

Code ST04	Project A48-B	Release B	TECHNICAL DATASHEET
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ABSOLUTE MAGNETIC SENSOR AGM - CANopen

GENERAL FEATURES

- Linear magnetic sensor, with direct reading of the absolute position.
- Resolutions up to 1 μm .
- Measuring length up to 30 000 mm.
- CANopen protocol.
- Contactless reading.
- Extremely easy and fast mounting of the entire measuring system, with wide alignment tolerances.
- Small size, to allow installation in narrow spaces.
- Axial or radial cable output.



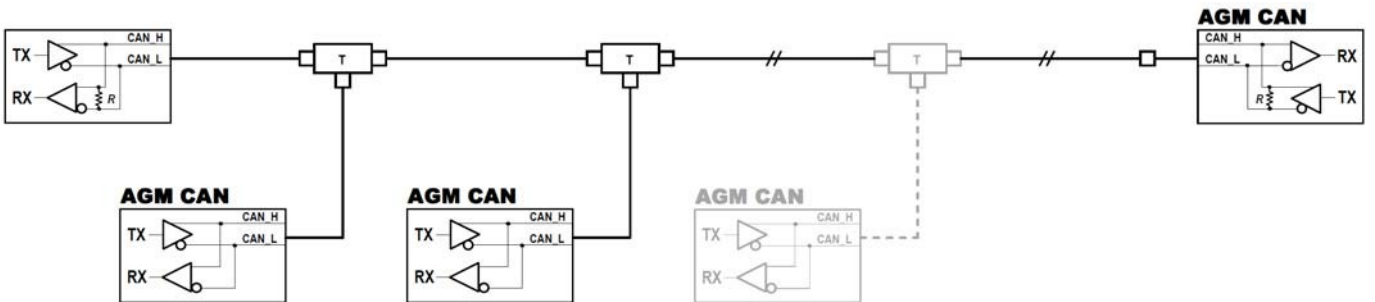
MECHANICAL AND ELECTRICAL CHARACTERISTICS

MECHANICAL	Cod. AGM	M																		
<ul style="list-style-type: none"> • Magnetic sensor with die-cast body. • Possibility to fix the magnetic sensor with M4 screws or with through M3 screws. • Wide alignment tolerances. • Robust sealed cable exit. 	Pole pitch	2+2 mm																		
	Repeatability	± 1 increment																		
	Serial interface	CAN bus																		
	Protocol - Profile	CANopen: encoder DS406 V. 3.1 communication DS301 V. 4.02 LSS service DS305 V.2.0																		
	Resolution absolute position	100 - 50 - 10 - 5 - 1 μm																		
	Accuracy	$\pm 15 \mu\text{m}$																		
	Measuring length ML	up to 30 000 mm																		
	Max. traversing speed	300 m/min *																		
	Vibration resistance (EN 60068-2-6)	200 m/s^2 [55 \div 2 000 Hz]																		
	Protection class (EN 60529)	IP 67																		
	Operating temperature	0 °C \div 50° C																		
	Storage temperature	-20 °C \div 70° C																		
	Relative humidity	100%																		
	Current consumption with 24 Vdc	60 mA_{MAX}																		
	Electrical connections	see related table																		
	Electrical protections	inversion of polarity and short circuits																		
	Weight	80 g																		
<ul style="list-style-type: none"> • Reading through positioning sensor based on magneto resistance, with AMR effect (Magnetic Anisotropy). • Electrical protection against inversion of power supply polarity and short circuits on output ports. 																				
<ul style="list-style-type: none"> • CABLE: <ul style="list-style-type: none"> - Standard for CAN bus connection, 2x2x0.34. - Standard length 0.3 m. - The cable is suitable for continuous movements. <p>The cable's bending radius should not be lower than 80 mm.</p>																				
<table border="1"> <thead> <tr> <th>PIN</th> <th>SIGNALS</th> <th>CONDUCTOR COLOR</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>SCH</td> <td>Shield</td> </tr> <tr> <td>2</td> <td>+ V</td> <td>Brown</td> </tr> <tr> <td>3</td> <td>0 V</td> <td>White</td> </tr> <tr> <td>4</td> <td>CAN_H</td> <td>Green</td> </tr> <tr> <td>5</td> <td>CAN_L</td> <td>Yellow</td> </tr> </tbody> </table>	PIN	SIGNALS	CONDUCTOR COLOR	1	SCH	Shield	2	+ V	Brown	3	0 V	White	4	CAN_H	Green	5	CAN_L	Yellow		
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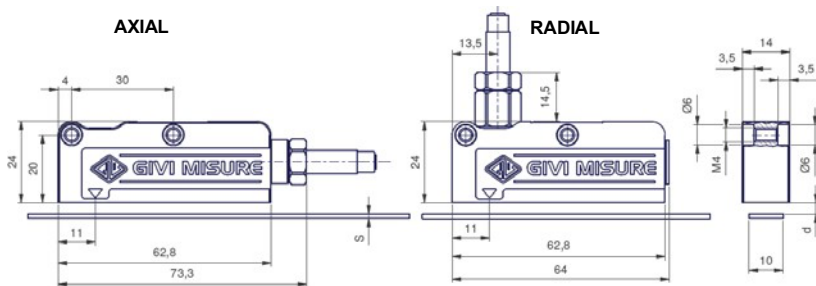
* With a 1 μm resolution, the maximum traversing speed becomes 90 m/min.

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CABLE



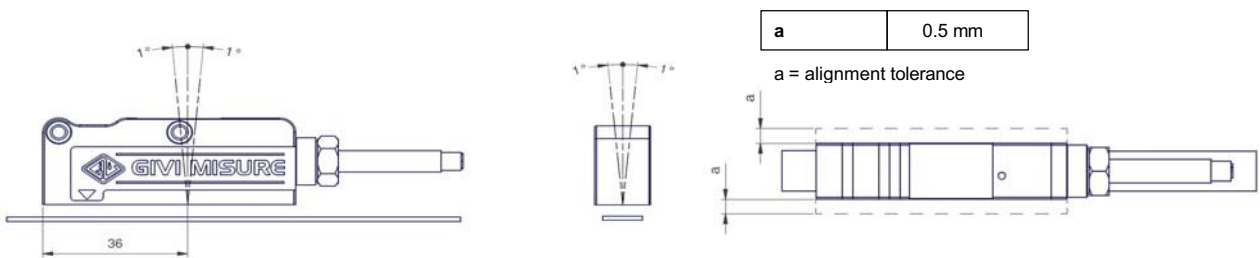
SENSOR DIMENSIONS



values in mm	MP200A	MP200A + CV103	MP200A + SP202
s	1.3	1.6	2.1
d	0.3 ÷ 1	0.7 _{MAX}	0.2 _{MAX}

s = thickness
 d = distance to be maintained between sensor and surface of the magnetic band (or eventual cover/support)

SENSOR ALIGNMENT TOLERANCES



ORDERING CODE

MODEL	POLE PITCH	RESOLUTION	CABLE OUTPUT	OUTPUT SIGNALS	CABLE LENGTH, CABLE TYPE	CONNECTOR CONNECTION	SPECIAL
AGM	M	1	A	C	M0.3 / C	CH0	

M = 2+2 mm
 100 = 100 µm
 50 = 50 µm
 10 = 10 µm
 5 = 5 µm
 1 = 1 µm

A = axial
 R = radial

C = CANopen

M0.3 = 0.3 m (standard)
 C = CAN bus

CH0 = connector 5 Pin M12
 SC = without connector

No cod. = standard
 SPnn = special nn

Example ➡ **ABSOLUTE MAGNETIC SENSOR AGM M1A C M0.3 / C CH0**