

Precision angle sensor PWG series

PWG 50 S 10U (3240°)
multiturn potentiometer

Technical Description

The angle sensor is developed for rough operation under extreme environmental conditions in mobile applications. Angle ranges of 3240° can be recorded.

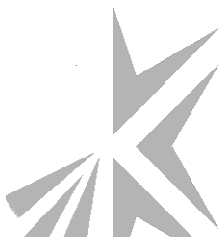
The main application is the measurement of the steering angle in safety related electronic-hydraulic steering systems direct on the wheel boogie.

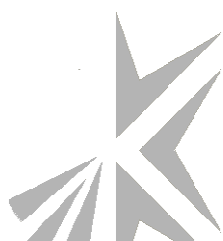
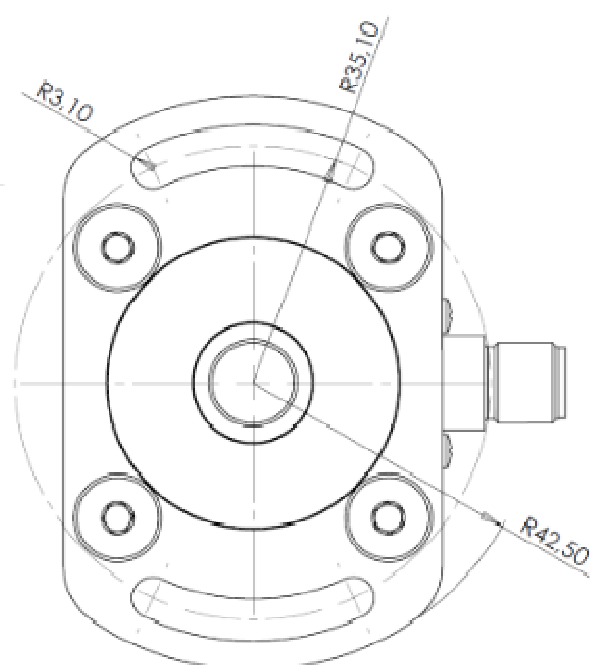
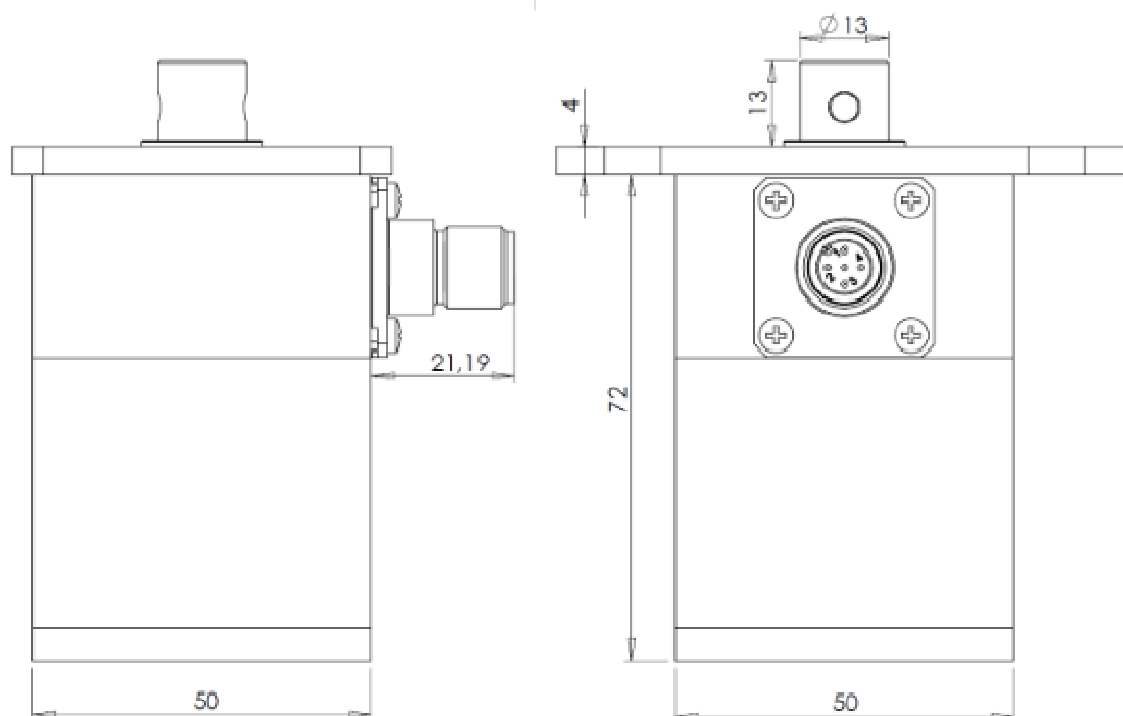
A tough full metal housing, stainless steel shaft as well as an interlocking top cover protect the potentiometer from outer force effects. Hermetic sealing as well as the accuracy and reliability of the absolute analog angle measurement are further special characteristics.

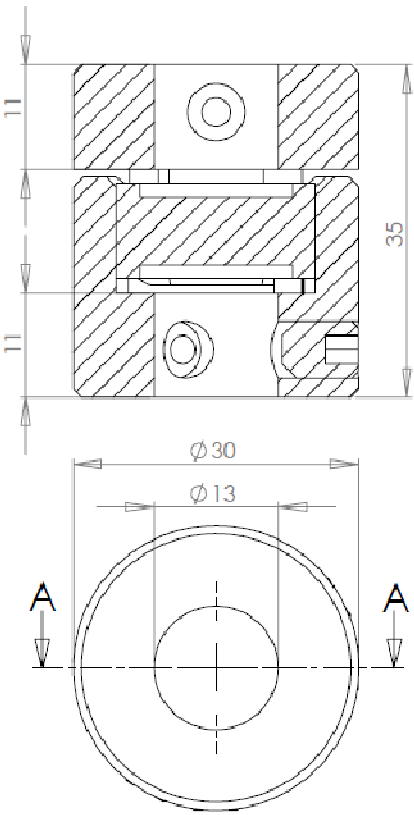
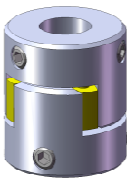
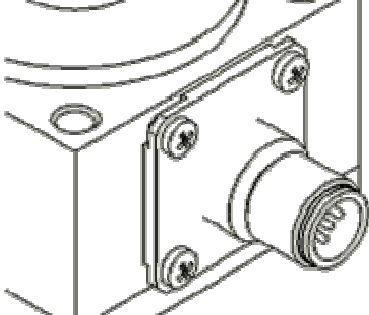
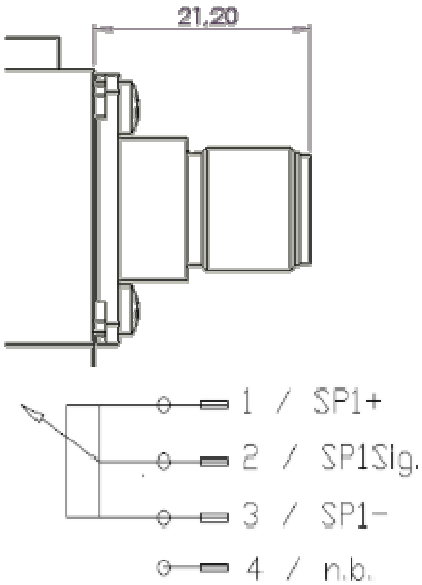
The massive and compact cube construction allows the direct installation at the axle without additional protective measures.

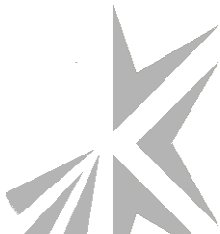
Special features

- ☐ Extreme tough cube design
- ☐ Absolute potentiometric measuring system with highest life time.
- ☐ 10 turns
- ☐ Increased corrosion protection by shaft made of stainless steel and anodised housing made out of massive aluminium.
- ☐ Accurate execution with very good linearity and temperature reliability.
- ☐ Very high life time even at vibration-rich places.
- ☐ High resolution
- ☐ Friction clutch on mechanical end-stops (continuous)
- ☐ Elastomer clutch on shaft





Elastomer-clutch (accessory)	Electrical connection connector M12
 <p>Technical drawing of the elastomer-clutch. The side view shows a rectangular component with a central slot and two circular features. Dimensions include a total height of 35, two vertical segments of 11 each, and a central slot width of 13. The top view shows a circular component with an outer diameter of 30 and an inner diameter of 13. Section lines A-A are indicated.</p>	   <p>Technical drawing of the electrical connector M12. The side view shows a cylindrical component with a length of 21.20. The pinout is as follows:</p> <ul style="list-style-type: none">1 / SP1+2 / SP1Slg.3 / SP1-4 / n.b.



Electrical data	
Electrical angle	3240°
Nominal resistance	1/5/10 kΩ
Resistance tolerance	±20%
Independent linearity	±0,5% of meas. range
Repeatability	3,24°
Resolution	better 0,1%
Temperature coefficient (voltage divider)	50 ppm/°C
Recommended wiper current	max. 1μA
Max. wiper current in case of malfunction	5mA
Power rating P	0,25 W/40°C
Min. life (electrical)	15 Mio. turns

Mechanical data	
Operating temperature	-25°C bis +75°C
Protection class	IP 67
Mechanical range	10 turns
Adjusting speed	max. 1800°/s
Impact strength	50G/11ms
Max. torque	4Ncm (0,04Nm)
Corrosion resistance shaft	Stainless steel V2A (1.4305)
Corrosion resistance housing	Red anodized aluminum, sea water resistant
Weight	0,5kg



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