

Data Sheet for Angle Sensors

Optical incremental Encoder

Series SPE



- Compact design (Ø22 mm x 11 mm)
- Simple installation with bushing thread
- Up to 360 pulses per revolution
- Ball bearing for highest Life expectancy or Sleeve bearing for applications as manual control
- Time saving snap-in connector

Besides the use as position feedback, the encoder series SPE is also suitable as manual interface. A static drag bearing is optional available for a smooth handling.

Electrical Data	TTL	Line Driver
Output signal	5 V - A, B	differential 3,8 V - A, /A, B, /B
Number of pulses	100 - 360 ppr	
Output high voltage	≥ 2,4 V @ -8 mA load	
Output low voltage	≤ 0,4 V @ 8 mA load	
Differential output voltage		≥ 3,0 V @ RL = 100 Ω
Supply voltage	5 VDC ± 5 %	
Power consumption (no load)	≤ 32 mA (typ. 27 mA)	

Mechanische Daten, Umgebungsbedingungen, Sonstiges	
Bearing	Sleeve bearing / Ball bearing
Max. operational speed	
Sleeve bearing	100 U/min
Ball bearing	15000 U/min
Starting torque @ ambient temperature	
Sleeve bearing no torque added	≤ 0,3 Ncm
Sleeve bearing with light static drag	≤ 0,5 Ncm
Ball bearing	≤ 0,04 Ncm
Operating temperature range	-20..+100 °C
Storage temperature range	-20..+100 °C
Protection grade (IEC 60529)	IP40
Sealing shaft / bearing	no sealing (IP40)
Vibration	20 g / 20 bis 2000 Hz / sinusoidal
Shock	75 g / 6 ms / half-sine
Max. radial load	1 N
Mass	approx. 13 g
Fastening parts included in delivery	Hex nut, tooth washer
Fastening torque mounting nut	< 2,25 Nm
Material shaft	Metal
Material housing	Plastic
Electrostatic Discharge, Human Body Model (MIL-STD-883, Method 3015.8)	± 12 kV

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Order code

Description	Options					
Series SPE	SPE					
Shaft diameter						
3,17 mm (1/8") (*)		3,17 (*)				
6 mm		6				
6,35 mm (1/4")		6,35				
Resolution [pulses per revolution]						
100			100			
108 (*)			108 (*)			
120 (*)			120 (*)			
125 (*)			125 (*)			
128 (*)			128 (*)			
200 (*)			200 (*)			
250 (*)			250 (*)			
256 (*)			256 (*)			
300 (*)			300 (*)			
360			360			
5 V supply voltage and 2 channels without index				5 B		
Electronic						
TTL 5 V					TTL	
Line Driver differential (*)					N (*)	
Sleeve bearing with light static drag (Manual operation)						-
Sleeve bearing no torque added						NT
Ball bearing						KL

short-term stock types can be found on: <http://www.megatron.de/en/stocklists/angle-sensors/lagerliste.html>

bold print = standard option

(*) = on request available for projects

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

For example:

- Other number of pulses
- Special shaft
- Other operational torques

For technical advice, projects, samples, questions about pricing, delivery times and availability please contact us

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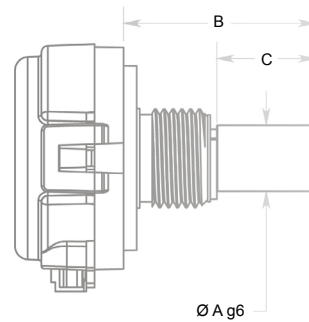
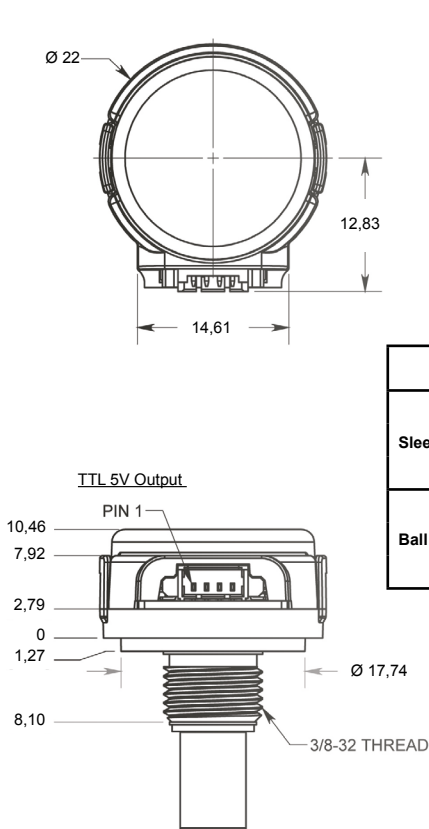
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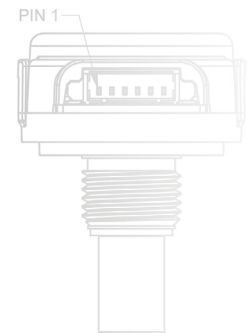
Series SPE

Drawing



	Shaft option	A	B	C
Sleeve bearing	3,17	3,175 mm	18,54 mm	8,89 mm
	6	6 mm	18,54 mm	8,89 mm
	6,35	6,35 mm	18,54 mm	9,53 mm
Ball bearing	3,17	3,175 mm	18,80 mm	9,53 mm
	6	6 mm	18,42 mm	9,53 mm
	6,35	6,35 mm	18,42 mm	9,53 mm

Line Driver differential



Dimensions in [mm]

Matting Connector:

Housing: Molex# 51021-0400
Pins: Molex # 50079-8100

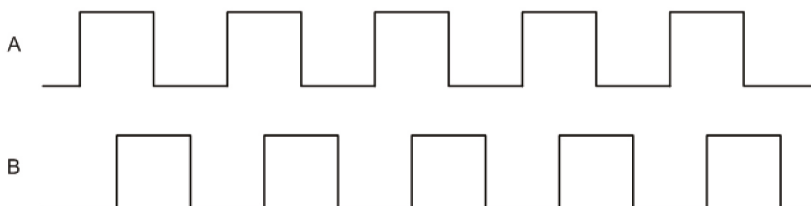
Accessory not included in delivery:

Articleno. 119641 - Matting connector with 500 mm AWG28 leads

Matting Connector:

Housing: Molex# 51021-0600
Pins: Molex # 50079-8100

Pulse sequence :



A leads B for clockwise shaft rotation (view onto the shaft end)