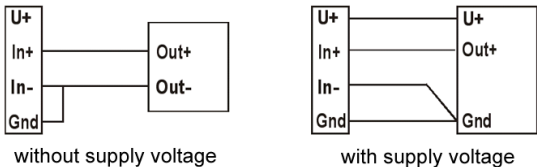
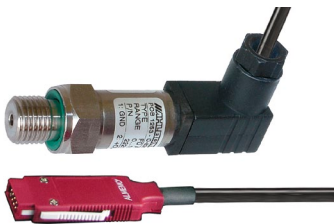
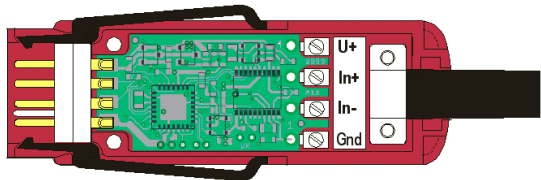


Digital ALMEMO® D7 measuring connector
for DC voltage differential (volt) / DC current differential (mA)

Fast measuring rate, up to 1000 measuring operations per second (mops) at resolution up to 1 mV / 10 µA (2,000 digits) or High resolution up to 0.001 mV / 0.1 µA (200,000 digits) at 5 mops
Only for latest ALMEMO® V7 measuring instruments, including precision measuring instruments ALMEMO® 710 or 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 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 measu-

- ring 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 stable values are required, e.g. precision transducers for pressure, the ALMEMO® D7 measuring connector operates in the high-resolution range but at a reduced conversion rate.
- 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
Nominal temperature	+22 °C ±2 K
Temperature drift	0.003 % / K (30 ppm)
Operative range	-10 to +60 °C, 10 to 90 % RH (non-condensing)
Supply voltage	6 / 9 / 12 V, from ALMEMO® device (sensor supply voltage)
Current consumption	approx. 8 mA (without transducer)

Variants

Measuring range	Range	Resolution	Conversion rate	Internal resistance	Overload	Order no
-2.2 to +2.2 Volt	U25* U24 U23	0.01 mV 0.1 mV 1 mV	5 mops 500 mops 1000 mops	110 kOhm	5 V	ZED700FS
-250 to +250 mV -64 to +64 mV	U254* U643	0.001 mV	5 mops	5 GOhm	±2.8 V	ZED700FS2
-20 to +20 Volt	U204* U203 U202	0.1 mV 1 mV 10 mV	5 mops 500 mops 1000 mops	110 kOhm	38 V	ZED702FS
-20 to +20 mA	I204* I203 I202	0.1 µA 1 µA 10 µA	5 mops 500 mops 1000 mops	130 Ohm	38 mA	ZED701FS

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

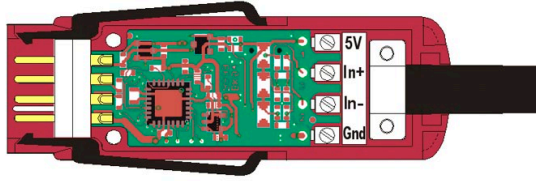


Digital ALMEMO® D7 measuring connector for bridge differential mV

For force transducers (tension / compression), torque transducers, or strain gauges

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 instruments ALMEMO® 710 or 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 dis-

plays them in graphical form. If high-level resolution and stable values are required, e.g. precision transducers for force, 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
Measuring input	electrically interconnected with the power supply (ALMEMO® device ground)
Input range	-29.3 to +29.3 mV
Display range, Conversion rate,	see variants
Bridge power supply	5 V, self-calibrating with divider chain Accuracy 0.01 % Temperature drift 10 ppm / K

System accuracy	0.02 % +2 digits
Nominal temperature	+22 °C ±2 K
Temperature drift	0.003 % / K (30 ppm)
Operative range	-10 to +60 °C / 10 to 90 % RH (non-condensing)
Supply voltage	from 6 V up. from ALMEMO® device (sensor supply voltage)
Current consumption	approx. 15 mA (without force transducer)

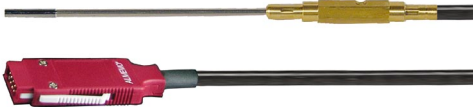
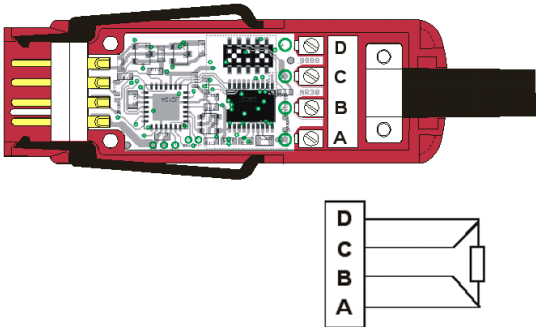
Variants

Range	Display range	Conversion rate	Order no.
DMS2* or DMS1	±50 000 digits ±200 000 digits	1000 mops 10 mops	ZKD700FS

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

Digital ALMEMO® D7 measuring connector for Pt100 temperature sensor

High-level resolution of 0.01 K across the entire measuring range up to 850 °C
Linearization of the Pt100 characteristic calculated error-free
Calibration with greater accuracy by subjecting the Pt100 sensor to multi-point adjustment
Only for latest ALMEMO® V7 measuring instruments, including precision measuring instruments ALMEMO® 710 or ALMEMO® 202.



The new ALMEMO® D7 measuring connector provides even greater precision!

Technical data and functions

- The digital ALMEMO® D7 measuring connector uses its own integrated A/D converter. It provides a high-level resolution of 0.01 K across the entire measuring range up to 850 °C. Linearization of the Pt100 characteristic is calculated error-free in compliance with DIN IEC 751 (not an approximation).
- 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 Pt100 sensor and the connected ALMEMO® D7 measuring connector, can be calibrated end-to-end. Calibration can be performed with greater accuracy by subjecting the Pt100 sensor to a process of multi-point adjustment.
- 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.
- Sensor identification can be programmed with designations up to 20 characters in length.

Technical data

Sensor type	Pt100, 4 conductors	Accuracy	0.07 K +2 digits
Measuring input	electrically interconnected with the power supply (ALMEMO® device ground)	Nominal temperature	+22 °C ±2 K
Measuring range	-200 to +850 °C	Temperature drift	0.003 % / K (30 ppm) (resistance)
Resolution	0.01 K	Operative range	-10 to +60 °C / 10 to 90 % RH (non-condensing)
Conversion rate	10 mops	Supply voltage	from 6 V up. from ALMEMO® device (sensor supply voltage)
Measuring current Pt100	approx. 1 mA	Current consumption	approx. 9 mA
Linearization	calculated error-free (not an approximation)		

Variants

Type	Measuring range	Range	Resolution	Order no.
Pt100, 4 conductors	-200 to +850 °C	DP04	0.01 K	ZPD700FS

