



### IXARC Absolute Rotary Encoder

**OCD-S3A1G-0016-B10S-PRL**



#### Interface

|                             |                                            |
|-----------------------------|--------------------------------------------|
| Interface                   | SSI with Preset and Incr.                  |
| Optional Incremental Pulses | 1024                                       |
| Manual Functions            | Preset + complement via cable or connector |
| Interface Cycle Time        | $\geq 25 \mu\text{s}$                      |

#### Outputs

|                         |                                     |
|-------------------------|-------------------------------------|
| Output Driver           | SSI (RS422) / Incr. (RS422)         |
| Output Incremental      | A, /A, B, /B                        |
| Quadrature Phasing      | $90^\circ \pm 4.5^\circ$ electrical |
| Max. Frequency Response | 2 MHz                               |

#### Electrical Data

|                             |                         |
|-----------------------------|-------------------------|
| Supply Voltage              | 4.5 - 30 VDC            |
| Power Consumption           | $\leq 1.5 \text{ W}$    |
| Start-Up Time               | $< 250 \text{ ms}$      |
| Clock Input                 | RS 422, via Optocoupler |
| Clock Frequency             | 100 kHz - 2 MHz         |
| Reverse Polarity Protection | Yes                     |
| Short Circuit Protection    | Yes                     |
| EMC: Emitted Interference   | DIN EN 61000-6-4        |
| EMC: Noise Immunity         | DIN EN 61000-6-2        |

Data Sheet

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|      |                    |
|------|--------------------|
| MTTF | 16.2 years @ 40 °C |
|------|--------------------|

### Sensor

|                        |                                                                       |
|------------------------|-----------------------------------------------------------------------|
| Technology             | Optical                                                               |
| Resolution Singleturn  | 16 bit                                                                |
| Accuracy (INL)         | $\pm 0.0220^\circ$ (14 - 16 bit), $\pm 0.0439^\circ$ ( $\leq 13$ bit) |
| Sense Signal (Default) | Clockwise shaft movement (front view on shaft)                        |
| Code                   | Gray                                                                  |
| Incremental Pulses     | 1024                                                                  |

### Environmental Specifications

|                            |                                    |
|----------------------------|------------------------------------|
| Protection Class (Shaft)   | IP66/IP67                          |
| Protection Class (Housing) | IP66/IP67                          |
| Operating 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                       | Blind Hollow, $\varnothing$ 58 mm (B)                                                                 |
| Flange Material                   | Aluminum                                                                                              |
| Shaft Type                        | Blind Hollow, Depth = 30 mm                                                                           |
| Shaft Diameter                    | $\varnothing$ 10 mm (0.39")                                                                           |
| Shaft Material                    | Stainless Steel V2A (1.4305, 303)                                                                     |
| 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 | $\leq 3000 \text{ 1/min}$                                                                             |
| 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                            | 71,2 mm (2.80")                                                                                       |
| Weight                            | 305 g (0.67 lb)                                                                                       |

### Electrical Connection

|                        |        |
|------------------------|--------|
| Connection Orientation | Radial |
|------------------------|--------|

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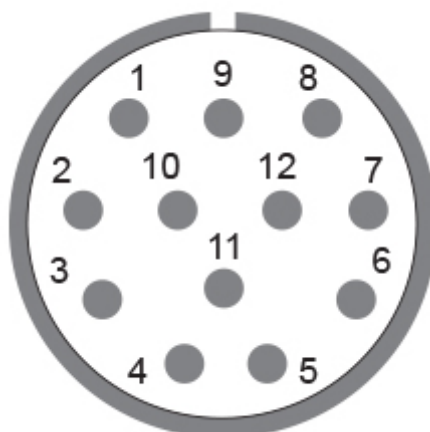
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|           |                               |
|-----------|-------------------------------|
| Connector | M23, Male, 12 pin, CCW / left |
|-----------|-------------------------------|

### Certification

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



### Connection Plan

| SIGNAL       | PIN NUMBER |
|--------------|------------|
| Power Supply | 11         |
| GND          | 12         |
| Data+        | 3          |
| Data-        | 4          |
| Clock+       | 2          |
| Clock-       | 1          |
| DIR          | 8          |
| Preset       | 9          |
| A            | 5          |
| /A           | 6          |
| B            | 7          |
| /B           | 10         |
| Shielding    | Shell      |

Connector-View on Encoder



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