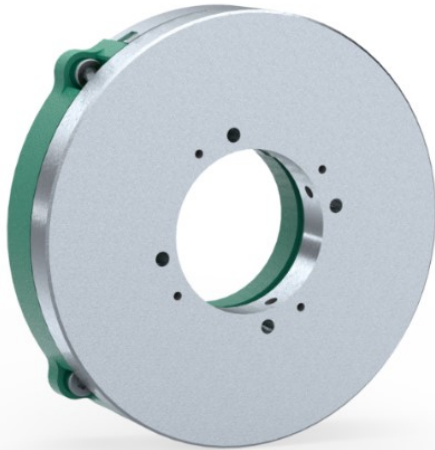


IXARC HOLLOW SHAFT KIT ENCODER DATASHEET

IXARC Hollow Shaft Kit Encoder

CCD-BC00B-1618-TE3S-JRA



- ▶ Kit Encoder for Integration to Motors, Robot Joints.
- ▶ 30mm Hollow Shaft Diameter
- ▶ 80mm Outer Diameter
- ▶ Energy-Harvesting-System Based on Wiegand Effect
- ▶ No Battery – No Maintenance
- ▶ Large Axial (0.1mm) and Radial Mounting tolerance (0.2mm)
- ▶ Easy Installation with No Calibration Required

1. Interface

Interface	BiSS C
Min Interface Cycle Time	50 μ s

2. Electrical Data

Supply Voltage	4.5-26.4 VDC
Current Consumption	180mA @ 5V
Start-up time	Max 1 s
Clock Input	RS 422
Clock Frequency	70 kHz – 10 MHz
Reverse Polarity Protection	Yes
Short Circuit Protection	Yes
Diagnostic Signal	Low Level: 0.3V...0.7V DC High Level: 3.3V...3.9V DC

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3. Sensor

Shaft Diameter	30 mm
Housing Diameter	80 mm
Height	17.8 mm
Singleturn Technology	Capacitive
Electrical Resolution Singleturn	18 bit
Multiturn Technology	Self-powered magnetic pulse counter (no battery, no gear)
Multiturn Range	16 bit
Accuracy (INL)	$\pm 0.02^\circ$
Counting Direction	Clockwise shaft movement (front view on stator)

4. Environmental Specifications

Operating Temperature	-40 °C (-40 °F) – +105 °C (221 °F)
Humidity	90% RH, no condensation
Shock Resistance	≤ 200 g (half sine 6 ms, EN 60068-2-27)
Permanent Shock Resistance	≤ 20 g (half sine 16 ms, EN 60068-2-29)
Vibration Resistance	≤ 20 g (10 Hz – 2000 Hz, EN 60068-2-6)

5. Mechanical Data

Material (Rotor)	Steel
Material (Stator)	Ultem™ polymer
Max. Permissible Speed	6000 RPM
Stator-Rotor Air Gap	0.7mm

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Maximum Axial / Radial Misalignment	±0.1mm / ±0.2 mm
Power On – Max. operational speed	1 rpm
Mass	110g
Rotor Inertia	60,000 gr·mm ²

6. Electrical Connection

Connection Orientation	Radial
Connector	JST SM10B-GHS-TB

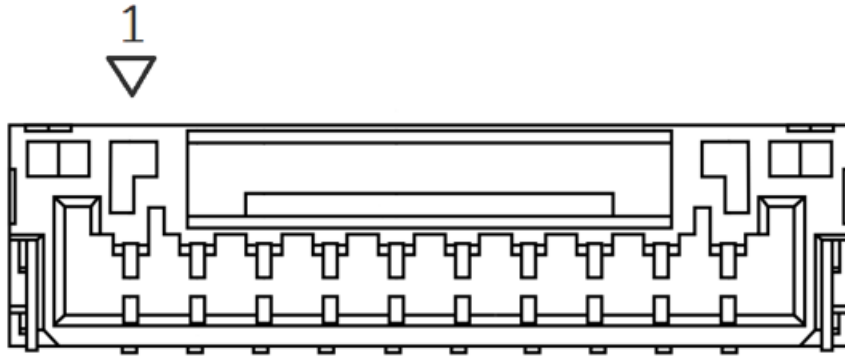
7. Connection Plan

Pin	Signal	Cable Color
1	Data- (SLO-)	Yellow
2	Data+ (SLO+)	Green
3	N.C	N.C
4	Preset	Pink
5	CLK+ (MA+)	Brown
6	CLK- (MA-)	White
7	VCC	Red
8	GND	Blue
9	Config	Black
10	DIAGNOSTIC	Violet

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8. Version Space

CCD-BC00B-1618-TE3S-JRA

2-part assembly, PCB connector exit

CCD-BC00B-1618-TE3S-2RW

2-part assembly, PCB connector and accessory 2m
PVC cable

9. Interface

Config pin

The config pin is used for production only. It should be left unconnected or connected to ground.

Diagnostic pin

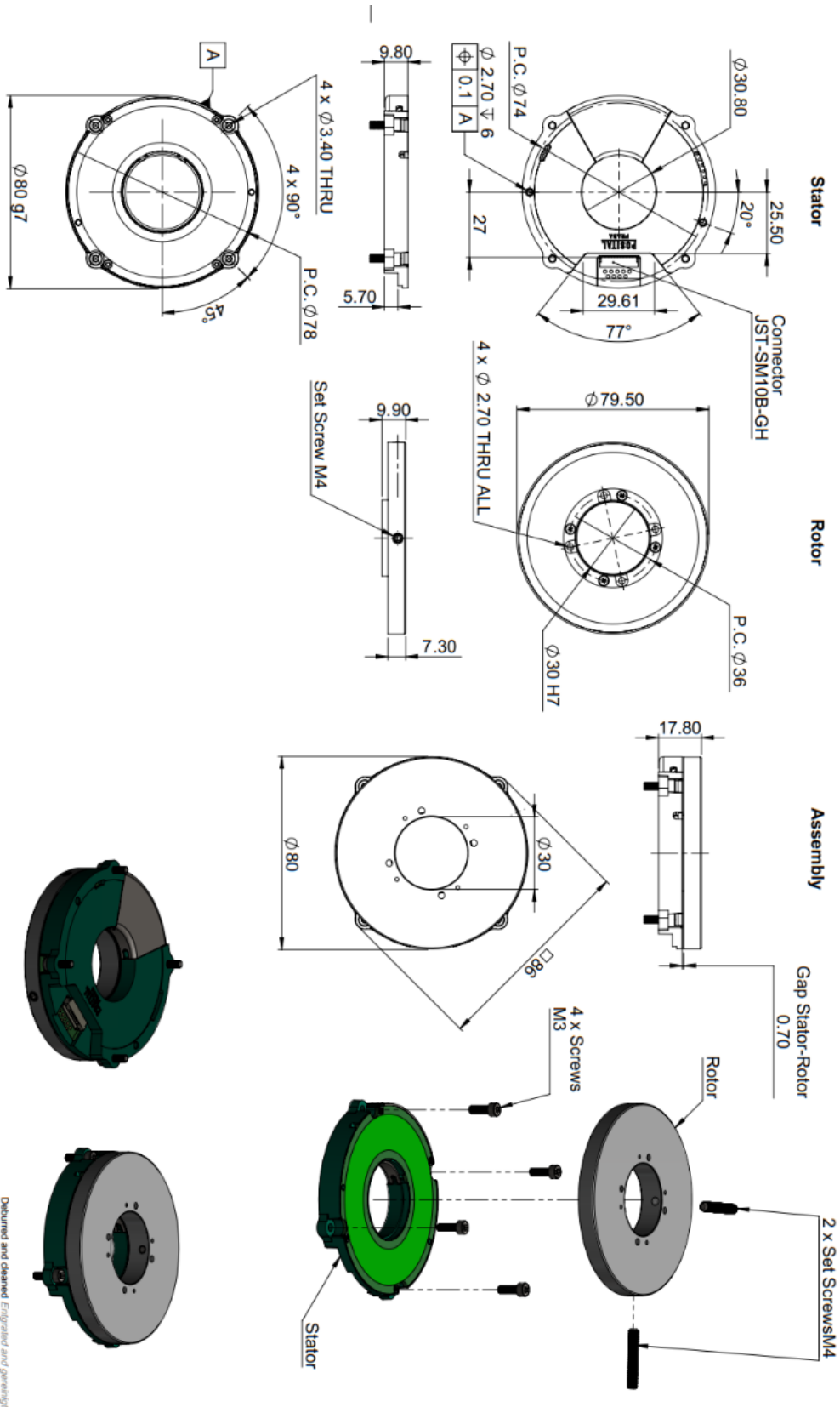
The diagnostic pin is used to monitor a correct air gap between stator and rotor, and rotational speed of rotor during power on. The signal normally remains at low level and will be pulled to high when the air gap or rotational speed of rotor during power on exceeds the specified value in this datasheet.

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10. Dimensional Drawing



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Contact

FRABA Americas

T +1 609 750-8705

✉ info@posital.com

FRABA EMEA

T +49 221 96213-0

✉ info@posital.eu

FRABA Asia

T +65 6514 8880

✉ info@posital.sg

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