

Code <b>ST02</b>	Project <b>A47-A</b>	Release <b>A</b>	<b>TECHNICAL DATASHEET</b>
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## ABSOLUTE MAGNETIC SENSOR AGM

### GENERAL FEATURES

- Magnetic sensor, with direct reading of the absolute position.
- Resolutions up to 1  $\mu\text{m}$ .
- Measuring length up to 30 000 mm.
- High-speed serial interface.
- Contactless reading.
- Warning indication through LED.
- Extremely easy and fast mounting of the entire measuring system, with wide alignment tolerances.
- Small size, to allow installation in narrow spaces.



### MECHANICAL AND ELECTRICAL CHARACTERISTICS

MECHANICAL	Cod. AGM	M
<ul style="list-style-type: none"> <li>• Magnetic sensor with die-cast body.</li> <li>• Possibility to fix the magnetic sensor with M4 screws or with through M3 screws.</li> <li>• Wide alignment tolerances.</li> <li>• Robust sealed cable exit.</li> </ul>	<b>Pole pitch</b>	2+2 mm
	<b>Incremental signal</b>	sine wave 1 Vpp
	<b>Resolution 1 Vpp</b>	up to 1 $\mu\text{m}$ *
	<b>Signal period</b>	2 mm
	<b>Serial interface</b>	SSI – BiSS
	<b>Resolution absolute measure</b>	500 - 100 - 50 - 10 - 5 - 1 $\mu\text{m}$
	<b>Accuracy</b>	$\pm 15 \mu\text{m}$
	<b>Measuring length ML</b>	up to 30 000 mm
	<b>Max. traversing speed</b>	300 m/min
	<b>Vibration resistance (EN 60068-2-6)</b>	200 m/s <sup>2</sup> [55 ÷ 2 000 Hz]
	<b>Protection class (EN 60529)</b>	IP 67
	<b>Operating temperature</b>	0 °C ÷ 50° C
	<b>Storage temperature</b>	-20 °C ÷ 70° C
	<b>Relative humidity</b>	100%
	<b>Power supply</b>	5 ÷ 28 Vdc $\pm$ 5%
	<b>Current consumption</b>	150 mA <sub>MAX</sub> (with R = 120 $\Omega$ )
	<b>Max. cable length</b>	25 m **
	<b>Electrical connections</b>	see related table
	<b>Electrical protections</b>	inversion of polarity and short circuits
	<b>Weight</b>	120 g

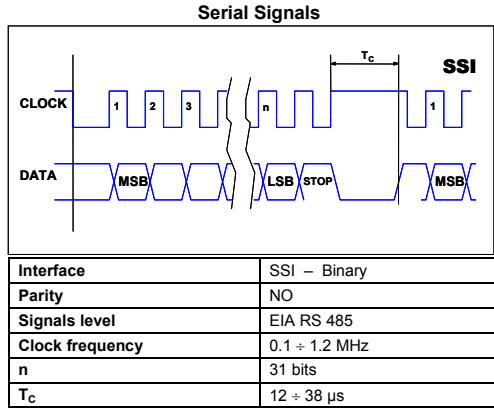
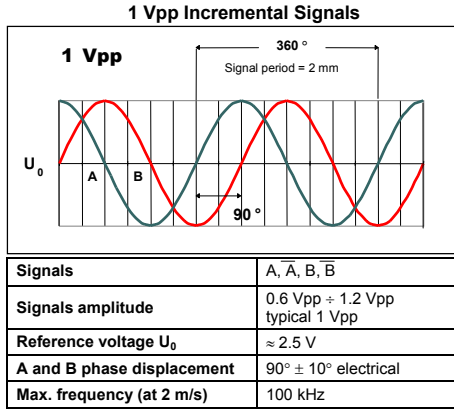
SIGNALS	CONDUCTOR COLOR
V+	Red
V-	Blue
A	Green
$\overline{A}$	Orange
B	White
$\overline{B}$	Light-blue
CK	Brown
$\overline{CK}$	Yellow
D	Pink
$\overline{D}$	Grey
SCH	Shield

\* Depending on CNC division factor.

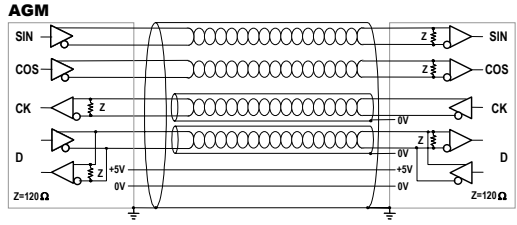
\*\* Ensuring a minimum power supply of 5 V to the sensor, the maximum cable length can be extended to 100 m.

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### OUTPUT SIGNALS



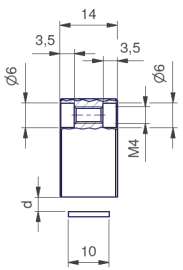
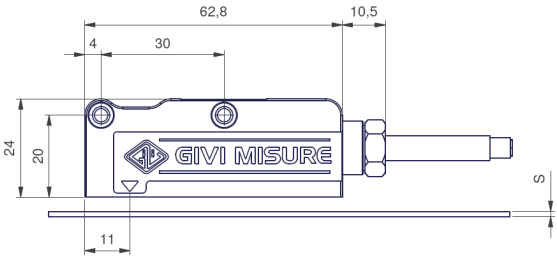
### CABLE



In case of cable extension, it is necessary to guarantee:

- the electrical connection between the body of the connectors;
- a minimum power supply voltage of 5 V to the sensor.

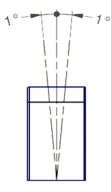
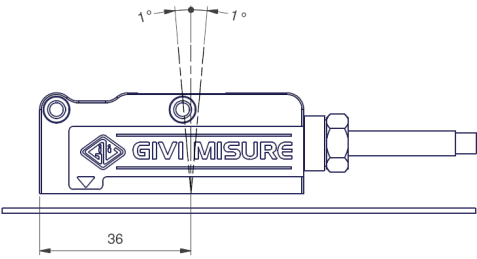
### SENSOR DIMENSIONS



values in mm	MP200A	MP200A + CV103	MP200A + SP202
s	1.3	1.6	2.1
d	0.3 ÷ 1	0.7 <sub>MAX</sub>	0.2 <sub>MAX</sub>

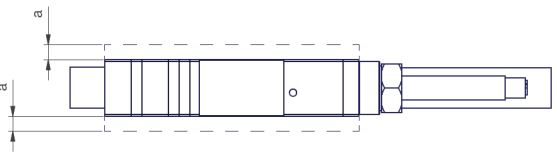
s = thickness  
 d = distance to be maintained between sensor and surface of the magnetic band (or eventual cover/support)

### SENSOR ALIGNMENT TOLERANCE



a	0.5 mm
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a = alignment tolerance



### ORDERING CODE

MODEL	POLE PITCH	RESOLUTION	SCALE TYPE	POWER SUPPLY, OUTPUT SIGNALS	CABLE LENGTH, CABLE TYPE	CONNECTOR
<b>AGM</b>	<b>M</b>	<b>1</b>	<b>A</b>	<b>528VS</b>	<b>M03 / S</b>	<b>SC</b>

**M** = 2+2 mm  
**500** = 500 μm  
**100** = 100 μm  
**50** = 50 μm  
**10** = 10 μm  
**5** = 5 μm  
**1** = 1 μm

**A** = absolute

**528 V** = 5 ÷ 28 V  
**S** = SSI  
**B** = BiSS

**Mnn** = length in m  
**M02** = 2 m (standard)  
**100** = 100 m  
**S** = cable for continuous mov.

**SC** = without connector  
**Cnn** = progressive

Example  **ABSOLUTE MAGNETIC SENSOR AGM M1A 528V M03/S SC**