


# 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

<b>Terminations</b>	PUR cable with M12 5 pin connector
<b>Housing</b>	Technomelt PA638 black
<b>Weight</b>	0,150 kg

### Electrical

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

<b>EMC</b>	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.

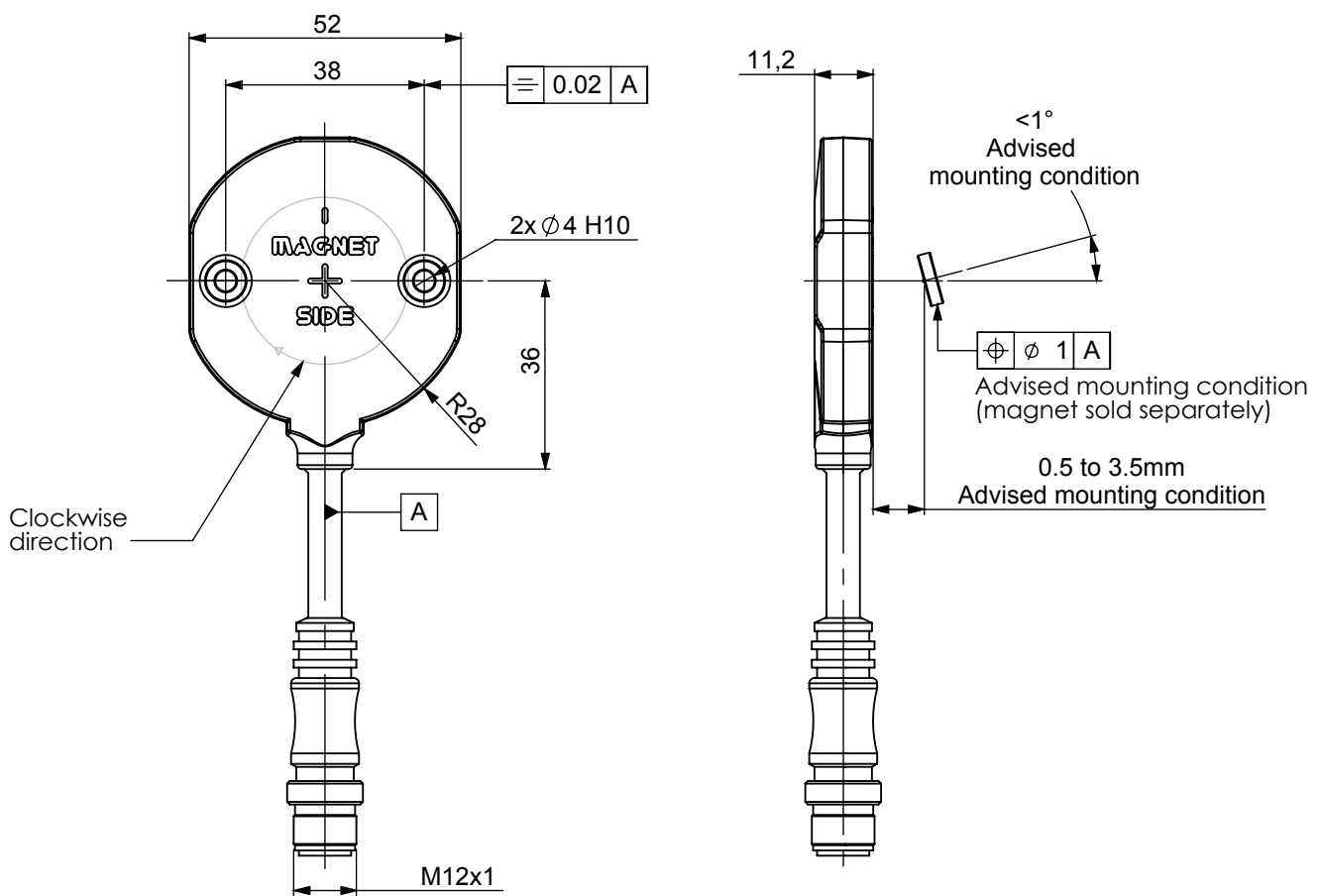
## Environmental

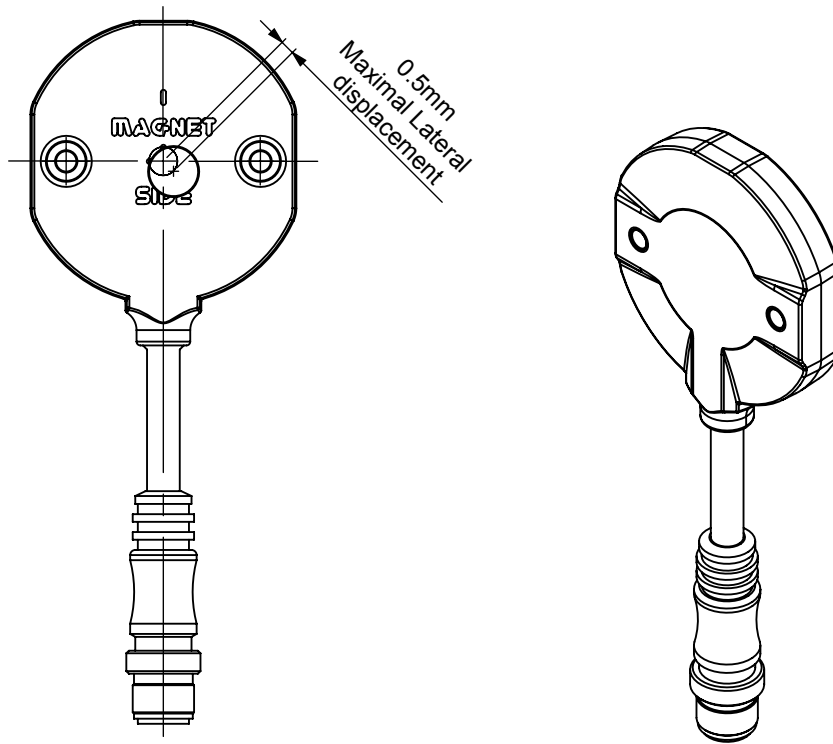
<b>Protection Class (Sealing)</b>	IP65	
<b>Temperature Range</b>	<b>Operating</b>	-40°C to 85°C
	<b>Storage</b>	-40°C to 85°C
<b>Shock</b>	≤ 2000 m.s <sup>-2</sup> (6ms half-sine)	
<b>Vibration</b>	≤ 200 m.s <sup>-2</sup> (55 ... 2000 Hz)	



## 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.

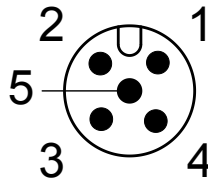
### Diagnostics

- 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... )

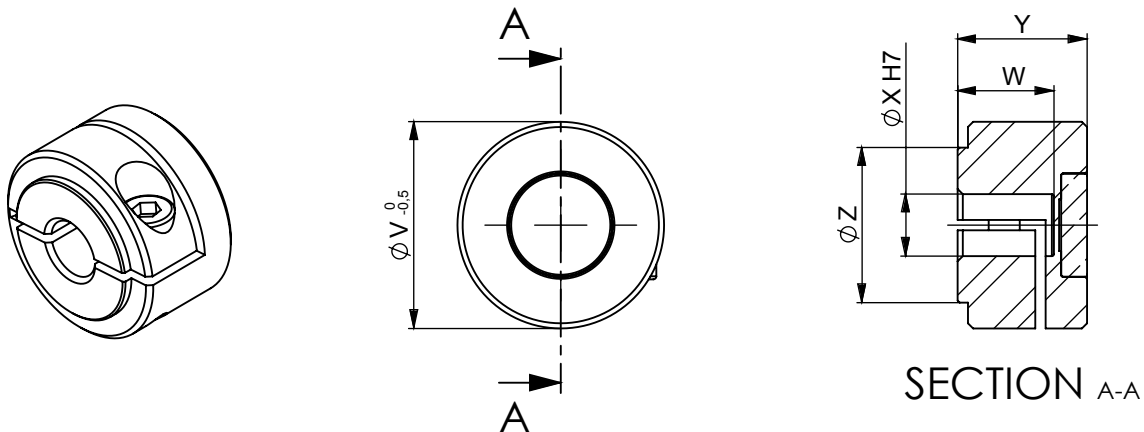
<b>Family</b>	ACW4	-	00	//	Z		10		B	//	12	//	BD		R003
<b>ACW4:</b> Absolute Single-Turn Sensor															
<b>Shaft Ø</b>															
<b>00:</b> Modular															
<b>Supply</b>															
<b>Z:</b> 18 to 30Vdc															
<b>Output Stage</b>															
<b>10:</b> IO-Link							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

## ACCESSORIES

### Female magnet support + Magnet 8810/013

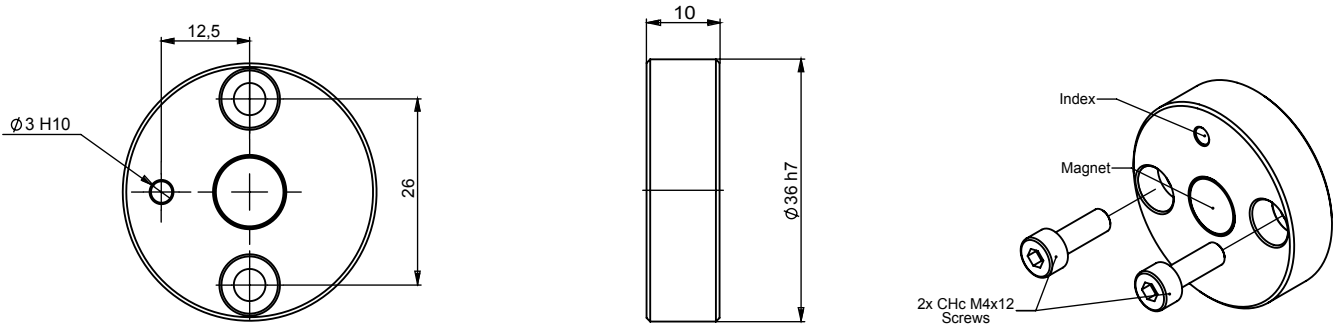
Ordering p/n : **M9105/Kxx**

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.

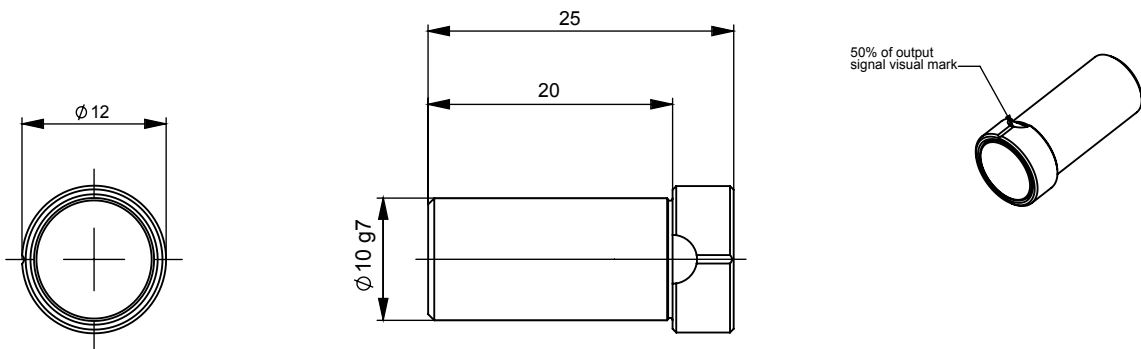


	M9105/K06	M9105/K08	M9105/K10	M9105/K11	M9105/K14
<b>X</b>	06 H7	08 H7	10 H7	11 H7	14 H7
<b>V</b>	20	20	26	26	29
<b>W</b>	9,3	9,3	10	10	10
<b>Y</b>	12,5	12,5	14	14	14
<b>Z</b>	15	15	15	15	18

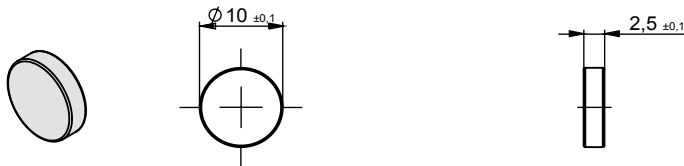
**Frontal magnet support + Magnet 8810/013**  
 Ordering p/n : **M9105/F26**



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



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



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