



OE1

Optical Encoder OE1 Series

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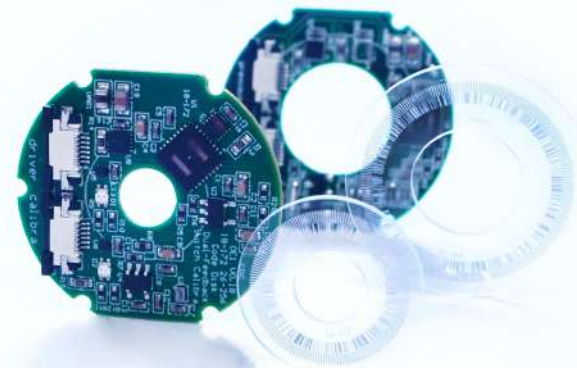
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Features of OE1 Series

The OE1 series encoder is a high-precision optical absolute encoder. Its main feature is that the combined size is quite compact, only 4.3 mm, which can significantly save the user's installation space. In addition, the read head and the optical disc have hollow apertures, especially for designers who need hollow-aperture mechanisms. Besides, the position output format supports the BiSS interface. It can provide single-turn and multi-turn position information simultaneously to ensure the reliability of the position feedback of the entire system. The features are as follows:

- Hollow design: There are three choices of inner diameter: 11.7, 25.1, and 38.1 mm to facilitate wiring and mechanism integration.
- Thin size: 4.3 mm (combined height)
- High resolution: 17-23 bit
- Absolute open type: BiSS-C communication format



BiSS interface

BiSS-C is a fast synchronous serial interface reading position data from rotary encoders. It is a master-slave transmission mechanism, the master controls the position sampling time and data transmission speed, and the relative encoder plays the role of the slave. Such an interface consists of two unidirectional differential pairs:

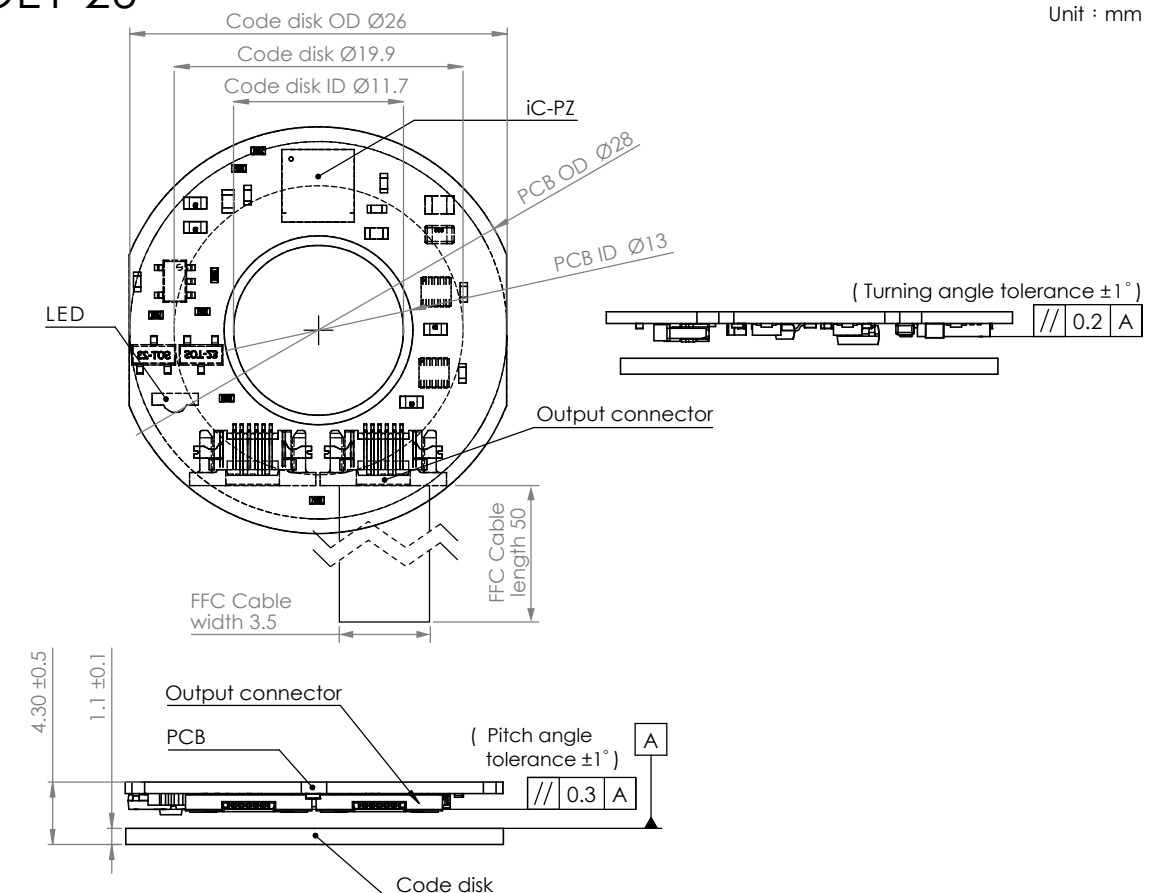
The MA is responsible for querying the position from the master to the encoder. The time processing mechanism SLO transmits the position information from the encoder to the master synchronously according to the MA.

The figure below shows the transmission format of BiSS data.

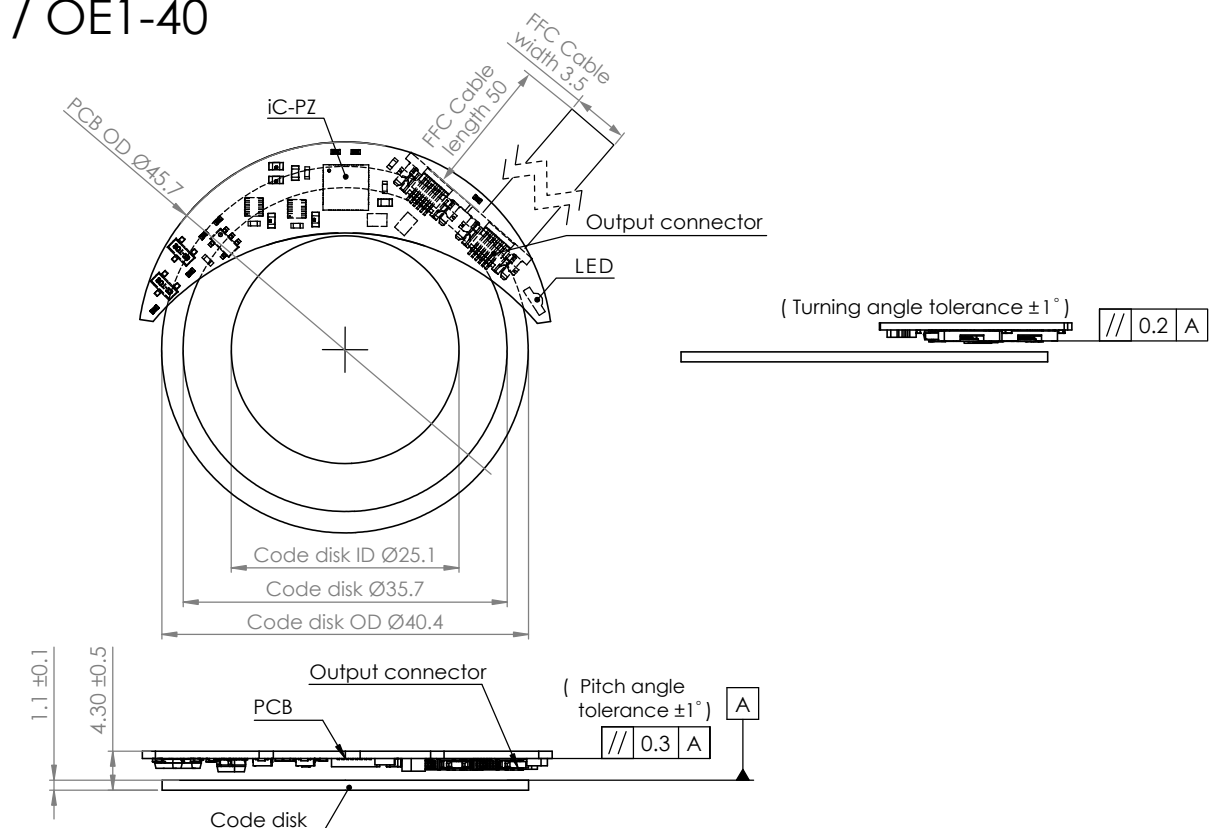


Dimension / OE1-26

Unit : mm

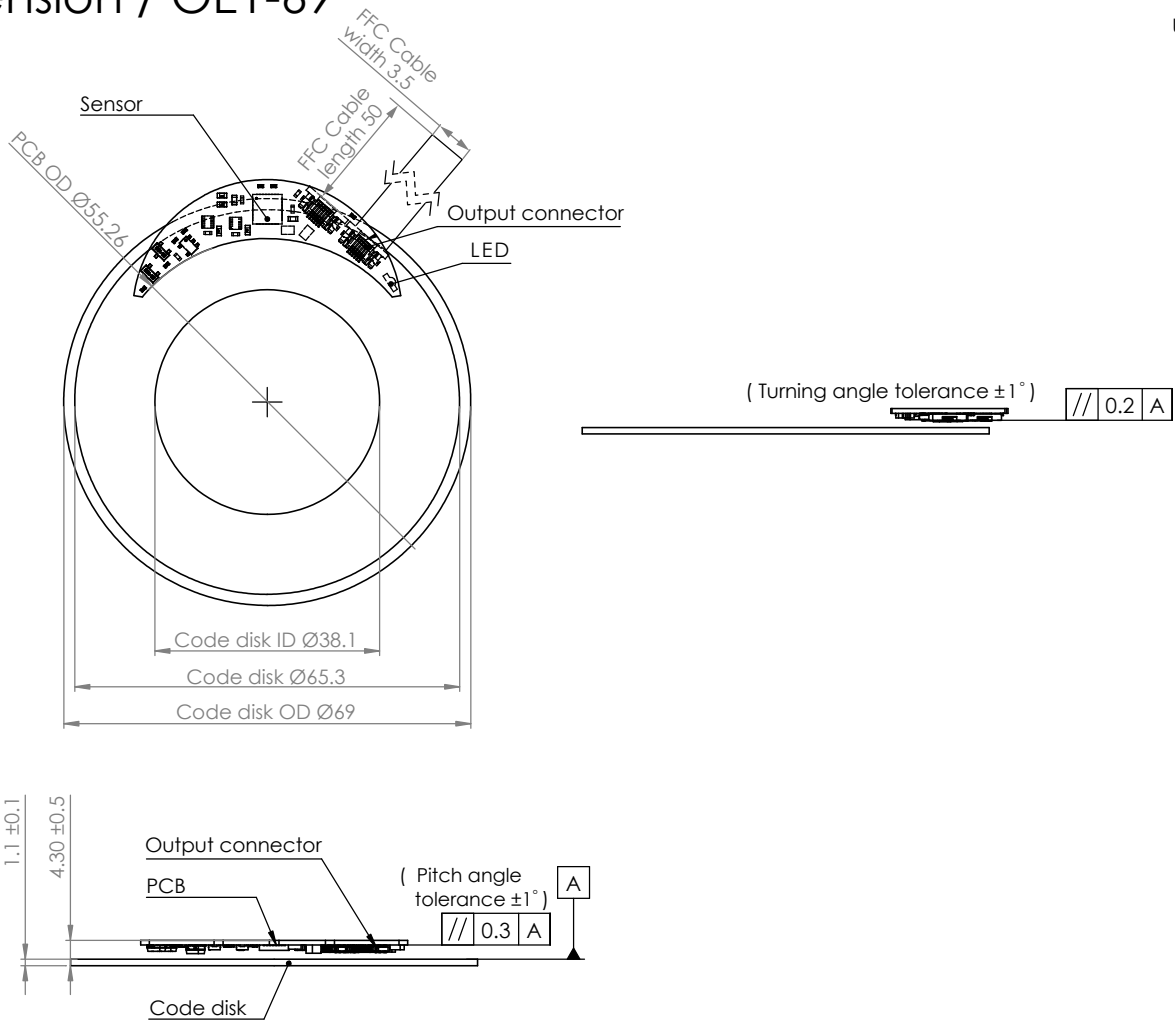


Dimension / OE1-40



Dimension / OE1-69

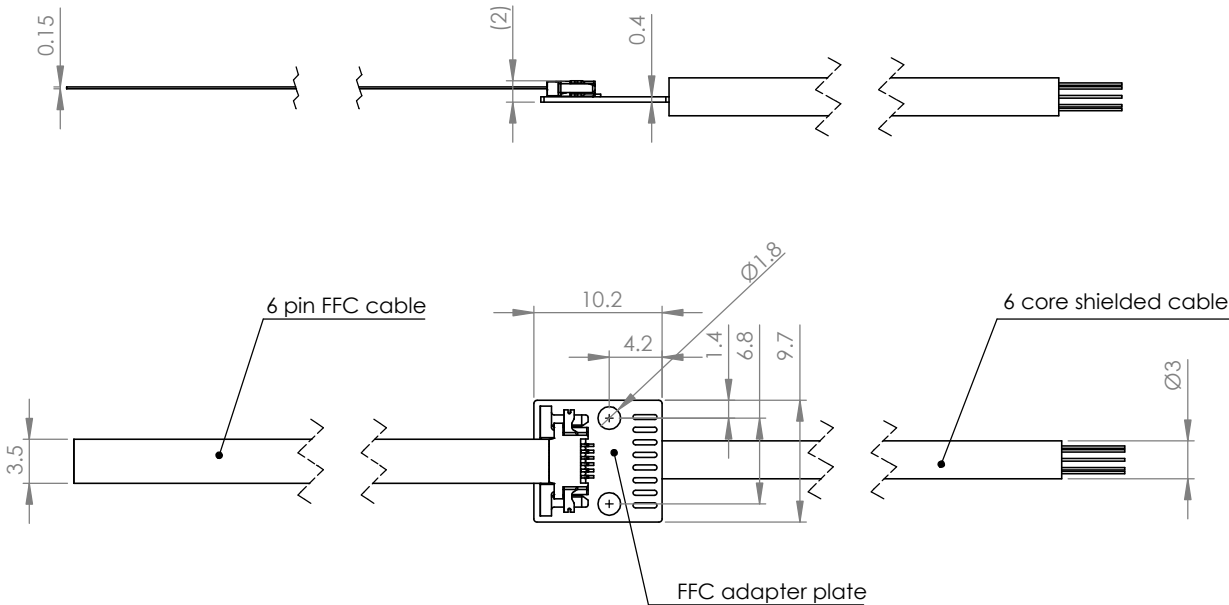
Unit : mm



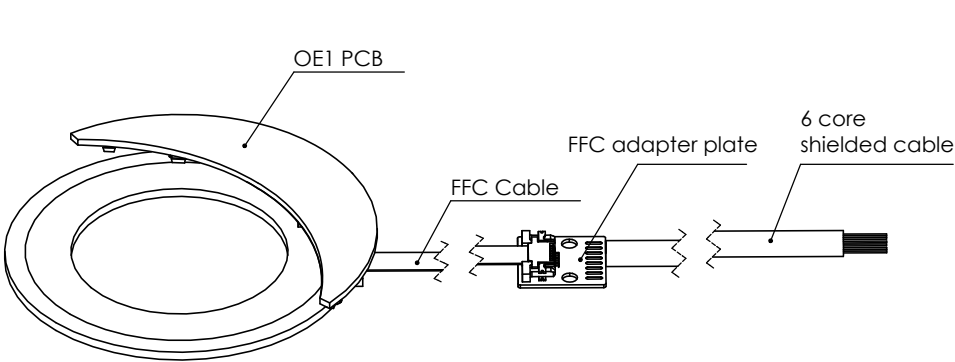
Ordering Information

OE1	K	40	25	446	23	09	0200	
							Cable length : 0200 : 200mm	N: none
							Multi-turn resolution: 9 bit	N: none
							Single-turn resolution: 17, 18, 19, 20, 21, 22, 23 bit	N: none
							Number of original scales : 256、446、1024	N: none
							The code disc inner diameter : 11, 25, 38 mm	N: none
							The code disc outer diameter : 26、40、69 mm	N: none
Product: K: System R: Read head D: Code disc								
Product Type: OE1 : Absolute optical encoder								

FFC adapter plate dimensions



Wiring



Pin definition of 6 core shielded cable	
Color of loose leads	Function
red	5V
blue	GND
brown	Data+
gray	Data-
yellow	CLK+
green	CLK-

Technical specifications

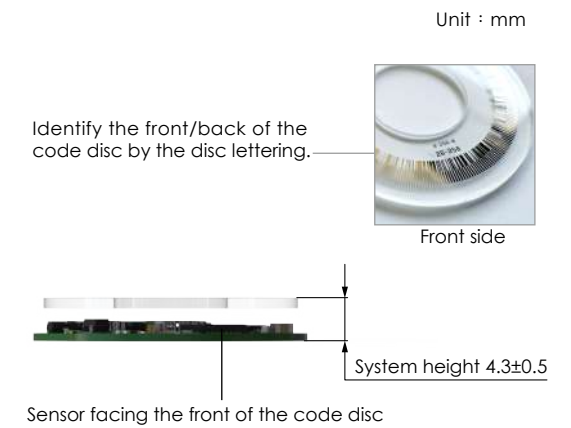
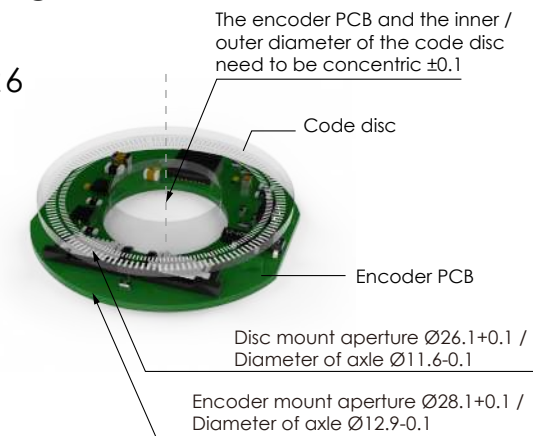
Specification	Digital output signal
Material	Soda-lime glass
Code disk thickness	1.1 mm
Reference zero point	Single reference on code disk
Marking accuracy	26 Code disc = 23.175 arc seconds 40 Code disc = 12.277 arc seconds 69 Code disc = 6.531 arc seconds
coefficient of thermal expansion	$\sim 8 \mu\text{m/m/}^{\circ}\text{C}$
power input	5 V $\pm 10\%$
Temperature	storage temperature -20°C to $+80^{\circ}\text{C}$ operating temperature 0°C to $+80^{\circ}\text{C}$
Humidity	95% relative humidity (no condensation)
Weight	Readhead :
	Model OE1-26 OE1-40 OE1-69
	Weight(g) 1.21 1.15 1.15
	Code disc :
	Model OE1-26 OE1-40 OE1-69
	Weight(g) 1.04 2.1 6.54
	FFC adapter plate :
	Weight(g) 0.2

Tachometer / Maximum Speed

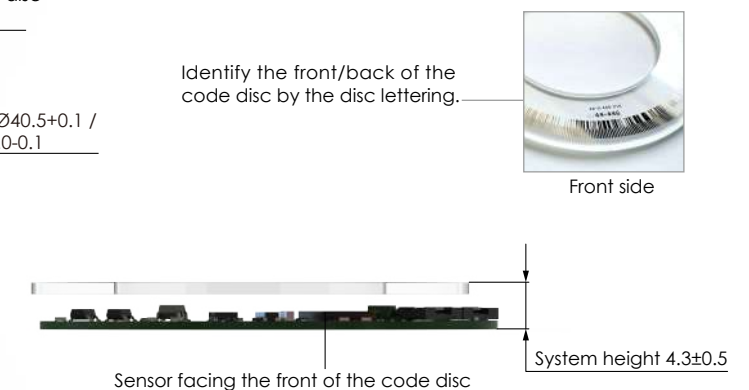
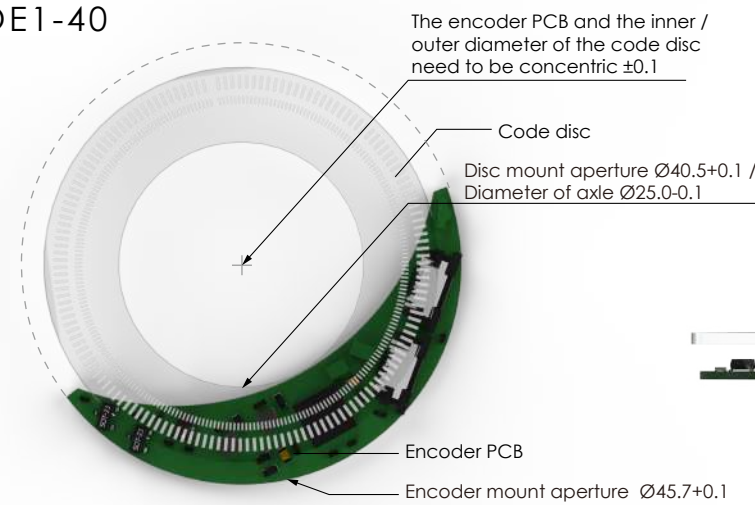
Model	Maximum speed (RPS)
OE1-26	938
OE1-40	538
OE1-69	234

Installation

OE1-26



OE1-40



OE1-69

