

# Data Sheet for Precision Potentiometer

Oil-filled singleturn wirewound Potentiometer

Series OF30



The potentiometers OF30 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.

- Optional center tap
- Optional with mech. stop @300°

Electrical Data	OF3001	OF3000
Effective electrical angle of rotation 1.)	280° ±5°	
Total resistance 1.)	50 Ohm up to 20 kOhm	
Resistance tolerance	±5%	
Independent linearity (best straight line) 1.)	±0.5%	
Theoretical resolution 1.)	Depends on resistance value (see table below)	
Backlash (Hysteresis) 1.)	≤ 0.5°	
Rotational noise (ENR) 1.) (Method C)	100 Ohm	
Max. / recommended wiper current 1.)	35 mA / 2 µA	
Power rating @ 40°C (0W @ 60°C)	0.75 W	
Insulation Voltage 1.)	1000 VAC, 1min	
Insulation Resistance 1.)	100 MOhm @ 1000 VDC	

Mechanical Data, Environmental Conditions, Miscellaneous	OF3001	OF3000
Mechanical angle of rotation	360° without stop	300° with stop
Lifetime (90% el. eff. angle half sine) 2.)	0.2 Mio. rotations	
Max. operational speed	40 rev. / min.	
Bearing	Sleeve bearing	
Operational torque @ ambient temperature 1.) 2.)	30 Nmm	
End stop torque 1.) 2.)	-	30 Ncm
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)	15g 10Hz to 2000Hz x 12h	
Shock (IEC 68-2-27, Test Ea)	49g @ 11 ms x 18	
Housing diameter	32 mm	
Housing depth	21 mm	
Shaft diameter	5 mm (optional 3.175 mm)	
Shaft type	Solid shaft	

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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

Number of wire turns / resolution								
Resistance value Ohm	50	200	500	1k	2k	5k	10k	20k
Number of wire turns	N/A	N/A	400	500	650	900	1100	1500

Resolution in degree E.g. R5k =  $280^\circ / 900 = 0,311^\circ$  per winding resistive wire

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## Order code

Description		Selection: <b>standard=black/bold</b> , possible <i>options=grey/italic</i>						
<b>Series</b>	<b>OF30</b>							
<b>Angle of rotation mecha.:</b> <b>Without stop</b> <i>Option with stop @300°</i>		<b>01</b> <i>00</i>						
<b>Resistance value:</b> <i>Option 50 Ohm</i> <i>Option 200 Ohm</i> <i>Option 500 Ohm</i> <b>1 kOhm</b> <i>Option 2 kOhm</i> <b>5 kOhm</b> <b>10 kOhm</b> <i>Option 20 kOhm</i>			<i>R50</i> <i>R200</i> <i>R500</i> <b>R1k</b> <i>R2k</i> <b>R5k</b> <b>R10k</b> <i>R20k</i>					
<b>Resistance tolerance:</b> <b>±5%</b>				<b>W5%</b>				
<b>Independent linearity:</b> <b>±0,5%</b>					<b>L0,5%</b>			
<i>Option center tap:</i>						<i>CT</i>		
<b>Front shaft:</b> <b>Ø5,00 x 23 mm</b> <i>Option Ø3,175 mm</i> <i>Option shaft length in mm</i> <i>Option shaft diameter in mm (≤5 mm)</i> <i>Option screwdriver slot:</i>							- <i>DM3,175</i> <i>Ax,xx</i> <i>DMx,xx</i>	<i>B</i>

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

For Example: 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.

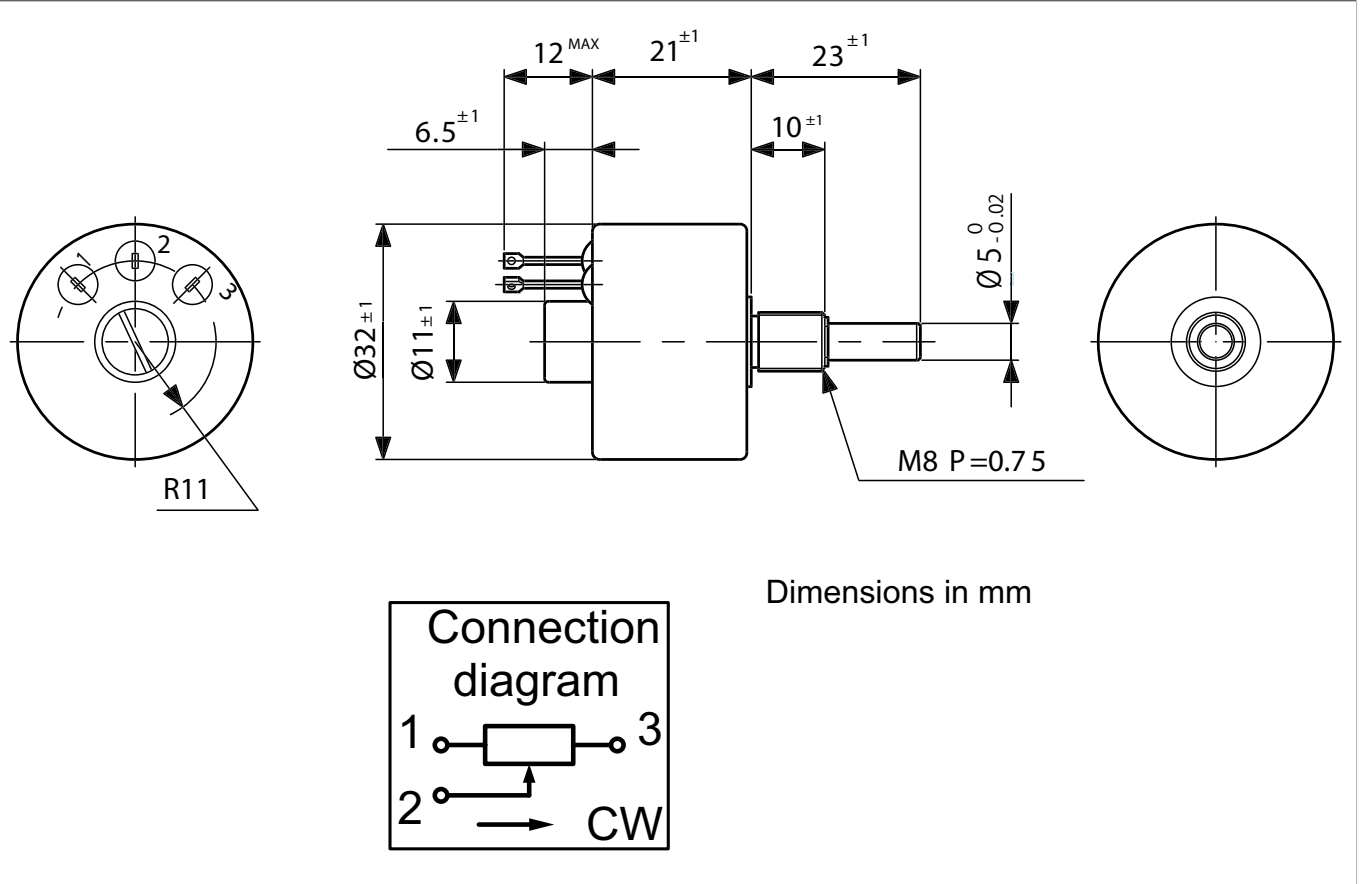
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## Drawing

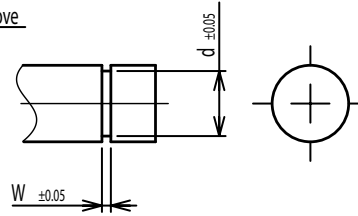


**On Request: Special machining on shaft**

Slot



Groove



Flat



Round top



Double side flat



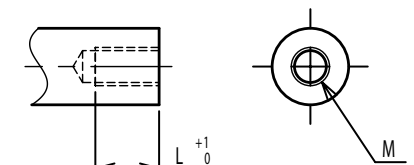
Counterbore hole



Step



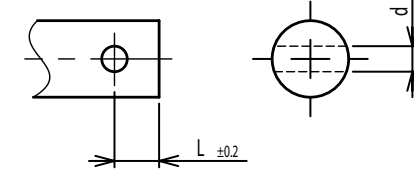
Counterbore screw hole



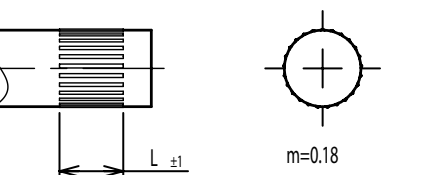
Screw Thread



Pin hole



Knurled(Parallel)



Screw thread inside hole

