

## IXARC Absolute Rotary Encoder

### UCD-AV1P2-PPPP-R060-PRM



#### Interface

|                       |                                                                   |
|-----------------------|-------------------------------------------------------------------|
| Interface             | Programmable Analog Voltage (Preset + Dir)                        |
| Manual Functions      | Preset + complement via cable or connector                        |
| Configuration Tool    | UBIFAST Configuration Tool (Version $\geq$ 1.6.10) + Ubifast Adap |
| Video Manual          | <a href="#">▶ Watch a simple installation video</a>               |
| Programming Functions | Measurement Range, Preset Value, Output Direction, Code           |

#### Electrical Data

|                             |                                                   |
|-----------------------------|---------------------------------------------------|
| Supply Voltage              | 8 - 32 VDC                                        |
| Current Consumption         | Typical 15 mA @24V (no load)                      |
| Start-Up Time               | <500 ms                                           |
| Min. Load Resistance        | 5 k $\Omega$                                      |
| Analog Accuracy             | @ 10 V = $\pm$ 10 mV (with an ideal power supply) |
| Linearity                   | 0.15%                                             |
| Settling Time               | 32 ms (from min value to max value jump)          |
| 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                        | 240.8 years @ 40 °C                               |

Data Sheet

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**Sensor**

|                           |                                                                                                                                                      |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Technology                | Magnetic                                                                                                                                             |
| Multiturn Technology      | Self powered magnetic pulse counter (no battery, no gear)                                                                                            |
| Accuracy (INL)            | $\pm 0.0878^\circ$ ( $\leq 12$ bit)                                                                                                                  |
| Sense Signal (Default)    | Counterclockwise shaft movement (front view on shaft)                                                                                                |
| Code                      | Programmable Analog Voltage 0-10 V or 0.5-9.5 V, preprogrammed 0-10V                                                                                 |
| Cycle Time Base Sensor    | $< 100 \mu\text{s}$                                                                                                                                  |
| Minimum Measurement Range | 0 - 11.25°                                                                                                                                           |
| Resolution of Output      | Max. 13 bits over entire measuring range (Fractional Turns - Resolution decreases less than 13 bits when measurements range is less than 90 degrees) |
| Multiturn Range           | 16 turn (default setting). User can use the UBIFAST Tool to measure up to 65536 turns.                                                               |

**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                                                          | Synchro, $\varnothing$ 36 mm                                           |
| Flange Material                                                      | Aluminum                                                               |
| Shaft Type                                                           | Solid, Length = 11.5 mm                                                |
| Shaft Diameter                                                       | $\varnothing$ 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 <sup>8</sup> revolutions with Fa/Fr) | 40 (20 N / 40 N), 14 (40 N / 60 N), 10 (40 N / 80 N), 6 (40 N / 110 N) |
| Friction Torque                                                      | $\leq 3$ Ncm @ 20 °C (4.2 oz-in @ 68 °F)                               |
| Max. Permissible Mechanical Speed                                    | $\leq 12000$ 1/min                                                     |
| Shock Resistance                                                     | $\leq 100$ g (half sine 6 ms, EN 60068-2-27)                           |

Data Sheet

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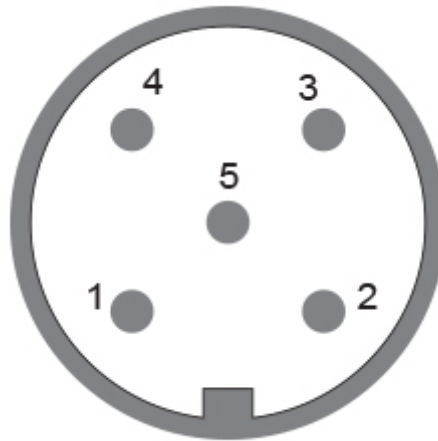
|                            |                                         |
|----------------------------|-----------------------------------------|
| Permanent Shock Resistance | ≤ 10 g (half sine 16 ms, EN 60068-2-29) |
| Vibration Resistance       | ≤ 10 g (10 Hz - 1000 Hz, EN 60068-2-6)  |
| Length                     | 39 mm (1.54")                           |
| Weight                     | 180 g (0.40 lb)                         |

### Electrical Connection

|                        |                           |
|------------------------|---------------------------|
| Connection Orientation | Radial                    |
| Connector              | M12, Male, 5 pin, a coded |

### Product Life Cycle

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



### Connection Plan

| SIGNAL         | CONNECTOR   | PIN NUMBER |
|----------------|-------------|------------|
| Power Supply   | Connector 1 | 2          |
| GND            | Connector 1 | 3          |
| Analog Output  | Connector 1 | 1          |
| Set1/Direction | Connector 1 | 5          |
| Set2/Zero Set  | Connector 1 | 4          |

## Connector-View on Encoder Dimensional Drawing

[2D Drawing](#)

### Accessories

Connectors & Cables

POS M12 5pin-A Female+5m PUR Cable  
POS M12 5pin-A Female+2m PUR Cable  
POS M12 5pin-A Female+10m PUR Cable  
10m PUR Cable, 5pin, A-Coded, f IP69K  
M12, 5pin A-Coded, Female

More

Couplings

Coupling Bellow Type-06-06

Coupling Bellow Type-06-10

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

Spring Loaded Pivot Arm 36mm

Clamping Rings

Clamp Disc w/ Eccentric Hole-4pcs

Clamp Disc w/ Centred Hole-4pcs

Displays

AP22-D0 Analog Display (4 dig. o/p)

DiMod-A Analog Display

Configuration/Programming Tools

UBIFAST Configuration Tool

Ubifast Adapter Cable - UCD-Ax-PxM

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

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