

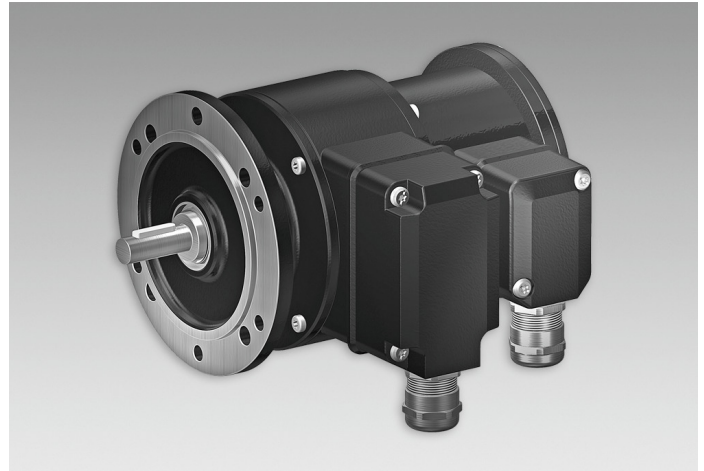
## POG 90 + ESL 90

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 one selectable threshold speed
- 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<br>TTL/RS422            |
| Sensing method        | Optical                     |

#### Technical data - electrical ratings (speed switch)

|                           |   |
|---------------------------|---|
| Switching accuracy        | $\pm$ 4 % ( $\leq$ 1500 rpm)<br>$\pm$ 2 % ( $>$ 1500 rpm)               |
| Switching hysteresis      | = 30 % of switching speed   |
| Switching outputs         | 1 output, speed control   |
| Output switching capacity | $\leq$ 6 A / 250 VAC; $\leq$ 1 A / 48 VDC<br>(EAC: $<$ 50 VAC / 75 VDC) |
| Minimum switching current | 100 mA  |

#### Technical data - electrical ratings (speed switch)

|                      |              |
|----------------------|--------------|
| 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<br>$\leq$ 350 N radial   |
| Flange                        | EURO flange B10   |
| Protection EN 60529           | IP 66   |
| Operating speed               | $\leq$ 6000 rpm   |
| Range of switching speed (ns) | 650...6000 rpm  |
| Operating torque typ.         | 3 Ncm   |
| Rotor moment of inertia       | 320 gcm <sup>2</sup>  |
| Material                      | Housing: aluminium die-cast<br>Shaft: stainless steel                             |
| Operating temperature         | -20...+85 °C  |
| Resistance                    | IEC 60068-2-6<br>Vibration 5 g, 10-2000 Hz<br>IEC 60068-2-27<br>Shock 50 g, 11 ms |
| Corrosion protection          | IEC 60068-2-52 Salt mist<br>for ambient conditions C4 according to<br>ISO 12944-2 |
| Connection                    | 2x terminal box   |
| Weight approx.                | 2.6 kg  |

# POG 90 + ESL 90

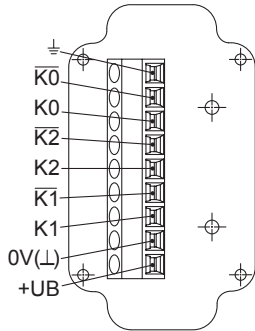
Encoder with integrated electronic speed switch

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

## Terminal assignment

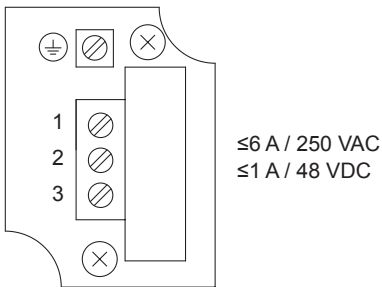
### View A (see dimension)

Connecting terminal terminal box encoder



### View B (see dimension)

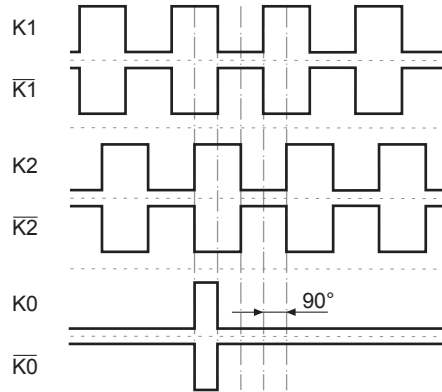
Connecting terminal speed switch ESL 90



## Output signals

### HTL/TTL

At positive rotating direction (see dimension)

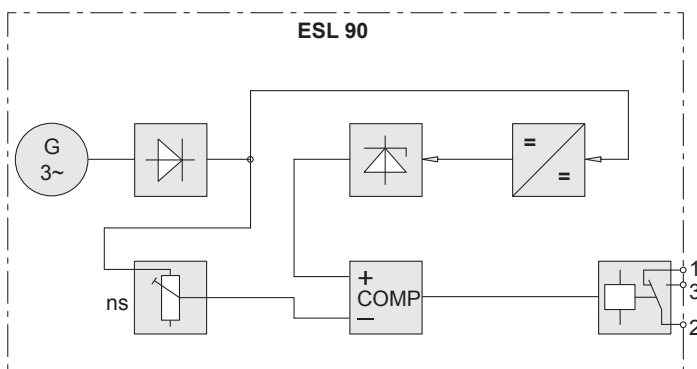


## Terminal significance

### Encoder incremental

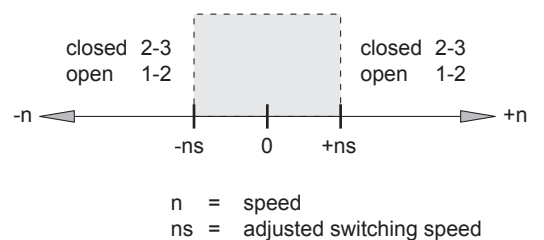
|            |  |
|------------|--|
| +UB        | Voltage supply                                       |
| 0V (⊥)     | Ground   |
| ⊥          | Earth ground (housing)                               |
| K1         | Output signal channel 1                              |
| $\bar{K}1$ | Output signal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

## Block circuit diagram



Speed switch ESL 90

## Switching characteristics

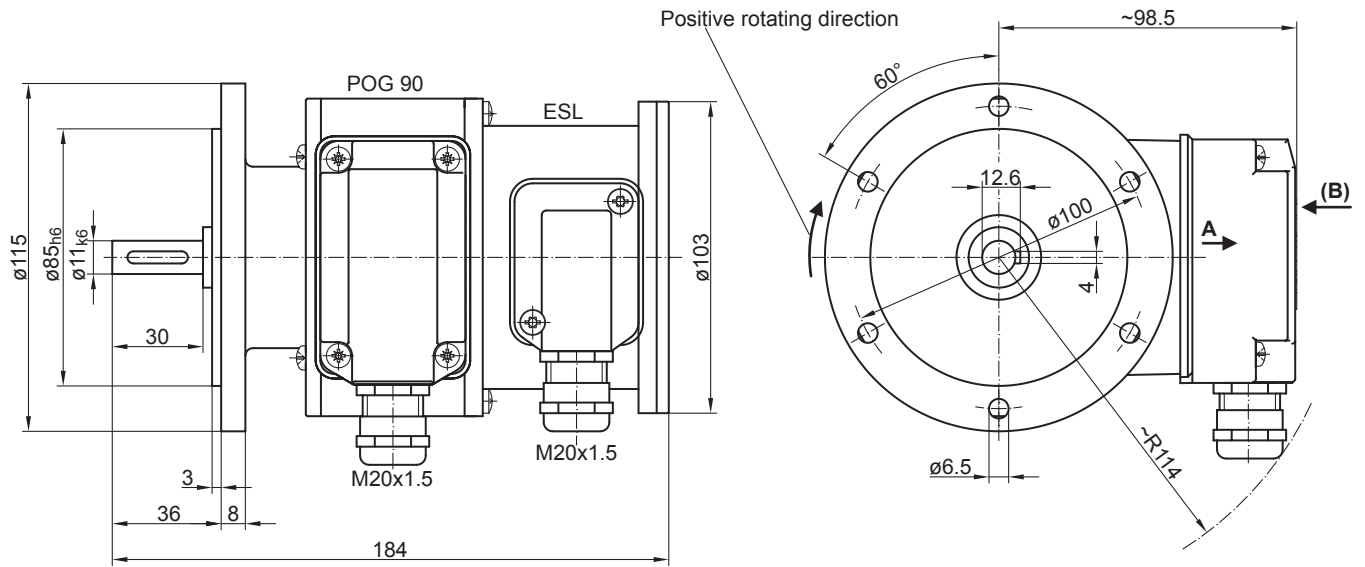


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## Dimensions



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## Ordering reference

|   | POG90 | DN | ####  | ### | +ESL90 | ...    |
|---|-------|----|-------|-----|--------|--------|
| <b>Product</b>                                      |       |    |       |     |        |        |
| Incremental encoder + Speed switch                  | POG90 |    |       |     |        |        |
| <b>Output signals</b>                               |       |    |       |     |        |        |
| K1, K2, K0  |       | DN |       |     |        |        |
| <b>Pulse number<sup>(1)</sup></b>                   |       |    |       |     |        |        |
| 1024  |       |    | 1024  |     |        |        |
| 2000  |       |    | 2000  |     |        |        |
| 2048  |       |    | 2048  |     |        |        |
| 2500  |       |    | 2500  |     |        |        |
| 3072  |       |    | 3072  |     |        |        |
| 3600  |       |    | 3600  |     |        |        |
| 4096  |       |    | 4096  |     |        |        |
| 5000  |       |    | 5000  |     |        |        |
| 10000   |       |    | 10000 |     |        |        |
| <b>Voltage supply / output stage</b>                |       |    |       |     |        |        |
| 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      |        |
| <b>Version speed switch</b>                         |       |    |       |     |        |        |
| Electronic speed switch, 1 output, speed control    |       |    |       |     |        | +ESL90 |
| <b>Switching speed (ns)</b>                         |       |    |       |     |        |        |
| 650...6000 rpm <sup>(2)</sup>                       |       |    |       |     |        |        |

(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)

### Connectors and cables

- Sensor cable for encoders HEK 8

### Diagnostic accessories

- 11075858 Analyzer for encoders HENQ 1100
- 11075880 Analyzer for encoders HENQ 1100 B