Digital ALMEMO® D6 measuring connector for DC voltage

For V6 devices, e.g., ALMEMO® 2490, 2590, 2690, 5690, etc.



Technical data

Measuring input	electrically interconnected with the power supply (ALMEMO® device ground)
Measuring range	-2.2…+2.2 V
Conversion rate	10 measurements / second
Resolution	0.0001 V
Overload	±2.8 V

Internal resistance	5 GOhm
Input current	100 pA
System accuracy	0.02 % + 2 Digit
Nominal temperature	22 °C ±2 K
Temperature drift	0.003 %/K (30 ppm)
Supply voltage	6 / 9 / 12 V, from ALMEMO® device
Current consumption	approx. 10 mA (without transducer)

Types:

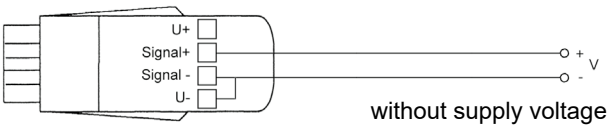
Measuring range	Resolution	Order no.
-2.2…+2.2 V	0.0001 V	**ZAD600FS**

10/2026 • We reserve the right to make technical changes.

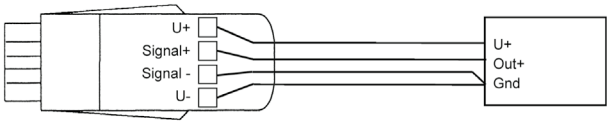
11/2025 • We reserve the right to make technical changes.

Digital ALMEMO® D7 measuring connector for DC voltage differential (volt) / DC current differential (mA)

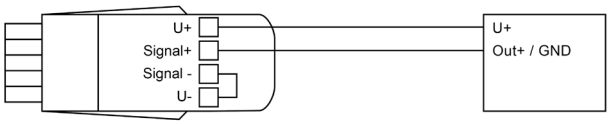
**High resolution up to 0.001 mV / 0.1 µA (200 000 digits)
or fast conversion rate, resolution up to 1 mV / 10 µA (2000 digits).
Only for latest ALMEMO® V7 measuring instruments, ALMEMO® 202-S, 204, 104, 710, 510, 809.**



without supply voltage



with supply voltage



2-wire transmitter 4-20 mA



The new ALMEMO® D7 measurement plug enables high precision or fast conversion rate applicable for a vast variety of measuring tasks.
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 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 high resolutions and stable values, e.g. in precision transmitters for pressure, the ALMEMO® D7 measuring plug works with a reduced conversion rate. For fast processes, measurements can be taken at a higher conversion rate. The ALMEMO® V7 measuring device saves the measured values and the WinControl measuring software displays them graphically.
- Measuring transducers without their own mains unit and needing a power supply are powered from the ALMEMO® D7 plug. Each signal is scaled to its actual physical quantity (e.g. pressure 25 bar at voltage 10 volts); 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

Measuring input	electrically interconnected with the power supply (ALMEMO® device ground)
Measuring range	see variants
Conversion rate, resolution	see variants
Overload	see variants
Internal resistance	see variants
Input current	100 pA
System accuracy	0.02 % +2 digits at 5 measurements / second

Nominal temperature	+22 °C ±2 K
Temperature drift	0.003 % / K (30 ppm)
Supply voltage	6 / 9 / 12 V, from ALMEMO® device (sensor supply voltage)
Current consumption	approx. 12 mA (without transducer)
Sensor supply	6 / 9 / 12 V, from ALMEMO® device ZED70xFSV15: 15 ±0.6 V, max. 50 mA at device voltage 12 V ZED70xFSV24: 24 ±1 V, max. 30 mA at device voltage 12 V
Environmental conditions	see general technical specifications

Input connectors for DC

Types:

Standard connectors:

Measuring range	Resolution Conversion rate (mops)	Internal resistance	Overload	Order no.
-2.0...+2.0 Volt	0.01 mV, 5 mops* / 0.1 mV, 500 mops / 1 mV, 1000 mops	5 GOhm	±2,8 V	**ZED700FS3**
-250...+250 mV	0.001 mV, 5 mops*	5 GOhm	±2.8 V	**ZED700FS2**
-20...+20 Volt	0.1 mV, 5 mops* / 1 mV, 500 mops / 10 mV, 1000 mops	110 kOhm	±30 V	**ZED702FS** **ZED702FSV15**** **ZED702FSV24****
-60...+60 Volt	1 mV, 5 mops* / 10 mV, 500 mops / 10 mV, 1000 mops	103 kOhm	±60 V	**ZED702FS2**
-20...+20 mA	00.1 µA, 5 mops* / 1 µA, 500 mops / 10 µA, 1000 mops	100 Ohm	±28 mA	**ZED701FS** **ZED701FSV15**** **ZED701FSV24****

Connector for pressure sensors (FDA602Lx series):

Measuring range	Resolution Conversion rate (mops)	Internal resistance	Overload	Order no.
0.2... 2.2 Volt	0.01 mV, 5 mops*	5 GOhm	±2,8 V	**ZDD702AKL**

* Factory setting: The desired measuring range can be programmed on the ALMEMO® V7 device itself.
** Sensor supply see above: Technical data

Options

	Order no.
Configuration of ALMEMO® D7 measuring connector	
Conversion rate 500 mops	**OA9007PRM500**
Conversion rate 1000 mops	**OA9007PRM1000**

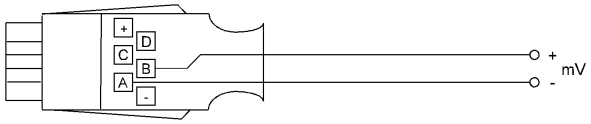
Accessories

	Order no.
Galvanic isolation up to 50 V for ALMEMO® D7 sensors, pluggable cable, length = 0.2 m	**ZAD700GT**

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Input connectors for DC

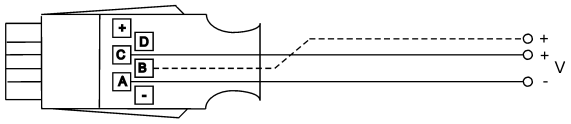
ALMEMO® Connector for Voltage Millivolt



Types:

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

ALMEMO® Connector for Volt DC



Technical Data

Accuracy divider:	only 5.5 / 26 V connector, ±0.1 % of measured value Temperature coefficient: <10 ppm/K Nominal temperature: 23 °C ±2 K

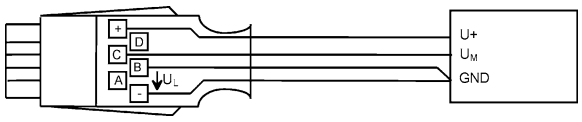
Types:

Model	Meas. Range	Resolution	Order no.
2.6 V DC	–2.6 to +2.6 *	0.1 mV	**ZA9000FS3**
5.5 V DC (divider 100:1)	-1.0 to 5.5	0.1 mV	**ZA9602FS4**
26 V DC (divider 100:1)	–26.0 to +26.0	1 mV	**ZA9602FS**
2x 26 V DC (2x divider)	–26.0 to +26.0	1 mV no electrical isolation	**ZA9602FS2**

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

ALMEMO® Connector for DC voltage difference millivolts / volt

for sensors / transmitters, Supply from ALMEMO® device



Technical Data

Sensor supply	(for voltage see technical data of ALMEMO® device)
Accuracy divider	only 26 V connector ±0,1 % of meas. value Temperature coefficient: <10 ppm/K Nominal temperature: 23 °C ±2 K

(Connection diagram for connectors with 4 clamps, see next page)

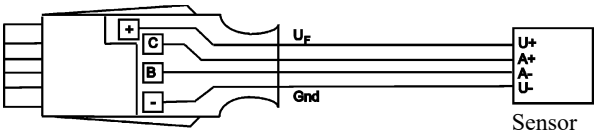
Types:

Model	Meas. Range	Resolution	Order no.
55 mV DC	–10.0 to +55.0	1 µV	**ZA9000FS0D**
26 mV DC	–26.0 to +26.0	1 µV	**ZA9000FS1D**
260 mV DC	–260.0 to +260.0	10 µV	**ZA9000FS2D**
2.6 V DC	–2.6 to +2.6 *	0.1 mV	**ZA9000FS3D**
26 V DC (divider 100:1)	–26.0 to +26.0	1 mV	**ZA9602FS3**

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

ALMEMO® Connector for DC Millivolt / Volt Differential

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



Sensor

Technical Data

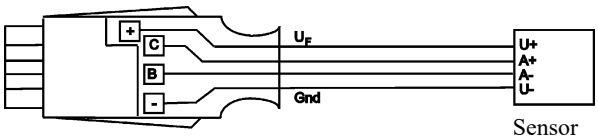
Sensor supply U_F:	12.2 ... 12.5 V (15 V / 24 V on request)
Device voltage U_G:	8 ... 12 V
Output current:	100 mA at U_G = 9 ... 12 V
Accuracy divider:	only 26 V connector ±0.1 % of meas. value Temperature coefficient: <10 ppm/K Nominal temperature: 23 °C ±2 K

Types:

Model	Meas. Range	Resolution	Order no.
55 mV DC	–10.0 to +55.0	1 µV	**ZA9600FS0V12**
26 mV DC	–26.0 to +26.0	1 µV	**ZA9600FS1V12**
260 mV DC	–260.0 to +260.0	10 µV	**ZA9600FS2V12**
2.6 V DC	–2.6 to +2.6 *	0.1 mV	**ZA9600FS3V12**
26 V DC (divider 100:1)	-26.0 to +26.0	1 mV	**ZA9602FS3V12**

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

for sensors / transmitters, Supply: 5 V from the ALMEMO® device



Sensor

Technical Data

Sensor supply U_F:	5 V ±2 % (max.)
Device voltage U_G:	8 ... 12 V
Output current:	50 mA at U_G = 9 ... 12 V
Accuracy divider:	±0.1 % of meas. value Temperature coefficient: <10 ppm/K Nominal temperature: 23 °C ±2 K

Types:

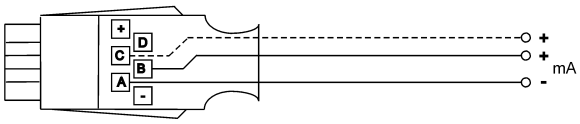
Model	Meas. Range	Resolution	Order no.
5.5 V DC (divider 100:1)	-1.0 to 5.5	0.1 mV	**ZA9602FS5V05**

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DAkkS accredited calibration or Factory calibration KE90xx, electrically, for digital measuring module, see Chapter Calibration.
DAkkS accredited calibration meets all the requirements regarding test resources laid down in DIN EN ISO/IEC 17025.

Input connectors for DC

ALMEMO® Connector for DC Current mA



Technical Data

Accuracy shunt:	±0.1 % of measured value Temperature coefficient: <25 ppm/K Nominal temperature: 23 °C ±2 K

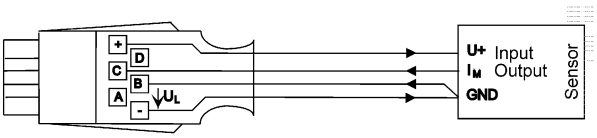
Types:

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

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

ALMEMO® Connector 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 Temperature coefficient: <25 ppm/K Nominal temperature: 23 °C ±2 K

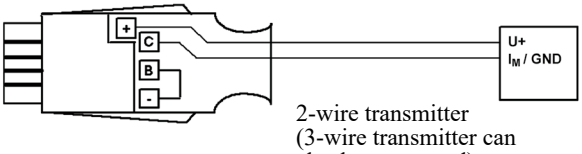
Types:

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

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

ALMEMO® 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:	12.2 ... 12.5 V (15 V / 24 V on request)
Device voltage U_G:	8 ... 12 V
Output current:	100 mA at U_G = 9 ... 12 V
Accuracy shunt:	±0.1 % of measured value Temperature coefficient: <25 ppm/K Nominal temperature: 23 °C ±2 K

Types:

Model	Meas. Range	Resolution	Order no.
32 mA DC	–32.0 to +32.0 *	1 µA	**ZA9601FS5V12**
4-20 mA DC	0 to 100 %	0.01 %	**ZA9601FS6V12**

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

11/2025 • We reserve the right to make technical changes.