

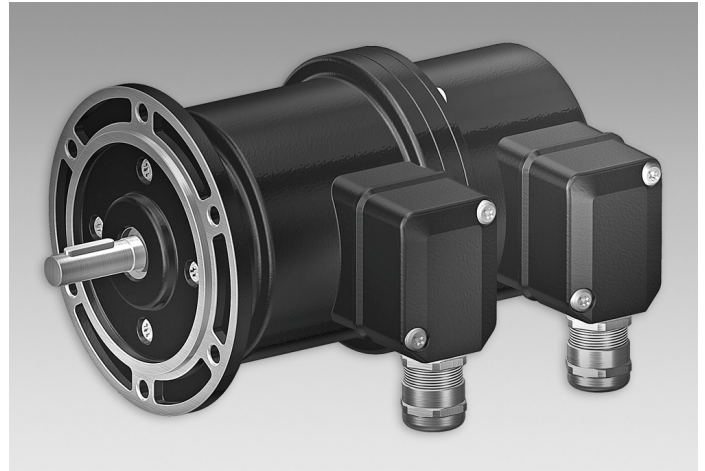
## POG 86 + FSL

Encoder with integrated centrifugal switch

Solid shaft with EURO flange B10 / 500...5000 pulses per revolution

### Overview

- 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°



### 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	500 ... 5000
Phase shift	$90^\circ \pm 20^\circ$
Duty cycle	45...55 % 40...60 % ( $> 3072$ pulses)
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 (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	40 % of switching speed
Switching outputs	1 output, speed control
Output switching capacity	$\leq 6$ A / 230 VAC $\leq 1$ A / 125 VDC (EAC: $< 50$ VAC / 75 VDC)

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

Minimum switching current	50 mA
---------------------------	-------

#### 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 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 <sup>2</sup>
Material	Housing: aluminium, coated Shaft: stainless steel
Operating temperature	-40...+100 °C -25...+100 °C ( $> 3072$ pulses)
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

### Optional

- Function control with EMS (Enhanced Monitoring System)

## POG 86 + FSL

Encoder with integrated centrifugal switch

Solid shaft with EURO flange B10 / 500...5000 pulses per revolution

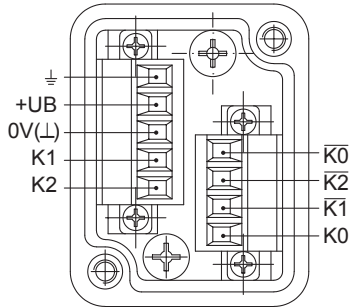
### General information

The constructive design of the centrifugal switch is its use as a switch with positive break function. It must not be used as a continuous switch (switching cycles greater than 500 during service life).

### Terminal assignment

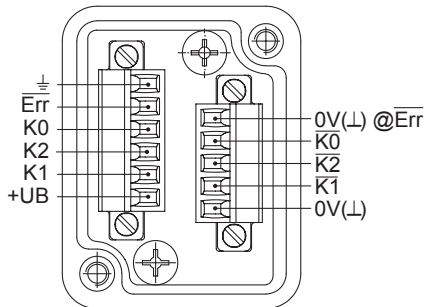
#### View A (see dimension)

Connecting terminal terminal box encoder



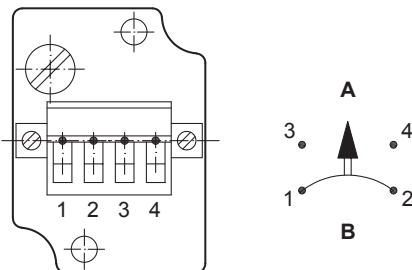
#### Option EMS: View A (see dimension)

Connecting terminal terminal box encoder



#### View B (see dimension)

Connecting terminal centrifugal switch



A = make contact, B = break contact

### Terminal significance

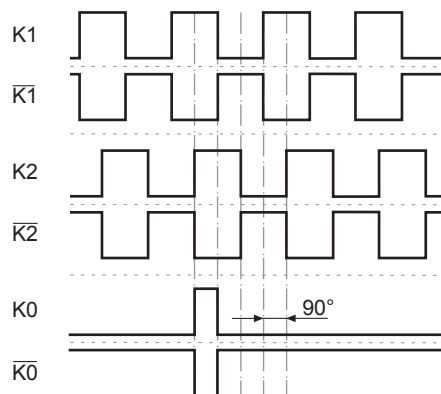
#### Encoder incremental

+UB	Voltage supply
0V (⏏)	Ground
⏏	Earth ground (housing)
K1	Output signal channel 1
K1	Output signal channel 1 inverted
K2	Output signal channel 2 (offset by 90° to channel 1)
K2	Output signal channel 2 inverted
K0	Zero pulse (reference signal)
K0	Zero pulse inverted
Err	Error output (option EMS)

### Output signals

#### HTL/TTL

At positive rotating direction (see dimension)



### Option EMS: Status LED / error output

Flash light red*	Error of signal sequence, zero pulse or pulses (Error output = HIGH-LOW alternation)
Red	Overload output transistors (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)

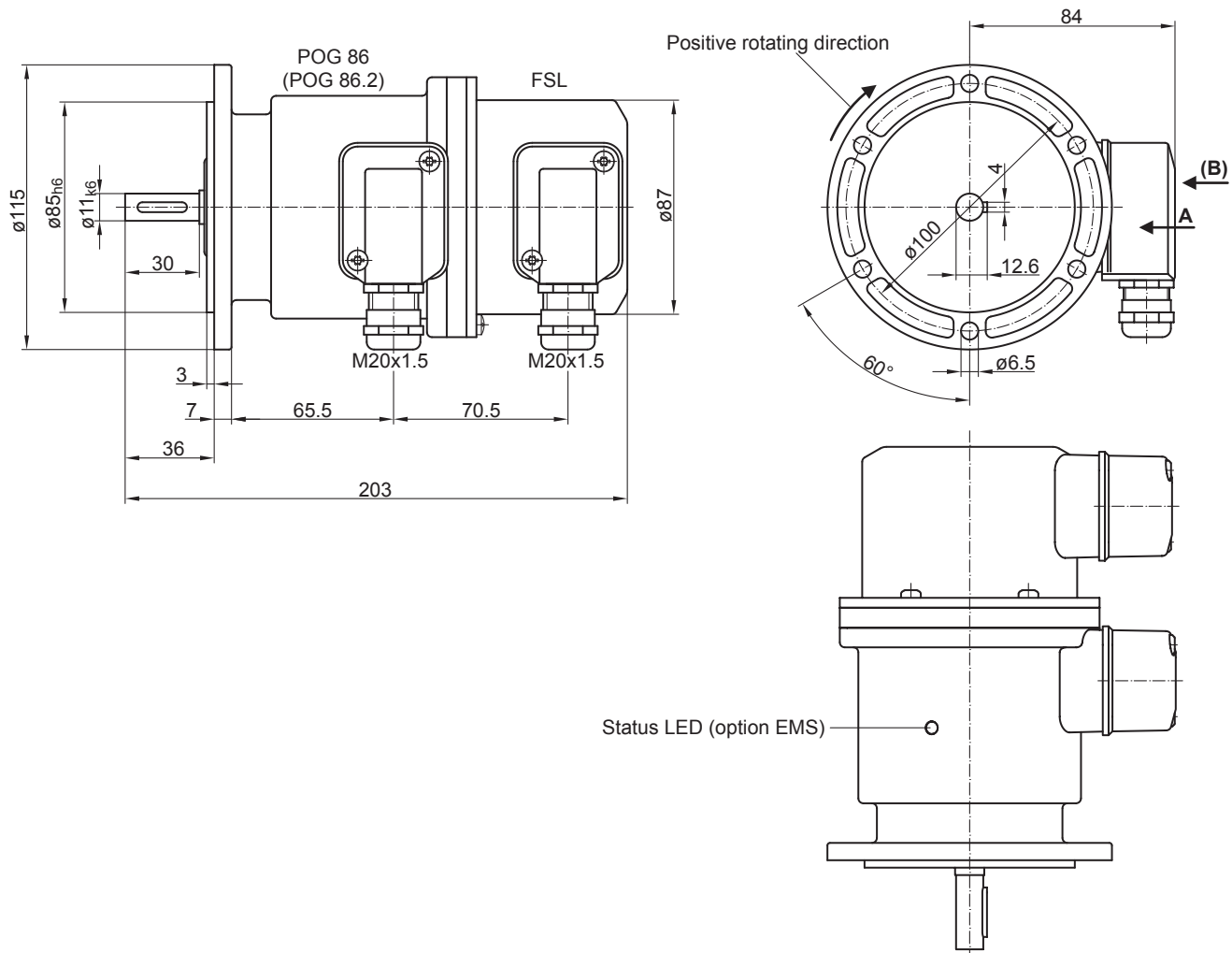
\* Only at rotating device

## POG 86 + FSL

Encoder with integrated centrifugal switch

Solid shaft with EURO flange B10 / 500...5000 pulses per revolution

## Dimensions



## POG 86 + FSL

Encoder with integrated centrifugal switch

Solid shaft with EURO flange B10 / 500...5000 pulses per revolution

### Ordering reference

	POG86	##	T	N	1	DN	####	###	+ FSL	#####
<b>Product</b>										
Incremental encoder + Centrifugal switch	POG86									
<b>EMS - Enhanced Monitoring System</b>										
Without EMS										
With EMS		.2								
<b>Connection</b>										
1x terminal box, radial			T							
<b>Insulation</b>										
Without				N						
<b>Shaft diameter</b>										
ø11 mm solid shaft					1					
<b>Output signals</b>										
K1, K2, K0						DN				
<b>Pulse number<sup>(1)</sup></b>										
500							500			
512							512			
1000							1000			
1024							1024			
1250							1250			
2048							2048			
2500							2500			
3072							3072			
4096							4096			
5000							5000			
<b>Voltage supply / output stage</b>										
9...30 VDC / output stage HTL with inverted signals								I		
5 VDC ±5 % / TTL								T		
9...30 VDC / output stage TTL with inverted signals								R		
<b>Version speed switch</b>										
Mechanical centrifugal switch									+ FSL	
<b>Switching speed (ns)</b>										
850...949 rpm ( $\Delta n = 2$ rpm/s) <sup>(2)</sup>										6 ...
950...1099 rpm ( $\Delta n = 2$ rpm/s) <sup>(2)</sup>										5 ...
1100...1299 rpm ( $\Delta n = 2$ rpm/s) <sup>(2)</sup>										4 ...
1300...1799 rpm ( $\Delta n = 2$ rpm/s) <sup>(2)</sup>										3 ...
1800...2499 rpm ( $\Delta n = 2$ rpm/s) <sup>(2)</sup>										2 ...
2500...4500 rpm ( $\Delta n = 2$ rpm/s) <sup>(2)</sup>										1 ...

(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 ø6...12 mm)

Spring disk coupling K 50 (shaft ø11...16 mm)

Spring disk coupling K 60 (shaft ø11...22 mm)

#### Connectors and cables

Sensor cable for encoders HEK 8

## POG 86 + FSL

Encoder with integrated centrifugal switch

Solid shaft with EURO flange B10 / 500...5000 pulses per revolution

### Accessories

#### Diagnostic accessories

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