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IXARC Absolute Rotary Encoder

TCR-CA01B-1413-B12S-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
Current Consumption	≤ 300 mA @ 10 V DC, ≤ 150 mA @ 24 V DC
Power Consumption	≤ 3.7 W
Reverse Polarity Protection	Yes
Short Circuit Protection	Yes
EMC: Emitted Interference	DIN EN 61000-6-4



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EMC: Noise Immunity	EN 61000-6-2 EN 61326-3-2 & EN 61000-6-7 excluding EN 61000-4-16
MTTF	133 years @ 40°C (based on EN ISO 13849-1)

Sensor

Technology	Optical + Magnetic
Resolution Singleturn	13 bit
Resolution Multiturn	14 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	Blind Hollow, \varnothing 58 mm (B)
Flange Material	Aluminum
Shaft Type	Blind Hollow, Depth = 30 mm
Shaft Diameter	\varnothing 12 mm (0.47")
Shaft Material	Stainless Steel V2A (1.4305, 303)
Rotor Inertia	≤ 30 gcm ² [≤ 0.17 oz-in ²]
Friction Torque	≤ 5 Ncm @ 20 °C, (7.1 oz-in @ 68 °F)
Max. Permissible Mechanical Speed	≤ 3000 1/min
Shock Resistance	≤ 100 g (half sine 6 ms, EN 60068-2-27)
Permanent Shock Resistance	≤ 10 g (half sine 16 ms, EN 60068-2-29)
Vibration Resistance	≤ 10 g (10 Hz - 1000 Hz, EN 60068-2-6)

Data Sheet

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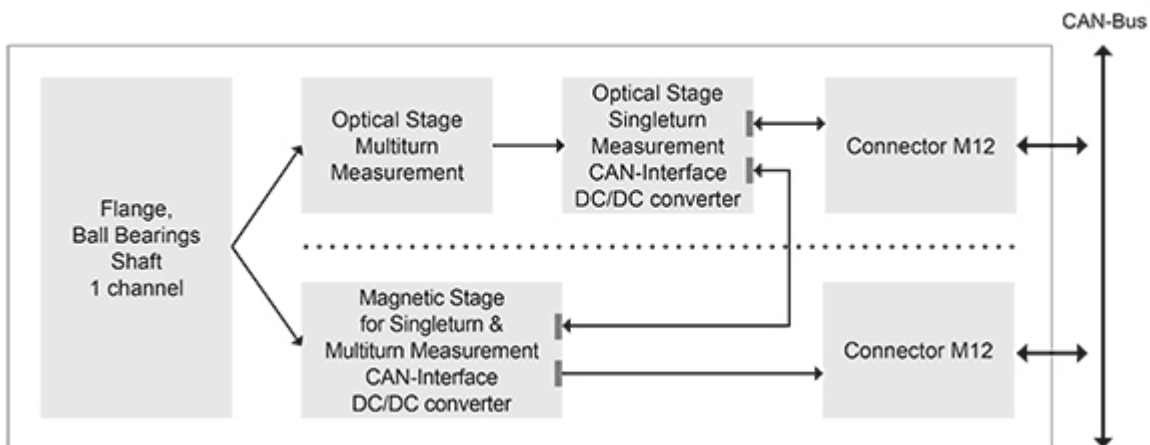
Length	91 mm (3.58")
Weight	320 g (0.71 lb)
Maximum Axial / Radial Misalignment	Static ± 0.3 mm / ± 0.5 mm; Dynamic ± 0.1 mm / ± 0.2 mm

Electrical Connection

Connection Orientation	Radial
Connection Type	Cable / Connector

Product Life Cycle

Product Life Cycle	New
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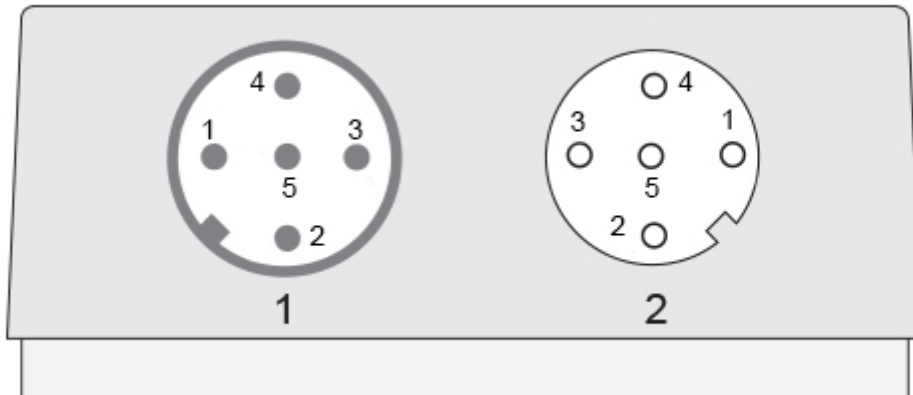
Safety Data

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



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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

[2D 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

Clamping Rings

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Clamping Ring B15

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



Contact Us

The picture and drawing are for general presentation purposes only. Please refer to the "Download" section for detailed technical drawings. 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.