



POSITAL

FRABA

IXARC Absolute Rotary Encoder

UCD-S401G-1213-NA1A-2RW



Interface

Interface	SSI with Button and LEDs
Programming Functions	Absolute: Resolution, Revolution, Code, 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	MMMMMMMMMMMMSSSSSSSSSSSSSS0
Video Manual	▶ Watch a simple installation video

Outputs

Output Driver	RS422
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Electrical Data

Supply Voltage	4.5 - 30 VDC
Current Consumption	Typical 50 mA
Power Consumption	$\leq 1.0 \text{ W}$
Start-Up Time	$< 250 \text{ ms}$
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

Data Sheet

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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)	$\pm 0.0878^\circ$ (≤ 12 bit)
Sense Signal (Default)	Clockwise shaft movement (front view on shaft)
Code	Gray

Environmental Specifications

Protection Class (Shaft)	IP65
Protection Class (Housing)	IP54
Operating Temperature	-30 °C fixed (-22 °F), -5 °C flexible (+23 °F) - +80 °C (+176 °F)
Humidity	98% RH, no condensation

Mechanical Data

Housing Material	Steel
Housing Coating	Cathodic corrosion protection (>720 hrs salt spray resistance)
Flange Type	Synchro, $\varnothing$ 58 mm (N)
Flange Material	Aluminum
Shaft Type	Solid, Length = 11.5 mm
Shaft Diameter	$\varnothing$ 6 mm (0.24")
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)	550 (20 N / 40 N), 195 (40 N / 60 N), 135 (40 N / 80 N), 85 (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 °C (4.2 oz-in @ 68 °F)
Max. Permissible Mechanical Speed	$\leq 12000 \text{ 1/min}$
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)

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Length	43 mm (1.69")
Weight	330 g (0.73 lb)

Electrical Connection

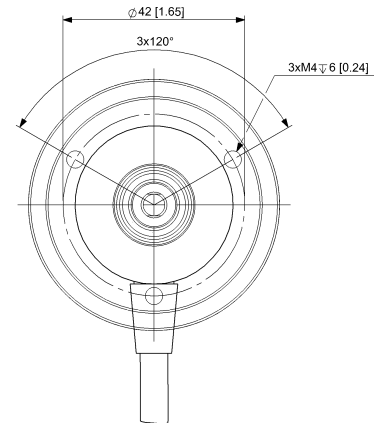
Connection Orientation	Radial
Cable Length	2 m [79"]
Wire Cross Section	0.14 mm ² / AWG 26
Material / Type	PVC
Cable Diameter	6 mm (0.24 in)
Minimum Bend Radius	46 mm (1.81") fixed, 61 mm (2.4") flexing

Certification

Approval	CE
Product Life Cycle	Established

Connection Plan

SIGNAL	CABLE COLOR
Power Supply	Brown
GND	White
Preset	Blue
Data+	Gray
Data-	Pink
Clock+	Green
Clock-	Yellow
DIR	Red
Shielding	Shield



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Coupling Disc Type-06-10
[More](#)

[Mounting Bracket for Synchro Flange w/ fixtures](#)

Contact



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