

WS-UMR



Automation Sensorik Messtechnik GmbH
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CONVERTER FOR POTENTIOMETRIC SENSORS



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1 GENERAL

1.1 SAFETY INSTRUCTIONS

Putting into operation of this converters is only allowed for qualified and instructed personal. For connection of the units consider the actual electrical standards. Before opening the unit remove all connecting cables.



Warning!

- This units are only designed for operation in industrial applications. As standards EN 50081-2 and EN 50082-2 it is only allowed to use this units in industrial area.
- Units with not isolated 24V-power supply (.3) have the same electrical potential for supply input, sensor reference voltage and analog output.
- The converters are only designed for connection of passiv potentiometric sensors which have no additional circuits like preamplifiers or other electronics...
- Opening of the unit prevents the guarantee.

2 FOUNDATIONS

2.1 FUNCTION

This units are used to convert length and angle values with potentiometric sensors to standardized voltage or current signals.

The converters supply the sensor with a high stabilized reference voltage. The sensor is used as a voltage divider without any wiper current. The signal from the sensor is converted through a high impedance FET-input stage to a standardized analog-signal for any measurement- or control-systems.

As output signals are the three ranges 0 - 10 V, 0 - 20 mA and 4 - 20 mA available. For the adjusting of the zero-point and endvalue use the frontside precision trimmers.

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2.2 CONNECTING CABLE

All connections for power supply, sensor and analog output are realized as frontside screw-type terminals.

The connecting cables for sensor and analog output must be shielded. The shield must be connected to the corresponding terminal (see CONNECTION). It is not allowed to connect the shield at the other cable end to any potential, because that generates a disturbing cable loop. This prevents the optimal function of the unit.

It is not allowed to lay the power and control cables of the unit in the near of power plants, electric welding cables or supply cables for inductive components like motors, magnets, frequency converters etc.

3 ADJUSTMENT

The electrical useful travel is shorter than the mechanical stroke and is located approximately in the center. It is necessary to adjust the zeropoint- and endvalue for every sensor.

3.1 ZEROPOINT-ADJUSTING

For zeropoint adjusting move the sensor from the center point by half of the measuring length to the zero direction. Next, adjust with the frontside trimmer „ZERO“ the zero value.

3.2 ENDVALUE-ADJUSTING

For endvalue adjusting move the sensor from the zeropoint by complete measuring length to the end direction. Next, adjust with the frontside trimmer „END“ the end value.

4 ANALOG-OUTPUT

The analog output of the converters are available in three different versions.

order code	output
MPS 100.x.05	0 - 10 V DC
MPS 100.x.98	0 - 20 mA DC
MPS 100.x.99	4 - 20 mA DC

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5 TECHNICAL DATA

power supply:	.3: 24 V DC, 6 W (20...30 V) not isolated .8: 24 V DC, 6 W (20...30 V) isolated, isolation: 100 V DC
display:	LED green: run
linearity:	typ. 0,005%
adjustment range:	zeropoint and endvalue typ. 5%
temperatur coeffizient:	typ. 20 ppm / °C
input:	potentiometer: min. 800 Ohm load
sensor voltage:	10 V DC, max. 15 mA
analog output:	.05: 0-10 V DC, max. 5 mA .98: 0-20 mA DC, max. load 350 Ohm .99: 4-20 mA DC, max. Bürde 350 Ohm
ambient temperatur:	0 to + 50 °C
protective standard:	german DIN 40050: IP 00
EMI:	EN 50082-2 / 11.94 (planing) for industrial area EN 50081-2 / 3.94 for industrial area
dimensions:	23 x 110 x 75 mm
connection:	screw-type terminals, 1x9pole, plug-in type

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6 CONNECTION / OPERATING CONTROLS

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