

IXARC Absolute Rotary Encoder

UCD-S101G-1213-L06S-PRQ



Interface

| | |
|-------------------------|---|
| Interface | SSI with Preset |
| Manual Functions | Preset + complement via cable or connector |
| Interface Cycle Time | ≥ 25 μs |
| Number of Preset Cycles | 5,100,000 |
| SSI Format | MMMMMMMMMMMMSSSSSSSSSSSS0 |
| Video Manual | ▶ Watch a simple installation video |

The Preset function allows to set the output value to zero at the present mechanical position.
 Input resistance is 110 k Ω



T = 105 msec (+/- 2msec)
t1 = 3.5 msec +/- 2msec
T+ t2 = 224 msec (+/- 4msec)

The DIR-function allows to change the encoder counting direction.

| | |
|----------------------------|---|
| 0 (open or GND) | Increasing Values Turning Clockwise (Viewed from Flange Side) |
| 1 (4.5 V to Vs) | Decreasing Values Turning Clockwise (Viewed from Flange Side) |
| Min Time needed for change | 40 msec |
| Input Resistance | 60 k Ω |

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 | < 1 s |
| 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 | 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) | ±0.0878° (≤ 12 bit) |
| Sense Signal (Default) | Clockwise shaft movement (front view on shaft) |
| Code | Gray |

Environmental Specifications

| | |
|----------------------------|------------------------------------|
| Protection Class (Shaft) | IP66/IP67 |
| Protection Class (Housing) | IP66/IP67 |
| Operating Temperature | -40 °C (-40 °F) - +85 °C (+185 °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 spray resistance) |
| Flange Type | Clamp, ø 58 mm (L) |
| Flange Material | Aluminum |
| Shaft Type | Solid, Length = 10 mm |
| Shaft Diameter | ø 6 mm (0.24") |
| 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) | 530 (20 N / 40 N), 185 (40 N / 60 N), 130 (40 N / 80 N), 80 (40 N / 110 N) |
| Rotor Inertia | ≤ 30 gcm ² [≤ 0.17 oz-in ²] |
| Friction Torque | ≤ 5 Ncm @ 20 °C, (7.1 oz-in @ 68 °F) |
| Max. Permissible Mechanical Speed | ≤ 3000 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) |

Data Sheet

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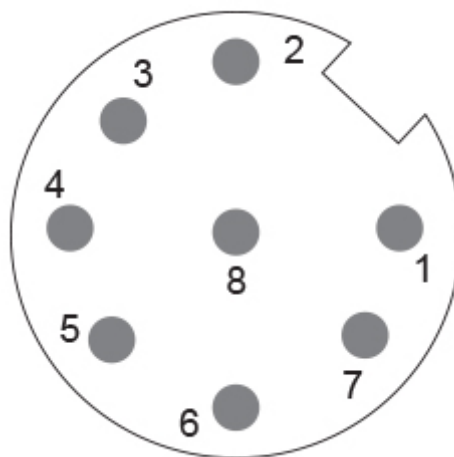
| | |
|----------------------|--|
| Vibration Resistance | ≤ 10 g (10 Hz - 1000 Hz, EN 60068-2-6) |
| Length | 52,7 mm (2.07") |
| Weight | 280 g (0.62 lb) |

Electrical Connection

| | |
|------------------------|---------------------------|
| Connection Orientation | Radial |
| Connector | M12, Male, 8 pin, a coded |

Product Life Cycle

| | |
|--------------------|-------------|
| Product Life Cycle | Established |
| Approval | CE |



Connection Plan

| SIGNAL | PIN NUMBER |
|--------------|-------------------|
| Power Supply | 2 |
| GND | 1 |
| Data+ | 5 |
| Data- | 6 |
| Clock+ | 3 |
| Clock- | 4 |
| Preset | 7 |
| DIR | 8 |
| Shielding | Connector Housing |

Connector-View on Encoder
Rotation Clockwise (seen on shaft)

Dimensional Drawing

[2D Drawing](#)

Accessories

Connectors & Cables

10m PUR Cable, 8pin, A-Coded, f
POS M12 8pin-A Female+5m PUR Cable
POS M12 8pin-A Female+2m PUR Cable
POS M12 8pin-A Female+10m PUR Cable
M12, 8pin A-Coded, Female

More

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

Adapter Flanges

Mounting Bracket for Clamping Flange w/ fixtures
L Mounting Bracket w/ screws
Mounting Bracket Spring Loaded f. Clamping Flange
Spring Loaded Pivot Arm 58mm

More

Clamping Rings

Clamp Disc w/ Eccentric Hole-4pcs
Clamp Disc w/ Centred Hole-4pcs

Displays

AP21-00 SSI Display
AP21-DA SSI Display (4 dig. + analog o/p)

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DiMod-P SSI Display
Configuration/Programming Tools
SSI2USB Adapter DB15 (VA01)

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