



POSITAL

FRABA

IXARC Absolute Rotary Encoder

UCD-S101B-1213-L100-2AW



Interface

| | |
|-------------------------|---|
| Interface | SSI with Preset |
| Programming Functions | Absolute: Resolution, Revolution, Code, Preset |
| Manual Functions | Preset + complement via cable or connector |
| Interface Cycle Time | ≥ 25 μs |
| Number of Preset Cycles | 5,100,000 |
| SSI Format | MMMMMMMMMMMMSSSSSSSSSSSSSS0 |
| Video Manual | ▶ Watch a simple installation video |

Outputs

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

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 |

Data Sheet

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| | |
|---------------------|-------------------|
| 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) | $\pm 0.0878^\circ$ (≤ 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 | Clamp, \varnothing 58 mm (L) |
| Flange Material | Aluminum |
| Shaft Type | Solid, Single Flat, Length = 20 mm |
| Shaft Diameter | \varnothing 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 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) |
| Rotor Inertia | ≤ 30 gcm ² [≤ 0.17 oz-in ²] |
| 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) |

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| | |
|--------|-----------------|
| Length | 52,7 mm (2.07") |
| Weight | 440 g (0.97 lb) |

Electrical Connection

| | |
|------------------------|---|
| Connection Orientation | Axial |
| Cable Length | 2 m [79"] |
| Wire Cross Section | 0.14 mm ² / 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 |

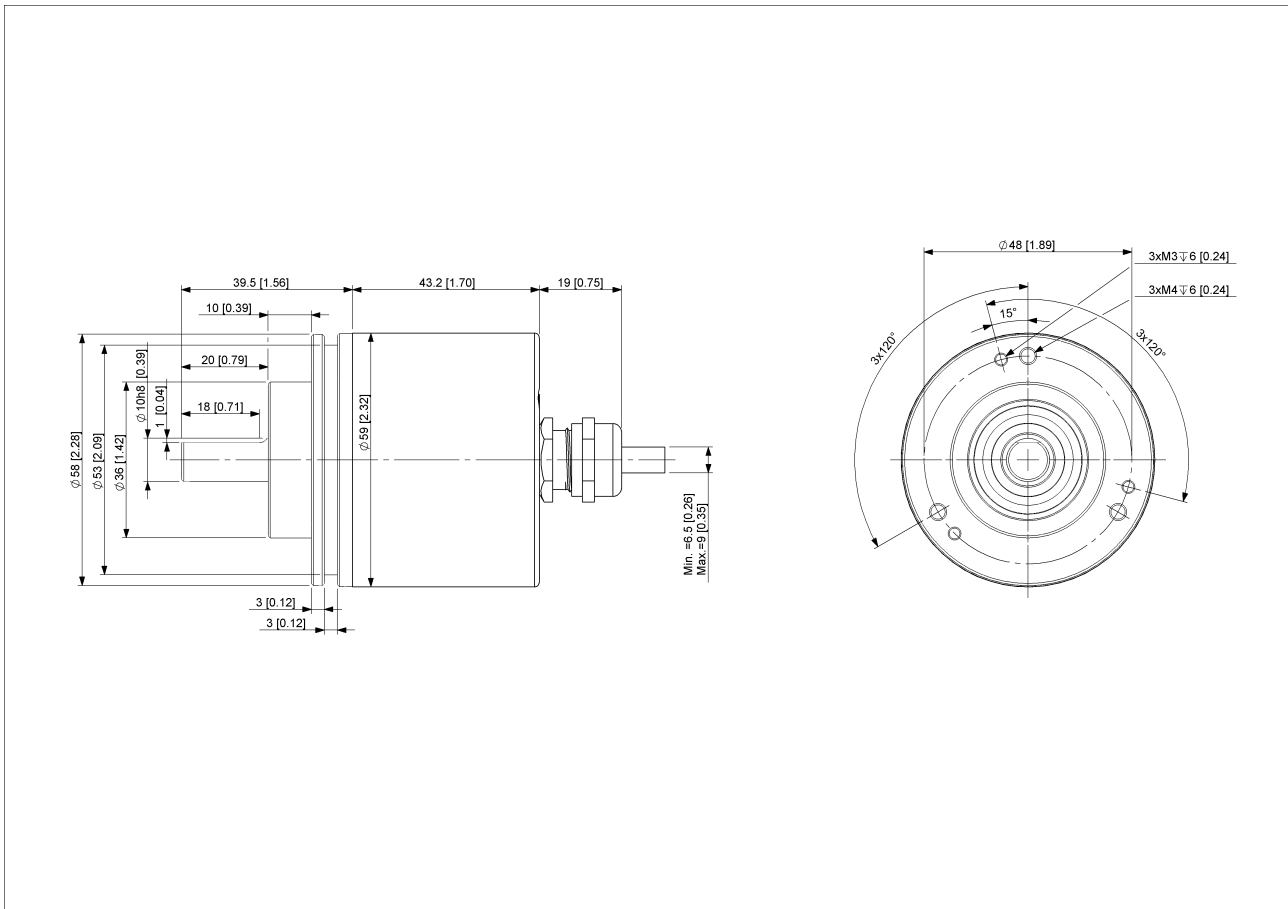
Connection Plan

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



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[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

Mounting Bracket for Clamping Flange w/ fixtures
L Mounting Bracket w/ screws
Mounting Bracket Spring Loaded f. Clamping Flange

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.