

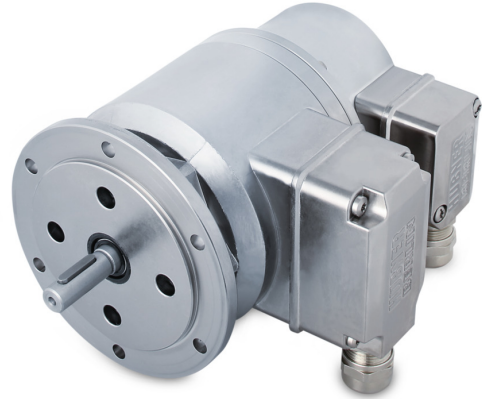
POG 11 + FSL

Encoder with integrated centrifugal switch

Solid shaft with EURO flange B10 / 300...5000 pulses per revolution

Overview

- Offshore and salt water firm, high protection IP 67
- TTL output driver for cable length up to 550 m
- 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 \pm 5 %
Consumption w/o load	\leq 100 mA
Pulses per revolution	300 ... 5000
Phase shift	90 ° \pm 20°
Duty cycle	40...60 %
Reference signal	Zero pulse, width 90°
Output frequency	\leq 120 kHz \leq 300 kHz (on request)
Output signals	K1, K2, K0 + inverted Error output (option EMS)
Output stages	HTL-P (power linedriver) TTL/RS422
Sensing method	Optical

Technical data - electrical ratings (centrifugal switch)

Switching accuracy	\pm 4 % (Δ n = 2 rpm/s); 20 % (Δ n = 1500 rpm/s)
Switching deviation	\leq 3 % (cw-ccw rotation)
Switching hysteresis	40 % of switching speed
Switching outputs	1 output, speed control
Output switching capacity	\leq 6 A / 230 VAC \leq 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	\leq 300 N axial \leq 450 N radial
Flange	EURO flange B10
Protection EN 60529	IP 67
Speed (n)	\leq 1.25 · ns
Range of switching speed (ns)	850...4500 rpm (Δ n = 2 rpm/s)
Operating torque typ.	3 Ncm
Rotor moment of inertia	220 gcm ²
Material	Housing: aluminium die-cast Shaft: stainless steel
Operating temperature	-40...+100 °C -25...+100 °C (>3072 pulses)
Resistance	IEC 60068-2-6 Vibration 10 g, 10-2000 Hz IEC 60068-2-27 Shock 100 g, 6 ms
Corrosion protection	IEC 60068-2-52 Salt mist for ambient conditions CX (C5-M) according to ISO 12944-2
Connection	2x terminal box 3x terminal box (with option M)
Weight approx.	2.3 kg 2.5 kg (with option M)

Optional

- Function control with EMS (Enhanced Monitoring System)
- Redundant sensing with two terminal boxes
- Housing foot (B3)

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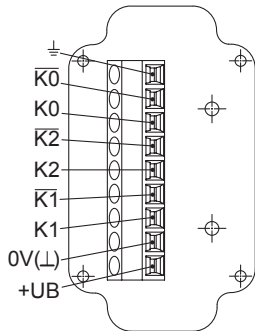
General information

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

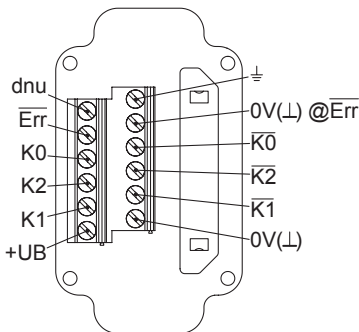
View A (see dimension)

Connecting terminal terminal box encoder



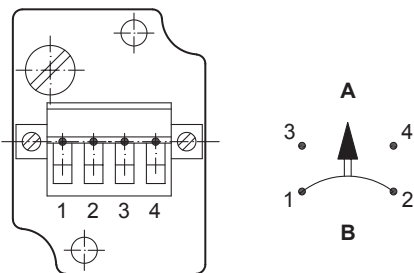
Option EMS: View A (see dimension)

Connecting terminal terminal box encoder



View B (see dimension)

Connecting terminal centrifugal switch



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

Terminal significance

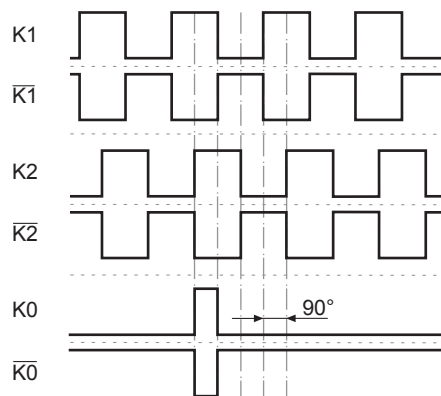
Encoder incremental

+UB	Voltage supply
0V (L)	Ground
⊥	Earth ground (housing)
K1	Output signal channel 1
$\overline{K1}$	Output signal channel 1 inverted
K2	Output signal channel 2 (offset by 90° to channel 1)
$\overline{K2}$	Output signal channel 2 inverted
K0	Zero pulse (reference signal)
$\overline{K0}$	Zero pulse inverted
\overline{Err}	Error output (option EMS)
dnu	Do not use

Output signals

HTL/TTL

At positive rotating direction (see dimension)



Option EMS: Status LED / error output

Flash light red*	Error of signal sequence, zero pulse or pulses (Error output = HIGH-LOW alternation)
Red	Overload output transistors (Error output = LOW)
Flash light green	Device o.k., rotating (Error output = HIGH)
Green	Device o.k., stopped (Error output = HIGH)
No light	No voltage supply connection or wrong connection (Error output = LOW)

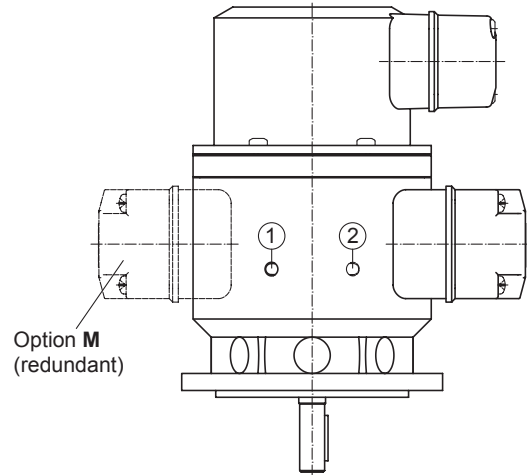
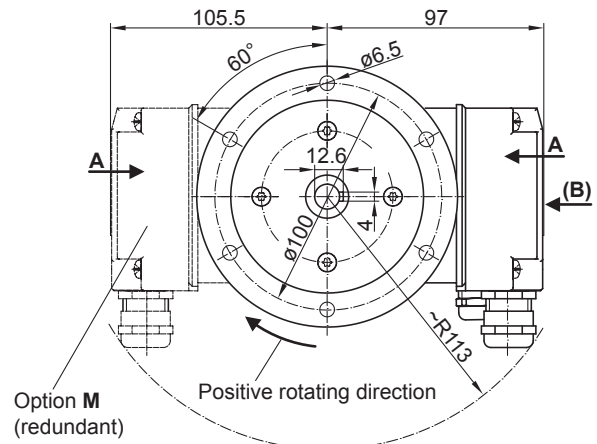
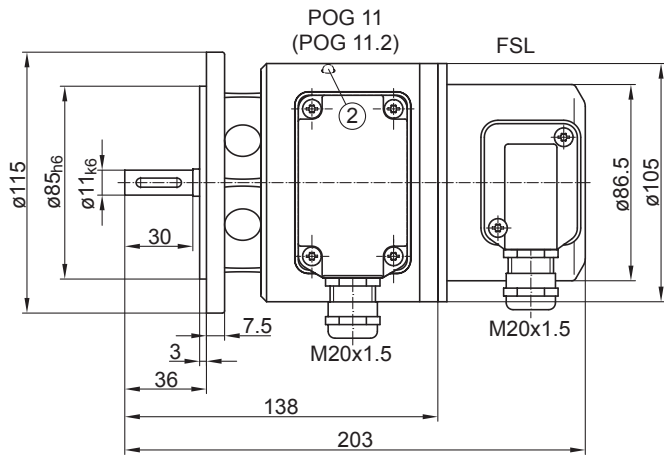
* Only at rotating device

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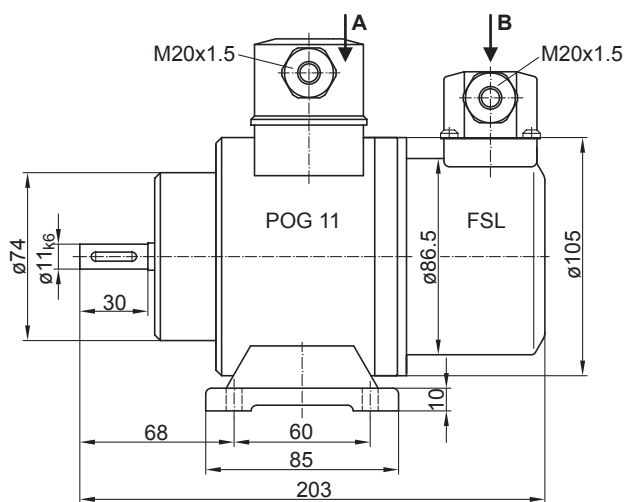
Solid shaft with EURO flange B10 / 300...5000 pulses per revolution

Dimensions

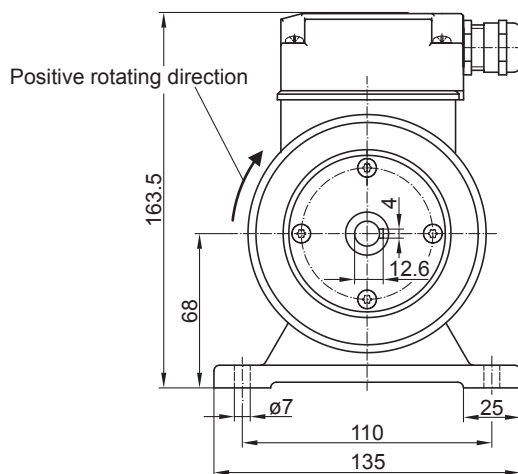


- ① Status LED (option EMS)
- ② Status LED (option M (redundant) and EMS)

EURO flange B10



Housing foot B3



POG 11 + FSL

Encoder with integrated centrifugal switch

Solid shaft with EURO flange B10 / 300...5000 pulses per revolution

Ordering reference

	POG11	##	#	DN	####	###	#####	+ FSL	#####
Product									
Incremental encoder + Centrifugal switch	POG11								
EMS - Enhanced Monitoring System									
Without EMS									
With EMS		.2							
Redundant sensing									
Without redundant sensing									
With redundant sensing			M						
Output signals									
K1, K2, K0				DN					
Pulse number									
300					300				
500					500				
512					512				
1000					1000				
1024					1024				
1200					1200				
2048					2048				
2500					2500				
3072					3072				
4096					4096				
5000					5000				
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			
Mounting type									
EURO flange B10									
Housing foot B3							B3		
Version speed switch									
Mechanical centrifugal switch								+ FSL	
Switching speed (ns)									
850...949 rpm ($\Delta n = 2 \text{ rpm/s}^{(2)}$)									6 ...
950...1099 rpm ($\Delta n = 2 \text{ rpm/s}^{(2)}$)									5 ...
1100...1299 rpm ($\Delta n = 2 \text{ rpm/s}^{(2)}$)									4 ...
1300...1799 rpm ($\Delta n = 2 \text{ rpm/s}^{(2)}$)									3 ...
1800...2499 rpm ($\Delta n = 2 \text{ rpm/s}^{(2)}$)									2 ...
2500...4500 rpm ($\Delta n = 2 \text{ rpm/s}^{(2)}$)									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 $\varnothing 6...12 \text{ mm}$)
- Spring disk coupling K 50 (shaft $\varnothing 11...16 \text{ mm}$)
- Spring disk coupling K 60 (shaft $\varnothing 11...22 \text{ mm}$)