

## IXARC Absolute Rotary Encoder

**UCD-S101G-1213-4A7S-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	MMMMMMMMMMMMSSSSSSSSSSSS0
Video Manual	<a href="#">▶ Watch a simple installation video</a>

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	350 years @ 40 °C

### Sensor

Technology	Magnetic
Resolution Singleturn	13 bit
Resolution Multiturn	12 bit
Multiturn Technology	Self powered magnetic pulse counter (no battery, no gear)
Accuracy (INL)	±0.0878° (≤ 12 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, □ 2.5" (4)
Flange Material	Aluminum
Shaft Type	Solid, Single Flat, Length = 22.4 mm
Shaft Diameter	ø 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 <sup>8</sup> 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	≤ 30 gcm <sup>2</sup> [≤ 0.17 oz-in <sup>2</sup> ]
Friction Torque	≤ 5 Ncm @ 20 °C, (7.1 oz-in @ 68 °F)
Max. Permissible Mechanical Speed	≤ 3000 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)

Data Sheet

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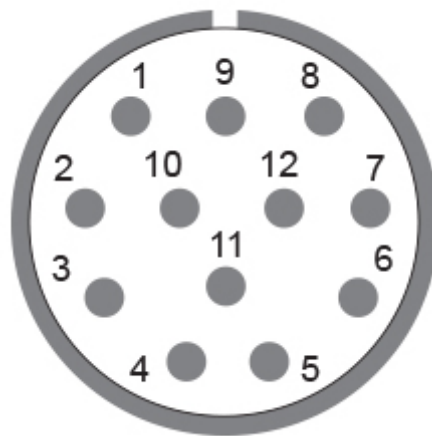
Length	41,5 mm (1.63")
Weight	290 g (0.64 lb)

### 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)

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

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