



### IXARC Absolute Rotary Encoder

### OCD-EC00B-1416-C100-PRM



#### Interface

|                       |  |
|-----------------------|--|
| Interface             | Ethercat                                   |
| Profile               | CoE (CANopen over EtherCAT, DS-301+DS-406) |
| Diagnostics           | OptoAsic, Memory, LED                      |
| Features              | Boot-Loader, Round Axis                    |
| Transmission Rate     | 10 / 100 Mbit                              |
| Interface Cycle Time  | $\geq 62.5 \mu\text{s}$                    |
| Programming Functions | Resolution, preset, counting direction     |

#### Outputs

|               |          |
|---------------|----------|
| Output Driver | Ethernet |
|---------------|----------|

#### Electrical Data

|                             |  |
|-----------------------------|--|
| Supply Voltage              | 10 - 30 VDC  |
| Current Consumption         | $\leq 230 \text{ mA @ } 10 \text{ V DC}, \leq 100 \text{ mA @ } 24 \text{ V DC}$ |
| Power Consumption           | $\leq 2.5 \text{ W}$   |
| Start-Up Time               | $< 1 \text{ s}$  |
| Reverse Polarity Protection | Yes  |
| Short Circuit Protection    | Yes  |
| EMC: Emitted Interference   | DIN EN 61000-6-4   |
| EMC: Noise Immunity         | DIN EN 61000-6-2   |
| Electrical Lifetime         | $> 10^5 \text{ h}$   |

Data Sheet

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### Sensor

|                       |   |
|-----------------------|---|
| Technology            | Optical   |
| Resolution Singleturn | 16 bit  |
| Resolution Multiturn  | 14 bit  |
| Multiturn Technology  | Mechanical Gearing (no Battery)                                       |
| Accuracy (INL)        | $\pm 0.0220^\circ$ (14 - 16 bit), $\pm 0.0439^\circ$ ( $\leq 13$ bit) |
| Code                  | Binary  |

### Environmental Specifications

|                            |                                    |
|----------------------------|------------------------------------|
| Protection Class (Shaft)   | IP65                               |
| 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

|   |   |
|---|---|
| Housing Material  | Steel   |
| Housing Coating   | Wet coating (RAL 9006 White Aluminium) + Cathodic corrosion protection (>720 h salt spray resistance) |
| 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<br>( $10^8$ 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   | $\leq 3$ Ncm @ 20 °C (4.2 oz-in @ 68 °F)  |
| Max. Permissible Mechanical Speed                               | $\leq 12000$ 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  | $\leq 10$ g (10 Hz - 1000 Hz, EN 60068-2-6)   |
| Length  | 80 mm (3.15")   |
| Weight  | 370 g (0.82 lb)   |

### Electrical Connection

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|                        |                             |
|------------------------|-----------------------------|
| Connection Orientation | Radial                      |
| Connector 1            | M12, Female, 4 pin, d coded |
| Connector 2            | M12, Male, 4 pin, a coded   |
| Connector 3            | M12, Female, 4 pin, d coded |

### Product Life Cycle

|                    |   |
|--------------------|---|
| Product Life Cycle | Established                                     |
| Approval           | CE + cULus listed, Industrial Control Equipment |



### Connection Plan

| SIGNAL        | CONNECTOR   | PIN NUMBER |
|---------------|-------------|------------|
| Tx+           | Connector 1 | 1          |
| Rx+           | Connector 1 | 2          |
| Tx-           | Connector 1 | 3          |
| Rx-           | Connector 1 | 4          |
| Power Supply  | Connector 2 | 1          |
| Not Connected | Connector 2 | 2          |
| GND           | Connector 2 | 3          |
| Not Connected | Connector 2 | 4          |
| Tx+           | Connector 3 | 1          |
| Rx+           | Connector 3 | 2          |
| Tx-           | Connector 3 | 3          |
| Rx-           | Connector 3 | 4          |

### Connector-View on Encoder

### Dimensional Drawing

[2D Drawing](#)

### Accessories

Connectors & Cables

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10m PUR Cable, 5pin, A-Coded, f  
2m PUR Cable, 5pin, A-Coded, f  
5m PUR Cable, 5pin, A-Coded, f  
2m PUR Cable, 4pin, D-Coded, m  
M12, 4pin A-Coded, Female  
10m PUR Cable, 4pin, D-Coded, m  
10m PVC Cable, 4pin, D-Coded, m  
2m PVC Cable, 4pin, D-Coded, m  
5m PVC Cable, 4pin, D-Coded, m  
M12, 4pin D-Coded, Male  
M12, 5pin A-Coded, Female  
5m PUR Cable, 4pin, D-Coded, m  
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

More

### Adapter Flanges

Mounting Bracket for Clamping Flange w/ fixtures  
L Mounting Bracket w/ screws  
Mounting Bracket Spring Loaded f. Clamping Flange  
Clamping Rings  
Clamp Disc w/ Eccentric Hole-4pcs  
Clamp Disc w/ Centred Hole-4pcs



### Contact



### 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.