

Combination

Encoder with integrated centrifugal switch

Solid shaft with EURO flange B10

300...5000 pulses per revolution

POG 9 + FSL



POG 9 + FSL

Features

- TTL output driver for cable length up to 500 m
- Mechanical speed monitoring based on centrifugal force
- 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

| | |
|-----------------------|--------------|
| 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 ± 5 % |
| Consumption w/o load | ≤ 100 mA |
| Pulses per revolution | 300...5000 |
| Phase shift | $90^\circ \pm 20^\circ$ |
| Scan ratio | 40...60 % |
| Reference signal | Zero pulse, width 90° |
| Output frequency | ≤ 120 kHz ≤ 300 kHz (on request) |
| Output signals | K1, K2, K0 + inverted Error output (only EMS) |
| Output stages | HTL-P (power linedriver) TTL/RS422 |
| Sensing method | Optical |

Technical data - electrical ratings (centrifugal switch)

| | |
|---------------------------|--|
| Switching accuracy | ± 4 % ($\Delta n = 2$ rpm/s); = $+20$ % ($\Delta n = 1500$ rpm/s) |
| Switching deviation | ≤ 3 % (cw-ccw rotation) |
| Switching hysteresis | ~ 40 % of switching speed |
| Switching outputs | 1 output, speed control |
| Output switching capacity | ≤ 6 A / 230 VAC ≤ 1 A / 125 VDC |
| Minimum switching current | 50 mA |

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) | $\leq 1.25 \cdot ns$ |
| Range of switching speed (ns) | 850...4500 rpm ($\Delta n = 2$ rpm/s) |
| Operating torque typ. | 3 Ncm |
| Rotor moment of inertia | 220 gcm ² |
| Materials | Housing: aluminium die-cast Shaft: stainless steel |
| Operating temperature | -30...+100 °C -25...+100 °C (>3072 pulses per revolution) |
| 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 Complies to ISO 12944-5:1998 Protective paint systems (C4) |
| Connection | 2x terminal box |
| Weight approx. | 1.9 kg |

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Part number

Incremental encoder with centrifugal force switch FSL

POG9 **DN** **+ FSL**

| | Switching speed (ns) |
|---|--|
| 6 | 850...949 rpm ($\Delta n = 2$ rpm/s)* |
| 5 | 950...1099 rpm ($\Delta n = 2$ rpm/s)* |
| 4 | 1100...1299 rpm ($\Delta n = 2$ rpm/s)* |
| 3 | 1300...1799 rpm ($\Delta n = 2$ rpm/s)* |
| 2 | 1800...2499 rpm ($\Delta n = 2$ rpm/s)* |
| 1 | 2500...4500 rpm ($\Delta n = 2$ rpm/s)* |

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 setted threshold).

Combination

Encoder with integrated centrifugal switch

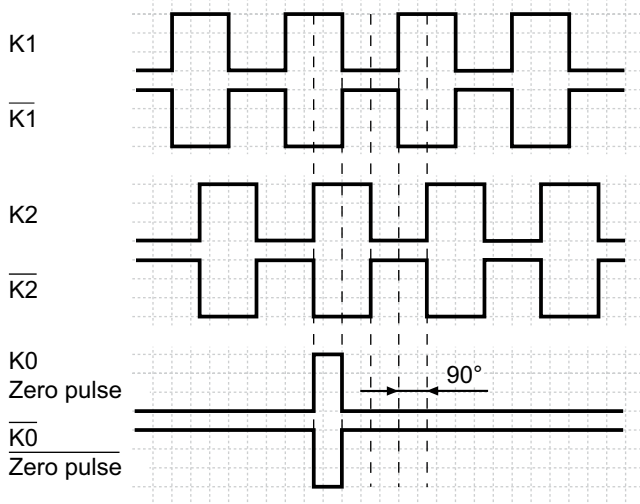
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Output signals

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 | Encoder o.k., rotating (Error output = HIGH) |
| Green | Encoder o.k., stopped (Error output = HIGH) |
| No light | No output voltage connection or wrong connection (Error output = LOW) |

* Only at rotating encoder

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 |

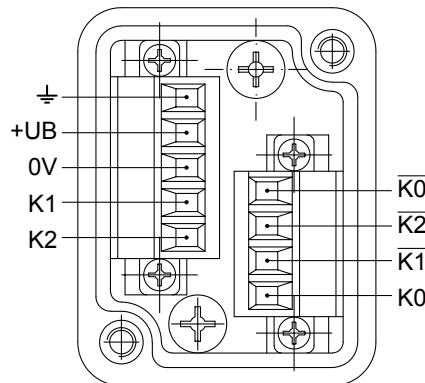
Diagnostic accessories

HENQ 1100 Analyzer for encoders

Terminal assignment

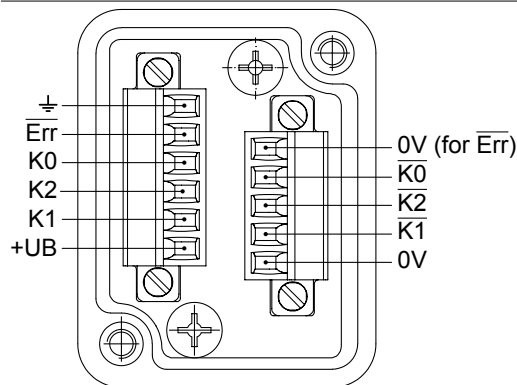
View A

Connecting terminal in terminal box POG 9



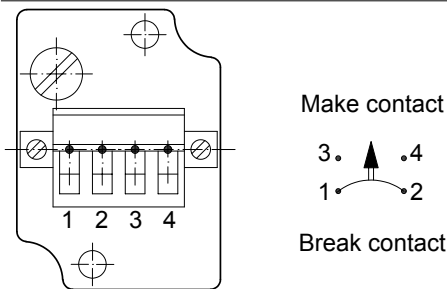
Option EMS: View A

Connecting terminal in terminal box POG 9.2



View B

Connecting terminal mechanical centrifugal switch FSL



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Dimensions

