Data Sheet for Precision Potentiometer

Oil-filled conductive plastic Potentiometer — Series OMCP

The potentiometers OMCP are filled with oil. The oil has a heat-dissipating function, cleans the resistance element of abrasion and protects it from moisture and aggressive substances.

- Very high life span
- Optional center tap

Electrical Data	
Effective electrical angle of rotation 1.)	280° ±5°
Total resistance 1.)	500 Ohm..100 kOhm
Resistance tolerance	±10%
Independent linearity (best straight line) 1.)	±1% (±0.5%)
Theoretical resolution 1.)	Nearly infinite
Backlash (Hysteresis) 1.)	≤ 0.5°
Max. / recommended wiper current 1.)	10 µA / 2 µA
Power rating @ 40°C (0W @ 60°C)	1 W
Insulation Voltage 1.)	1000 VAC, 1min
Insulation Resistance 1.)	100 MOhm @ 1000 VDC

Mechanical Data, Environmental Conditions, Miscellaneous	
Mechanical angle of rotation 1.)	360° without stop
Lifetime (90% el. eff. angle half sine) 2.)	10 Mio. rotations
Max. operational speed	120 rev. / min.
Bearing	Sleeve bearing
Operational torque @ ambient temperature 1.) 2.)	30 Nmm
Operating temperature range	-30 °C up to +60 °C
Storage temperature range	-30 °C up to +60 °C
Protection grade (IEC 60529)	IP65
Vibration (IEC 68-2-6, Test Fc)	10g 10Hz up to 2000Hz x 12h
Shock (IEC 68-2-27, Test Ea)	30g @ 11 ms x 18
Housing diameter	32 mm
Housing depth	21.5 mm
Shaft diameter	5 mm (optional 3.175 mm)
Shaft type	Solid shaft

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Mechanical Data, Environmental Conditions, Miscellaneous	
Max. radial load	≤1 N
Max. axial load	≤1 N
Connection type	Soldering lugs
Connection position	Axial
Sensor mounting	Bushing
Mass	40 g
Fastening parts included in delivery	Nut, toothed washer
Fastening torque mounting nut	150 Ncm
Material shaft	Stainless steel
Material housing	Metal

1.) According IEC 60393
2.) Determined by climatic conditions according to IEC 68-1, para. 5.3.1 without load collectives
Please note: Max. permissible supply voltage <75 VDC respectively <50 VAC in addition the max. power rating must be observed

Order code

Description	Selection: **standard=black/bold**, possible *options=grey/italic*						
Series	**OMCP**						
Resistance value: *Option 500 Ohm* **1 kOhm** *Option 2 kOhm* **5 kOhm** **10 kOhm** *Option 20 kOhm* *Option 50 kOhm* *Option 100 kOhm*		*R500* **R1k** *R2k* **R5k** **R10k** *R20k* *R50k* *R100k*					
Resistance tolerance: **±10%**			**W10%**				
Independent linearity: **±1%** *Option ±0,5%*				**L1%** L0,5%			
Option center tap:					*CT*		
Front shaft: **Standard Ø5,00 x 23 mm** *Option Ø3,175 mm* *Option shaft length in mm* *Option shaft diameter in mm (≤5 mm)*						**-** *DM3,175* *Ax,xx* *DMx,xx*	
Option screwdriver slot:							*B*

For higher quantities or on-going demand, additional options are available as described below on request

For Example: Special machining on shaft, servo flange version, special electrical and mechanical angles of rotation, and special resistance and linearity tolerances. Furthermore we can mount gear wheels or attach cable assemblies with or without connectors and much more.

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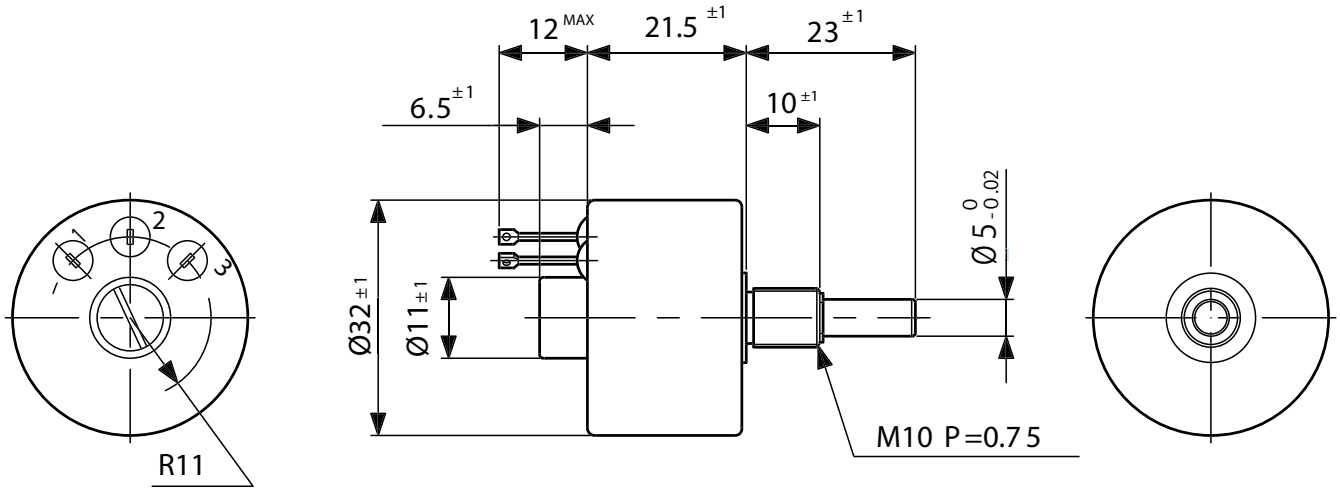
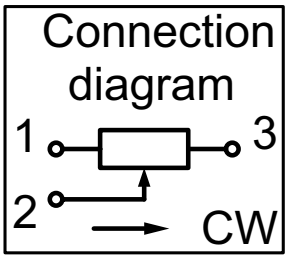
Drawing



Dimensions in mm



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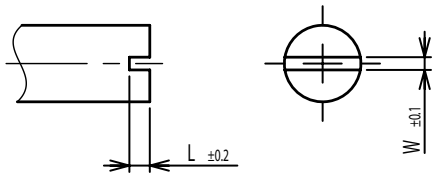
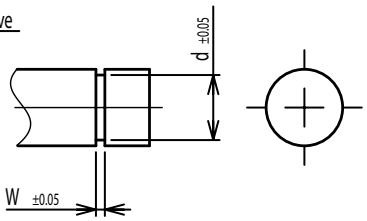
On Request: Special machining on shaft

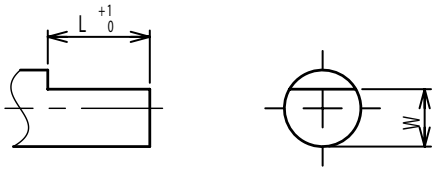
Slot



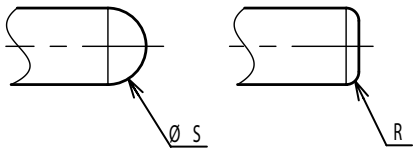
Groove



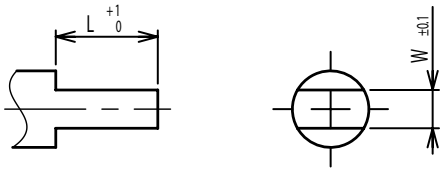
Flat



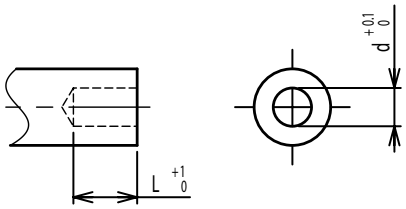
Round top



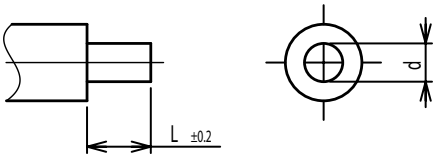
Double side flat



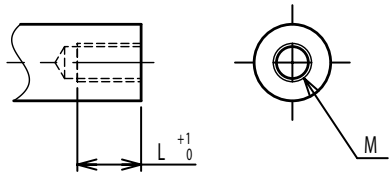
Counterbore hole



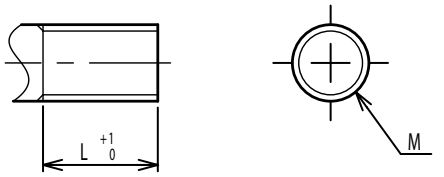
Step



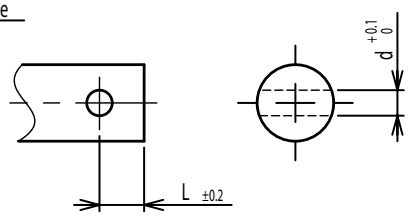
Counterbore screw hole



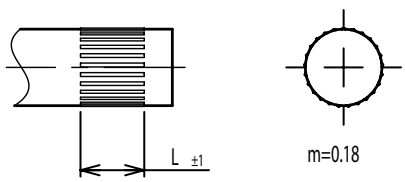
Screw Thread



Pin hole



Knurled(Parallel)



Screw thread inside hole