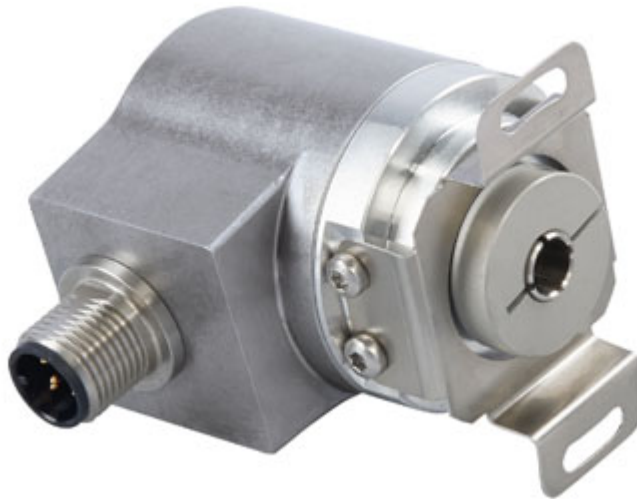


IXARC Absolute Rotary Encoder

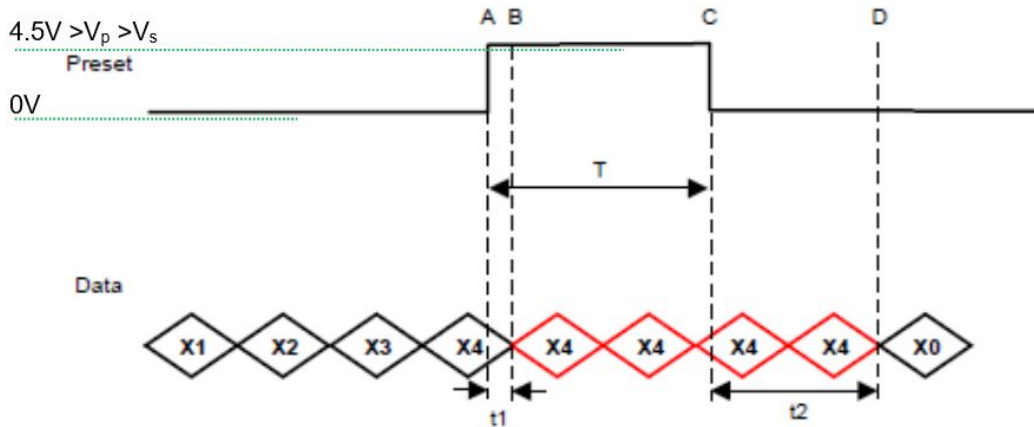
UCD-S101G-0013-VRS0-PRQ



Interface

| | |
|-------------------------|---|
| Interface | SSI with Preset |
| Manual Functions | Preset + complement via cable or connector |
| Interface Cycle Time | $\geq 25 \mu\text{s}$ |
| Number of Preset Cycles | 5,100,000 |
| SSI Format | SSSSSSSSSSSS0 |
| 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 | 500 years @ 40 °C |

Sensor

| | |
|------------------------|--|
| Technology | Magnetic |
| Resolution Singleturn | 13 bit |
| Resolution Multiturn | 0 bit |
| Accuracy (INL) | $\pm 0.0878^\circ$ (≤ 12 bit) |
| Sense Signal (Default) | Clockwise shaft movement (front view on shaft) |
| Code | Gray |

Environmental Specifications

| | |
|----------------------------|------------------------------------|
| Protection Class (Shaft) | IP65 |
| Protection Class (Housing) | IP65 |
| Operating Temperature | -40 °C (-40 °F) - +85 °C (+185 °F) |
| Humidity | 98% RH, no condensation |

Mechanical Data

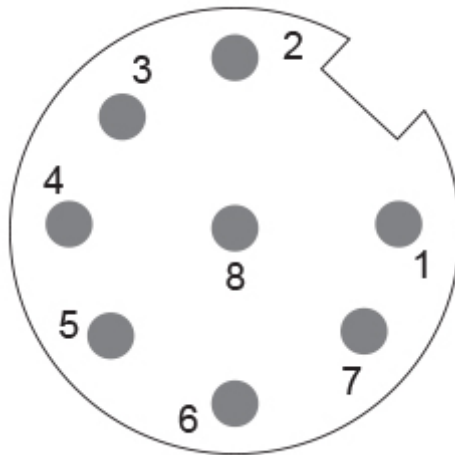
| | |
|-------------------------------------|---|
| Housing Material | Steel |
| Housing Coating | Cathodic corrosion protection (>720 hrs salt spray resistance) |
| Flange Type | Blind Hollow, \varnothing 36 mm / \varnothing 42 mm |
| Flange Material | Aluminum |
| Shaft Type | Blind Hollow, Depth = 18 mm |
| Shaft Diameter | \varnothing 6.35 mm (1/4") |
| Shaft Material | Stainless Steel V2A (1.4305, 303) |
| 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) |
| Length | 50,2 mm (1.98") |
| Weight | 140 g (0.31 lb) |
| Maximum Axial / Radial Misalignment | Static ± 0.3 mm / ± 0.5 mm; Dynamic ± 0.1 mm / ± 0.2 mm |


Electrical Connection

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

Product Life Cycle

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


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

Clamping Rings

Clamping Ring V06

Displays

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

Configuration/Programming Tools

SSI2USB Adapter DB15 (VA01)

Got questions? Need an individual solution? We are here to help!

Sold & Serviced By:



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.