

Data Sheet for Angle Sensors

Optical incremental Encoder

Series MOE18



Sinusoidal incremental encoder in rugged miniature design for small applications

- 2 x ball bearing for highest lifespan
- Max. operational speed 6000 rev./min.
- Compact design (Ø18 mm x 13 mm) in metal housing
- Up to 360 pulses per revolution

Electrical Data

Output signal	5 V - A, B, Z reference pulse
Number of pulses	100 up to 360 ppr
Output voltage (min.)	150 mVp-p Min
Variations of output voltage amplitude	max. 40%
Limit frequency	10 kHz
Output electronics	Sinusoidal output signal

Electrical Data optical system

	LED	Photo-transistor
Maximum permissible current	I_F 60 mA	I_C 20 mA
Voltage	Reverse voltage < 4 V	Collector-Emitter V_{CEO} < 20 V Emitter-Collector V_{ECO} < 5 V
Power loss (25..70°C)	-1.73 mW/° C	-1.0 mW/° C
Power loss	95 mW	75 mW

Mechanical Data, Environmental Conditions, Miscellaneous

Mechanical angle of rotation 1.)	360° without stop
Bearing	2 x ball-bearing
Max. operational speed	6000 rev. / min.
Operational torque @ RT 1.) 2.)	0.49E-5 Nm
Operating temperature range	0 °C up to +50 °C
Storage temperature range	-20 °C up to +80 °C
Protection grade (IEC 60529)	IP40
Vibration (IEC 68-2-6, Test Fc)	10Hz up to 55 Hz / 1,5mm, X, Y, Z each 2h
Shock (IEC 68-2-27, Test Ea)	30g, 11 ms X, Y, Z each 3 times
Moment of inertia	0,1E-8 kg/m ²

Data Sheet for Angle Sensors

Optical incremental Encoder

Series MOE18

Mechanical Data, Environmental Conditions, Miscellaneous

Housing diameter	18 mm
Housing depth	15 mm
Shaft diameter	2.5 mm
Shaft type	Solid shaft
Max. radial load	1.96 N
Max. axial load	1.96 N
Connection type	Single strands
Connection position	Radial
Sensor mounting	Flange
Mass	ca. 25 g
Fastening parts included in delivery	None
Material shaft	Stainless steel
Material housing	Metal
Material disc	Metal etched

1.) According IEC 60393

2.) Determined by climatic conditions according to IEC 68-1, para. 5.3.1 without load collectives

Data Sheet for Angle Sensors

Optical incremental Encoder

Series MOE18

Order code

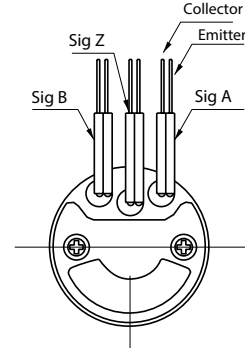
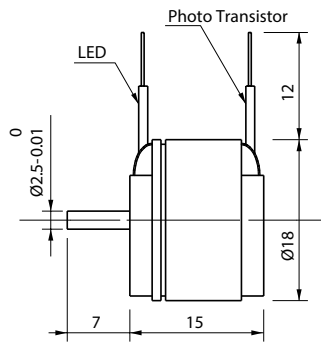
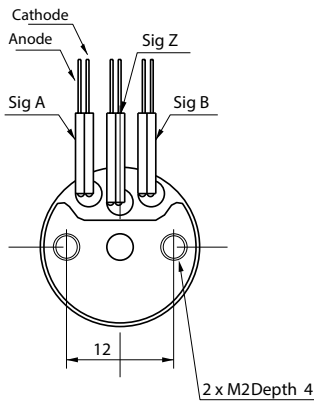
Description	Selection: standard=black/bold , possible <i>options=grey/italic</i>				
Series:	MOE18				
Front shaft: Ø2,5 x 7 mm <i>Option shaft length in mm</i> <i>Option shaft diameter in mm (≤2,5 mm)</i>		- <i>Ax,xx</i> <i>DMx,xx</i>			
Pulses per revolution:					
100 pulses <i>Option 176 pulses</i>			100 <i>176</i>		
200 pulses <i>Option 250 pulses</i> <i>Option 256 pulses</i>			200 <i>250</i> <i>256</i>		
300 pulses			300		
360 pulses			360		
Supply voltage: 5 V				5	
Output signal: <i>Option only signal A</i> <i>Option signal A+B</i> Signal A+B+Z					<i>A</i> <i>B</i> BZ

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

For example:

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

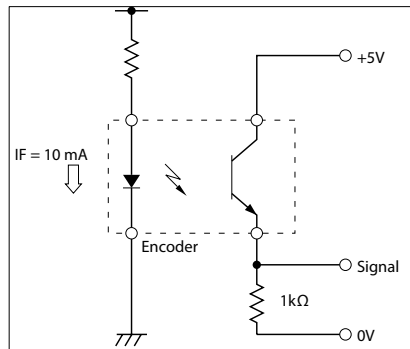
Drawing



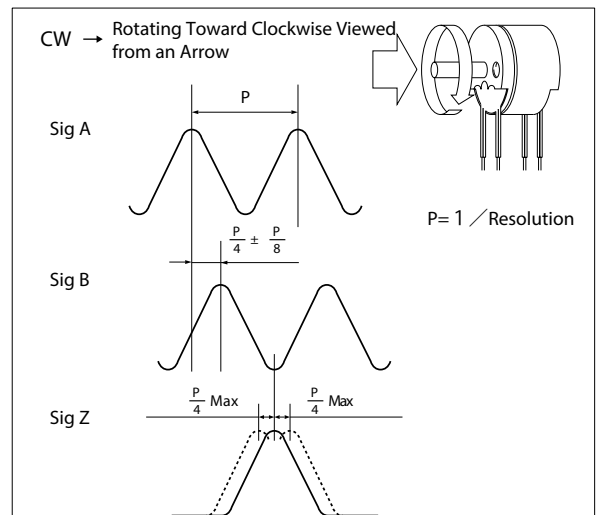
Install Without Stress on Wires.

Electrical Connections

Color	Signal
Red	Anode
Black	Cathode
Blue	Collector
White	Emitter

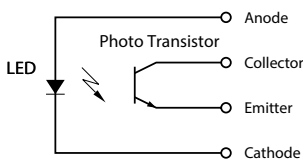


Wave Form

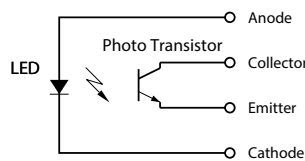


Output Circuit

Only Signal A



Signal A + B



Signal A + B + Z

