

POSITAL

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KCD-BC0XB-XX17-U01C-XXX



IXARC Kit Encoder With BISS C Interface

- Kit Encoder for Integration to Motors, Robots and Machinery¹
- Electrical Resolution: Up To 17 bit
- Multiturn Range: Up To 32 Bit
- 36 mm Diameter
- Energy-Harvesting-System Based On Wiegand Effect
- No Battery – No Maintenance
- Easy Installation with Self-Calibration

1. Interface

Interface	BiSS C
Programming Functions	Electronic Calibration, Wiegand Sensor Test, Preset
Min Interface Cycle Time	50 μ s

2. Electrical Data

Supply Voltage	4.75-15 VDC
Power Consumption	\leq 0.3 Watt
Start-up time	Max 100 ms
Clock Input	RS 422
Clock Frequency	KCD-BC01B: 300 kHz - 10 MHz KCD-BC03B: 80kHz - 10MHz
Reverse Polarity Protection	Yes
Short Circuit Protection	Yes
MTTF	20 years (estimated for max. operational temperature)
Max. Permissible Electrical Speed	12.000 RPM
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.

¹ The use of these kit encoders for the production of industrial rotary encoders is prohibited. Applications in rotary encoders are protected by several worldwide patents (such as WO 2004/046735 A1) and require licensing.

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3. Sensor

Singleturn Technology	Magnetic
Electrical Resolution Singleturn	17 bit
Multiturn Technology	Self powered magnetic pulse counter (no battery, no gear)
Multiturn Range	KCD-BC03B-1617-U01C-XXX – 16 bit KCD-BC03B-0017-U01C-XXX – single turn
Accuracy (INL)	$\pm 0.0878^\circ$ (≤ 12 bit) measured after calibration at room temperature
Counting Direction (Default)	Clockwise shaft movement (front view on shaft)

4. Environmental Specifications

Operating Temperature	-40 °C (-40 °F) – +105 °C (221 °F)
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	≤ 30 g (10 Hz – 1000 Hz, EN 60068-2-6)

5. Mechanical Data

Top Shield Material	Steel
Top Shield Coating	Cathodic corrosion protection
Stator Type	POSITAL standard
Rotor Type	POSITAL standard

6. Electrical Connection

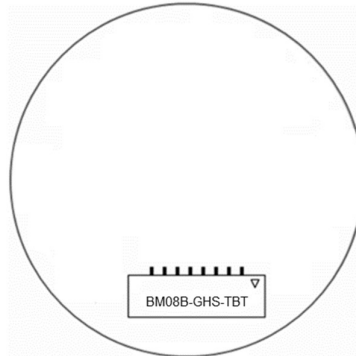
Connection Orientation	Axial
Connector	JST BM08B-GHS-TBT

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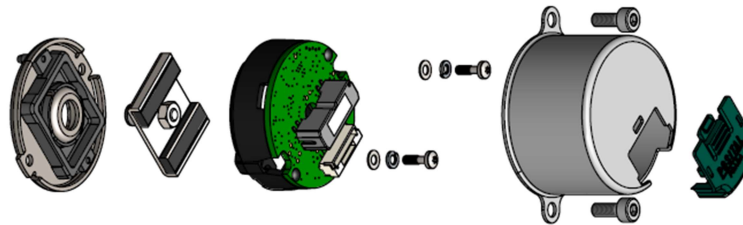
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7. Connection Plan



Pin	Signal
1	GND
2	Preset (default 0 position value)
3	Config (Kit Control box, serial communication)
4	Data + (SLO+)
5	Data - (SLO-)
6	CLOCK - (MA-)
7	CLOCK + (MA+)
8	VCC

8. Dimensional Drawing

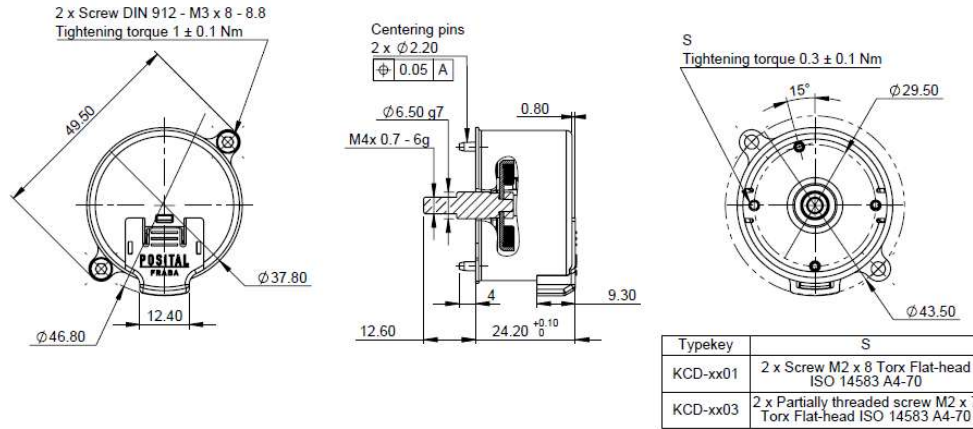



This kit version contains 4 main parts to be assembled from left to right side: shielding, magnet, carrier with PCB and Top Shield. In version KCD-BC03B-XX17-U01C-xxx, carrier already has pre-mounted screws.

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 = Center of Rotation

- All dimension in [inch] mm. This drawing and the information contained is for general presentation purposes only. Please refer to the "Download" section for detailed technical drawings

9. Interface

Preset Function

The preset function can be used to adapt the encoder position to the mechanical alignment of the system. By performing a preset, the actual position value of the encoder is set to the desired preset value. The preset can be triggered via hardware or software. See manual for more detailed information.

Config Pin

The config pin is used for serial data communication. Via this interface an optional re-calibration and WIEGAND pulse testing of the kit encoder can be conducted after motor installation. Also, the preset value can be applied as a software command. The protocol for communication is described in the manual. As alternative a graphical user interface with a Kit Control Box can be used for easy configuration and hardware setup, see website for more details.

<https://www.posital.com/en/products/kit-encoders/kit-control-box.php>

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10. Version Space

KCD-BC03B-1617-U01C-JAQ	carrier screws pre-assembled, PCB connector exit
KCD-BC03B-1617-U01C-2RW	carrier screws pre-assembled, PCB connector exit, 2 m PVC cable accessory
KCD-BC03B-0017-U01C-JAQ	single turn, carrier screws pre-assembled, PCB connector exit
KCD-BC03B-0017-U01C-2RW	single turn, carrier screws pre-assembled, PCB connector, 2 m PVC cable accessory
KCD-BC01B-1617-U01C-JAQ*	PCB connector exit
KCD-BC01B-1617-U01C-2RW*	PCB connector exit, accessory 2 m PVC cable

* Product life cycle – exiting.

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