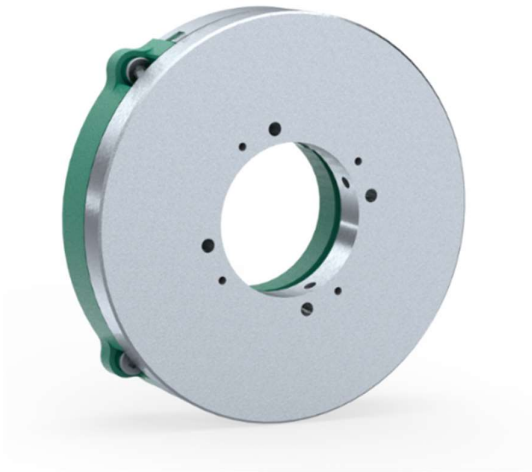


## IXARC HOLLOW SHAFT KIT ENCODER DATASHEET

### 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, no Calibration Required

### 1. Interface

Interface	BiSS C
Min Interface Cycle Time	18 $\mu$ s

### 2. Electrical Data

Supply Voltage	4.5-26.4 VDC
Current Consumption	Typical 80mA @ 10V
Start-up time	Max 100 ms
Clock Input	RS 422
Clock Frequency	70 kHz – 10 MHz
Reverse Polarity Protection	Yes
Short Circuit Protection	Yes
Diagnostic Signal	Low Level: 0V...0.3V DC High Level: 3.3V...3.9V DC
EMC	Kit encoder is a sub-assembly and not considered to be an independent system, therefore compliance with CE requirements has to be ensured by the integrator for the overall set-up.

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### IXARC HOLLOW SHAFT KIT ENCODER DATASHEET

#### 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)	100" (Under normal environment conditions)
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	≤100 g (half sine 6 ms, EN 60068-2-27)
Vibration Resistance	≤10 g (10 Hz – 1000 Hz, EN 60068-2-6)
Temperature Drift	3" per °C

#### 5. Mechanical Data

Material (Rotor)	Steel
Material (Stator)	High performance polymer
Max. Permissible Speed	6000 RPM
Stator-Rotor Air Gap	0.7mm
Maximum Axial / Radial Misalignment	±0.1mm / ±0.2 mm
Power On – Max. operational speed	0.4 rpm
Mass	90g

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### IXARC HOLLOW SHAFT KIT ENCODER DATASHEET

Rotor Inertia	78,500 gr·mm <sup>2</sup>
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#### 6. Electrical Connection

Connection Orientation	Radial
Connector	JST SM10B-GHS-TB

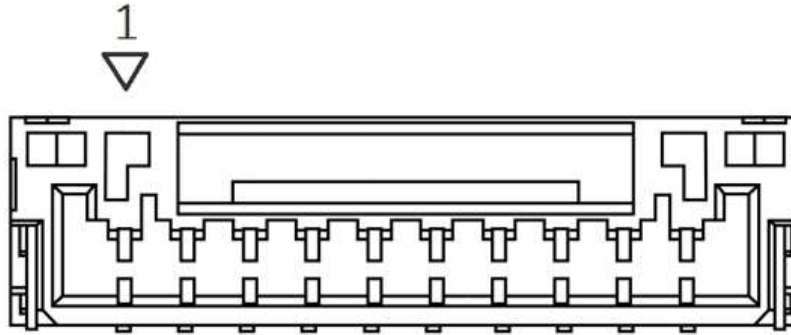
#### 7. Connection Plan

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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### IXARC HOLLOW SHAFT KIT ENCODER DATASHEET



#### 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

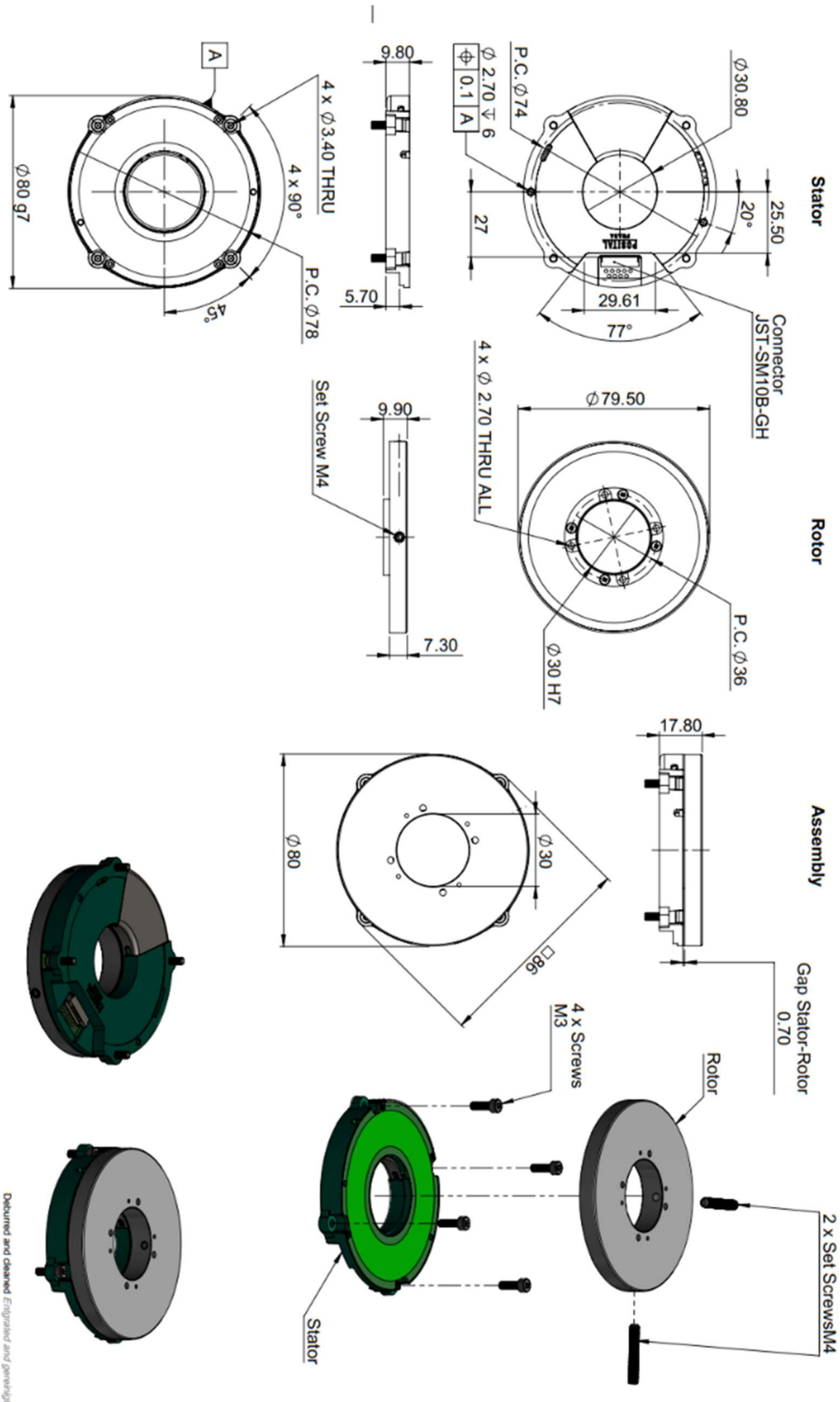
The diagnostic pin output can be used to detect any error or warning state. The output level normally remains at low level and will be pulled to high level (see table electrical data) when the encoder is in an error or warning state. This may be used to verify and adjust the air gap distance between rotor and stator.

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### IXARC HOLLOW SHAFT KIT ENCODER DATASHEET

#### 10. Dimensional Drawing



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## IXARC HOLLOW SHAFT KIT ENCODER DATASHEET

### Contact

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**ELECTROMATE**  
877-737-8698  
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[www.electromate.com](http://www.electromate.com)

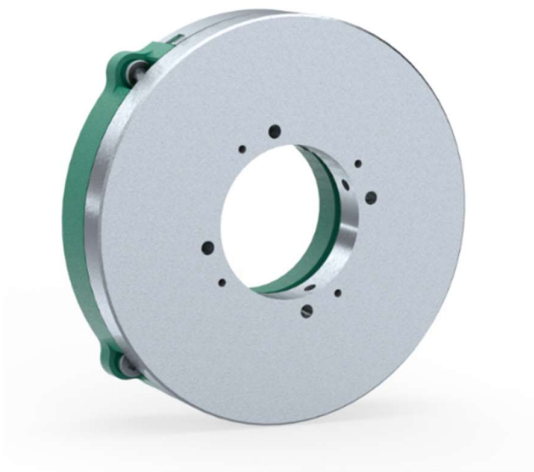
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### IXARC HOLLOW SHAFT KIT ENCODER DATASHEET

#### IXARC Hollow Shaft Kit Encoder

#### CCD-BC00B-1619-TE5S-JRA



Kit Encoder for Integration to Motors, Robot Joints.  
50mm Hollow Shaft Diameter  
100mm 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, no Calibration Required

#### 1. Interface

Interface	BiSS C
Min Interface Cycle Time	18 $\mu$ s

#### 2. Electrical Data

Supply Voltage	4.5-26.4 VDC
Current Consumption	Typical 80mA @ 10V
Start-up time	Max 100 ms
Clock Input	RS 422
Clock Frequency	70 kHz – 10 MHz
Reverse Polarity Protection	Yes
Short Circuit Protection	Yes
Diagnostic Signal	Low Level: 0V...0.3V DC High Level: 3.3V...3.9V DC
EMC	Kit encoder is a sub-assembly and not considered to be an independent system, therefore compliance with CE requirements has to be ensured by the integrator for the overall set-up.

### IXARC HOLLOW SHAFT KIT ENCODER DATASHEET

#### 3. Sensor

Shaft Diameter	50 mm
Housing Diameter	100 mm
Height	17.8 mm
Singleturn Technology	Capacitive
Electrical Resolution Singleturn	19 bit
Multiturn Technology	Self powered magnetic pulse counter (no battery, no gear)
Multiturn Range	16 bit
Accuracy (INL)	100" (Under normal environment conditions)
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	≤100 g (half sine 6 ms, EN 60068-2-27)
Vibration Resistance	≤10 g (10 Hz – 1000 Hz, EN 60068-2-6)
Temperature Drift	3" per °C

#### 5. Mechanical Data

Material (Rotor)	Steel
Material (Stator)	High performance polymer
Max. Permissible Speed	6000 RPM
Stator-Rotor Air Gap	0.7mm
Maximum Axial / Radial Misalignment	±0.1mm / ±0.2 mm
Power On – Max. operational speed	0.4 rpm
Mass	152.00 g



### IXARC HOLLOW SHAFT KIT ENCODER DATASHEET

Rotor Inertia	162,510 gr · mm <sup>2</sup>
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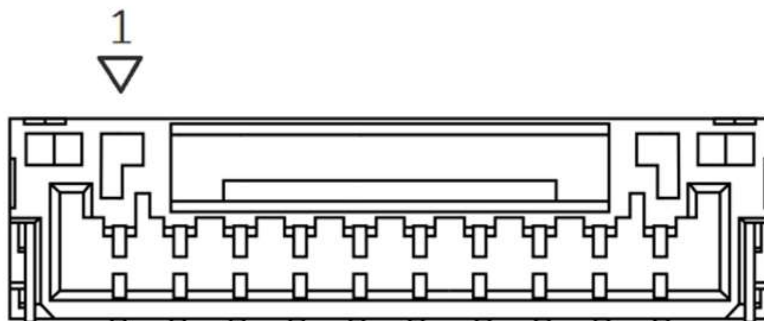
#### 6. Electrical Connection

Connection Orientation	Radial
Connector	JST SM10B-GHS-TB

#### 7. Connection Plan

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

### IXARC HOLLOW SHAFT KIT ENCODER DATASHEET



#### 8. Version Space

CCD-BC00B-1619-TE5S-JRA	2-part assembly, PCB connector exit
CCD-BC00B-1619-TE5S-2RW	2-part assembly, PCB connector exit and accessory 2m PVC cable

#### 9. Interface

##### Config pin

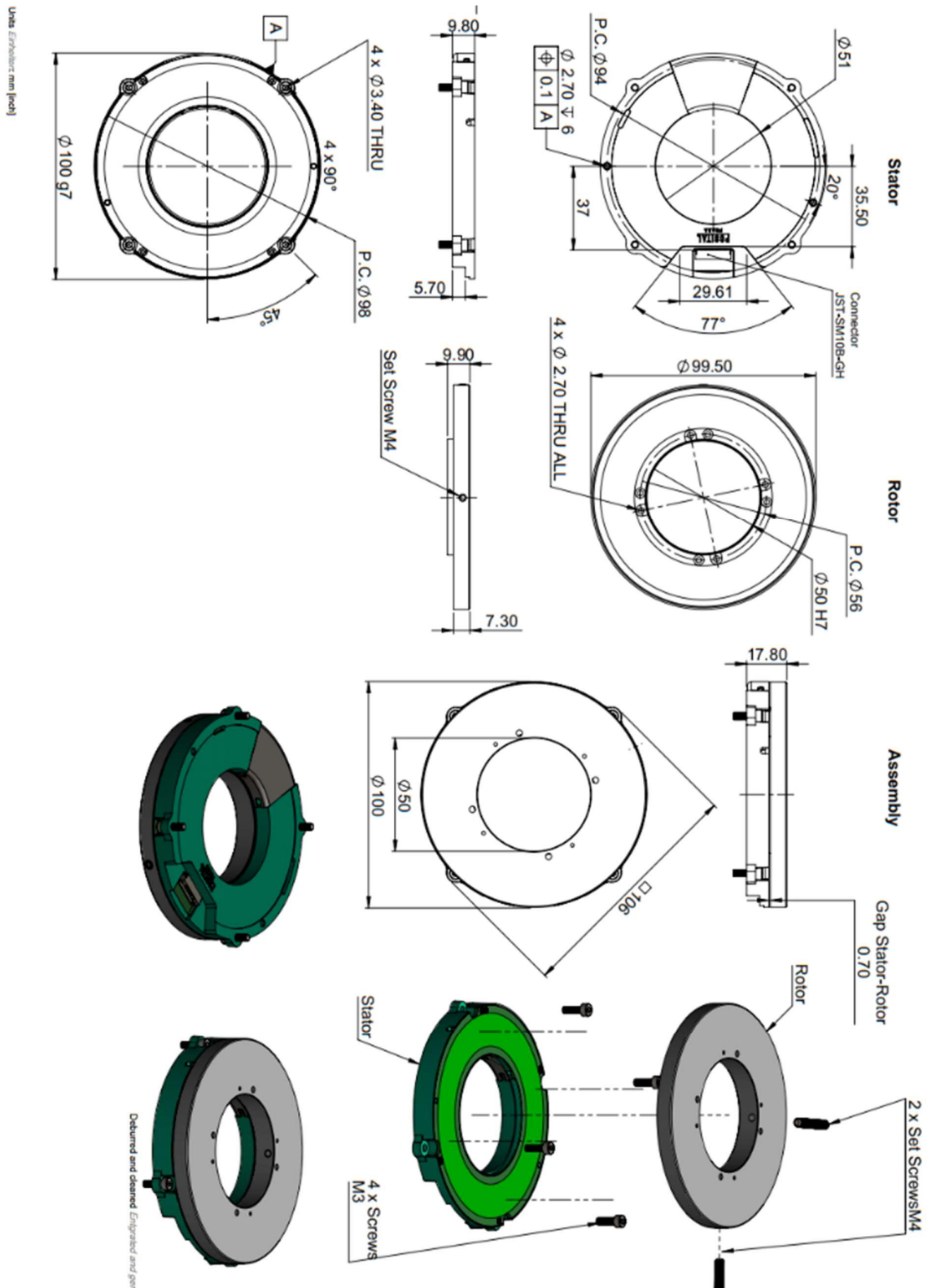
The config pin is used for production only. It should be left unconnected or connected to ground.

##### Diagnostic pin

The diagnostic pin output can be used to detect any error or warning state. The output level normally remains at low level and will be pulled to high level (see table electrical data) when the encoder is in an error or warning state. This may be used to verify and adjust the air gap distance between rotor and stator.

### IXARC HOLLOW SHAFT KIT ENCODER DATASHEET

#### 10. Dimensional Drawing



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## IXARC HOLLOW SHAFT KIT ENCODER DATASHEET

### Contact

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