



IXARC Absolute Rotary Encoder

OCD-S6D1G-1416-SB90-2RW



Interface

| | |
|-----------------------------|--|
| Interface | SSI with Preset + Incremental Push Pull |
| Optional Incremental Pulses | 8192 |
| Manual Functions | Preset + complement via cable or connector |
| Interface Cycle Time | $\geq 25 \mu\text{s}$ |

Outputs

| | |
|-------------------------|-------------------------------------|
| Output Driver | SSI (RS422) / Incr. (Push Pull) |
| Output Incremental | A, /A, B, /B, Z, /Z |
| Quadrature Phasing | $90^\circ \pm 4.5^\circ$ electrical |
| Max. Frequency Response | 2 MHz |

Electrical Data

| | |
|-----------------------------|-------------------------|
| Supply Voltage | 10 - 30 VDC |
| Power Consumption | $\leq 1.5 \text{ W}$ |
| 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 |
| EMC: Noise Immunity | DIN EN 61000-6-2 |

Data Sheet

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MTTF 16.2 years @ 40 °C

Sensor

| | |
|------------------------|---|
| Technology | Optical |
| Resolution Singleturn | 16 bit |
| Resolution Multiturn | 14 bit |
| Multiturn Technology | Mechanical Gearing (no Battery) |
| Accuracy (INL) | $\pm 0.0220^\circ$ (14 - 16 bit), $\pm 0.0439^\circ$ (≤ 13 bit) |
| Sense Signal (Default) | Clockwise shaft movement (front view on shaft) |
| Code | Gray |
| Incremental Pulses | 8192 |

Environmental Specifications

| | |
|----------------------------|---|
| Protection Class (Shaft) | IP65 |
| Protection Class (Housing) | IP65 |
| 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, \varnothing 58 mm (S) |
| 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) | 420 (20 N / 40 N), 145 (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 | 56,7 mm (2.23") |
| Weight | 280 g (0.62 lb) |

Electrical Connection

| | |
|------------------------|----------------------------------|
| Connection Orientation | Radial |
| Cable Length | 2 m [79"] |
| Wire Cross Section | 0.14 mm ² / 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 |
| Z | White-Green |
| /Z | Brown-Green |
| Shielding | Shield |

Connector-View on Encoder

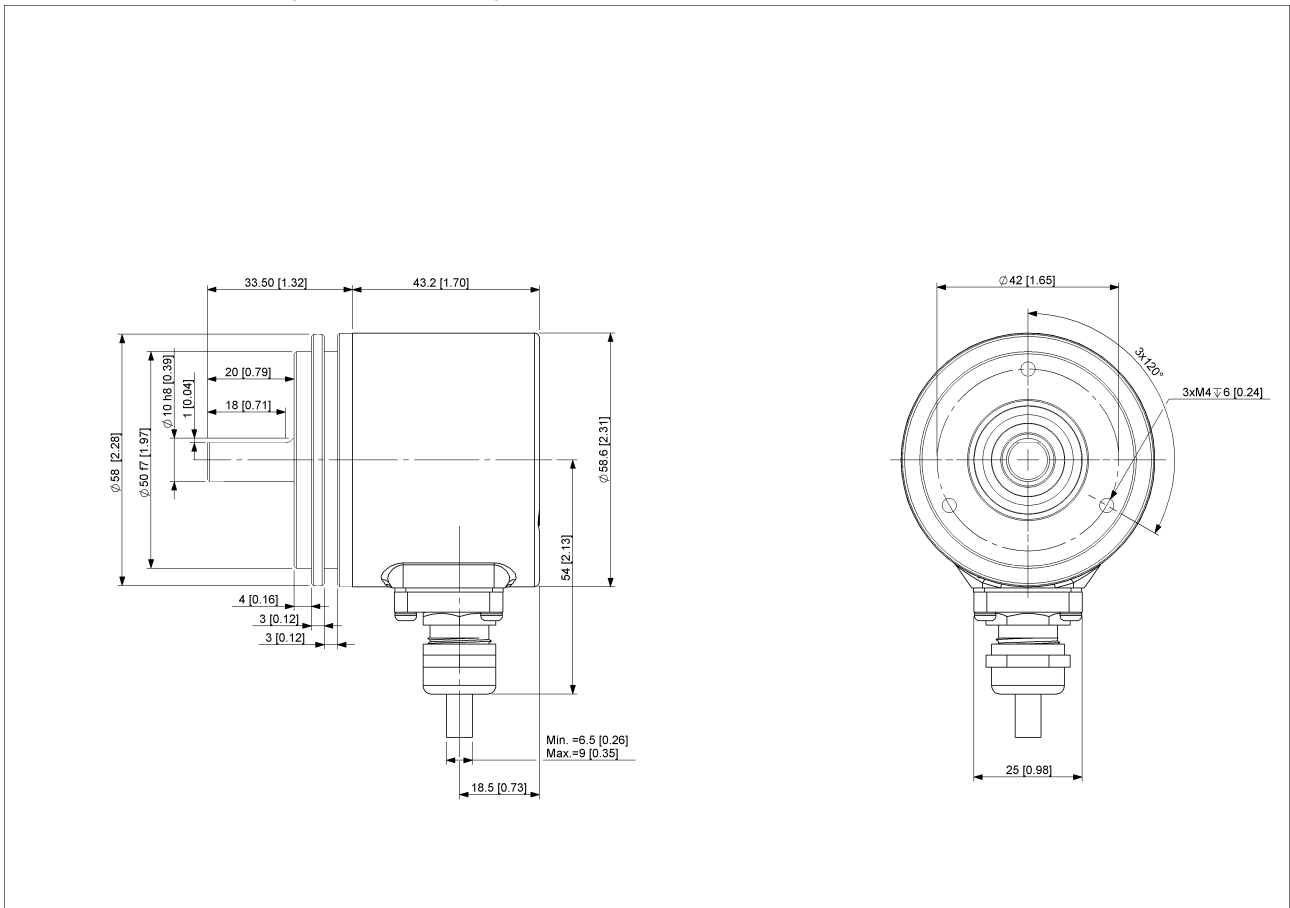
Pulse Diagram

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Rotation Clockwise (seen on shaft)



[2D Drawing](#)

Accessories

Clamp Disc w/ Eccentric Hole-4pcs

Clamp Disc w/ Centred Hole-4pcs

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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-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.