



### IXARC Absolute Rotary Encoder

**OCD-EM00B-1416-S06S-PRM**



#### Interface

|                       |                                                                                              |
|-----------------------|----------------------------------------------------------------------------------------------|
| Interface             | Ethernet ModbusTCP                                                                           |
| Profile               | TCP/IP, UDP, Modbus TCP (IEC 61158)                                                          |
| Programming Functions | Resolution, preset, complement, transmission mode: polled mode, cyclic mode, change of state |
| Features              | Boot-Loader, Web-Applet                                                                      |
| Transmission Rate     | 10 / 100 Mbit                                                                                |
| Interface Cycle Time  | $\geq 10$ ms                                                                                 |

#### Outputs

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

#### Electrical Data

|                             |                                                  |
|-----------------------------|--------------------------------------------------|
| Supply Voltage              | 10 - 30 VDC                                      |
| Current Consumption         | $\leq 230$ mA @ 10 V DC, $\leq 100$ mA @ 24 V DC |
| Power Consumption           | $\leq 2.5$ W                                     |
| Start-Up Time               | $< 250$ ms                                       |
| Reverse Polarity Protection | Yes                                              |
| Short Circuit Protection    | Yes                                              |
| EMC: Emitted Interference   | DIN EN 61000-6-4                                 |
| EMC: Noise Immunity         | DIN EN 61000-6-2                                 |
| MTTF                        | 134 years @ 60 °C                                |

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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)   | IP66/IP67                          |
| Protection Class (Housing) | IP66/IP67                          |
| Operating Temperature      | 0 °C (32 °F) - +60 °C (+140 °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                                                     | Synchro, $\varnothing$ 58 mm (S)                                                                      |
| Flange Material                                                 | Aluminum                                                                                              |
| Shaft Type                                                      | Solid, Length = 10 mm                                                                                 |
| Shaft Diameter                                                  | $\varnothing$ 6 mm (0.24")                                                                            |
| 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) | 400 (20 N / 40 N)                                                                                     |
| Rotor Inertia                                                   | $\leq 30 \text{ gcm}^2$ [ $\leq 0.17 \text{ oz-in}^2$ ]                                               |
| Friction Torque                                                 | $\leq 5 \text{ Ncm}$ @ 20 °C, (7.1 oz-in @ 68 °F)                                                     |
| Max. Permissible Mechanical Speed                               | $\leq 12000 \text{ 1/min}$                                                                            |
| Shock Resistance                                                | $\leq 100 \text{ g}$ (half sine 6 ms, EN 60068-2-27)                                                  |
| Permanent Shock Resistance                                      | $\leq 10 \text{ g}$ (half sine 16 ms, EN 60068-2-29)                                                  |
| Vibration Resistance                                            | $\leq 10 \text{ g}$ (10 Hz - 1000 Hz, EN 60068-2-6)                                                   |
| Length                                                          | 92,2 mm (3.63")                                                                                       |
| Weight                                                          | 460 g (1.01 lb)                                                                                       |

### Electrical Connection

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|                        |                             |
|------------------------|-----------------------------|
| Connection Orientation | Radial                      |
| Connector 1            | M12, Male, 5 pin, a coded   |
| Connector 2            | M12, Female, 4 pin, d coded |

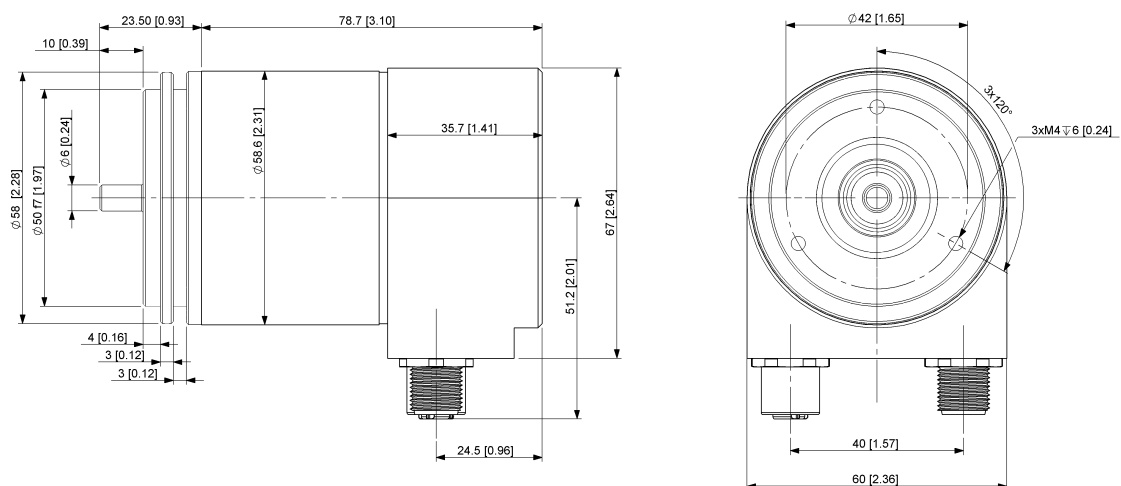
### Certification

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

### Connection Plan

| SIGNAL       | CONNECTOR   | PIN NUMBER |
|--------------|-------------|------------|
| Power Supply | Connector 1 | 1          |
| Power Supply | Connector 1 | 2          |
| GND          | Connector 1 | 3          |
| GND          | Connector 1 | 4          |
| PE           | Connector 1 | 5          |
| Tx+          | Connector 2 | 1          |
| Rx+          | Connector 2 | 2          |
| Tx-          | Connector 2 | 3          |
| Rx-          | Connector 2 | 4          |

### Connector-View on Encoder



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### [2D Drawing](#)

#### **Accessories**

##### Connectors & Cables

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  
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

Clamp Disc w/ Eccentric Hole-4pcs  
Clamp Disc w/ Centred Hole-4pcs

Coupling Bellow Type-06-06  
Coupling Bellow Type-06-10  
Coupling Bellow Type-06-08  
Coupling Bellow Type-06-(3/8")  
Coupling Bellow Type-06-(1/4")  
Coupling Jaw Type-06-06  
Coupling Jaw Type-06-10  
Coupling Jaw Type-06-08  
Coupling Jaw Type-06-12  
Coupling Jaw Type-06-(1/4")  
Coupling Jaw Type-06-(3/8")  
Coupling Disc Type-06-06  
Coupling Disc Type-06-10  
More

Mounting Bracket for Synchro Flange w/ fixtures

#### **Contact**



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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.  
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