

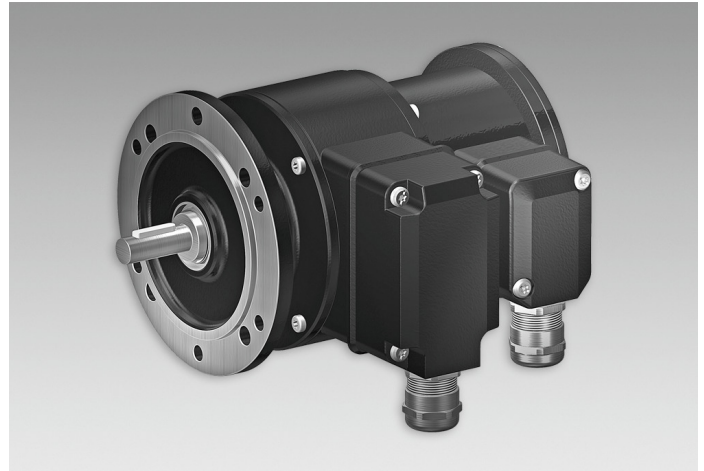
POG 90 + ESL 93

Encoder with integrated electronic speed switch

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

Overview

- Max. 10000 pulses per revolution
- 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°



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	1024 ... 10000
Phase shift	90° \pm 8°
Duty cycle	44...56 %
Reference signal	Zero pulse, width 90°
Output frequency	\leq 250 kHz
Output signals	K1, K2, K0 + inverted
Output stages	HTL TTL/RS422
Sensing method	Optical

Technical data - electrical ratings (speed switch)

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

Technical data - electrical ratings (speed switch)

Switching delay time	\leq 40 ms
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Technical data - mechanical design

Size (flange)	\varnothing 115 mm
Shaft type	\varnothing 11 mm solid shaft
Admitted shaft load	\leq 250 N axial \leq 350 N radial
Flange	EURO flange B10
Protection EN 60529	IP 66
Operating speed	\leq 5000 rpm
Range of switching speed (ns)	200...5000 rpm
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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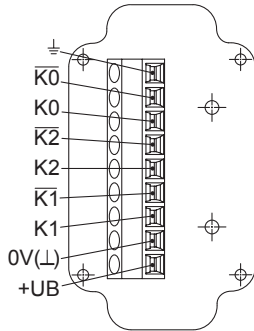
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Terminal assignment

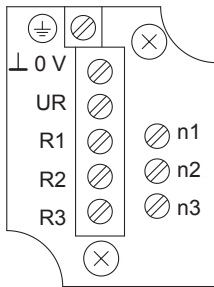
View A (see dimension)

Connecting terminal terminal box encoder



View B (see dimension)

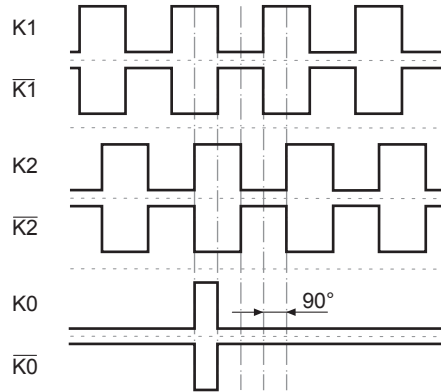
Connecting terminal speed switch ESL 93



Output signals

HTL/TTL

At positive rotating direction (see dimension)



Terminal significance

Encoder incremental

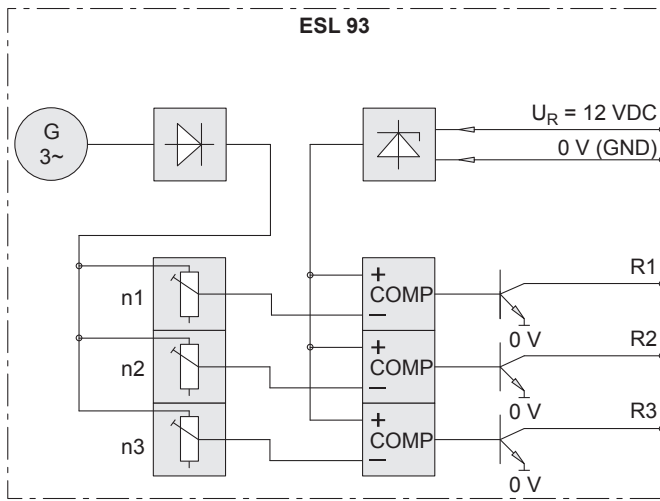
+UB	Voltage supply
0V (\perp)	Ground
\perp	Earth ground (housing)
K1	Output signal channel 1
$\overline{K1}$	Output signal channel 1 inverted
K2	Output signal channel 2 (offset by 90° to channel 1)
$\overline{K2}$	Output signal channel 2 inverted
K0	Zero pulse (reference signal)
$\overline{K0}$	Zero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

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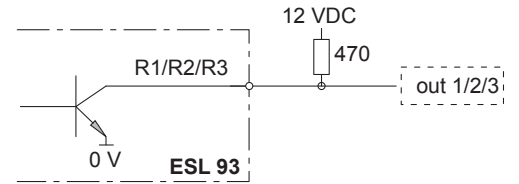
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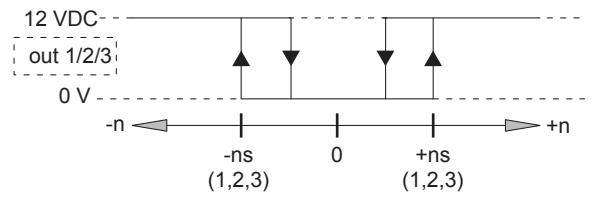
Block circuit diagram



Recommended output circuit



Switching characteristics



n = speed
ns = adjusted switching speed

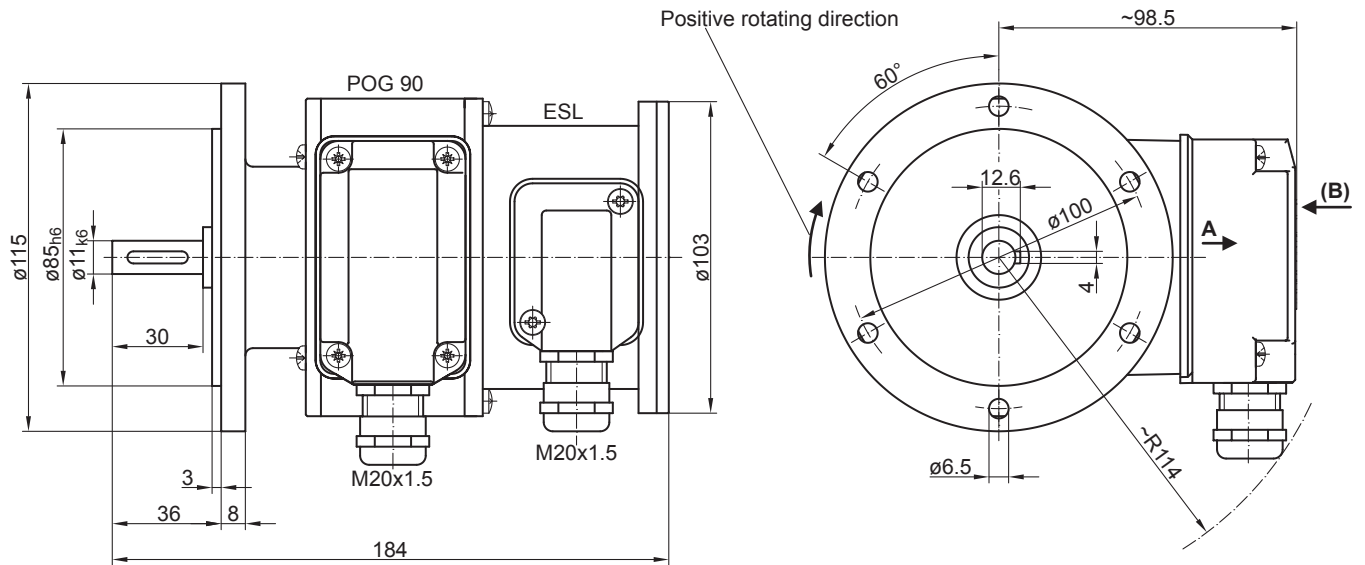
Speed switch ESL 93

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Dimensions



POG 90 + ESL 93

Encoder with integrated electronic speed switch

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Ordering reference

	POG90	DN	####	###	+ ESL93
Product								
Incremental encoder + Speed 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								
Electronic speed switch, 3 outputs, speed control					+ ESL93			
Switching speed 1 (ns1)								
200...5000 rpm ⁽²⁾							...	
Switching speed 2 (ns2)								
200...5000 rpm ⁽²⁾								...
Switching speed 3 (ns3)								
200...5000 rpm ⁽²⁾								...

(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 mm)
- Spring disk coupling K 50 (shaft \varnothing 11...16 mm)
- Spring disk coupling K 60 (shaft \varnothing 11...22 mm)

Relay moduls

- 11054943 Relay modul ES 93 R