

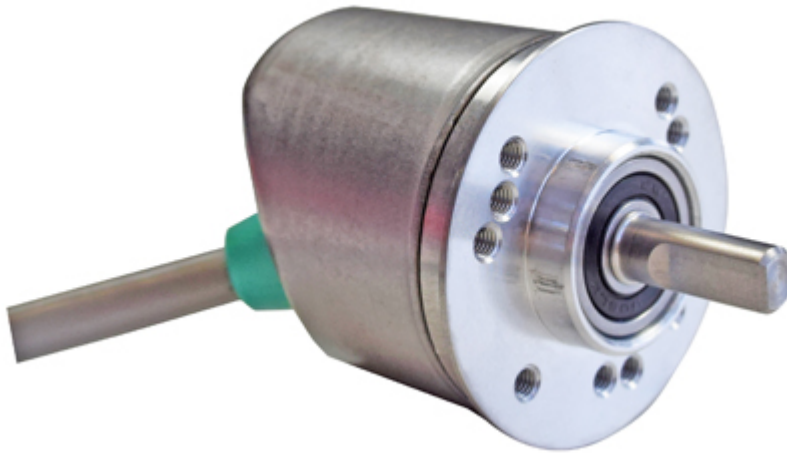


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## FRABA

### IXARC Incremental Encoder

UCD-IPH00-XXXXX-02M0-2TW



#### Interface

|                       |   |
|-----------------------|---|
| Interface             | Programmable Incremental                          |
| Programming Functions | PPR (1-16384), Output, Counting Direction         |
| Configuration Tool    | UBIFAST Configuration Tool (Version $\geq$ 1.6.3) |

#### Outputs

|   |  |
|---|--|
| Output Driver                             | Push-Pull (HTL)  |
| Quadrature Phasing                        | $90^\circ \pm 4.5^\circ$ electrical  |
| Output Voltage High Level Push-Pull (HTL) | $> 4 \text{ V}$ @ 4.75-9 V Supply Voltage<br>$> 3 \text{ V}$ @ 9-30 V Supply Voltage |
| Output Voltage Low Level Push-Pull (HTL)  | $< 0.5 \text{ V}$  |
| Output Voltage High Level RS422 (TTL)     | $> 4 \text{ V}$  |
| Output Voltage Low Level RS422 (TTL)      | $< 0.5 \text{ V}$  |
| Maximum Frequency Response                | 1 MHz  |
| Maximum Switching Current                 | 50 mA per Channel  |

#### Electrical Data

|                      |   |
|----------------------|---|
| Supply Voltage       | 4.75 - 30 VDC   |
| Current Consumption  | $\leq 140 \text{ mA}$ @ 5V DC, $\leq 70 \text{ mA}$ @ 10V DC, $\leq 40 \text{ mA}$ @ 24V DC |
| Power Consumption    | $\leq 1.0 \text{ W}$  |
| Start-Up Time        | $< 250 \text{ ms}$  |
| Min. Load Resistance | 120 $\Omega$  |

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|                             |                   |
|-----------------------------|-------------------|
| 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                        | 280 years @ 40 °C |

### Sensor

|                |   |
|----------------|---|
| Technology     | Magnetic                                  |
| Accuracy (INL) | $\pm 0.0878^\circ$ ( $\leq 12$ bit)       |
| Duty Cycle     | $180^\circ \pm 27^\circ$ (Speed > 100RPM) |
| Phase Angle    | $90^\circ \pm 14^\circ$ (Speed > 100RPM)  |

### Environmental Specifications

|                            |                                   |
|----------------------------|-----------------------------------|
| Protection Class (Shaft)   | IP65                              |
| Protection Class (Housing) | IP65                              |
| Operating Temperature      | -20 °C (-4 °F) - +80 °C (+176 °F) |
| Humidity                   | 98% RH, no condensation           |

### Mechanical Data

#### Mechanical Data

|                                   |   |
|-----------------------------------|---|
| Housing Material                  | Steel   |
| Housing Coating                   | Zinc Plated   |
| Flange Type                       | Clamp, $\varnothing$ 40 mm                                    |
| Flange Material                   | Aluminum  |
| Shaft Type                        | Solid, Single Flat, Length = 15 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                                      |
| Rotor Inertia                     | $\leq 30$ gcm <sup>2</sup> [ $\leq 0.17$ oz-in <sup>2</sup> ] |
| Friction Torque                   | $\leq 3$ Ncm @ 20 °C (4.2 oz-in @ 68 °F)                      |
| Max. Permissible Mechanical Speed | $\leq 12000$ 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                            | 33 mm (1.30")   |
| Weight                            | 480 g (1.06 lb)   |

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|   |  |
|---|--|
| Minimum Mechanical Lifetime<br>( $10^8$ revolutions with Fa/Fr) | 430 (20 N / 40 N), 150 (40 N / 60 N), 100 (40 N / 80 N), 55 (40 N / 110 N) |
|---|--|

### Electrical Connection

|                        |   |
|------------------------|---|
| Connection Orientation | Axial/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 + cULus listed, Industrial Control Equipment |
|----------|---|

### Product Life Cycle

|                    |     |
|--------------------|-----|
| Product Life Cycle | New |
|--------------------|-----|

### Connection Plan

| SIGNAL       | CABLE COLOR |
|--------------|-------------|
| A            | Green       |
| /A           | Yellow      |
| B            | Gray        |
| /B           | Pink        |
| Z            | Blue        |
| /Z           | Red         |
| Power Supply | Brown       |
| GND          | White       |
| Shielding    | Shield      |

Connector-View on Encoder

### Pulse Diagram

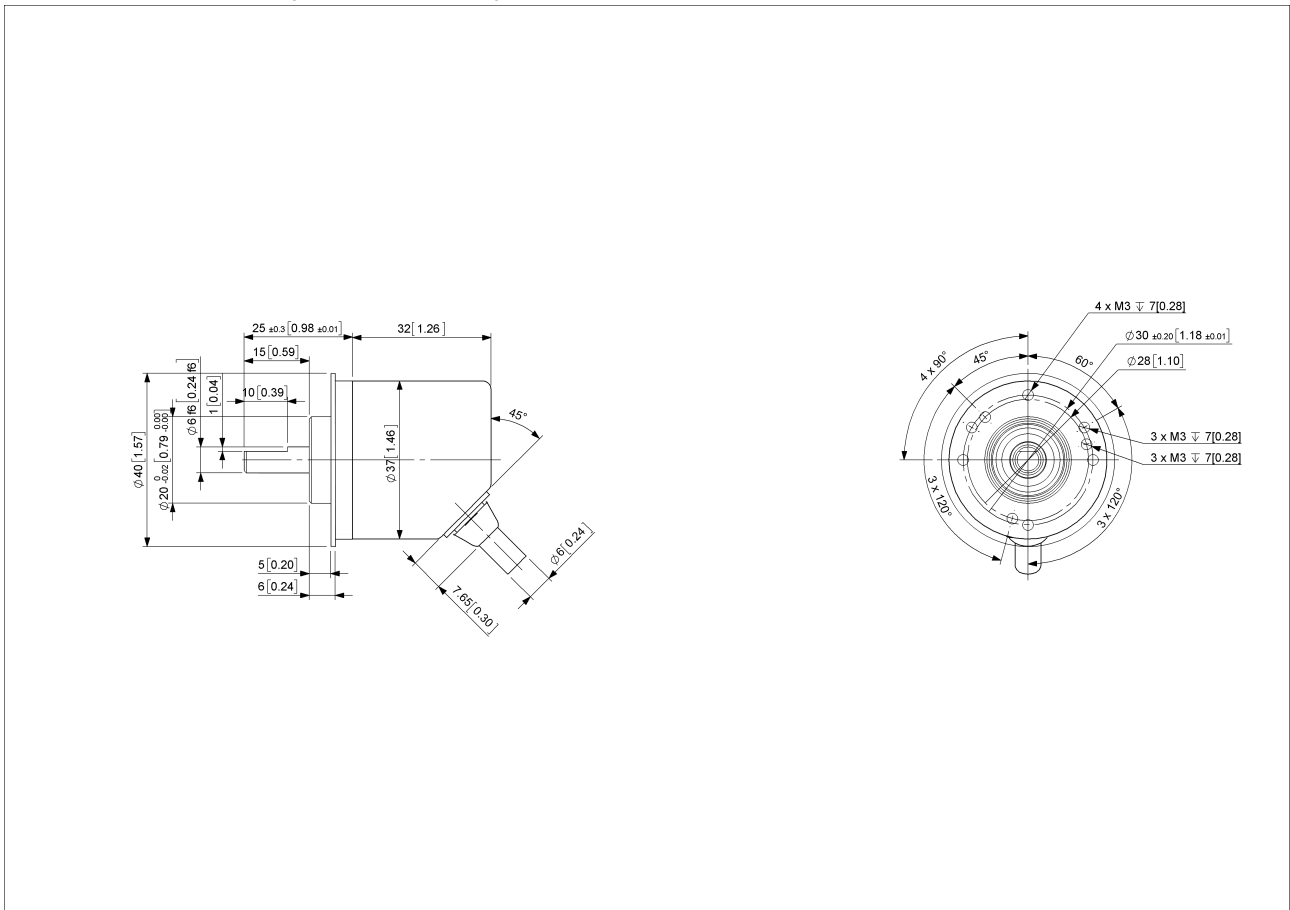


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Rotation Clockwise (seen on shaft)



[2D Drawing](#)

### Accessories

Configuration/Programming Tools  
UBIFAST Configuration Tool

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### Couplings

Coupling Bellow Type-06-06

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

### Displays

AP20-00 Counter

AP20-D0 Counter (4 dig. o/p)

AP20-0A Counter (analog o/p)

AP20-DA Counter (4 dig. + analog o/p)

DiMod Counter (Relay o/p)

More

### Contact



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.

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