



# POSITAL

## FRABA

### IXARC Absolute Rotary Encoder

UCD-S401G-1212-R100-PRQ



#### Interface

|                         |                                                     |
|-------------------------|-----------------------------------------------------|
| Interface               | SSI with Button and LEDs                            |
| Programming Functions   | Absolute: Resolution, Revolution, Code, Preset      |
| Manual Functions        | Preset + complement via cable or connector          |
| Interface Cycle Time    | $\geq 25 \mu s$                                     |
| Number of Preset Cycles | 5,100,000                                           |
| SSI Format              | MMMMMMMMMMMMSSSSSSSSSSSS00                          |
| 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 |

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|                             |                         |
|-----------------------------|-------------------------|
| Power Consumption           | ≤ 1.0 W                 |
| Start-Up Time               | < 250 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        |
| MTTF                        | 350 years @ 40 °C       |

### Sensor

|                        |                                                           |
|------------------------|-----------------------------------------------------------|
| Technology             | Magnetic                                                  |
| Resolution Singleturn  | 12 bit                                                    |
| Resolution Multiturn   | 12 bit                                                    |
| Multiturn Technology   | Self powered magnetic pulse counter (no battery, no gear) |
| Accuracy (INL)         | ±0.0878° (≤ 12 bit)                                       |
| Sense Signal (Default) | Clockwise shaft movement (front view on shaft)            |
| Code                   | Gray                                                      |

### 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                                                      | Cathodic corrosion protection (>720 hrs salt spray resistance)        |
| Flange Type                                                          | Synchro, ø 36 mm                                                      |
| Flange Material                                                      | Aluminum                                                              |
| Shaft Type                                                           | Solid, Length = 20 mm                                                 |
| Shaft Diameter                                                       | ø 10 mm (0.39")                                                       |
| 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) | 30 (20 N / 40 N), 10 (40 N / 60 N), 7 (40 N / 80 N), 3 (40 N / 110 N) |

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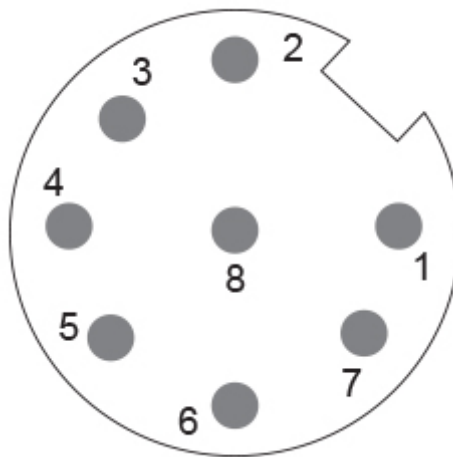
|                                   |                                                                         |
|-----------------------------------|-------------------------------------------------------------------------|
| Friction Torque                   | $\leq 3 \text{ Ncm @ } 20 \text{ }^{\circ}\text{C}$ (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                            | 56 mm (2.20")                                                           |
| Weight                            | 155 g (0.34 lb)                                                         |

### Electrical Connection

|                        |                           |
|------------------------|---------------------------|
| Connection Orientation | Radial                    |
| Connector              | M12, Male, 8 pin, a coded |

### Certification

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



### Connection Plan

| SIGNAL       | PIN NUMBER |
|--------------|------------|
| Power Supply | 2          |
| GND          | 1          |
| Data+        | 5          |
| Data-        | 6          |
| Clock+       | 3          |
| Clock-       | 4          |
| Preset       | 7          |
| DIR          | 8          |

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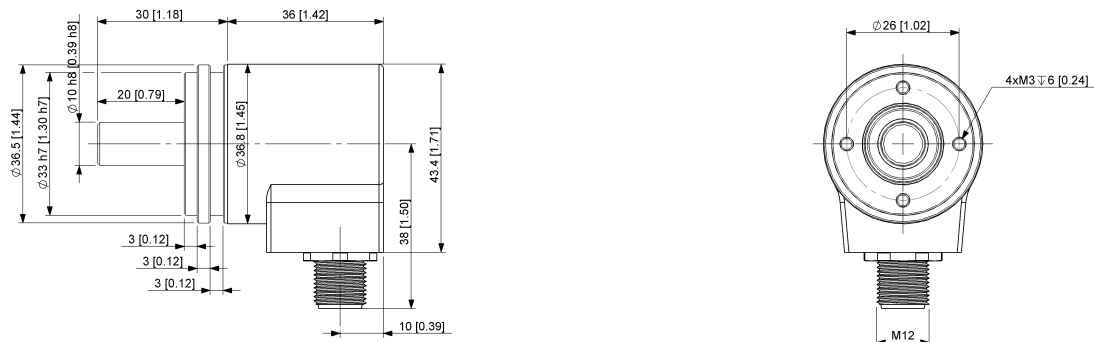
## FRABA

Shielding

Connector Housing

Connector-View on Encoder

Rotation Clockwise (seen on shaft)



### [2D Drawing](#)

### Accessories

Connectors & Cables

5m PUR Cable, 8pin, A-Coded, f

10m PUR Cable, 8pin, A-Coded, f

2m PUR Cable, 8pin, A-Coded, f

10m PUR Cable, 8pin, A-Coded, f

M12, 8pin A-Coded, Female

More

Clamp Disc w/ Eccentric Hole-4pcs

Clamp Disc w/ Centred Hole-4pcs

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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

### Contact



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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.