



# POSITAL

## FRABA

### IXARC Absolute Rotary Encoder

### UCD-S101B-1213-L06S-PAL



#### Interface

|                         |   |
|-------------------------|---|
| Interface               | SSI with Preset                                     |
| Programming Functions   | Absolute: Resolution, Revolution, Code, Preset      |
| Manual Functions        | Preset + complement via cable or connector          |
| Interface Cycle Time    | $\geq 25 \mu\text{s}$                               |
| Number of Preset Cycles | 5,100,000   |
| SSI Format              | MMMMMMMMMMMMSSSSSSSSSSSSSS0                         |
| Video Manual            | <a href="#">▶ Watch a simple installation video</a> |

#### Outputs

|               |       |
|---------------|-------|
| Output Driver | RS422 |
|---------------|-------|

#### Electrical Data

|                             |                         |
|-----------------------------|-------------------------|
| Supply Voltage              | 4.5 - 30 VDC            |
| Current Consumption         | Typical 50 mA           |
| Power Consumption           | $\leq 1.0 \text{ W}$    |
| 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        |

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|      |                   |
|------|-------------------|
| MTTF | 350 years @ 40 °C |
|------|-------------------|

### Sensor

|                        |   |
|------------------------|---|
| Technology             | Magnetic  |
| Resolution Singleturn  | 13 bit  |
| Resolution Multiturn   | 12 bit  |
| Multiturn Technology   | Self powered magnetic pulse counter (no battery, no gear) |
| Accuracy (INL)         | $\pm 0.0878^\circ$ ( $\leq 12$ bit)                       |
| Sense Signal (Default) | Clockwise shaft movement (front view on shaft)            |
| Code                   | Binary  |

### 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  | Cathodic corrosion protection (>720 hrs salt spray resistance)             |
| Flange Type  | Clamp, $\varnothing$ 58 mm (L)   |
| 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 (10 <sup>8</sup> revolutions with Fa/Fr) | 530 (20 N / 40 N), 185 (40 N / 60 N), 130 (40 N / 80 N), 80 (40 N / 110 N) |
| Rotor Inertia  | $\leq 30$ gcm <sup>2</sup> [ $\leq 0.17$ oz-in <sup>2</sup> ]              |
| Friction Torque  | $\leq 5$ Ncm @ 20 °C, (7.1 oz-in @ 68 °F)                                  |
| Max. Permissible Mechanical Speed                                    | $\leq 3000$ 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   | 41,7 mm (1.64")  |
| Weight   | 280 g (0.62 lb)  |

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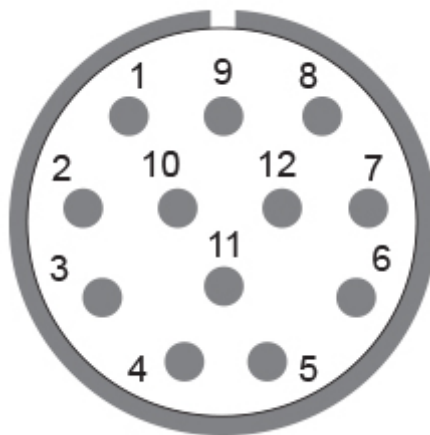
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### Electrical Connection

|                        |                               |
|------------------------|-------------------------------|
| 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          |
| Preset        | 9          |
| DIR           | 8          |
| Not Connected | 5          |
| Not Connected | 6          |
| Not Connected | 7          |
| Not Connected | 10         |

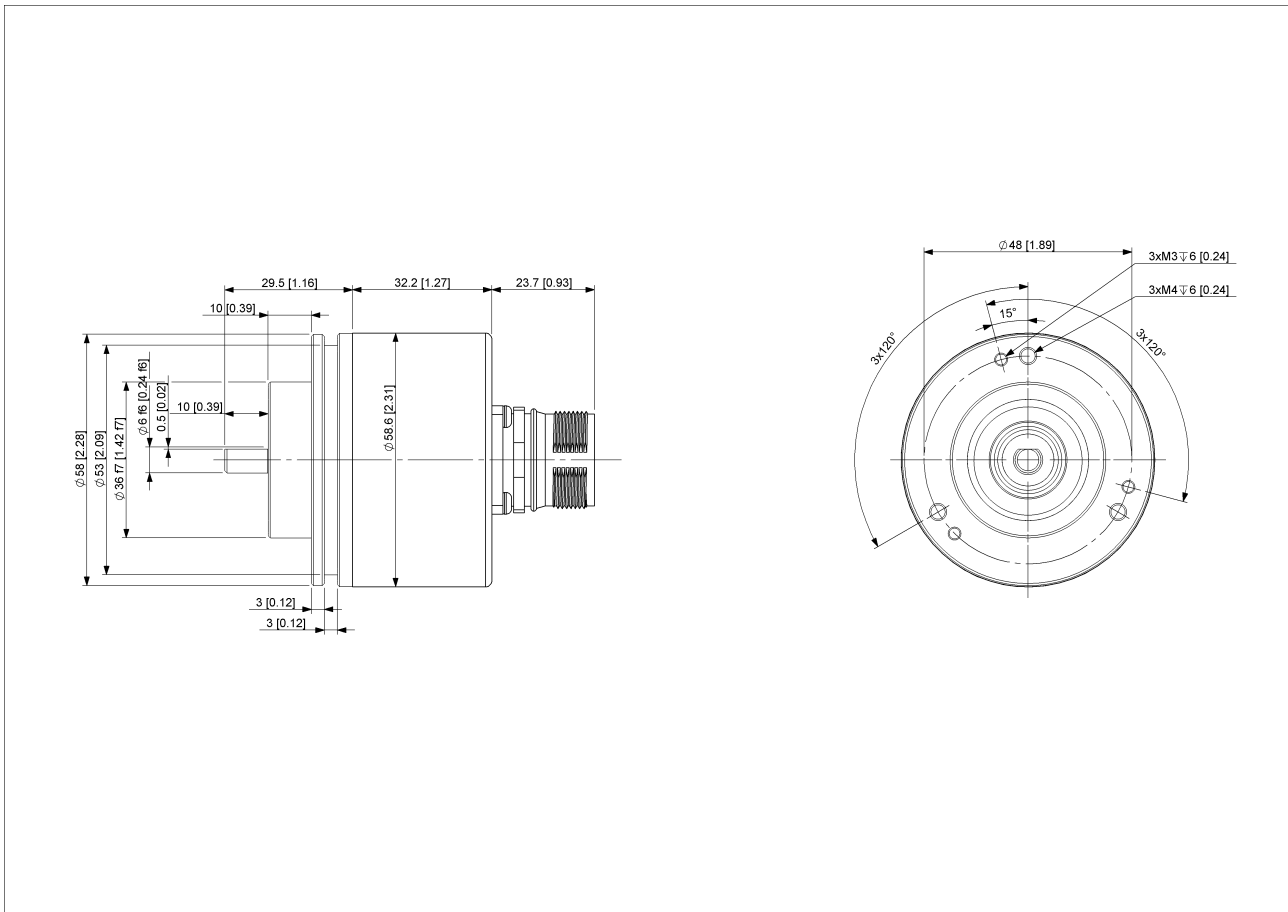
Connector-View on Encoder



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### [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](#)

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

#### Coupling Bellow Type-06-06

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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 Clamping Flange w/ fixtures  
L Mounting Bracket w/ screws  
Mounting Bracket Spring Loaded f. Clamping Flange

### 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. Specifications are subject to change without notice.