

## IXARC Absolute Rotary Encoder

**UCD-S101G-0013-HSSS-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	SSSSSSSSSSSS0
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	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	Wet coating (RAL 9006 White Aluminium) + Cathodic corrosion protection (>720 h salt spay resistance)
Flange Type	Blind Hollow, $\varnothing$ 58 mm (H)
Flange Material	Aluminum
Shaft Type	Blind Hollow, Depth = 28 mm
Shaft Diameter	$\varnothing$ 9.52 mm (3/8")
Shaft Material	Stainless Steel V2A (1.4305, 303)
Rotor Inertia	$\leq 30 \text{ gcm}^2 [\leq 0.17 \text{ oz-in}^2]$
Friction Torque	$\leq 5 \text{ Ncm @ } 20 \text{ }^\circ\text{C}, (7.1 \text{ oz-in @ } 68 \text{ }^\circ\text{F})$
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	71,2 mm (2.80")
Weight	320 g (0.71 lb)
Maximum Axial / Radial Misalignment	Static $\pm 0.3 \text{ mm} / \pm 0.5 \text{ mm}$ ; Dynamic $\pm 0.1 \text{ mm} / \pm 0.2 \text{ mm}$

Data Sheet

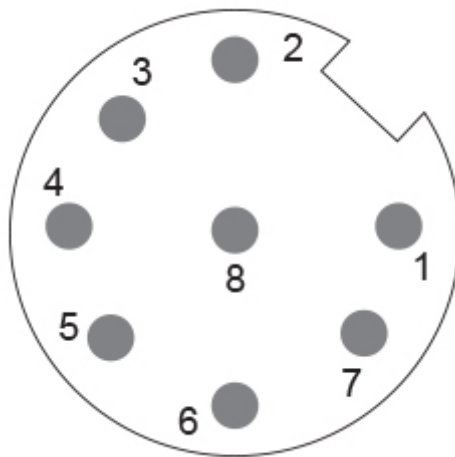
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**Electrical Connection**

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 Hollow Shaft T120

### 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!**

## Sold & Serviced By:



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.