

Rotary Sensor Industrial-Grade Potentiometer

Series IPS6000



The IPS6000 is a high quality potentiometer that provides an output voltage proportional to the angle of rotation, over a maximum range of 355°.

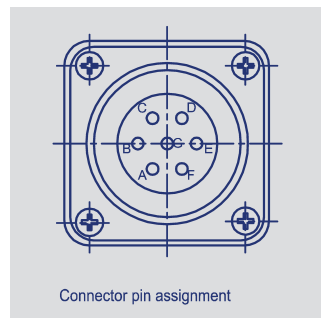
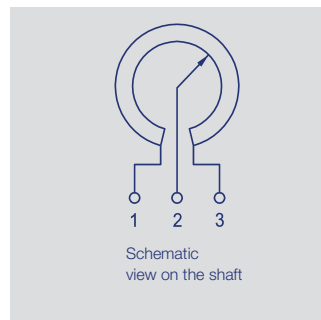
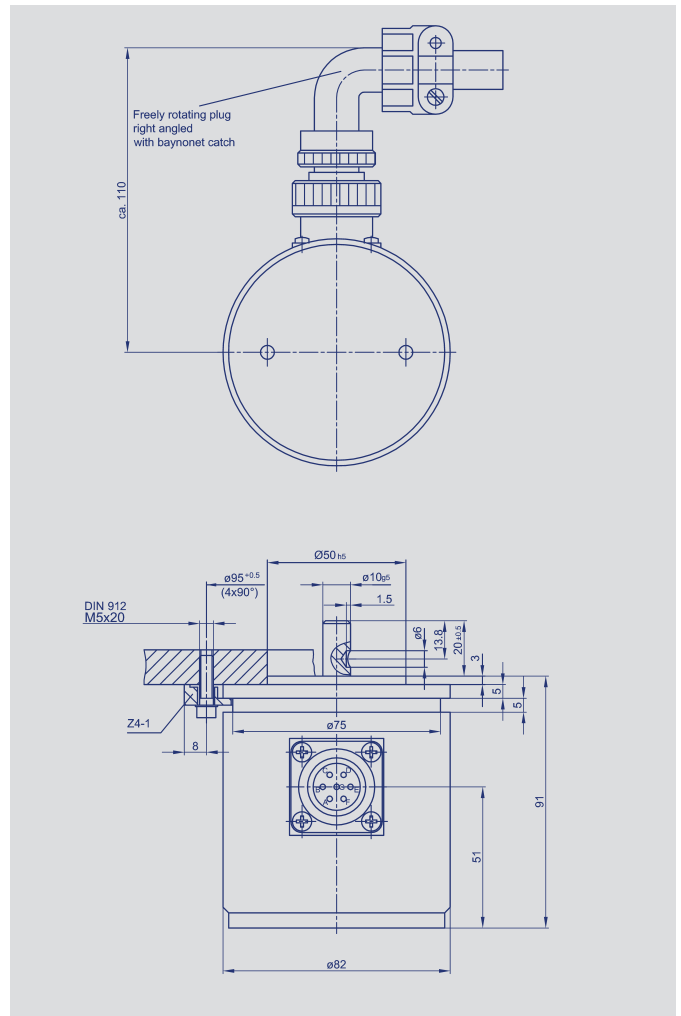
The heavy-duty construction allows this industrial sensor to be used in the most demanding applications and environmental conditions.

Special features

- excellent linearity - standard $\pm 0.1\%$
- long life - typical 100×10^6 movements
- mechanical continuous rotation
- high allowable shaft loads
- extremely robust industrial-grade construction
- protection class IP67

The cast aluminum housing and free-rotation bayonet-type connector are sealed against dust and moisture to IP67.

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



Description

Case	aluminium, varnished, Shaft sealed with special stepped bushing
Shaft	stainless steel
Bearings	stainless steel ball bearings
Resistance element	conductive plastic
Wiper assembly	precious metal multi-finger wiper
Mounting	any optional orientation
Electrical connections	7 pin all-metal plug and socket, freely rotatable, 90° right-angled, protection class IP67, bayonet-type

Novotechnik U.S., Inc.
155 Northboro Road
Southborough, MA 01772

Phone 508 485 2244
Fax 508 485 2430
info@novotechnik.com
www.novotechnik.com

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Subject to change.

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	360	N
Starting torque	<10	Ncm
Maximum operational speed	2,000	RPM
Weight	approx. 1200	g
Electrical Data		
Actual electrical travel	355 ±2	°
Nominal resistance	5	kΩ
Resistance tolerance	±20	%
Independent linearity	±0.1 (0.05 on request)	%
Repeatability	0.002 (± 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)	≥ 10	MΩ
Dielectric strength (500 VAC, 50 Hz)	≤ 100	μA
Environmental Data		
Temperature range	-40...+100	°C
Vibration	5...2000	Hz
	A _{max} = 0.75	mm
	a _{max} = 20	g
Shock	50	g
	11	ms
Life	100 x 10 ⁶	movements
Protection class	IP67 (DIN 400 50 / IEC 529)	

Included in delivery

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

Recommended accessories

Spring loaded coupling,
Z-110-G10 (backlash-free),
Process-controlled indicators
MAP... with display,
Signal conditioner MUP... /
MUK ... for standardized
output 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 operating
with the wiper voltage
driving on operational amplifier
working as a voltage follower,
where virtually no load is
applied to the wiper ($I \leq 1 \mu A$)

Order designations

Type	P/N	
IPS-6501-A502	010061	
Additional models available		
IPS-6501-G252	010066	± 90° ±2°, indep. lin ± 0.3 % R = 2.5 kΩ ±20 %