

Sensor- Potentiometers

Series SP1600



GUEMISA

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Desde 1986 suministrando sensores e instrumentación
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Special features

- easy mounting
- protection class up to IP67 (mounted with O-ring)
- long life
- internal sealing
- return spring
- good price/performance ratio

Designed to convert rotary movement into a proportional voltage signal, these rotary sensors utilize proven conductive plastic technology.

The housing is made of a special high-grade temperature-resistant plastic material. The oval elongated bore fixing allows simplicity of mounting and an easy indexation of the sensor in use.

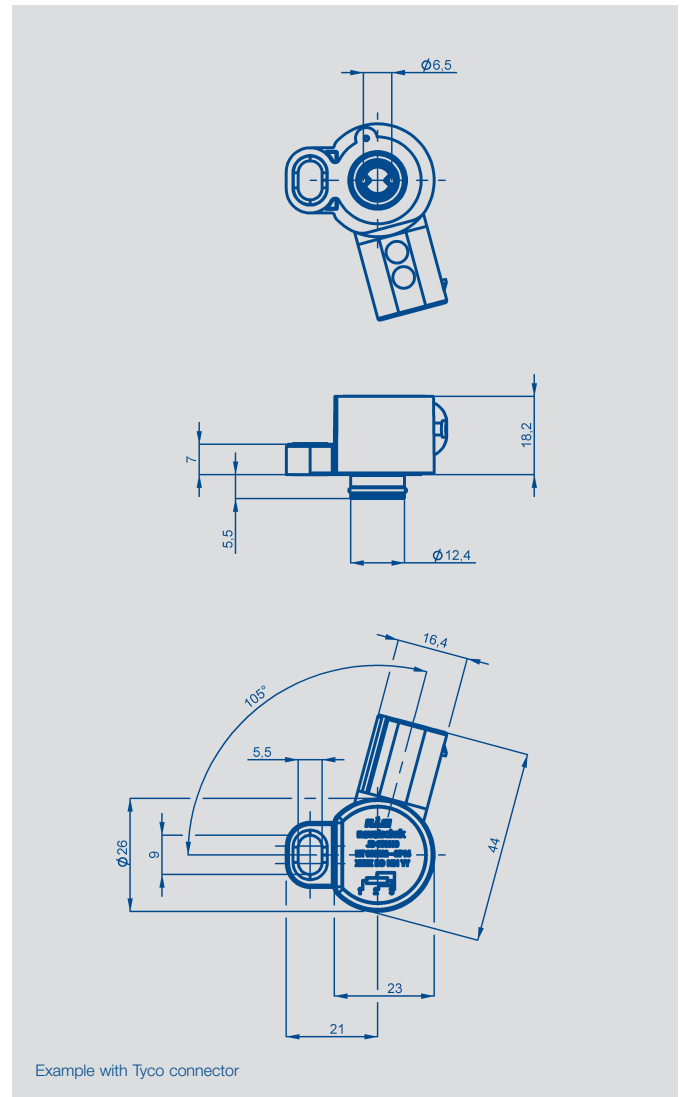
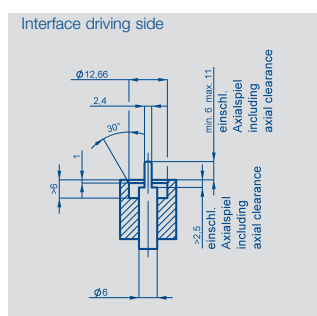
Effective design by making use of the customer-sided bearing of the insert shaft. Due to the insert shaft a fast and easy mounting is permitted. Despite of its compact and wear-free design the sensors are very robust against environmental influences like vibrations, temperature variations, dirt and humidity.

These sensors are suitable for use in all kinds of rough environment for example close to engines in automotive applications.

The 3-pin AMP Tyco- and the 3-pin Yazaki-connector offers two popular and reliable plug connections.

The use of a precious metal multifinger wiper ensures reliable contact even under most severe working conditions.

Special models with different electrical angles and contact versions are available upon request.



Description

Housing	high-grade, temperature-resistance plastic
Integrated shaft coupling	high-grade plastic
Resistance element	conductive plastic
Wiper	precious metal multi-finger wiper
Electrical connections	- connector (male) with 3 pins, AMP Tyco Micro Quadlock System, document No. 114-18063-123 code A - connector (male) with 3 pins, Yazaki SSD connector, document No. 7283-8730-30 A
Sealing	O-ring, X-ring

Mechanical Data		
Dimensions	see drawing	
Mounting	with 1 cylinder head screw M5	
Mechanical angle	ca. 125	°
Max. permissible torque at end stops	0.6	Nm
Torque	0.8 ... 12	Ncm
Mounting torque of clamps at housing flange	5 ±0.5	Nm
Weight	ca. 15	g

Electrical Data		
Actual electrical angle	105 ±3	°
Nominal resistance	5	kΩ
Resistance tolerance	±20	%
Absolute linearity	≤ ±2	% VDD
Hysteresis	1.0	%
Protective wiper resistor	0.8	kΩ
Temperature coefficient of the output-to-applied voltage ratio	typisch 15	ppm/K
Max. permissible applied voltage	24	V
Recommended operating wiper current	≤ 1	μA
Max. wiper current in case of malfunction	< 37.5	mA
Insulation resistance (500 VDC)	≥ 10	MΩ
Dielectric strength (500 VAC, 50 Hz)	≤ 100	μA

Betriebsbedingungen		
Temperature range	-30...+120	°C
Vibration	50...500 A _{max} = 0.75 a _{max} = 25 8 h per RR	Hz mm g
Life	3 × 10 ⁶	movements
Protection class ISO 20653 / IEC 60529	upt to IP 67 (mounted with O-ring)	

Order designations						
Type	Art.No.	Electr. angle	Ouptut on	Resistrance	Connector	
SP 1601 105 001 001	018402	105°	Pin 3	5 kΩ	AMP Tyco	
SP 1601 105 001 002	018403	105°	Pin 3	5 kΩ	Yazaki SSD	

Other versions on request.

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 ($I_e \leq 1 \mu A$).

Necessary accessories

Socket plug (female)
AMP TYCO Micro Quadlock System Connector-Order-No. 1-967642-1 Coding A;
YAZAKI SSD part No. 7283-8730-30 A

Recommended accessories

Process-controlled indicators MAP... with display Signal conditioner MUW.../MUK... for standardized output signals.