

Combination

Encoder with integrated electronic speed switch

Solid shaft with EURO flange B10

300...5000 pulses per revolution

POG 11 + ESL



POG 11 + ESL

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	$90^\circ \pm 20^\circ$
Scan ratio	40...60 %
Reference signal	Zero pulse, width 90°
Output frequency	≤ 120 kHz ≤ 300 kHz (on request)
Output signals	K1, K2, K0 + inverted Error output (only EMS)
Output stages	HTL-P (power linedriver) TTL/RS422
Sensing method	Optical

Technical data - electrical ratings (speed switches)

Switching accuracy	$\pm 4\%$ (≤ 1500 rpm) $\pm 2\%$ (> 1500 rpm)
Switching hysteresis	$\approx 30\%$ of switching speed
Switching delay time	≤ 40 ms

POG 11 + ESL 90

Switching outputs	1 output, speed control
Output switching capacity	≤ 6 A / 250 VAC; ≤ 1 A / 48 VDC
Minimum switching current	100 mA

POG 11 + ESL 93

Voltage supply	12 VDC $\pm 10\%$
Consumption w/o load	≤ 5 mA
Switching outputs	3 outputs, speed control
Current each output	40 mA (DC)

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 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
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
POG 11 + ESL 90	
Operating speed	≤ 6000 rpm
Range of switching speed (ns)	650...6000 rpm
POG 11 + ESL 93	
Operating speed	≤ 5000 rpm
Range of switching speed (ns)	3x 200...5000 rpm

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Part number

Encoder with speed switch ESL 93

POG11 DN +ESL93

										Switching speed 3 (ns3) ... 200...5000 rpm
										Switching speed 2 (ns2) ... 200...5000 rpm
										Switching speed 1 (ns1) ... 200...5000 rpm
										<u>Voltage supply / signals</u> I 9...30 VDC / output circuit HTL with inverted signals TTL 5 VDC / output circuit TTL with inverted signals R 9...30 VDC / output circuit 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
										<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
(permanent parameter defined at works).

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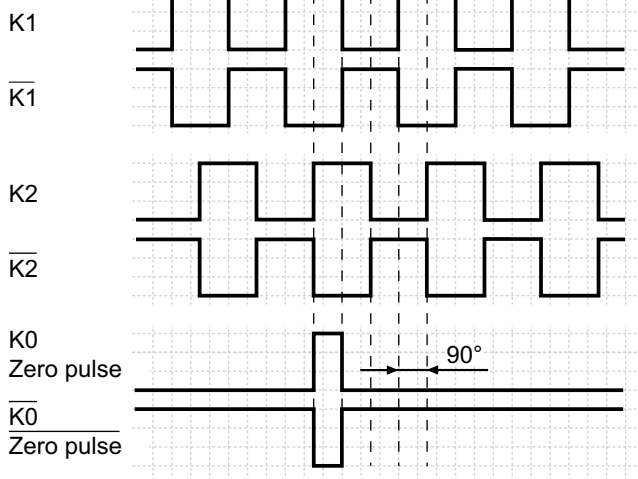
Solid shaft with EURO flange B10

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POG 11 + ESL

Output signals

At positive rotating direction



Option EMS: LED status / Error output

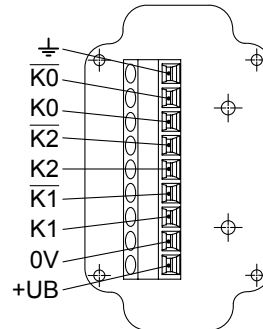
Flash light red*	Error of signal sequence, zero pulse or pulses (Error output = HIGH-LOW alternation)
Red	Overload output driver (Error output = LOW)
Flash light green	Encoder o.k., rotating (Error output = HIGH)
Green	Encoder o.k., stopped (Error output = HIGH)
No light	No output voltage connection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

* Only at rotating encoder

Terminal assignment

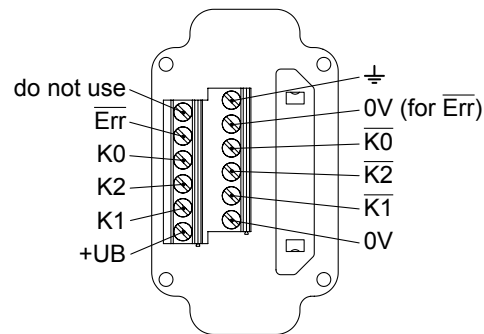
View A

Connecting terminal in terminal box POG 11



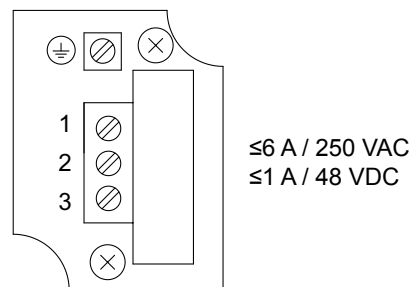
Option EMS: View A

Connecting terminal in terminal box POG 11.2



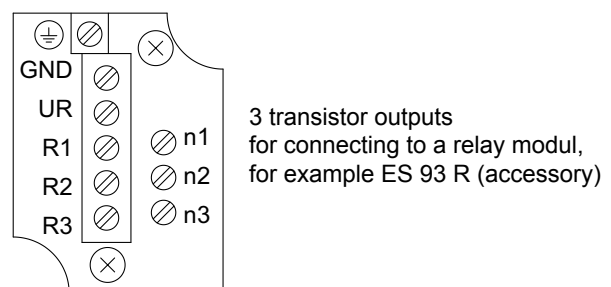
View B

Connecting terminal electronic speed switch ESL 90



View B

Connecting terminal electronic speed switch ESL 93



Combination

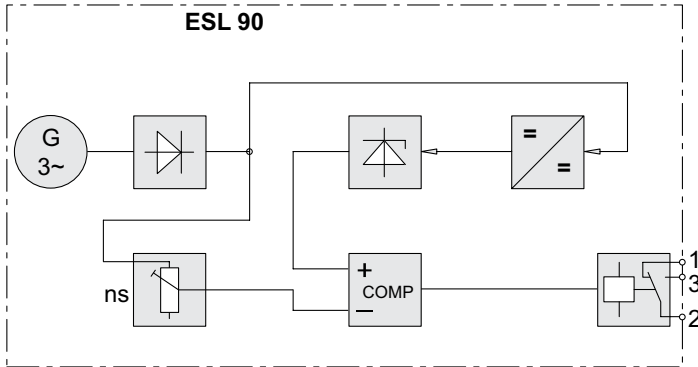
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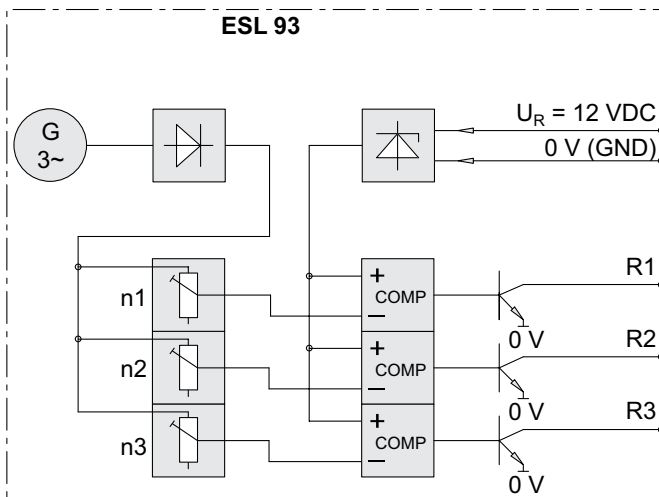
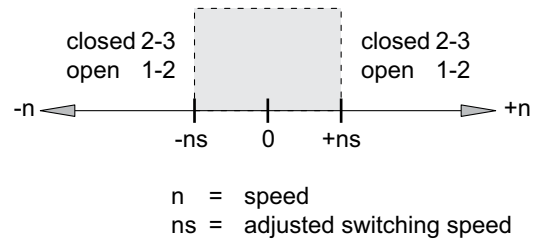
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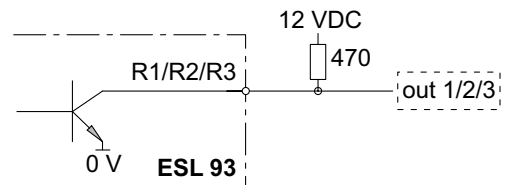
Block circuit diagram



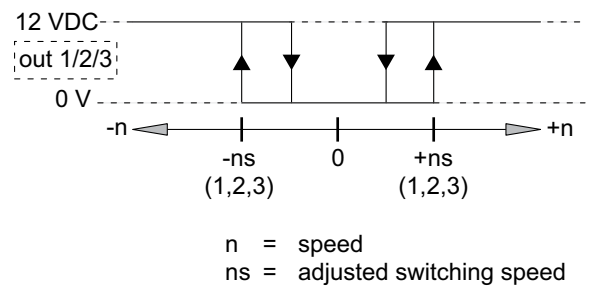
Switching characteristics



Recommended output circuit



Switching characteristics



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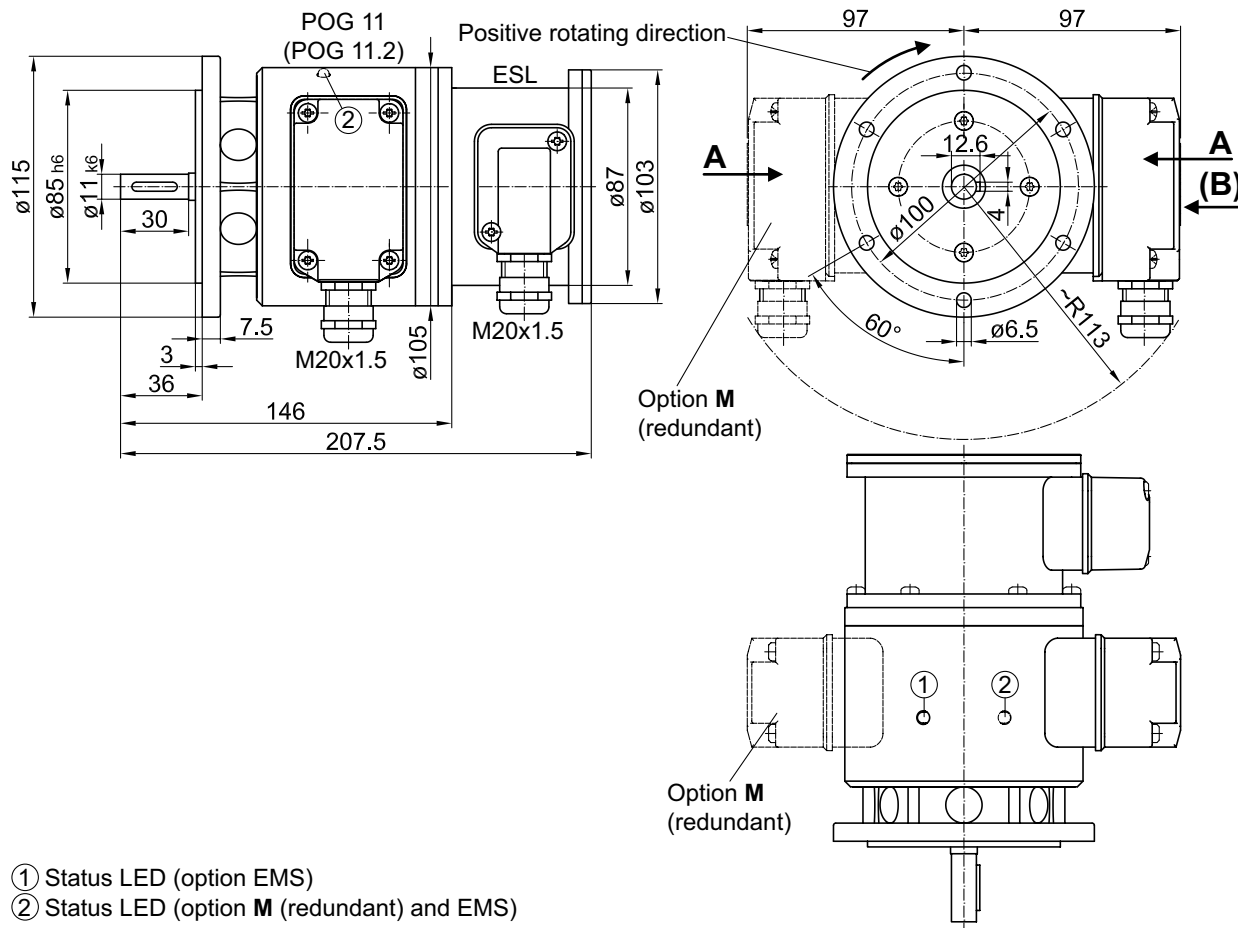
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Dimensions

POG 11 + ESL (POG 11.2 + ESL, POG 11 M + ESL, POG 11.2 M + ESL) - Version with B10 Euro flange



POG 11 + ESL - Version with housing foot

