# OCD-EM02B-1213-B15S-PRM



## Product Description

POSITAL IXARC absolute Multiturn encoder: Ethernet ModbusTCP interface, Blind Hollow, ø 58 mm (B), ø 15 mm (0.59") shaft and IP67 protection class.

| INTERFACE | |
|---|---|
| Interface | Ethernet ModbusTCP |
| Profile | TCP/IP, UDP, Modbus TCP (IEC 61158) |
| Transmission Rate | 10 / 100 Mbit |
| Interface Cycle Time | ≥ 10 ms |
| Programming Functions | Resolution, preset, complement, transmission mode: polled mode, cyclic mode, change of state |

## ELECTRICAL DATA

| | |
|---|---|
| Supply Voltage | 10 – 30 VDC |
| Current Consumption | ≤ 230 mA @ 10 V DC, ≤ 100 mA @ 24 V DC |
| Power Consumption | ≤ 2.5 W |
| Start-Up Time | < 15 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 |

## SENSOR

| | |
|---|---|
| Technology | Optical |
| Resolution Singleturn | 13 bit |
| Resolution Multiturn | 12 bit |
| Multiturn Technology | Mechanical Gearing (no Battery) |
| Accuracy (INL) | ±0.0220° (14 – 16 bit), ±0.0439° (≤13 bit) |
| Code | Binary |

## ENVIRONMENTAL SPECIFICATIONS

| | |
|---|---|
| Protection Class (Shaft) | IP66/IP67 |
| 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 | Blind Hollow, ø 58 mm (B) |
| Flange Material | Aluminum |
| Shaft Type | Blind Hollow, Depth = 30 mm |
| Shaft Diameter | ø 15 mm (0.59") |
| Shaft Material | Stainless Steel V2A (1.4305, 303) |
| Rotor Inertia | ≤ 30 gcm² [≤ 0.17 oz-in²] |
| Friction Torque | ≤ 5 Ncm @ 20 °C, (7.1 oz-in @ 68 °F) |
| Max. Permissible Mechanical Speed | ≤ 3000 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 | 365 g (0.80 lb) |
| Maximum Axial / Radial Misalignment | Static ± 0.3 mm /± 0.5 mm; Dynamic ± 0.1 mm /± 0.2 mm |

## 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 |

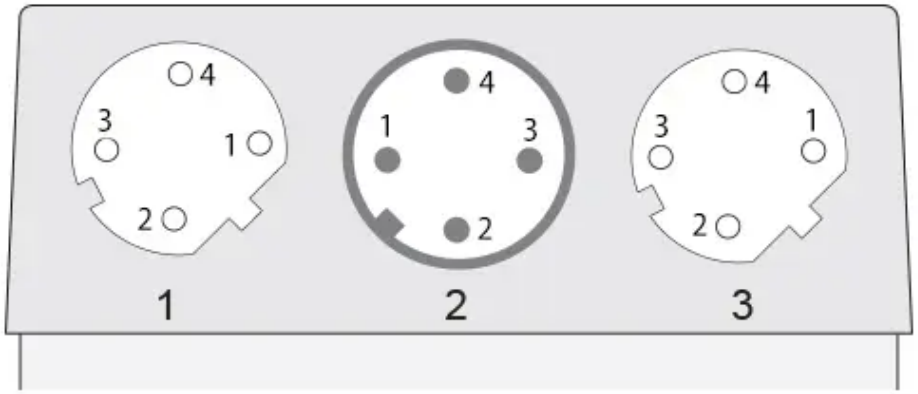
## CERTIFICATION

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

## PRODUCT LIFE CYCLE

| | |
|---|---|
| Product Life Cycle | Prototype |

## Connection Plan




### CONNECTOR 1

| Pin Number | Signal |
|---|---|
| 1 | Tx+ |
| 2 | Rx+ |
| 3 | Tx- |
| 4 | Rx- |

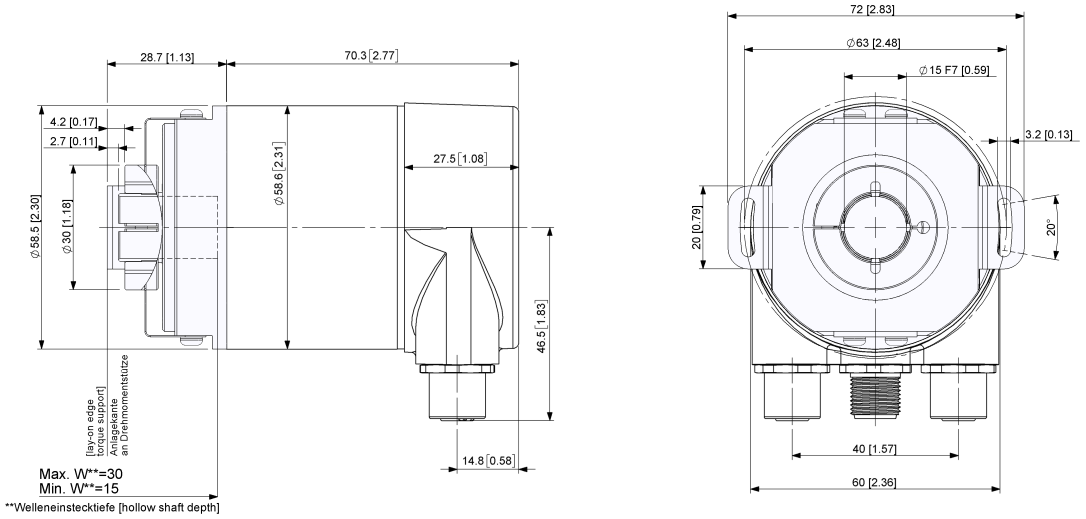
### CONNECTOR 2

| Pin Number | Signal |
|---|---|
| 1 | Power Supply |
| 2 | *Not Connected* |
| 3 | GND |
| 4 | *Not Connected* |

## CONNECTOR 3

| Pin Number | Signal |
|---|---|
| 1 | Tx+ |
| 2 | Rx+ |
| 3 | Tx- |
| 4 | Rx- |

# Drawings


28.7 [1.13]
70.3 [2.77]
4.2 [0.17]
2.7 [0.11]
∅58.5 [2.30]
∅30 [1.18]
∅58.6 [2.31]
27.5 [1.08]
46.5 [1.83]
14.8 [0.58]
[lay-on edge torque support]
Anlagekante an Drehmomentstütze
Max. W**=30
Min. W**=15
**Welleneinstecktiefe [hollow shaft depth]
72 [2.83]
∅63 [2.48]
∅15 F7 [0.59]
3.2 [0.13]
20 [0.79]
20°
40 [1.57]
60 [2.36]

## Online Datasheet

