

Digital measuring amplifier EPD



Highlights

- Data logger with SD-card slot
- USB-interface
- for strain gauge quarter, half and full
- bridges 0...10V, potentiometric
- 24 bit resolution
- 6 sensor configurations recallable
- battery operation
- real time clock
- IP65 execution as option
- 3750Hz measuring rate

Description

EPD is a measuring amplifier with an integrated data logger, which is used either as hand device or for the stationary application. Due to compact dimensions EPD fits into any pocket.

The connection of sensors occurs via 15 pole Sub-D plug connector. Force sensors, torque sensors, strain gauge quarter, half and full bridges can be connected.

The measuring amplifier has an integrated bridge completion for 120 Ohm, 350 Ohm and 1000 Ohm strain gauges.

As well active sensors with 0...10V output signal and potentiometric displacement sensors can be connected.

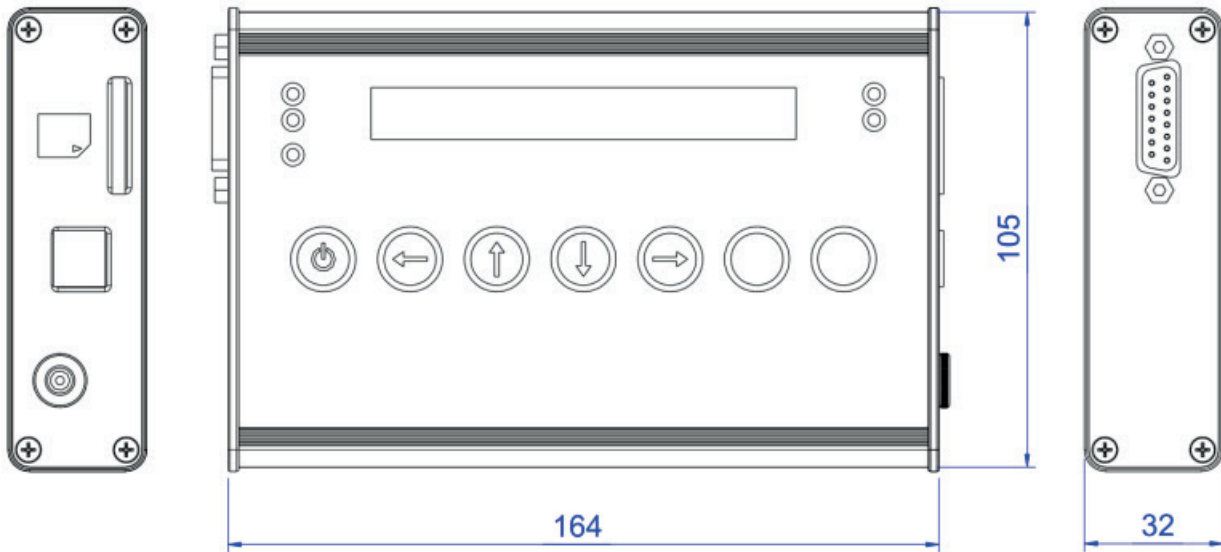
The device is also available in the protection type IP65. The SD- card slot and the USB-interface are closed with an additional covering. The Sub-D 15 sensor connection and the housing seals are strengthened for this protection type.

The measuring data is saved with a time stamp. Different operating modes, as e.g. single value query, permanent record, triggering via control cable, min-max mode and other settings are available.

The measuring rate can be set up to 3750 Hz. The record on SD-card is up to 1000 Hz possible.

Up to 6 sensor configurations can be defined and requested, e.g. for the sensor change or for the quick set of the measuring conditions.

Dimensions



Technical Data

Input analog	
Number of analog inputs	1
Input sensitivity-steps	1.0 2.0 3.5 mV/V
Input resistance strain-gauge-full-bridge	87 ... 5000
Input resistance strain-gauge-half- /quarter-bridge	Ohm 120 350
Input voltage	1000 Ohm10 V
Input resistance-voltage	56 kOhm
Output analog	
Number of analog outputs	1
Voltage output	-5 ... 5 V
Output resistance - voltage	47 Ohm
Measuring Frequency	
Data frequency	0.3125 ... 3000
Limit frequency (analog)	Hz 1700 Hz
Supply	
Supply voltage	10 ... 29 V
Strain gauge bridge supply	2.5 5 V
Interface	
Type of the interface	usb
Quantity of the interface	1
Version of the interface	2.0 Fullspeed
Zero adjustment	
Type	digital software Regulation
Tolerance	0.01 %
Time period	1 ms
Debouncing time	4 ms
Trigger level	3.4 ... 29 V
Trigger edge	Level
Temperature	
Rated temperature range	0 ... 50 °C
Operating temperature range	-20 ... 70 °C
Environmental protection	IP51/IP65
Basis Data	
Housing	Aluminium
Connection	Connector
Number of channels	1-Kanal

Precision

Accuracy class	0,05%
Relative linearity error	0.02 %FS
Temperature effect on the zero point	0.2 %FS/10°C
Temperature effect on the measuring sensitivity	0.01 %RD/10°C
Resolution	24 Bit

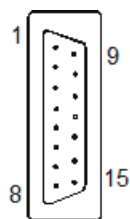
Mounting

Pin connection

Sensor connection, Sub-D 15

1	Shield	
2	GND _A	ground analog input / analog output
7	Tara	zero set input / trigger-input
9	U _E	analog input
10	U _A	analog output
6	+U _S	positive bridge supply
5	-U _S	negative bridge supply (GND)
8	+U _D	positive differential input
15	-U _D	negative differential input
13	+U _F	positive sensor cable
12	-U _F	negative sensor cable
14	HB	selection half bridge
11	QB120 Ohm	completion resistor quarter bridge 120 Ohm
3	QB 350 Ohm	completion resistor quarter bridge 350 Ohm
4	QB 1000 Ohm	completion resistor quarter bridge 1000 Ohm

Table 1: assignment Sub-D 15 socket



For the connection of half and quarter bridges pin 14 should be bridged with pin 15. Quarter bridges are connected to pin 2, pin 8 and QB (3, 11 or 4) in the three-wire technology.

Connection plan for strain gauge bridges

full bridge	half bridge	quarter bridge
no bridge	bridge between 14 and 15	bridge between 14 and 15

Table 2: Connection of full, half and quarter bridges on 15 pole Sub D socket

As standard accessories are provided:

- SD Memory-Card, Class 10 (recommended for records with 1000Hz)
- switching power supply 100..240V /18V 1,67A
- 15-pole Sub-D-mating plug connector
- USB-wire
- software-CD
- manual