

Combination

Encoder with integrated electronic speed switch

Solid shaft with EURO flange B10

300...5000 pulses per revolution

POG 9 + ESL 93



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Features

- 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)

Technical data - electrical ratings (encoder)

Voltage supply	9...30 VDC; 5 VDC ± 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 ± 10 %
Consumption w/o load	≤ 5 mA
Switching accuracy	± 4 % (≤ 1500 rpm) ± 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

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 DIN EN 60529	IP 56
Speed (n)	≤ 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 5 g, 10-2000 Hz IEC 60068-2-27 Shock 150 g, 1 ms
Corrosion protection	IEC 60068-2-52 Salt mist for ambient conditions C4 according to ISO 12944-2
Connection	Terminal box
Weight approx.	2 kg
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3
Approval	CE

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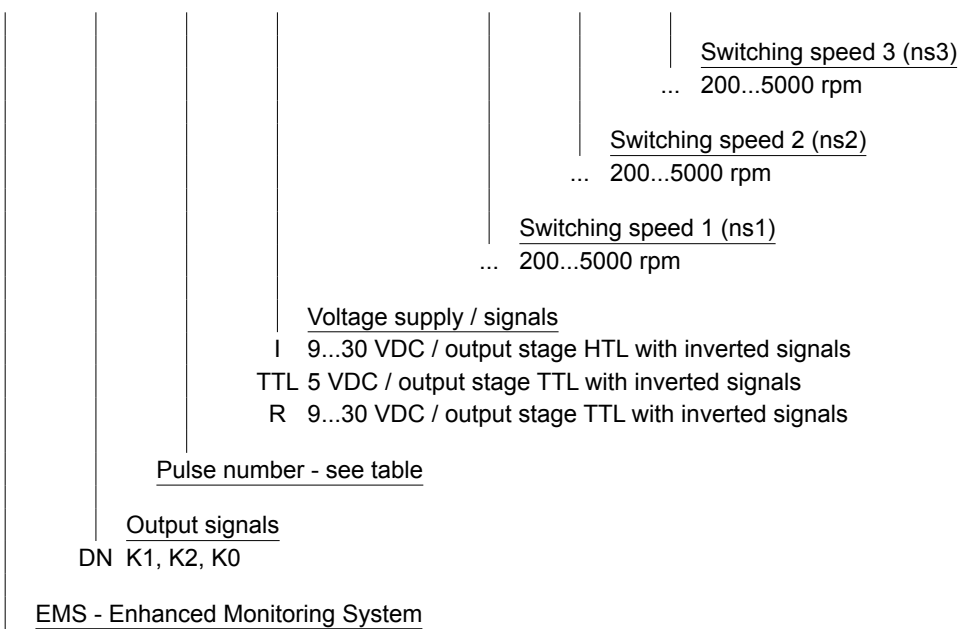
300...5000 pulses per revolution

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Part number

POG9

		DN				+ ESL93
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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

Subject to modification in technic and design. Errors and omissions excepted.

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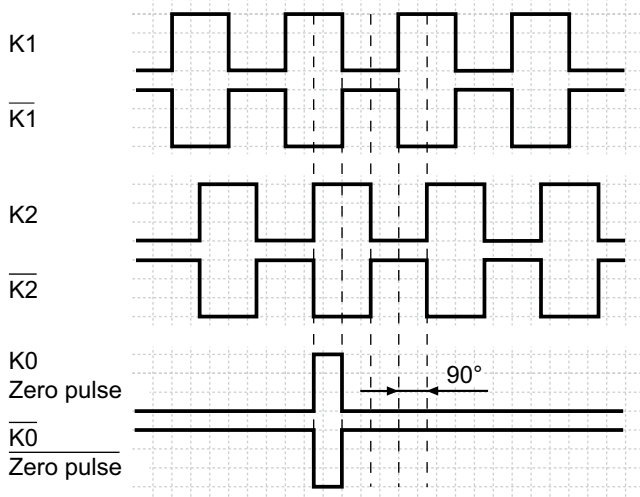
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Output signals

At positive rotating direction



Option EMS: LED status / Error output

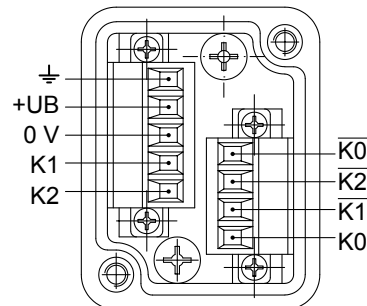
Flash light red*	Error of signal sequence, zero pulse or pulses (Error output = HIGH-LOW alternation)
Red	Overload output driver (Error output = LOW)
Flash light green	Device o.k., rotating (Error output = HIGH)
Green	Device o.k., stopped (Error output = HIGH)
No light	No voltage supply connection or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

* Only at rotating device

Terminal assignment

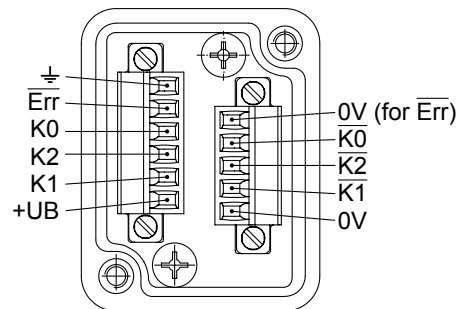
View A

Connecting terminal in terminal box POG 9



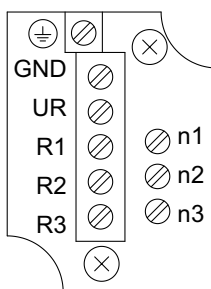
Option EMS: View A

Connecting terminal in terminal box POG 9.2



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

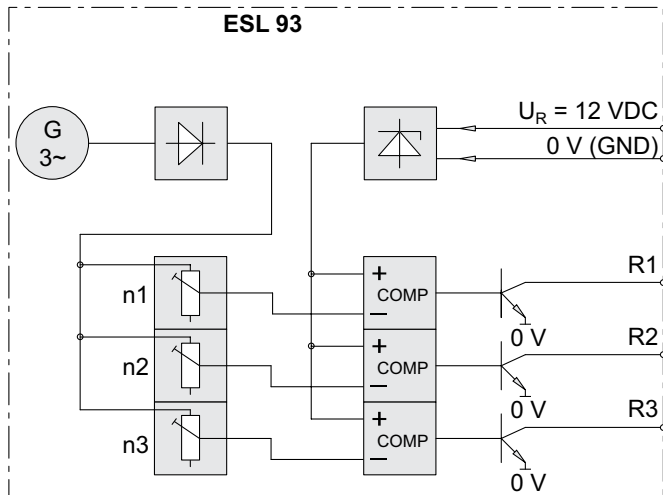
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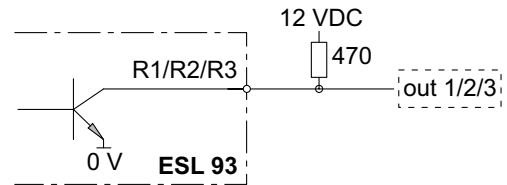
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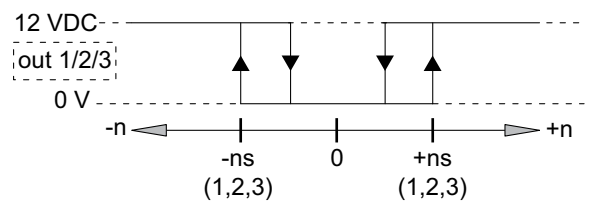
Block circuit diagram



Recommended output circuit



Switching characteristics



n = speed

n_s = adjusted switching speed

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Dimensions

