



# POSITAL

## FRABA

### IXARC Absolute Rotary Encoder

### UCD-S101B-1212-VCS0-PAQ



#### 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              | MMMMMMMMMMMMSSSSSSSSSS00                          |
| 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        |

Data Sheet

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|                     |                   |
|---------------------|-------------------|
| 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)         | $\pm 0.0878^\circ (\leq 12 \text{ bit})$                  |
| Sense Signal (Default) | Clockwise shaft movement (front view on shaft)            |
| Code                   | Binary                                                    |

### 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                       | Blind Hollow, $\varnothing$ 36 mm / $\varnothing$ 42 mm        |
| Flange Material                   | Aluminum                                                       |
| Shaft Type                        | Blind Hollow, Depth = 18 mm                                    |
| Shaft Diameter                    | $\varnothing$ 12 mm (0.47")                                    |
| Shaft Material                    | Stainless Steel V2A (1.4305, 303)                              |
| Friction Torque                   | $\leq 3 \text{ Ncm @ } 20^\circ\text{C}$ (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                            | 54,2 mm (2.13")                                                |
| Weight                            | 105 g (0.23 lb)                                                |

### Electrical Connection



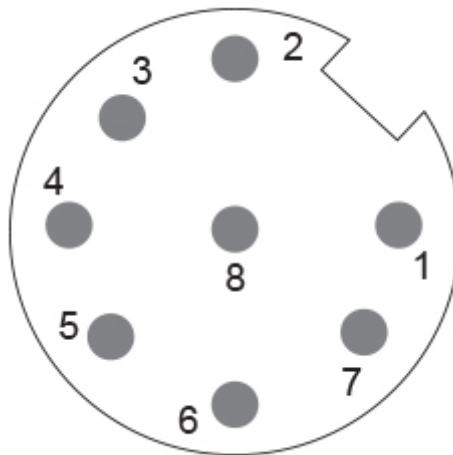
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|                        |                           |
|------------------------|---------------------------|
| Connection Orientation | Axial                     |
| Connector              | M12, Male, 8 pin, a coded |

### Certification

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



### Connection Plan

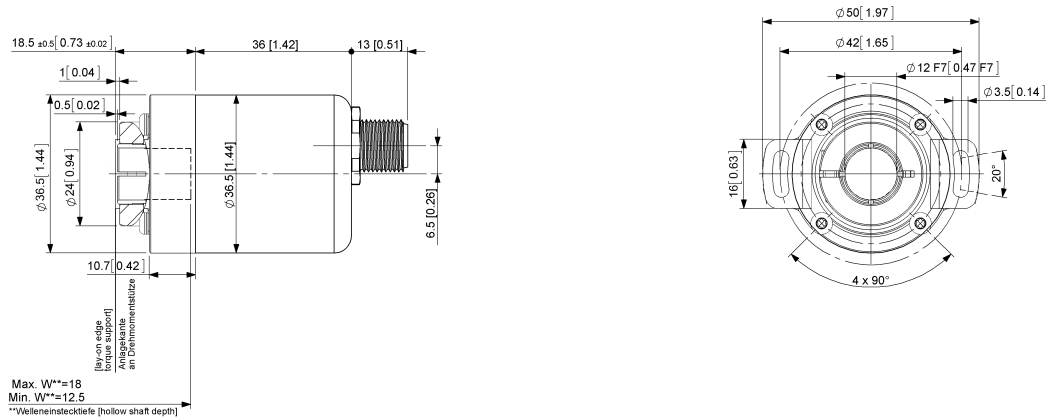
| SIGNAL       | PIN NUMBER        |
|--------------|-------------------|
| Power Supply | 2                 |
| GND          | 1                 |
| Data+        | 5                 |
| Data-        | 6                 |
| Clock+       | 3                 |
| Clock-       | 4                 |
| Preset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

Connector-View on Encoder  
Rotation Clockwise (seen on shaft)



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### [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

#### Clamping Ring V12

### 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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