


ACW4 IO-LINK

IO-LINK ABSOLUTE SINGLE-TURN MODULAR SENSOR

Introduction

The ACW4  **IO-Link** version provides a compact versatile single-turn absolute position indication. The two-part construction keeps the profile low, delivering a high degree of flexibility for tight installations. By using the IO-Link protocol, integration and set-up of sensors is greatly simplified, supporting the move to factory 4.0 and IIOT initiatives. The ACW4 IO-Link is sealed to IP65 making it suitable for even the harshest industrial environments.



Features

- With its two-part design, the ACW4 IO-Link absolute single-turn position sensor offers maximum flexibility during installation
- IO-Link with COM3 transmission rate
- Easy commissioning and configuration with IO-Link
- Simple device replacement with Data Storage capability
- Universal power supply through IO-Link Master
- Robust and excellent resistance to shock and vibration
- Robust magnetic technology
- Standard IP65 protection (IP69K option)
- Extended operating temperature range from -40°C to 85°C
- Resolution : programmable 12 bits per turn
- Standard M12 connector

Applications

- Factory Automation
- Process Automation



SPECIFICATIONS

Mechanical

| | |
|---------------------|------------------------------------|
| Terminations | PUR cable with M12 5 pin connector |
| Housing | Technomelt PA638 black |
| Weight | 0,150 kg |

Electrical

| | |
|-----------------------------|--|
| Electrical Angle | 360° |
| Output Function | IO-Link V1.1, COM3 (230,4 kBaud) |
| Minimal Cycle Time | 1ms |
| Resolution | single-turn: 12 bits |
| Accuracy | +/-0.3% on 360° |
| Repeatability | +/-0.1% on 360° |
| Supply Voltage | 18 to 30 Vdc |
| Current Requirements | <40mA |
| Protection | Overvoltage Protection: Yes Reverse Polarity Protection: Yes Short Circuit Protection: Yes |

| | |
|------------|--|
| EMC | IEC 61000-4-2 Electrostatic discharge (ESD) 4 kV, 8 kV |
| | IEC 61000-4-3 Electromagnetic fields 10 V/m (80MHz - 1GHz), 3V/m (1.4GHz - 2GHz), 1V/m (2GHz - 2.7GHz) |
| | IEC 61000-4-4 Electrical fast transients (burst) 1 kV |
| | IEC 61000-4-6 Conducted disturbances, induced by RF-fields 10 VEMF. |

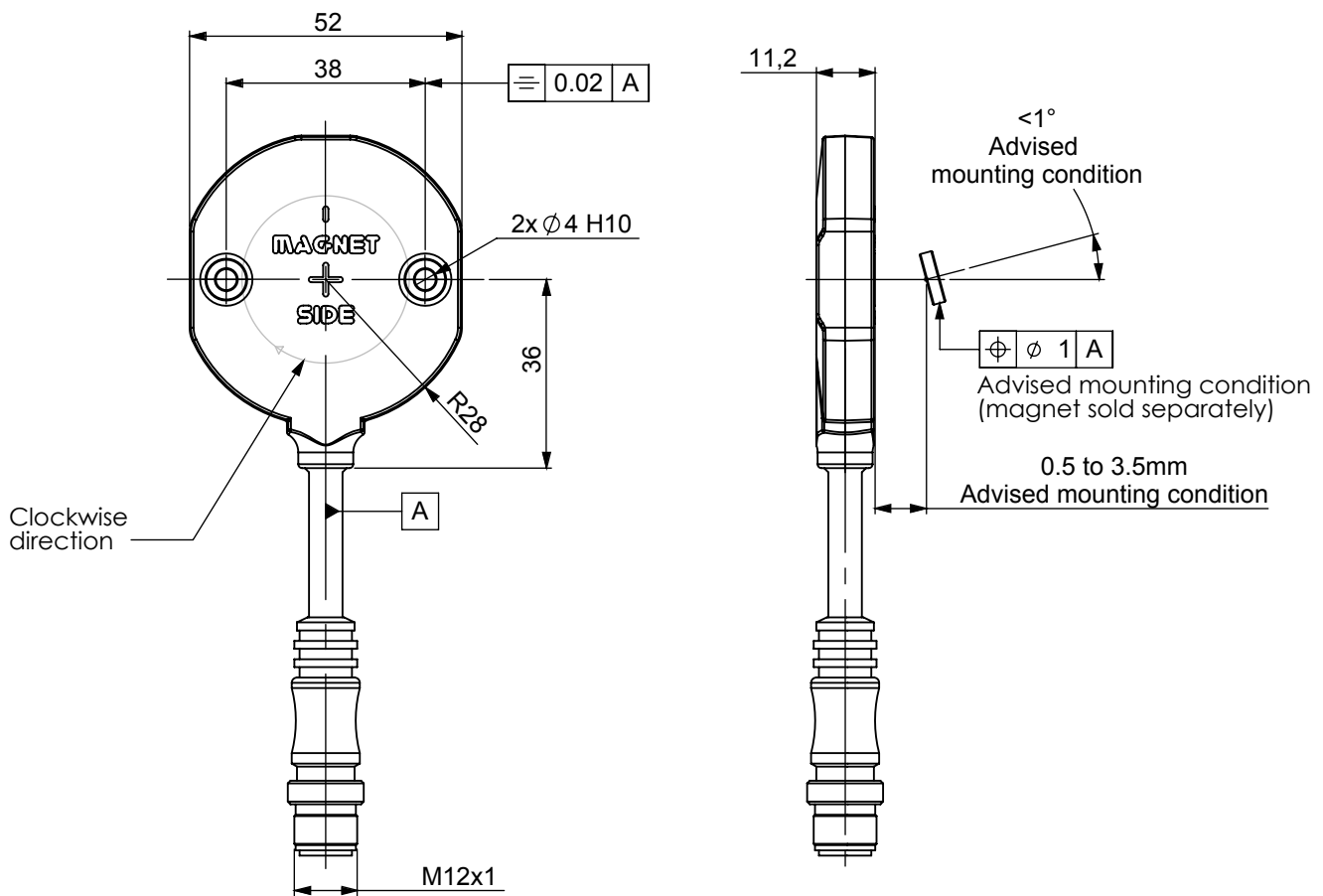
Environmental

| | | |
|-----------------------------------|--|---------------|
| Protection Class (Sealing) | IP65 | |
| Temperature Range | Operating | -40°C to 85°C |
| | Storage | -40°C to 85°C |
| Shock | ≤ 2000 m.s ⁻² (6ms half-sine) | |
| Vibration | ≤ 200 m.s ⁻² (55 ... 2000 Hz) | |



DIMENSIONS

All Dimensions are in millimeters.
 Shaft system with magnet to be ordered separately (see Accessories).





IO-LINK FEATURES

Process data

- Position: single turn 12 bits maximum
- Magnetic field issue : flag triggered if problem with magnet detection

Programmable Parameters

- Resolution per turn: 1 to 12 bits
- Direction: clockwise or counter-clockwise, changes counting direction.
- Set zero point : reset position to zero
- Preset value : The position process data is set to the preset parameters. The preset parameter shall be a valid position value according to the resolution chosen.

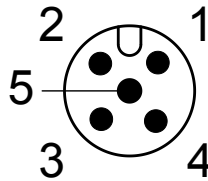
Diagnostics

- Operating Hours : number of hours since factory reset

CONNECTOR PIN OUT

IO-link device class B (Male M12 5 pin)

| Pin | Color | Signal |
|-----|-------|---------|
| 1 | Brown | L+ |
| 2 | White | N.C |
| 3 | Blue | L- |
| 4 | Black | IO-Link |
| 5 | Grey | N.C |



NOTES

Stray magnetic fields can interfere with accuracy and repeatability of the signal.

ORDERING OPTIONS

Example : ACW4_00//Z10B//12//BD R003

(Contact the factory for special versions, ex : dimensions, connections...)

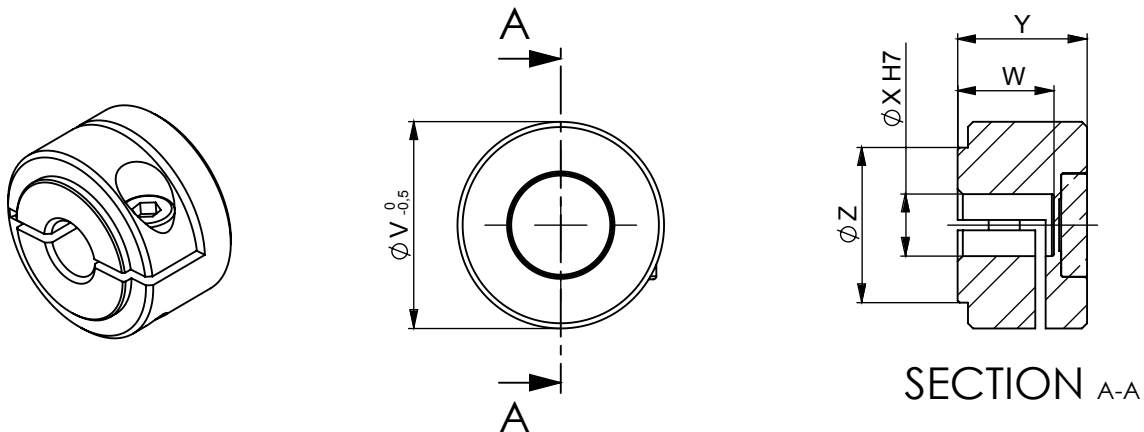
| | | | | | | | | | | | | | | | |
|--|------|---|----|----|---|--|----|--|---|----|----|----|----|--|------|
| Family | ACW4 | - | 00 | // | Z | | 10 | | B | // | 12 | // | BD | | R003 |
| ACW4: Absolute Single-Turn Sensor | | | | | | | | | | | | | | | |
| Shaft Ø | | | | | | | | | | | | | | | |
| 00: Modular | | | | | | | | | | | | | | | |
| Supply | | | | | | | | | | | | | | | |
| Z: 18 to 30Vdc | | | | | | | | | | | | | | | |
| Output Stage | | | | | | | | | | | | | | | |
| 10: IO-Link | | | | | | | | | | | | | | | |
| Code | | | | | | | | | | | | | | | |
| B: Binary | | | | | | | | | | | | | | | |
| Resolution | | | | | | | | | | | | | | | |
| 12: 12 bits single turn position | | | | | | | | | | | | | | | |
| Connection | | | | | | | | | | | | | | | |
| BD: PUR Cable + M12 5 pin connector | | | | | | | | | | | | | | | |
| Connection Orientation | | | | | | | | | | | | | | | |
| R003: Radial Cable 30cm | | | | | | | | | | | | | | | |

ACCESSORIES

Female magnet support + Magnet 8810/013

Ordering p/n : **M9105/Kxx**

XXX: Where XX is the shaft mounting diameter in mm. Standards are 06, 08, 10, 11, and 14 mm. i.e M9105/K10 mounts to a 10 mm shaft.

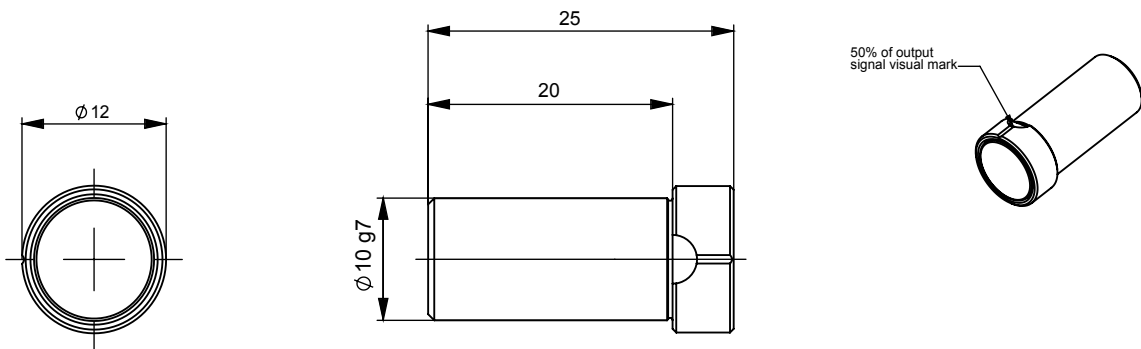


| | M9105/K06 | M9105/K08 | M9105/K10 | M9105/K11 | M9105/K14 |
|----------|-----------|-----------|-----------|-----------|-----------|
| X | 06 H7 | 08 H7 | 10 H7 | 11 H7 | 14 H7 |
| V | 20 | 20 | 26 | 26 | 29 |
| W | 9,3 | 9,3 | 10 | 10 | 10 |
| Y | 12,5 | 12,5 | 14 | 14 | 14 |
| Z | 15 | 15 | 15 | 15 | 18 |

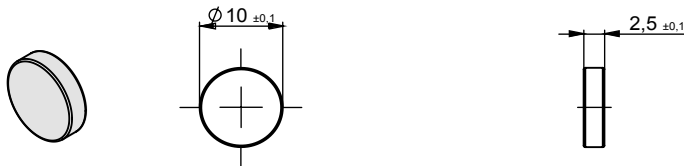
Frontal magnet support + Magnet 8810/013
 Ordering p/n : **M9105/F26**



Male magnet support + Magnet 8810/013
 Ordering p/n : **M9105/M10-01**



Magnet
 Ordering p/n : **8810/013**



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