

IXARC Absolute Rotary Encoder

UCD-AV1P1-PPPP-HFS0-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	▶ Watch a simple installation video
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 Ω
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)	$\pm 0.0878^\circ$ (≤ 12 bit)
Sense Signal (Default)	Counterclockwise shaft movement (front view on shaft)
Code	Programmable Analog Voltage 0-5 V or 0.5-4.5 V, preprogrammed 0-5V
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)	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	Blind Hollow, \varnothing 58 mm (H)
Flange Material	Aluminum
Shaft Type	Blind Hollow, Depth = 28 mm
Shaft Diameter	\varnothing 15 mm (0.59")
Shaft Material	Stainless Steel V2A (1.4305, 303)
Rotor Inertia	$\leq 30 \text{ gcm}^2$ [$\leq 0.17 \text{ oz-in}^2$]
Friction Torque	$\leq 3 \text{ Ncm}$ @ 20 °C (4.2 oz-in @ 68 °F)
Max. Permissible Mechanical Speed	$\leq 12000 \text{ 1/min}$
Shock Resistance	$\leq 100 \text{ g}$ (half sine 6 ms, EN 60068-2-27)
Permanent Shock Resistance	$\leq 10 \text{ g}$ (half sine 16 ms, EN 60068-2-29)

Data Sheet

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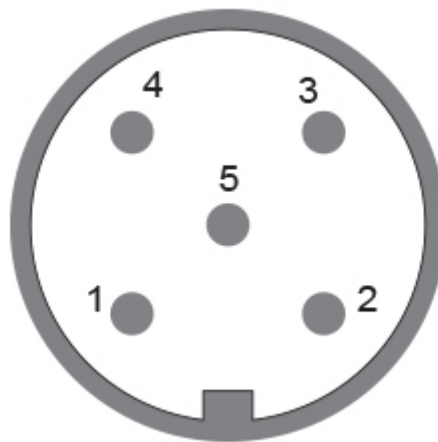
Vibration Resistance	≤ 10 g (10 Hz - 1000 Hz, EN 60068-2-6)
Length	71,2 mm (2.80")
Weight	360 g (0.79 lb)
Maximum Axial / Radial Misalignment	Static ± 0.3 mm /± 0.5 mm; Dynamic ± 0.1 mm /± 0.2 mm

Electrical Connection

Connection Orientation	Radial
Connector	M12, Male, 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

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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
Clamping Rings
Clamping Ring B15
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

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