

## IXARC Absolute Rotary Encoder

### TCR-CA01B-1213-C10S-PRX



#### Interface

Interface	CANopen
Profile	DS-406
Manual Functions	Programmable
Features	Round Axis
Transmission Rate	min. 20 kBaud, max. 1 MBaud
Interface Cycle Time	≥ 1 ms
Programming Functions	Resolution, preset, 2 limit switches, 8 CAMS, baud rate, CAN-Identifier, bootloader, transmission modes: polled, cyclic, sync

#### Outputs

Output Driver	Transceiver (ISO 11898), Galvanically Isolated by Opto-Couplers
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#### Electrical Data

Supply Voltage	10 - 30 VDC
Power Consumption	≤ 3.7 W
Reverse Polarity Protection	Yes
Short Circuit Protection	Yes
EMC: Emitted Interference	DIN EN 61000-6-4
EMC: Noise Immunity	EN 61000-6-2 EN 61326-3-2 & EN 61000-6-7

Data Sheet

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MTTF	100 years @ 40°C (based on EN ISO 13849-1)
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### Sensor

Technology	Optical + Magnetic
Resolution Singleturn	13 bit
Resolution Multiturn	12 bit
Multiturn Technology	Mechanical gearing (no battery, optical scanning) + Self powered magnetic pulse counter (no battery, no gear)
Accuracy (INL)	13 bit: $\pm 0.1317^\circ + 1$ LSB quantization @ $R_T$ 16 bit: $\pm 0.1098^\circ + 1$ LSB quantization @ $R_T$
Code	Binary

### Environmental Specifications

Protection Class (Shaft)	IP66/IP67
Protection Class (Housing)	IP66/IP67
Operating Temperature	-40 °C (-40 °F) - +85 °C (+185 °F)
Storage Temperature	-40 °C (-40 °F) - +85 °C (+185 °F)
Humidity	98% RH, no condensation

### Mechanical Data

Connection Cap Material	None
Housing Material	Aluminum
Housing Coating	No Coating
Flange Type	Clamp, $\varnothing$ 58 mm (C)
Flange Material	Aluminum
Shaft Type	Solid, Single Flat, Length = 20 mm
Shaft Diameter	$\varnothing$ 10 mm (0.39")
Shaft Material	Stainless Steel V2A (1.4305, 303)
Max. Shaft Load	Axial 40 N, Radial 110 N
Minimum Mechanical Lifetime ( $10^8$ revolutions with Fa/Fr)	430 (20 N / 40 N), 150 (40 N / 60 N), 100 (40 N / 80 N), 55 (40 N / 110 N)
Rotor Inertia	$\leq 30$ gcm <sup>2</sup> [ $\leq 0.17$ oz-in <sup>2</sup> ]
Friction Torque	$\leq 5$ Ncm @ 20 °C, (7.1 oz-in @ 68 °F)
Max. Permissible Mechanical Speed	$\leq 3000$ 1/min
Shock Resistance	$\leq 100$ g (half sine 6 ms, EN 60068-2-27)
Permanent Shock Resistance	$\leq 10$ g (half sine 16 ms, EN 60068-2-29)
Vibration Resistance	$\leq 20$ g (20 Hz - 2000 Hz, EN 60068-2-6)

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Length	72,5 mm (2.85")
Weight	315 g (0.69 lb)

### Electrical Connection

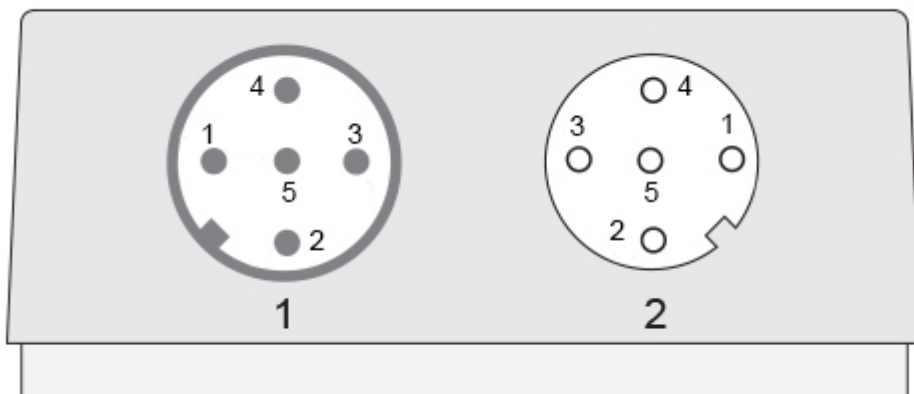
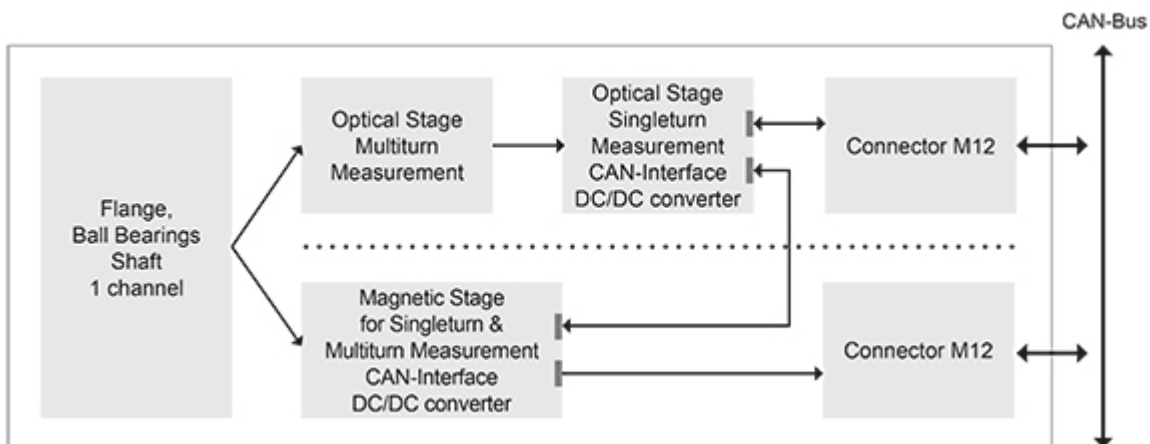
Connection Orientation	Radial
Connection Type	Cable / Connector

### Safety Data

Safety Performance Level	Capable PL d, encoder shall be connected to a safety PLC for verification of both encoder channels
Safety Category	Cat 3, encoder shall be connected to a safety PLC for

### Product Life Cycle

Product Life Cycle	New
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**Connection Plan**

SIGNAL	CONNECTOR	PIN NUMBER
Power Supply	Connector 1	2
GND	Connector 1	3
CAN High	Connector 1	4
CAN Low	Connector 1	5
CAN GND	Connector 1	1
Power Supply	Connector 2	2
GND	Connector 2	3
CAN High	Connector 2	4
CAN Low	Connector 2	5
CAN GND	Connector 2	1

**Connector-View on Encoder  
Dimensional Drawing**
**Accessories**
**Connectors & Cables**

M12, 5pin A-Coded, Male

2m PUR Cable, 5pin, A-Coded, m

5m PUR Cable, 5pin, A-Coded, m

POS M12 5pin-A Female+5m PUR Cable

10m PUR Cable, 5pin, A-Coded, m

POS M12 5pin-A Female+2m PUR Cable

POS M12 5pin-A Female+10m PUR Cable

M12, 5pin A-Coded, Female

More

**Couplings**

Coupling Disc Type-10-12

Coupling Bellow Type-10-10

Coupling Bellow Type-06-10

Coupling Bellow Type-08-10

Coupling Bellow Type-10-12

Coupling Bellow Type-10-(1/4")

Coupling Bellow Type-10-(3/8")

Coupling Jaw Type-06-10

Coupling Jaw Type-08-10

Coupling Jaw Type-10-12

Coupling Jaw Type-10-(1/4")

Coupling Jaw Type-10-(3/8")

Coupling Jaw Type-10-10

Coupling Disc Type-06-10

Coupling Disc Type-10-10

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More

Adapter Flanges

Mounting Bracket for Clamping Flange w/ fixtures

L Mounting Bracket w/ screws

Mounting Bracket Spring Loaded f. Clamping Flange

Spring Loaded Pivot Arm 58mm

More

Clamping Rings

Clamp Disc w/ Eccentric Hole-4pcs

Clamp Disc w/ Centred Hole-4pcs

**Got questions? Need an individual solution? We are here to help!**



Contact Us

If the drawings are not available please refer to the "Download" section. The picture and drawing are for general presentation purposes only. All dimension in [inch] mm. © FRABA B.V., All rights reserved. We do not assume responsibility for technical inaccuracies or omissions. Specifications are subject to change without notice.