

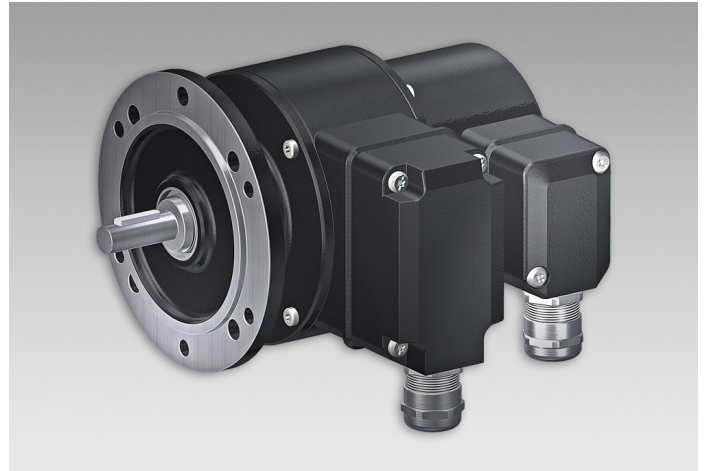
POG 90 + FSL

Encoder with integrated centrifugal switch

Solid shaft with EURO flange B10 / 1024...10000 pulses per revolution

Overview

- Max. 10000 pulses per revolution
- Mechanical speed monitoring based on centrifugal force
- EURO flange B10 / solid shaft $\varnothing 11$ mm
- Terminal boxes, turn by 180°



Technical data

Technical data - electrical ratings

Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3
Approval	CE

Technical data - electrical ratings (encoder)

Voltage supply	9...30 VDC 5 VDC ± 5 %
Consumption w/o load	≤ 100 mA
Pulses per revolution	1024 ... 10000
Phase shift	$90^\circ \pm 8^\circ$
Duty cycle	44...56 %
Reference signal	Zero pulse, width 90°
Output frequency	≤ 250 kHz
Output signals	K1, K2, K0 + inverted
Output stages	HTL TTL/RS422

Sensing method Optical

Technical data - electrical ratings (centrifugal switch)

Switching accuracy	± 4 % ($\Delta n = 2$ rpm/s); 20 % ($\Delta n = 1500$ rpm/s)
Switching deviation	≤ 3 % (cw-ccw rotation)
Switching hysteresis	40 % of switching speed
Switching outputs	1 output, speed control
Output switching capacity	≤ 6 A / 230 VAC ≤ 1 A / 125 VDC (EAC: < 50 VAC / 75 VDC)

Technical data - electrical ratings (centrifugal switch)

Minimum switching current	50 mA
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Technical data - mechanical design

Size (flange)	$\varnothing 115$ mm
Shaft type	$\varnothing 11$ mm solid shaft
Admitted shaft load	≤ 250 N axial ≤ 350 N radial
Flange	EURO flange B10
Protection EN 60529	IP 66
Speed (n)	$\leq 1.25 \cdot ns$
Range of switching speed (ns)	850...4500 rpm ($\Delta n = 2$ rpm/s)
Operating torque typ.	3 Ncm
Rotor moment of inertia	320 gcm ²
Material	Housing: aluminium die-cast Shaft: stainless steel
Operating temperature	-20...+85 °C
Resistance	IEC 60068-2-6 Vibration 5 g, 10-2000 Hz IEC 60068-2-27 Shock 50 g, 11 ms
Corrosion protection	IEC 60068-2-52 Salt mist for ambient conditions C4 according to ISO 12944-2
Connection	2x terminal box
Weight approx.	2.6 kg

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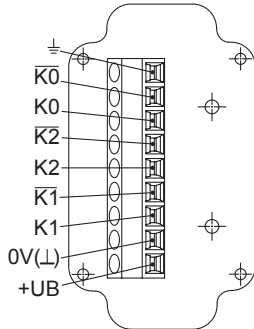
General information

The constructive design of the centrifugal switch is its use as a switch with positive break function. It must not be used as a continuous switch (switching cycles greater than 500 during service life).

Terminal assignment

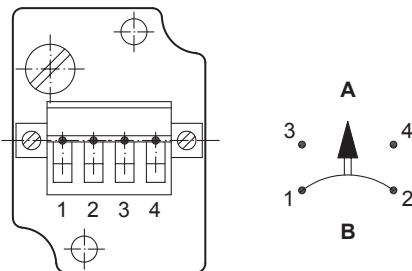
View A (see dimension)

Connecting terminal terminal box encoder



View B (see dimension)

Connecting terminal centrifugal switch



A = make contact, **B** = break contact

Terminal significance

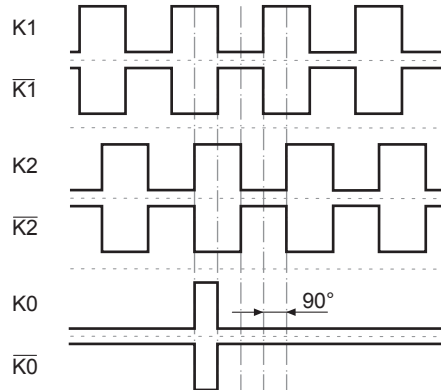
Encoder incremental

+UB	Voltage supply
0V (⏏)	Ground
⏏	Earth ground (housing)
K1	Output signal channel 1
K1	Output signal channel 1 inverted
K2	Output signal channel 2 (offset by 90° to channel 1)
K2	Output signal channel 2 inverted
K0	Zero pulse (reference signal)
K0	Zero pulse inverted

Output signals

HTL/TTL

At positive rotating direction (see dimension)

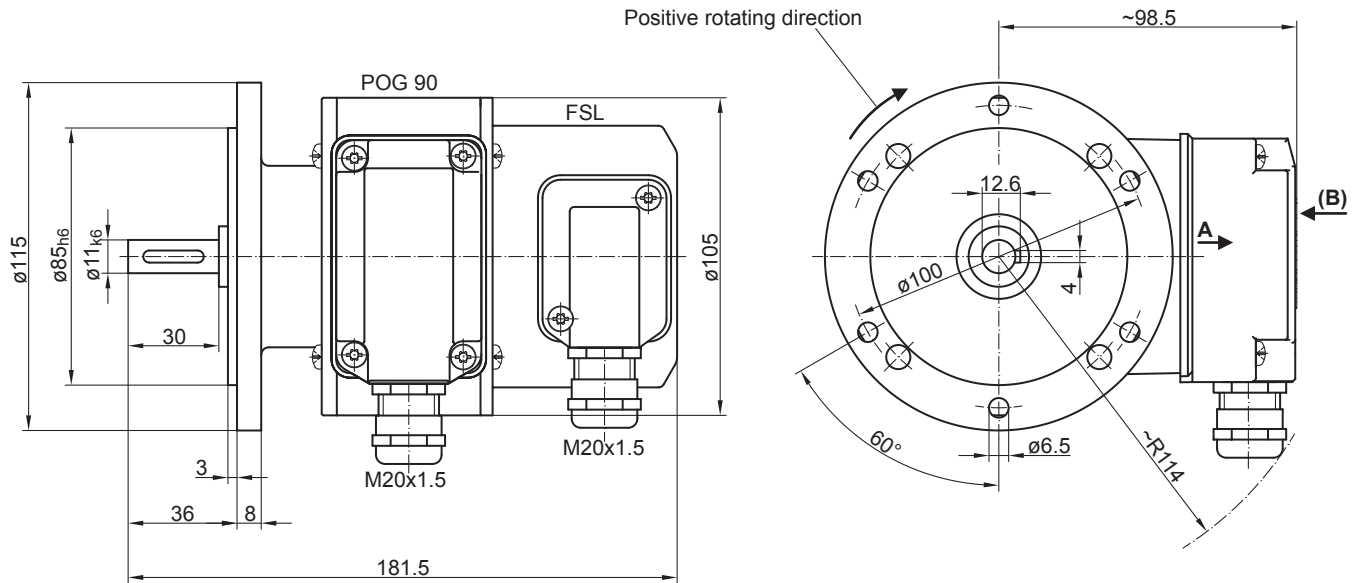


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Dimensions



POG 90 + FSL

Encoder with integrated centrifugal switch

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Ordering reference

	POG90	DN	####	###	+ FSL	#####
Product						
Incremental encoder + Centrifugal switch	POG90					
Output signals						
K1, K2, K0		DN				
Pulse number⁽¹⁾						
1024			1024			
2000			2000			
2048			2048			
2500			2500			
3072			3072			
3600			3600			
4096			4096			
5000			5000			
10000			10000			
Voltage supply / output stage						
9...30 VDC / output stage HTL with inverted signals				I		
5 VDC / output stage TTL with inverted signals				TTL		
9...30 VDC / output stage TTL with inverted signals				R		
Version speed switch						
Mechanical centrifugal switch					+ FSL	
Switching speed (ns)						
850...949 rpm ($\Delta n = 2$ rpm/s) ⁽²⁾						6 ...
950...1099 rpm ($\Delta n = 2$ rpm/s) ⁽²⁾						5 ...
1100...1299 rpm ($\Delta n = 2$ rpm/s) ⁽²⁾						4 ...
1300...1799 rpm ($\Delta n = 2$ rpm/s) ⁽²⁾						3 ...
1800...2499 rpm ($\Delta n = 2$ rpm/s) ⁽²⁾						2 ...
2500...4500 rpm ($\Delta n = 2$ rpm/s) ⁽²⁾						1 ...

(1) Other pulse numbers on request.

(2) Please specify the exact switching speed in addition to the part number (factory setting).

Accessories

Mounting accessories

Spring disk coupling K 35 (shaft ø6...12 mm)

Spring disk coupling K 50 (shaft ø11...16 mm)

Spring disk coupling K 60 (shaft ø11...22 mm)