# **POTENTIOMETER** POL 120

**This analog conductive plastic potentiometer with a diameter of 13 mm is among the smallest in the world. It consists of a metal housing and a plain bearing shaft. The rotation angle is 308°.**

**Customizations to meet specific requirements are available upon request.**

**Advantages**
– Adjustable measuring range: 308°
– Long service life
– High resolution, precision and measurement accuracy
– Very small housing diameter of just 13 mm

**Application examples**
– Axis position sensing in robotics
– Measuring of steering angle in vehicles
– Servo systems



| General data | |
|---|---|
| Sensor technology | Potentiometric |
| Type of contact | Wiper |
| Sensor type | Absolute measuring |
| Curcuit | As voltage divider |

| Electrical data | |
|---|---|
| Measuring range | 308°, adjustable |
| Independent linearity | ± 2.5 % |
| Resolution | Analog, near-infinite |
| Resistance range | 10 kΩ |
| Resistance tolerance | ± 20 % |
| Max. wiper current | 5 mA in case of malfunction |
| Wiper load | > 100x Rn |
| Insulation resistance | 10 GΩ at 500 VDC |
| Dielectric strength | 1000 VAC |
| Supply voltage | 5 VDC typ., 3 to 30 VDC possible |
| Output signal | Analog<br>0 to 100 % of supply voltage |

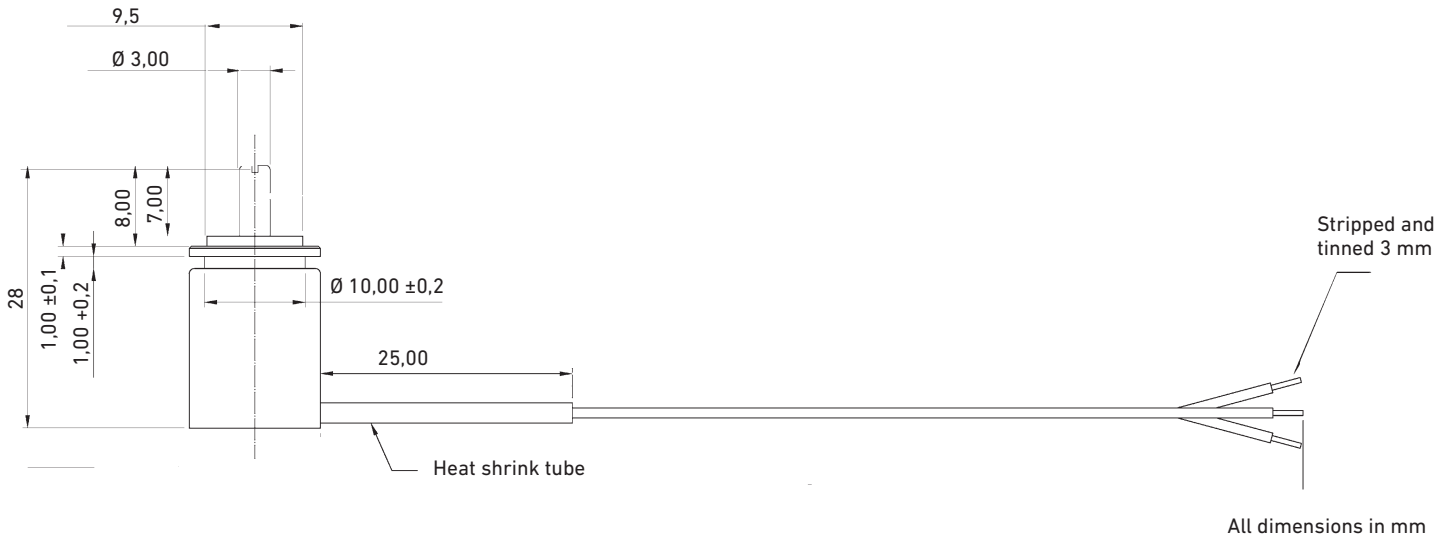
| Mechanical data | |
|---|---|
| Dimensions | See drawings |
| Shaft | Ø 3 mm |
| Bearing | Plain bearing |
| Mounting | Servo flange |
| Lifetime | 3 million cycles |

| Environmental data | |
|---|---|
| Operating temperature | -25 °C to +85 °C |
| Protection class acc. to IEC 60529 | IP 65 |
| EMC | Uncritical |
| ESD | Uncritical |

| Material | |
|---|---|
| Housing | Nickel-plated brass |
| Resistance material | Conductive plastic |
| Shaft | Stainless steel |

| Electrical connection | |
|---|---|
| | Cable tinned<br>Length 105 mm |

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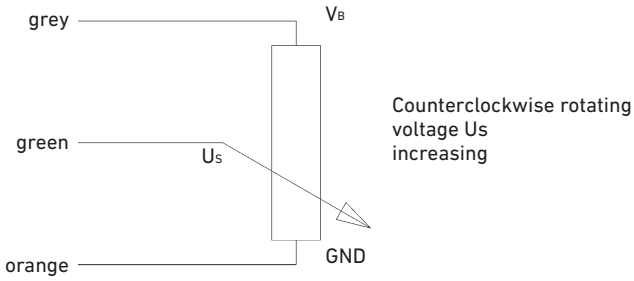



All dimensions in mm

## Output signal standard




## Electrical connection




## Sample order

| Article No. | Product name | Measuring range | Electrical connection |
|---|---|---|---|
| E050200016 | POL 120 | 308° | Cable |

Metallux cannot picture the customer's operating and application conditions and the customer's existing environmental influences.
We therefore recommend that you carry out your own investigations into the planned use of the products under the actual operating conditions.

We continuously improve our products and also update our data sheets regularly. In this respect, there may be changes in the specification.
These changes will apply to orders received by us from the time of the update, unless otherwise agreed.

Our products comply with Directive 2011/65/EU (RoHS) including Directive 2015/863/EU and Regulation (EC) No. 1907/2006 (REACH).