



# POSITAL


## FRABA

### IXARC Absolute Rotary Encoder

UCD-S101B-1212-V6SA-CRW



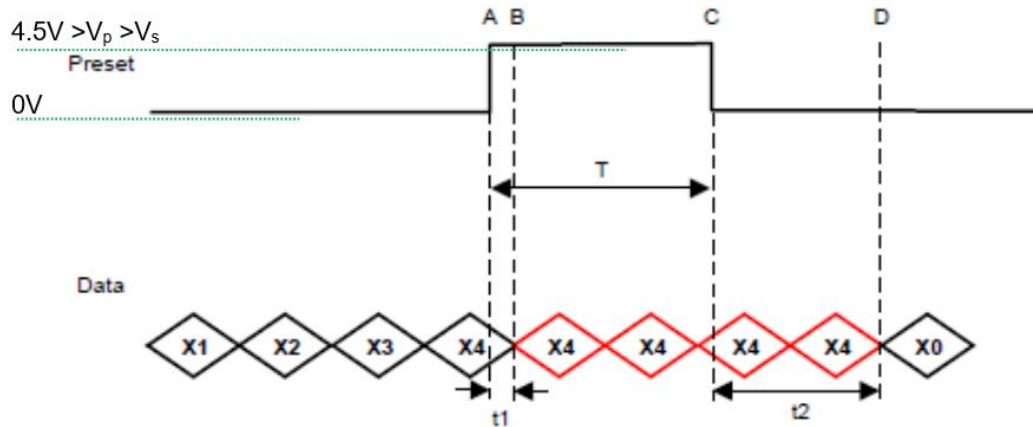
#### Interface

|                         |   |
|-------------------------|---|
| 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              | MMMMMMMMMMMMSSSSSSSSSSSS00  |
| Video Manual            |  <a href="#">Watch a simple installation video</a> |

# POSITAL

## FRABA

The Preset function allows to set the output value to zero at the present mechanical position.  
Input resistance is 110 kΩ



$T = 105 \text{ msec } (+/- 2\text{msec})$

$t1 = 3.5 \text{ msec } +/- 2\text{msec}$

$T + t2 = 224 \text{ msec } (+/- 4\text{msec})$

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 $V_s$ )        | Decreasing Values Turning Clockwise (Viewed from Flange Side) |
| Min Time needed for change | 40 msec   |
| Input Resistance           | 60 kΩ   |

### Outputs

|               |       |
|---------------|-------|
| Output Driver | RS422 |
|---------------|-------|

### Electrical Data

|                             |                         |
|-----------------------------|-------------------------|
| Supply Voltage              | 4.5 - 30 VDC            |
| Current Consumption         | Typical 50 mA           |
| Power Consumption           | $\leq 1.0 \text{ W}$    |
| Start-Up Time               | $< 1 \text{ s}$         |
| Clock Input                 | RS 422, via Optocoupler |
| Clock Frequency             | 100 kHz - 2 MHz         |
| Reverse Polarity Protection | Yes                     |
| Short Circuit Protection    | Yes                     |



# POSITAL

## FRABA

|                           |                   |
|---------------------------|-------------------|
| 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  | 12 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                   | Binary  |

### 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                       | Blind Hollow, $\varnothing$ 36 mm / $\varnothing$ 42 mm        |
| Flange Material                   | Aluminum   |
| Shaft Type                        | Blind Hollow, Depth = 18 mm                                    |
| Shaft Diameter                    | $\varnothing$ 6 mm (0.24")                                     |
| Shaft Material                    | Stainless Steel V2A (1.4305, 303)                              |
| Friction Torque                   | $\leq 3$ Ncm @ 20 °C (4.2 oz-in @ 68 °F)                       |
| Max. Permissible Mechanical Speed | $\leq 12000$ 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                            | 54,2 mm (2.13")  |
| Weight                            | 240 g (0.53 lb)  |



# POSITAL

## FRABA

|                                     |   |
|-------------------------------------|---|
| Maximum Axial / Radial Misalignment | Static $\pm 0.3$ mm / $\pm 0.5$ mm; Dynamic $\pm 0.1$ mm / $\pm 0.2$ mm |
|-------------------------------------|---|

### Electrical Connection

|                        |   |
|------------------------|---|
| Connection Orientation | Radial                                    |
| Cable Length           | 1 m [39"]                                 |
| Wire Cross Section     | 0.14 mm <sup>2</sup> / 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 |

### Product Life Cycle

|                    |             |
|--------------------|-------------|
| Product Life Cycle | Established |
|--------------------|-------------|

### Connection Plan

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

## Dimensional Drawing

### [2D Drawing](#)

### Accessories

Clamping Rings  
Clamping Ring V06  
Displays  
AP21-00 SSI Display  
AP21-DA SSI Display (4 dig. + analog o/p)  
DiMod-P SSI Display



# POSITAL

---

## FRABA

Configuration/Programming Tools  
SSI2USB Adapter DB15 (VA01)

### Contact



Contact Us

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.