 to 100%	0.01 % no electrical isolation	**Order no. ZA9601FS4**

*Data may vary depending on device; (see data sheet per device).

ALMEMO® Connectors for DC mA Differential

for sensors / transmitters, Supply from the ALMEMO® device



Technical Data:

Sensor supply	(for voltage see technical data of ALMEMO® device)
Accuracy shunt:	±0,1% of measured value

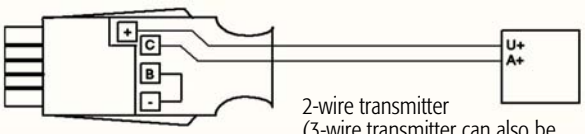
Types:

Model	Meas. Range	Resolution	
32 mA DC	–32.0 to +32.0 *	1 µA	**Order no. ZA9601FS5**
4/20 mA DC	0 to 100%	0.01%	**Order no. ZA9601FS6**

*Data may vary depending on device; (see data sheet per device)

ALMEMO®Connectors for DC mA Differential

for sensors / transmitters, Supply : 12 V from the ALMEMO® device



2-wire transmitter
(3-wire transmitter can also be connected)

Technical Data:

Sensor supply U_F:	13.5V ±0.5V
Output current:	100mA at U_G = 12V
	50mA at U_G = 9V
	20mA at U_G = 7V
Accuracy shunt:	±0,1% of measured value (U_G = device voltage)

Types:

Model	Meas. Range	Resolution	
32mA DC	–32.0 to +32.0 *	1 µA	**ZA9601FS5V12**
4-20mA DC	0 to 100%	0.01 %	**ZA9601FS6V12**

*Data may vary depending on device; (see data sheet per device).

INPUT CONNECTORS

ALMEMO® Measuring Module for DC, with Electrical Isolation, 4kV

Technical Data:

see page 12.05

Types:

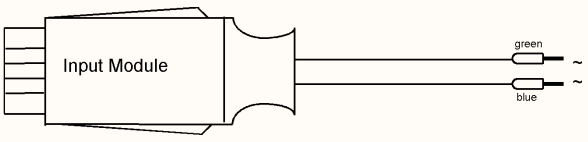
Measuring range	Resolution	Overload	Internal resistance	
±20.00 mA	0.01mA	0.1 A*	10 Ω	**Order no. ZA9901AB1**
±200.0 mA	0.1mA	1 A*	1 Ω	**Order no. ZA9901AB2**
±2.000 A	0.001A	10 A*	0.1 Ω	**Order no. ZA9901AB3**
±10.00 A	0.01A	20 A*	0.01 Ω	**Order no. ZA9901AB4**

*Without fuse, overload condition only up to 1 minute maximum

DC via external shunt:

±200.0 mV	0.1mV	40 V	50 kΩ	**Order no. ZA9900AB1**

ALMEMO® Adapter Cables for AC Voltage



Technical Data:

Frequency range:	50 Hz to 10 kHz
Accuracy:	± 0.2% of final val. ± 0.5% of meas. val. (40Hz … 2kHz sinusoidal),
Crest factor:	3 (add. error 0.7%), 5 (add. error 2.5%)

+ NEVER connect voltages higher than 50V! DANGER!

Types:

Meas. Range	Resolution	
5 to 260mV$_{rms}$	0.1mV	**Order no. ZA9603AK1**
0.05 to 2.6V$_{rms}$	0.001mV	**Order no. ZA9603AK2**
0.5 to 26.0V$_{rms}$	0.01mV	**Order no. ZA9603AK3**

INPUT CONNECTORS

ALMEMO® Measuring Module for AC Voltage, with Electrical Isolation, 4kV

Technical Data:

see page 12.06

Types:

Meas. range	Resolution	Peak	Overload	Internal resistance	
130.0mV$_{rms}$	0.1mV	0.2V	400V	0.5MΩ	**Order no. ZA9903AB1**
1.300V$_{rms}$	1mV	2V	400V	0.8MΩ	**Order no. ZA9903AB2**
13.00V$_{rms}$	10mV	20V	500V	1MΩ	**Order no. ZA9903AB3**
130.0V$_{rms}$	0.1V	200V	500V	1MΩ	**Order no. ZA9903AB4**
400V$_{rms}$	1V	1000V	1000V	4MΩ	**Order no. ZA9903AB5**

ALMEMO® Measuring Module for AC, with Electrical Isolation, 4kV

Technical Data:

see page 12.06

Types:

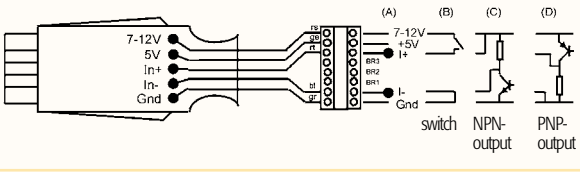
Meas. range	Resolution	Peak	Overload	Internal resistance	
1.000A$_{rms}$	1mA	2A	10A*	0.10Ω	**Order no. ZA9904AB1**
10.00A$_{rms}$	10mA	20A	20A*	0.01Ω	**Order no. ZA9904AB2**

*Without fuse, overload condition only up to 1 minute maximum

INPUT CONNECTORS

ALMEMO® Adapter Cables for Frequency / Pulse / Rotational Speed

for sensors, Supply : 5 V or direct from ALMEMO® device



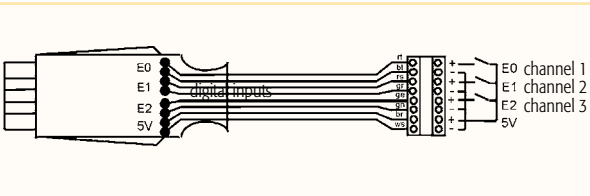
Technical Data:

Frequency range:	0 to 15000 Hz (Resolution 1 Hz) 0 to 3200.0 Hz (Resolution 0.1 Hz)
Speed range:	8 to 32000 rpm (Resolution: 1 rpm)
Max. pulse count:	65000
Pulse length:	> 50 µs
Input voltage	4 to 40 V, square-wave via optocoupler
Current consumption:	3 mA
Sensor supply	5 V or direct from ALMEMO® device (for voltage see technical data of ALMEMO® device)
Option V12	
Sensor supply:	13.5V ±0.5V
Output current:	100mA at U_G = 12V 50mA at U_G = 9V 20mA at U_G = 7V (U_G = device voltage)

Types (Cable lengths, 1.5 meters)

Model	Measuring range	Resolution	
Frequency	0 to 15000 Hz	1 Hz	
	0 to 3200.0 Hz	0.1 Hz can, by inserting wire jumper, be switched to	**Order no. ZA9909AK1U**
Pulses / cycle	0 to 65000 pulses	1 pulse	**Order no. ZA9909AK2U**
Speed	8 to 32000 rpm	1 rpm	**Order no. ZA9909AK4U**
Option : sensor supply 12 V			**Order no. OA9909V12**

ALMEMO® Adapter Cable for Digital Input Signals

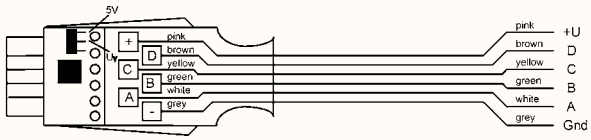


Types: (cable length, 1.5m each)

3 digital inputs, (optocoupler), for floating contacts, 5V auxiliary voltage led out	**Order no. ZA9000ES2**
4 digital inputs, electrically isolated (optocoupler) for external voltage, 4 to 30 V	**Order no. ZA9000EK2**

INPUT CONNECTORS

ALMEMO® Universal Adapter Cables with Free Ends

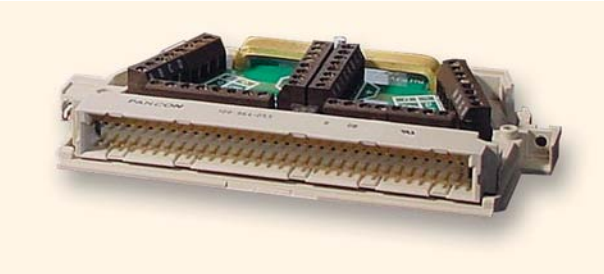


Type:

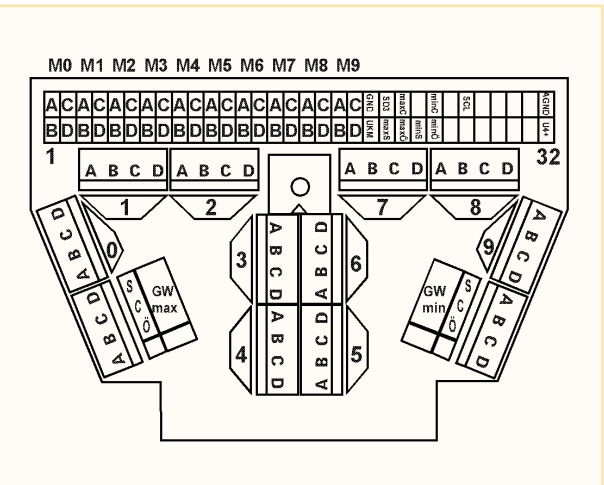
The ALMEMO® universal connector ZA 9000-FS is also available with connecting cable and free ends, as adapter cable ZA9000AK. The sensor supply voltage is present on terminal U+; it is supplied by the ALMEMO® device (sensor supply voltage 5 V, can be stabilized on request). Connecting cable : 8-wire, 8 x 0.14 mm², black, Length 1.5 m The wiring diagram and color code of the wires are consistent for all ALMEMO® sensors and cables, so that any pin configuration can be quickly and easily identified.

Order no. ZA9000AK

ALMEMO® 10-Fold MU Connector for ALMEMO® Plug-In Boards with 64-Pin Spring Contact Strip



\+ NOT suitable for sensors needing interface circuitry (e.g. 26 V, AC voltage, mA, humidity sensors, rotating vanes, frequency, pulse, rotational speed) no sensor supply possible)



\+ The current MU connector version, ZA5690MU, can only be used in conjunction with the new ALMEMO® 5690 systems.

The old MU connector version, ZA5590MU, can of course be used in conjunction with the old ALMEMO® 5590/5990 systems but is subject to certain restrictions with the current 5690 systems (e.g. only 1 measuring channel per input, no multi-point adjustment or connector linearization).

Types:

ALMEMO® 10-fold connector (64-pin) with EEPROM sensor memory
for connecting 10 sensors; on request pre-programmed to your specifications
for Data acquisition systems ALMEMO® 5690 (not for ALMEMO® 5590 / 5990)

Order no. ZA5690MU

For Data acquisition systems ALMEMO® 5590 / 5990

Order no. ZA5590MU

INPUT CONNECTORS

ALMEMO® Connector Adapter Cable, Digital Input of Third Party Device to ALMEMO® Device Type ZA 1000A KSW / ZAD 919A Kxx

Existing equipment incorporating a digital interface can, thanks to our flexible ALMEMO® system, continue being used. For this purpose, we can offer you the following service :

1. We program a device type protocol for you, which matches the output interface of your device.
2. We fit the interface cable for your device with the matching ALMEMO® connector.

Description:

- Data acquisition from external devices with digital interface and integration in the data acquisition with ALMEMO® devices.
- The digital connector of the adapter cable provides an electrically isolated serial interface and includes an interface processor for protocol conversion.
- Value-adding to existing measuring technology at a very interesting price-performance ratio.

Examples:

- Scales and weighing equipment
- Dial gauges and displacement transducers
- Multimeters
- Incremental displacement transducers
- Flue gas analysers
- Keypads
- Mains supply unit with RS232 data output
- Precision pressure sensors
- Equipment for work place related comfort index measurements

Types:

For the purposes of programming the interface, please provide us with a detailed description of the output interface of the third-party device you want to have integrated, or a matching cable, or a connector including the pin configuration, plus the third-party device itself for the purposes of testing and checking.

Interface programming for the device type protocol of the device to be integrated	**Order no. ZA1000AKSW**
ALMEMO® connector adapter cable	**Order no. ZAD919AK**