

## Signal Conditioners for Position Measurement

Series MUP 100



### Special features

- Interface module for position sensors
- available with electrical isolation (DC/DC transformer) as an option
- standardized output signals  
0... 10 V  
± 10 V  
0... 20 mA  
4... 20 mA  
± 20 mA
- outstanding linearity
- extremely low temperature drift 20 ppm/K (typical value)
- designed for standard DIN EN 50022 mounting rail fixture

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

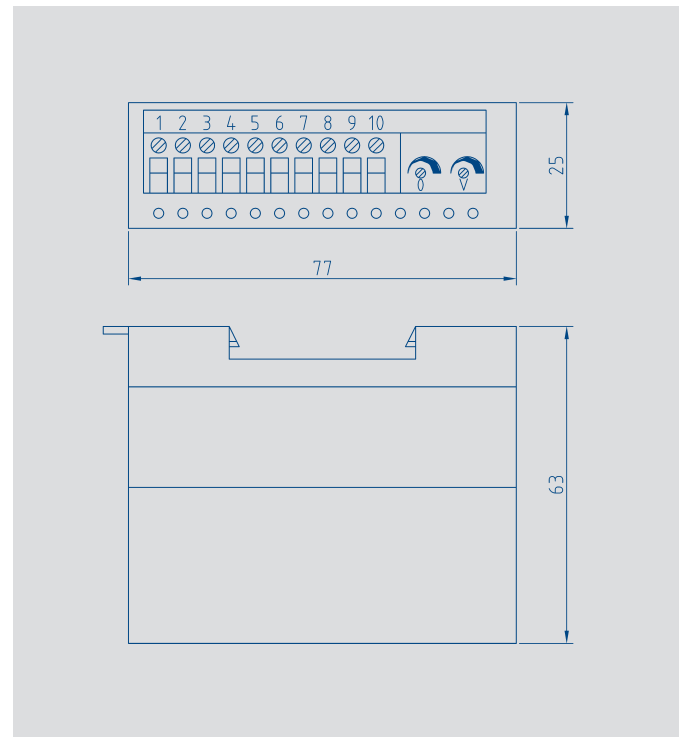
The excellent linearity and low temperature drift ensure full utilization of the outstanding benefits of conductive plastic potentiometers, guaranteeing the reliable, interference-free transmission of signals in installations with close sensor proximity even over long distances.

The zero point and range can

be adjusted independently of each other within wide limits using spindle trimmers. This facility 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 clipping on a standard DIN EN 50022 mounting rail. The wide operating voltage range permits to be supplied by unstabilized direct voltage sources.

High-grade DC/DC transformers are used in the models with electrically isolated supply voltage and signal conditioning. Both for the unipolar and bipolar standard output signals, only one configuration is required.

In addition, the sensor offers an additional voltage source of +/-15 V (only MUP 150). This can be used, for example, to supply the electronic circuits of AW series potentiometers.



### Mechanical data

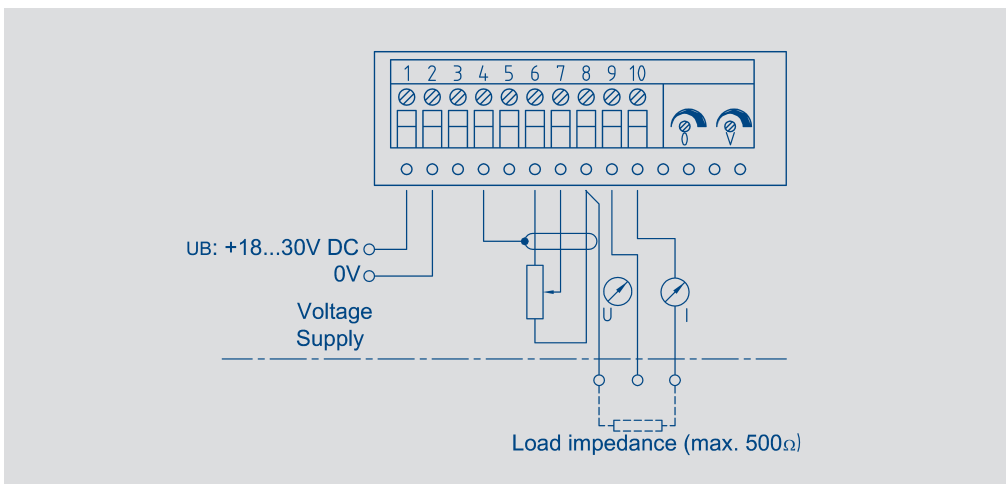
|                       |                        |                 |
|-----------------------|------------------------|-----------------|
| Dimensions            | see drawing            |                 |
| Protection class      | IP 50 / IP 00 (clamps) |                 |
| Screw-type terminals  | 1.5 (AWG 14)           | mm <sup>2</sup> |
| Mounting rail fixture | 35 (DIN EN 50022)      | mm              |
| Weight                | appr. 110              | g               |

### Electrical data

|   |                |       |
|---|----------------|-------|
| Operating voltage   | 18 ... 30      | VDC   |
| Input resistance  | > 10           | MΩ    |
| Reverse voltage protection  | integrated     |       |
| Current consumption   | 70             | mA    |
| Internal reference voltage for the position transducer, highly stable and short circuit-proof | 10             | V DC  |
| Permissible connection resistance of the position transducer                                  | ≥ 700          | Ω     |
| Adjustment range  |                |       |
| Zero point  | -30...+20      | %     |
| Gain  | 0.65...2       |       |
| Linearity   | 0.01 (typical) | %     |
| Temperature coefficient*  | 20 (typical)   | ppm/K |
| Temperature range   | -25 - +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.

## Connection diagram



## Order designation

| M      | U                                     | P   |                            |  |
|--------|---------------------------------------|---|----------------------------|--|
| Series | Type                                  | Output  | Art.no.                    |  |
| 100    | Series 100 without galvanic isolation | 0 = 0 ... 20 mA (burden impedance max. 500 Ω)<br>1 = 0 ... 10 V (I max. 20 mA short circuit-proof)<br>4 = 4 ... 20 mA (burden impedance max. 500 Ω)                                       | 054001<br>054002<br>054003 |  |
| 150*   | Series 150 with galvanic isolation    | 5 = 0 ... 10 V (I max. 20 mA short circuit-proof)<br>0(4) ... 20 mA (burden impedance max. 500 Ω)<br>6 = ±10 V (I max. 20 mA short circuit-proof)<br>±20 mA (burden impedance max. 500 Ω) | 054051<br>054052           |  |

\* Typ 150 with additional voltage source of ±15 V (at clamp 3, 4 and 5) for further use.

Alongside the described standard models, other configurations are available on request:

- Without adjusting trimmer
- With other output signals
- With extended adjustment ranges