

Combination

Encoder with integrated centrifugal switch

Solid shaft with EURO flange B10

500...5000 pulses per revolution

POG 86 + FSL



POG 86 + FSL

Features

- Mechanical speed monitoring based on centrifugal force
- Robust, compact housing
- Two bearings with large distance, one at each end
- High shaft load up to 350 N
- TTL output driver for cable length up to 550 m
- 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 $\pm 5\%$
Consumption w/o load	≤ 100 mA
Pulses per revolution	500...5000
Phase shift	$90^\circ \pm 20^\circ$
Duty cycle	45...55 % (40...60 % >3072 pulses per revolution)
Reference signal	Zero pulse, width 90°
Output frequency	≤ 120 kHz ≤ 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 (centrifugal switch)

Switching accuracy	$\pm 4\%$ ($\Delta n = 2$ rpm/s); = $+20\%$ ($\Delta n = 1500$ rpm/s)
Switching deviation	$\leq 3\%$ (cw-ccw rotation)
Switching hysteresis	$\sim 40\%$ 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, coated 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 for ambient conditions C4 according to ISO 12944-2
Connection	2x terminal box
Weight approx.	1.9 kg

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Part number

POG86

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							<p><u>Switching speed (ns)</u></p> <p>6 850...949 rpm ($\Delta n = 2$ rpm/s)*</p> <p>5 950...1099 rpm ($\Delta n = 2$ rpm/s)*</p> <p>4 1100...1299 rpm ($\Delta n = 2$ rpm/s)*</p> <p>3 1300...1799 rpm ($\Delta n = 2$ rpm/s)*</p> <p>2 1800...2499 rpm ($\Delta n = 2$ rpm/s)*</p> <p>1 2500...4500 rpm ($\Delta n = 2$ rpm/s)*</p> <p><u>Voltage supply / signals</u></p> <p>I 9...30 VDC / output stage HTL with inverted signals</p> <p>T 5 VDC / output stage TTL with inverted signals</p> <p>R 9...30 VDC / output stage TTL with inverted signals</p> <p><u>Pulse number - see table</u></p> <p><u>Output signals</u></p> <p>DN K1, K2, K0</p> <p><u>Shaft diameter</u></p> <p>1 ø11 mm solid shaft</p> <p><u>Insulation</u></p> <p>N Without</p> <p><u>Connection</u></p> <p>T 2x terminal boxes, radial</p> <p><u>EMS - Enhanced Monitoring System</u></p> <p>Without EMS</p> <p>.2 With EMS</p>

Pulse number

500	1000	1250	2500	4096
512	1024	2048	3072	5000

Other pulse numbers on request.
 * Please specify the exact switching speed in addition to the part number (factory setting).

25/1/2019 Subject to modification in technic and design. Errors and omissions excepted.

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Encoder with integrated centrifugal switch

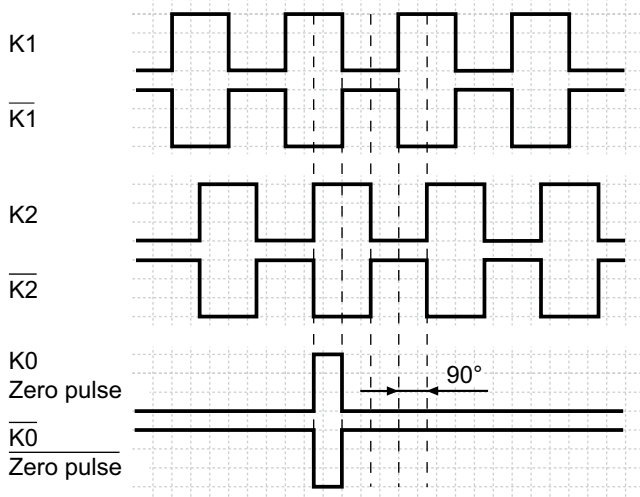
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Output signals

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	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

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

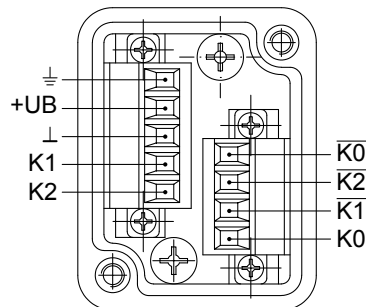
Diagnostic accessories

11075858 Analyzer for encoders HENQ 1100

Terminal assignment

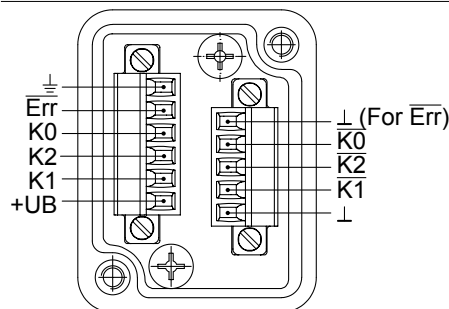
View A

Connecting terminal in terminal box POG 86



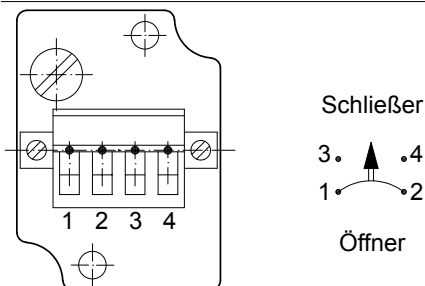
Option EMS: View A

Connecting terminal in terminal box POG 86.2



View B

Connecting terminal mechanical centrifugal switch FSL



Terminal significance POG 86

+UB	Voltage supply (for the encoder)
⊥; ⚡; GND; 0 V	Ground (for the signals)
⊥; ⚡	Earth ground (chassis)
K1; A; A+	Output signal channel 1
K1-bar; A-bar; A-	Output signal channel 1 inverted
K2; B; B+	Output signal channel 2 (offset by 90° to channel 1)
K2-bar; B-bar; B-	Output signal channel 2 (offset by 90° to channel 1) inverted
K0; C; R; R+	Zero pulse (reference signal)
K0-bar; C-bar; R-bar; R-	Zero pulse (reference signal) inverted

