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**GIVI MISURE**

Measuring and control systems

## 用于精密测量的磁性系统。

## Magnetic systems for accurate measurements.

用于线性 and 角度读数的小尺寸绝对和增量信号磁性传感器。

Small-size absolute and incremental magnetic sensors for linear and angular reading.

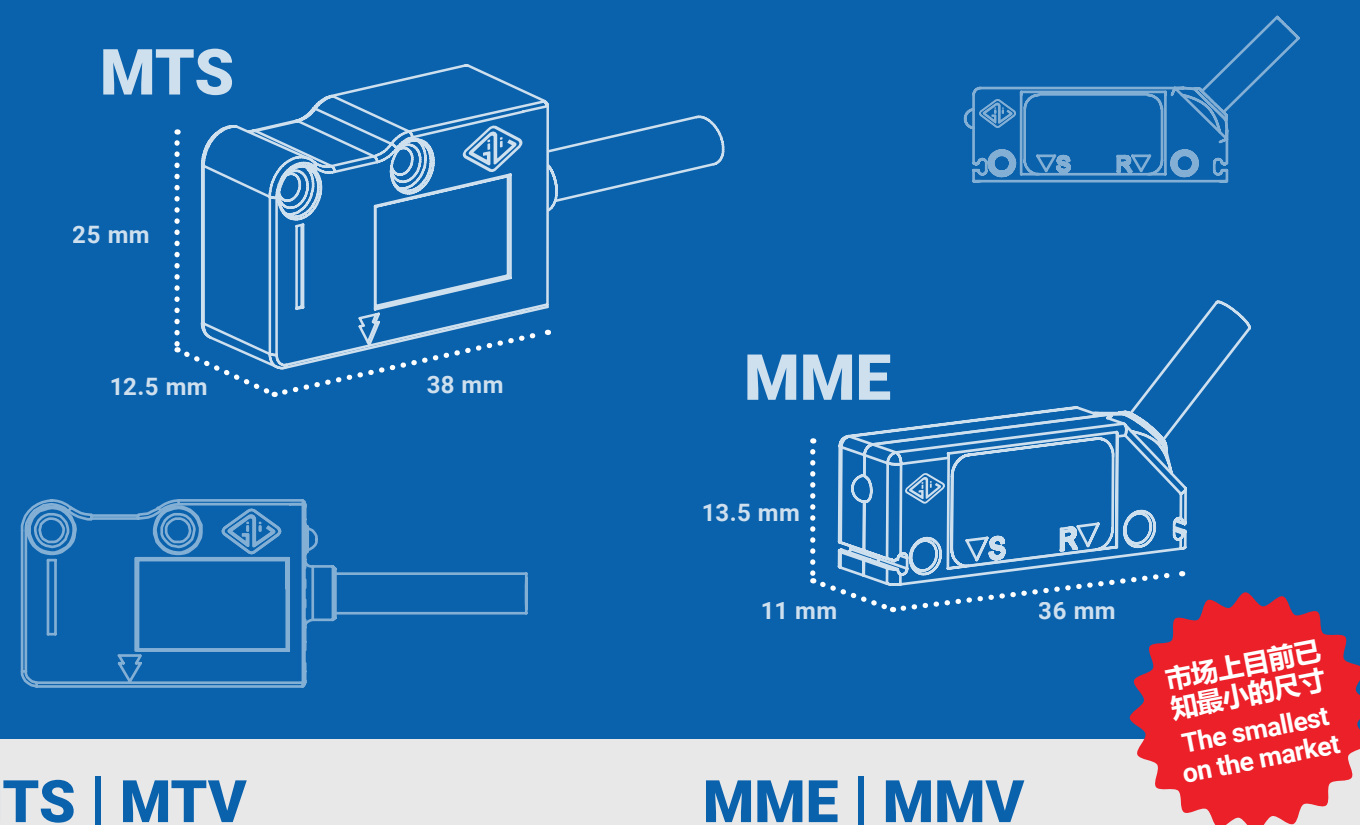


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## 增量式技术 | Incremental technology



### MTS | MTV

- ▶ 小尺寸，增量式磁性传感器，带TTL - LINE DRIVER (MTS系列) 或者1 Vpp (MTV系列) 输出信号。  
Small-size, incremental magnetic sensor with TTL - LINE DRIVER (MTS) or 1 Vpp (MTV) output signals.
- ▶ 分辨率高达0.5微米，可选DPI分辨率和英制读取方式。  
Resolutions up to 0.5  $\mu\text{m}$ . DPI resolution and inches reading available.
- ▶ 宽对准公差和传感器/磁带之间距离达4 mm实现了更便捷和快速的安装。  
Sensor/magnetic band distance up to 4 mm, for an even easier and faster mounting.
- ▶ 参考点可以选取恒定步距式，在要求的位置（搭配磁带MP 200Z和MP 500Z）或外部 设定参考点。  
Reference indexes at constant step, in required positions (with magnetic bands MP 200Z and MP 500Z) or external.
- ▶ 精度等级高达  $\pm 6 \mu\text{m}$ 。单向重复精度高达  $\pm 1 \mu\text{m}$ 。  
Accuracy grade up to  $\pm 6 \mu\text{m}$ . Unidirectional repeatability up to  $\pm 1 \mu\text{m}$ .

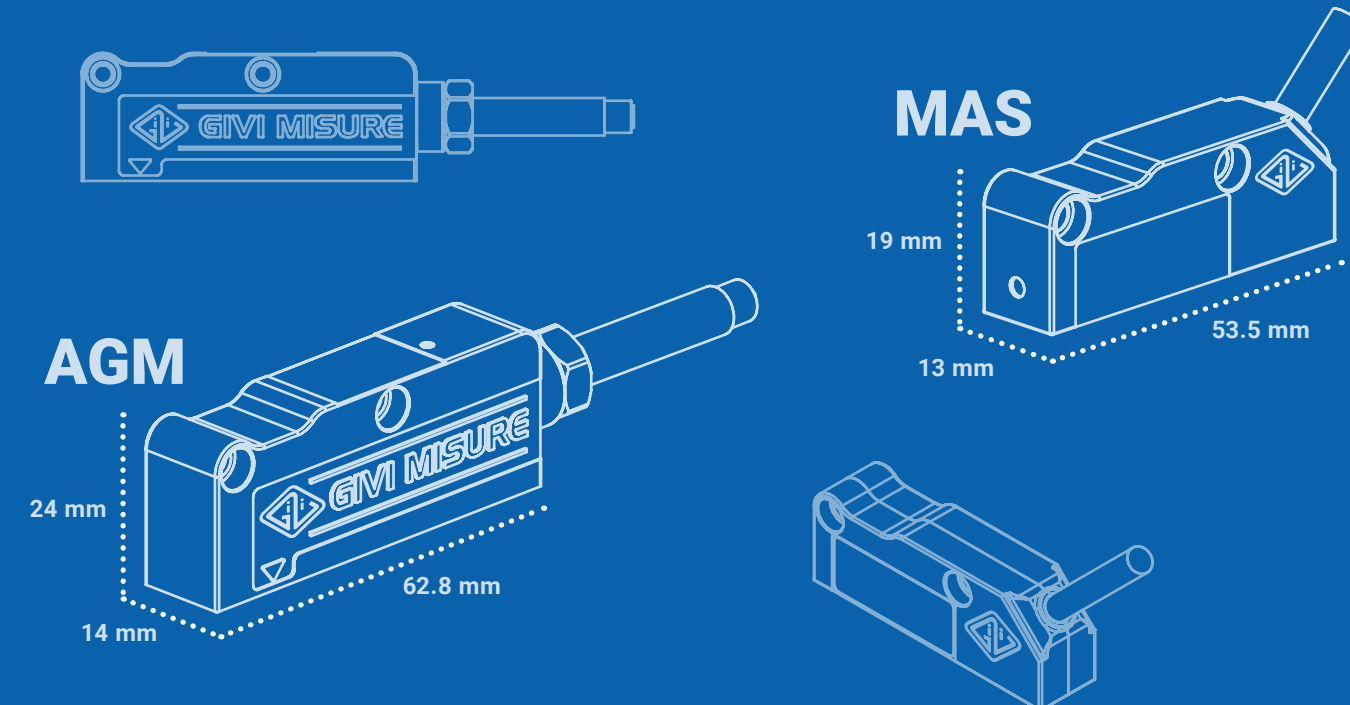
### MME | MMV

- ▶ 超小尺寸，增量式磁性传感器，带TTL - LINE DRIVER (MME系列) 或者1 Vpp (MMV系列) 输出信号。  
Very small-size, incremental magnetic sensor with TTL - LINE DRIVER (MME) or 1 Vpp (MMV) output signals.
- ▶ 分辨率高达0.1微米，可选DPI分辨率和英制读取方式。  
Resolutions up to 0.1  $\mu\text{m}$ . DPI resolution and inches reading available.
- ▶ 参考点可选恒定步距或者在所需位置上（搭配磁带型号是MP 200R, MP 254R 或者MP 500R）。  
Reference indexes at constant step or in required positions (with magnetic bands MP 200R, MP 254R and MP 500R).
- ▶ 精度等级高达  $\pm 5 \mu\text{m}$ 。单向重复精度高达  $\pm 0.3 \mu\text{m}$ 。  
Accuracy grade up to  $\pm 5 \mu\text{m}$ . Unidirectional repeatability up to  $\pm 0.3 \mu\text{m}$ .
- ▶ 允许轴向或径向输出的柔性电缆。  
Flexible cable that allows the axial or radial output.
- ▶ 通过LED RGBW显示状态。  
Status indication through LED RGBW.
- ▶ 可选项：清洁刷可以清除磁带上的污物，确保系统的正常运行。  
Option: cleaning wipers to remove dirt deposits from the magnetic band.

多极距可选  
Many pole pitches available



## 绝对式技术 | Absolute technology



### AGM | AGM-2

- ▶ 用于线性读数的小尺寸绝对磁性传感器。  
Small-size absolute magnetic sensor for linear reading.
- ▶ 分辨率可达1  $\mu\text{m}$ ，精度等级高达  $\pm 10 \mu\text{m}$ ，单向重复精度高达  $\pm 0.5 \mu\text{m}$ 。  
Resolutions up to 1  $\mu\text{m}$ , accuracy grade up to  $\pm 10 \mu\text{m}$  and unidirectional repeatability up to  $\pm 0.5 \mu\text{m}$ .
- ▶ 串行端子SSI - BiSS C (带或不带1 Vpp模拟量信号)，CANopen 或者FANUC  $\alpha$ i。  
Serial interface SSI - BiSS C (with or without 1 Vpp analog signal), CANopen or FANUC  $\alpha$ i.
- ▶ Profibus-DP, Profinet, DeviceNet, ModBus 和 DRIVE-CLiQ 协议，通过转换网关实现。  
Profibus-DP, Profinet, DeviceNet, ModBus and DRIVE-CLiQ protocols, through conversion gateways.
- ▶ 性能优越，测量长度可达30,000 mm。  
High performance, with a measuring length up to 30,000 mm.
- ▶ 通过LED RGBW显示状态 (AGM-2)。  
Status indication through LED RGBW (AGM-2).
- ▶ 轴向或径向电缆输出。  
Axial or radial cable output.

### MAS

- ▶ 非常小尺寸的绝对磁性传感器，用于线性和角度读数。  
Very small-size absolute magnetic sensor for linear and angular reading.
- ▶ 分辨率高达0.5  $\mu\text{m}$ ，精度等级  $\pm 8 \mu\text{m}$ ，单向重复性  $\pm 0.5 \mu\text{m}$ 。  
Resolutions up to 0.5  $\mu\text{m}$ , accuracy grade  $\pm 8 \mu\text{m}$  and unidirectional repeatability  $\pm 0.5 \mu\text{m}$ .
- ▶ 高速SSI - BiSS C (单向) 串行接口。  
High-speed SSI - BiSS C (unidirectional) serial interface.
- ▶ Profibus-DP, Profinet, CANopen, DeviceNet, ModBus 和 DRIVE-CLiQ 协议，通过转换网关实现。  
Profibus-DP, Profinet, CANopen, DeviceNet, ModBus and DRIVE-CLiQ protocols, through conversion gateways.
- ▶ 高性能，测量长度可达 16,000 mm。  
High performance, with a measuring length up to 16,000 mm.
- ▶ 通过LED RGBW显示状态。  
Status indication through LED RGBW.
- ▶ 允许轴向或径向输出的柔性电缆。  
Flexible cable that allows the axial or radial output.
- ▶ 选项：1 Vpp 模拟信号。  
Option: 1 Vpp analog signal.



技术参数表和安装指导可以按需提供



Technical datasheets and installation manuals available on request

## 读头基本特性 Sensors' general features

- ▶ 紧凑尺寸允许在窄小空间安装。  
Small size, to allow installation in narrow spaces.
- ▶ 非接触式读取方式。  
Contactless reading.
- ▶ 即便在高速运行或者加速度的情况下，也可以保持信号高度稳定性。  
High signal stability, even with high speed and accelerations.
- ▶ 具有较宽的对准公差，整个测量系统可以非常容易和快速地被安装。  
Extremely easy and fast mounting of the entire measuring system, with wide alignment tolerances.
- ▶ 磁性传感器由压铸金属材料制成。  
Magnetic sensor body made of die-cast metallic material.

## 高精度磁性系统的各种应用 High-accuracy magnetic systems for various applications

- ▶ 对灰尘和液体不敏感（IP 67 防护等级），即使在环境脏污的情况下也能进行准确测量。  
Insensitive to dust and liquids (IP 67 protection class), for accurate measurements even in case of environmental dirt.
- ▶ 具有防止电源极性倒置和输出端口上的短路的防护设计。  
Protected against inversion of power supply polarity and short circuits on output ports.

|                                        | 增量式   INCREMENTAL                               |                           |                                                 |                           | 绝对式   ABSOLUTE       |                                                                                |                                                              |
|----------------------------------------|-------------------------------------------------|---------------------------|-------------------------------------------------|---------------------------|----------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------|
|                                        | MTS                                             | MTV                       | MME                                             | MMV                       | AGM                  | AGM-2                                                                          | MAS                                                          |
| 极距   Pole pitch                        | 1+1 mm                                          | 2+2 mm                    | 2.54+2.54 mm                                    | 5+5 mm                    | 2+2 mm               |                                                                                |                                                              |
| 可用分辨率<br>Resolution                    | 高达   up to 0.5 $\mu$ m<br>高达   up to 24,000 DPI |                           | 高达   up to 0.1 $\mu$ m<br>高达   up to 48,000 DPI |                           | 高达   up to 1 $\mu$ m | 高达   up to 1 $\mu$ m                                                           | 高达   up to 0.5 $\mu$ m                                       |
| 精度<br>Accuracy grade                   | 高达   up to $\pm 6 \mu$ m                        |                           | 高达   up to $\pm 5 \mu$ m                        |                           | $\pm 15 \mu$ m       | $\pm 10 \mu$ m                                                                 | $\pm 8 \mu$ m                                                |
| 输出信号<br>Output signals                 | LINE DRIVER /<br>PUSH-PULL                      | 正弦波<br>sine wave<br>1 Vpp | LINE DRIVER /<br>PUSH-PULL                      | 正弦波<br>sine wave<br>1 Vpp | CANopen              | SSI - BiSS C,<br>带或不带模拟信号<br>with or without 1 Vpp<br>signal, FANUC $\alpha$ i | SSI - BiSS C,<br>带或不带模拟信号<br>with or without 1 Vpp<br>signal |
| 读头-磁带间隙<br>Sensor-magnetic<br>band gap | 高达   up to<br>4 mm                              | 高达   up to<br>3 mm        | 高达   up to<br>3.5 mm                            | 高达   up to<br>3.5 mm      | 高达   up to<br>1 mm   | 高达   up to<br>1 mm                                                             | 高达   up to<br>0.8 mm                                         |

|                        | 增量式   INCREMENTAL           |                             |                             |                              |                              |                              | 绝对式   ABSOLUTE               |                              |
|------------------------|-----------------------------|-----------------------------|-----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
|                        | MP 100                      | MP 200<br>MP 200Z           | MP 200R                     | MP 254<br>MP 254R            | MP 500<br>MP 500Z            | MP 500R                      | MP 200A                      | MP 200AFM                    |
| 极距   Pole pitch        | 1+1 mm                      | 2+2 mm                      | 2+2 mm                      | 2.54+2.54 mm                 | 5+5 mm                       | 5+5 mm                       | 2+2 mm                       | 2+2 mm                       |
| 宽度   Width             | 10 mm                       | 10 mm                       | 10 mm                       | 10 mm                        | 10 mm                        | 10 mm                        | 10 mm                        | 10 mm                        |
| 厚度   Thickness         | 1.3 mm                      | 1.3 mm                      | 1.3 mm                      | 1.3 mm                       | 1.3 mm                       | 1.3 mm                       | 1.3 mm                       | 1.3 mm                       |
| 精度等级<br>Accuracy grade | 高达   up to<br>$\pm 5 \mu$ m | 高达   up to<br>$\pm 8 \mu$ m | 高达   up to<br>$\pm 8 \mu$ m | 高达   up to<br>$\pm 13 \mu$ m | 高达   up to<br>$\pm 15 \mu$ m | 高达   up to<br>$\pm 15 \mu$ m | 高达   up to<br>$\pm 10 \mu$ m | 高达   up to<br>$\pm 10 \mu$ m |
| 最大长度<br>Max. length    | 75 m                        | 75 m                        | 75 m                        | 75 m                         | 75 m                         | 75 m                         | 30 m                         | 16 m                         |

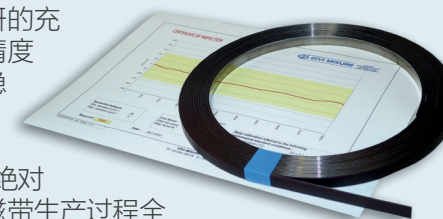
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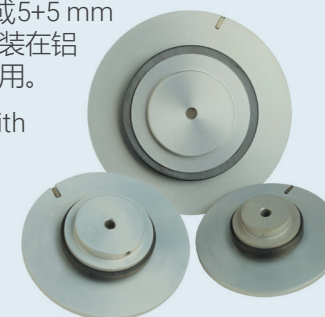
## MP 磁带 | Magnetic band

- ▶ 磁带由我司专研的充磁技术制成，精度等级高，性能稳定，使用寿命长。需配合我司增量式/绝对式读头使用。磁带生产过程全程严格把控，确保精度等级稳定性。双面胶粘贴设计，便于安装，附着力强，建议搭配无磁保护贴条使用效果更佳。
- ▶ High-accuracy certified magnetic band composed by a magnetized plastroferrite tape. The plastroferrite is supported by a stainless steel tape, already provided with the adhesive tape, for an easy application on the machine.



## MR 磁环 | Magnetic ring

- ▶ 磁环由磁极距为2+2 mm或5+5 mm的磁化铁氧体环制成，安装在铝法兰上，便于在机器上使用。
- ▶ Magnetized ferrite ring with pole pitch of 2+2 mm or 5+5 mm, mounted on an aluminum flange for an easy application on the machine.



## VISION 110

### 带磁性传感器数显表 | Digital readout with magnetic sensor

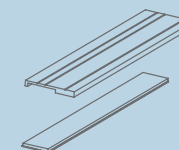
VISION 110 S  
钻孔模板 | drilling template  
92 x 44 mm



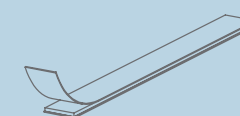
VISION 110 L  
钻孔模板 | drilling template  
92 x 66 mm 或者 | or 92 x 44 mm

## 配件 | Accessories

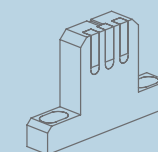
SP 202  
铝合金支架  
Aluminum  
support



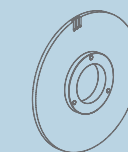
CV 103  
不锈钢防护贴条  
Stainless steel  
protective cover



SME 010  
磁带外部设零参考块  
External zero reference  
for magnetic band



SME 010 MR  
磁环外部零基准  
External zero reference  
for magnetic ring



IMT

手动定位磁带参考指标的工具  
(用于MME和MMV系列磁性传感器的 M, I, H 型号)。  
Tool for the manual positioning of reference indexes on the magnetic band (to be used with MME and MMV magnetic sensors mod. M, I, H).



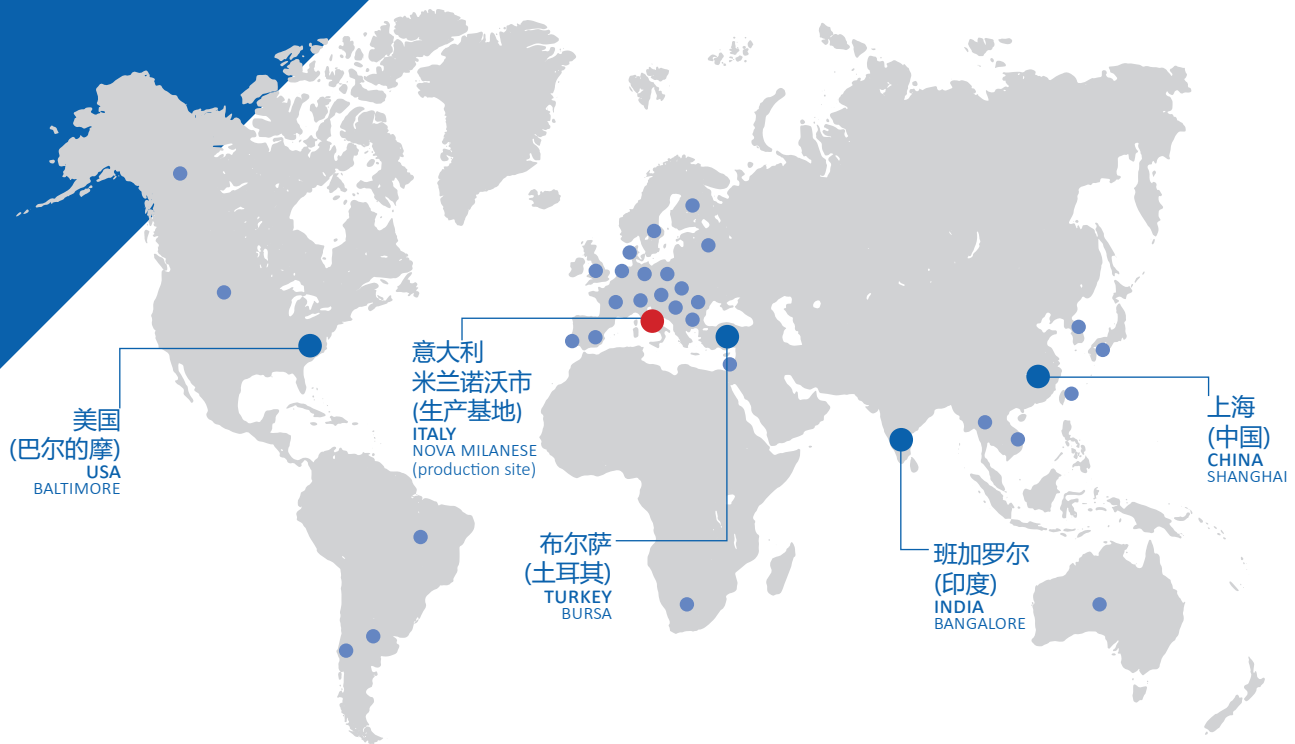
- ▶ 单轴数显表，带6½数字液晶显示屏和负号。  
One-axis digital readout with 6 ½ digit LCD display and negative sign.
- ▶ 小尺寸金属传感器体。宽泛的定位公差。  
Metal sensor body of small overall dimensions. Wide alignment tolerances.
- ▶ 支持电池或外接电源。  
Power supply either via battery or external.
- ▶ 用户友好界面，功能简单易查。  
Several user-friendly functions available.

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