

## Signal Conditioners for Position Measurement

### MUP-110/160 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... 10 V  
0... 20 mA  
4... 20 mA
- Outstanding linearity
- Extremely low temperature drift typ. 20 ppm/K
- Designed for standard DIN EN 60715 mounting rail fixture
- Compact size-housing only 12.6 mm wide

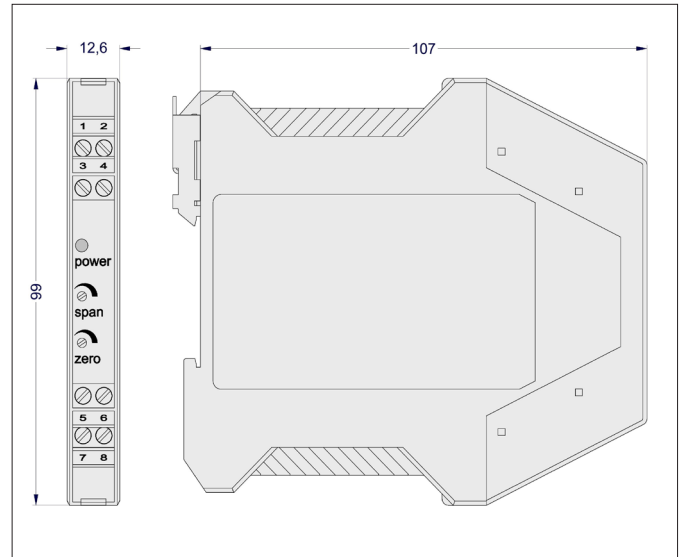
The signal conditioner supplies the potentiometric sensors with a highly stable constant voltage. The wiper signal is picked up without load via a high-impedance input circuit and transformed into a proportional standardized output signal.

Excellent linearity and low temperature drift ensure full utilization of the outstanding benefits of conductive plastic potentiometers, guaranteeing the reliable, interference-free transmission of signals in 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 permits standardized output signals to be adjusted even if the maximum path of the sensors is not completely utilized. The electronic circuitry is accommodated in a polyamide housing designed for snapping on a standard DIN EN 60715 mounting rail.

A wide operating voltage range allows the use of a non-stabilized direct voltage sources.

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



#### Mechanical data

Dimensions	107 x 99 x 12.6 mm
Terminals	connector terminal, up to 2.5 mm <sup>2</sup>
Rail mounting	35 mm (DIN EN 60715)
Weight	approx. 110 g

#### Electrical Data

Operating voltage	24 VDC ± 20%
Input resistance	> 10 MΩ
Polarity protection	integrated
Current consumption w/o load	max. 70 mA
Internal reference voltage for the position transducer, highly stable and short circuit-proof	10 VDC
Connection resistance of the position transducer	≥ 700 Ω
Burden current output	≤ 500 Ω
Current voltage output	max. 2 mA
Adjustment range	
Zero point	-30 ... +20 %
Gain	0,65 ... 2 fold
Linearity	typ. 0.01 %FS, max. 0.05 %FS
Temperature coefficient*	typ. 20 ppm/K

#### Environmental Data

Protection class	IP50 / IP00 (clamps)
Operating temperature	+5 ... +70°C
EMC	EN 61326-1, EN 61326-2-3

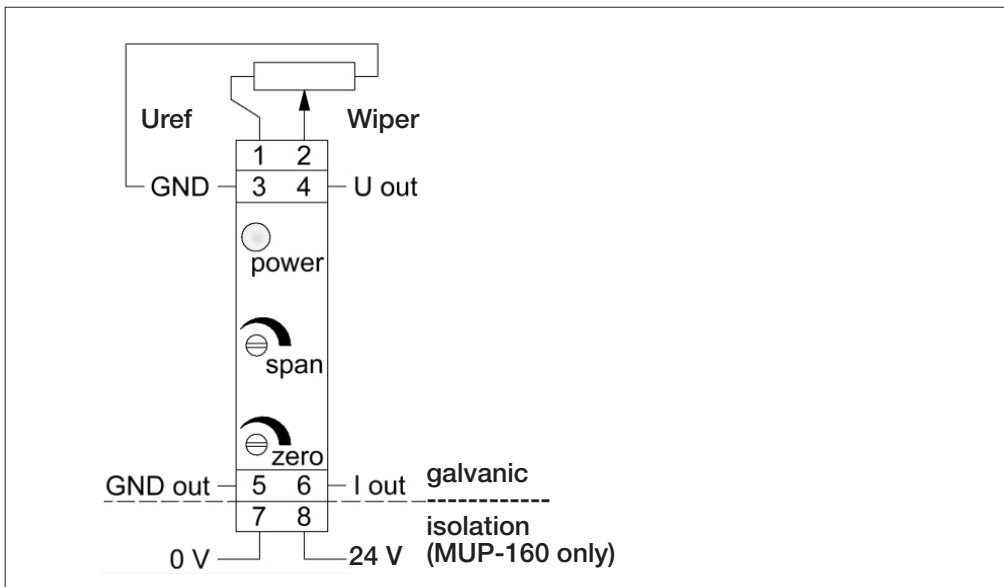
\*) The TC applies for the current and voltage outputs.

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## Connection Assignment



## Order designation

Series	Type	Output	Art.No.
M U P - 1 1 0 - 0	110: without galvanic isolation	0: 0 ... 20 mA	400054010
		1: 0 ... 10 V	400054011
		4: 4 ... 20 mA	400054014
	160: with galvanic isolation	0: 0 ... 20 mA	400054060
		1: 0 ... 10 V	400054061
		4: 4 ... 20 mA	400054064

### Available on request

- Other output signals
- Extended adjustment ranges

The specifications contained in our datasheets are intended solely for informational purposes. The documented specification values are based on ideal operational and environmental conditions and can vary significantly depending on the actual customer application. Using our products at or close to one or more of the specified performance ranges can lead to limitations regarding other performance parameters. It is therefore necessary that the end user verifies relevant performance parameters in the intended application. We reserve the right to change product specifications without notice.