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IXARC Absolute Rotary Encoder

UCD-AC1P5-PPPP-L100-PRM



Interface

Interface	Programmable Analog Current (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 20 mA @24 V (no load)
Start-Up Time	<500 ms
Max Load Resistance	500 Ω
Analog Accuracy	@ 20 mA = ± 20 μ A (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

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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	Analog Current 4 - 20 mA
Cycle Time Base Sensor	$< 100 \mu s$
Minimum Measurement Range	$0 - 22.5^\circ$
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	$-40^\circ C$ ($-40^\circ F$) - $+85^\circ C$ ($+185^\circ F$)
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, $\varnothing 58$ mm (L)
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 F_a/F_r)	430 (20 N / 40 N), 150 (40 N / 60 N), 100 (40 N / 80 N), 55 (40 N / 110 N)
Rotor Inertia	$\leq 30 \text{ gcm}^2$ [$\leq 0.17 \text{ oz-in}^2$]
Friction Torque	$\leq 3 \text{ Ncm}$ @ $20^\circ C$ (4.2 oz-in @ $68^\circ F$)
Max. Permissible Mechanical Speed	≤ 12000 1/min

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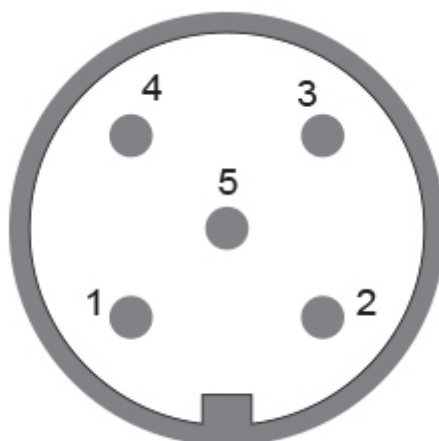
Shock Resistance	≤ 100 g (half sine 6 ms, EN 60068-2-27)
Permanent Shock Resistance	≤ 10 g (half sine 16 ms, EN 60068-2-29)
Vibration Resistance	≤ 10 g (10 Hz - 1000 Hz, EN 60068-2-6)
Length	52,7 mm (2.07")
Weight	325 g (0.72 lb)

Electrical Connection

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

Product Life Cycle

Product Life Cycle	New
Approval	CE + cULus listed, Industrial Control Equipment



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

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Connectors & Cables

10m PUR Cable, 5pin, A-Coded, f

2m PUR Cable, 5pin, A-Coded, f

5m PUR Cable, 5pin, A-Coded, f

10m PUR Cable, 5pin, A-Coded, f

M12, 5pin A-Coded, Female

More

Couplings

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-06-10

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

Adapter Flanges

Mounting Bracket for Clamping Flange w/ fixtures

L Mounting Bracket w/ screws

Mounting Bracket Spring Loaded f. Clamping Flange

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

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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.