

Combination

Encoder with integrated electronic speed switch

Solid shaft with EURO flange B10

300...5000 pulses per revolution

POG 11 + ESL 93



POG 11 + ESL 93

Technical data - electrical ratings (encoder)

Voltage supply	9...30 VDC; 5 VDC $\pm 5\%$
Consumption w/o load	≤ 100 mA
Pulses per revolution	300...5000
Phase shift	$90^\circ \pm 20^\circ$
Duty cycle	40...60 %
Reference signal	Zero pulse, width 90°
Output frequency	≤ 120 kHz ≤ 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 (speed switches)

Voltage supply	12 VDC $\pm 10\%$
Consumption w/o load	≤ 5 mA
Switching accuracy	$\pm 4\%$ (≤ 1500 rpm) $\pm 2\%$ (> 1500 rpm)
Switching hysteresis	$= 30\%$ of switching speed
Switching outputs	3 outputs, speed control
Current each output	40 mA (DC)
Switching delay time	≤ 40 ms

Features

- Offshore and salt water firm, high protection IP 67
- TTL output driver for cable length up to 500 m
- Electronic speed monitoring
- Circuit breaker with up to three selectable threshold speeds
- EURO flange B10 / solid shaft $\varnothing 11$ mm
- Terminal boxes, turn by 180°

Optional

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

Technical data - mechanical design

Size (flange)	$\varnothing 115$ mm
Shaft type	$\varnothing 11$ mm solid shaft
Admitted shaft load	≤ 300 N axial ≤ 450 N radial
Flange	EURO flange B10
Protection DIN EN 60529	IP 67
Operating speed	≤ 5000 rpm
Range of switching speed (ns)	3x 200...5000 rpm
Operating torque typ.	3 Ncm
Rotor moment of inertia	220 gcm ²
Materials	Housing: aluminium die-cast Shaft: stainless steel
Operating temperature	$-20...+85$ °C
Resistance	IEC 60068-2-6 Vibration 10 g, 10-2000 Hz IEC 60068-2-27 Shock 100 g, 11 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.	2.7 kg, 2.9 kg (with option M)
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3
Approval	CE

Combination

Encoder with integrated electronic speed switch

Solid shaft with EURO flange B10

300...5000 pulses per revolution

POG 11 + ESL 93

Part number

POG11			DN				+ ESL93		
												<u>Mounting type</u>
												EURO flange B10
												B3 Housing foot B3
												<u>Switching speed 3 (ns3)</u>
												... 200...5000 rpm
												<u>Switching speed 2 (ns2)</u>
												... 200...5000 rpm
												<u>Switching speed 1 (ns1)</u>
												... 200...5000 rpm
												<u>Voltage supply / signals</u>
												I 9...30 VDC / output stage HTL with inverted signals
												TTL 5 VDC / output stage TTL with inverted signals
												R 9...30 VDC / output stage TTL with inverted signals
												<u>Pulse number - see table</u>
												<u>Output signals</u>
												DN K1, K2, K0
												<u>Redundant sensing</u>
												Without redundant sensing
												M With redundant sensing (not possible at version with housing foot B3)
												<u>EMS - Enhanced Monitoring System</u>
												Without EMS
												.2 With EMS

Pulse number			
300	1000	2048	4096
500	1024	2500	5000
512	1200	3072	

Other pulse numbers on request.
Please indicate the exact switching rotation speeds (factory setting).

Accessories	
Connectors and cables	
HEK 8	Sensor cable for encoders
Mounting accessories	
K 35	Spring washer coupling for solid shaft ø6...12 mm
K 50	Spring washer coupling for solid shaft ø11...16 mm
K 60	Spring washer coupling for solid shaft ø11...22 mm
Diagnostic accessories	
11075858	Analyzer for encoders HENQ 1100
Relay module	
11054943	Relay modul ES 93 R

Combination

Encoder with integrated electronic speed switch

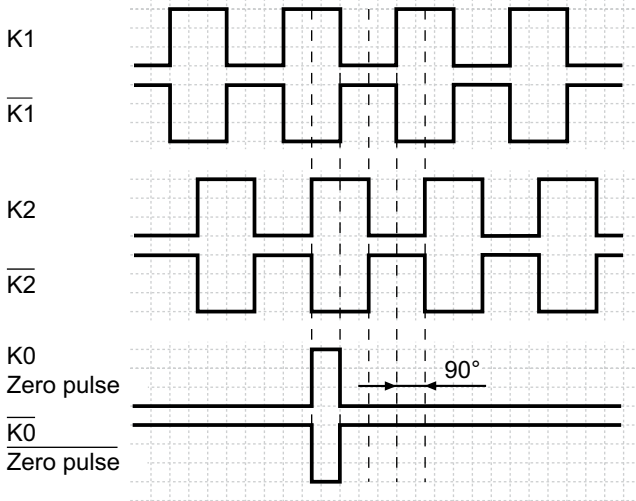
Solid shaft with EURO flange B10

300...5000 pulses per revolution

POG 11 + ESL 93

Output signals

At positive rotating direction



Option EMS: LED status / Error output

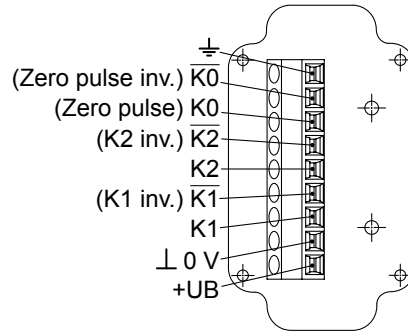
Flash light red*	Error of signal sequence, zero pulse or pulses (Error output = HIGH-LOW alternation)
Red	Overload output driver (Error output = LOW)
Flash light green	Device o.k., rotating (Error output = HIGH)
Green	Device o.k., stopped (Error output = HIGH)
No light	No voltage supply connection or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

* Only at rotating device

Terminal assignment

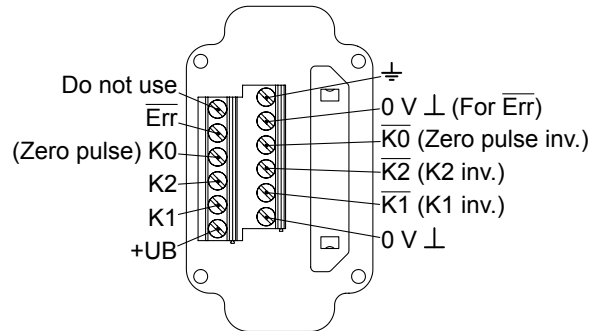
View A

Connecting terminal terminal box POG 11



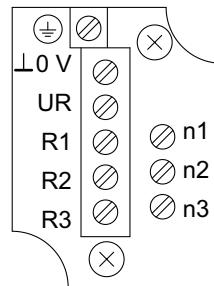
Option EMS: View A

Connecting terminal terminal box POG 11.2



View B

Connecting terminal electronic speed switch ESL 93



3 transistor outputs
For connecting to a relay modul,
for example ES 93 R (accessory)

Combination

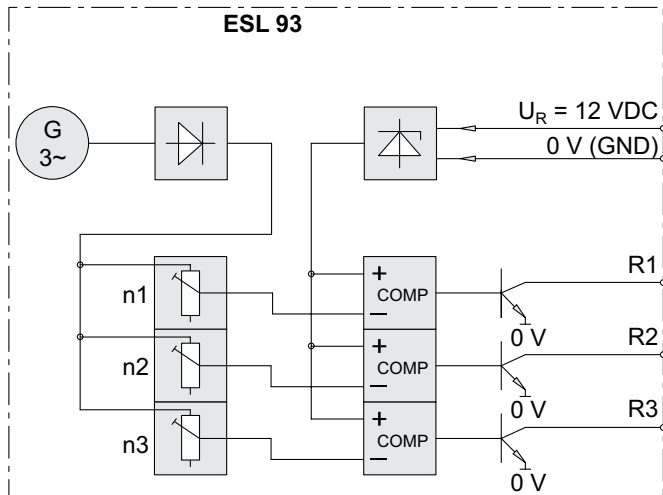
Encoder with integrated electronic speed switch

Solid shaft with EURO flange B10

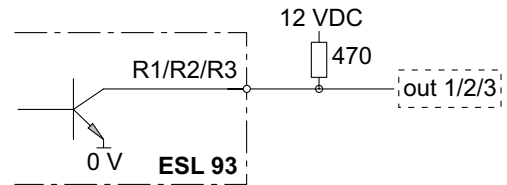
300...5000 pulses per revolution

POG 11 + ESL 93

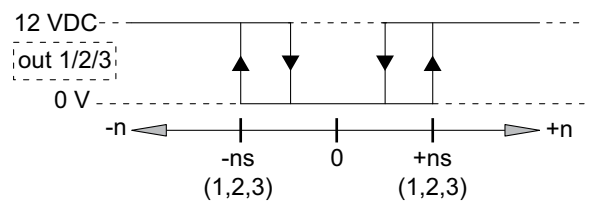
Block circuit diagram



Recommended output circuit



Switching characteristics



n = speed

n_s = adjusted switching speed

Combination

Encoder with integrated electronic speed switch

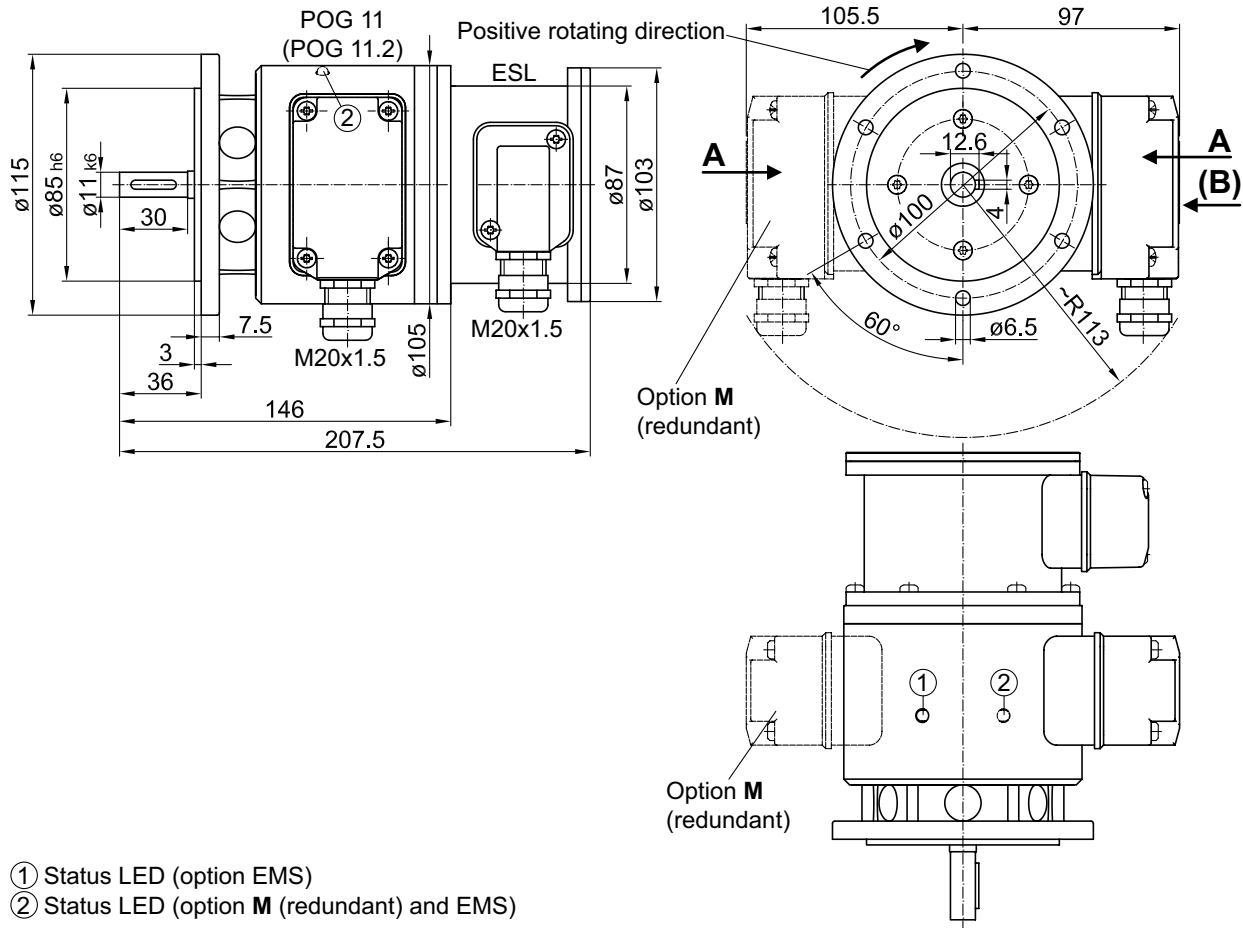
Solid shaft with EURO flange B10

300...5000 pulses per revolution

POG 11 + ESL 93

Dimensions

EURO flange B10



Housing foot B3

