



OCD-EEC1B-1213-C100-PRM



### Product Description

POSITAL IXARC absolute Multiturn encoder: EtherNet/IP interface, Clamp,  $\varnothing$  58 mm (C),  $\varnothing$  10 mm (0.39") shaft and IP64 / IP65 protection class.

### Interface

|                       |                                                                                                                   |
|-----------------------|-------------------------------------------------------------------------------------------------------------------|
| Interface             | EtherNet/IP                                                                                                       |
| Profile               | CIP (Common Industrial Protocol)                                                                                  |
| Diagnostics           | Error and Warning Bits                                                                                            |
| Features              | Boot-Loader, Round Axis, DLR, Velocity, Acceleration and Temperature values                                       |
| Transmission Rate     | 100 Mbit                                                                                                          |
| Interface Cycle Time  | $\geq 1$ ms                                                                                                       |
| Programming Functions | Resolution, time base and filter for velocity, preset, counting direction, parameter control priority, IP-Address |

## Outputs

|               |          |
|---------------|----------|
| Output Driver | Ethernet |
|---------------|----------|

## Electrical Data

|                             |                                                                                     |
|-----------------------------|-------------------------------------------------------------------------------------|
| Supply Voltage              | 10 – 30 VDC                                                                         |
| Current Consumption         | $\leq 250 \text{ mA @ } 10 \text{ V DC}$ , $\leq 100 \text{ mA @ } 24 \text{ V DC}$ |
| Power Consumption           | $\leq 3 \text{ W}$                                                                  |
| Start-Up Time               | $< 15 \text{ s}$                                                                    |
| 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                        | 95 years @ 40 °C                                                                    |

## Sensor

|                       |                                                                       |
|-----------------------|-----------------------------------------------------------------------|
| Technology            | Optical                                                               |
| Resolution Singleturn | 13 bit                                                                |
| Resolution Multiturn  | 12 bit                                                                |
| Multiturn Technology  | Mechanical Gearing (no Battery)                                       |
| Accuracy (INL)        | $\pm 0.0220^\circ$ (14 – 16 bit), $\pm 0.0439^\circ$ ( $\leq 13$ bit) |
| Code                  | Binary                                                                |

# Environmental Specifications

|                            |                                    |
|----------------------------|------------------------------------|
| Protection Class (Shaft)   | IP65                               |
| Protection Class (Housing) | IP66/IP67                          |
| Min Temperature            | -40 °C (-40 °F)                    |
| Max Temperature            | +85 °C (+185 °F)                   |
| Storage 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                                              | Clamp, ø 58 mm (C)                                                                                   |
| Flange Material                                          | Aluminum                                                                                             |
| Shaft Type                                               | Solid, Single Flat, Length = 20 mm                                                                   |
| Shaft Diameter                                           | ø 10 mm (0.39")                                                                                      |
| 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) | 430 (20N/40N), 150 (40N/60N), 100 (40N/80N), 55 (40N/110N)                                           |
| Rotor Inertia                                            | ≤ 30 gcm² [≤ 0.17 oz-in²]                                                                            |
| Friction Torque                                          | ≤ 3 Ncm @ 20 °C (4.2 oz-in @ 68 °F)                                                                  |

|                                   |               |
|-----------------------------------|---------------|
| Max. Permissible Mechanical Speed | ≤ 12000 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) |
|----------------------|----------------------------------------|

|        |                 |
|--------|-----------------|
| Weight | 370 g (0.82 lb) |
|--------|-----------------|

## Electrical Connection

|                        |        |
|------------------------|--------|
| Connection Orientation | Radial |
|------------------------|--------|

|             |                             |
|-------------|-----------------------------|
| Connector 1 | M12, Female, 4 pin, d coded |
|-------------|-----------------------------|

|             |                           |
|-------------|---------------------------|
| Connector 2 | M12, Male, 4 pin, a coded |
|-------------|---------------------------|

|             |                             |
|-------------|-----------------------------|
| Connector 3 | M12, Female, 4 pin, d coded |
|-------------|-----------------------------|

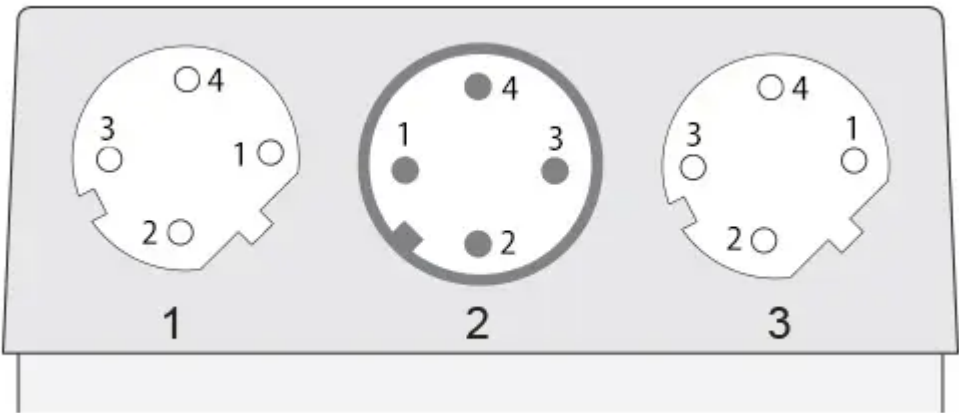
## Certification

|          |    |
|----------|----|
| Approval | CE |
|----------|----|

## Product Life Cycle

|                    |     |
|--------------------|-----|
| Product Life Cycle | New |
|--------------------|-----|

# Connection Plan



| Signal        | Connector | Pin Number |
|---------------|-----------|------------|
| Tx+           | 1         | 1          |
| Rx+           | 1         | 2          |
| Tx-           | 1         | 3          |
| Rx-           | 1         | 4          |
| Power Supply  | 2         | 1          |
| Not Connected | 2         | 2          |
| GND           | 2         | 3          |
| Not Connected | 2         | 4          |
| Tx+           | 3         | 1          |
| Rx+           | 3         | 2          |
| Tx-           | 3         | 3          |
| Rx-           | 3         | 4          |

[illegible]

## Online Datasheet

