



# POSITAL

## FRABA

### IXARC Absolute Rotary Encoder

**UCD-S101B-1416-HFS0-2AW**



#### 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              | MMMMMMMMMMMMMMMMSSSSSSSSSSSSSSSSSS00              |
| 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  | 16 bit                                                    |
| Resolution Multiturn   | 14 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)   | IP65                                                              |
| Protection Class (Housing) | IP66/IP67                                                         |
| 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                       | Blind Hollow, $\varnothing$ 58 mm (H)                          |
| Flange Material                   | Aluminum                                                       |
| Shaft Type                        | Blind Hollow, Depth = 28 mm                                    |
| Shaft Diameter                    | $\varnothing$ 15 mm (0.59")                                    |
| 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                            | 475 g (1.05 lb)                                                |



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### Electrical Connection

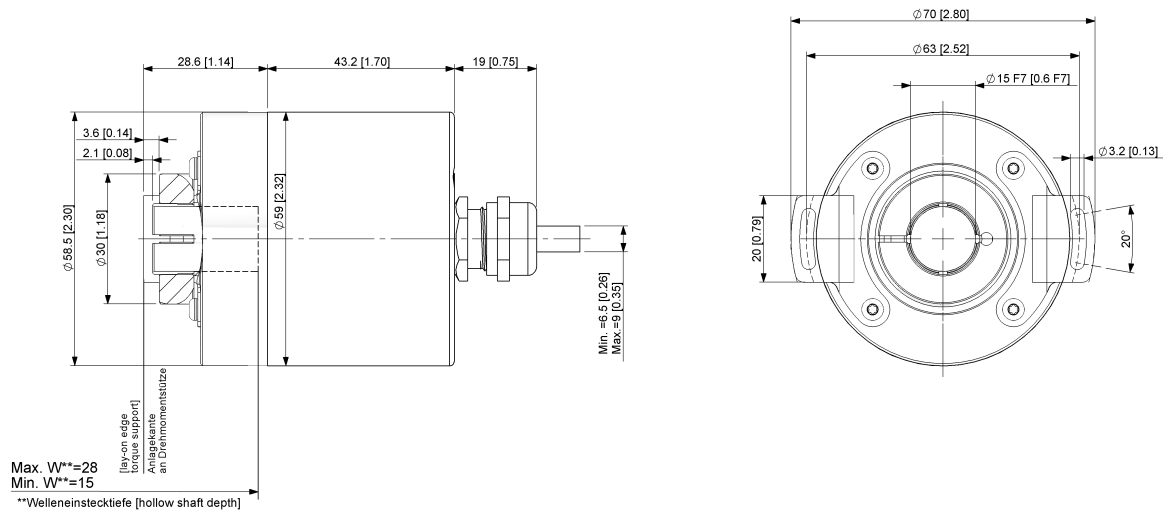
|                        |                                           |
|------------------------|-------------------------------------------|
| Connection Orientation | Axial                                     |
| Cable Length           | 2 m [79"]                                 |
| Wire Cross Section     | 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 + cULus listed, Industrial Control Equipment |
| Product Life Cycle | Established                                     |

### Connection Plan

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



## 2D Drawing

## Accessories

## Clamping Ring B15

## 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.

# We do not assume

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Specifications are subject to change without notice.