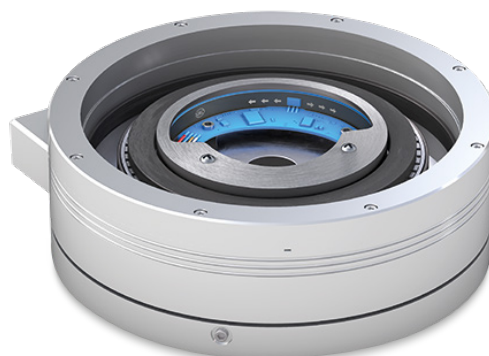
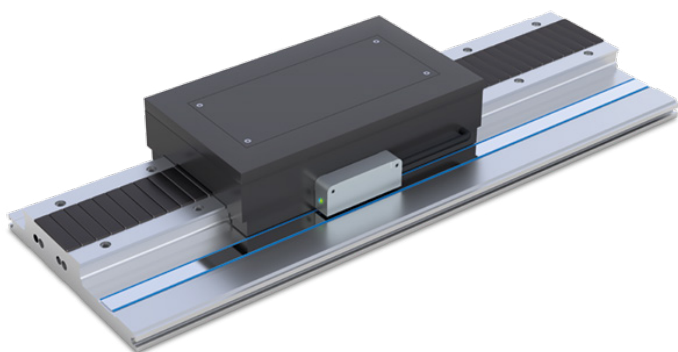




电机和位置反馈

MAGLINE | MOTOR & POSITION FEEDBACK



实时反馈到线性和旋转电机

磁性编码器用于线性直接驱动或者力矩电机上的高精度电机反馈检测。

Real-time feedback on linear and rotative motors

The magnetic encoders serve for high-precision motor and position feedback detection on linear direct drives or on torque motors.



优势

- 高达21位的高定位精度和分辨率
- 小巧，紧凑的设计和客户指定的PCB解决方案
- 柔性的环直径和测量长度
- 免磨损和免维护：对污染，湿气或冷凝不敏感
- 用于安全区域的安全认证SIL-2
- 多种通用行业标准接口可选

Advantages

- High positioning accuracy and resolution up to 21 bits
- Small, compact designs and customer-specific PCB solutions
- Flexible ring diameters and measuring lengths
- Wear- and maintenance-free: insensitive to soiling, moisture or condensation
- Safety approval SIL-2 for applications in the safety area
- Selection of interfaces and common industry standards



线性编码器

LINEAR ENCODERS

直线驱动器上的位置和速度测量的非接触式检测。磁性测量系统具有很高的定位精度和分辨率，从而可以在动态过程中实现高质量的控制

Contactless detection of position and speed measurements on linear drives. The magnetic measuring systems are characterized by a high positioning accuracy and resolution, which enables high control quality in dynamic processes.

特点

- 分辨率: $0.1\mu\text{m} \dots 1\text{ mm}$
- 重复精度: $\pm 0.5\mu\text{m} \dots \pm 0.5\text{ mm}$
- 读取间距: $0.2\text{ mm} \dots 2\text{ mm}$
- 客户定制的解决方案

Profile

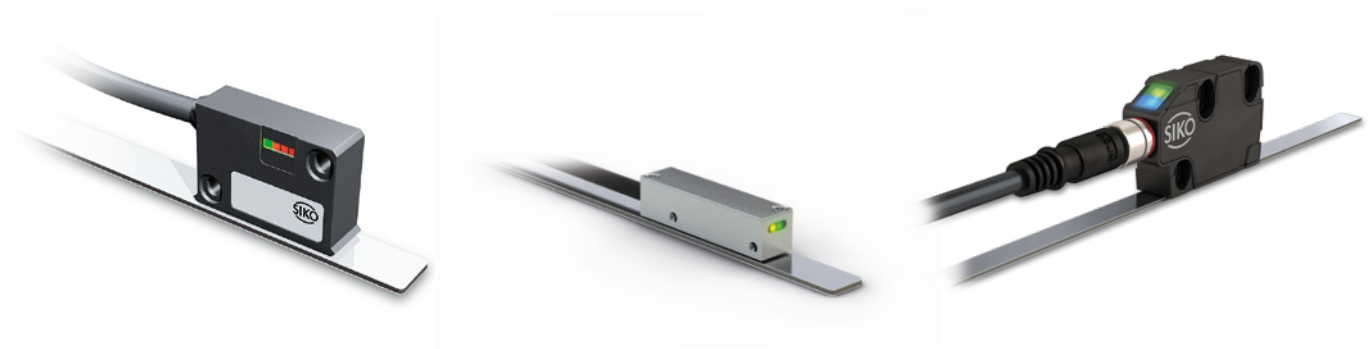
- Resolution: $0.1\mu\text{m} \dots 1\text{ mm}$
- Repeat accuracy: $\pm 0.5\mu\text{m} \dots \pm 0.5\text{ mm}$
- Reading distance: $0.2\text{ mm} \dots 2\text{ mm}$
- Customer-specific solutions

增量型编码器

经验证的输出数字脉冲或模拟正弦/余弦信号的技术。

Incremental encoders

Proven technology for outputting digital pulses or analog sin/cos signals.



绝对值编码器

上电后直接位置反馈。最大测量长度16米。必不可少的，尤其是在安全性至关重要的应用中。

Absolute Encoder

Direct position feedback after switching on. Measurement lengths up to 16 m. Essential, especially in safety-critical applications.



linCoder-技术

linCoder技术针对线性应用的定制，个性化PCB解决方案。它可以集成到较小的安装空间中并实现紧凑型驱动器解决方案。linCoder技术可根据客户要求提供增量或绝对位置和速度值。

mf.linCoder

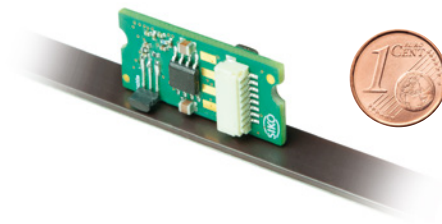
输出数字增量或模拟正弦/余弦信号。使用SIKO磁带或通过SIKO磁极传感器直接读取电动机磁体。

linCoder technology

The linCoder technology stands for customized, individual PCB solutions for linear applications. It enables integration into small installation spaces and implementation of compact drive solutions. The linCoder technology provides incremental or absolute position and speed values according to customer requirements.

mfi.linCoder

Output of digital increments or analog sin/cos signals. Use of SIKO magnetic tapes or direct reading of the motor magnets.

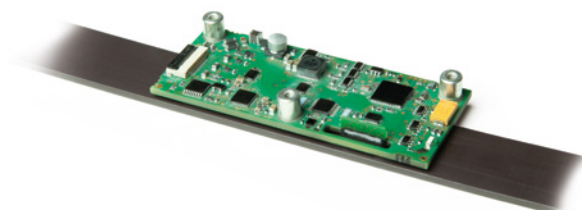


mfa.linCoder

上电后直接反馈绝对值位置，尤其在安全性应用中，是至关重要的。mfa.linCoders的测量长度最大为16 m。

mfa.linCoder

Direct absolute position feedback after switching on is essential, especially in safety-critical applications. The mfa.linCoders have measuring lengths of up to 16 m.



直线电机和驱动器

各种版本的直线电机的增量和绝对位置反馈。小巧，紧凑的设计允许轻松集成和有效调试，以及动态过程中的高定位精度和控制质量。

特点

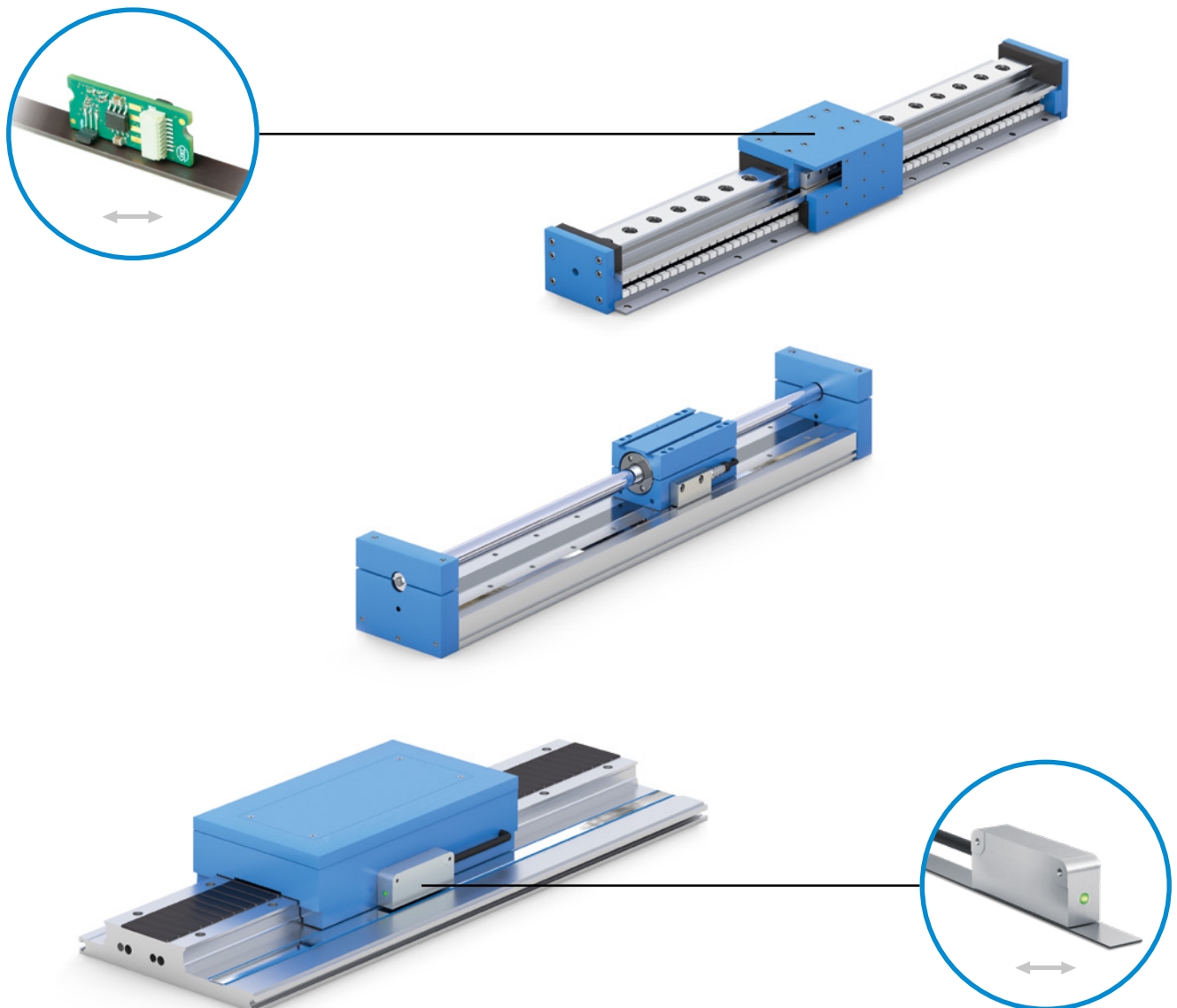
- 完全无接触且无磨损
- 受到冲击和振动时坚固
- 易于安装和调试
- 绝对和增量

Linear motors and drives

Incremental and absolute position feedback for various versions of linear motors. Small, compact designs permit easy integration and efficient commissioning as well as high positioning accuracy and control quality in dynamic processes.

Advantages

- *Completely contactless and wear-free*
- *Robust when exposed to shock and vibration*
- *Easy mounting and commissioning*
- *Absolute and incremental*



龙门轴

对于龙门驱动器，两个轴的进给电机与各自的测量系统的同步是一项重要的任务。此外，必须检测X轴和Z轴的位置。

特点

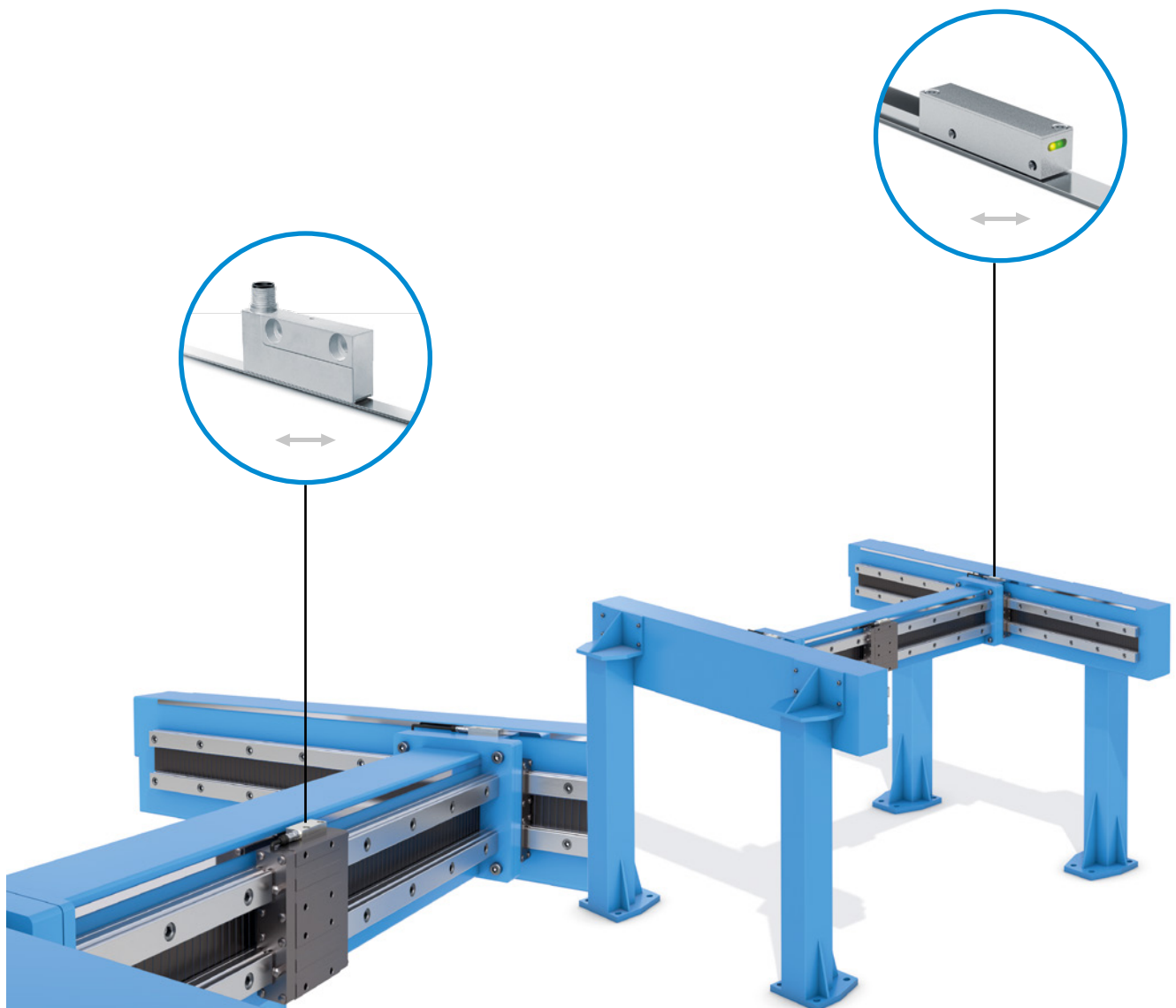
- 对灰尘和湿气不敏感
- 易于安装
- 高定位精度
- 使用寿命长（非接触和无轴承）
- 高运行可靠性
- 防护等级IP69K
- 灵活的定制解决方案

Gantry axes

Synchronization of the feed motors of two axes with each a measurement system of its own is an important task with gantry drives. Additionally, the positions of the X and Z axes have to be detected.

Advantages

- *Insensitive to dirt and humidity*
- *Easy mounting*
- *High positioning accuracy*
- *Long service life (non-contact and bearing-free)*
- *High operational reliability*
- *Protection category IP69K*
- *Flexible, customized solutions*



旋转编码器

ROTARY ENCODERS

无轴承磁编码器提供了坚固且高精度的测量技术，并且磁环可以灵活地适应电动机的尺寸和要求。

Bearingless magnetic encoders provide robust and high-precision measurement technology with flexible adaptation of the magnetic rings to motor size and requirements.

特点

- 分辨率: 14 ... 21 Bit
- 重复精度: ± 0.01 ... $\pm 0.1^\circ$
- 读取距离: 0.2 ... 2.0 mm
- 定制解决方案

Profile

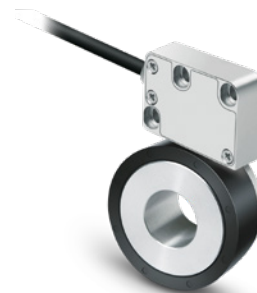
- Resolution: 14 ... 21 bit
- Repeat accuracy: ± 0.01 ... $\pm 0.1^\circ$
- Reading distance: 0.2 ... 2.0 mm
- Customized solutions

绝对值和增量式编码器

根据应用使用绝对或增量测量系统。

Absolute and incremental encoders

An absolute or incremental measuring system is used depending on the application.



定制磁环

磁环的设计可匹配应用中电机的材料，形状与安装。

Customized magnetic rings

The magnetic rings are designed to match the application in terms of material, shape and mounting in the motor.



flexCoder-技术

flexCoder技术针对线性应用的定制，个性化PCB解决方案。它可以集成到较小的安装空间中并实现紧凑型驱动器解决方案。FlexCoder技术可根据客户要求提供增量或绝对位置和速度值。

mfi.flexCoder

输出数字增量或模拟正弦/余弦信号，以及用于电机控制的其他通信信号。

flexCoder technology

The flexCoder technology stands for customized, individual PCB solutions for linear applications. It enables integration into small installation spaces and implementation of compact drive solutions. The flexCoder technology provides incremental or absolute position and speed values according to customer requirements.

mfi.flexCoder

Output of digital increments or analog sin/cos signals as well as additional commutation signals for motor control.



mfa.flexCoder

磁性、旋转型、真正的绝对值式、无轴承。上电直接反馈绝对值位置。灵活适应电机轴的半径，使得可以将flexCoder精确地安装到电机设计中。Mfa.flexCoder可提供单匝和多匝解决方案，分辨率最高可达20位。

mfa.flexCoder

Magnetic, rotary, true absolute, bearingless. Direct absolute position feedback after switching on. The flexible adaptation to the radius of the motor shaft makes it possible for the flexCoder to be fitted accurately into the motor design.



扭矩和异步电动机

扭矩电机用于高动态，快速和精准定位的任务。对传感器系统的要求相应很高。

特点

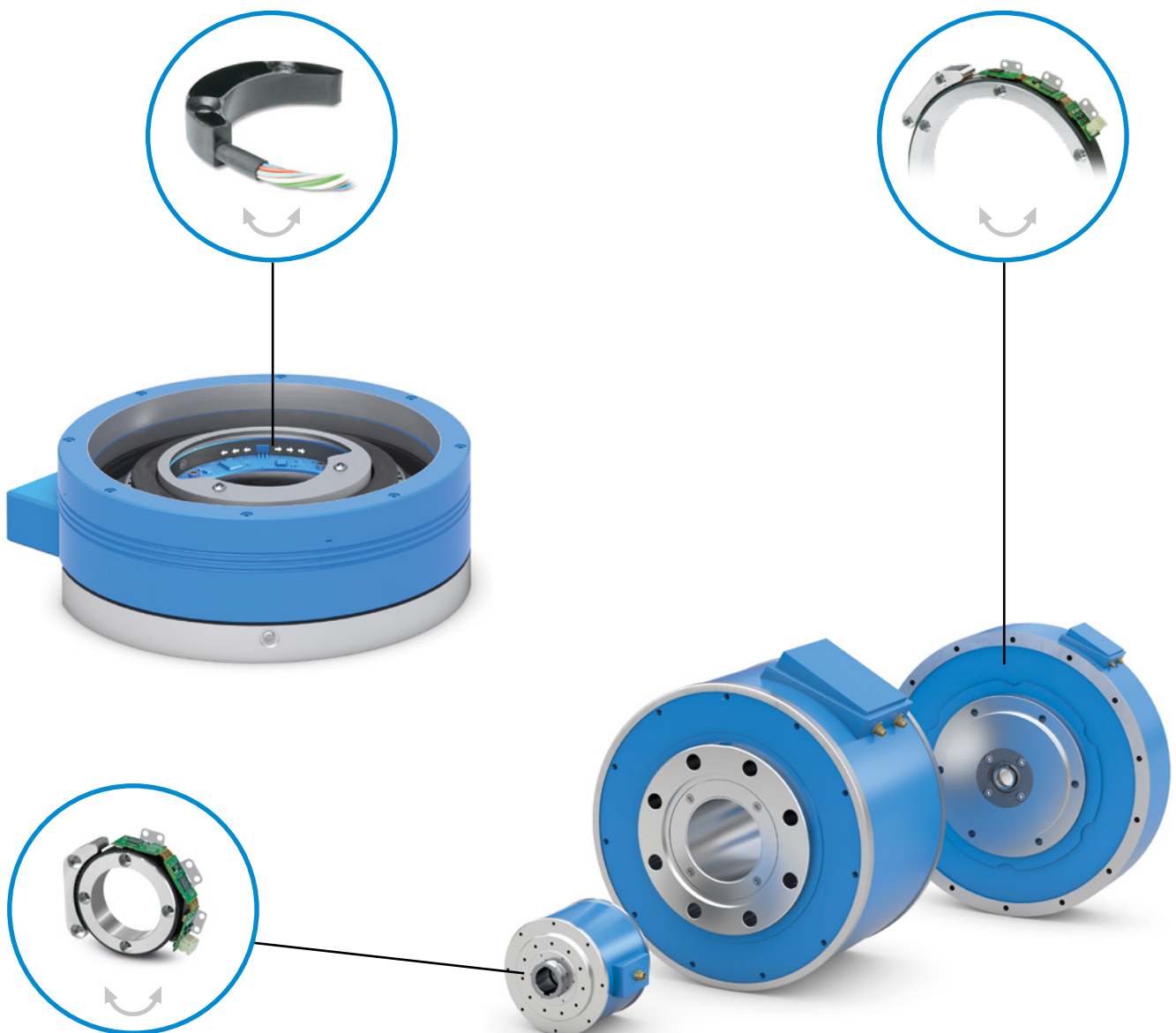
- 构型小可集成的（开放式）设计结构
- 用于空心轴各种尺寸的可集成测量元件（磁环）
- 带实时信号输出的接口
- 绝对和增量
- 挠性环直径
- 内部和外部扫描

Torque and asynchron motors

Torque motors are used when highly dynamic, fast, and precise positioning tasks are demanded. The requirements of the sensor system are correspondingly high.

Advantages

- Small integratable (open) designs
- Integratable measuring element (magnetic ring) with various sizes for continuous hollow shafts
- Interfaces with real-time signal output
- Absolute and incremental
- Flexible ring diameter
- Internal and external scanning



机器人

在有限的安装空间内进行旋转运动的精准测量，可将SIKO的LinCoder 和 flexCoder技术的独特解决方案集成到编码器。

特点

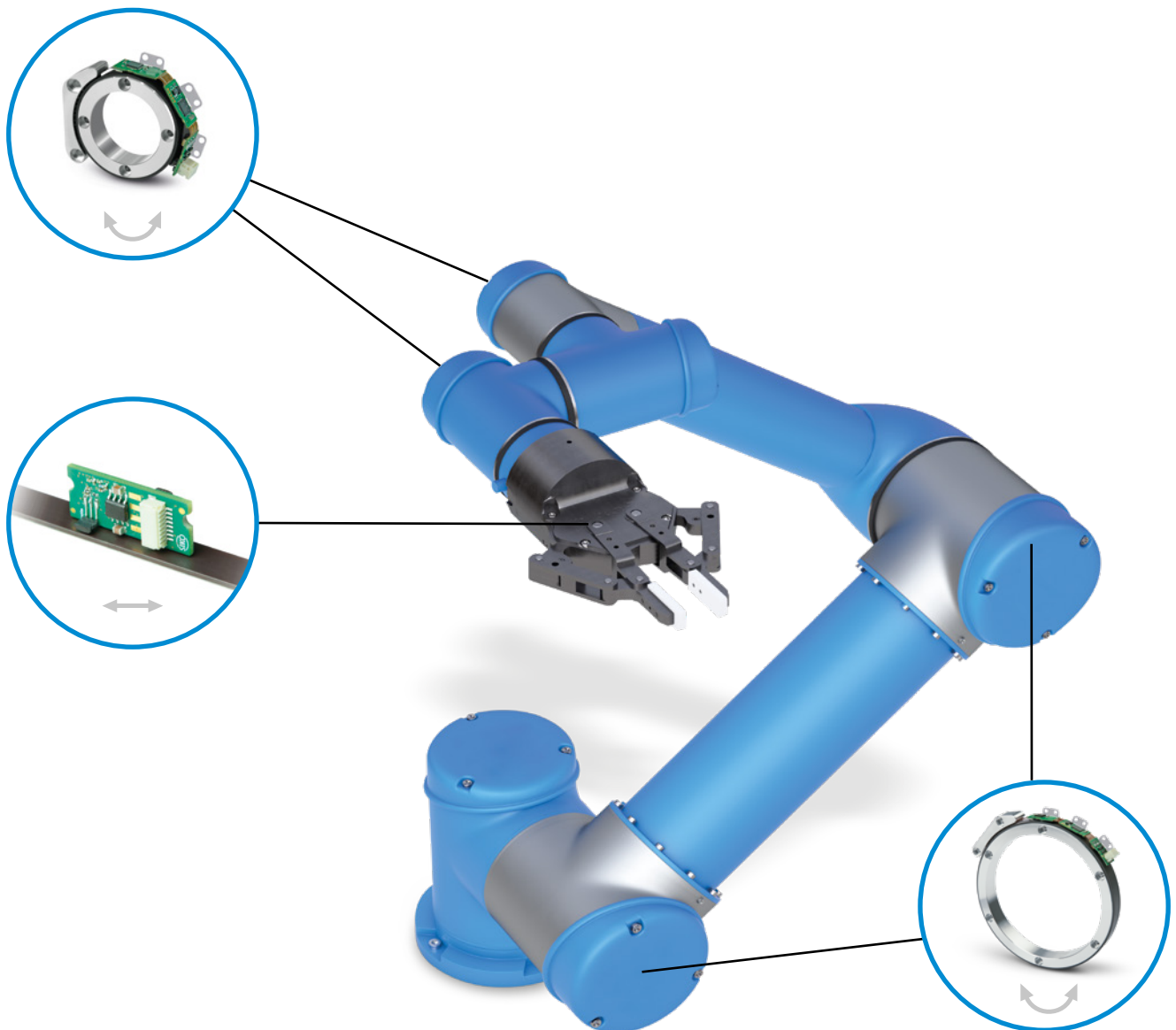
- 微型尺寸可集成到电机中
- 客户定制的解决方案，例如带有开放式PCB
- 高精度
- 精确的位置反馈可实现机器人技术的最佳控制质量
- 绝对和增量解决方案
- 调整尺寸以适应现有安装空间

Robotics

Precise detection of rotary and swivel movements with limited installation space requires the integration of the encoders and benefits from the individual solutions of linCoder and flexCoder technology from SIKO.

Advantages

- *Miniature sizes to enable integration into motors*
- *Customer-specific solutions, e.g. with open PCB*
- *High accuracies*
- *Exact position feedback for optimum control quality in robotics*
- *Absolute and incremental solutions*
- *Adjustment of the scales to the existing installation space*



自动引导车

SIKO凭借其广泛的产品范围，为无人驾驶运输系统（自动引导车辆）的各种测量任务提供了解决方案。除速度和位置检测外，电磁编码器还可用于非接触式和精确地检测转向角。

特点

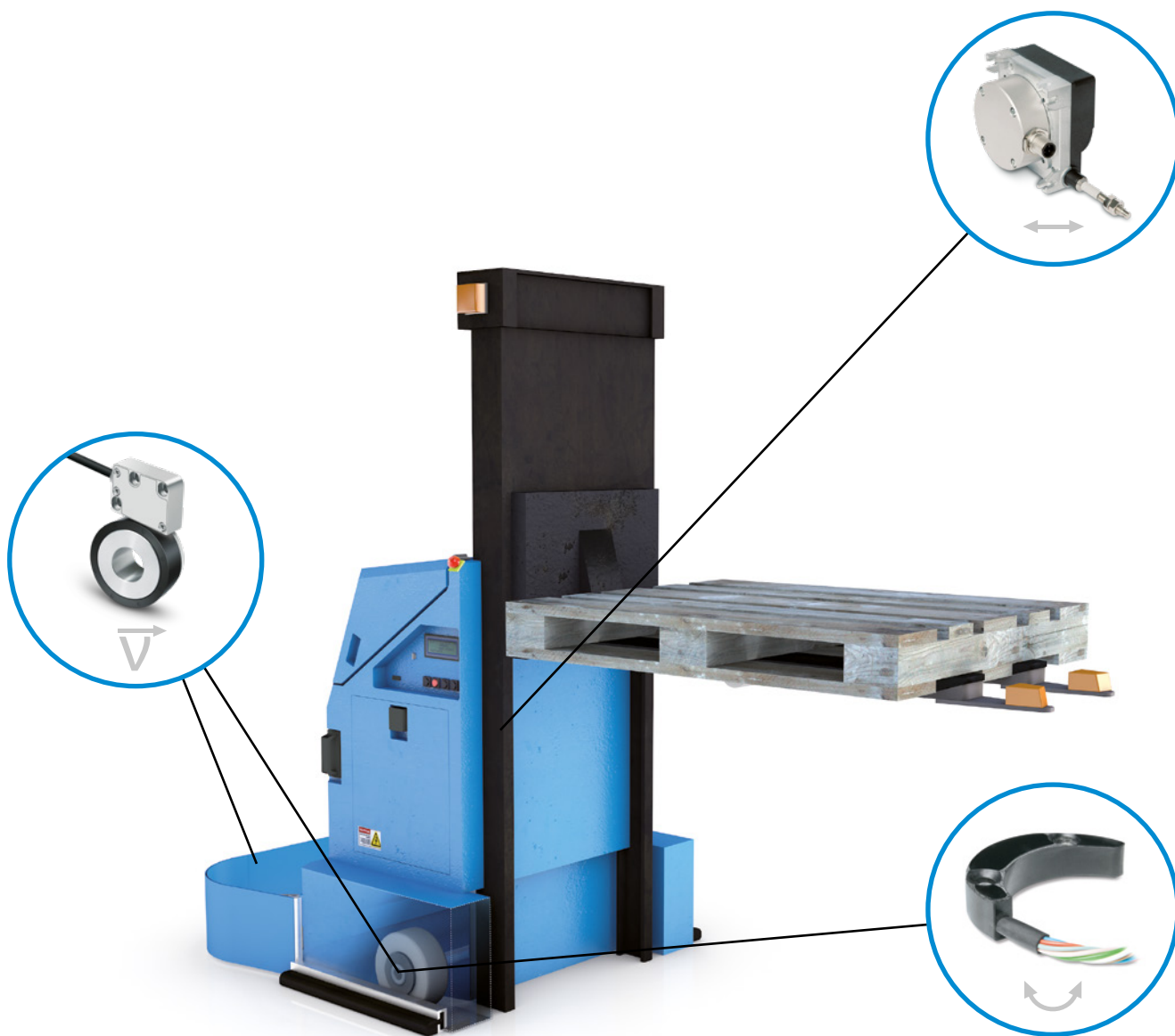
- 开放式设计结构和壳体构型小
- 客户定制的不同尺寸的磁环
- 高精度
- 精确的位置反馈
- 带实时信号输出的接口

Automated guided vehicles

With its wide range of products, SIKO provides the solution for the diverse measurement tasks of driverless transport systems (automatic guided vehicles). In addition to the speed and position detection of the drives, the magnetic encoder can also be used to detect the steering angle contactlessly and accurately.

Advantages

- Open designs and small housings
- Customer-specific magnetic rings for different sizes
- High accuracies
- Exact position feedback
- Interfaces with real-time signal output



安全编码器， 可靠的位置检测

SIKO 的传感器技术有助于实现智能安全系统，并为达到所需安全功能提供支持。

借助SIKO 的安全型、冗余式编码器和系统，确保您能够按照标准要求设置整个工程系统。选定的编码器满足在性能等级d (PLd) 以下的应用中使用的要求。具有SIL2认证的特殊编码器允许在安全应用中使用。

遵守磁环的机械要求，例如安全组装的强制锁定亦是安全应用系统解决方案的一部分。

Safety encoder for reliable position detection

„Functional safety“ – this term is on everyone’s lips. SIKO sensor technology helps you to realize intelligent safety concepts and supports implementation of safety functions.

Safe, redundant encoders and systems from SIKO enable you to set up your complete system in accordance with standards. Selected encoders meet the requirements for use in applications up to performance level d (PLd). Special encoders with SIL2 certification permit use in safety applications.

Observance of the mechanical requirements for the magnetic rings, such as positive locking for safe assembly, are part of the system solution for safety applications.

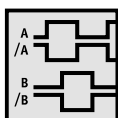
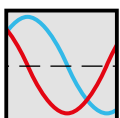


接口

除了常规的增量输出信号（数字计数脉冲或模拟正弦余弦信号），SIKO还支持电机控制器中各种绝对值接口。

Interfaces

In addition to the conventional incremental output signals (digital counting pulses or analog sine-cosine signals), SIKO supports a variety of absolute interfaces that are present in a motor controller.



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