

# Combination

Encoder with integrated electronic speed switch

Solid shaft with EURO flange B10

300...5000 pulses per revolution

POG 9 + ESL 90



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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 $\pm 5$ %
Consumption w/o load	$\leq 100$ mA
Pulses per revolution	300...5000
Phase shift	$90^\circ \pm 20^\circ$
Duty cycle	40...60 %
Reference signal	Zero pulse, width $90^\circ$
Output frequency	$\leq 120$ kHz $\leq 300$ 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)

Switching accuracy	$\pm 4$ % ( $\leq 1500$ rpm) $\pm 2$ % ( $> 1500$ rpm)
Switching hysteresis	$\approx 30$ % of switching speed
Switching outputs	1 output, speed control
Output switching capacity	$\leq 6$ A / 250 VAC; $\leq 1$ A / 48 VDC
Minimum switching current	100 mA
Switching delay time	$\leq 40$ ms

## 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 56
Speed (n)	$\leq 6000$ rpm
Range of switching speed (ns)	650...6000 rpm
Operating torque typ.	3 Ncm
Rotor moment of inertia	220 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 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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#### Part number

POG9 

		DN			+ ESL90	...
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Switching speed (ns)  
... 650...6000 rpm

Voltage supply / signals  
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

Pulse number - see table

Output signals  
DN K1, K2, K0

EMS - Enhanced Monitoring System

Without EMS

.2 With EMS

#### Pulse number

300	1000	2048	4096
500	1024	2500	5000
512	1200	3072	

Other pulse numbers on request.

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

#### Accessories

##### Connectors and cables

HEK 8	Sensor cable for encoders
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##### 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

11075858	Analyzer for encoders HENQ 1100
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Encoder with integrated electronic speed switch

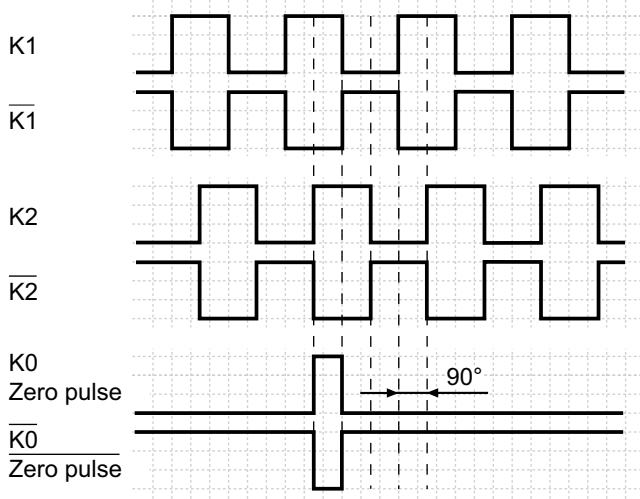
Solid shaft with EURO flange B10

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## Output signals

At positive rotating direction



## Option EMS: LED status / Error output

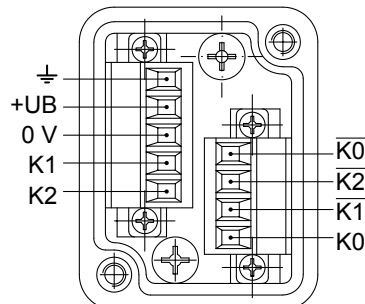
Flash light red*	Error of signal sequence, zero pulse or pulses (Error output = HIGH-LOW alternation)
Red	Overload output driver (Error output = LOW)
Flash light green	Device o.k., rotating (Error output = HIGH)
Green	Device o.k., stopped (Error output = HIGH)
No light	No voltage supply connection or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

\* Only at rotating device

## Terminal assignment

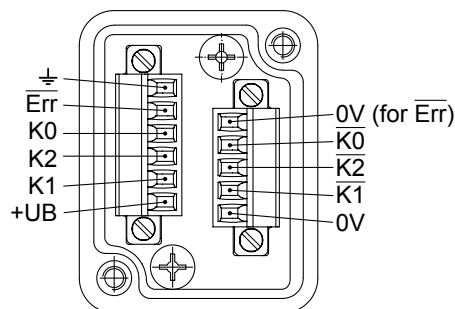
### View A

Connecting terminal in terminal box POG 9



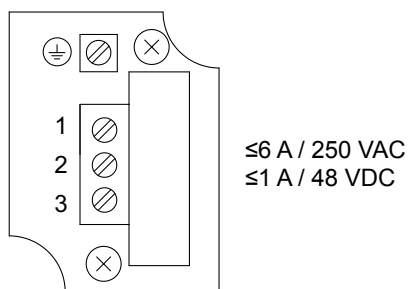
### Option EMS: View A

Connecting terminal in terminal box POG 9.2



### View B

Connecting terminal electronic speed switch ESL 90



# Combination

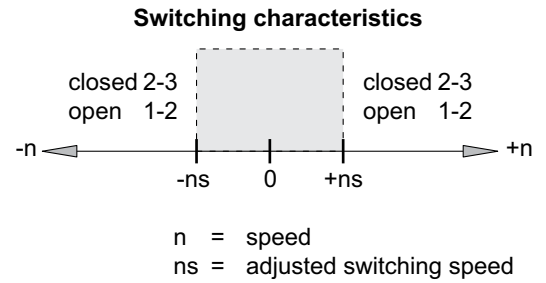
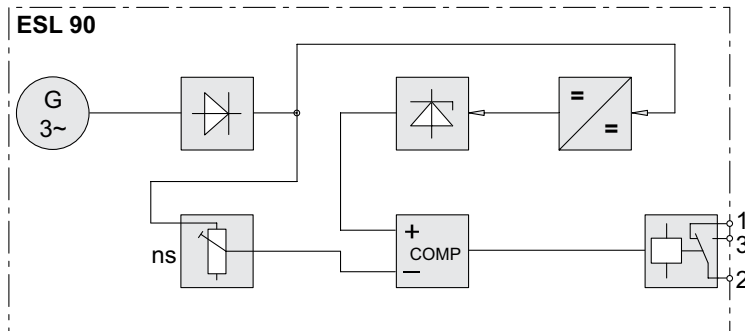
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## Block circuit diagram



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## Dimensions

