

# Combination

Encoder with integrated electronic speed switch

Solid shaft with EURO flange B10

1024...10000 pulses per revolution

POG 90 + ESL



POG 90 + ESL

## Features

- 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 - electrical ratings

Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3

## 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°
Scan ratio	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 switches)

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

## POG 90 + ESL 90

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

## POG 90 + ESL 93

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

## 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 DIN EN 60529	IP 66
Operating torque typ.	3 Ncm
Rotor moment of inertia	320 gcm <sup>2</sup>
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 50 g, 11 ms
Corrosion protection	IEC 60068-2-52 Salt mist Complies to ISO 12944-5:1998 Protective paint systems (C4)
Connection	2x terminal box
Weight approx.	2.6 kg
Approval	CE

## POG 90 + ESL 90

Operating speed	$\leq$ 6000 rpm
Range of switching speed (ns)	650...6000 rpm

## POG 90 + ESL 93

Operating speed	$\leq$ 5000 rpm
Range of switching speed (ns)	200...5000 rpm

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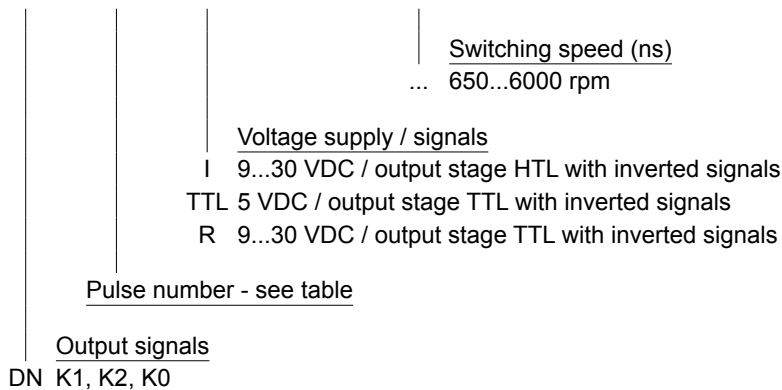
1024...10000 pulses per revolution

POG 90 + ESL

## Part number

Encoder with speed switch ESL 90

POG90 DN     + ESL90 ...



## Pulse number

1024	2048	3072	4096	10000
2000	2500	3600	5000	

Other pulse numbers on request.

\* Please specify the exact switching speed in addition to the part number (factory setted threshold).

## Accessories

### Connectors and cables

HEK 8 Sensor cable for encoders

### Mounting accessories

K 35 Spring washer coupling for solid shaft  $\varnothing 6...12$  mm

K 50 Spring washer coupling for solid shaft  $\varnothing 11...16$  mm

K 60 Spring washer coupling for solid shaft  $\varnothing 11...22$  mm

### Diagnostic accessories

HENQ 1100 Analyzer for encoders

### Relay module for POG 90 + ESL 93

ES 93 R Relay modul

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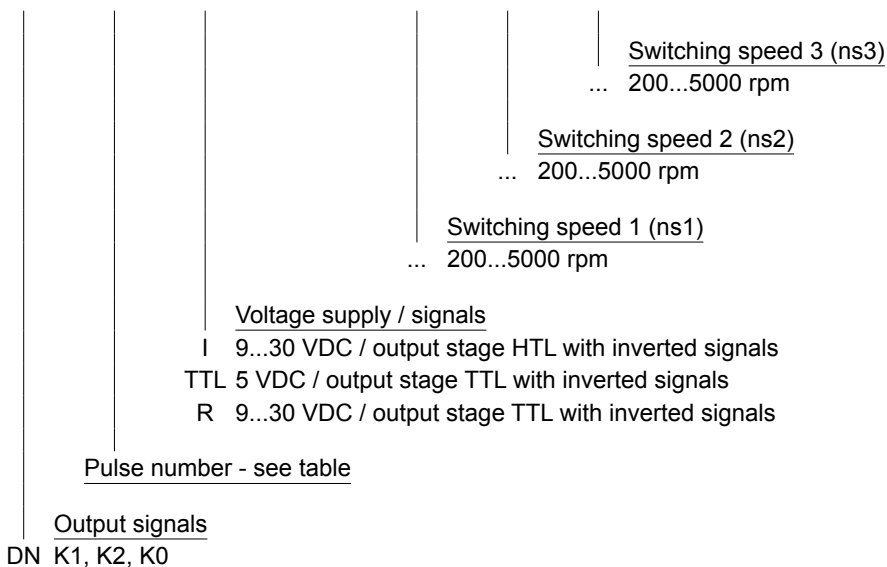
## POG 90 + ESL

### Part number

Encoder with speed switch ESL 93

POG90 

DN					+ ESL93	...	...	...
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### Pulse number

1024	2048	3072	4096	10000
2000	2500	3600	5000	

Other pulse numbers on request.  
Please indicate the exact switching rotation speeds  
(permanent parameter defined at works).

# Combination

Encoder with integrated electronic speed switch

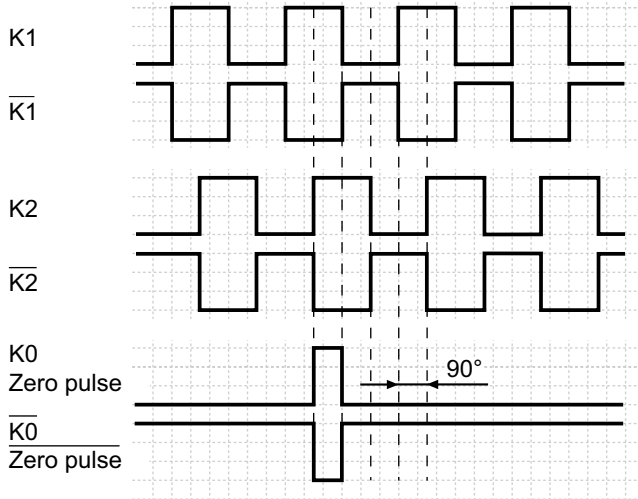
Solid shaft with EURO flange B10

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## Output signals

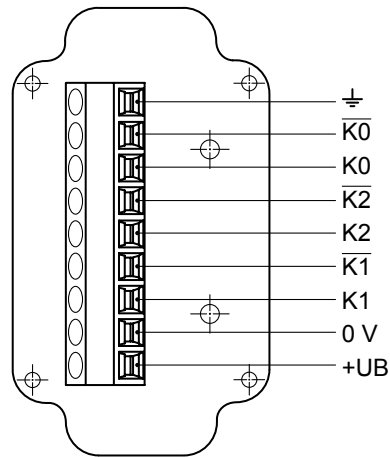
At positive rotating direction



## Terminal assignment

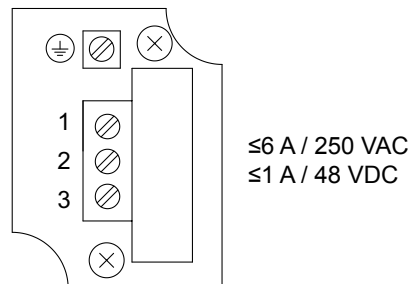
### View A

Connecting terminal in terminal box POG 90



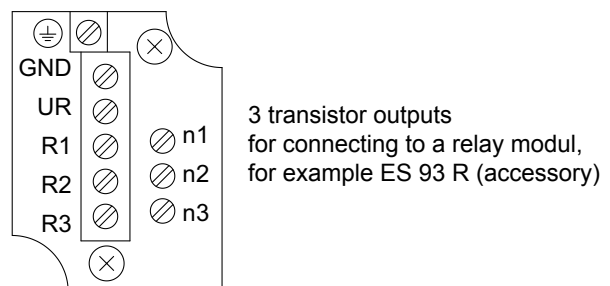
### View B

Connecting terminal electronic speed switch ESL 90



### View B

Connecting terminal electronic speed switch ESL 93



# Combination

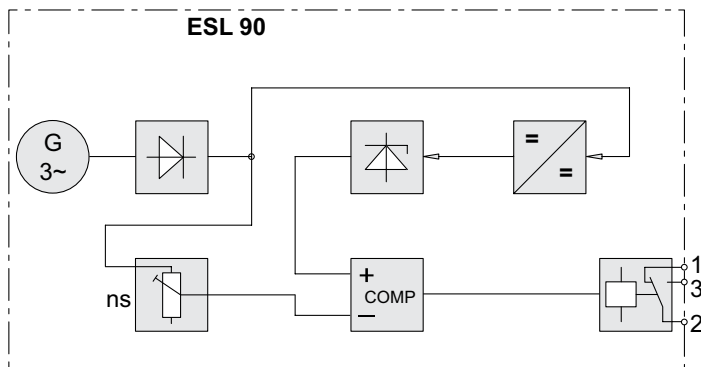
Encoder with integrated electronic speed switch

Solid shaft with EURO flange B10

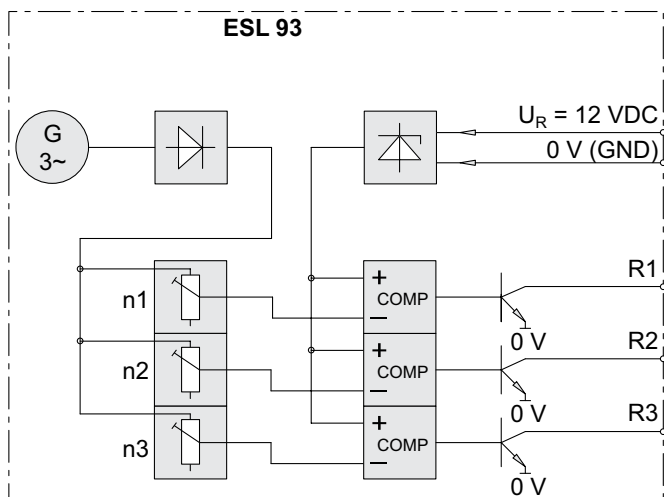
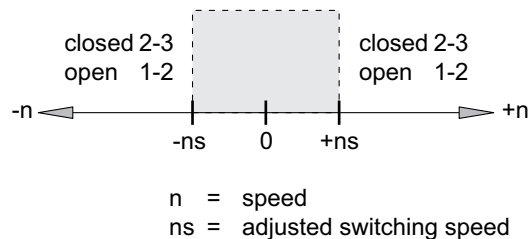
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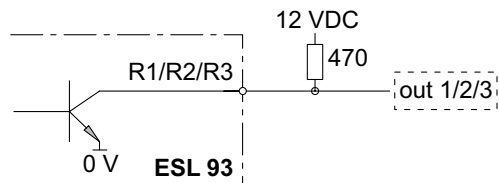
## Block circuit diagram



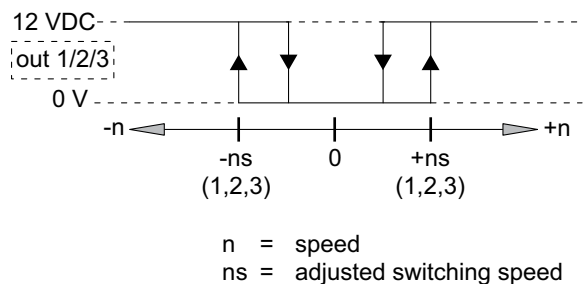
### Switching characteristics



### Recommended output circuit



### Switching characteristics



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## Dimensions

