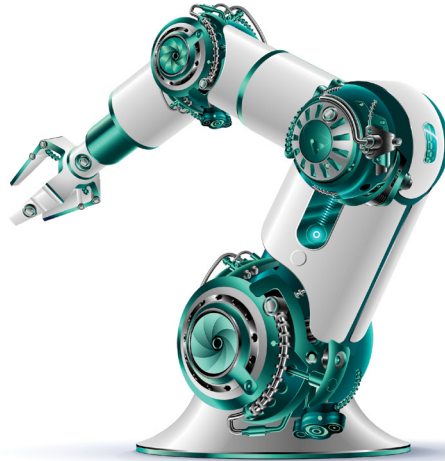
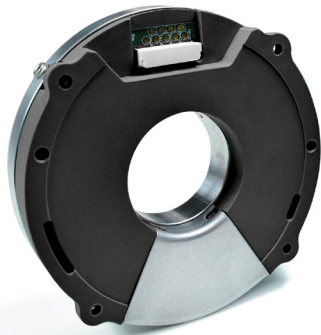


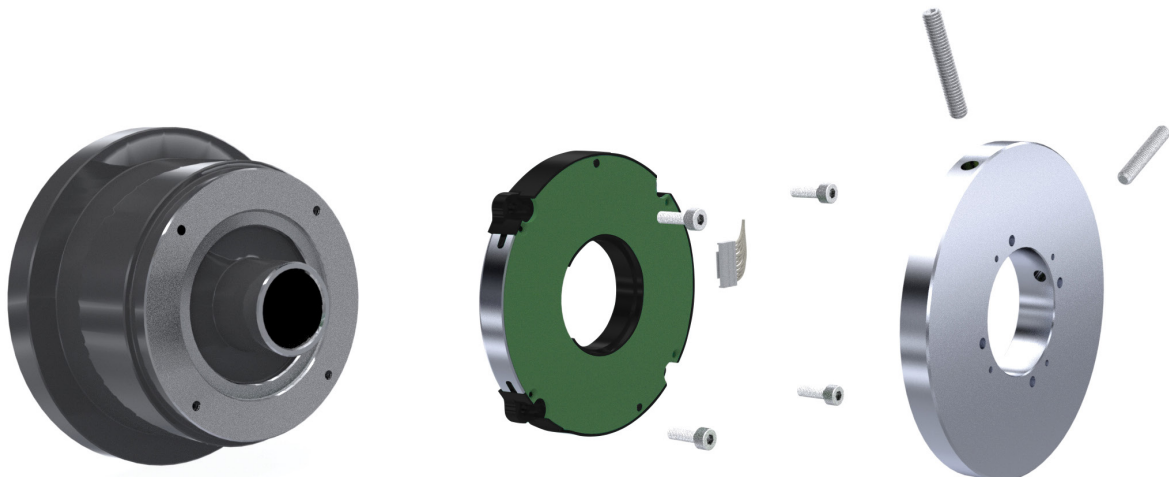
# IXARC KIT ENCODERS

## Absolute Multiturn Hollow Shaft Kit Encoders



POSITAL's hollow shaft kit encoders offer a wide multiturn range without the need for a battery or gear system. They have a slim design of just 18 mm thickness. They offer a resolution of up to 19 bit and are designed for integration into hollow shaft motors and robots. In robotic systems, the hollow shaft design enables cables and compressed air to be routed inside of the robotic arm. The singleturn system is based on capacitive technology and is combined with POSITAL's proven Wiegand multiturn technology. Special tools or costly equipment are not required for the assembly of these kit encoders to motors.

- > **Hollow Bearingless Center Design**  
With 30 mm and 50 mm Inner Diameter
- > **Multiturn Without Battery or Gear**  
Energy-Harvesting Wiegand Sensor
- > **Singleturn Resolution**  
Up to 19 bit
- > **Open Source Interfaces**  
BiSS-C, SSI
- > **Slim Design**  
Thickness 18 mm
- > **Easy to Install**  
No Calibration or Special Equipment Required
- > **Insensitive to Dust and Moisture**  
Can be Installed in Any Factory
- > **Optimal Mechanical Layout**  
For Robotic Joints and Drives





CCD-BC00B-1619-TE5S-JRA

CCD-S100B-1619-TE5S-JRA



### Product Description

POSITAL IXARC Multiturn modular, kit encoder: BiSS C with Preset interface, Hollow design.

### Interface

Interface	BiSS C with Preset or SSI
Interface Cycle Time	$\geq 18 \mu\text{s}$
Diagnostics	Stator-Rotor Air Gap and Start-up Procedure Check
Programming Functions	Via register communication: Wiegand sensor test, preset value and multiturn reinitialization
Cycle of Parameter Saving	10 000
Interface Remark	Binary

### Outputs

Output Driver	RS422
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Connector

JST SM10B-GHS-TB (JST)

## Electrical Data

Supply Voltage	4.5 - 26.4 VDC
Current Consumption	Typical 200mA @ 5V (no load)
Start-Up Time	< 1 s
Clock Input	RS422
Clock Frequency	80 kHz - 10 MHz
Reverse Polarity Protection	Yes
Short Circuit Protection	Yes
EMC: Emitted Interference	The kit encoder is a sub-assembly and not to be considered an independent system. Therefore, compliance with CE requirements has to be ensured by the integrator for the overall set-up.
Max. Permissible Electric Speed	6000 1/min
EMC: Noise Immunity	The kit encoder is a sub-assembly and not to be considered an independent system. Therefore, compliance with CE requirements has to be ensured by the integrator for the overall set-up.
MTTF	105 years @ 60 °C

## Sensor

Technology	Capacitive + Magnetic
Resolution Singleturn	19 bit

Resolution Multiturn	16 bit
Accuracy (INL)	±0.02°
Code	Binary

## Environmental Specifications

Protection Class (Housing)	IP20
Min Temperature	-40 °C (-40 °F)
Max Temperature	+105 °C (221 °F)

## Mechanical Data

Top Shield	Screwed
Housing Material	Plastic / Steel
Housing Coating	Zinc Plated
Shaft Type	Hollow
Kit Shaft Dimension	50 mm
Shaft Material	Steel
Shaft Fastening Options	Shaft Set Screw
Maximum Axial / Radial Misalignment	± 0.1 mm / ± 0.2 mm
Stator-Rotor Air Gap	0.7 mm
Weight	130 g (0.29 lb)
Rotor Inertia	≤ 1800 gcm <sup>2</sup> [≤ 9.8 oz-in <sup>2</sup> ]

Shock Resistance ≤ 200 g (half sine 11 ms, EN 60068-2-27)

Permanent Shock Resistance ≤ 20 g (half sine 11ms, ≤5 g (half sinus 30 ms))

Vibration Resistance ≤ 20 g (20 Hz - 2000 Hz, EN 60068-2-6)

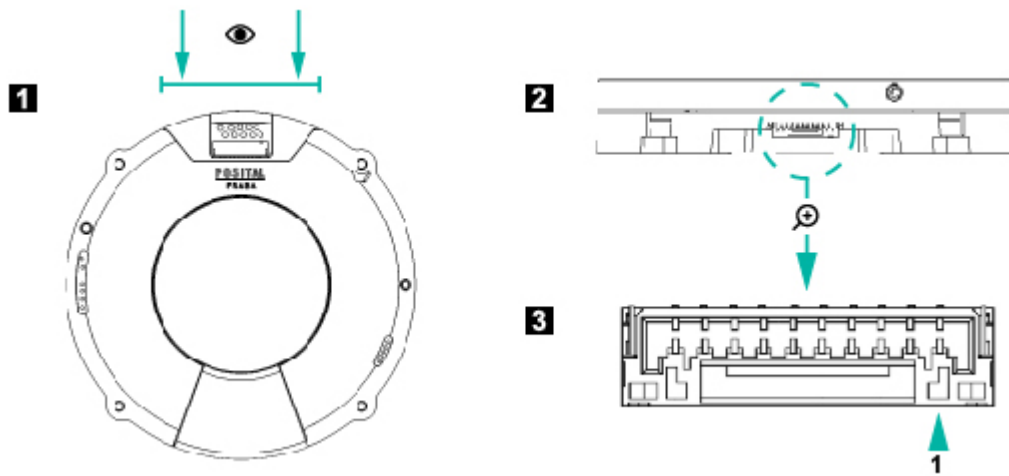
## Certification

Approval No CE

## Product Life Cycle

Product Life Cycle New

# Connection Plan



Signal	Pin Number
Data-	1
Data+	2
Do Not Connect	3
Preset	4
Clock+	5
Clock-	6
Power Supply	7
GND	8
Do Not Connect	9
Diagnostic	10

# Dimensional Drawing

Dimensional Drawing-Ø

