

**Industrial-Grade
Potentiometers**

Series IPS6000



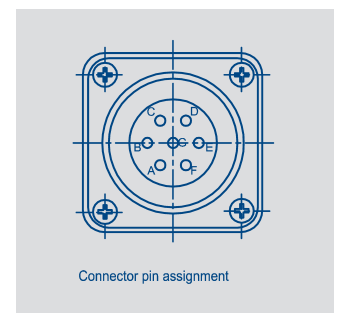
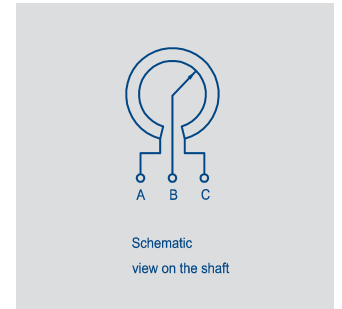
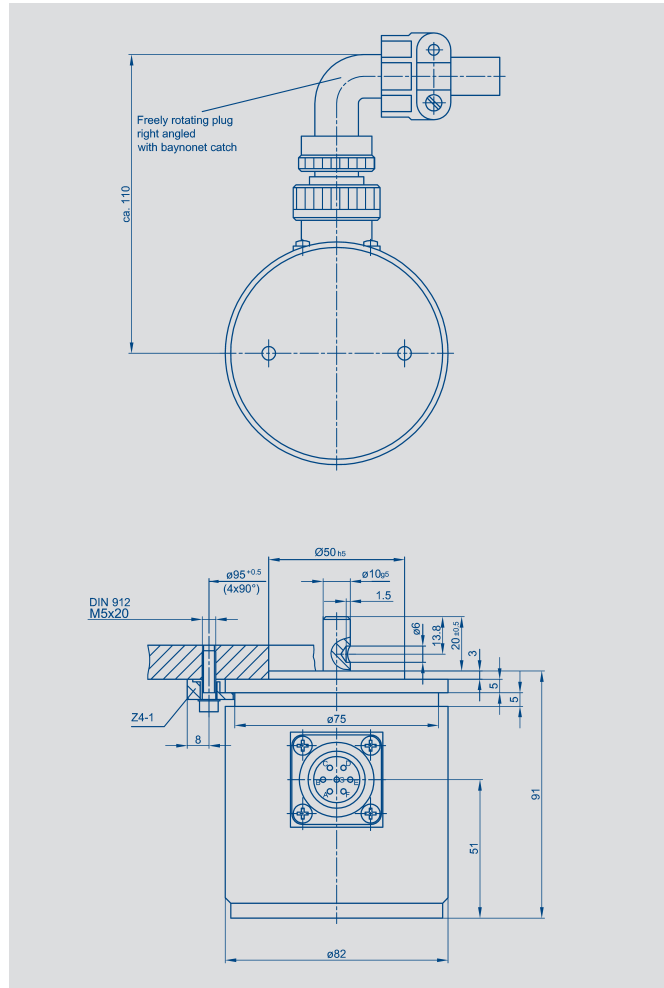
Special features

- excellent linearity standard $\pm 0.1\%$
- long life
 100×10^6 movements typ.
- mechanical continuous rotation
- extremely robust industrial-grade construction
- protection class IP 65

Using this potentiometer a maximum angular rotation of 355° can be converted into a voltage proportional to the angle of rotation, through the medium of a conductive plastic potentiometer.

This special „heavy-duty“ version of our industrial potentiometers can be used successfully in the most demanding applications or environmental conditions. Simply yet robustly built, these units are suitable for use in all manner of industrial applications and machinery manufacturing. The cast housing is watertight; sealing is achieved through the use of a stepped bush whilst electrical connections are made via a plug and socket mounted on the side of the unit.

Special versions with different electrical travels and shaft dimensions are available.



Description

| | |
|------------------------|---|
| Case | aluminium varnished, entry sealed using special stepped bush |
| Shaft | stainless steel |
| Bearings | stainless steel ball bearings |
| Resistance element | conductive plastic |
| Wiper assembly | precious metal multi-finger wiper |
| Mounting | any optional position |
| Electrical connections | 7pin all-metal plug and socket, freely rotatable, 90° right-angled, protection class IP65, bayonet catch |

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| Mechanical Data | | |
|---|------------------------|-------------------|
| Dimensions | see drawing | |
| Mounting | with 4 clamps Z 4-1 | |
| Mechanical travel | 360, continuous | ° |
| Permitted shaft loading (axial and radial) static or dynamic force | 300 | N |
| Starting torque | <10 | Ncm |
| Maximum operational speed | 2 000 | min ⁻¹ |
| Weight | approx. 1200 | g |
| Electrical Data | | |
| Actual electrical travel | 355 ±2 | ° |
| Nominal resistance | 5 | kΩ |
| Resistance tolerance | ±10 | % |
| Independent linearity | ±0.1 (0.05 on request) | % |
| Repeatability | 0.002 (Δ 0.007°) | % |
| Effective temperature coefficient of the output-to-applied voltage ratio | typical 5 | ppm/K |
| Max. permissible applied voltage | 42 | V |
| Max. wiper current in case of malfunction | 10 | mA |
| Recommended operating wiper current | ≤ 1 | μA |
| Insulation resistance (500 VDC, 1 bar, 2 s) | ≥ 10 | MΩ |
| Dielectric strength (50 Hz, 2 s, 1 bar, 500 VAC) | ≤ 100 | μA |

| Environmental Data | | |
|--------------------|--|---------------|
| Temperature range | -40...+100 | °C |
| Vibration | 5...2000 A _{max} = 0.75 a _{max} = 20 | Hz mm g |
| Shock | 50 11 | g ms |
| Life | 100 x 10 ⁶ | movem. |
| Protection class | IP 65 (DIN 400 50 / IEC 529) | |

| Order designations | | |
|-----------------------------|---------|--|
| Type | Art.no. | |
| IPS6501 A502 | 001061 | |
| Additional models available | | |
| IPS6501 G252 | 001066 | ✱ 90° ± 2° indep. lin. ± 0.3%, R= 2.5 kΩ ± 20% |
| IPS6501 W302 | 001067 | ✱ 60° ± 2° indep. lin. ± 0.5%, R= 3.0 kΩ + 30/- 10% |

Included in delivery

4 mounting clamps Z4-1,
1 corner plug Cannon
No. CA 08 COM-E-16S-1S-B,
1 anti-kink sleeve

Recommended accessories

Spring loaded coupling,
Z 110 G10 (backlash-free),
Process-controlled indicators
MAP... with display,
Signal conditioner MUP.../
MUK ... for standardized out-
put signals

Important

All the values given in this
data sheet for linearity, lifetime
and temperature coefficient in
the voltage dividing mode are
quoted for the device opera-
ting with the wiper voltage dri-
ving on operational amplifier
working as a voltage follower,
where virtually no load is app-
plied to the wiper ($I_e \leq 1 \mu A$).

Subject to changes