

## IXARC Absolute Rotary Encoder

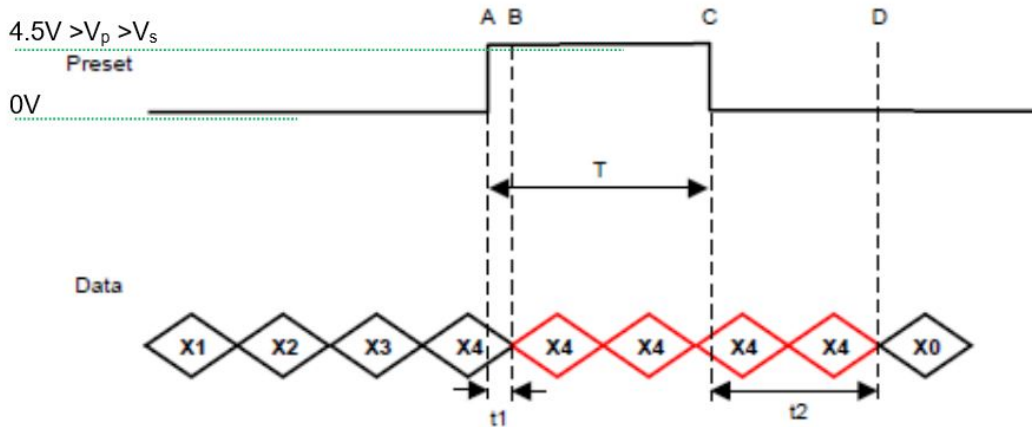
### UCD-S101G-1213-HRSS-PRQ



#### Interface

Interface	SSI with Preset
Manual Functions	Preset + complement via cable or connector
Interface Cycle Time	$\geq 25 \mu\text{s}$
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)	$\pm 0.0878^\circ$ ( $\leq 12$ 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	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	$\varnothing$ 6.35 mm (1/4")
Shaft Material	Stainless Steel V2A (1.4305, 303)
Rotor Inertia	$\leq 30$ gcm <sup>2</sup> [ $\leq 0.17$ oz-in <sup>2</sup> ]
Friction Torque	$\leq 5$ Ncm @ 20 °C, (7.1 oz-in @ 68 °F)
Max. Permissible Mechanical Speed	$\leq 3000$ 1/min
Shock Resistance	$\leq 100$ g (half sine 6 ms, EN 60068-2-27)
Permanent Shock Resistance	$\leq 10$ g (half sine 16 ms, EN 60068-2-29)
Vibration Resistance	$\leq 10$ g (10 Hz - 1000 Hz, EN 60068-2-6)
Length	71,2 mm (2.80")
Weight	320 g (0.71 lb)

Data Sheet

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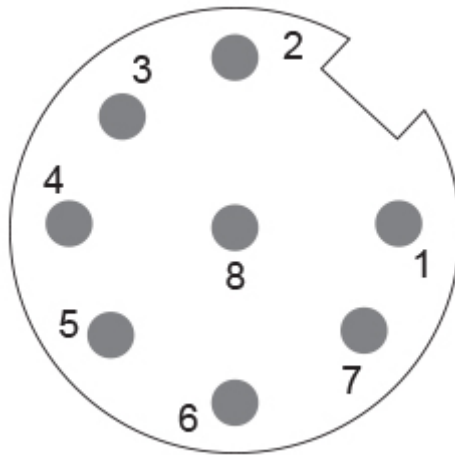
Maximum Axial / Radial Misalignment	Static $\pm 0.3$ mm / $\pm 0.5$ mm; Dynamic $\pm 0.1$ mm / $\pm 0.2$ mm
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### Electrical Connection

Connection Orientation	Radial
Connector	M12, Male, 8 pin, a coded

### Product Life Cycle

Product Life Cycle	Established
Approval	CE



### Connection Plan

SIGNAL	PIN NUMBER
Power Supply	2
GND	1
Data+	5
Data-	6
Clock+	3
Clock-	4
Preset	7
DIR	8
Shielding	Connector Housing

Connector-View on Encoder  
Rotation Clockwise (seen on shaft)

### Dimensional Drawing



## [2D Drawing](#)

### Accessories

Connectors & Cables

10m PUR Cable, 8pin, A-Coded, f

POS M12 8pin-A Female+5m PUR Cable

POS M12 8pin-A Female+2m PUR Cable

POS M12 8pin-A Female+10m PUR Cable

M12, 8pin A-Coded, Female

More

Clamping Rings

Clamping Ring V06

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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