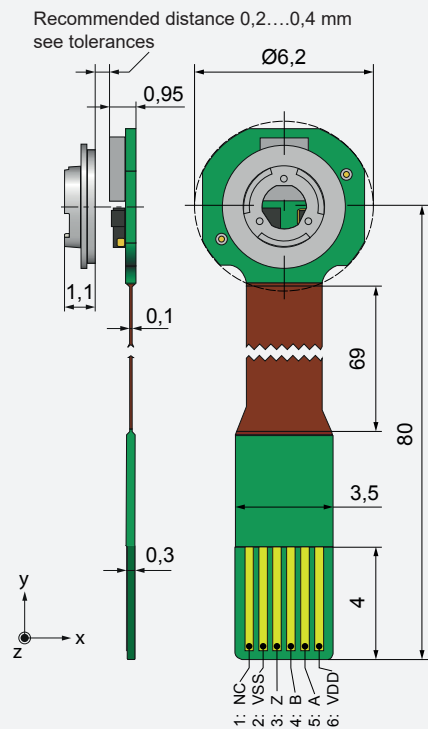


Features

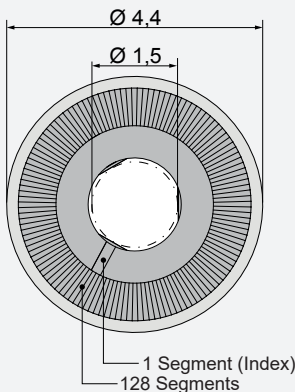
- Optical miniature encoder system
- Singleturn, incremental
- 3 channels: 2 pulse tracks, 1 index pulse
- Unique code wheel with high-precision optics
- Starrflex PCB
- Very small installation space
- Low power consumption
- Easy assembly
- Low sensitivity to installation tolerances
- Inverse-polarity protection
- Short-circuit proof

Dimensions and Pin Configuration Sensor



Flexprint connection 6-pole pitch 0,5 mm
Recommended Flexprint-connector 6-pol. ZIF/LIF pitch 0,5 mm / thickness 0,3 mm

Dimensions Code Wheel



Electrical Specifications (after calibration)

Supply voltage (DC)	3,5 V...6 V
Supply current	2 mA...6 mA
Output drive current (at 4,5 V)	typ. 5 mA
Rotational speed (higher rotational speed on request)	100 000 rpm
Pulse count/revolution	
Channel A/B	128
Channel Z (index)	1
Duty cycle for A and B	50 % \pm 5 %
Phase shift between A to B (Φ) (see table for tolerances)	typ. 90 °e \pm 5 °e
Pulse width index (Z)	90 °e \pm 10 °e
Signal rise time	100 ns
Signal fall time	100 ns
(R=1 k Ω , C=0,47 pF)	
Interface	CMOS/TTL

Tolerances

Distance code wheel / sensor in mm	Permissible position tolerance code wheel / sensor in mm		Phase shift A to B in °e
	X-Orientation	Y-Orientation	
0,20 - 0,40	$\pm 0,10$	$\pm 0,05$	90 \pm 5
0,20 - 0,40	$\pm 0,15$	$\pm 0,10$	90 \pm 10
0,20 - 0,40	$\pm 0,20$	$\pm 0,15$	90 \pm 25
0,41 - 0,70	$\pm 0,15$	$\pm 0,05$	90 \pm 5
0,41 - 0,70	$\pm 0,15$	$\pm 0,10$	90 \pm 10
0,71 - 1,00	$\pm 0,15$	$\pm 0,05$	90 \pm 5

Environmental Specifications

Operational temperature	-20 °C to 85 °C
Storage temperature	-20 °C to 85 °C
Relative humidity (without condensation)	85 %

Tests, Regulations

Burst (IEC 61000-4-4)	± 1 kV
ESD (IEC 61000-4-2)	± 4 kV / ± 8 kV
Shock stability	half sine wave, IEC 60068-2-27)
	30g, 6 ms
Vibration resistance (IEC 60068-2-6)	5 Hz - 120 Hz Amp. 1 mm, 9 min
Isolation values	on request

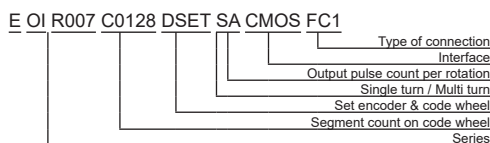
Options

In preparation _____

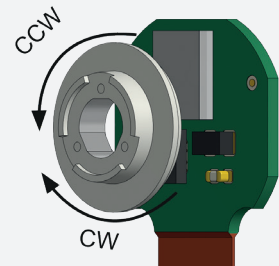
Accessories

Calibration device (EFI-Board) _____
Notes for installation _____
PC Software _____

Product Key

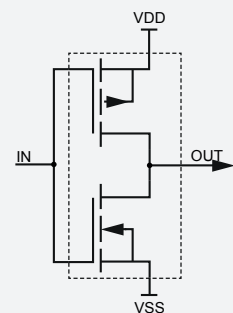


Direction of Rotation

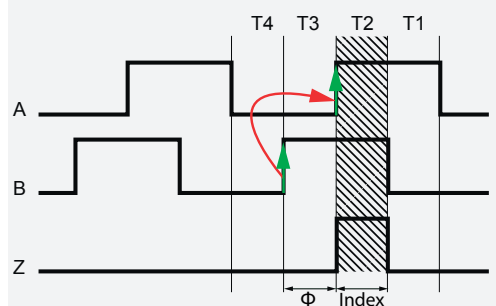


CW clockwise
CCW counter-clockwise

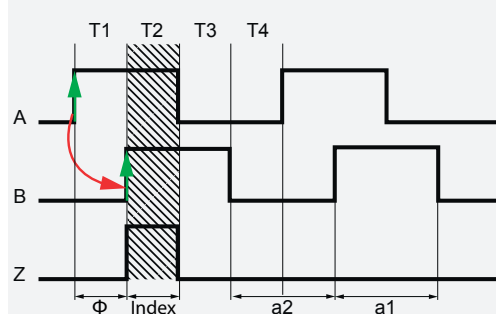
Output Diagram (per Channel A, B and Z)



Signal Diagram CW



Signal Diagram CCW



$$\text{Duty Cycle} = \frac{a1}{a1 + a2} \times 100\%$$