



# POSITAL

## FRABA

### IXARC Absolute Rotary Encoder

UCD-S401B-1213-R10A-2RW



#### Interface

|                         |                                                     |
|-------------------------|-----------------------------------------------------|
| Interface               | SSI with Button and LEDs                            |
| Programming Functions   | Absolute: Resolution, Revolution, Code, Preset      |
| Manual Functions        | Preset via push button and cable or connector       |
| Interface Cycle Time    | $\geq 25 \mu\text{s}$                               |
| Number of Preset Cycles | 5,100,000                                           |
| SSI Format              | MMMMMMMMMMMMSSSSSSSSSSSS0                           |
| Video Manual            | <a href="#">▶ Watch a simple installation video</a> |

#### Outputs

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

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### Electrical Data

|                             |                         |
|-----------------------------|-------------------------|
| Supply Voltage              | 4.5 – 30 VDC            |
| Current Consumption         | Typical 50 mA           |
| 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  | 13 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                   | Binary                                                    |

### Environmental Specifications

|                            |                                                                   |
|----------------------------|-------------------------------------------------------------------|
| Protection Class (Shaft)   | IP65                                                              |
| Protection Class (Housing) | IP54                                                              |
| Operating Temperature      | -30 °C fixed (-22 °F), -5 °C flexible (+23 °F) - +80 °C (+176 °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")                                                |

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|                                                                         |                                                                          |
|-------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Shaft Material                                                          | Stainless Steel V2A (1.4305, 303)                                        |
| Max. Shaft Load                                                         | Axial 40 N, Radial 110 N                                                 |
| Minimum Mechanical Lifetime<br>(10 <sup>8</sup> revolutions with Fa/Fr) | 30 (20 N / 40 N), 10 (40 N / 60 N), 7 (40 N / 80 N),<br>3 (40 N / 110 N) |
| Friction Torque                                                         | ≤ 3 Ncm @ 20 °C (4.2 oz-in @ 68 °F)                                      |
| Max. Permissible Mechanical Speed                                       | ≤ 12000 1/min                                                            |
| Shock Resistance                                                        | ≤ 100 g (half sine 6 ms, EN 60068-2-27)                                  |
| Permanent Shock Resistance                                              | ≤ 10 g (half sine 16 ms, EN 60068-2-29)                                  |
| Vibration Resistance                                                    | ≤ 10 g (10 Hz - 1000 Hz, EN 60068-2-6)                                   |
| Length                                                                  | 56 mm (2.20")                                                            |
| Weight                                                                  | 270 g (0.60 lb)                                                          |

### Electrical Connection

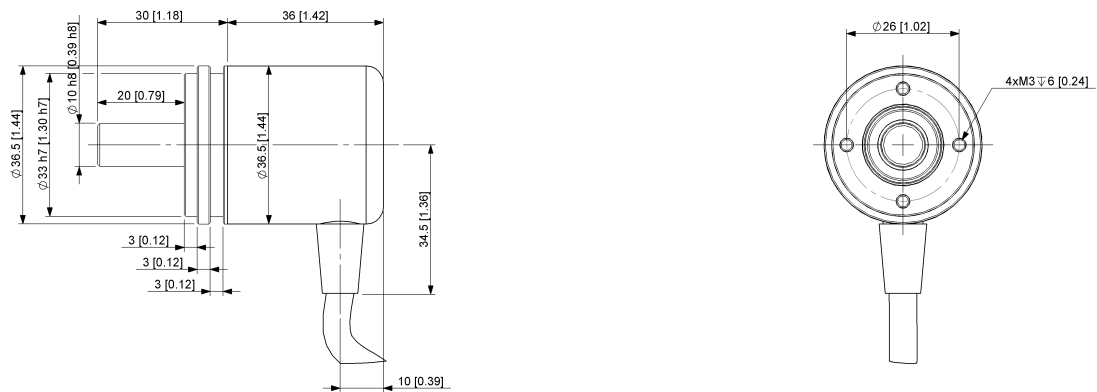
|                        |                                           |
|------------------------|-------------------------------------------|
| Connection Orientation | Radial                                    |
| Cable Length           | 2 m [79"]                                 |
| Wire Cross Section     | 0.14 mm <sup>2</sup> / AWG 26             |
| Material / Type        | PVC                                       |
| Cable Diameter         | 6 mm (0.24 in)                            |
| Minimum Bend Radius    | 46 mm (1.81") fixed, 61 mm (2.4") flexing |

### Certification

|                    |             |
|--------------------|-------------|
| Approval           | CE          |
| Product Life Cycle | Established |

### Connection Plan

|              |             |
|--------------|-------------|
| SIGNAL       | CABLE COLOR |
| Power Supply | Brown       |
| GND          | White       |
| Preset       | Blue        |
| Data+        | Gray        |
| Data-        | Pink        |
| Clock+       | Green       |
| Clock-       | Yellow      |
| DIR          | Red         |
| Shielding    | Shield      |



### [2D Drawing](#)

#### Accessories

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

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")

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Coupling Jaw Type-10-10  
Coupling Disc Type-06-10  
Coupling Disc Type-10-10  
More

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