

Signal Conditioners for Position Measurement

Series MUP110/160
adjustable zero and span



Special features

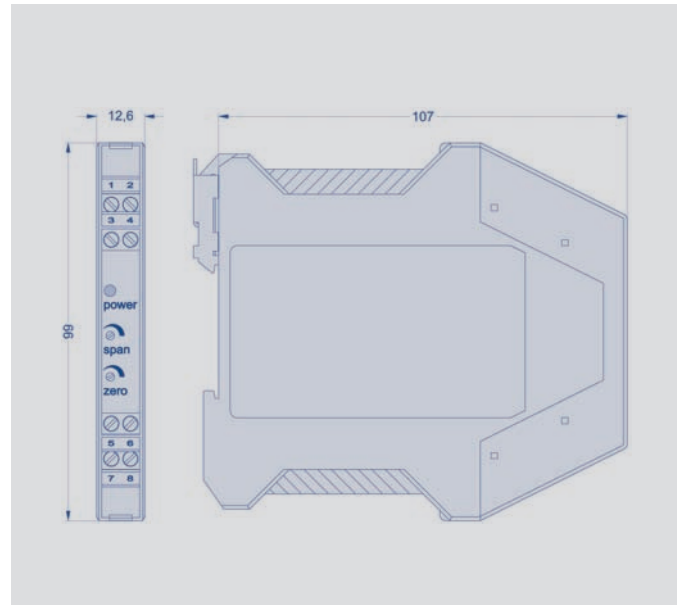
- Interface module for position sensors
- Available with electrical isolation (DC/DC transformer) as an option
- Standardized output signals
0 to 10 V
0 to mA
4 to 20 mA
- Outstanding linearity
- Extremely low temperature drift 20 ppm/K (typical value)
- Designed for standard DIN EN 60175 mounting rail fixture
- Compact size-housing only 12.6 mm wide

The MUP110/160 signal conditioner supplies potentiometric sensors with a highly stable constant voltage. A high impedance input circuit presents virtually no load to the wiper signal of a connected potentiometer. The signal is then converted into a proportional current or voltage output.

The excellent linearity and low temperature drift ensure full utilization of the outstanding benefits of conductive plastic potentiometers, guaranteeing reliable, interference-free transmission of signals for installations with close sensor proximity even over long distances.

The zero point and range can be adjusted independently of each other within wide limits using spindle trimmers. This capability allows standardized output signals to be adjusted even if the maximum range of the sensors is not completely utilized. The electronic circuitry is contained in a polyamide housing designed for snapping on a standard DIN EN 60175 mounting rail. The wide operating voltage range allows the use of a non-stabilized direct voltage power supply.

High-grade DC/DC transformers are used in models with electrically isolated supply voltage and signal conditioning.



Mechanical data

Dimensions	see drawing	
Protection class	IP 50 / IP 00 (clamps)	
Screw-type terminals	up to 2.5	mm ²
Mounting rail fixture	35 (DIN EN 60175)	mm
Weight	appr. 110	g

Electrical data

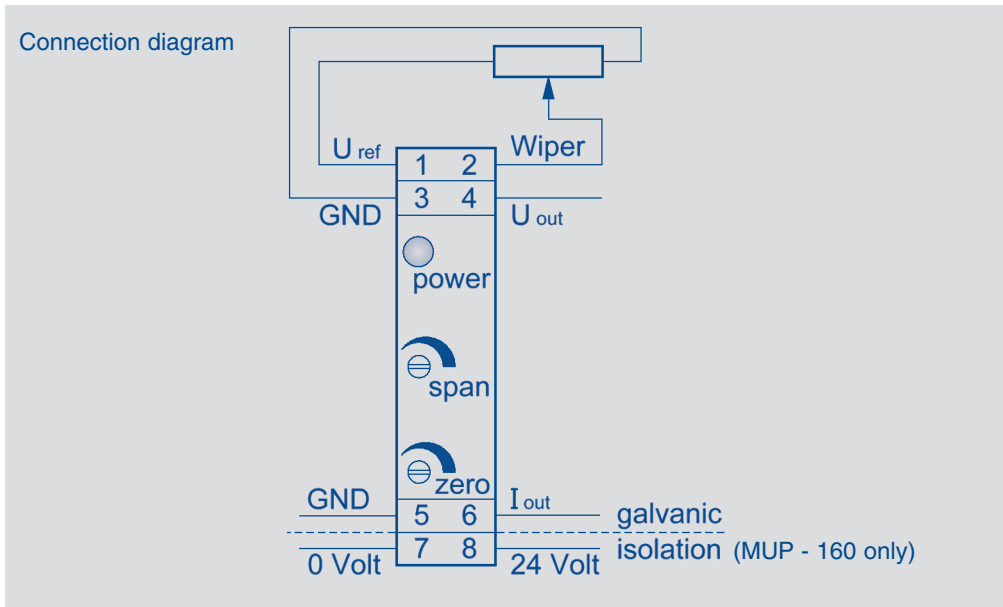
Operating voltage	24 ±20 %	VDC
Input resistance	> 10	MΩ
Reverse voltage protection	integrated	
Current consumption max. (without load)	70	mA
Internal reference voltage for the position transducer, highly stable and short circuit-proof	10	V DC
Permitted connection resistance of the position transducer	≥ 700	Ω
Current output load	0 ... 500	Ω
Max. current voltage output	2	mA
Adjustment range		
Zero point	-30...+20	%
Gain	0.65...2	
Linearity	0.01 (typical), 0.05 (max.)	%
Temperature coefficient*	20 (typical)	ppm/K
Temperature range	+5 ... +70	°C

*The TC applies for current and voltage outputs. If, at current outputs, the voltage is picked off at the load resistor, the TC of the resistor must also be taken into consideration.

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Subject to changes



Order designation

M U P - 1 1 0 - 0

Series

Type

110: without
galvanic isolation

160: with galvanic
isolation

Output

0: 0 ... 20 mA 054010
1: 0 ... 10 V 054011
4: 4 ... 20 mA 054014

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0: 0 ... 20 mA 054060
1: 0 ... 10 V 054061
4: 4 ... 20 mA 054064

Available on request:

- other output signals
- extended adjustment ranges