Digital amplifier for strain gauge

Characteristics

Input: 1 strain gauge full bridges (350 ohms)
Input sensitivity: 0,1...5 mV/V
Sensor supply: 5 VDC
Analogue output: 4...20 mA / 0...10 V (standard version)
Voltage supply: 24 VDC +/-30%
Resolution: 12 / 14 / 15 / 16 bit
Combined error: 0,2% of end scale value
Degree of protection: IP 65
Vibrating protection: completely potted (optionally)
Adjustment and output: RS232 interface

Technical data

Input

Amplifier:	1 strain gauge full bridge 350 ohms
Sensitivity:	0,1...5 mV/V (programmable)
Interface:	RS232 (for programming)

Output

Analogue:	2 outputs (programmable) 0...10 V and 4...20 mA (standard) optionally 2...10 V or 0...20 mA
Current:	working resistance <500 Ohm
Voltage:	load resistor > 600 Ohm
Interface:	RS232
Sensor supply:	5 VDC 60 mA maximum

Adjustment

Interface:	RS232
Measuring rate:	10 ms....5 s (programmable)
Filter:	10 ms...5 s (programmable)

Ambient conditions

Operating temperature:	-40...+75°C
Storing temperature:	-40...+85°C

Accuracy

Resolution:	12 /14 /15 /16 bit (programmable)
at measuring rate:	128 / 32 / 16 / 8 per second
Combined error:	+/- 0,2% of end scale value
Temperature coeff.:	<50 ppm/K

Power supply

Voltage:	24 VDC, +/-30%
Power consumption:	with options approx. 1,5 W
Residual ripple:	200 mV

Mechanics

Enclosure:	tube Ø26 x 81 mm
Material of enclosure:	stainless steel natural
Mounting:	with pipe clamp
Protection:	degree IP 65
Vibrating protection:	elektronics completely potted (optionally) (cable connection towards sensor has to be done in manufacturing company)
Weight:	220 g (with options)

Connection amplifier towards subsequent processing with:
- cable gland M12x1,5, 2 m cable, 6-pole
- plug M12x1, RSE4 compatible, 6-pole
- MIL-plug D3899, 6-pole
- valve plug, 4-pole

Connection amplifier towards sensor with:
- 2 m cable via cable gland M16x1,5
- cable gland M16x1,5 (cable towards sensor is connected inside tube)

Accessories

Programming:	cable set with adaptor and software
Connection:	-plug / jack with cable (2 m / 5 m / 10 m) -plug / jack loose

Applications

The measuring amplifier can be used an interface adaption between sensor and control.The output of the measuring amplifier is a standard signal and can be processed with eg SPS and at the same time the higher signal level avoids interferences.

photo: www.pixelquelle.de

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Ordering code

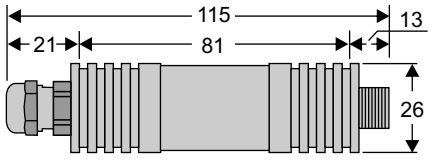
L	A	X	X	X	X	X	X	-	X	X	X

Input:	0,1...5 mV/V	0
Output:	4...20 mA / 0...10 V	0
Connection > processing:	cable gland with 2 m cable	0
	plug M12x1, 6-pole	1
	MIL-plug D3899, 6 pole	2
	valve plug, 4-pole	3
Connection > sensor:	cable gland M16x1,5 with 2 m cable*	0
	cable gland M16x1,5**	1
Voltage supply:	24 VDC	0
Vibrating protection:	without (standard)	0
	with (elektronics potted)***	1
Enclosure:	stainless steel tube Ø26 x 81 mm	0
Adjustment:	factory-configuration****	0
	customized (please indicate)*****	1
Other / accessories:	special model (please indicate)	0
	MIL cable set with adaptor and software for programming	1
	M12 cable set with adaptor and software for programming	2
	valve plug cable set with adaptor and software for programming	3
	cable cable set with adaptor and software for programming	4

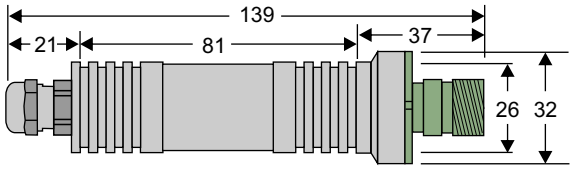
*connection of sensor cable: with an additional connection box
**connection of sensor cable: inside tube (factory-made or by customers)
***only possible with connection box or connection of sensor is factory-made
****factory-set: sensitivity: 3 mV/V / analogue output: 0...10 V and 4...20 mA / resolution: 16 bit / measuring rate: 5/s / filter: 1s /
*****the possibilities of the technical data can be selected. In case of not given values the details of factory-set are used.

Dimensions (in mm)

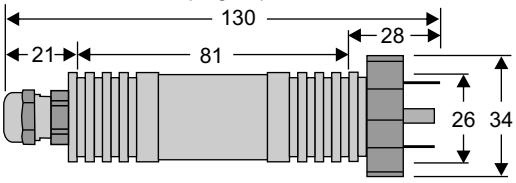
M12x1 plug, 6-pole



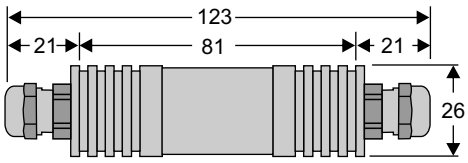
MIL plug, 6-pole



valve plug, 4-pole



2 m cable, 6-pole



Connection (examples)