



| ACW4 CANopen

CANOPEN ABSOLUTE SINGLE TURN MODULAR



Features

- With its two-part design, the ACW4 CANopen absolute single-turn offers maximum flexibility for installation
- Rugged and excellent resistance to shock and vibration
- Robust, proven magnetic technology
- Environmentally resistant, IP 67 standard (IP69K option)
- Extended operating range from -30° C to 85° C
- Uses universal supply 5 to 30 VDC – CAN open output
- Available Resolution up to 12 bits per revolution
- Variety of magnet holders available
- Standard PVC cable with SUBD9 connector

Applications

- Factory Automation
- Process Automation



SPECIFICATIONS

Mechanical

| | |
|---------------------|--------------------------------|
| Terminations | PVC Cable with SUBD9 connector |
| Housing | Macromelt PA638 |
| Weight | 0,150 kg |

Electrical

| | |
|-----------------------------|--|
| Electrical Angle | 360° |
| Output Function | CANopen |
| Minimal Cycle Time | < 400µs |
| Resolution | Single –turn, 12 bits |
| Accuracy | +/-0.3% on 360° |
| Repeatability | +/-0.1% on 360° |
| Supply Voltage | 5 to 30 Vdc |
| Start-up | < 1 s |
| 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 Veff. |

Programmable Parameters

Resolution: Defines the resolution per revolution (0 to 4 096).

Transmission Speed: Programmable from 10kBaude (1 000m) to 1 Mbaude (25 m) ; value per default : 20 Kbaude.

Address: Defines the software address of the encoder on the bus (1 to 127, Value per default : id = 1).

Direction: Defines the direction of count of the encoder.

RAX: Defines the value of the current position (with the shaft held stationary)

Games: High and low limits.

Communication Modes

Encoder configuration : Reading/Writing of the encoder objects dictionary (SDO mode).

3 modes are available to interrogate the encoder position/speed:

CYCLIC Mode: The sensor transmits its position in an asynchronous manner. The frequency of the transmission is defined by the programmable cyclic timer register from 0 to 65 535 ms,

SYNCHRO Mode: The Sensor transmits its position on a synchronous demand by the master.

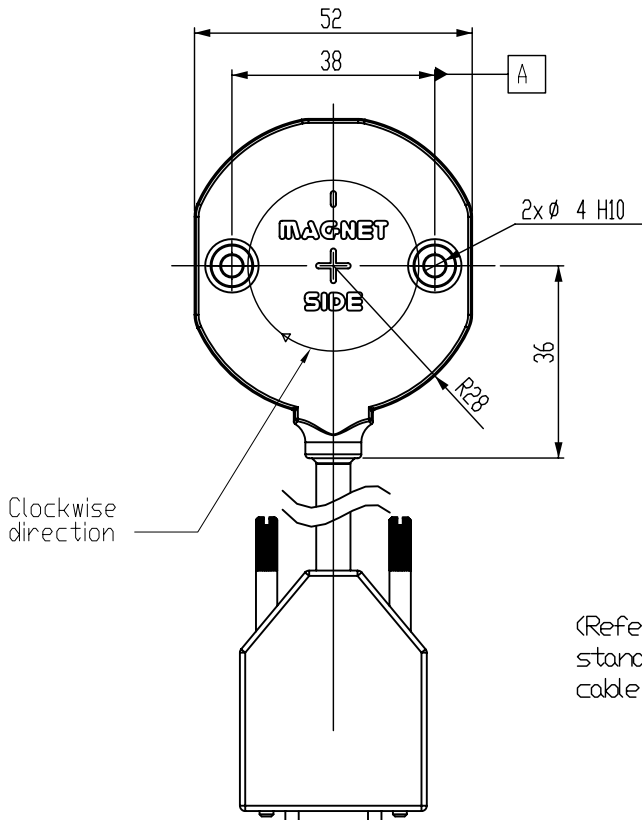
POOLING Mode (Answer to a RTR signal) : The sensor only answers to a request.



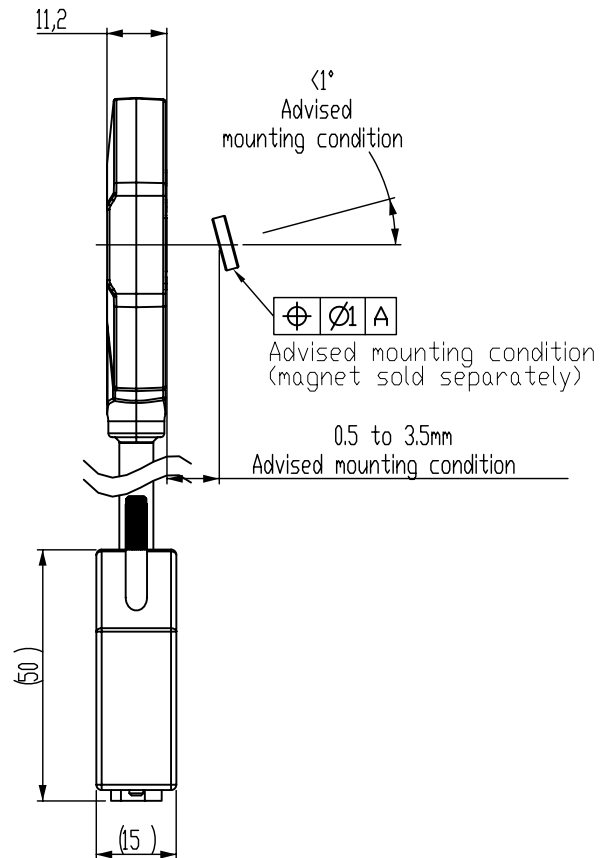
DIMENSIONS

All Dimensions are in millimeters.

Shaft system with magnet to be ordered separately (see Accessories).



(Refer to the bus standards for max cable length)





CANOPEN CONNECTION, CABLE + DB9 CONNECTOR

| | | N.C | CAN LOW | CAN GND / 0V | N.C. | N.C. | 0V | CAN HIGH | N.C. | 5/30Vdc | Ground |
|----|-----------------|-----|---------|--------------|------|------|----|----------|------|---------|-------------------|
| BB | PVC Cable + DB9 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | General Shielding |

NOTES

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



ORDERING OPTIONS

Example : ACW4_00//PBB//12//BBR020

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

| | | | | | | | | | | | |
|---------------------|--|-----------|-----------|----------|-----------|----------|-----------|-----------|-----------|------------|------------|
| | ACW4 | 00 | // | P | BB | B | // | 12 | // | BBR | 020 |
| Family | ACW4: Absolute Single-Turn Sensor | | | | | | | | | | |
| Shaft Ø | 00: Modular | | | | | | | | | | |
| Supply | P: 5 to 30 Vdc | | | | | | | | | | |
| Output Stage | BB: CANopen | | | | | | | | | | |
| Code | B: Binary | | | | | | | | | | |
| Resolution | 12: 12 bits | | | | | | | | | | |
| Connection | BBR: Side PVC cable with SUBDG connector | | | | | | | | | | |
| Cable Length | 020: 2 meters | | | | | | | | | | |

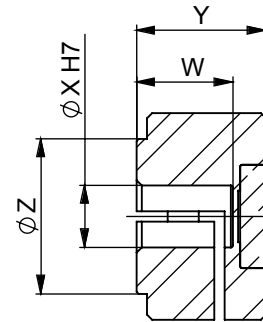
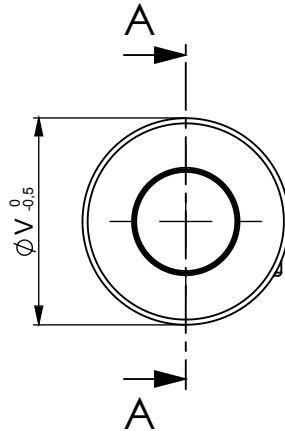
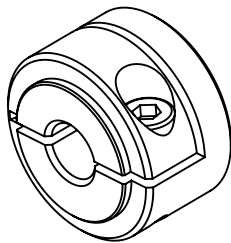


ACCESSORIES

Female magnet support + Magnet 8810/013

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

KXX: 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.



SECTION A-A

| | M9105/K06 | M9105/K08 | M9105/K10 | M9105/K11 | M9105/K14 |
|----------|-----------|-----------|-----------|-----------|-----------|
| W | 6 H7 | 8 H7 | 10 H7 | 11 H7 | 14 H7 |
| X | 20 | 20 | 26 | 26 | 29 |
| 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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