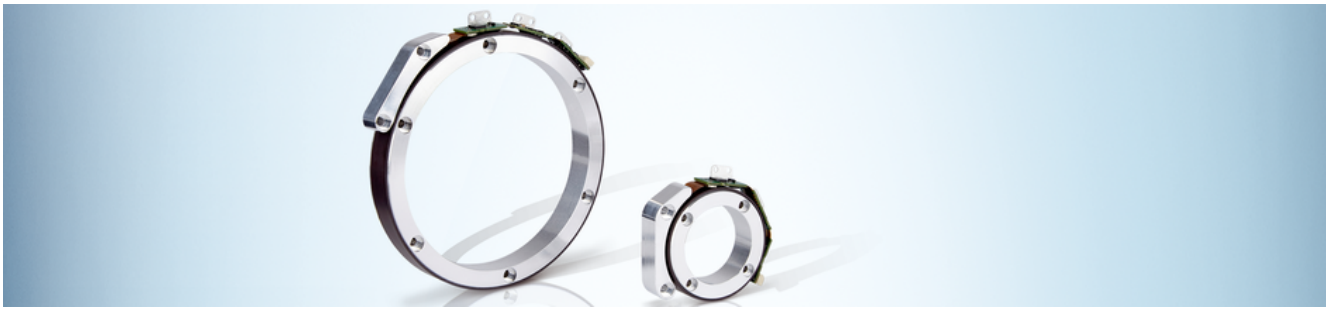
Product overview

STS

Motor feedback system with HIPERFACE® and different internal diameters

SICK
Sensor Intelligence.

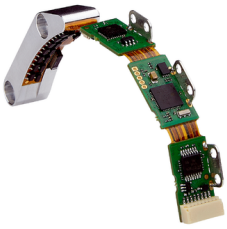
Advantages



More application possibilities – with the STS motor feedback system

The compact STS absolute motor feedback system comprises a read head and a magnetic ring and ensures maximum flexibility and precision when measuring the position and speed of direct drives. The non-contact magnetic measurement principle works without causing wear. Thanks to the standardized HIPERFACE® interface, the STS can be integrated into virtually any industrial environment. Challenging environmental influences such as high air humidity or fine dust have no impact on either the measurement quality or the service life of the system. The absence of wear and tear parts also maximizes the service life and guarantees the high availability of the overall system. This enables the machine-side maintenance intervals to be significantly reduced.

The absolute motor feedback system operates completely contactlessly and free of wear and tear.



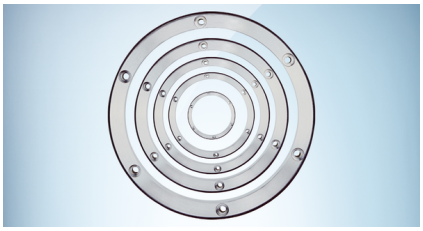
Data transmission occurs via an 8-pin JST plug connection and HIPERFACE® interface.

Thanks to the absolute sensing technology, ultra high resolutions can be achieved without the use of mechanical components.

Flexible, compact, reliable: The STS motor feedback system allows precise speed and position measurement for hollow shaft applications in the area of robotics and material handling where mechanical solutions, e.g., belt motors, were previously used.

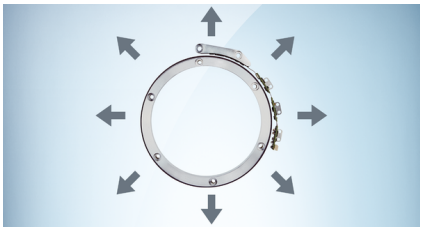
Perfect for use where others reach their limits

Being a scalable measurement system, the STS can be perfectly tailored to the hollow shaft diameter of the application. Device variants in one of seven standard internal diameters of 30 mm to 230 mm are available for this purpose. With these standard sizes, the system covers the typical diameters of commonly used industrial direct drives. In addition to this, custom diameters for millimeter precise installation up to a hollow shaft diameter of 500 mm can be implemented. The design of the read head can also be tailored to the customer's requirements, thereby enabling the STS to be integrated into even the tightest installation spaces. Thanks to the flexible technology, two different motor concepts are supported: internal rotor motors as well as external rotor motors – the choice is yours with the STS.



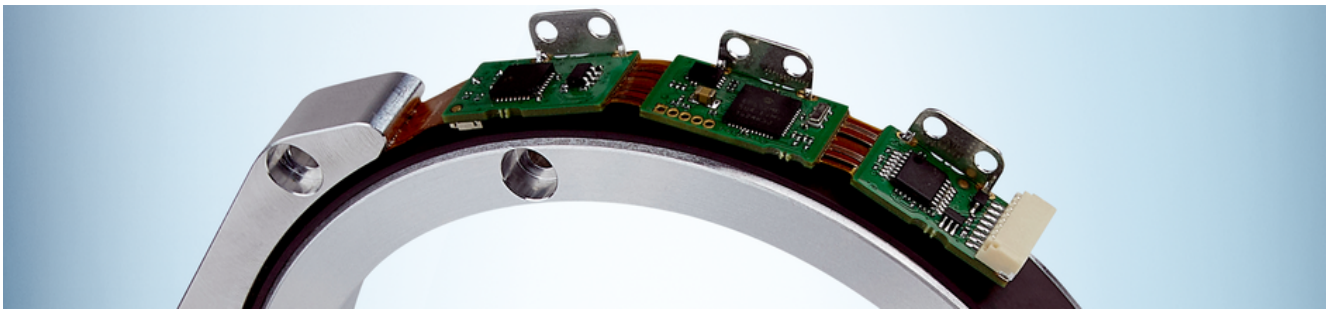
The system is available as standard with internal diameters of 30 mm, 40 mm, 50 mm, 65 mm, 84 mm, 125 mm and 230 mm.

Customer-specific, millimeter precise versions up to a hollow shaft diameter of 500 mm are possible.



For highest possible measurement accuracy, a specific read head to suit each magnetic ring size is used.

The motor feedback system for almost any direct drive: Thanks to the seven standard magnet ring sizes and additional customization options, the STS can be perfectly tailored to the specific application.

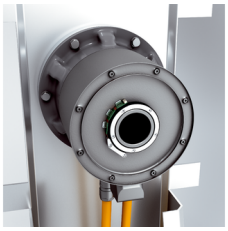


Ultraflat design for compact applications

Every millimeter often counts for applications in the area of robotics as well as in handling solutions. The STS motor feedback system with its especially flat design and compact overall dimensions excels in this regard: With an installation height of just 12.5 mm, the STS offers the ideal solution for tight installation situations. Significantly more compact machines – with no loss in precision – can be designed using a direct drive with a high-performance system. Because these do not have any wear and tear parts like belts or couplings, the overall maintenance costs are markedly reduced. The hollow shaft present can also be used to pass through cables, hoses or wires.

The STS saves valuable installation space inside the direct drive.

Compared to competing systems, the STS is characterized by its significantly flatter design.



Save valuable installation space by using the hollow shaft diameter for hoses and cables.

More possibilities – thanks to having less under the hood: The STS with its ultraflat design saves installation space and enables compact, ultra-high precision direct drives to be implemented.

Technical data overview

Communication interface	HIPERFACE®
Sine/cosine periods per revolution	70 ... 158 (depending on type)
Mechanical interface	Through hollow shaft
Connection type	Male connector, 8-pin
Available memory area	1,792 Byte

Product description

The STS motor feedback systems with magnetic principle of operation offer high performance for precision hollow shaft motors and direct drives. The absolute, non-contact and bearingless measuring system is suitable for different hollow shaft diameters thanks to its scalability. The communication via HIPERFACE® is compatible with the leading frequency inverters and supports the operator with automated commissioning of the application.

At a glance

- Non-contact and bearing-free measurement of speed and position
- Resolutions up to 12,672 measurement steps per revolution
- Accuracy of up to ± 0.05°
- For hollow shaft diameters from 30 mm to 500 mm
- Reliable in harsh ambient conditions
- HIPERFACE® interface with extended type label
- For internal and external rotor motors

Your benefits

- Flat, compact motor design due to maximum flexibility and installation of the motor feedback system with millimeter precision
- Increase in dynamics and PSDI times due to the elimination of mechanical components, such as belts
- Bearing-free technology maximizes the service life and machine availability of the overall system
- Use of hollow shafts to feed through hoses and cables saves valuable installation space
- Safe Motion for safe monitoring of machine movements and optimal interaction between man and machine

Fields of application

- Ideal for integration into servo hollow shaft motors
- Direct drives, e.g. torque motors
- Rotational and swivel axes, e.g. extruders
- Robot joints
- Drive systems in the field of AGVs and mobile platforms

Ordering information

Other models and accessories ➜ www.sick.com/STS

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com

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