



## IXARC Absolute Rotary Encoder

OCD-S3C1G-1416-B060-PAL



### Interface

|                             |  |
|-----------------------------|--|
| Interface                   | SSI with Preset and Incr.                  |
| Optional Incremental Pulses | 4096                                       |
| 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  |
| 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) |
| Sense Signal (Default) | Clockwise shaft movement (front view on shaft)                        |
| Code                   | Gray  |
| Incremental Pulses     | 4096  |

### Environmental Specifications

|                            |                                    |
|----------------------------|------------------------------------|
| Protection Class (Shaft)   | IP65                               |
| Protection Class (Housing) | IP65                               |
| 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 spay resistance) |
| Flange Type                       | Blind Hollow, $\varnothing$ 58 mm (B)  |
| Flange Material                   | Aluminum   |
| Shaft Type                        | Blind Hollow, Depth = 30 mm  |
| Shaft Diameter                    | $\varnothing$ 6 mm (0.24")   |
| Shaft Material                    | Stainless Steel V2A (1.4305, 303)  |
| Rotor Inertia                     | $\leq 30 \text{ gcm}^2$ [ $\leq 0.17 \text{ oz-in}^2$ ]  |
| Friction Torque                   | $\leq 3 \text{ Ncm}$ @ 20 °C (4.2 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                            | 71,2 mm (2.80")  |
| Weight                            | 325 g (0.72 lb)  |

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### Electrical Connection

|                        |                               |
|------------------------|-------------------------------|
| Connection Orientation | Axial                         |
| Connector              | M23, Male, 12 pin, CCW / left |

### Certification

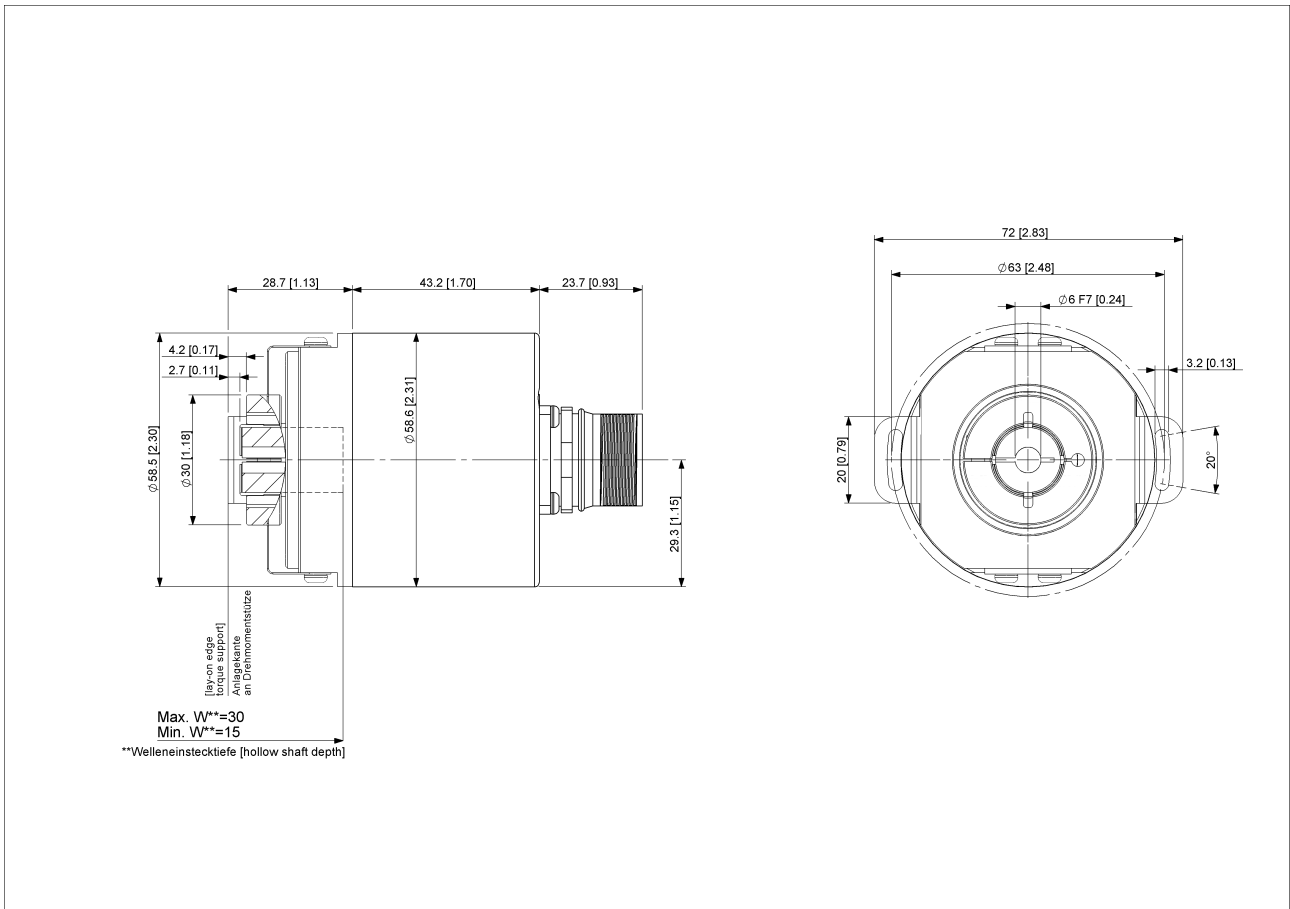
|                    |   |
|--------------------|---|
| Approval           | CE + cULus listed, Industrial Control Equipment |
| Product Life Cycle | Established                                     |



### 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



### [2D Drawing](#)

### Accessories

#### Connectors & Cables

- 10m PVC Cable, 12pin, Clockwise, f
- 15m PVC Cable, 12pin, Clockwise, f
- 1m PVC Cable, 12pin, Clockwise, f
- 20m PVC Cable, 12pin, Clockwise, f
- 5m PVC Cable, 12pin, Clockwise, f
- 30m PVC Cable, 12pin, Clockwise, f
- 2m PVC Cable, 12pin, Clockwise, f
- M23, 12pin Clockwise, Female
- More

#### Clamping Ring B15

### Contact

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