POSITAL
FRABA

## IXARC Absolute Rotary Encoder

## OCD-S3E1B-1416-S10S-2AW



| **Interface** | |
|---|---|
| Interface | SSI with Preset and Incr. |
| Optional Incremental Pulses | 16384 |
| Manual Functions | Preset + complement via cable or connector |
| Interface Cycle Time | ≥ 25 µs |

| **Outputs** | |
|---|---|
| Output Driver | SSI (RS422) / Incr. (RS422) |
| Output Incremental | A, /A, B, /B |
| Quadrature Phasing | 90° ± 4.5° electrical |
| Max. Frequency Response | 2 MHz |

| **Electrical Data** | |
|---|---|
| Supply Voltage | 4.5 – 30 VDC |
| Power Consumption | ≤ 1.5 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 | 16.2 years @ 40 °C |

**Sensor**

| | |
|---|---|
| Technology | Optical |
| Multiturn Technology | Mechanical Gearing (no Battery) |
| Accuracy (INL) | ±0.0220° (14 – 16 bit), ±0.0439° (≤13 bit) |
| Sense Signal (Default) | Clockwise shaft movement (front view on shaft) |
| Code | Binary |
| Incremental Pulses | 16384 |

**Environmental Specifications**

| | |
|---|---|
| Protection Class (Shaft) | IP66/IP67 |
| Protection Class (Housing) | IP66/IP67 |
| Operating Temperature | -30 °C fixed (-22 °F), -5 °C flexible (+23 °F) - +70 °C (+158 °F) |
| Humidity | 98% RH, no condensation |

**Mechanical Data**

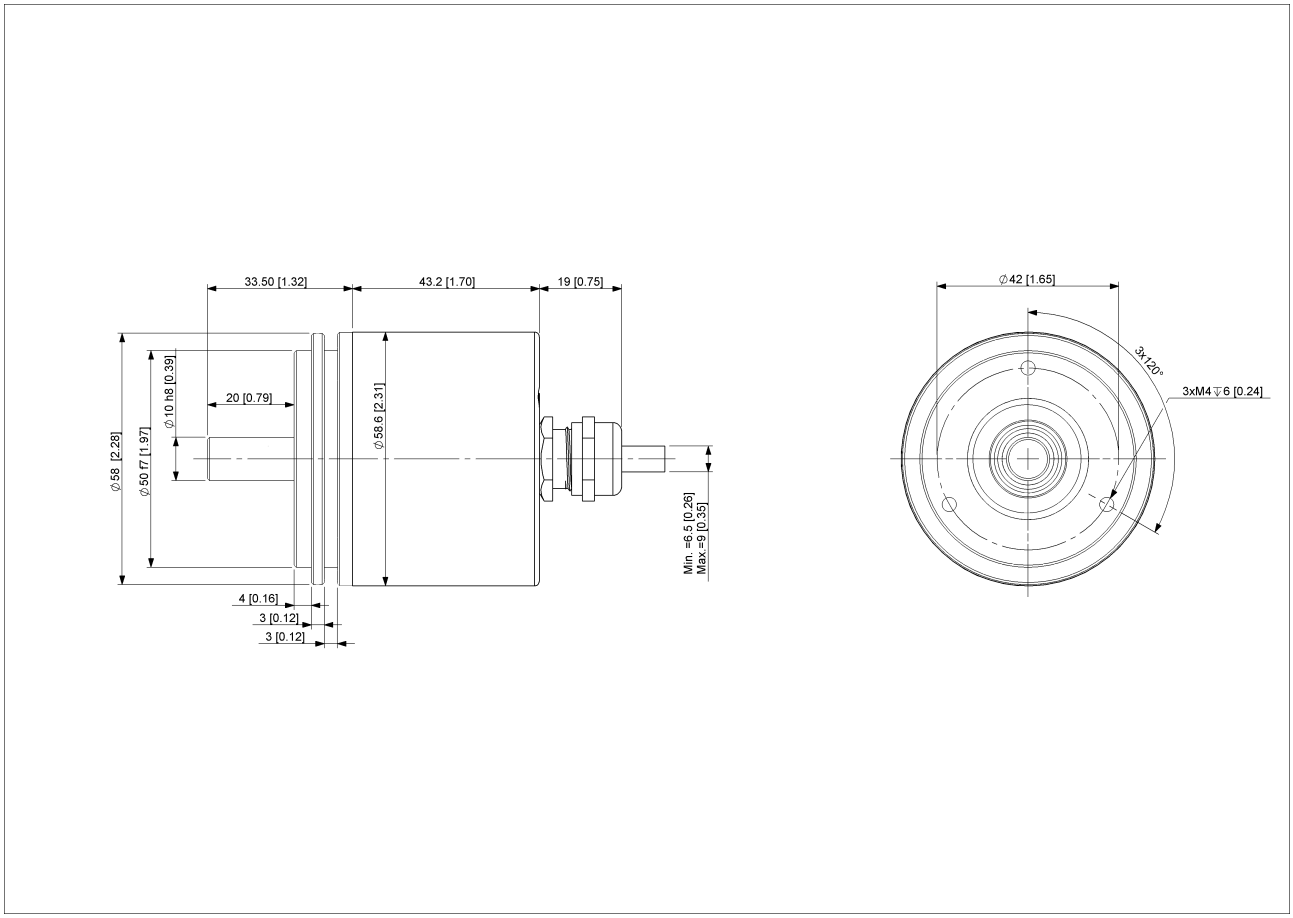
| | |
|---|---|
| Housing Material | Steel |
| Housing Coating | Wet coating (RAL 9006 White Aluminium) + Cathodic corrosion protection (>720 h salt spay resistance) |
| Flange Type | Synchro, ø 58 mm (S) |
| Flange Material | Aluminum |
| Shaft Type | Solid, Length = 20 mm |
| Shaft Diameter | ø 10 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) | 420 (20 N / 40 N), 145 (40 N / 60 N), 100 (40 N / 80 N), 55 (40 N / 110 N) |
| Rotor Inertia | ≤ 30 gcm² [≤ 0.17 oz-in²] |
| Friction Torque | ≤ 5 Ncm @ 20 °C, (7.1 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 | 56,7 mm (2.23") |
| Weight | 285 g (0.63 lb) |

| Electrical Connection | |
|---|---|
| Connection Orientation | Axial |
| Cable Length | 2 m [79"] |
| Wire Cross Section | 0.14 mm² / AWG 26 |
| Material / Type | PVC |
| Cable Diameter | 8 mm (0.31 in) |
| Minimum Bend Radius | 35 mm (1.38) fixed, 70 mm (2.76) |

| 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 |
| DIR | Red |
| Preset | Blue |
| A | Black |
| /A | Violet |
| B | Gray-Pink |
| /B | Red-Blue |
| Shielding | Shield |

Connector-View on Encoder




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")

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

Mounting Bracket for Synchro Flange w/ fixtures

**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. Specifications are subject to change without notice.