



产品目录

General Catalogue



光栅尺 / OPTICAL SCALES

磁性系统 / MAGNETIC SYSTEMS

旋转编码器 / ROTARY ENCODERS

数显表 / DIGITAL READOUTS

位置控制器 / POSITION CONTROLLERS



GIVI MISURE

Measuring and control systems

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历史和技术

HISTORY AND TECHNOLOGY



作为以制造光栅尺起家的制造商，绩伟测量公司在1991年收购了生产数显表的Sipe Automazione公司和生产旋转编码器的Metromil公司。自1997年以来，绩伟公司获得ISO9001质量管理体系认证，这也标志着绩伟公司对产品工艺质量和生产流程持续专业严格的把控。

Initially born as a manufacturer of optical scales, GIVI MISURE acquired in 1991 Sipe Automazione, a digital readouts manufacturer, and Metromil, producing rotary encoders. Since 1997, GIVI MISURE is certified according to ISO 9001, sign of the constant attention paid by the company to the quality of its products and processes.

继光栅尺之后，绩伟测量公司又投资研发了磁性传感器测量技术，2002诞生了第一个磁传感器MTS型号，2008年，公司为完善产品体系，开始生产位置控制器，型号为Thesi。

After having consolidated its know-how in measuring systems based on optical principle, GIVI MISURE invested in the development of magnetic technology; these investments led to the introduction, in 2002, of the first magnetic sensors mod. MTS. In 2008, GIVI MISURE completed its product portfolio, starting the production of position controllers mod. Thesi.

意大利绩伟测量公司成立于1979年，公司一直致力于开发、生产测量和控制系统，产品的高质量和稳定性一度受到主流制造商的青睐和赞许。

公司总部坐落于于意大利米兰诺沃市区，多年来，持续不断的研发投入使绩伟公司可以为全球用户提供高质量和高性价比的产品。

Since 1979, GIVI MISURE has been developing and producing measuring and control systems, appreciated by major OEMs for their high quality and reliability. During the years, the continuous investments in R&D allowed the company based in Nova Milanese to enrich its offering and to satisfy market needs with cutting-edge products.

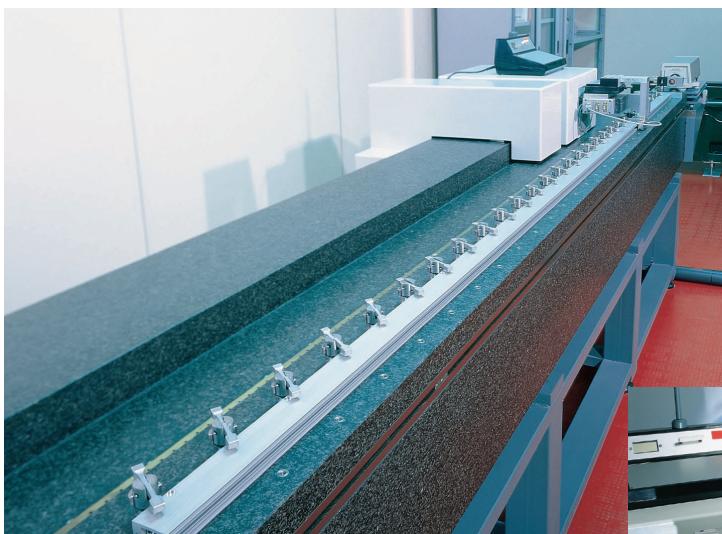




在过去的几年里，绩伟测量公司充分展示了对创新领域不断追求的姿态。随着不断的投入和研发，比如绝对式技术领域的成果相继推出，如绝对式光栅尺AGS系列，绝对式磁性传感器AGM系列，绝对式旋转编码器AEN系列以及兼容绝对式阅读的数显表VI900和VI518系列，并对所有产品均进行了更新升级，例如MTS磁性传感器系列，新的MTS传感器具有更高的精度，并能呈现更高范围的分辨率。在所有产品的创新中，成果最显著的要数一条全新的GVS自校准式生产线，该款新型尺具有一尺四型的独特性能。

创新的步伐并未停滞，增量式GVS 600系列和绝对式GVS 608系列，专门应用于数控机床领域的光栅尺也已于2017年重磅推出。

In the last years, GIVI MISURE has fully shown its attitude toward innovation. In fact, the company has seen the results of its investments in absolute technology, with the introduction of the optical scale AGS, the magnetic sensor AGM, the AEN rotary encoders line, and the VI900 and VI518 digital readouts. MTS magnetic sensors have been updated, with a widened range of available pole pitches and a significant improvement in their performance. Among the product innovations, significant importance should be given to the new line of self-aligned scales GVS, produced in four interchangeable models and with unique performance. The pace of innovation has not stalled, incremental optical scale GVS 600 and absolute optical scale GVS 608 series, which are specially applied in the field of CNC machine tools, have been launched in 2017.



绩伟测量公司生产的光栅尺和磁栅尺均在严苛的高标凈环境下进行测试和校准($T = 20^{\circ}\text{C} \pm 0.1^{\circ}\text{C}$, R.H. = 45 ÷ 55%)。每一片大理石光学工作台都由钢球支撑，激光头支持的分辨率为0.01微米，为自动校准模式。测量架在没有摩擦力的情况下沿着光束移动，由静气滑片支撑。

GIVI MISURE optical scales and magnetic bands are tested and calibrated in a metrological room, in rigorous environmental conditions ($T = 20^{\circ}\text{C} \pm 0.1^{\circ}\text{C}$, R.H. = 45 ÷ 55%). The one-piece granite optical bench rests on the supporting structure through steel balls. The support of the laser head, whose resolution is 0.01 μm , is self-aligning. The measuring carriage moves along the beam without friction, supported by pneumostatic slides.





如今，绩伟测量公司能够满足客户在测量和控制领域的任何要求，可以为客户提供标准化或定制化的解决方案。秉承着对产品质量的持续监控和卓越的售前、售后服务，以及短频快的交货时间，使绩伟测量公司有把握成为线性和角度测量和控制领域需求的公司的理想合作伙伴。

绩伟测量公司在全球范围内拥有广泛的代理商和分销商网络，为客户提供直接上门服务。2013年,2016年和2018年，分别在印度，中国和土耳其成立分公司GIVI MISURE Pvt. Ltd. (2013) 和绩伟测量技术(上海)有限公司 (2016) 和GIVI MISURE ELEKTRONIK San. Tic. Ltd. Sti. (2018)，目的是更好的为本地区客户提供商业和技术上的服务和支持。

Today, GIVI MISURE is able to satisfy any request in the field of measuring and control, offering to its customers standard or customized solutions. The constantly monitored quality of its products, the excellent pre and after-sale service, and very short delivery times make GIVI MISURE the ideal partner for any measuring and control need for linear or rotary movements.

GIVI MISURE has an extensive network of agents and distributors all over the world, selected to serve directly its customers. Moreover, GIVI MISURE has established three direct sales offices, with the aim of commercializing and technically supporting its products in the local markets: GIVI MISURE Pvt. Ltd. (2013) in India, GIVI MEASUREMENT TECHNOLOGY (SHANGHAI) Co.Ltd. (2016) in China, and GIVI MISURE ELEKTRONIK San. Tic. Ltd. Sti. (2018) in Turkey.



所有的仪器都是在50°C的温度下进行的，并且经过长时间的高温加工过程。在仪器内部，温度达到了70÷75°C。

All the instruments are powered and undergo a prolonged burn-in process at the temperature of 50°C. Inside the instruments, temperature reaches peaks of 70°C÷75°C.



在设计和样机制造阶段，这些仪器在受到极端的加速度、振动和温度的情况下进行不间断地监测它们的功能、位移、振幅和信号的质量。

In the design and prototyping phases, the instruments are subject to extreme accelerations, vibrations and temperatures, constantly monitoring their functioning, the displacement, the amplitude and the quality of signals.



产品门类

THE PRODUCTS



绩伟光栅尺以其精准度和稳定性著称，分为六种不同型号。ISA和SCR型号主要适用于手动机床；GVS 200系列增量式光栅尺尤其适用于同步折弯机；增量式光栅尺GVS 600主要应用于数控机床领域；绝对式光栅尺GVS 608和GVS 204主要应用高性能的机器。所有光栅尺都是在非常高的质量标准下生产的，每一根都附有度量检测报告（可从官网输入序列号进行更详细查询），从而保障产品能在极端的环境和气候下仍能保持高质量和稳定性。

GIVI MISURE optical scales stand out for their accuracy and reliability and are produced in six different models. ISA and SCR models are mainly used on manual machine-tools, while optical scale GVS 200 is highly appreciated by major press-brakes manufacturers. In addition to these models, GVS 600 scale is particularly suitable for CNC machines. Absolute optical scales GVS 608 and GVS 204 complete the portfolio, and their main application is on high-performance machines. All of GIVI MISURE's optical scales undergo severe tests and controls and are supplied with a certificate of metrological calibration, performed in rigorous environmental and climatic conditions. You can input serial numbers to get more information from our website.



绩伟测量品牌的磁性传感器系统包含多种型号，适用于不同领域的应用需求。

传感器MTS-MTV与匹配的磁带可以很容易的被安装并且性价比超高，即便在极端污染的环境中也可以被应用。高精度微型MTR系列拥有相同的性能，适用于安装在狭小有限的空间内。VISION 110测量系统价格适中，并提供自供电版本，适用于便携式设备。代表了市场上真正创新的是绝对式传感器AGM系列，带有SSI-BiSS串行接口或CANopen接口，该系列绝对式磁性传感器性能卓著，与其他磁性系列一样安装简易快捷。

磁栅尺GVS 215(增量式) 和GVS 219(绝对式) 适用于同步折弯机或者需要自校准的测量系统。磁性测量系统产品家族中，绩伟测量公司还供应用于角度运动测控的磁环MR系列。

GIVI MISURE magnetic systems include a wide range of models, suitable for various application needs.

Sensors MTS-MTV and the respective magnetic bands allow an easy and economical application even on machines operating in conditions of extreme environmental dirty. The miniaturized version MTR is able to offer the same performance and it is suitable for applications with limited installation space. VISION 110 measuring system allows to equip a machine at a moderate price and, in the self-powered version, is suitable for portable machines. The absolute sensor AGM, with serial interface SSI-BiSS or CANopen, represents a real innovation on the market, offering notable performances, without sacrificing the easiness in mounting offered by all of GIVI MISURE's magnetic systems. Magnetic scales GVS 215 (incremental) and GVS 219 (absolute) find their application on synchronized press brakes or on machines that need self-aligned measuring systems. Within the family of magnetic systems, GIVI MISURE's offering includes the magnetic ring MR, used to measure rotary movements.





基于光学原理，绩伟提供一套非常完整的旋转编码器系列，包括各种脉冲/分辨率、尺寸和法兰盘，所有编码器的信号都具有高精度性和稳定性。除了标准型号外，绩伟还能够根据客户的特殊需求定制编码器。绩伟所有编码器均使用特选的电子和机械部件以及高质量的材料，使产品能够在长时间内保持其出色的性能。目前增量式系列有EN600，EN500，EN413，小型产品有EN38和EN30及绝对式AEN系列。公司所有编码器产品凭借强大和紧凑的结构，结合广泛的通用性设计，可以满足任何应用领域的需要。

GIVI MISURE offers a complete range of rotary encoders based on optical principle, with various pulses/revolution, dimensions and flanges, but all characterized by a high accuracy and stability of signals. In addition to standard models, GIVI MISURE is able to realize custom encoders based on user's requests. All of GIVI MISURE's encoders use selected electronic and mechanical components and high-quality materials, that allow the product to maintain its outstanding performances over time. The incremental models currently in production are EN600, EN500, EN413 and the miniaturized versions EN38 and EN30. In addition, GIVI MISURE recently introduced the entire new family of absolute optical encoders AEN. The company's offering also includes electronic handwheels and a wide range of accessories, to satisfy the various application needs.

在数显表方面，绩伟不断把最新技术应用其中：尖端组件、低能耗、耐用性、多功能和直观的软件。绩伟数显表拥有易操作功能，在加工过程中为操作人员提供便利支持。VISION 900系列数显表为复合多轴数显表，带彩色指纹触碰液晶显示器，适用于绝对式和增量式系统。同时可以提供在线指导，用户可以在功能设置中找到很详细的指导信息。

VISION 900和VISION 518数显表可用于增量式或绝对式系统，并新配备了先进的**绝对警报系统(AWS)**。此报警系统可以持续监测显示位置的准确性，如有任何异常会及时报警。



*For its digital readouts, GIVI MISURE is continuously engaged in the study and application of the most updated technology: cutting-edge components, low energy consumption, notable durability over time, versatile and intuitive software. GIVI MISURE digital readouts have many user-friendly functions, developed to support the operator during machining. The latest model introduced by GIVI MISURE, VISION 900, with touch-screen, color TFT LCD display, combines a modern and functional design with an extreme easiness of use. On-line HELP guides and supports the user even in the setting of the most elaborated functions. VISION 900 and VISION 518 digital readouts can be used with incremental or absolute systems and are equipped with the new **Absolute Warning System (AWS)**. AWS constantly guarantees the correctness of the displayed positions and informs the operator of any malfunctioning.*



THESI系列位置控制器。在1或者2轴版本中，轴位置控制可以在手动、半自动或自动模式下进行。用户可在简单操作模式下设置常用记忆模式，储存量高达99个，每个均可以记忆20个位置99次重复。绩伟品牌位置控制器可用于无电压继电器输出，或±10 Vdc输出。其主要应用领域是金属板材切割和折弯机领域，它的多功能性也使得其可以在为数众多的领域应用。

Position controllers mod. THESI, in the 1 or 2 axes version, can control shifting and positioning of the axis in manual, automatic or semi-automatic modes. In a very simple way, the user can set the programs to be used and store up to 99 of them, with 20 positions each and 99 repetitions. GIVI MISURE position controllers are available with voltage-free relay outputs, or with ± 10 Vdc analog output. The main use of position controllers is on sheet-metal cutting and bending machines, but their versatility allows them to be used in numerous applications.





聚焦GVS 200

FOCUS GVS 200

自校正自带导轨式光栅/磁栅尺

Self-aligned optomagnetic scale

SYMMETRIC
对称设计



一尺四型，零担忧！

ONE SCALE, FOUR MODELS, ZERO PROBLEMS



14

14个选择GVS自带导轨自校正系列光栅/磁栅尺的绝佳理由 EXCELLENT REASONS TO USE THE OPTICAL OR MAGNETIC SCALE GVS

1 分辨率最高可达0.1微米。精度等级高达±1微米。间隙误差低于0.2微米。
Resolution up to 0.1 µm. Accuracy grade up to ± 1 µm. Backlash error below 0.2 µm.

2 金属双拖架。有效提供机械冲击的弹性补偿。
Metal double-carriage. Elastic compensation of mechanical backlashes.

3 哥德特式轮廓的滚珠轴承。确保高精度和滑块直线运动的准直度。
Ball bearings with gothic arc profile. High precision and translation straightness of the carriage.

4 电路带高强度保护垫片，完全达防水等级(IP 67)。
Gaskets for circuit protection (IP 67).



5 光栅/磁栅可进行增量式或绝对式阅读。
Optical/magnetic grating for incremental or absolute reading.

6 特制钢材材质导轨的滑动架。
Tempered and grinded steel guides for carriage sliding.



7 特制密封胶唇可有效抵御油污耐，磨损。自阻式特殊表面设计。
Sealing lips resistant to oil and wearing. Self-blocking special profile.

8 零磁集条用来设定参考索引(每10毫米可做为一个参考索引)。
Zero Magneto Set for the selection of the reference index.

9 尺体和滑块均可加压。
Scale or slider pressurization.



10 按需可加装限位开关。
Limit switch on request.



11 带GV-PB转换模块，与老型号PBS-HR型号完全兼容。
Interchangeable to PBS-HR scale with GV-PB adapter.

12 一体压铸成型的M12连接头(IP 67)或按要求配置其他型号连接器。
Moulded M12 connector (IP 67) or other models on request.

13 通过双向连接杆或钢丝，可实现连接到机器的多种可能性。
Various possibilities of connection to the machine, through double-effect joint or steel wire.

14 超柔韧聚氨酯线缆，特别适用于持续移动，屏蔽性能高并可非常容易的调节线缆输出方向。
PUR cable, suitable for continuous movements. Easily adjustable cable output.

GVS自校正式系列光栅/磁栅尺一尺四型，可互换 / GVS scale is available in four interchangeable models:

GVS 200



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GVS 204



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GVS 215



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GVS 219



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光栅尺

OPTICAL SCALES



型号 / MODELS

ISA 2320

SCR 3923

GVS 200

GVS 204

GVS 600

GVS 608

配件 / ACCESSORIES



光栅尺 ISA 2320

OPTICAL SCALES
ISA 2320

ISA 2320 - 小尺寸增量式光栅尺

ISA 2320 - INCREMENTAL OPTICAL SCALE OF SMALL OVERALL DIMENSIONS



- 小尺寸适用于有限空间安装应用。
Reduced size, for applications with limited installation space.
- 简化对齐方式，可在粗糙表面使用（改装和无预见应用的机器）。
Possibility of registration which simplifies alignment and allows the use on rough surfaces (retrofitting and machines for which application was not foreseen).
- 分辨率高达0.5微米，精度等级从±3微米到±10微米。
Resolutions up to 0.5 µm. Accuracy grade from ± 3 µm to ± 10 µm.
- 线性热膨胀系数为 $\lambda = 10.6 \times 10^{-6} \text{ }^{\circ}\text{C}^{-1}$ 。
Linear thermal expansion coefficient $\lambda = 10.6 \times 10^{-6} \text{ }^{\circ}\text{C}^{-1}$ suitable for the application.
- 参考索引可按需设置。
Reference indexes in required positions.
- 电源极性反转及输出端口短路保护。
Protected against inversion of power supply polarity and short circuits on output ports.



光栅尺 ISA 2320

OPTICAL SCALES
ISA 2320

ISA 10	分辨率 / Resolution 100 μm
分辨率 / Resolution	100 μm
栅距 / Grating pitch	400 μm
精度等级 / Accuracy grade	± 10 μm
最大移动速度 / Max. traversing speed	120 m/min
参考索引 / Reference indexes	在需求位置 / in required positions
输出信号 / Output signals	NPN / LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 53标准 / standard IP 64加压 / pressurized

ISA 100	分辨率 / Resolution 10 μm
分辨率 / Resolution	10 μm
栅距 / Grating pitch	40 μm
精度等级 / Accuracy grade	± 5 μm
最大移动速度 / Max. traversing speed	80 m/min
参考索引 / Reference indexes	在需求位置 / in required positions
输出信号 / Output signals	NPN / LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 53标准 / standard IP 64加压 / pressurized



度量室：绩伟光栅尺和磁栅尺均在严格的环境和温度条件下进行测试: T = 20°C ± 0.1°C R.H. = 45 ÷ 55 %
Metrological room: GIVI MISURE optical and magnetic scales are tested in rigorous environmental and climatic conditions: T = 20°C ± 0.1°C R.H. = 45 ÷ 55 %

ISA 5	分辨率 / Resolution 5 μm
分辨率 / Resolution	5 μm
栅距 / Grating pitch	20 μm
精度等级 / Accuracy grade	± 5 μm
最大移动速度 / Max. traversing speed	60 m/min
参考索引 / Reference indexes	在需求位置 / in required positions
输出信号 / Output signals	NPN / LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 53标准 / standard IP 64加压 / pressurized

ISA W1	分辨率 / Resolution 1 μm
分辨率 / Resolution	1 μm
栅距 / Grating pitch	40 μm
精度等级 / Accuracy grade	± 5 μm
最大移动速度 / Max. traversing speed	25 m/min
参考索引 / Reference indexes	在需求位置 / in required positions
输出信号 / Output signals	NPN / LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 53标准 / standard IP 64加压 / pressurized



ISA W05	分辨率 / Resolution 0.5 μm
分辨率 / Resolution	0.5 μm
栅距 / Grating pitch	20 μm
精度等级 / Accuracy grade	± 3 μm
最大移动速度 / Max. traversing speed	12 m/min
参考索引 / Reference indexes	在需求位置 / in required positions
输出信号 / Output signals	NPN / LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 53标准 / standard IP 64加压 / pressurized





光栅尺
SCR 3923

OPTICAL SCALES
SCR 3923

SCR 3923 - 多功能增量式光栅尺
SCR 3923 - MULTIPURPOSE INCREMENTAL OPTICAL SCALE



- 小尺寸。坚固及加重的阳极化氧化铝型材制外壳，截面尺寸39x23毫米。
Small overall dimensions. Rugged and heavy profile with a wide cross-section. Dimensions 39x23 mm.
- 铠甲线连接电缆不带外部连接。连接器置于传感器内。
Armored connecting cable without external connections. Connector inside the transducer.
- 四片特种橡胶制成的耐油及耐磨损密封唇，有效保护内部光栅。
Four sealing lips made of special elastomer resistant to wearing, for an excellent protection of the grating.
- 性能稳定的线路驱动器输出信号。
High stability of LINE DRIVER signals.
- 分辨率高达0.5微米，精度等级由± 3微米到± 10微米。
Resolutions up to 0.5 µm. Accuracy grade from ± 3 µm to ± 10 µm.
- 线性热膨胀系数为 $\lambda = 10.6 \times 10^{-6} ^\circ\text{C}^{-1}$ 。
Linear thermal expansion coefficient $\lambda = 10.6 \times 10^{-6} ^\circ\text{C}^{-1}$ suitable for the application.
- 可根据不同需求在所需位置设定参考索引。
One reference index at midpoint or in different required positions.
- 宽泛的对准公差。
Wide alignment tolerances.
- 在模块式拼接版本中，对于测量长度超过6500毫米或者较短的测量长度可按需制作。
In modular version for measuring lengths over 6,500 mm, or for lower measuring lengths on request.
- 尺子可完全可拆卸并可以重新组装。
Full possibility to disassemble and reassemble the scale.
- 电源极性反转及输出端口短路保护。
Protected against inversion of power supply polarity and short circuits on output ports.



光栅尺 SCR 3923

OPTICAL SCALES
SCR 3923

SCR 10	分辨率 / Resolution 100 μm
分辨率 / Resolution	100 μm
栅距 / Grating pitch	400 μm
精度等级 / Accuracy grade	± 10 μm
最大移动速度 / Max. traversing speed	120 m/min
参考索引 / Reference indexes	在需求位置 / in required positions
输出信号 / Output signals	NPN / LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 54标准 / standard IP 64加压 / pressurized



SCR系列光栅尺在模块拼接版本中的安装配件，专门为大型机器设计。
Mounting kit for the optical scale SCR in modular version, designed for applications on large machines.

SCR W10	分辨率 / Resolution 10 μm
分辨率 / Resolution	10 μm
栅距 / Grating pitch	400 μm
精度等级 / Accuracy grade	± 10 μm
最大移动速度 / Max. traversing speed	120 m/min
参考索引 / Reference indexes	在需求位置 / in required positions
输出信号 / Output signals	NPN / LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 54标准 / standard IP 64加压 / pressurized



每把尺子都配有计量检验证明，用户可在官网 www.givimisure.it 输入序列号进行查询和下载。
Each scale is supplied with a certificate of metrological inspection. Input serial number for more details from our website: www.givimisure.it.

SCR K5	分辨率 / Resolution 5 μm
分辨率 / Resolution	5 μm
栅距 / Grating pitch	40 μm
精度等级 / Accuracy grade	± 5 μm
最大移动速度 / Max. traversing speed	80 m/min
参考索引 / Reference indexes	在需求位置 / in required positions
输出信号 / Output signals	NPN / LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 54标准 / standard IP 64加压 / pressurized



光栅尺 SCR 3923

OPTICAL SCALES
SCR 3923



光栅线性延伸的自调节。压缩弹簧可以抑制阻尼A和阻尼B之间的距离保持不变。固定在尺罩内的弹簧可以根据热膨胀系数变化。光栅可以根据线性热膨胀系数自由膨胀，这与生产机器和其他控制装置所使用的材料一样。在加工过程中，相对于20°C(68°F)的温度来说，测量值是均匀的。

Self-regulation of the grating linear extension. The compression springs damp any variation of the distance between the restraints A and B. These are fixed to the housing and are subject to variations according to its thermal expansion coefficient.

The grating is free to expand according to its coefficient, which is similar to that of the material used in the manufacturing of the machines and other controlling devices. During machining, the measurements are homogenous and relative to the temperature of 20 °C (68 °F).

SCR 5	分辨率 / Resolution 5 μm
分辨率 / Resolution	5 μm
栅距 / Grating pitch	20 μm
精度等级 / Accuracy grade	± 3 μm
最大移动速度 / Max. traversing speed	60 m/min
参考索引 / Reference indexes	在需求位置 / in required positions
输出信号 / Output signals	NPN / LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 54标准 / standard IP 64加压 / pressurized

SCR W1	分辨率 / Resolution 1 μm
分辨率 / Resolution	1 μm
栅距 / Grating pitch	40 μm
精度等级 / Accuracy grade	± 3 μm
最大移动速度 / Max. traversing speed	25 m/min
参考索引 / Reference indexes	在需求位置 / in required positions
输出信号 / Output signals	NPN / LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 54标准 / standard IP 64加压 / pressurized



SCR W05	分辨率 / Resolution 0.5 μm
分辨率 / Resolution	0.5 μm
栅距 / Grating pitch	20 μm
精度等级 / Accuracy grade	± 3 μm
最大移动速度 / Max. traversing speed	12 m/min
参考索引 / Reference indexes	在需求位置 / in required positions
输出信号 / Output signals	NPN / LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 54标准 / standard IP 64加压 / pressurized

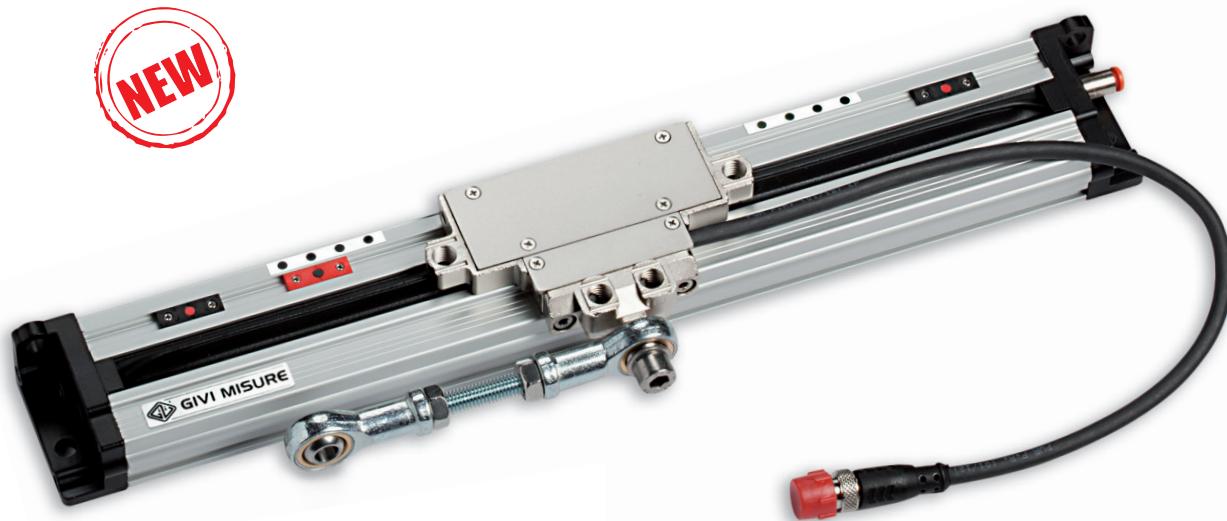


光栅尺

GVS 200

OPTICAL SCALES

GVS 200

GVS 200 - 自校正自带导轨增量式光栅尺**GVS 200 - SELF-ALIGNED INCREMENTAL OPTICAL SCALE**

- 使用刻度玻璃作为测量基体的光栅尺，特别适用于同步折弯机。
Optical incremental scale with glass measuring support. Particularly suitable for applications on synchronized press brakes.
- 读数头由带弹簧系统的自校正自洁净滑架引导。
Reader head guided by a self-aligned and self-cleaning sliding carriage with spring system.
- 分辨率高达0.1微米。标准版本精度等级可达 ± 2.5 微米，高精度版本精度等级可达 ± 1 微米。
Resolution up to 0.1 μm . Accuracy grade $\pm 2.5 \mu\text{m}$ in the standard version and $\pm 1 \mu\text{m}$ in the high-accuracy version.
- 每把尺子都配有计量证书。
Metrological certificate provided with each scale.
- 设零磁集条，参考索引方式可以为编码距离式或沿整个测量长度每10毫米处任意选择式。可调节式电缆输出和可选择零参考索引等独特设计使得尺子**左右对称**，尤其适用于折弯机，可以在折弯机两轴安装，无需区分左右尺。
*Reference indexes at coded distance or selectable every 10 mm along the entire measuring length, with Zero Magneto Set device. The adjustable cable output and the selectable zero references make the scale **SYMMETRIC** and applicable to both columns of the press brake.*
- 安全限位开关，可定位于两端。
Safety limit switches, positionable at both ends.
- 特种橡胶制成的耐油及耐磨损的密封唇，可有效保护内部格栅。
Sealing lips for the protection of the grating, made of special elastomer resistant to oil and wearing.
- 使用双向连接杆或钢丝，带来各种应用安装的可能性。适配器GV-PB确保与PBS-HR旧型号尺子完全兼容。
Various possibilities of application, with double-effect joint or steel wire. GV-PB adapter guarantees the compatibility with PBS-HR scale.
- 在高速，强烈的加速度和震动下仍然可以保持其高精度和信号的稳定性。
High accuracy and stability of signals even in case of high speed, strong accelerations and vibrations.
- 一体压铸成型的M12连接头(IP 67)或按要求配置其他型号连接器。
Moulded M12 connector (IP 67) or other models on request.
- 电源极性反转和输出端口短路保护。
Protected against inversion of power supply polarity and short circuits on output ports.



光栅尺 GVS 200

OPTICAL SCALES
GVS 200

GVS 200 T5

分辨率 / Resolution 5 μm	
分辨率 / Resolution	5 μm
栅距 / Grating pitch	20 μm
精度等级 / Accuracy grade	± 2.5 μm 标准 / standard ± 1 μm 高精度 / high-accuracy
最大移动速度 / Max. traversing speed	120 m/min
测量长度 / Measuring length	170, 220, 270, 320, ... mm
参考索引 / Reference indexes	编码距离 / 可选择的 / coded distance / selectable
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 54 标准 / standard IP 64 加压 / pressurized

GVS 200 T1

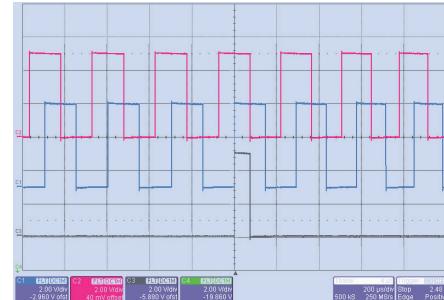
分辨率 / Resolution 1 μm	
分辨率 / Resolution	1 μm
栅距 / Grating pitch	20 μm
精度等级 / Accuracy grade	± 2.5 μm 标准 / standard ± 1 μm 高精度 / high-accuracy
最大移动速度 / Max. traversing speed	120 m/min
测量长度 / Measuring length	170, 220, 270, 320, ... mm
参考索引 / Reference indexes	编码距离 / 可选择的 / coded distance / selectable
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 54 标准 / standard IP 64 加压 / pressurized

GVS 200 T05

分辨率 / Resolution 0.5 μm	
分辨率 / Resolution	0.5 μm
栅距 / Grating pitch	20 μm
精度等级 / Accuracy grade	± 2.5 μm 标准 / standard ± 1 μm 高精度 / high-accuracy
最大移动速度 / Max. traversing speed	80 m/min
测量长度 / Measuring length	170, 220, 270, 320, ... mm
参考索引 / Reference indexes	编码距离 / 可选择的 / coded distance / selectable
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 54 标准 / standard IP 64 加压 / pressurized

GVS 200 T01

分辨率 / Resolution 0.1 μm	
分辨率 / Resolution	0.1 μm
栅距 / Grating pitch	20 μm
精度等级 / Accuracy grade	± 2.5 μm 标准 / standard ± 1 μm 高精度 / high-accuracy
最大移动速度 / Max. traversing speed	40 m/min
测量长度 / Measuring length	170, 220, 270, 320, ... mm
参考索引 / Reference indexes	编码距离 / 可选择的 / coded distance / selectable
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 54 标准 / standard IP 64 加压 / pressurized

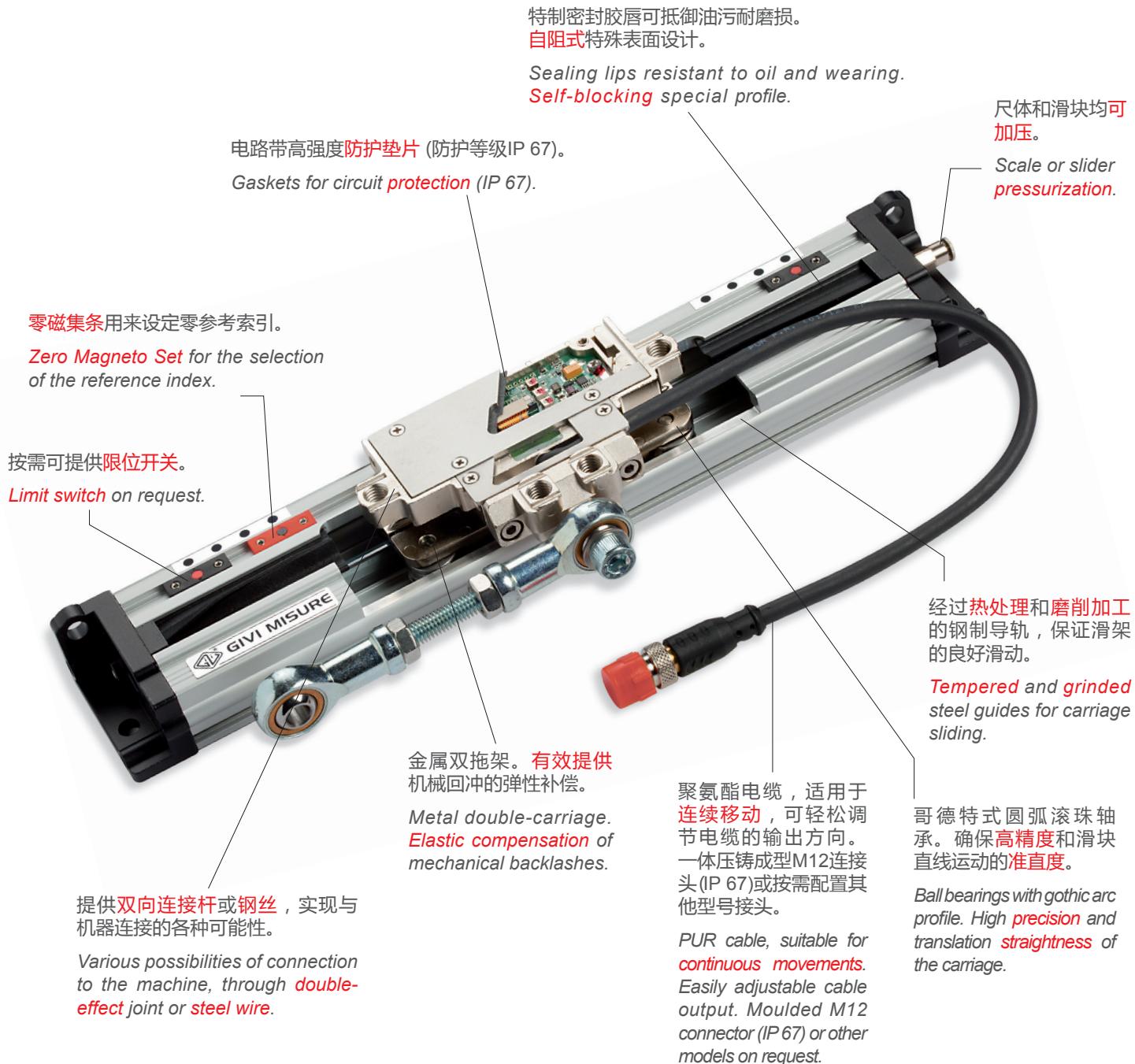


GVS 200: 传感器输出的正弦波信号。
GVS 200: square-wave output signals from the transducer.



设零磁块，用户可以很便捷的选择需要的参考点。
Zero Magneto Set device. The user can easily select the desired reference index.

同步折弯机的最佳选择 The best choice for synchronized press brakes



GVS自校正式系列光栅/磁栅尺一尺四型，可互换 / GVS scale is available in four interchangeable models:

GVS 200



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GVS 204



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GVS 215



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GVS 219



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光栅尺 GVS 204

OPTICAL SCALES GVS 204

GVS 204 - 自校正绝对式光栅尺 GVS 204 - SELF-ALIGNED ABSOLUTE OPTICAL SCALE

- 使用刻度玻璃作为测量基体的光栅尺。特别适用于同步折弯机。
Absolute optical scale with glass measuring support. Particularly suitable for applications on synchronized press brakes.
- 串行接口为SSI-BiSS。SSI协议和可编程解决方案。可选1Vpp或TTL线路驱动器增量信号。
Serial interface SSI-BiSS. SSI protocol and programmable resolutions. Option: 1 Vpp or TTL Line Driver incremental signal.
- 读数头由带弹簧系统的自校正自洁净滑架引导。
Reader head guided by a self-aligned and self-cleaning sliding carriage with spring system.
- 分辨率高达0.1微米。精度等级在标准版本中可达 ± 2.5 微米，在高精度版本中可达 ± 1 微米。
Resolution up to 0.1 μm . Accuracy grade $\pm 2.5 \mu\text{m}$ in the standard version and $\pm 1 \mu\text{m}$ in the high-accuracy version.
- 通过转换通道实现Profibus-DP, Profinet, CANopen, DeviceNet, ModBus 和 DRIVE-CLiQ 等通讯协议。
Profibus-DP, Profinet, CANopen, DeviceNet, ModBus and DRIVE-CLiQ protocols, through conversion gateways.
- 每把尺子都配有计量证书。
Metrological certificate provided with each scale.
- 特种橡胶制成的耐油及耐磨损的密封胶唇可有效保护内部格栅。
Sealing lips for the protection of the grating, made of special elastomer resistant to oil and wearing.
- 使用双向连接杆或钢丝，带来各种应用安装的可能性。适配器GV-PB确保与PBS-HR型号尺子完全兼容。
Various possibilities of application, with double-effect joint or steel wire. GV-PB adapter guarantees the compatibility with PBS-HR scale.
- 在高速，强烈的加速度和震动下仍然可以保持其高精度和信号的稳定性。
High accuracy and stability of signals even in case of high speed, strong accelerations and vibrations.
- 电源极性反转及输出端口短路保护。
Protected against inversion of power supply polarity and short circuits on output ports.

GVS 204	串行接口 / Serial interface SSI - BiSS
分辨率 / Resolution 1 Vpp	高达0.1 μm / up to 0.1 μm
分辨率 / Resolution TTL	5 μm
绝对测量分辨率 / Resolution absolute measure	1 μm - 0.1 μm
栅距 / Grating pitch	20 μm
精度等级 / Accuracy grade	$\pm 2.5 \mu\text{m}$ 标准 / standard $\pm 1 \mu\text{m}$ 高精度 / high-accuracy
最大移动速度 / Max. traversing speed	高达 60 m/min / up to 60 m/min
测量长度 / Measuring length	170, 220, 270, 320, ... mm
串行接口 / Serial interface	SSI-BiSS, 带或不带增量信号 / SSI-BiSS, with or without incremental signal
防护等级 / Protection class	IP 54 标准 / standard IP 64 加压 / pressurized



GVS自校正式系列光栅/磁栅尺一尺四型，可互换 / GVS scale is available in four interchangeable models:

GVS 200



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GVS 204



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光栅尺 **GVS 600**

OPTICAL SCALES
GVS 600

GVS 600 - 数控机床专用增量式光栅尺

**GVS 600 - INCREMENTAL OPTICAL SCALE FOR CNC
MACHINES TOOLS**

NEW



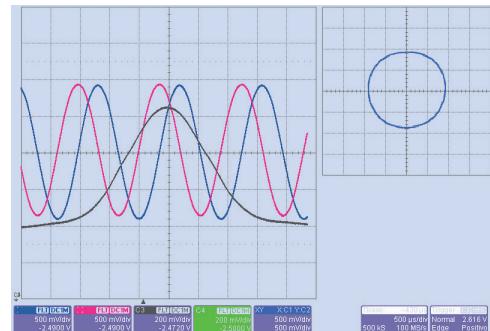
- 以光学玻璃作为测量基体的光栅尺，特别适用于数控机床领域。
Optical scale with glass measuring support, particularly suitable for CNC machine tools.
- 分辨率高达0.01微米，精度等级高达 ± 1 微米。
Resolutions up to 0.01 μm . Accuracy grade up to $\pm 1 \mu\text{m}$.
- 非延展性密封胶唇并固着于两端，读头可沿其自由滑动。
Non-extendible sealing lips, along the sliding side of the reader head, fixed at the lateral ends.
- 尺体内部创新装置可有效阻绝由于过滤不当而侵入的液体。
Innovative device inside the scale for the disposal of liquids coming from inefficient filtering systems.
- 特制密封唇和创新阻绝液体侵蚀装置为内部玻璃格栅提供了良好的保护，避免机械加工时常用的制冷剂液体产生的不良影响。
The special sealing lips and the device for the liquids disposal provide an excellent protection of the grating from refrigerant liquids often used during machining.
- 可调式连接电缆输出方向，内置传感器插头。
Adjustable connecting cable output. Connector inside the transducer.
- 编码式索引，或者恒定步距索引，带预设或可选位置。
Reference indexes at coded distance, or at constant step, with predetermined or selectable positions.
- 即便在高速，剧烈加速度和震动的情况下也可以保持高精度和稳定的信号。
High accuracy and stability of signals even in case of high speed, strong accelerations and vibrations.
- 防电源极性反转和输出端口短路保护。
Protected against inversion of power supply polarity and short circuits on output ports.
- 小尺寸，允许在狭窄空间安装。
Small size, to allow installation in narrow spaces.
- 与之前的NCS型号可完全互换。
Interchangeable with the previous model NCS.



光栅尺 GVS 600

OPTICAL SCALES
GVS 600

GVS 600 V	正弦波1 Vpp / Sine wave 1 Vpp
分辨率 / Resolution	高达0.01微米 / up to 0.01 µm
栅距 / Grating pitch	20 µm
精度等级 / Accuracy grade	± 3 µm标准 / standard ± 1 µm高精度 / high-accuracy
最大移动速度 / Max. traversing speed	120 m/min
测量长度 / Measuring length	从70到3,240 mm / from 70 to 3,240 mm
参考索引 / Reference indexes	编码距离 / 恒定步距 / 可选择的 coded distance / constant step / selectable
输出信号 / Output signals	正弦波1 Vpp / sine wave 1 Vpp
防护等级 / Protection class	IP 54标准 / standard IP 64加压 / pressurized



GVS 600 V: 传感器正弦波输出信号。

GVS 600 V: sine-wave output signals from the transducer.

GVS 600 T5	TTL - 分辨率 / Resolution 5 µm
分辨率 / Resolution	5 µm
栅距 / Grating pitch	20 µm
精度等级 / Accuracy grade	± 3 µm标准 / standard ± 1 µm高精度 / high-accuracy
最大移动速度 / Max. traversing speed	120 m/min
测量长度 / Measuring length	从70到3,240 mm / from 70 to 3,240 mm
参考索引 / Reference indexes	编码距离 / 恒定步距 / 可选择的 coded distance / constant step / selectable
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 54标准 / standard IP 64加压 / pressurized

GVS 600 T1	TTL - 分辨率 / Resolution 1 µm
分辨率 / Resolution	1 µm
栅距 / Grating pitch	20 µm
精度等级 / Accuracy grade	± 3 µm标准 / standard ± 1 µm高精度 / high-accuracy
最大移动速度 / Max. traversing speed	120 m/min
测量长度 / Measuring length	从70到3,240 mm / from 70 to 3,240 mm
参考索引 / Reference indexes	编码距离 / 恒定步距 / 可选择的 coded distance / constant step / selectable
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 54标准 / standard IP 64加压 / pressurized

GVS 600 T05	TTL - 分辨率 / Resolution 0.5 µm
分辨率 / Resolution	0.5 µm
栅距 / Grating pitch	20 µm
精度等级 / Accuracy grade	± 3 µm标准 / standard ± 1 µm高精度 / high-accuracy
最大移动速度 / Max. traversing speed	120 m/min
测量长度 / Measuring length	从70到3,240 mm / from 70 to 3,240 mm
参考索引 / Reference indexes	编码距离 / 恒定步距 / 可选择的 coded distance / constant step / selectable
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 54标准 / standard IP 64加压 / pressurized





光栅尺 **GVS 600**

OPTICAL SCALES
GVS 600

GVS 600 T01

TTL - 分辨率 / Resolution 0.1 µm

分辨率 / Resolution	0.1 µm
栅距 / Grating pitch	20 µm
精度等级 / Accuracy grade	± 3 µm 标准 / standard ± 1 µm 高精度 / high-accuracy
最大移动速度 / Max. traversing speed	48 m/min
测量长度 / Measuring length	从70到3,240 mm / from 70 to 3,240 mm
参考索引 / Reference indexes	编码距离 / 恒定步距 / 可选择的 coded distance / constant step / selectable
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 54 标准 / standard IP 64 加压 / pressurized

GVS 600 T005

TTL - 分辨率 / Resolution 0.05 µm

分辨率 / Resolution	0.05 µm
栅距 / Grating pitch	20 µm
精度等级 / Accuracy grade	± 3 µm 标准 / standard ± 1 µm 高精度 / high-accuracy
最大移动速度 / Max. traversing speed	24 m/min
测量长度 / Measuring length	从70到3,240 mm / from 70 to 3,240 mm
参考索引 / Reference indexes	编码距离 / 恒定步距 / 可选择的 coded distance / constant step / selectable
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 54 标准 / standard IP 64 加压 / pressurized

GVS 600 T001

TTL - 分辨率 / Resolution 0.01 µm

分辨率 / Resolution	0.01 µm
栅距 / Grating pitch	20 µm
精度等级 / Accuracy grade	± 3 µm 标准 / standard ± 1 µm 高精度 / high-accuracy
最大移动速度 / Max. traversing speed	4.8 m/min
测量长度 / Measuring length	从70到3,240 mm / from 70 to 3,240 mm
参考索引 / Reference indexes	编码距离 / 恒定步距 / 可选择的 coded distance / constant step / selectable
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 54 标准 / standard IP 64 加压 / pressurized



光栅尺 **GVS 608**

OPTICAL SCALES
GVS 608

GVS608 - 数控机床专用绝对式光栅尺

GVS 608 - ABSOLUTE OPTICAL SCALE FOR CNC MACHINES TOOLS



- 以光学玻璃作为测量基体的绝对式光栅尺，特别适用于数控机床领域。
Absolute optical scale with glass measuring support, particularly suitable for CNC machine tools.
- SSI-BiSS串行接口，带或不带1 Vpp模拟信号，西门子DRIVE-CLiQ和发那科ai信号。
Serial interface SSI-BiSS, with or without 1 Vpp analog signal, Siemens DRIVE-CLiQ and FANUC ai.
- 分辨率高达0.1微米。精度等级高达 ± 1 微米。
Resolutions up to 0.1 μ m. Accuracy grade up to ± 1 μ m.
- 通过转换网关可以实现Profibus-DP, Profinet, CANopen, DeviceNet and ModBus协议。
Profibus-DP, Profinet, CANopen, DeviceNet and ModBus protocols, through conversion gateways.
- 非延展性密封胶唇并固着于两端，读头可沿其自由滑动。
Non-extendible sealing lips, along the sliding side of the reader head, fixed at the lateral ends.
- 尺体内部创新装置可有效阻绝由于过滤不当而侵入的液体。
Innovative device inside the scale for the disposal of liquids coming from inefficient filtering systems.
- 特制密封唇和创新阻绝液体侵蚀装置为内部玻璃格栅提供了良好的保护，避免机械加工时常用的制冷剂液体产生的不良影响。
The special sealing lips and the device for the liquids disposal provide an excellent protection of the grating from refrigerant liquids often used during machining.
- 即便在高速，剧烈加速度和震动的情况下也可以保持高精度和稳定的信号。
High accuracy and stability of signals even in case of high speed, strong accelerations and vibrations.
- 可调式连接电缆输出方向，内置传感器插头。
Adjustable connecting cable output. Connector inside the transducer.
- 防电源极性反转和输出端口短路保护。
Protected against inversion of power supply polarity and short circuits on output ports.
- 小尺寸，允许在狭窄空间安装。
Small size, to allow installation in narrow spaces.
- 与之前的AGS型号可完全互换。
Interchangeable with the previous model AGS.



光栅尺 GVS 608

OPTICAL SCALES
GVS 608

GVS 608 T		串行接口 / Serial interface SSI - BiSS
1 Vpp 分辨率 / Resolution 1 Vpp		高达0.1 μm / up to 0.1 μm
绝对测量分辨率 / Absolute measure resolution		1 μm - 0.1 μm
栅距 / Grating pitch		20 μm
精度等级 / Accuracy grade		± 3 μm标准 / standard ± 1 μm高精度 / high-accuracy
最大移动速度 / Max. traversing speed		120 m/min
测量长度 / Measuring length		从70到3,240 mm / from 70 to 3,240 mm
串行接口 / Serial interface		SSI-BiSS, 带或不带1 Vpp 增量信号 / SSI-BiSS, with or without incremental signal
防护等级 / Protection class		IP 54标准 / standard IP 64加压 / pressurized



SSI **BiSS**
INTERFACE

GVS 608 D		串行接口 / Serial interface Siemens DRIVE-CLiQ
绝对测量分辨率 / Absolute measure resolution		0.1 μm
栅距 / Grating pitch		20 μm
精度等级 / Accuracy grade		± 3 μm标准 / standard ± 1 μm高精度 / high-accuracy
最大移动速度 / Max. traversing speed		120 m/min
测量长度 / Measuring length		从70到3,240 mm / from 70 to 3,240 mm
串行接口 / Serial interface		Siemens DRIVE-CLiQ
防护等级 / Protection class		IP 54标准 / standard IP 64加压 / pressurized



DRIVE-CLiQ

GVS 608 F		串行接口 / Serial interface FANUC αi
绝对测量分辨率 / Absolute measure resolution		1 - 0.1 μm
栅距 / Grating pitch		20 μm
精度等级 / Accuracy grade		± 3 μm标准 / standard ± 1 μm高精度 / high-accuracy
最大移动速度 / Max. traversing speed		120 m/min
测量长度 / Measuring length		从70到3,240 mm / from 70 to 3,240 mm
串行接口 / Serial interface		FANUC αi
防护等级 / Protection class		IP 54标准 / standard IP 64加压 / pressurized



FANUC



光栅尺 配件

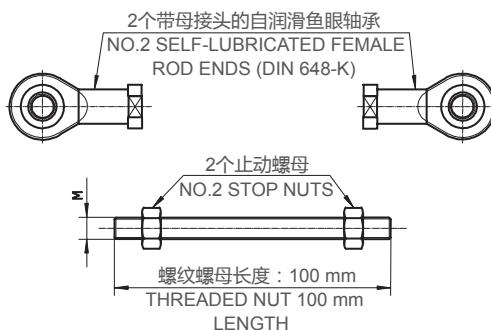
OPTICAL SCALES **ACCESSORIES**

双效接头

DOUBLE-EFFECT JOINT

型号. A10

适配于自校正式系列光栅 / 磁栅尺的双效接头
Double-effect joint for self-aligned scales



径向间隙 / Radial clearance	15 $\mu\text{m} \div 50 \mu\text{m}$
轴向间隙 / Axial clearance	最大3倍于径向间隙 approx. 3 times radial clearance
工作温度 / Operating temperature	-30 °C \div +60 °C

过滤系统

FILTERING SYSTEM

型号. FS100-200-300

适配于光栅尺的压缩空气过滤系统
Compressed-air filtering system for optical scales



高效，自洁系统，带三个过滤器和一个敏感的压力调节器。可保护光栅尺免受液态污染物侵袭。

High-efficiency, self-cleaning system, with three filters and a sensible pressure regulator, to protect the optical scale from contaminant liquids.



磁性系统

MAGNETIC SYSTEMS



型号 / MODELS

MTS

MTR

MTV

AGM

VISION 110

MP

MR

GVS 215

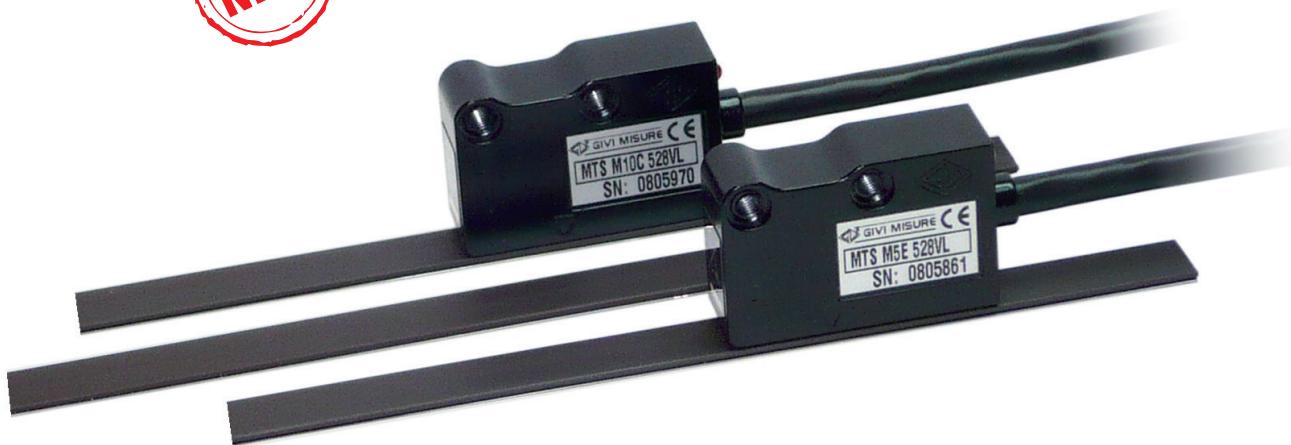
GVS 219

**配件 /
ACCESSORIES**



MTS - 方波输出信号阅读系统 MTS - READING SYSTEM WITH SQUARE-WAVE OUTPUT

NEW



- 小尺寸新型磁性传感器MTS。
New line of magnetic sensors MTS, with small overall dimensions.
- 分辨率高达0.5微米并通过串行线编程 (Pr)。支持DPI分辨率和英寸制阅读。
Resolutions up to 0.5 µm programmable (Pr) via serial line. DPI resolution and inches reading now available.
- 多种不同极距类型可供选择。
Many pole pitches available.
- 较宽泛的对准公差，传感器/磁带安装对准距离高达12毫米，便于简单快速的安装。
Wide alignment tolerances and sensor/magnetic band distance up to 12 mm, for an even easier and faster mounting.
- 参考索引可按需设定 (配磁带 MP200Z, MP500Z和MP600Z)。
Reference indexes in required positions (with magnetic bands MP200Z, MP500Z and MP600Z).
- 磁性传感器主体由压铸金属材料制成。
Magnetic sensor body made of die-cast metallic material.
- 利用现有的标准螺纹孔M4或M3通过螺丝固定磁传感器。
Fixing of magnetic sensor by existing threaded holes M4, or by M3 through screws.
- 电源极性反转及输出端口短路保护。
Protected against inversion of power supply polarity and short circuits on output ports.



MTS P	极距 / Pole pitch 1+1 mm
极距 / Pole pitch	1+1 mm
可用分辨率 / Available resolutions	10 - 5 - 1 - 0.5 µm
精度 / Accuracy	± 6 µm
传感器-磁带间隙 / Sensor - magnetic band gap	0.1 ÷ 0.4 mm (配磁带 / with band MP100)
参考索引 / Reference indexes	C = 恒定步距 / at constant pitch (1 mm)
重复性 / Repeatability	± 1 增量 / increment
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
电源 / Power supply	5 ÷ 28 Vdc ± 5%
最大频率 / Max. frequency	300 kHz (按需可高达 500 kHz) / 300 kHz (up to 500 kHz on request)
最大移动速度 / Max. traversing speed	高达6 m/s / up to 6 m/s
防护等级 / Protection class	IP 67

Pr



在运输过程中为保护磁性传感器和磁带专门设计的特殊包装。
A special packaging protects sensors, magnetic bands and covers during transportation.

MTS M	极距 / Pole pitch 2+2 mm
极距 / Pole pitch	2+2 mm
可用分辨率 / Available resolutions	1,000 - 500 - 100 - 50 - 25 - 10 - 5 - 1 µm
精度 / Accuracy	高达± 8 µm / up to ± 8 µm
传感器-磁带间隙 / Sensor - magnetic band gap	0.2 ÷ 1.4 mm (配磁带 / with band MP200) 0.3 ÷ 0.8 mm (配磁带 / with band MP200Z)
参考索引 / Reference indexes	C = 恒定步距 / at constant pitch (2 mm) E = 外部 / external Z = 磁带上设定 / positioned on the magnetic band
重复性 / Repeatability	± 1 增量 / increment
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
电源 / Power supply	5 ÷ 28 Vdc ± 5%
最大频率 / Max. frequency	300 kHz (按需可高达 500 kHz) / 300 kHz (up to 500 kHz on request)
最大移动速度 / Max. traversing speed	高达12 m/s / up to 12 m/s
防护等级 / Protection class	IP 67

Pr



MTS I	极距 / Pole pitch 2.54+2.54 mm
极距 / Pole pitch	2.54+2.54 mm
可用分辨率 / Available resolutions	600 - 1,200 - 2,400 - 3,000 - 4,800 - 6,000 - 9,600 - 12,000 - 24,000 DPI
精度 / Accuracy	高达± 10 µm / up to ± 10 µm
传感器-磁带间隙 / Sensor - magnetic band gap	0.2 ÷ 1.4 mm (配磁带 / with band MP254)
参考索引 / Reference indexes	C = 恒定步距 / at constant pitch (2.54 mm)
重复性 / Repeatability	± 1 增量 / increment
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
电源 / Power supply	5 ÷ 28 Vdc ± 5%
最大频率 / Max. frequency	300 kHz (按需可高达 500 kHz) / 300 kHz (up to 500 kHz on request)
最大移动速度 / Max. traversing speed	高达14 m/s / up to 14 m/s
防护等级 / Protection class	IP 67

Pr

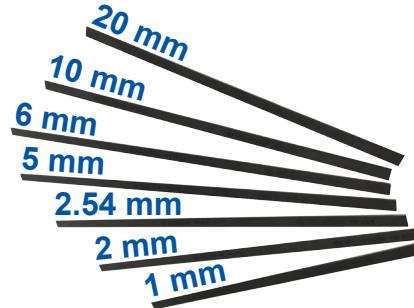




MTS H	极距 / Pole pitch 5+5 mm
极距 / Pole pitch	5+5 mm
可用分辨率 / Available resolutions	250 - 100 - 50 - 25 - 10 - 5 - 1 μm
精度 / Accuracy	高达 $\pm 30 \mu\text{m}$ / up to $\pm 30 \mu\text{m}$
传感器-磁带间隙 / Sensor - magnetic band gap	0.3 ÷ 4 mm (配磁带 / with band MP500) 0.35 ÷ 2 mm (配磁带 / with band MP500Z)
参考索引 / Reference indexes	C = 恒定步距 / at constant pitch (5 mm) E = 外部 / external Z = 磁带上设定 / positioned on the magnetic band
重复性 / Repeatability	± 1 增量 / increment
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
电源 / Power supply	5 ÷ 28 Vdc $\pm 5\%$
最大频率 / Max. frequency	300 kHz (按需可高达 500 kHz) / 300 kHz (up to 500 kHz on request)
最大移动速度 / Max. traversing speed	高达 30 m/s / up to 30 m/s
防护等级 / Protection class	IP 67



MTS S	极距 / Pole pitch 6+6 mm
极距 / Pole pitch	6+6 mm
可用分辨率 / Available resolutions	500 - 100 - 50 - 25 - 10 - 5 μm
精度 / Accuracy	高达 $\pm 40 \mu\text{m}$ / up to $\pm 40 \mu\text{m}$
传感器-磁带间隙 / Sensor - magnetic band gap	1 ÷ 6 mm (配磁带 / with band MP600) 1 ÷ 2 mm (配磁带 / with band MP600Z)
参考索引 / Reference indexes	C = 恒定步距 / at constant pitch (5 mm) E = 外部 / external Z = 磁带上设定 / positioned on the magnetic band
重复性 / Repeatability	± 1 增量 / increment
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
电源 / Power supply	5 ÷ 28 Vdc $\pm 5\%$
最大频率 / Max. frequency	300 kHz (按需可高达 500 kHz) / 300 kHz (up to 500 kHz on request)
最大移动速度 / Max. traversing speed	高达 30 m/s / up to 30 m/s
防护等级 / Protection class	IP 67



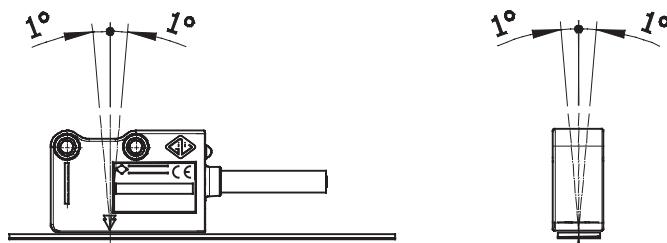
MTS E	极距 / Pole pitch 10+10 mm
极距 / Pole pitch	10+10 mm
可用分辨率 / Available resolutions	500 - 100 μm
精度 / Accuracy	$\pm 400 \mu\text{m}$
传感器-磁带间隙 / Sensor - magnetic band gap	3 ÷ 9 mm (配磁带 / with band MP1000)
参考索引 / Reference indexes	C = 恒定步距 / at constant pitch (10 mm) E = 外部 / external
重复性 / Repeatability	± 1 增量 / increment
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
电源 / Power supply	5 ÷ 28 Vdc $\pm 5\%$
最大频率 / Max. frequency	300 kHz (按需可高达 500 kHz) / 300 kHz (up to 500 kHz on request)
最大移动速度 / Max. traversing speed	高达 30 m/s / up to 30 m/s
防护等级 / Protection class	IP 67



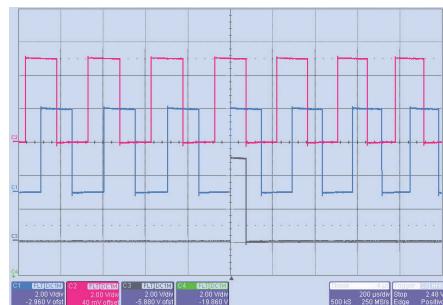


MTS C	极距 / Pole pitch 20+20 mm
极距 / Pole pitch	20+20 mm
可用分辨率 / Available resolutions	5,000 - 1,000 - 500 - 100 μm
精度 / Accuracy	$\pm 500 \mu\text{m}$
传感器-磁带间隙 / Sensor - magnetic band gap	7 ÷ 12 mm (配磁带 / with band MP2000)
参考索引 / Reference indexes	C = 恒定步距 / at constant pitch (20 mm) E = 外部 / external
重复性 / Repeatability	± 1 增量 / increment
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
电源 / Power supply	5 ÷ 28 Vdc $\pm 5\%$
最大频率 / Max. frequency	300 kHz (按需可高达 500 kHz) / 300 kHz (up to 500 kHz on request)
最大移动速度 / Max. traversing speed	高达30 m/s / up to 30 m/s
防护等级 / Protection class	IP 67

Pr



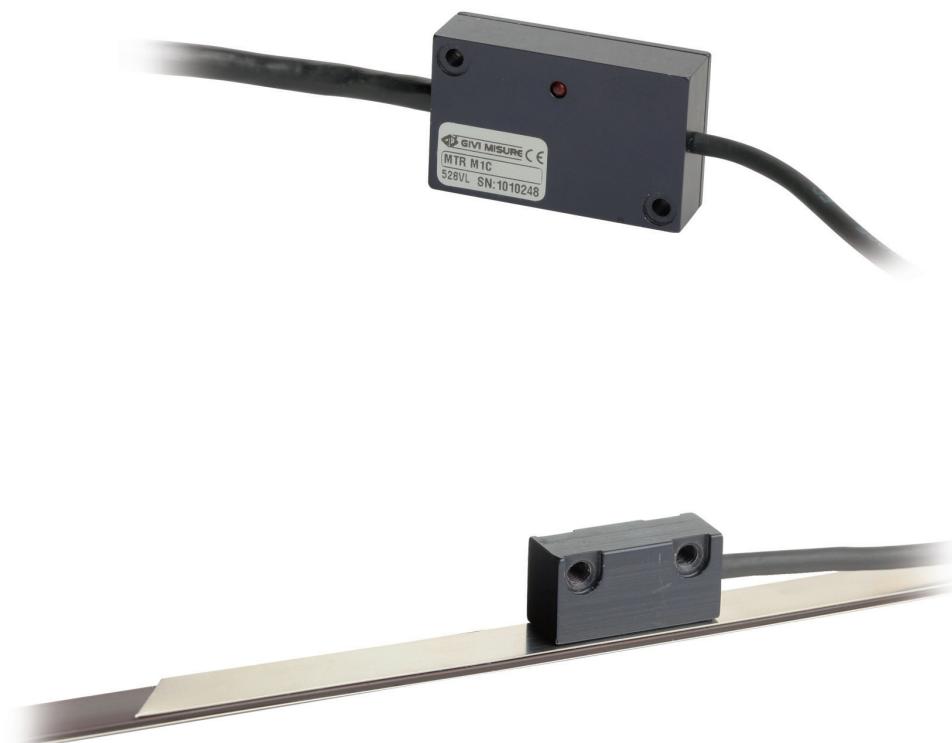
传感器定位公差。
Sensor alignment tolerances.



MTS: 传感器输出的方波信号。
MTS: square-wave output signals from the sensor.



MTR - 方波输出信号的小尺寸阅读系统 MTR - MINIATURIZED READING SYSTEM WITH SQUARE-WAVE OUTPUT



- 小尺寸磁性传感器MTR。分辨率高达0.5微米并通过串行线进行编程(Pr)。
Miniaturized magnetic sensor MTR. Resolutions up to 0.5 µm programmable (Pr) via serial line.
- 远程差值单元。压铸金属材料的磁性传感器体。
Remote interpolation unit. Magnetic sensor body made of die-cast metallic material.
- 磁性传感器用螺母通过现行标准螺纹孔M4或M3进行固定。
Fixing of magnetic sensor by existing threaded holes M4, or by M3 through screws.
- 宽泛的定位公差。
Wide alignment tolerances.
- 防电源极性反转及输出端口短路保护。
Protected against inversion of power supply polarity and short circuits on output ports.



MTR P	极距 / Pole pitch 1+1 mm
极距 / Pole pitch	1+1 mm
可用分辨率 / Available resolutions	10 - 5 - 1 - 0.5 µm
精度 / Accuracy	± 10 µm
参考索引 / Reference indexes	C = 恒定步距 / at constant pitch (1 mm)
重复性 / Repeatability	± 1增量 / increment
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
电源 / Power supply	5 ÷ 28 Vdc ± 5%
最大频率 / Max. frequency	300 kHz
最大移动速度 / Max. traversing speed	高达6 m/s / up to 6 m/s
防护等级 / Protection class	IP 67

Pr

MTR M	极距 / Pole pitch 2+2 mm
极距 / Pole pitch	2+2 mm
可用分辨率 / Available resolutions	1,000 - 500 - 100 - 50 - 25 - 10 - 5 - 1 µm
精度 / Accuracy	± 15 µm
参考索引 / Reference indexes	C = 恒定步距 / at constant pitch (2 mm)
重复性 / Repeatability	± 1增量 / increment
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
电源 / Power supply	5 ÷ 28 Vdc ± 5%
最大频率 / Max. frequency	300 kHz
最大移动速度 / Max. traversing speed	高达12 m/s / up to 12 m/s
防护等级 / Protection class	IP 67

Pr

MTR H	极距 / Pole pitch 5+5 mm
极距 / Pole pitch	5+5 mm
可用分辨率 / Available resolutions	250 - 100 - 50 - 25 - 10 - 5 µm
精度 / Accuracy	± 40 µm
参考索引 / Reference indexes	C = 恒定步距 / at constant pitch (5 mm)
重复性 / Repeatability	± 1增量 / increment
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
电源 / Power supply	5 ÷ 28 Vdc ± 5%
最大频率 / Max. frequency	300 kHz
最大移动速度 / Max. traversing speed	高达12 m/s / up to 12 m/s
防护等级 / Protection class	IP 67

Pr



MTV - 正弦波输出信号(1 Vpp)阅读系统 MTV - READING SYSTEM WITH SINE-WAVE OUTPUT (1 Vpp)



- 小尺寸新型磁性传感器MTV。
New line of magnetic sensors MTV, with small overall dimensions.
- 分辨率高达0.1微米。支持DPI分辨率和英寸制阅读。
Resolutions up to 0.1 µm. DPI resolution and inches reading now available.
- 多种不同极距类型可供选择。
Many pole pitches available.
- 较宽泛的对准公差，传感器/磁带安装对准距离高达5毫米, 便于简单快速的安装。
Wide alignment tolerances and sensor/magnetic band distance up to 5 mm, for an even easier and faster mounting.
- 磁性传感器主体由压铸金属材料制成。
Magnetic sensor body made of die-cast metallic material.
- 利用现有的标准螺纹孔M4或M3通过螺丝固定磁传感器。
Fixing of magnetic sensor by existing threaded holes M4, or by M3 through screws.
- 电源极性反转及输出端口短路保护。
Protected against inversion of power supply polarity and short circuits on output ports.



磁性系统

MTV

MAGNETIC SYSTEMS

MTV

MTV P	
极距 / Pole pitch	1+1 mm
可用分辨率 / Available resolutions	高达0.1 μm / up to 0.1 μm
精度 / Accuracy	± 6 μm
传感器-磁带间隙 / Sensor - magnetic band gap	0.1 ÷ 0.4 mm (配磁带 / with band MP100)
参考索引 / Reference indexes	C = 恒定步距 / at constant pitch (1 mm)
重复性 / Repeatability	± 1增量 / increment
输出信号 / Output signals	正弦波1 Vpp / sine wave 1 Vpp
电源 / Power supply	5 ÷ 28 Vdc ± 5%
最大频率 / Max. frequency	12 kHz
最大移动速度 / Max. traversing speed	12 m/s
防护等级 / Protection class	IP 67

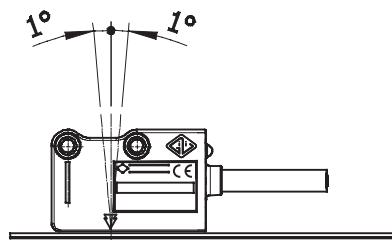
MTV M	
极距 / Pole pitch	2+2 mm
可用分辨率 / Available resolutions	高达0.5 μm / up to 0.5 μm
精度 / Accuracy	± 8 μm
传感器-磁带间隙 / Sensor - magnetic band gap	0.1 ÷ 1 mm (配磁带 / with band MP200)
参考索引 / Reference indexes	C = 恒定步距 / at constant pitch (2 mm) E = 外部 / external
重复性 / Repeatability	± 1增量 / increment
输出信号 / Output signals	正弦波1 Vpp / sine wave 1 Vpp
电源 / Power supply	5 ÷ 28 Vdc ± 5%
最大频率 / Max. frequency	6 kHz
最大移动速度 / Max. traversing speed	12 m/s
防护等级 / Protection class	IP 67

MTV I	
极距 / Pole pitch	2.54+2.54 mm
可用分辨率 / Available resolutions	高达24,000 DPI / up to 24,000 DPI
精度 / Accuracy	± 10 μm
传感器-磁带间隙 / Sensor - magnetic band gap	0.1 ÷ 1 mm (配磁带 / with band MP254)
参考索引 / Reference indexes	C = 恒定步距 / at constant pitch (2.54 mm)
重复性 / Repeatability	± 1增量 / increment
输出信号 / Output signals	正弦波1 Vpp / sine wave 1 Vpp
电源 / Power supply	5 ÷ 28 Vdc ± 5%
最大频率 / Max. frequency	6 kHz
最大移动速度 / Max. traversing speed	15 m/s
防护等级 / Protection class	IP 67

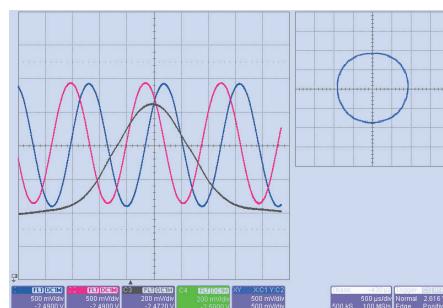
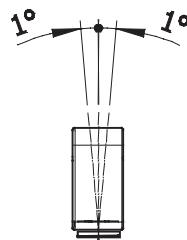


MTV H	极距 / Pole pitch 5+5 mm
极距 / Pole pitch	5+5 mm
可用分辨率 / Available resolutions	高达1 μm / up to 1 μm
精度 / Accuracy	± 30 μm
传感器-磁带间隙 / Sensor - magnetic band gap	0.3 ÷ 3 mm (配磁带 / with band MP500)
参考索引 / Reference indexes	C = 恒定步距 / at constant pitch (5 mm) E = 外部 / external
重复性 / Repeatability	± 1增量 / increment
输出信号 / Output signals	正弦波1 Vpp / sine wave 1 Vpp
电源 / Power supply	5 ÷ 28 Vdc ± 5%
最大频率 / Max. frequency	2.4 kHz
最大移动速度 / Max. traversing speed	12 m/s
防护等级 / Protection class	IP 67

MTV S	极距 / Pole pitch 6+6 mm
极距 / Pole pitch	6+6 mm
可用分辨率 / Available resolutions	高达5 μm / up to 5 μm
精度 / Accuracy	± 40 μm
传感器-磁带间隙 / Sensor - magnetic band gap	2 ÷ 5 mm (配磁带 / with band MP600)
参考索引 / Reference indexes	C = 恒定步距 / at constant pitch (6 mm)
重复性 / Repeatability	± 1增量 / increment
输出信号 / Output signals	正弦波1 Vpp / sine wave 1 Vpp
电源 / Power supply	5 ÷ 28 Vdc ± 5%
最大频率 / Max. frequency	2 kHz
最大移动速度 / Max. traversing speed	12 m/s
防护等级 / Protection class	IP 67



传感器定位公差。
Sensor alignment tolerances.



MTV: 传感器输出的正弦波信号。
MTV: sine-wave output signals from the sensor.



磁性系统

AGM

MAGNETIC SYSTEMS

AGM

AGM - 串行接口SSI-BiSS和CANopen接口的绝对式磁性传感器 AGM - ABSOLUTE MAGNETIC SENSOR WITH SERIAL INTERFACE SSI-BiSS OR CANopen



- 线性磁传感器，可直接读取绝对位置。
Linear magnetic sensor, with direct reading of the absolute position.
- 高性能，测量长度高达30,000毫米。
High performance, with a measuring length up to 30,000 mm.
- 分辨率高达1微米，重复性为±1个增量。
Resolutions up to 1 µm and repeatability ± 1 increment.
- 宽泛的定位公差，传感器/磁带安装间距高达1毫米，使整个测量系统极其简单快速安装。
Extremely easy and fast mounting of the entire measuring system, with wide alignment tolerances and sensor/magnetic band gap up to 1 mm.
- 串行SSI-BiSS接口(带或不带模拟信号1 Vpp)或CANopen接口。
Serial interface SSI-BiSS (with or without 1 Vpp analog signal) or CANopen.
- SSI或CANopen接口协议和可调分辨率。
SSI or CANopen protocol and programmable resolutions.
- 通过转换通道，实现Profibus-DP, Profinet, DeviceNet, ModBus 和 DRIVE-CLiQ等通讯。
Profibus-DP, Profinet, DeviceNet, ModBus and DRIVE-CLiQ protocols, through conversion gateways.
- 高速串行数据传输。
High-speed serial data transfer.
- 小尺寸，适用于有限空间安装。
Small-sized, for applications with limited installation space.
- 磁带宽度为10毫米。
Magnetic band width 10 mm.
- 耐灰尘和油污 (防护等级IP 67)。
Insensitive to dust and liquids (IP 67 protection class).
- 磁性传感器主体由压铸金属材料制成。
Magnetic sensor body made of die-cast metallic material.
- 在高速运行和加速度下仍可保持信号的极高稳定性。
High signal stability, even with high speed and accelerations.
- 电缆适用于连续移动，可轴向输出或径向输出。
Cable suitable for continuous movements, with axial or radial output.
- 电源极性反转及输出端口短路保护。
Protected against inversion of power supply polarity and short circuits on output ports.
- LED警示。
Warning indication through LED.





磁性系统

AGM

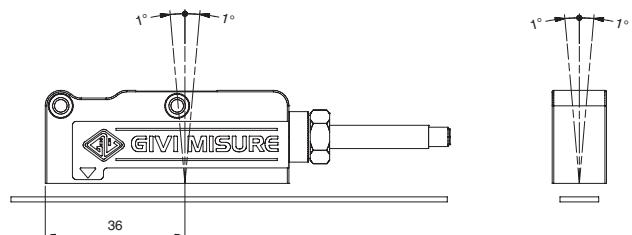
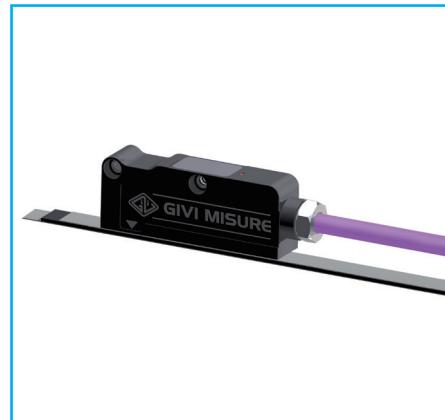
MAGNETIC SYSTEMS

AGM

AGM M	接口 / Interface SSI - BiSS
极距 / Pole pitch	2+2 mm
分辨率 / Resolution 1 Vpp	高达1 μm / up to 1 μm
绝对测量分辨率 / Resolution absolute measure	500 - 100 - 50 - 10 - 5 - 1 μm
信号周期 / Signal period	2 mm
精度 / Accuracy	± 15 μm
传感器-磁带间隙 / Sensor - magnetic band gap	0.3 ÷ 1 mm (配磁带 / with band MP200A)
测量长度 / Measuring length	高达30,000 mm / up to 30,000 mm
重复性 / Repeatability	± 1增量 / increment
串行接口 / Serial interface	SSI - BiSS
电源 / Power supply	5 ÷ 28 Vdc
最大移动速度 / Max. traversing speed	高达5 m/s / up to 5 m/s
防护等级 / Protection class	IP 67



AGM M	接口 / Interface CANopen
极距 / Pole pitch	2+2 mm
绝对测量分辨率 / Resolution absolute measure	100 - 50 - 10 - 5 - 1 μm
信号周期 / Signal period	2 mm
精度 / Accuracy	± 15 μm
传感器-磁带间隙 / Sensor - magnetic band gap	0.3 ÷ 1 mm (配磁带 / with band MP200A)
测量长度 / Measuring length	高达30,000 mm / up to 30,000 mm
重复性 / Repeatability	± 1增量 / increment
串行接口 / Serial interface	CAN bus
CANopen接口 / CANopen profile	DS406 V.3.1
最大移动速度 / Max. traversing speed	高达5 m/s / up to 5 m/s
防护等级 / Protection class	IP 67



传感器定位公差。
Sensor alignment tolerances.



磁性系统

VISION 110

MAGNETIC SYSTEMS

VISION 110

VISION 110 - 带磁性传感器数显表

VISION 110 - DIGITAL READOUT WITH MAGNETIC SENSOR



- 单轴数显表，带6½数字液态显示屏和负号。
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.
- 利用现有的标准螺纹孔M4或M3通过螺丝固定磁传感器。
Fixing of magnetic sensor by existing threaded holes M4, or by M3 through screws.
- 支持电池或外接电源。
Power supply either via battery or external.
- 自带柔性电缆，最大长度4米。
Flexible cable max. length 4 m.
- 用户友好界面，功能简单易查。
Several user-friendly functions available.
- 两种型号可提供：
Available in two different models:
 - VISION 110S: 传感器本体和前板适用于标准钻孔模板 (92x44毫米)。
VISION 110S: sensor body and front suitable for standard drilling template (92x44 mm).
 - VISION 110L: 标准尺寸的机身和更大尺寸的前板，可安装在面板上，钻孔模板 (92x66毫米)，或可调节标准钻孔模板 (92x44 毫米)。
VISION 110L: sensor body of standard dimensions and front of bigger size, for mounting on panel with drilling template 92x66 mm, or adjustable for standard drilling template (92x44 mm).
- 配合磁带MP200或MP100使用。
To be used with magnetic band MP200 or MP100.



磁性系统

VISION 110

MAGNETIC SYSTEMS
VISION 110

VISION 110 S	小尺寸版本 / Small version	
适用钻孔模板 / Suitable for drilling template (lxh)	92x44 mm	
显示器 / Display	6 ½ digit h = 13 mm	
可编程分辨率 / Programmable resolutions	1 - 0.1 - 0.05 - 0.01 mm 0.01 - 0.001 - 1/16 - 1/32 - 1/64 英寸 / inches 1° - 0.1° - 0.01° - 0.001° 角度 / angular	
电源 / Power supply	3 V (2节三号电池LR6 AA) / 3 V (2 LR6 AA batteries) 1.5 ÷ 5 V (外部电源) / 1.5 ÷ 5 V (external)	
适配磁带 / In combination with magnetic band	MP100	MP200
极距 / Pole pitch	1+1 mm	2+2 mm
最大计算速度 / Max. counting speed	2 m/s	4 m/s
传感器-磁带间隙 / Sensor - magnetic band gap	0.1 ÷ 0.4 mm	0.3 ÷ 2 mm
精度 / Accuracy	± 15 µm	± 20 µm
传感器防护等级 / Sensor's protection class	IP 67	IP 67



VISION 110 L	大尺寸版本 / Large version	
适用钻孔模板 / Suitable for drilling template (lxh)	92x44 mm - 92x66 mm	
显示器 / Display	6 ½ digit h = 13 mm	
可编程分辨率 / Programmable resolutions	1 - 0.1 - 0.05 - 0.01 mm 0.01 - 0.001 - 1/16 - 1/32 - 1/64 pollici / inches 1° - 0.1° - 0.01° - 0.001° angolare / angular	
电源 / Power supply	3 V (2节三号电池 LR6 AA) / 3 V (2 LR6 AA batteries) 1.5 ÷ 5 V (外接电源) / 1.5 ÷ 5 V (external)	
适配磁带 / In combination with magnetic band	MP100	MP200
极距 / Pole pitch	1+1 mm	2+2 mm
最大计算速度 / Max. counting speed	2 m/s	4 m/s
传感器-磁带间隙 / Sensor - magnetic band gap	0.1 ÷ 0.4 mm	0.3 ÷ 2 mm
精度 / Accuracy	± 15 µm	± 20 µm
传感器防护等级 / Sensor's protection class	IP 67	IP 67



主要功能 / MAIN FUNCTIONS:

- 自检测
SELF-TESTING
- 设备诊断
DEVICE DIAGNOSTIC
- 轴分辨率选择
AXIS RESOLUTION SELECTION
- 重置/预设增量/绝对位置
RESET/PRESET OF AN INC/ABS POSITION
- 设置增量/绝对参考位置
SETTING AN INCREMENTAL/ABSOLUTE "REF" POSITION
- 绝对/增量式计算
ABSOLUTE/INCREMENTAL COUNTING
- 计数方向倒置
INVERSION OF COUNTING DIRECTION
- 线性修正
LINEAR CORRECTION
- 设置设备自动断电时间
SETTING TIME FOR THE DEVICE SELF-SWITCHING OFF
- 设定显示器待机时间
SETTING TIME FOR DISPLAY STAND-BY
- 修改访问密码参数
PARAMETERS' ACCESS PASSWORD MODIFICATION
- 设置自由计算参数
SETTING FREE CALCULATION FACTOR



磁性系统

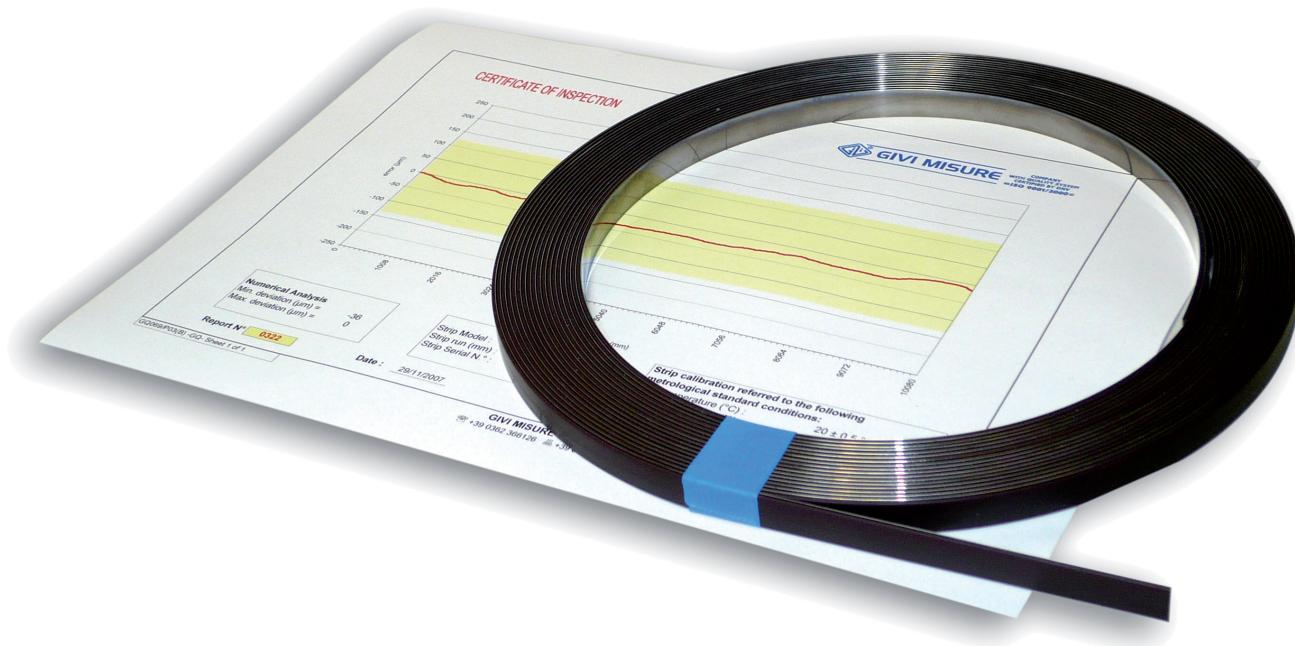
MP

MAGNETIC SYSTEMS

MP

MP - 应用领域广泛的磁带

MP - MAGNETIC BAND FOR VARIOUS APPLICATIONS



- 绝对式或增量式磁带由一种磁化的塑化带制成，不锈钢带支撑磁条，强力双面黏胶附着于磁带,便于安装和节约成本。

Absolute or incremental magnetic band, composed by a magnetized plastroferrite strip, supported by a stainless steel carrier on which a double-sided tape is pre-mounted, for an extremely quick sticking and an easy fixing.



磁性系统

MP**MAGNETIC SYSTEMS****MP**

增量式磁带

INCREMENTAL MAGNETIC BANDS

MP100

极距 / Pole pitch 1+1 mm

极距 / Pole pitch	1+1 mm (传感器型号 MTS P, MTV P, MTR P 和 VISION 110) / 1+1 mm (for MTS P, MTV P, MTR P and VISION 110)
精度等级 / Accuracy grade	高达 $\pm 15 \mu\text{m}$ / up to $\pm 15 \mu\text{m}$
宽度 / Width	10 mm
厚度 / Thickness	1.3 mm
最大长度 / Max. length	60 m
最小弯曲半径 / Minimum bending radius	80 mm

MP200

极距 / Pole pitch 2+2 mm

极距 / Pole pitch	2+2 mm (传感器型号 MTS M, MTV M, MTR M 和 VISION 110) / 2+2 mm (for MTS M, MTV M, MTR M and VISION 110)
精度等级 / Accuracy grade	高达 $\pm 15 \mu\text{m}$ / up to $\pm 15 \mu\text{m}$
宽度 / Width	10 mm
厚度 / Thickness	1.3 mm
最大长度 / Max. length	60 m
最小弯曲半径 / Minimum bending radius	80 mm
配件 / Accessories	不锈钢防护贴条 CV103 - 铝合金支架 SP202 - 外部零基准 块 SME010 / stainless steel protective cover CV103 - aluminium support SP202 - external zero reference SME010

MP200Z

极距 / Pole pitch 2+2 mm 带参考索引 / With reference indexes

极距 / Pole pitch	2+2 mm (传感器型号 / for sensors mod. MTS MxxZ)
参考索引 / Reference indexes	按需设置，从左到右，在间距4毫米或者4毫米倍数位置设置 / positioned upon request, from left or right, at pitches of 4 mm or multiples
精度等级 / Accuracy grade	高达 $\pm 15 \mu\text{m}$ / up to $\pm 15 \mu\text{m}$
宽度 / Width	10 mm
厚度 / Thickness	1.3 mm
最大长度 / Max. length	60 m
最小弯曲半径 / Minimum bending radius	80 mm
配件 / Accessories	不锈钢防护贴条 CV103 - 铝合金支架 SP202 / stainless steel protective cover CV103 aluminium support SP202

MP254

极距 / Pole pitch 2.54+2.54 mm

极距 / Pole pitch	2.54+2.54 mm (传感器型号 / for sensors mod. MTS I, MTV I)
精度等级 / Accuracy grade	高达 $\pm 15 \mu\text{m}$ / up to $\pm 15 \mu\text{m}$
宽度 / Width	10 mm
厚度 / Thickness	1.3 mm
最大长度 / Max. length	60 m
最小弯曲半径 / Minimum bending radius	80 mm
配件 / Accessories	不锈钢防护贴条 CV103 - 铝合金支架 SP202 / stainless steel protective cover CV103 aluminium support SP202



磁性系统

MP

MAGNETIC SYSTEMS

MP

MP500	极距 / Pole pitch 5+5 mm
极距 / Pole pitch	5+5 mm (传感器型号 / for sensors mod. MTS H, MTV H, MTR H)
精度等级 / Accuracy grade	高达 $\pm 30 \mu\text{m}$ / up to $\pm 30 \mu\text{m}$
宽度 / Width	10 mm
厚度 / Thickness	1.3 mm
最大长度 / Max. length	60 m
最小弯曲半径 / Minimum bending radius	80 mm
配件 / Accessories	不锈钢防护贴条 CV103 - 铝合金支架 SP202 - 外部零基准块 SME010 / stainless steel protective cover CV103 - aluminium support SP202 - external zero reference SME010

MP500Z	极距 / Pole pitch 5+5 mm 带参考索引 / With reference indexes
极距 / Pole pitch	5+5 mm (传感器型号 / for sensors mod. MTS HxxZ)
参考索引 / Reference indexes	按需设置，从左到右，在间距10毫米或者10毫米倍数位置设置 / positioned upon request, from left or right, at pitches of 10 mm or multiples
精度等级 / Accuracy grade	高达 $\pm 30 \mu\text{m}$ / up to $\pm 30 \mu\text{m}$
宽度 / Width	10 mm
厚度 / Thickness	1.3 mm
最大长度 / Max. length	60 m
最小弯曲半径 / Minimum bending radius	80 mm
配件 / Accessories	不锈钢防护贴条 CV103 - 铝合金支架 SP202 / stainless steel protective cover CV103 - aluminium support SP202

MP600	极距 / Pole pitch 6+6 mm
极距 / Pole pitch	6+6 mm (传感器型号 / for sensors mod. MTS S, MTV S)
精度等级 / Accuracy grade	高达 $\pm 35 \mu\text{m}$ / up to $\pm 35 \mu\text{m}$
宽度 / Width	10 mm
厚度 / Thickness	1.3 mm
最大长度 / Max. length	60 m
最小弯曲半径 / Minimum bending radius	80 mm
配件 / Accessories	不锈钢防护贴条 CV103 - 铝合金支架 SP202 - 外部零基准块 SME010 / stainless steel protective cover CV103 - aluminium support SP202 - external zero reference SME010

MP600Z	极距 / Pole pitch 6+6 mm 带参考索引 / With reference indexes
极距 / Pole pitch	6+6 mm (传感器型号 / for sensors mod. MTS SxxxZ)
参考索引 / Reference indexes	按需设置，从左到右，在间距12毫米或者12毫米倍数位置设置 / positioned upon request, from left or right, at pitches of 12 mm or multiples
精度等级 / Accuracy grade	高达 $\pm 35 \mu\text{m}$ / up to $\pm 35 \mu\text{m}$
宽度 / Width	10 mm
厚度 / Thickness	1.3 mm
最大长度 / Max. length	60 m
最小弯曲半径 / Minimum bending radius	80 mm
配件 / Accessories	不锈钢防护贴条 CV103 - 铝合金支架 SP202 / stainless steel protective cover CV103 - aluminium support SP202



磁性系统

MP**MAGNETIC SYSTEMS****MP**

MP1000	极距 / Pole pitch 10+10 mm
极距 / Pole pitch	10+10 mm (传感器型号 / for sensors mod. MTS E)
精度等级 / Accuracy grade	± 400 µm
宽度 / Width	10 mm
厚度 / Thickness	1.3 mm
最大长度 / Max. length	60 m
最小弯曲半径 / Minimum bending radius	80 mm
配件 / Accessories	不锈钢防护贴条 CV103 - 铝合金支架 SP202 - 外部零基准块 SME010 / stainless steel protective cover CV103 - aluminium support SP202 - external zero reference SME010

MP2000	极距 / Pole pitch 20+20 mm
极距 / Pole pitch	20+20 mm (传感器型号 / for sensors mod. MTS C)
精度等级 / Accuracy grade	± 500 µm
宽度 / Width	10 mm
厚度 / Thickness	1.3 mm
最大长度 / Max. length	60 m
最小弯曲半径 / Minimum bending radius	80 mm
配件 / Accessories	不锈钢防护贴条 CV103 - 铝合金支架 SP202 - 外部零基准块 SME010 / stainless steel protective cover CV103 - aluminium support SP202 - external zero reference SME010

绝对式磁带

ABSOLUTE MAGNETIC BANDS

MP200A	绝对式代码 / Absolute code
增量信号极距 / Pole pitch for incremental signal	2+2 mm (传感器型号 / for sensors mod. AGM)
精度等级 / Accuracy grade	± 20 µm高精度 ± 80 µm低精度
宽度 / Width	10 mm
厚度 / Thickness	1.3 mm
最大长度 / Max. length	30 m
最小弯曲半径 / Minimum bending radius	80 mm
配件 / Accessories	不锈钢防护贴条 CV103 - 铝合金支架 SP202 / stainless steel protective cover CV103 aluminium support SP202





磁性系统

MR

MAGNETIC SYSTEMS

MR

适配于MTS , MTV和MTR传感器的磁环

MR - MAGNETIC RING FOR MTS, MTV AND MTR SENSORS



- 磁环是用一种磁化的铁氧体环制成的，有2+2毫米或5+5毫米两种类型的磁极距，安装在铝质法兰上，便于安装和应用。

MAGNETIC RING made of a magnetized ferrite ring with pole pitch of 2+2 mm or 5+5 mm, mounted on an aluminium flange for an easy application on the machine.

MR200

极距 / Pole pitch 2+2 mm

极距 / Pole pitch	2+2 mm (传感器型号 MTS M, MTV M, MTR M) / 2+2 mm (for sensors mod. MTS M, MTV M, MTR M)		
直径 / Diameter	38 mm	48.7 mm	72 mm
极数 / Number of poles	60	76	114
系统精度 / System accuracy	± 0.09°	± 0.07°	± 0.05°
厚度 / Thickness	17.7 mm		
测量范围 / Measuring range	360°		
重量 / Weight	40 g	60 g	145 g
配件 / Accessories	SME 环为参考索引 / SME ring for reference indexes		

MR500

极距 / Pole pitch 5+5 mm

极距 / Pole pitch	5+5 mm (传感器型号 MTS M, MTV M, MTR M) / 5+5 mm (for sensors mod. MTS M, MTV M, MTR M)		
直径 / Diameter	38 mm	48.7 mm	72 mm
极数 / Number of poles	24	30	46
系统精度 / System accuracy	± 0.21°	± 0.16°	± 0.11°
厚度 / Thickness	17.7 mm		
测量范围 / Measuring range	360°		
重量 / Weight	40 g	60 g	145 g
配件 / Accessories	SME 环为参考索引 / SME ring for reference indexes		

可按要求提供技术数据表

Technical datasheets available on request



磁性系统

GVS 215

MAGNETIC SYSTEMS

GVS 215

GVS 215 - 自校正自带导轨增量式磁栅尺**GVS 215 - SELF-ALIGNED INCREMENTAL MAGNETIC SCALE**

- 磁极距为2+2毫米的增量式磁栅尺。特别适用于同步折弯机。
Magnetic incremental scale with pole pitch 2+2 mm. Particularly suitable for applications on synchronized press brakes.
- 读数头由带弹簧系统的自校正自洁净滑块引导。
Reader head guided by a self-aligned and self-cleaning sliding carriage with spring system.
- 分辨率高达1微米，重复性为± 1个增量。精度等级为± 15微米。
Resolution up to 1 µm and repeatability ± 1 increment. Accuracy grade ± 15 µm.
- 可调节电缆输出方向及可选零参考点设计使尺子实现**对称性**，同一版本可用于折弯机两柱，无需区分左右尺。
*Selectable reference indexes every 10 mm along the entire measuring length, with Zero Magneto Set device. The adjustable cable output and the selectable zero references make the scale **SYMMETRIC** and applicable to both columns of the press brake.*
- 安全限位开关，定位于两端。
Safety limit switches, positionable at both ends.
- 特殊橡胶制成的耐油及耐磨损密封唇，用于保护内部磁带。
Sealing lips for the protection of the magnetic band, made of special elastomer resistant to oil and wearing.
- 使用双向连接杆或钢丝带来各种应用安装的可能性。适配器GV-PB确保与旧型号PBS-HR尺子的兼容性。
Various possibilities of application, with double-effect joint or steel wire. GV-PB adapter guarantees the compatibility with PBS-HR scale.
- 在高速、强烈的加速度和震动下仍然可以保持其高精度和信号的稳定性。
High accuracy and stability of signals even in case of high speed, strong accelerations and vibrations.
- 一体压铸成型的M12连接头(IP 67)或按要求配置其他型号连接器。
Moulded M12 connector (IP 67) or other models on request.
- 电源极性反转及输出端口短路保护。
Protected against inversion of power supply polarity and short circuits on output ports.



磁性系统

GVS 215

MAGNETIC SYSTEMS

GVS 215

GVS 215 T50

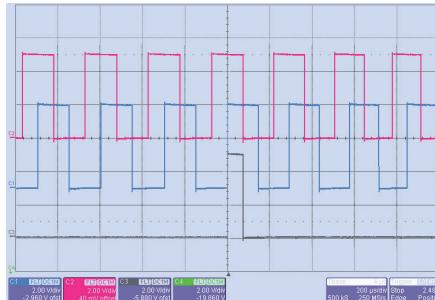
分辨率 / Resolution 50 µm	
分辨率 / Resolution	50 µm
极距 / Pole pitch	2+2 mm
精度等级 / Accuracy grade	± 15 µm
最大移动速度 / Max. traversing speed	120 m/min
测量长度 / Measuring length	170, 220, 270, 320, ... mm
参考索引 / Reference indexes	设零磁集条设定 / selectable with Zero Magneto Set
重复性 / Repeatability	± 1增量 / increment
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 64标准 / standard IP 67可选 / optional



安全限位开关，定位于两端。
Safety limit switch, positionable at both ends.

GVS 215 T25

分辨率 / Resolution 25 µm	
分辨率 / Resolution	25 µm
极距 / Pole pitch	2+2 mm
精度等级 / Accuracy grade	± 15 µm
最大移动速度 / Max. traversing speed	120 m/min
测量长度 / Measuring length	170, 220, 270, 320, ... mm
参考索引 / Reference indexes	设零磁集条设定 / selectable with Zero Magneto Set
重复性 / Repeatability	± 1增量 / increment
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 64标准 / standard IP 67可选 / optional



GVS 215: 传感器输出的方波信号。
GVS 215: square-wave output signals from the transducer.

GVS 215 T10

分辨率 / Resolution 10 µm	
分辨率 / Resolution	10 µm
极距 / Pole pitch	2+2 mm
精度等级 / Accuracy grade	± 15 µm
最大移动速度 / Max. traversing speed	120 m/min
测量长度 / Measuring length	170, 220, 270, 320, ... mm
参考索引 / Reference indexes	设零磁集条设定 / selectable with Zero Magneto Set
重复性 / Repeatability	± 1增量 / increment
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 64标准 / standard IP 67可选 / optional



磁性系统

GVS 215

MAGNETIC SYSTEMS

GVS 215

GVS 215 T5

分辨率 / Resolution 5 μm	
分辨率 / Resolution	5 μm
极距 / Pole pitch	2+2 mm
精度等级 / Accuracy grade	± 15 μm
最大移动速度 / Max. traversing speed	120 m/min
测量长度 / Measuring length	170, 220, 270, 320, ... mm
参考索引 / Reference indexes	设零磁集条设定 / selectable with Zero Magneto Set
重复性 / Repeatability	± 1增量 / increment
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 64标准 / standard IP 67可选 / optional



GVS 215 T1

分辨率 / Resolution 1 μm	
分辨率 / Resolution	1 μm
极距 / Pole pitch	2+2 mm
精度等级 / Accuracy grade	± 15 μm
最大移动速度 / Max. traversing speed	60 m/min
测量长度 / Measuring length	170, 220, 270, 320, ... mm
参考索引 / Reference indexes	设零磁集条设定 / selectable with Zero Magneto Set
重复性 / Repeatability	± 1增量 / increment
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
防护等级 / Protection class	IP 64标准 / standard IP 67可选 / optional

零参考点设定装置。用户可以轻松选择需要的参考点。
Zero Magneto Set device. The user can easily select the desired reference index.

GVS自校正式系列光栅/磁栅尺一尺四型，可互换 / GVS scale is available in four interchangeable models:

GVS 200



pag. 15

GVS 204



pag. 18

GVS 215



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GVS 219



pag. 47



磁性系统

GVS 219

MAGNETIC SYSTEMS

GVS 219

GVS 219 - 自校正自带导轨绝对式磁栅尺

GVS 219 - SELF-ALIGNED ABSOLUTE MAGNETIC SCALE

- 磁极距2+2毫米的绝对式磁栅尺。特别适用于同步折弯机。
Absolute magnetic scale with pole pitch 2+2 mm. Particularly suitable for applications on synchronized press brakes.
- 串行接口SSI-BiSS, 带或不带模拟信号1 Vpp。SSI协议和可调分辨率。
Serial interface SSI-BiSS, with or without 1 Vpp analog signal. SSI protocol and programmable resolutions.
- 读数头由带弹簧系统的自校正自洁净滑块引导。
Reader head guided by a self-aligned and self-cleaning sliding carriage with spring system.
- 分辨率高达1微米，重复性为± 1个增量。精度等级为± 15微米。
Resolution up to 1 µm and repeatability ± 1 increment. Accuracy grade ± 15 µm.
- 通过转换通道实现Profibus-DP, Profinet, CANopen, DeviceNet, ModBus 和 DRIVE-CLiQ 等通讯协议。
Profibus-DP, Profinet, CANopen, DeviceNet, ModBus and DRIVE-CLiQ protocols, through conversion gateways.
- 特殊橡胶制成的耐油及耐磨损密封唇，用于保护磁带。
Sealing lips for the protection of the magnetic band, made of special elastomer resistant to oil and wearing.
- 使用双向连接杆或钢丝，带来各种应用安装的可能性。适配器GV-PB确保与PBS-HR旧型号尺子完全兼容。
Various possibilities of application, with double-effect joint or steel wire. GV-PB adapter guarantees the compatibility with PBS-HR scale.
- 在高速，强烈的加速度和震动下仍然可以保持其高精度和信号的稳定性。
High accuracy and stability of signals even in case of high speed, strong accelerations and vibrations.
- 电源极性反转及输出端口短路保护。
Protected against inversion of power supply polarity and short circuits on output ports.

GVS 219	串行接口 / Serial interface SSI - BiSS
分辨率 / Resolution 1 Vpp	高达1 µm / up to 1 µm
绝对测量分辨率 / Resolution absolute measure	500 - 100 - 50 - 10 - 5 - 1 µm
极距 / Pole pitch	2+2 mm
精度等级 / Accuracy grade	± 15 µm
最大移动速度 / Max. traversing speed	高达60 m/min / up to 60 m/min
测量长度 / Measuring length	170, 220, 270, 320, ... mm
重复性 / Repeatability	± 1增量 / increment
串行接口 / Serial interface	SSI-BiSS, 带或不带模拟信号 1 Vpp / SSI-BiSS, with or without 1 Vpp analog signal
防护等级 / Protection class	IP 64标准 / standard IP 67可选 / optional



GVS自校正式系列光栅/磁栅尺一尺四型，可互换 / GVS scale is available in four interchangeable models:

GVS 200



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GVS 204



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GVS 219

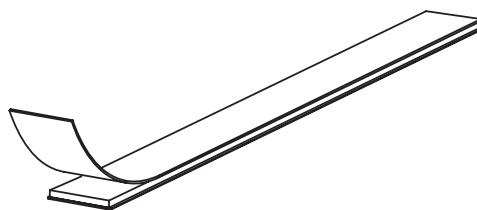


pag. 47



配件 - 防护贴条和支架及外部零基准块 ACCESSORIES - PROTECTIVE COVER AND SUPPORT. EXTERNAL ZERO REFERENCE

CV103



不锈钢防护贴条 / *Stainless steel protective cover*

无磁不锈钢贴条，磁带自带双面胶，便于安装和节约成本。

Non-magnetic stainless steel cover on which a double-sided tape is pre-mounted for a quick sticking and an easy fixing on the magnetic band.

宽度10 mm – 厚度0.3 mm / *Width 10 mm – Thickness 0.3 mm.*

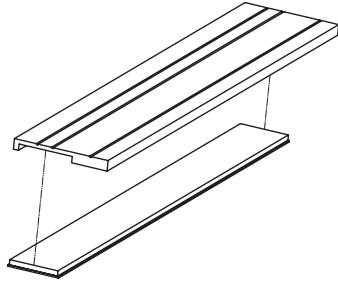
警告！

磁带MP100不可与保护贴条CV103一起使用。

WARNING!

It is not possible to use the protective cover CV103 with the magnetic band MP100.

SP202



铝合金支架 / *Aluminium support*

安装在机器上用于保护磁带。

To be fixed on the machine to protect the magnetic band.

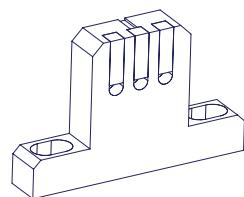
警告！

如果磁带已经使用CV103保护贴条，则不能使用SP202支架。

WARNING!

It is not possible to use the support SP202 if the magnetic bands are already covered by CV103.

SME010

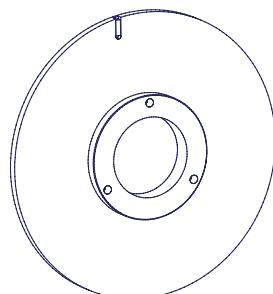


磁带外部设零参考块 / *External zero reference for magnetic band*

在E版本中，可与传感器MTS和MTV使用。

To be used with MTS and MTV sensors in E version.

SME010MR



磁环外部零基准 / *External zero reference for magnetic ring*

用于磁环MR200和MR500。

To be used with magnetic ring MR200 and MR500.



旋转编码器

ROTARY ENCODERS



型号 / MODELS

EN58

AEN58

EN38

EN413

VN413

**配件 /
ACCESSORIES**



旋转编码器
EN58

ROTARY ENCODERS
EN58

EN58 - 增量式编码器 Ø 58 mm
EN58 - INCREMENTAL ENCODER Ø 58 mm



- 基于光学原理的增量式旋转（角度）编码器。
Incremental rotary encoder, based on optical principle.
- 小尺寸适用于有限空间安装。
Small overall dimensions for applications with limited installation space.
- 宽波段脉冲，分辨率高达64,000ppr。
Wide range of pulses per revolution up to 64,000 ppr.
- 带零参考索引的双向信号、TTL或1 Vpp正弦波信号。
Bidirectional signals with zero references, TTL or 1 Vpp sine wave.
- 通过连接器或者电缆，轴向或者径向输出。
Output by connector or cable, radial or axial position.
- 铝合金法兰和主体。
Aluminium flange and body.
- 高性能保护环。
High-protection ring.
- 高精度和信号稳定性。
High accuracy and stability of signals.
- 电源极性反转及输出端口短路保护。
Protected against inversion of power supply polarity and short circuits on output ports.
- 性能广泛。
Wide range of features.
- 可按客户需求量身定制。
Custom-made features on request.



旋转编码器 EN58

ROTARY ENCODERS EN58

EN58SC	半空心轴 / Semi-hollow shaft
可用脉冲 / Available pulses	5 ÷ 64,000 ppr
最大旋转速度 / Max. rotating speed	瞬时 / momentary 12,000 rpm 连续 / continuous 8,000 rpm
轴心Ø / Centering Ø	36 mm
安装 / Fixing	在120°处配3个M4螺孔或弹性法兰 / no. 3 screws M4 at 120° or elastic flange
轴Ø mm / Shaft Ø mm	6 - 8 - 9.52 - 10 - 12 - 14 - 15 其他按需定制 / others on request
电源 / Power supply	5 ÷ 28 V ± 5%
防护等级 / Protection class	IP 65
输出信号 / Output signals	LINE DRIVER / PUSH-PULL / OPEN COLLECTOR
最大振幅 / Max. frequency	300 kHz



EN500	轴心 / Centering Ø 50 mm
可用脉冲 / Available pulses	5 ÷ 64,000 ppr
最大旋转速度 / Max. rotating speed	瞬时 / momentary 12,000 rpm 连续 / continuous 8,000 rpm
轴心Ø / Centering Ø	50 mm
安装 / Fixing	在120°处配3个M4螺孔 / no. 3 screws M4 at 120°
轴Ø mm / Shaft Ø mm	6x10 - 8x20 - 9.52x20 - 10x20 其他按需定制 / others on request
电源 / Power supply	5 ÷ 28 V ± 5%
防护等级 / Protection class	IP 65标准 / standard IP 67可选 / optional
输出信号 / Output signals	LINE DRIVER / PUSH-PULL / OPEN COLLECTOR 正弦波1 Vpp / sine wave 1 Vpp
最大振幅 / Max. frequency	300 kHz



EN515	法兰 / Flange Ø 115 mm
可用脉冲 / Available pulses	5 ÷ 64,000 ppr
最大旋转速度 / Max. rotating speed	瞬时 / momentary 12,000 rpm 连续 / continuous 8,000 rpm
轴心Ø / Centering Ø	85 mm
安装 / Fixing	6个螺孔Ø 6.6 mm / no. 6 holes Ø 6.6 mm
轴Ø mm / Shaft Ø mm	11x30
电源 / Power supply	5 ÷ 28 V ± 5%
防护等级 / Protection class	IP 65标准 / standard IP 67可选 / optional
输出信号 / Output signals	LINE DRIVER / PUSH-PULL / OPEN COLLECTOR
最大振幅 / Max. frequency	300 kHz



EN590	法兰 / Flange Ø 90 mm
可用脉冲 / Available pulses	5 ÷ 64,000 ppr
最大旋转速度 / Max. rotating speed	瞬时 / momentary 12,000 rpm 连续 / continuous 8,000 rpm
轴心Ø / Centering Ø	80 mm
安装 / Fixing	在120°处配3个M5螺孔 / no. 3 screws M5 at 120°
轴Ø mm / Shaft Ø mm	8x20 - 9.52x20 - 10x20 其他按需定制 / others on request
电源 / Power supply	5 ÷ 28 V ± 5%
防护等级 / Protection class	IP 65标准 / standard IP 67可选 / optional
输出信号 / Output signals	LINE DRIVER / PUSH-PULL / OPEN COLLECTOR
最大振幅 / Max. frequency	300 kHz





旋转编码器 EN58

ROTARY ENCODERS
EN58

EN600

轴心 / Centering Ø 31.75 mm	
可用脉冲 / Available pulses	5 ÷ 64,000 ppr
最大旋转速度 / Max. rotating speed	瞬时 / momentary 12,000 rpm 连续 / continuous 8,000 rpm
轴心Ø / Centering Ø	31.75 mm
安装 / Fixing	4个螺孔Ø 5.5 mm / no. 4 holes Ø 5.5 mm
轴Ø mm / Shaft Ø mm	6x10 - 8x20 - 9.52x20 - 10x20 其他按需定制 / others on request
电源 / Power supply	5 ÷ 28 V ± 5%
防护等级 / Protection class	IP 65标准 / standard IP 67可选 / optional
输出信号 / Output signals	LINE DRIVER / PUSH-PULL / OPEN COLLECTOR
最大振幅 / Max. frequency	300 kHz



EN531

轴心 / Centering Ø 31.75 mm	
可用脉冲 / Available pulses	5 ÷ 64,000 ppr
最大旋转速度 / Max. rotating speed	瞬时 / momentary 12,000 rpm 连续 / continuous 8,000 rpm
轴心Ø / Centering Ø	31.75 mm
安装 / Fixing	在120°处配3个M5螺孔 / no. 3 screws M5 at 120°
轴Ø mm / Shaft Ø mm	6x10 - 8x20 - 9.52x20 - 10x20 其他按需定制 / others on request
电源 / Power supply	5 ÷ 28 V ± 5%
防护等级 / Protection class	IP 65标准 / standard IP 67可选 / optional
输出信号 / Output signals	LINE DRIVER / PUSH-PULL / OPEN COLLECTOR
最大振幅 / Max. frequency	300 kHz



EN536

轴心 / Centering Ø 36 mm	
可用脉冲 / Available pulses	5 ÷ 64,000 ppr
最大旋转速度 / Max. rotating speed	瞬时 / momentary 12,000 rpm 连续 / continuous 8,000 rpm
轴心Ø / Centering Ø	36 mm
安装 / Fixing	在120°处配3个M4螺孔 / no. 3 screws M4 at 120°
轴Ø mm / Shaft Ø mm	6x10 - 8x20 - 9.52x20 - 10x20 其他按需定制 / others on request
电源 / Power supply	5 ÷ 28 V ± 5%
防护等级 / Protection class	IP 65标准 / standard IP 67可选 / optional
输出信号 / Output signals	LINE DRIVER / PUSH-PULL / OPEN COLLECTOR 正弦波1 Vpp / sine wave 1 Vpp
最大振幅 / Max. frequency	300 kHz



EN5036

轴心 / Centering Ø 50 mm	
可用脉冲 / Available pulses	5 ÷ 64,000 ppr
最大旋转速度 / Max. rotating speed	瞬时 / momentary 12,000 rpm 连续 / continuous 8,000 rpm
轴心Ø / Centering Ø	50 mm
安装 / Fixing	在120°处配3个M5螺孔 / no. 3 screws M5 at 120°
轴Ø mm / Shaft Ø mm	6x10 - 8x20 - 9.52x20 - 10x20 其他按需定制 / others on request
电源 / Power supply	5 ÷ 28 V ± 5%
防护等级 / Protection class	IP 65标准 / standard IP 67可选 / optional
输出信号 / Output signals	LINE DRIVER / PUSH-PULL / OPEN COLLECTOR
最大振幅 / Max. frequency	300 kHz





旋转编码器 EN58

ROTARY ENCODERS EN58



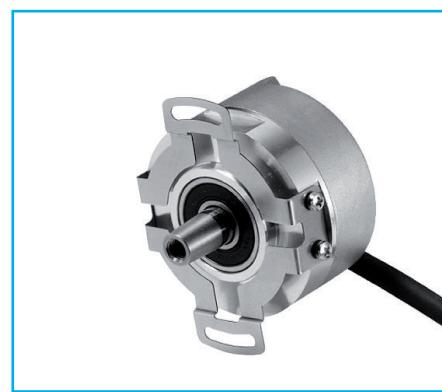
制作精良的玻璃码盘可以确保GIVI MISURE旋转编码器的高精度，由于功能的广泛性，使得GIVI MISURE旋转编码器能够满足任何应用的需要。其强壮结实的机械结构使它们特别适合重型加工领域的应用。

The manufacturing quality of the optical discs guarantees the high accuracy of GIVI MISURE rotary encoders. Thanks to the wide number of configurations available, GIVI MISURE rotary encoders are able to satisfy any application need. Their robust mechanical structure makes them suitable for heavy applications.

EN650	轴心 / Centering Ø 50 mm
可用脉冲 / Available pulses	5 ÷ 64,000 ppr
最大旋转速度 / Max. rotating speed	瞬时 / momentary 12,000 rpm 连续 / continuous 8,000 rpm
轴心Ø / Centering Ø	50 mm
安装 / Fixing	4个螺孔Ø 5.5 mm / no. 4 holes Ø 5.5 mm
轴Ø mm / Shaft Ø mm	6x10 - 8x20 - 9.52x20 - 10x20 其他可按需定制 / others on request
电源 / Power supply	5 ÷ 28 V ± 5%
防护等级 / Protection class	IP 65 标准 / standard IP 67 可选 / optional
输出信号 / Output signals	LINE DRIVER / PUSH-PULL / OPEN COLLECTOR
最大振幅 / Max. frequency	300 kHz



EN53	夹紧法兰 / Elastic flange
可用脉冲 / Available pulses	2,048 ppr
最大旋转速度 / Max. rotating speed	瞬时 / momentary 15,000 rpm 连续 / continuous 12,000 rpm
安装 / Fixing	夹紧法兰 / with elastic flange
轴Ø mm / Shaft Ø mm	锥形实心轴 / tapered solid shaft Ø 10 (10/1)
电源 / Power supply	5 V ± 10%
防护等级 / Protection class	IP 40
输出信号 / Output signals	正弦波 1 Vpp / sine wave 1 Vpp
最大振幅 / Max. frequency	500 kHz



EN53SC	半空心轴 / Semi-hollow shaft
可用脉冲 / Available pulses	2,048 ppr
最大旋转速度 / Max. rotating speed	瞬时 / momentary 15,000 rpm 连续 / continuous 12,000 rpm
安装 / Fixing	夹紧法兰 / with elastic flange
轴Ø mm / Shaft Ø mm	锥形半空心轴 Ø mm 10 (10/1) / tapered semi-hollow shaft Ø 10 (10/1) 半空心轴 / semi-hollow shaft Ø 12.7
电源 / Power supply	5 V ± 10%
防护等级 / Protection class	IP 40
输出信号 / Output signals	正弦波 1 Vpp / sine wave 1 Vpp
最大振幅 / Max. frequency	500 kHz





旋转编码器

AEN58

ROTARY ENCODERS

AEN58

AEN58 - 绝对式编码器 Ø 58 mm

AEN58 - ABSOLUTE ENCODER Ø 58 mm



- 基于光学原理的绝对式旋转编码器，紧凑设计，外观时尚有质感。
Compact-design absolute rotary encoder, based on optical principle.
- 单圈分辨率高达17位，多圈分辨率高达12位。
Singleturn resolution up to 17 Bit. Multiturn resolution up to 12 Bit.
- 高精度和信号稳定性。
High accuracy and stability of signals.
- 线性度 $\pm \frac{1}{2}$ LSB (分辨率 ± 1 LSB > 13 Bit)。
Linearity $\pm \frac{1}{2}$ LSB (± 1 LSB for resolutions > 13 Bit).
- 串行SSI-BiSS带或不带1 Vpp模拟信号，Fieldbus (CANopen, Profibus, DeviceNet) 和并行接口，特殊需求可按需定制。
Serial interface (SSI-BiSS, with or without 1 Vpp analog signal), Fieldbus (CANopen, Profibus, DeviceNet) or Parallel.
- 多种法兰可用。
Several flanges available.
- 防护等级达完全防水等级IP 67。
IP 67 protection class available.
- 铝合金法兰和主体。
Aluminium flange and body.
- 轴向或者径向输出 (通过连接器或电缆)。
Axial or radial output (with connector or cable).
- 高速旋转速度 (高达12,000 rpm)。
High rotational speed (up to 12,000 rpm).
- 诊断程序：警告、LED指示、温度测量、报警位。
Diagnostics: warning, LED indication, temperature measurement, alarm bit.



旋转编码器

AEN58

ROTARY ENCODERS

AEN58

AEN500	现场总线 / Fieldbus
分辨率 / Resolution	10-16 Bit 单圈 / Singleturn 12 Bit 多圈 / Multiturn
最大旋转速度 / Max. rotating speed	瞬时 / momentary 12,000 rpm 连续 / continuous 10,000 rpm
轴心Ø / Centering Ø	50 mm
轴Ø mm / Shaft Ø mm	6其他可按需定制 / others on request
电源 / Power supply	10 ÷ 30 V
电流 / Current consumption	220 mA (ST), 250 mA (MT)
防护等级 / Protection class	IP 64标准 / standard IP 67可选 / optional
协议 / Protocol	Profibus, CANopen, DeviceNet
输出代码 / Output code	二进制 / Binary



AEN500	串行 / Serial
分辨率 / Resolution	360 / 720 cpr 10-17 Bit 单圈 / Singleturn 12 Bit 多圈 / Multiturn
最大旋转速度 / Max. rotating speed	瞬时 / momentary 12,000 rpm 连续 / continuous 10,000 rpm
轴心Ø / Centering Ø	50 mm
轴Ø mm / Shaft Ø mm	6其他可按需定制 / others on request
电源 / Power supply	10 ÷ 30 V 或 / or 5 V ± 10%
电流 / Current consumption	100 mA (ST), 150 mA (MT), 250 mA (SP)
防护等级 / Protection class	IP 64标准 / standard IP 67可选 / optional
协议 / Protocol	BISS, SSI (带或不带正余弦1 Vpp / with or without SinCos 1 Vpp)
输出代码 / Output code	二进制，格雷码 / Binary, Gray



AEN500	并行 / Parallel
分辨率 / Resolution	360 ÷ 2,880 cpr 8-14 Bit 单圈 / Singleturn 4-8-12 Bit 多圈 / Multiturn
最大旋转速度 / Max. rotating speed	瞬时 / momentary 12,000 rpm 连续 / continuous 10,000 rpm
轴心Ø / Centering Ø	50 mm
轴Ø mm / Shaft Ø mm	6其他可按需定制 / others on request
电源 / Power supply	10 ÷ 30 V 或 / or 5 V ± 10%
电流 / Current consumption	200 mA (ST), 300 mA (MT)
防护等级 / Protection class	IP 64标准 / standard IP 67可选 / optional
接口 / Interface	并行 / Parallel
输出代码 / Output code	二进制，格雷码 / Binary, Gray



AEN536	现场总线 / Fieldbus
分辨率 / Resolution	10-16 Bit 单圈 / Singleturn 12 Bit 多圈 / Multiturn
最大旋转速度 / Max. rotating speed	瞬时 / momentary 12,000 rpm 连续 / continuous 10,000 rpm
轴心Ø / Centering Ø	36 mm
轴Ø mm / Shaft Ø mm	9.52 - 10
电源 / Power supply	10 ÷ 30 V
电流 / Current consumption	220 mA (ST), 250 mA (MT)
防护等级 / Protection class	IP 64标准 / standard IP 67可选 / optional
接口 / Interface	Profibus, CANopen, DeviceNet
输出代码 / Output code	二进制 / Binary





旋转编码器 AEN58

ROTARY ENCODERS
AEN58

AEN536

串行 / Serial

分辨率 / Resolution	360 / 720 cpr 10-17 Bit 单圈 / Singleturn 12 Bit 多圈 / Multiturn
最大旋转速度 / Max. rotating speed	瞬时 / momentary 12,000 rpm 连续 / continuous 10,000 rpm
轴心Ø / Centering Ø	36 mm
轴Ø mm / Shaft Ø mm	9.52 - 10
电源 / Power supply	10 ÷ 30 V 或 / or 5 V ± 10%
电流 / Current consumption	100 mA (ST), 150 mA (MT), 250 mA (SP)
防护等级 / Protection class	IP 64 标准 / standard IP 67 可选 / optional
协议 / Protocol	BiSS, SSI (带或不带正余弦1 Vpp / with or without SinCos 1 Vpp)
输出代码 / Output code	二进制, 格雷码 / Binary, Gray



AEN536

并行 / Parallel

分辨率 / Resolution	360 ÷ 2,880 cpr 8-14 Bit 单圈 / Singleturn 4-8-12 Bit 多圈 / Multiturn
最大旋转速度 / Max. rotating speed	瞬时 / momentary 12,000 rpm 连续 / continuous 10,000 rpm
轴心Ø / Centering Ø	36 mm
轴Ø mm / Shaft Ø mm	9.52 - 10 其他可按需定制 / others on request
电源 / Power supply	10 ÷ 30 V 或 / or 5 V ± 10%
电流 / Current consumption	200 mA (ST), 300 mA (MT)
防护等级 / Protection class	IP 64 标准 / standard IP 67 可选 / optional
接口 / Interface	并行 / Parallel
输出代码 / Output code	二进制, 格雷码 / Binary, Gray



AEN536

模拟 / Analog

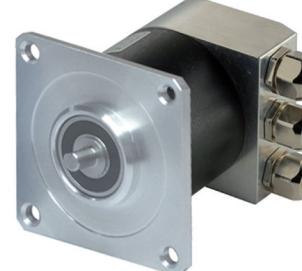
分辨率 / Resolution	10-12 Bit 单圈 / Singleturn 高达 / up to 12 Bit 多圈 / Multiturn
最大旋转速度 / Max. rotating speed	6,000 rpm
轴心Ø / Centering Ø	36 mm
轴Ø mm / Shaft Ø mm	6 - 10
电源 / Power supply	10 ÷ 30 V
电流 / Current consumption	100 mA (ST), 150 mA (MT)
防护等级 / Protection class	IP 64 标准 / standard IP 67 可选 / optional
接口 - 输出 / Interface - Output	模拟 / Analog (0 ÷ 20 mA, 4 ÷ 20 mA, 0 ÷ 10 V)
可配置性 / Configurability	旋转方向, 旋转数量均可按需定制 / Direction, no. revolutions



AEN600

现场总线 / Fieldbus

分辨率 / Resolution	10-16 Bit 单圈 / Singleturn 12 Bit 多圈 / Multiturn
最大旋转速度 / Max. rotating speed	瞬时 / momentary 12,000 rpm 连续 / continuous 10,000 rpm
轴心Ø / Centering Ø	31.75 mm
轴Ø mm / Shaft Ø mm	9.52 - 10
电源 / Power supply	10 ÷ 30 V
电流 / Current consumption	220 mA (ST), 250 mA (MT)
防护等级 / Protection class	IP 64 标准 / standard IP 67 可选 / optional
协议 / Protocol	Profibus, CANopen, DeviceNet
输出代码 / Output code	二进制 / Binary





旋转编码器

AEN58

ROTARY ENCODERS

AEN58

AEN600	串行 / Serial
分辨率 / Resolution	360 / 720 cpr 10-17 Bit 单圈 / Singleturn 12 Bit 多圈 / Multiturn
最大旋转速度 / Max. rotating speed	瞬时 / momentary 12,000 rpm 连续 / continuous 10,000 rpm
轴心Ø / Centering Ø	31.75 mm
轴Ø mm / Shaft Ø mm	9.52 - 10
电源 / Power supply	10 ÷ 30 V 或 / or 5 V ± 10%
电流 / Current consumption	100 mA (ST), 150 mA (MT), 250 mA (SP)
防护等级 / Protection class	IP 64 标准 / standard IP 67 可选 / optional
协议 / Protocol	BiSS, SSI (带或不带正余弦1 Vpp / with or without SinCos 1 Vpp)
输出代码 / Output code	二进制, 格雷码 / Binary, Gray



AEN600	并行 / Parallel
分辨率 / Resolution	360 ÷ 2,880 cpr 8-14 Bit 单圈 / Singleturn 4-8-12 Bit 多圈 / Multiturn
最大旋转速度 / Max. rotating speed	瞬时 / momentary 12,000 rpm 连续 / continuous 10,000 rpm
轴心Ø / Centering Ø	31.75 mm
轴Ø mm / Shaft Ø mm	9.52 - 10 其他可按需定制 / others on request
电源 / Power supply	10 ÷ 30 V 或 / or 5 V ± 10%
电流 / Current consumption	200 mA (ST), 300 mA (MT)
防护等级 / Protection class	IP 64 标准 / standard IP 67 可选 / optional
接口 / Interface	并行 / Parallel
输出代码 / Output code	二进制, 格雷码 / Binary, Gray



AEN58SC	现场总线 / Fieldbus
分辨率 / Resolution	10-16 Bit 单圈 / Singleturn 12 Bit 多圈 / Multiturn
最大旋转速度 / Max. rotating speed	瞬时 / momentary 12,000 rpm 连续 / continuous 10,000 rpm
安装 / Fixing	夹紧法兰 / with elastic flange
轴Ø mm / Shaft Ø mm	9.52 - 10 - 12
电源 / Power supply	10 ÷ 30 V
电流 / Current consumption	220 mA (ST), 250 mA (MT)
防护等级 / Protection class	IP 64
协议 / Protocol	Profibus, CANopen, DeviceNet
输出代码 / Output code	二进制 / Binary



AEN58SC	串行 / Serial
分辨率 / Resolution	360 / 720 cpr 10-17 Bit 单圈 / Singleturn 12 Bit 多圈 / Multiturn
最大旋转速度 / Max. rotating speed	瞬时 / momentary 12,000 rpm 连续 / continuous 10,000 rpm
安装 / Fixing	夹紧法兰 / with elastic flange
轴Ø mm / Shaft Ø mm	9.52 - 10 - 12
电源 / Power supply	10 ÷ 30 V 或 / or 5 V ± 10%
电流 / Current consumption	100 mA (ST), 150 mA (MT), 250 mA (SP)
防护等级 / Protection class	IP 64
协议 / Protocol	BiSS, SSI (带或不带正余弦1 Vpp / with or without SinCos 1 Vpp)
输出代码 / Output code	二进制, 格雷码 / Binary, Gray





旋转编码器
AEN58

ROTARY ENCODERS
AEN58

AEN58SC

并行 / Parallel

分辨率 / Resolution	10-14 Bit 单圈 / Singleturn 4-8-12 Bit 多圈 / Multiturn
最大旋转速度 / Max. rotating speed	瞬时 / momentary 12,000 rpm 连续 / continuous 10,000 rpm
安装 / Fixing	夹紧法兰 / with elastic flange
轴 Ø mm / Shaft Ø mm	9.52 - 10 - 12
电源 / Power supply	10 ÷ 30 V
电流 / Current consumption	200 mA (ST), 300 mA (MT)
防护等级 / Protection class	IP 64
接口 / Interface	并行 / Parallel
输出代码 / Output code	二进制, 格雷码 / Binary, Gray





旋转编码器
EN38

ROTARY ENCODERS
EN38

EN38 - 增量式编码器 Ø 38 mm
EN38 - INCREMENTAL ENCODER Ø 38 mm



- 基于光学原理的增量式旋转编码器，设计紧凑小巧。
Compact-design incremental rotary encoder, based on optical principle.
- 密封电缆输出，可轴向或径向输出。
Output by sealed cable in radial or axial position.
- 高度稳健性，铝合金法兰和主体。
High degree of robustness. Aluminium flange and body.
- 高精度和信号稳定性。
High accuracy and stability of signals.
- 电源极性反转及输出端口短路保护。
Protected against inversion of power supply polarity and short circuits on output ports.

EN38SC	半空心轴 / Semi-hollow shaft
可用脉冲 / Available pulses	5 ÷ 3,600 ppr
最大旋转速度 / Max. rotating speed	瞬时 / momentary 8,000 rpm 连续 / continuous 6,000 rpm
安装 / Fixing	有夹紧法兰或抗旋转枢轴 / with elastic flange or anti-rotation pivot
轴 Ø mm / Shaft Ø mm	5 - 6 - 8
电源 / Power supply	5 ÷ 28 V ± 5%
防护等级 / Protection class	IP 65
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
最大振幅 / Max. frequency	120 kHz



旋转编码器 EN38

ROTARY ENCODERS EN38

EN38ON	标准定位 / Standard fixing
可用脉冲 / Available pulses	5 ÷ 3,600 ppr
最大旋转速度 / Max. rotating speed	瞬时 / momentary 8,000 rpm 连续 / continuous 6,000 rpm
轴心Ø / Centering Ø	33 mm
安装 / Fixing	在90° 处配4个M3螺孔 / no. 4 screws M3 at 90°
轴Ø mm / Shaft Ø mm	6 - 8
电源 / Power supply	5 ÷ 28 V ± 5%
防护等级 / Protection class	IP 65标准 / standard IP 67可选 / optional
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
最大振幅 / Max. frequency	120 kHz



EN38MN	双定位系统 / Double fixing system
可用脉冲 / Available pulses	5 ÷ 3,600 ppr
最大旋转速度 / Max. rotating speed	瞬时 / momentary 8,000 rpm 连续 / continuous 6,000 rpm
轴心Ø / Centering Ø	20 mm
安装 / Fixing	在120° 处配3个M3螺孔 / no. 3 screws M3 at 120° 在90° 处配4个M3螺孔 / no. 4 screws M3 at 90°
轴Ø mm / Shaft Ø mm	6 - 8
电源 / Power supply	5 ÷ 28 V ± 5%
防护等级 / Protection class	IP 65标准 / standard IP 67可选 / optional
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
最大振幅 / Max. frequency	120 kHz



EN38FN	螺母定位 / Fixing by threaded nut
可用脉冲 / Available pulses	5 ÷ 3,600 ppr
最大旋转速度 / Max. rotating speed	瞬时 / momentary 8,000 rpm 连续 / continuous 6,000 rpm
安装 / Fixing	用M18x1螺母 / by threaded nut M18x1
轴Ø mm / Shaft Ø mm	6 - 8
电源 / Power supply	5 ÷ 28 V ± 5%
防护等级 / Protection class	IP 65标准 / standard IP 67可选 / optional
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
最大振幅 / Max. frequency	120 kHz



EN38BB	方形法兰 / With square flange
可用脉冲 / Available pulses	5 ÷ 3,600 ppr
最大旋转速度 / Max. rotating speed	瞬时 / momentary 8,000 rpm 连续 / continuous 6,000 rpm
轴心Ø / Centering Ø	20 mm
安装 / Fixing	4个螺孔Ø 3.2 mm / no. 4 holes Ø 3.2 mm
轴Ø mm / Shaft Ø mm	6 - 8
电源 / Power supply	5 ÷ 28 V ± 5%
防护等级 / Protection class	IP 65标准 / standard IP 67可选 / optional
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
最大振幅 / Max. frequency	120 kHz





旋转编码器

EN413 - EN30

ROTARY ENCODERS

EN413 - EN30

EN413 - 增量式编码器Ø 41.3 mm

EN413 - INCREMENTAL ENCODER Ø 41.3 mm

EN413	Ø 41.3 mm
可用脉冲 / Available pulses	50 ÷ 500 ppr
最大旋转速度 / Max. rotating speed	6,000 rpm
轴心Ø / Centering Ø	20 mm
安装 / Fixing	2个M4螺孔 / no. 2 screws M4
空心轴Ø mm / Hollow shaft Ø	6 mm
电缆输出 / Cable output	径向 / radial
电源 / Power supply	5 V ± 5% 或 / or 12 ÷ 24 V ± 5%
防护等级 / Protection class	IP 40
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
最大振幅 / Max. frequency	50 kHz



EN30 - 增量式编码器Ø 30 mm

EN30 - INCREMENTAL ENCODER Ø 30 mm

EN3015	标准定位 / Standard fixing
可用脉冲 / Available pulses	2 ÷ 500 ppr
最大旋转速度 / Max. rotating speed	瞬时 / momentary 8,000 rpm 连续 / continuous 6,000 rpm
轴心 Ø / Centering Ø	15 mm
安装 / Fixing	在180°处配2个M3螺孔 / no. 2 screws M3 at 180°
轴Ø mm / Shaft Ø mm	4 - 5
电源 / Power supply	5 ÷ 28 V ± 5%
防护等级 / Protection class	IP 65 标准 / standard IP 67 可选 / optional
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
最大振幅 / Max. frequency	120 kHz



EN30SC	半空心轴 / Semi-hollow shaft
可用脉冲 / Available pulses	2 ÷ 500 ppr
最大旋转速度 / Max. rotating speed	瞬时 / momentary 8,000 rpm 连续 / continuous 6,000 rpm
安装 / Fixing	在180° 处配2个M3螺孔 / no. 2 screws M3 at 180°
轴Ø mm / Shaft Ø mm	4 - 6
电源 / Power supply	5 ÷ 28 V ± 5%
防护等级 / Protection class	IP 65
输出信号 / Output signals	LINE DRIVER / PUSH-PULL
最大振幅 / Max. frequency	120 kHz





旋转编码器
VN413

ROTARY ENCODERS
VN413

VN413 - 电子手轮，多种法兰
VN413 - ELECTRONIC HANDWHEEL, VARIOUS FLANGES

- 增量式双向编码器，可以手动改变轴位，通常应用于CNC数控操作机器。
Incremental bidirectional encoder which allows to manually vary axis shifting typically on CNC operating machines.
- 每转高达3,600脉冲。
Up to 3,600 pulses per revolution.
- 有绝对式版本，带并行、SSI、CANopen、Profibus-DP接口，分辨率高达17 Bit。
Absolute version available, with Parallel, SSI, CANopen, Profibus-DP interfaces, up to 17 Bit.
- 电缆输出（径向位置）或接线板。
Cable output (in radial position) or terminal board.
- 适用于圆法兰（VN413FT）或方法兰（VN413FQ）。
Available with round flange (VN413FT) or with square flange (VN413FQ).
- 旋钮可选银色或者暗灰色。
Knob available in silver or dark grey color.

VN413FQ	方法兰 / Square flange
分辨率 / Resolution	50 ÷ 3,600 ppr 增量式 / incremental 高达 / up to 17 Bit 绝对式 / absolute
安装 / Fixing	4个TPS M5螺母 / no. 4 screws TPS M5
电缆输出 / Cable output	径向 / radial
连接 / Connection	电缆 - 接线板 / cable - terminal board
电源 / Power supply	从5 V到30 V根据型号 / from 5 V to 30 V based on the model
防护等级 / Protection class	IP 40
增量式输出信号 / Incremental output signals	LINE DRIVER / PUSH-PULL
最大振幅 / Max. frequency	50 kHz



VN413FT	圆法兰 / Round flange
分辨率 / Resolution	50 ÷ 3,600 ppr 增量式 / incremental 高达 / up to 17 Bit 绝对式 / absolute
安装 / Fixing	在120°处配3个M4x10螺母 / no. 3 screws M4x10 at 120°
电缆输出 / Cable output	径向 / radial
连接 / Connection	电缆 - 接线板 / cable - terminal board
电源 / Power supply	从5 V到30 V根据型号 / from 5 V to 30 V based on the model
防护等级 / Protection class	IP 40
增量式输出信号 / Incremental output signals	LINE DRIVER / PUSH-PULL
最大振幅 / Max. frequency	50 kHz





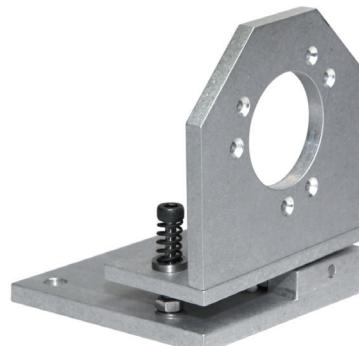
编码器支撑架

ENCODER SUPPORT



- 编码器支撑架可以支撑齿条和齿轮系统。
Encoder support for the realization of a rack and pinion system.
- 可用于任何增量式和绝对式编码器，编码器轴心为Ø 36毫米 (其他尺寸可按需求定制)。
It can be used with any incremental or absolute encoder, with centering Ø 36 mm (other flanges on request).
- 可使用于推按的弹簧系统 (其他需求可按需定制)，具有很高的通用性。
Available with push or pull spring system (selectable by the user), for a high versatility of use.
- 铝合金材质。
Made of aluminium.

SEP	编码器支架 / Encoder support
材料 / Material	铝合金 / aluminium
耦合 / Coupling	弹簧系统确保 / guaranteed by an elastic spring system
最大开 - 合 / Max. opening - closing	4°
适用编码器型号 / To be used with encoder mod.	EN536 - AEN536 - 其他可按需定制 EN536 - AEN536 - others on request
重量 / Weight	300 g





旋转编码器 配件

ROTARY ENCODERS **ACCESSORIES**

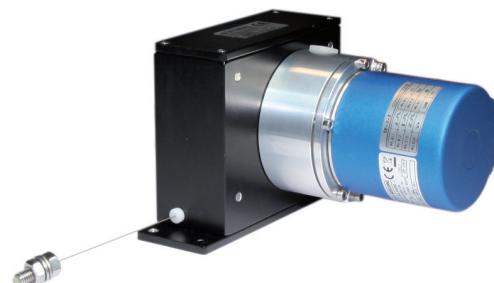
导线系统

WIRE SYSTEMS

WS04

测量长度 / Measuring length 4,000 mm

材质 / Material	铝 / 铜 / 不锈钢 aluminium / brass / stainless steel
电缆 / Cable	不锈钢AISI316 Ø 0.61 mm (结构 19x7+0) stainless steel AISI316 Ø 0.61 mm (structure 19x7+0)
测量长度 / Measuring length	4,000 mm
最大延伸 / Max. extension	4,010 mm
每转测量长度 / Measuring length per turn	200 mm
静张力 / Static tension	最小 / min. 3 N 最大 / max. 8.9 N
最大加速度 / Max. acceleration	35 m/s ² (输出 / output) 10 m/s ² (复原 / recovery)
最大速度 / Max. speed	1 m/s
防护等级 / Protection class	IP 51



WS08

测量长度 / Measuring length 8,000 mm

材质 / Material	铝 / 铜 / 不锈钢 aluminium / brass / stainless steel
电缆 / Cable	不锈钢AISI316 Ø 0.61 mm (结构 19x7+0) stainless steel AISI316 Ø 0.61 mm (structure 19x7+0)
测量长度 / Measuring length	8,000 mm
最大延伸 / Max. extension	8,010 mm
每转测量长度 / Measuring length per turn	250 mm
静张力 / Static tension	最小 / min. 6 N 最大 / max. 13 N
最大加速度 / Max. acceleration	30 m/s ² (输出 / output) 12 m/s ² (复原 / recovery)
最大速度 / Max. speed	0.75 m/s
防护等级 / Protection class	IP 51



WS10

测量长度 / Measuring length 10,000 mm

材质 / Material	铝 / 铜 / 不锈钢 aluminium / brass / stainless steel
电缆 / Cable	不锈钢AISI316 Ø 0.61 mm (结构 19x7+0) stainless steel AISI316 Ø 0.61 mm (structure 19x7+0)
测量长度 / Measuring length	10,000 mm
最大延伸 / Max. extension	10,010 mm
每转测量长度 / Measuring length per turn	300 mm
静张力 / Static tension	最小 / min. 6 N 最大 / max. 13 N
最大加速度 / Max. acceleration	25 m/s ² (输出 / output) 12 m/s ² (复原 / recovery)
最大速度 / Max. speed	0.75 m/s
防护等级 / Protection class	IP 51





旋转编码器 配件

ROTARY ENCODERS **ACCESSORIES**

轴 - 编码器联轴器

SHAFT-ENCODER COUPLINGS

型号1 / HELI - CAL



联轴器 / Coupling

尺寸 / Dimensions (D x L)	孔直径 / Hole diameter (d1 0 ÷ 0.05)	安装 / Fixing	最大扭矩 / Max. Torque
20x20 mm	6 mm	配4个M3螺丝钉 / no. 4 screws M3	1.1 Nm
20x20 mm	8 mm	配4个M3螺丝钉 / no. 4 screws M3	1.0 Nm
25x24 mm	6 mm	配4个M4螺丝钉 / no. 4 screws M4	2.9 Nm
25x24 mm	8 mm	配4个M4螺丝钉 / no. 4 screws M4	2.6 Nm
25x24 mm	9.52 mm	配4个M4螺丝钉 / no. 4 screws M4	2.2 Nm
25x24 mm	10 mm	配4个M4螺丝钉 / no. 4 screws M4	2.2 Nm

型号2 / SPRING



联轴器 / Coupling

尺寸 / Dimensions (D x L)	孔直径 / Hole diameter (d1 0 ÷ 0.05)	安装 / Fixing	最大扭矩 / Max. Torque
16x35 mm	6 - 8 - 10 mm	配2个M4螺丝钉 / no. 2 screws M4	1.0 Nm

型号3 / CTFX



联轴器 / Coupling

尺寸 / Dimensions (D x L)	孔直径 / Hole diameter (d1 0 ÷ 0.05)	安装 / Fixing	最大扭矩 / Max. Torque
19x26 mm	6 - 8 - 10 mm	配2个M4螺丝钉 / no. 2 screws M4	1.4 Nm

型号4 / PGFX



联轴器 / Coupling

尺寸 / Dimensions (D x L)	孔直径 / Hole diameter (d1 0 ÷ 0.05)	轮毂直径 / Hub diameter (d)	安装 / Fixing	最大扭矩 / Max. Torque
26x28 mm	6 - 8 mm	18 mm	配2个M3螺丝钉 / no. 2 screws M3	0.3 Nm
48x48 mm	10 - 12 mm	25 mm	配2个M4螺丝钉 / no. 2 screws M4	1.3 Nm

型号5 / OLDHAM



联轴器 / Coupling

尺寸 / Dimensions (D x L)	孔直径 / Hole diameter (d1 0 ÷ 0.05)	安装 / Fixing	最大扭矩 / Max. Torque
25.4x29 mm	6 - 8 - 10 mm	配4个M4螺丝钉 / no. 4 screws M4	1.0 Nm



旋转编码器 配件

ROTARY ENCODERS **ACCESSORIES**

公制轮

METRIC WHEELS

SV200	周长 / Circumference 200 mm
轮周长 / Wheel circumference	200 mm
重量 / Weight	320 + 100 g
轮材料 / Wheel material	铝合金 / aluminium
保护壳材料 / Cover material	平滑或者滚花橡胶 / smooth or knurled rubber
配件 / Accessories	支撑架 / supporting arm (适配编码器型号 / for encoder mod. EN536, AEN536)



SV500	周长 / Circumference 500 mm
轮周长 / Wheel circumference	500 mm
重量 / Weight	320 + 280 g
轮材料 / Wheel material	铝合金 / aluminium
保护壳材料 / Cover material	平滑或者滚花橡胶 / smooth or knurled rubber
配件 / Accessories	支撑架 / supporting arm (适配编码器型号 / for encoder mod. EN536, AEN536)



SV200H	周长 / Circumference 200 mm
轮周长 / Wheel circumference	200 mm
重量 / Weight	135 g
轮材料 / Wheel material	合成树脂 / synthetic
保护壳材料 / Cover material	平滑或者滚花弹性材料 / smooth or knurled Hytrel
配件 / Accessories	支撑架 / supporting arm (适配编码器型号 / for encoder mod. EN536, AEN536)



SV500H	周长 / Circumference 500 mm
轮周长 / Wheel circumference	500 mm
重量 / Weight	260 g
轮材料 / Wheel material	合成树脂 / synthetic
保护壳材料 / Cover material	平滑或者滚花弹性材料 / smooth or knurled Hytrel
配件 / Accessories	支撑架 / supporting arm (适配编码器型号 / for encoder mod. EN536, AEN536)



数显表

DIGITAL READOUTS

NEW
ABSOLUTE WARNING
SYSTEM
绝对报警系统



型号 / MODELS

VI518

VI700

VI900

**配件 /
ACCESSORIES**



数显表

VI518

DIGITAL READOUTS

VI518

VI518 - 单轴数显表，8位数字符显示

VI518 - SINGLE-AXIS DIGITAL READOUT, WITH 8-DIGIT DISPLAY



- 紧凑的设计，单轴数显表，可用于绝对式和增量式系统。
Compact-design, single-axis digital readout, for absolute and incremental systems.
- VI518数显表内部安装有最新型的**绝对警报系统(AWS)**，AWS可持续保证位置显示的准确度并及时通知操作者任何故障。使用者可以持续进行加工，或者基于错误信息提示进行干预并恢复正确的系统功能。
*VI518 digital readout is equipped with the new **Absolute Warning System (AWS)**. AWS constantly guarantees the correctness of the displayed positions and informs the operator of any malfunctioning. The user can continue machining or, based on the error message displayed, intervene to restore the proper functioning of the system.*
- 适用于多种机器刀具，例如那些应用于切割或加工时需要预先设定尺寸、抛光、弯曲、研磨或拉直的机器。同时也适用于多种工业领域，例如木材、钢材、大理石、橡胶、纺织品和自动化等诸多领域。
Suitable for several machine tools, such as those performing cutting or machining at a preset size, polishing, bending, grinding or straightening. Applicable on various industries, such as wood, sheet metal, marble, rubber, textile and automation.
- 绝对式 (SSI协议) 或增量式编码器输出信号。绝对式信号RS-422 : Clock+, Clock-, Data+, Data- 。
Absolute (SSI protocol) or incremental encoder input signals. Absolute signals RS-422: Clock+, Clock-, Data+, Data-.
- 显示数字高达8位，包括十进制小数和负号。
Up to 8 digits displayed, including floating decimal point and negative sign.
- 设备诊断。内部可重写记忆。位置的传输使用串行输出信号RS-232。
Device diagnostic. Internal rewritable memory. Serial output RS-232, for the transmission of positions.
- 校正系数、角度阅读、可编程继电器输出以及其他许多功能可用。
Correction factor, angular reading, programmable relay outputs and many other functions available.
- 分辨率高达0.5微米。有仪表盘安装版本。
Resolutions up to 0.5 µm. Panel mountable version available.



数显表 VI518

DIGITAL READOUTS
VI518

VI518	标准版本 / Standard version
显示器 / Display	8 位高效数字 h = 13 mm 8 high-efficiency digits h = 13 mm
增量式编码器信号输入 / Incremental encoder input signals	2 段方波，带 $90^\circ \pm 5^\circ$ 相位移和零参考索引 / 2 square waves with phase displacement of $90^\circ \pm 5^\circ$ and zero ref. 5 Vdc 或 / or 12 Vdc
电源 / Power supply	230 Vac $\pm 10\%$ - 50/60 Hz 40 mA 110 Vac $\pm 10\%$ - 60 Hz 80 mA 24 Vac $\pm 10\%$ - 50/60 Hz 350 mA
内存 / Memory	永久性的储存配置和用户设定。(最后操作数据记忆) permanent for configuration and user settings (last data operating memory)
可用分辨率 / Available resolutions	200 - 100 - 50 - 20 - 10 - 5 - 2 - 1 - 0.5 μm 1° - 0.5° - 0.2° - 0.1° - 0.05° - 0.02° - 0.01° - 0.005° - 0.002° - 0.001°



VI518	可选版本 / Version with options
显示器 / Display	8 位高效数字 h = 13 mm 8 high-efficiency digits h = 13 mm
增量编码器信号输入 / Incremental encoder input signals	2 段方波，带 $90^\circ \pm 5^\circ$ 相位移和零参考索引 / 2 square waves with phase displacement of $90^\circ \pm 5^\circ$ and zero ref. 5 Vdc 或 / or 12 Vdc
绝对式编码器信号输入 (SSI) Absolute encoder input signals (SSI)	RS-422: Clock+, Clock-, Data+, Data-
电源 / Power supply	230 Vac $\pm 10\%$ - 50/60 Hz 40 mA 110 Vac $\pm 10\%$ - 60 Hz 80 mA 24 Vac $\pm 10\%$ - 50/60 Hz 350 mA
内存 / Memory	永久性的储存配置和用户设定。(最后操作数据记忆) permanent for configuration and user settings (last data operating memory)
可用分辨率 / Available resolutions	200 - 100 - 50 - 20 - 10 - 5 - 2 - 1 - 0.5 μm 1° - 0.5° - 0.2° - 0.1° - 0.05° - 0.02° - 0.01° - 0.005° - 0.002° - 0.001°
可选 / Options	串行输出 RS-232 / serial output RS-232 继电器输出 / relay outputs 静态继电器 AC - 静态继电器 DC / static relays AC - static relays DC 绝对式编码器输入 (SSI 协议) / absolute (SSI) encoder input



主要功能 / MAIN FUNCTIONS:

- 自检测
SELF-TESTING
- 荷载位置预设
LOAD POSITION PRESET
- 位置预设/重设
POSITION RESET/PRESET
- 绝对式/增量式计数
ABSOLUTE/INCREMENTAL COUNTING
- 可调分辨率
VARIABLE RESOLUTION
- 半径/直径转换
RADIUS/DIAMETER CONVERSION
- 毫米/英寸转换
MM/INCH CONVERSION
- 测量尺零参考索引 (REF)
SCALE ZERO REFERENCE (REF)
- 禁用零参考索引
DISABLING SCALE ZERO REFERENCE
- 计数模式 (x1, x2, x4)
COUNTING MODE (x1, x2, x4)
- 计数方向倒置
INVERSION OF COUNTING DIRECTION
- 中点计算
MIDPOINT CALCULATION
- 设置SSI参数
SETTING SSI PARAMETERS
- 清除内存
MEMORY CLEARING
- 线性修正
LINEAR CORRECTION
- 角度阅读
ANGULAR READING
- 六十进制角度阅读
SEXAGESIMAL DEGREES READING
- 继电式输出激活(可选)
RELAY OUTPUTS ACTIVATION (opt.)
- 继电输出定时设置 (可选)
SETTING TIMED RELAY OUTPUTS (opt.)
- 干预位置设置 (可选)
SETTING INTERVENTION POSITIONS (opt.)
- 串行输出 RS-232 (可选)
SERIAL OUTPUT RS-232 (opt.)
- 启用位置自动传输
ENABLING THE AUTOMATIC TRANSMISSION OF POSITIONS

可按要求提供技术数据表

Technical datasheets available on request



VI700 - 复合轴数显表，有LED显示 VI700 - MULTI-AXIS DIGITAL READOUT, WITH LED DISPLAY

- 紧凑设计，多功能时尚的数显表。适用于多种机型的通用软件。
Compact-design, modern and functional digital readout. Universal software for any kind of machine tool.
- 数显表和光栅尺诊断。可读取编码距离式参考索引。
Diagnostic of readout and optical scales. Reading of coded reference indexes.
- 分辨率高达0.5 微米。1,000个内存区。
Resolutions up to 0.5 µm. 1,000 memory blocks.
- 简单快速应用一系列专用功能。软件通过串行接口升级。
Easy and immediate use of several dedicated functions. Software upgrade through serial port.
- 选择：嵌装版本（在仪表盘上）。
Option: flush-mounted version (on a panel).

主要功能 / MAIN FUNCTIONS:

- | | | |
|---|--|---|
| • 自检测
<i>SELF-TESTING</i> | • 100轴原点
<i>100 ORIGINS OF THE AXES</i> | • 毫米/英寸转换
<i>MM/INCH CONVERSION</i> |
| • 记忆模块编程
<i>MEMORY BLOCKS PROGRAMMING</i> | • 100 刀具补偿
<i>100 TOOL OFFSETS</i> | • 测量尺零参考索引 (REF)
<i>SCALE ZERO REFERENCE (REF)</i> |
| • 绝对式/增量式计数
<i>ABS/INC COUNTING</i> | • 计数方向倒置
<i>COUNTING DIRECTION INVERSION</i> | • 中点计算
<i>MIDPOINT CALCULATION</i> |
| • 线性修正
<i>LINEAR CORRECTION</i> | • 恒定步距
<i>CONSTANT PITCH</i> | • 轴耦合
<i>AXIS COUPLING</i> |
| • 非线性修正
<i>NON-LINEAR CORRECTION</i> | • 斜定距
<i>INCLINED CONSTANT PITCH</i> | • W轴显示
<i>W AXIS DISPLAYING</i> |
| • 可调分辨率
<i>VARIABLE RESOLUTION</i> | • 半径/直径转换
<i>RADIUS/DIAMETER CONVERSION</i> | • 特殊功能返回
<i>SPECIAL FUNCTIONS RECALL</i> |
| • 圆周中心
<i>CIRCUMFERENCE CENTER</i> | • 比例系数
<i>SCALE FACTOR</i> | • 串行输出RS-232
<i>SERIAL OUTPUT RS-232</i> |
| • 位置重设/预设
<i>POSITION RESET/PRESET</i> | • 清除内存
<i>MEMORY CLEARING</i> | • 主轴旋转速度类型设定
<i>SETTING THE TYPE OF SPINDLE ROTATION SPEED</i> |
| • 圆法兰
<i>ROUND FLANGE</i> | • 镜像
<i>MIRROR IMAGE</i> | • 设定打印行间距
<i>SETTING PRINTING LINE SPACINGS</i> |
| • 特殊圆法兰
<i>SPECIAL ROUND FLANGE</i> | • 设备诊断
<i>DEVICE DIAGNOSTIC</i> | • 计算器
<i>CALCULATOR</i> |
| • 近零警报
<i>ZERO APPROACHING ALERT</i> | • 角度阅读
<i>ANGULAR READING</i> | • 开关蜂鸣器
<i>BUZZER ON/OFF</i> |
| • 启用位置自动传输
<i>ENABLING THE AUTOMATIC TRANSMISSION OF POSITIONS</i> | • 六十进制角度阅读
<i>SEXAGESIMAL DEGREES READING</i> | |

液态显示屏版本功能 / FUNCTIONS LCD VERSION:

- | | |
|---|---|
| • 语言选择
<i>LANGUAGE SELECTION</i> | • 锥度计算
<i>TAPER CALCULATION</i> |
| • 圆周速度计算
<i>PERIPHERAL SPEED CALCULATION</i> | • 全自动锥度计算
<i>AUTOMATIC TAPER CALCULATION</i> |
| • 角速度计算
<i>ANGULAR SPEED CALCULATION</i> | • 返回原点/刀具显示
<i>RECALLED ORIGINS/TOOLS DISPLAYING</i> |
| • 线程计算
<i>THREADS CALCULATION</i> | • 比例系数显示
<i>SCALE FACTOR DISPLAYING</i> |
| • 物料重量计算
<i>MATERIAL WEIGHT CALCULATION</i> | • 轴速度显示
<i>AXES SPEED DISPLAYING</i> |



数显表 VI700

DIGITAL READOUTS
VI700

VI722 - VI723

2个显示器 / With 2 displays	
显示器 / Display	7位高效数字 h = 17 mm 7 high-efficiency digits h = 17 mm
编码器输入信号 / Encoder input signals	2段方波，带90° ± 5°相位移 + 同步指标 / 2 square waves with phase displacement of 90° ± 5° + synchronized index 5 Vdc
可用分辨率 / Available resolutions	200 - 100 - 50 - 20 - 10 - 5 - 2 - 1 - 0.5 μm 1°-0.5°-0.2°-0.1°-0.05°-0.02°-0.01°-0.005°-0.002°-0.001°
防护等级 / Protection class	键盘 / keyboard IP 67 后面板 / rear panel IP 42
输入轴 / Input axes	2 - 3
应用于 / Applicable to	车床 - 铣床 - 镗床 - 其他 / lathe - milling machine - boring machine - etc.
电源 / Power supply	230 Vac ± 10% - 50/60 Hz 50 mA 110 Vac ± 10% - 60 Hz 100 mA 24 Vac ± 10% - 50/60 Hz 450 mA



VI722L - VI723L

2个LCD显示器 / With 2 displays and LCD	
显示器 / Display	7位高效数字 h = 17 mm 7 high-efficiency digits h = 17 mm
编码器输入信号 / Encoder input signals	2段方波，带90° ± 5°相位移 + 同步指标 / 2 square waves with phase displacement of 90° ± 5° + synchronized index 5 Vdc
可用分辨率 / Available resolutions	200 - 100 - 50 - 20 - 10 - 5 - 2 - 1 - 0.5 μm 1°-0.5°-0.2°-0.1°-0.05°-0.02°-0.01°-0.005°-0.002°-0.001°
防护等级 / Protection class	键盘 / keyboard IP 67 后面板 / rear panel IP 42
输入轴 / Input axes	2 - 3
应用于 / Applicable to	车床 - 铣床 - 镗床 - 其他 / lathe - milling machine - boring machine - etc.
电源 / Power supply	230 Vac ± 10% - 50/60 Hz 50 mA 110 Vac ± 10% - 60 Hz 100 mA 24 Vac ± 10% - 50/60 Hz 450 mA



VI733 - VI734

3个显示器 / With 3 displays	
显示器 / Display	7位高效数字 h = 17 mm 7 high-efficiency digits h = 17 mm
编码器输入信号 / Encoder input signals	2段方波，带90° ± 5°相位移 + 同步指标 / 2 square waves with phase displacement of 90° ± 5° + synchronized index 5 Vdc
可用分辨率 / Available resolutions	200 - 100 - 50 - 20 - 10 - 5 - 2 - 1 - 0.5 μm 1°-0.5°-0.2°-0.1°-0.05°-0.02°-0.01°-0.005°-0.002°-0.001°
防护等级 / Protection class	键盘 / keyboard IP 67 后面板 / rear panel IP 42
输入轴 / Input axes	3 - 4
应用于 / Applicable to	车床 - 铣床 - 镗床 - 其他 / lathe - milling machine - boring machine - etc.
电源 / Power supply	230 Vac ± 10% - 50/60 Hz 50 mA 110 Vac ± 10% - 60 Hz 100 mA 24 Vac ± 10% - 50/60 Hz 450 mA



VI733 L - VI734 L

3个LCD显示器 / With 3 displays and LCD	
显示器 / Display	7位高效数字 h = 17 mm 7 high-efficiency digits h = 17 mm
编码器输入信号 / Encoder input signals	2段方波，带90° ± 5°相位移 + 同步指标 / 2 square waves with phase displacement of 90° ± 5° + synchronized index 5 Vdc
可用分辨率 / Available resolutions	200 - 100 - 50 - 20 - 10 - 5 - 2 - 1 - 0.5 μm 1°-0.5°-0.2°-0.1°-0.05°-0.02°-0.01°-0.005°-0.002°-0.001°
防护等级 / Protection class	键盘 / keyboard IP 67 后面板 / rear panel IP 42
输入轴 / Input axes	3 - 4
应用于 / Applicable to	车床 - 铣床 - 镗床 - 其他 / lathe - milling machine - boring machine - etc.
电源 / Power supply	230 Vac ± 10% - 50/60 Hz 50 mA 110 Vac ± 10% - 60 Hz 100 mA 24 Vac ± 10% - 50/60 Hz 450 mA





数显表
VI900

DIGITAL READOUTS

VI900

VI900 - 复合轴数显表，带有触摸式彩色液晶屏
VI900 - MULTI-AXIS DIGITAL READOUT, WITH TOUCH-SCREEN COLOR LCD



- 紧凑型设计，时尚多功能性数显表，适用于绝对式和增量式系统。
Compact-design, modern and functional digital readout, for absolute and incremental systems.
- VI900数显表安装有新型绝对警报系统(AWS)，AWS系统可持续的保证位置显示的准确度并及时通知操作者任何故障。使用者可以持续进行加工，或者基于错误信息提示进行干预并恢复正确的系统功能。
VI900 digital readout is equipped with the new Absolute Warning System (AWS). AWS constantly guarantees the correctness of the displayed positions and informs the operator of any malfunctioning. The user can continue machining or, based on the error message displayed, intervene to restore the proper functioning of the system.
- 绝对式串行协议或者增量式编码器输出信号。绝对式信号RS-422: Clock+, Clock-, Data+, Data-。
Absolute (SSI protocol) or incremental encoder input signals. Absolute signals RS-422: Clock+, Clock-, Data+, Data-.
- 5.7英寸彩色触摸屏，背光液晶板，LCD TFT面板可允许高达4轴显示。
5.7" touch-screen color, LED-backlit, LCD TFT panel which allows the displaying of up to 4 axes.
- USB, 接触探头，CAN bus和一系列RS-232接口。
USB, Touch Probe, CAN bus and serial RS-232 interfaces.
- 简单快速应用一系列专用功能。联机帮助。函数执行的图形可视化。
Easy and immediate use of several dedicated functions. Online HELP. Graphic visualization of function execution.
- 数显表和编码器检测。可读取编码距离式参考索引。
Diagnostic of readout and encoders. Reading of coded reference indexes.
- 适用于多种刀具的通用软件，通过串行接口升级。1,000个内存储区。
Universal software for any kind of machine tool; updates through serial port. 1,000 memory blocks.
- 分辨率高达0.1微米。可选择:嵌装版本 (在仪表盘上)。
Resolutions up to 0.1 µm. Option: flush-mounted version (on a panel).
- 可实现与数字连接 (高达8位继电器输出) 或模拟 (恒定表面速度) 遥控板连接。
Possibility of connection to a digital (up to 8 relay outputs) or analog (constant surface speed) remote board.



数显表 VI900

DIGITAL READOUTS
VI900

VI900	触碰式彩色液态显示器 / Touch-screen color LCD display
显示器 / Display	5.7英寸彩色触摸屏，背光液晶板 / 5.7" color, back-lit LCD TFT
增量式编码器信号输入 / Incremental encoder input signals	2段方波， $90^\circ \pm 5^\circ$ 相位移+ 同步指标 / 2 square waves with phase displacement of $90^\circ \pm 5^\circ$ + synchronized index 5 Vdc
绝对编码器信号输入 (SSI) / Absolute encoder input signals (SSI)	RS-422: Clock+, Clock-, Data+, Data-
可用分辨率 / Available resolutions	1.000-500-200-100-50-20-10-5-2-1-0.5-0.2-0.1 μ m 1°-0.5°-0.2°-0.1°-0.05°-0.02°-0.01°-0.005°-0.002°-0.001°
防护等级 / Protection class	IP 40 IP 54可提供塑料外壳 / with plastic cover provided
输入轴 / Input axes	2 - 3 - 4
应用于 / Applicable to	车床 - 铣床 - 镗床 - 其他 / lathe - milling machine - boring machine - etc.
电源 / Power supply	230 Vac $\pm 10\%$ - 50/60 Hz 60 mA 110 Vac $\pm 10\%$ - 60 Hz 120 mA 24 Vac $\pm 10\%$ - 50/60 Hz 500 mA
版本 / Version	标准或嵌装 / standard or flush-mounted
可选 / Options	CAN 接口 / CAN interface



RB900 I/O	数字遥控板 - 高达8位继电器输出 / Digital remote board - Up to 8 relay outputs
电压从 VI900 / Power supply from VI900	5 Vdc $\pm 10\%$
外部电源(PWS) / External power supply (PWS)	12 - 24 Vac $\pm 10\%$ - 50/60 Hz 12 - 24 Vdc $\pm 10\%$
电压 / Power	1.5 W _{MAX}
电流 / Current consumption	240 mA _{MAX} (5 Vdc 从 / from VI900) 60 mA _{MAX} (24 Vdc 从外部电源 PWS) / (24 Vdc from external power supply PWS)
输入 / Inputs	V _{IN,HIGH} = 4.5 ÷ 30 Vdc V _{IN,LOW} = 0 ÷ 2 Vdc t _{MIN} = 100 ms 光隔离和独立 / optoisolated and independent
数字输出 / Digital outputs	静态 N.O. 继电器触点 / static N.O. relay contacts, 60 Vac/dc _{MAX} , 0.6 A _{MAX} , 0.36 W _{MAX} 防御超负荷和过量电流 / protected against overload and overcurrent
连接 / Connections	D-SUB 15p M (COM1) 接线盒 / terminal block 3p M (外部电源 PWS) / (external power supply PWS) 接线盒 / terminal block 12p M (input/output)
防护等级 / Protection class	IP 20



RB900CSS	模拟远程板 - 恒定表面速度 / Analog remote board - Constant surface speed
电压从 VI900 / Power supply from VI900	5 Vdc $\pm 10\%$
外部电源(PWS) / External power supply (PWS)	12 - 24 Vac $\pm 10\%$ - 50/60 Hz 12 - 24 Vdc $\pm 10\%$
电压 / Power	1.5 W _{MAX}
电流 / Current consumption	240 mA _{MAX} (5 Vdc 从 / from VI900) 60 mA _{MAX} (24 Vdc 从外部电源 PWS) / (24 Vdc from external power supply PWS)
模拟输出 / Analog output	0 - 10 Vdc
连接 / Connections	D-SUB 15p M (COM1) 接线盒 / terminal block 3p M (外部电源 PWS) / (external power supply PWS) 接线盒 / terminal block 12p M (input/output)
防护等级 / Protection class	IP 20





数显表 VI900

DIGITAL READOUTS
VI900

主要功能 / MAIN FUNCTIONS:

- 语言选择
LANGUAGE SELECTION
- 自检测
SELF-TESTING
- 设备诊断
DEVICE DIAGNOSTIC
- 计数方向倒置
INVERSION OF COUNTING DIRECTION
- 绝对式/增量式计数
ABSOLUTE/INCREMENTAL COUNTING
- 毫米/英寸转换
MM/INCH CONVERSION
- 半径/直径转换
RADIUS/DIAMETER CONVERSION
- 可调分辨率
VARIABLE RESOLUTION
- 测量尺零参考索引 (REF)
SCALE ZERO REFERENCE (REF)
- 清除内存
MEMORY CLEARING
- 位置重置/预设
POSITION RESET/PRESET
- 角度阅读
ANGULAR READING
- 六十进制角度阅读
SEXAGESIMAL DEGREES READING
- 计算器
CALCULATOR
- 秒表
STOPWATCH
- 轴耦合
AXIS COUPLING
- 特殊功能召回
SPECIAL FUNCTIONS RECALL
- 100刀具补偿
100 TOOL OFFSETS
- 100轴原点
100 ORIGINS OF THE AXES
- 主轴旋转速度类型设定
SETTING THE TYPE OF SPINDLE ROTATION SPEED
- 恒定步距
CONSTANT PITCH
- 斜定距
INCLINED CONSTANT PITCH
- 近零警报
ZERO APPROACHING ALERT
- 开关机蜂鸣器
BUZZER ON/OFF
- 联机帮助
ONLINE HELP
- 线性修正
LINEAR CORRECTION
- 非线性修正
NON-LINEAR CORRECTION
- 比例系数
SCALE FACTOR
- 圆周中心
CIRCUMFERENCE CENTER
- 中点计算
MIDPOINT CALCULATION
- 镜像
MIRROR IMAGE
- 圆法兰
ROUND FLANGE
- 特殊圆法兰
SPECIAL ROUND FLANGE
- 记忆模块编程
PROGRAMMING THE MEMORY BLOCKS
- 锥度计算
TAPER CALCULATION
- 自动锥度计算
AUTOMATIC TAPER CALCULATION
- 线程计算
THREADS CALCULATION
- 物料重量计算
MATERIAL WEIGHT CALCULATION
- 圆周速度计算
PERIPHERAL SPEED CALCULATION
- 角速度计算
ANGULAR SPEED CALCULATION
- 比例系数显示
SCALE FACTOR DISPLAYING
- 轴速度显示
AXES SPEED DISPLAYING
- 原点返回/刀具显示
RECALLED ORIGINS/TOOLS DISPLAYING
- 串行输出RS-232
SERIAL OUTPUT RS-232
- 设定打印行间距
SETTING PRINTING LINE SPACINGS
- 启用位置自动传输
ENABLING THE AUTOMATIC TRANSMISSION OF POSITIONS
- 轴显示配置
AXES DISPLAY CONFIGURATION
- SSI参数配置
SSI PARAMETERS CONFIGURATION
- 接触式探针
TOUCH PROBE
- RB900配置
RB900 CONFIGURATION

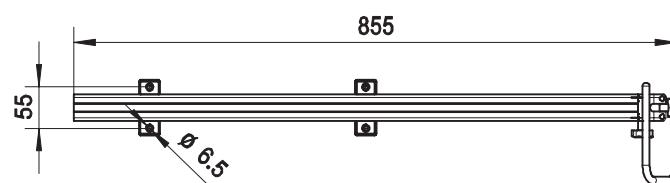
支撑臂

SUPPORTING ARMS

型号1 / MOD. 1



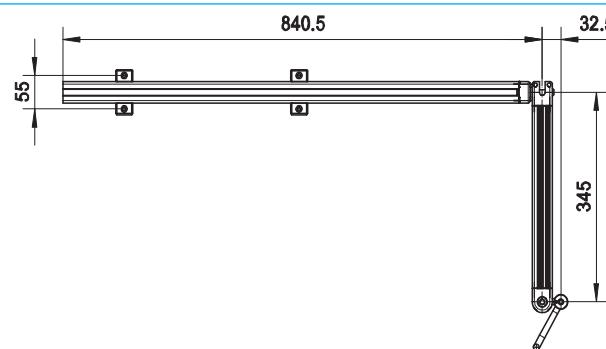
垂直定位 / Vertical fixing



型号2 / MOD. 2



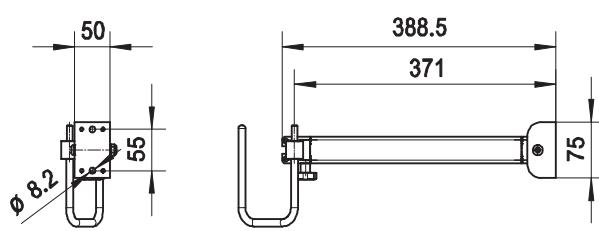
单铰链臂垂直定位 / Vertical fixing with single hinged arm



型号3 / MOD. 3



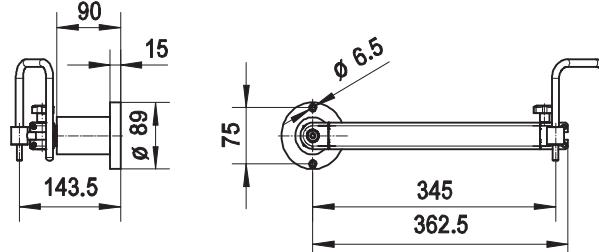
单铰链臂墙面定位 / Wall fixing with single hinged arm



型号4 / MOD. 4

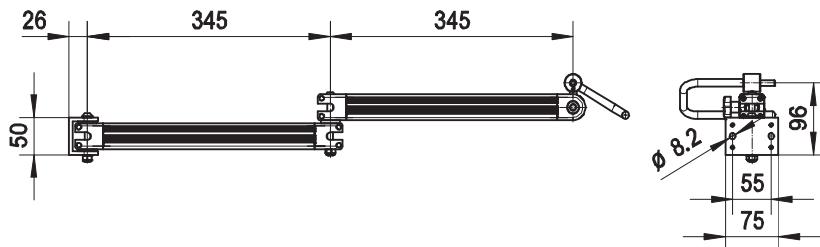


单铰链臂表面定位 / Surface fixing with single hinged arm



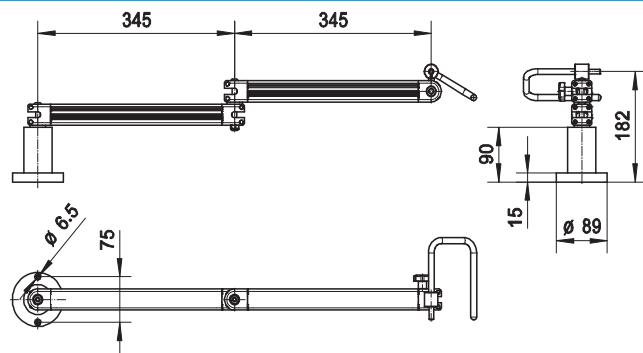
型号5 / MOD. 5

双重铰链臂墙面定位 / Wall fixing with double hinged arm



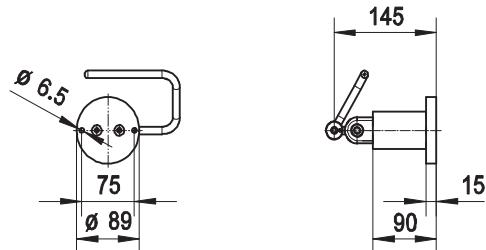
型号6 / MOD. 6

双重铰链臂表面定位 / Surface fixing with double hinged arm



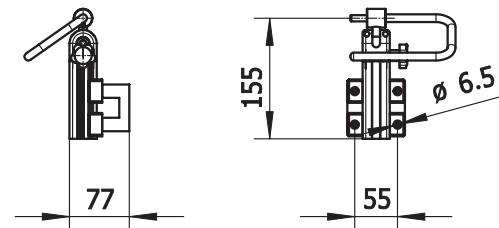
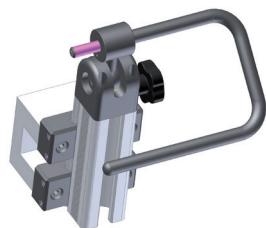
型号7 / MOD. 7

表面定位 / Surface fixing



型号ARGO / MOD. ARGO

圆杆上的垂直定位 Ø 25 mm / Vertical fixing on round bar Ø 25 mm





位置控制器

POSITION CONTROLLERS



型号 / MODELS

THESI 310

THESI 320



位置控制器

THESI 310

POSITION CONTROLLERS

THESI 310

THESI 310 - 单轴位置控制器

THESI 310 - SINGLE-AXIS POSITION CONTROLLER



- THESI 310系列位置控制器可以控制位移，一轴定位，3种不同操作模式:
THESI 310 position controller can control shifting and positioning of one axis in 3 different operating modes:
 - 手动，靠键盘 / MANUAL, by keyboard;
 - 半自动, 靠键盘 / SEMI-AUTOMATIC, by keyboard;
 - 全自动, 依靠记忆程序 / AUTOMATIC, on the basis of a memorized program.
- 可存储最多99种程序，每种程序有20个位置。高达99次的重复可与每个位置相匹配（程序周期由位置和各自的重复构成）。
Possibility of storing up to 99 PROGRAMS with 20 positions each. Up to 99 repetitions can be matched to each position (the program cycle is composed by the position and its respective repetitions).
- 90 Vac到230 Vac电源, 或者24 Vac带选择器的电源。
90 Vac to 230 Vac power supply or 24 Vac power supply with selector.
- 用16位微控制器制造，在单片模式中具有256K FLASH和8K RAM存储器记忆。
Manufactured with 16 bit microcontroller, 256K FLASH and 8K RAM memory in single-chip mode.
- 光隔离输入: 开始, 停止, 增加周期, 偏差, 重置。
Optoisolated inputs: START, STOP, INCREASE CYCLE, DEVIATION, PRESET.
- 无电压接触输出:
能够控制互锁, OK位置, 前进/后退, 慢/快。
Voltage-free contact outputs:
ENABLING WITH CONTROL INTERLOCK, OK POSITION, FEED / BACK, SLOW / FAST.
- ± 10 Vdc模拟输出: 前进 / 后退, 慢 / 快, 带线性倾斜。
± 10 Vdc analog output: FEED / BACK, SLOW / FAST, with linear ramp.
- 可安装在工作台上或嵌入内部。
Possibility of installation on bench or built in.



位置控制器 THESI 310

POSITION CONTROLLERS THESI 310

THESI 310 DI

继电器输出(数字的) / With relay outputs (digital)

显示器 / Display

位置 / POSITION:
6位高效数字 $h = 13 \text{ mm}$ 和负号 /
6 high-efficiency digits $h = 13 \text{ mm}$ and negative sign
周期 - 程序 / CYCLES - PROGRAMS:
2+2 高效数字 $h = 9 \text{ mm}$ /
2+2 high-efficiency digits $h = 9 \text{ mm}$

编码器输入信号 /
Encoder input signals

2段方波，带 $90^\circ \pm 10^\circ$ 相位移和零参考索引 /
2 square waves with phase displacement of $90^\circ \pm 10^\circ$ and zero ref.

轴输入频率 /
Axis input frequency

20 kHz_{MAX}

线性分辨率 / Linear resolution

200 - 100 - 50 - 20 - 10 - 5 - 2 - 1 μm

防护等级 / Protection class

键盘 / keyboard IP 65 后面板 / rear panel IP 40

电压 / Power

10 W_{MAX}

电源 / Power supply

90到230 Vac $\pm 10\%$ - 50/60 Hz
90 to 230 Vac $\pm 10\%$ - 50/60 Hz
24 Vac $\pm 10\%$ - 50/60 Hz

数字输出 / Digital outputs

N.O. 继电器触点 / N.O. relay contacts

输入 / Inputs

光学隔离的 / optoisolated

连接 / Connections

可移动接线盒 / by removable terminal block

尺寸 / Dimensions

前面板 / front panel: 144x72 mm

深度 / depth: 126 mm



THESI 310 AN

带模拟量输出 / With analog output

显示器 / Display

位置 / POSITION:
6位高效数字 $h = 13 \text{ mm}$ 和负号 /
6 high-efficiency digits $h = 13 \text{ mm}$ and negative sign
周期 - 程序 / CYCLES - PROGRAMS:
2+2 高效数字 $h = 9 \text{ mm}$ /
2+2 high-efficiency digits $h = 9 \text{ mm}$

编码器输入信号 /
Encoder input signals

2段方波，带 $90^\circ \pm 10^\circ$ 相位移和零参考索引 /
2 square waves with phase displacement of $90^\circ \pm 10^\circ$ and zero ref.

轴输入频率 /
Axis input frequency

20 kHz_{MAX}

线性分辨率 / Linear resolution

200 - 100 - 50 - 20 - 10 - 5 - 2 - 1 μm

防护等级 / Protection class

键盘 / keyboard IP 65 后面板 / rear panel IP 40

电压 / Power

10 W_{MAX}

电源 / Power supply

90到230 Vac $\pm 10\%$ - 50/60 Hz
90 to 230 Vac $\pm 10\%$ - 50/60 Hz
24 Vac $\pm 10\%$ - 50/60 Hz

模拟输出 / Analog output

$\pm 10 \text{ Vdc}$ 光学隔离的 / optoisolated

输入 / Inputs

光学隔离的 / optoisolated

连接 / Connections

可移动接线盒 / by removable terminal block

尺寸 / Dimensions

前面板 / front panel: 144x72 mm

深度 / depth: 126 mm





位置控制器

THESI 320

POSITION CONTROLLERS

THESI 320

THESI 320 - 双轴位置控制器

THESI 320 - TWO-AXIS POSITION CONTROLLER



- THESI 320系列位置控制器能控制位移，两轴定位，3种操作模式：
THESI 320 position controller can control shifting and positioning of two axes in 3 different operating modes:
 - 手动，靠键盘 / *MANUAL, by keyboard;*
 - 半自动, 靠键盘 / *SEMI-AUTOMATIC, by keyboard;*
 - 全自动, 依靠记忆程序 / *AUTOMATIC, on the basis of a memorized program.*
- 程序结束输出。
End of program output.
- 用于配置和参数的独立轴，3种常规辅助输入。
Independent axes as for configurations and parameters. 3 generic auxiliary inputs.
- 可存储最多99种程序，每种程序有20个位置。高达99次的重复可与每个位置相匹配（程序周期由位置和各自的重复构成）。
Possibility of storing up to 99 PROGRAMS with 20 positions each. Up to 99 repetitions can be matched to each position (the program cycle is composed by the position and its respective repetitions).
- 90 Vac到230 Vac电源, 或者24 Vac带选择器的电源。
90 Vac to 230 Vac power supply or 24 Vac power supply with selector.
- 用16位微控制器制造，在单片模式中具有256K FLASH和8K RAM存储器记忆。
Manufactured with 16 bit microcontroller, 256K FLASH and 8K RAM memory in single-chip mode.
- 光隔离输入: 开始, 停止, 增加周期, 偏差, 重置。
Optoisolated inputs: START, STOP, INCREASE CYCLE, DEVIATION, PRESET.
- 无电压接触输出: 能够控制互锁, OK位置, 前进/后退, 慢/快。
Voltage-free contact outputs: ENABLING WITH CONTROL INTERLOCK, OK POSITION, FEED / BACK, SLOW / FAST.
- ± 10 Vdc模拟输出: 前进 / 后退, 慢 / 快, 带线性倾斜。
± 10 Vdc analog outputs: FEED / BACK, SLOW / FAST, with linear ramp.
- 安装在工作台上或嵌入内部。
Possibility of installation on bench or built in.



位置控制器 THESI 320

POSITION CONTROLLERS
THESI 320

THESI 320 DI

继电器输出 (数字的) / With relay outputs (digital)

显示器 / Display

位置 / POSITION:
6位高效数字 $h = 13 \text{ mm}$ 和负号 /
6 high-efficiency digits $h = 13 \text{ mm}$ and negative sign
周期 - 程序 / CYCLES - PROGRAMS:
2+2 高效数字 $h = 13 \text{ mm}$ /
2+2 high-efficiency digits $h = 13 \text{ mm}$

编码器输入信号 /
Encoder input signals

2段方波带 $90^\circ \pm 10^\circ$ 相位移和零参考索引 /
2 square waves with phase displacement of $90^\circ \pm 10^\circ$ and
zero ref.
5 Vdc 或 / or 12 Vdc

轴输入频率 /
Axes input frequency

20 kHz_{MAX}

线性分辨率 / Linear resolution

200 - 100 - 50 - 20 - 10 - 5 - 2 - 1 μm

防护等级 / Protection class

键盘 / keyboard IP 65 后面板 / rear panel IP 40

电压 / Power

10 W_{MAX}

电源 / Power supply

90到230 Vac $\pm 10\%$ - 50/60 Hz
90 to 230 Vac $\pm 10\%$ - 50/60 Hz
24 Vac $\pm 10\%$ - 50/60 Hz

数字输出 / Digital outputs

N.O. 继电器触点 / N.O. relay contacts

输入 / Inputs

光学隔离的 / optoisolated

连接 / Connections

可移动接线盒 / by removable terminal block

尺寸 / Dimensions

前面板 / front panel: 193x100 mm
深度 / depth: 135.5 mm



THESI 320 AN

模拟输出 / With analog outputs

显示器 / Display

位置 / POSITION:
6位高效数字 $h = 13 \text{ mm}$ 和负号 /
6 high-efficiency digits $h = 13 \text{ mm}$ and negative sign
周期 - 程序 / CYCLES - PROGRAMS:
2+2 高效数字 $h = 13 \text{ mm}$ /
2+2 high-efficiency digits $h = 13 \text{ mm}$

编码器输入信号 /
Encoder input signals

2段方波带 $90^\circ \pm 10^\circ$ 相位移 和零参考索引 /
2 square waves with phase displacement of $90^\circ \pm 10^\circ$ and
zero ref.
5 Vdc 或 / or 12 Vdc

轴输入频率 /
Axes input frequency

20 kHz_{MAX}

线性分辨率 / Linear resolution

200 - 100 - 50 - 20 - 10 - 5 - 2 - 1 μm

防护等级 / Protection class

键盘 / keyboard IP 65 后面板 / rear panel IP 40

电压 / Power

10 W_{MAX}

电源 / Power supply

90到230 Vac $\pm 10\%$ - 50/60 Hz
90 to 230 Vac $\pm 10\%$ - 50/60 Hz
24 Vac $\pm 10\%$ - 50/60 Hz

模拟输出 / Analog output

$\pm 10 \text{ Vdc}$ 光学隔离的 / optoisolated

输入 / Inputs

光学隔离的 / optoisolated

连接 / Connections

可移动接线盒 / by removable terminal block

尺寸 / Dimensions

前面板 / front panel: 193x100 mm
深度 / depth: 135.5 mm



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Measuring and control systems



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