

IXARC Absolute Rotary Encoder

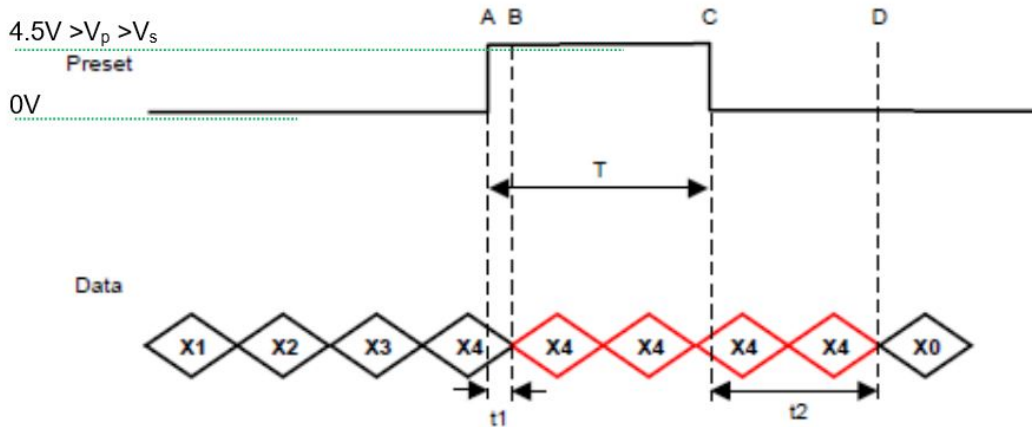
UCD-S101G-0013-4A7S-PRL



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	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 kΩ



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 kΩ

Outputs

Output Driver	RS422
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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)	$\pm 0.0878^\circ (\leq 12 \text{ bit})$
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	Cathodic corrosion protection (>720 hrs salt spray resistance)
Flange Type	Square, \square 2.5" (4)
Flange Material	Aluminum
Shaft Type	Solid, Single Flat, Length = 22.4 mm
Shaft Diameter	\varnothing 9.52 mm (3/8")
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)	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	$\leq 5 \text{ Ncm @ } 20 \text{ }^\circ\text{C}, (7.1 \text{ oz-in @ } 68 \text{ }^\circ\text{F})$
Max. Permissible Mechanical Speed	$\leq 3000 \text{ 1/min}$
Shock Resistance	$\leq 100 \text{ g (half sine 6 ms, EN 60068-2-27)}$
Permanent Shock Resistance	$\leq 10 \text{ g (half sine 16 ms, EN 60068-2-29)}$
Vibration Resistance	$\leq 10 \text{ g (10 Hz - 1000 Hz, EN 60068-2-6)}$
Length	41,5 mm (1.63")

Data Sheet

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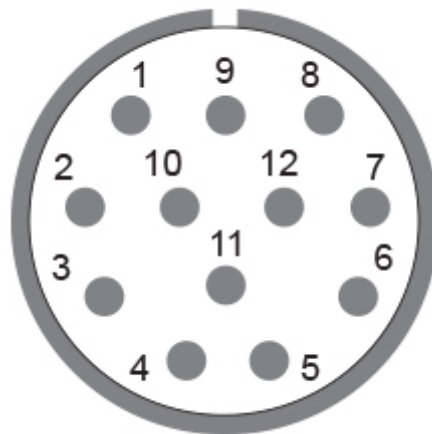
Weight 290 g (0.64 lb)

Electrical Connection

Connection Orientation Radial
Connector M23, Male, 12 pin, CCW / left

Product Life Cycle

Product Life Cycle Established
Approval CE + cULus



Connection Plan

SIGNAL	PIN NUMBER
Power Supply	11
GND	12
Data+	3
Data-	4
Clock+	2
Clock-	1
Preset	9
DIR	8
Not Connected	5
Not Connected	6
Not Connected	7
Not Connected	10

Connector-View on Encoder



Dimensional Drawing

[2D Drawing](#)

Accessories

Connectors & Cables

10m PVC Cable, 12pin, Clockwise, f
15m PVC Cable, 12pin, Clockwise, f
1m PVC Cable, 12pin, Clockwise, f
20m PVC Cable, 12pin, Clockwise, f
5m PVC Cable, 12pin, Clockwise, f
30m PVC Cable, 12pin, Clockwise, f
2m PVC Cable, 12pin, Clockwise, f
M23, 12pin Clockwise, Female

More

Couplings

Coupling Bellow Type-10-(3/8")
Coupling Bellow Type-06-(3/8")
Coupling Jaw Type-10-(3/8")
Coupling Jaw Type-06-(3/8")
Coupling Jaw Type-12-3/8"

More

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)

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