



磁感应编码器 – 我们为您提供解决方案
精密、坚固、可靠



Magnetic sensors
precise, robust, reliable



VS Sensorik - A visionary technology company

As a company based on magnetic theory for product development, we provide our customers with precision measurement sensors for high performance requirements - a concept that Germany's VS Sensorik has been doing since its inception in 1993.

VS Sensorik company under the German measurement, standard technology enterprise alliance, with many years of technology and experience in many industrial applications we have the world's leading products and technologies.

Our headquarters is located in the northern German city of Bielefeld, the company develops and manufactures sensors for a variety of applications for accurate measurement of position, angle, speed and other technical parameters.

VS Sensorik products over the years by different customers around the world of all ages, our product advantages are: the localization of the German precision design and manufacturing, through rigorous production process management, product technology innovation, our customers to the technical requirements can be made Rapid response, and continue to optimize the product to improve, making it more suitable for high demand for the application environment.

The company's growth and development is based on our advanced sensor technology to master and continue to use the customer product feedback to carry out research and development improvements.

To ensure first-class product quality is always our relentless pursuit. Whether it is a standard product or customized products according to customer requirements, whether it is a small sample development or a series of standardized production, by virtue of our high-quality production R & D team can provide customers with high quality and stability of products and services.

VS Sensorik – 一家充满愿景的技术型公司

作为一家基于磁理论进行产品生产研发的公司，我们为客户提供用于高性能要求的精密测量传感器 – 这是德国 VS Sensorik 公司自上世纪 1993 年成立以来一直坚持不懈的理念。

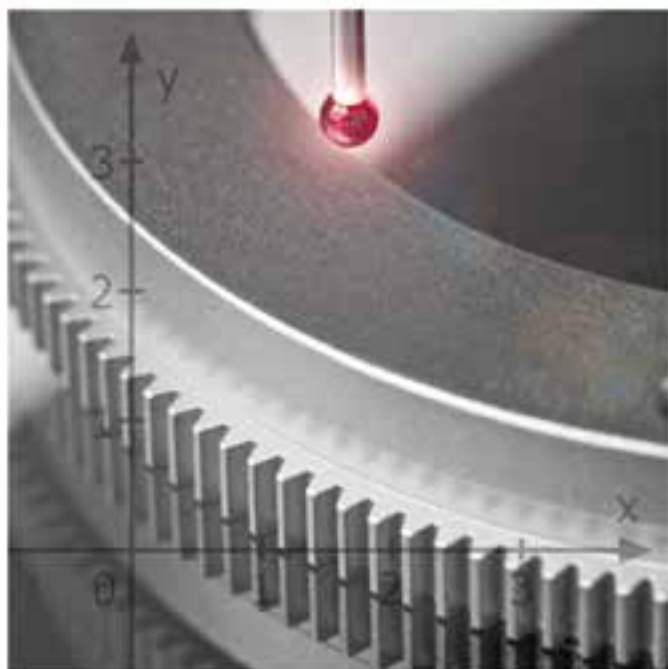
VS Sensorik 公司隶属于德国测量、规范技术企业联盟，凭借多年的技术和经验，在众多工业应用领域我们拥有世界领先的产品及技术。

我们的总部位于德国北部城市 Bielefeld，公司开发和生产各种不同应用的传感器，用于对位置，角度，速度等技术参数的精确测量。

VS Sensorik 的产品多年来得到世界各地不同客户的青睐，我们的产品优势在于：德国本土化的精确设计制造、通过严格的生产过程化管理、产品技术不断创新，我们对客户提出的技术要求能够作出快速反应，并不断对产品进行优化改进，使其更加适用于高要求的应用环境。

公司成长发展是基于我们对先进传感器技术的掌握以及不断获得的客户产品使用回馈从而进行研发改进。

保证一流的产品质量始终是我们不懈的追求。无论是标准产品还是根据客户要求的定制产品，无论是小量样品开发还是系列标准化生产，凭借我们高素质的生产研发团队可以为客户提供优质稳定的产品及服务。



Magnetic sensors - used in challenging work environments

VS Sensorik's magnetic sensors are used in a wide range of demanding industrial sectors. Different customers around the world use our products to provide accurate measurements of their production, and our sensors are covered in industrial areas such as machine tools and machine tools Spindle, mold, engineering machinery, engineering vehicles, ships, aviation, defense technology and hydraulic systems.

VS Sensorik sensor features:

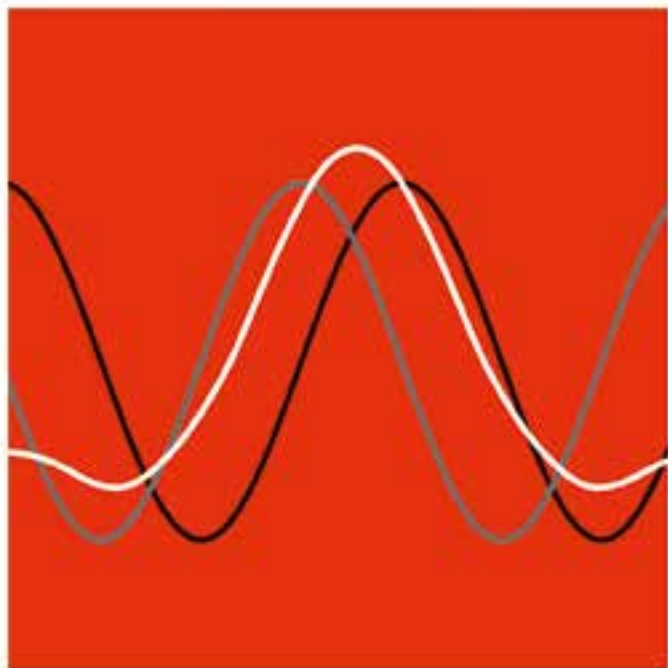
- Can be in extreme environmental conditions to maintain high-precision sensor and high-resolution signal output
- And other parts without contact - because of no mechanical wear, to achieve high life
- High temperature (up to 260 °C)
- Fully enclosed metal shell, with great anti-interference, anti-pressure ability
- Has a selective detection for ferromagnetic parts
- High sensitivity - Precise measurement of micrometer motion of the object to be detected
- Up to 250 kHz above the anti-jamming performance, can quickly measure the collection of data
- Internal embedded smart chip, can monitor the product operation and failure analysis

磁性传感器 – 应用于具有挑战的工作环境

VS Sensorik 公司的磁传感器被广泛应用于众多要求苛刻的工业领域，世界各地不同的客户使用我们的产品，来为其生产提供精确测量，我们的感应器所涉及到的工业领域如：机床及机床主轴、模具、工程机械、工程车辆、船舶、航空、国防技术和液压系统等。

VS Sensorik 传感器的特点：

- 能在极端环境条件下保持高精度感应及高分辨率信号输出
- 和其他工件无接触 – 因不产生机械性磨损，实现超高寿命
- 耐高温（可达最高 260℃）
- 全封闭金属外壳，具有极大的抗干扰、抗压强能力
- 具有针对铁磁部件的选择性检测
- 高灵敏 – 可对被探测体的微米级运动精密测量
- 高达 250 kHz 以上的抗干扰性能、可快速测量采集数据
- 内部嵌入智能芯片，可监控产品运转并进行故障分析



VS Sensorik encoder applications

Rotary encoders - for precision machine tool spindles

VS Sensorik magnetic incremental or absolute rotary encoders (output analog SIN-COS or digital TTL signals) can maintain ultra-high resolution and superior mechanical performance in high dynamic motion variations. The typical application area is to measure the position and angle of the precision machine tool spindle.

- Interpolated electron multiplier amplifiers are used in a variety of controllers
- Automatic cosine amplitude control
- Automatic signal calibration with embedded chip
- High speed rotation still ensures high resolution, angular speed measurement (100000 rpm)
- For HSC applications (high speed cutting)
- The rotation direction can be identified
- High EMC and ESD stability (up to 30 kV)
- Safety integration - with safety certification

With the use of our smart chip sensors, to help you achieve "industrial 4.0".

- Start the full-time speed record monitoring from the spindle factory
- According to customer requirements for specific data records (such as spindle radial runout, temperature, etc.)
- Each encoder has a unique nameplate number (digital passport)
- Real-time understanding of spindle conditions using the detection tool via the PuV digital transmission interface
- Count the spindle run time

VS Sensorik 编码器的应用领域

旋转编码器 – 适用于精密机床主轴

VS Sensorik 磁性增量式或绝对式旋转编码器（输出模拟 SIN-COS 或数字 TTL 信号），可在高动态运动变化中保持超高分辨率和超强机械性能。典型的应用领域是对精密机床主轴的位置和角度进行测量。

- 采用插值电子倍增放大信号适配于多种控制器
- 正余弦振幅自动控制
- 借助内嵌芯片实现对信号自动校准
- 高速旋转仍能保证高分辨率、角度转速测量（100000 rpm）
- 适用于 HSC 应用（高速切割）
- 可对旋转方向进行识别
- 高 EMC 和 ESD 稳定性（高达 30 kV）
- 安全集成 – 拥有安全认证

借助使用我们具有智能芯片的传感器，协助您实现 "工业 4.0"。

- 从主轴出厂开始全时间的转速记录监控
- 按照客户要求对特定数据记录（如主轴径向跳动、温度等）
- 每个编码器拥有独一的铭牌编号（数字护照）
- 通过 PuV 数字传输接口使用检测工具实时了解主轴状况
- 对主轴运行时间进行计数



Axial speed encoder

VS Sensorik's non-contact axial speed sensor (TCE series) is easy to use, can be measured by rotating body (such as pneumatic spindle) axial magnetic material to obtain a stable rotation speed value.

- Maximum measurement speed up to 500,000 rpm
- Operating temperature is $-40^{\circ} \dots 150^{\circ} \text{C}$
- Digital signal output A, B, Z / U, V, W
- The interpolation signal can be up to 1024
- Analog signal output 1Vpp, sin / cos

Pulse encoder

Magnetic pulse encoders are suitable for non-contact induction of steel gears and racks; they are characterized by high temperature stability and high compressive strength; can be used to measure rotating and linear moving objects, such as for construction machinery, wind turbines and vehicles Drive motor and so on.

Close the switch

With the aid of a digital / analog signal proximity switch, the target detector can be accurately identified even if a metal case is required. Products with high frequency (switch) and extreme compressive strength and other characteristics. Can be used for high pressure hydraulic systems, marine clutches and aviation clutches, etc. (VS is the German supplier of Putzmeister high voltage proximity switches).

轴向速度编码器

VS Sensorik 的非接触式轴向转速传感器 (TCE 系列) 使用简便, 可通过测量旋转体 (如气动主轴) 轴端磁性物质来获得稳定的旋转速度数值。

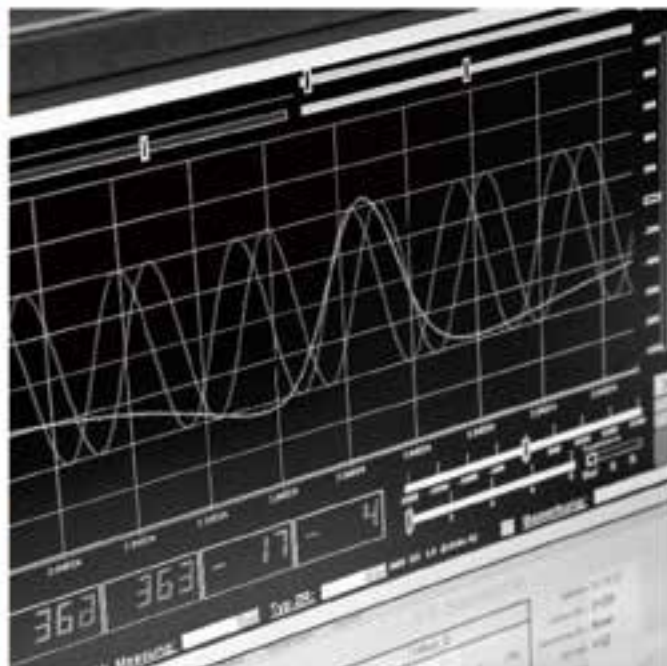
- 最高测量转速可达 500,000 rpm
- 工作温度介于 $-40^{\circ} \dots 150^{\circ} \text{C}$
- 数字信号输出 A, B, Z / U, V, W
- 插补信号放大可达 1024
- 模拟信号输出 1Vpp, sin / cos

脉冲编码器

磁性脉冲编码器适用于钢质齿轮和齿条的非接触式感应; 其特点是具有高温稳定性和高抗压强度; 可用于测量旋转和线性运动物体, 例如用于工程机械、风力涡轮机和车辆驱动马达等。

接近开关

借助于数字 / 模拟信号接近开关, 即使需要隔着金属外壳也可以精准识别到目标探测体。产品具有高频率 (开关) 以及极端抗压强度等特征。可用于高压强的液压系统, 船用离合器和航空离合器等 (VS 是德国 Putzmeister 高压接近开关的供应商)。



DCMU-Box

The toolbox integrates digital calibration and measurement functions, enabling the use of laptop computers for product quality control, data logging, encoder calibration and other functions, toolbox based on modular design.

- On-line (eg spindle-operated) speed measurement analysis speed up to 100,000 rpm
- High-resolution, 4-channel USB measurement system
- USB modular communication via I2C and PuV interfaces
- Output different signals according to the control system requirements

HCU-500

Portable detection tools, specifically for field workers and maintenance service personnel to use the design

- Defect recognition (radial runout, gear defect)
- Data detection record (service, quality control)
- Export the recorded data: Encoder ID, Monitor data, Run time meter Arms, spindle parameters

Customized products

Based on our years of experience in sensor development and long-term accumulation of sensors, VS Sensorik can develop products for your specific needs:

- 3D position sensor for robot applications
- Wall-mounted sensor: precise positioning of ferromagnetic switch markings through non-magnetic walls
- Distance sensor in the range of microns
- 5000 meters deep underwater anti-high pressure sensor
- Linear encoders for machine tools

DCMU-Box

工具箱集成了数字校准及测量功能，借助于连接笔记本电脑可实现对产品质量控制、数据记录、编码器校准等功能，工具箱基于模块化设计。

- 在线（如主轴保持工作）转速测量分析速度可达 100,000 rpm
- 高分辨率，4 通道 USB 测量系统
- USB 模块化通过 I2C 和 PuV 接口进行通信
- 根据控制系统要求输出不同方式信号

HCU-500

便携式检测工具、专门为现场工人以及维修服务人员使用设计

- 缺陷识别（径向跳动，齿轮缺陷）
- 数据检测记录（服务，质量控制）
- 可导出被记录数据：编码器 ID、监控数据、运行时间计数器、主轴参数

客户定制化产品

基于我们多年来对于传感器的研发生产及长期积累的经验，VS Sensorik 可为您的特定需求开发产品：

- 用于机器人应用的 3D 位置传感器
- 穿墙式传感器：通过非磁性壁精确定位铁磁开关标记
- 分辨率在微米范围内的距离传感器
- 深达 5000 米的水下抗高压传感器
- 用于机床加工的直线编码器

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