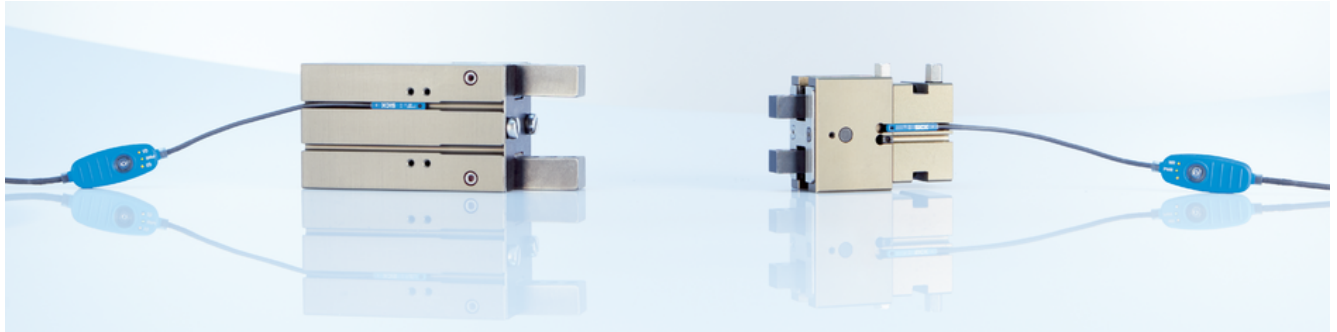# MPS-G

Very short position sensors for grippers and miniature cylinders
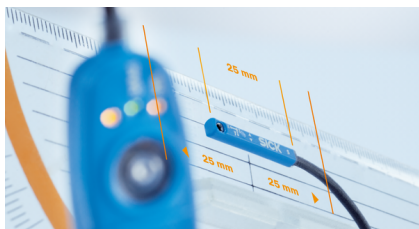
SICK
Sensor Intelligence.

Advantages

Perfectly integrated

The MPS-G position sensor was developed in accordance with the requirements of handling and assembly and robotics. This means not only an extremely compact sensor design for the C-slot, but also high resistance of the components used and durability of materials.

The MPS-G covers a detection range of 50 mm – and at a sensor head length of only 25 mm

Installation of the MPS-G in the sensor slot without any interfering contours is excellent protection against mechanical damage for moving applications
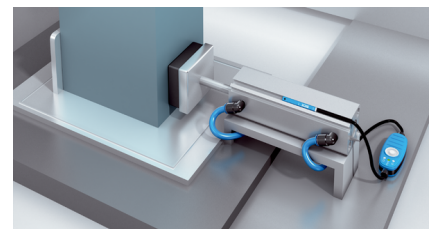
The right connection cable between the sensor head and the operating element for any mounting situation

Continuous position query - perfectly adjusted to grippers and small pneumatic cylinders.

Can be flexibly adapted to any requirement - with innovative operating concepts

Every application is different. And with the MPS-G, there is always a solution for nearly any detection task: Querying gripper finger positions, measuring workpieces, monitoring press-fit processes or simply precisely detecting end positions. The highly accurate position values can be used either as analog signals and as process data via IO-Link or translated into digital switching information and used as such.

Ideal for varying workpiece sizes and component tolerances
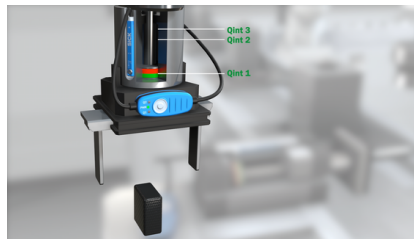
Switching signals can be generated flexibly and individually from the absolute position values

With the innovative dynamic teach-in, the sensor adjusts the switching points on its own

➕ **As a high-precision magnetic distance measuring system, the MPS-G delivers a position value and two, three or more switching points to differentiate between gripper and cylinder positions. The functional scope and the configuration options of the sensor depend on the communication interface and the selected teach-in option.**
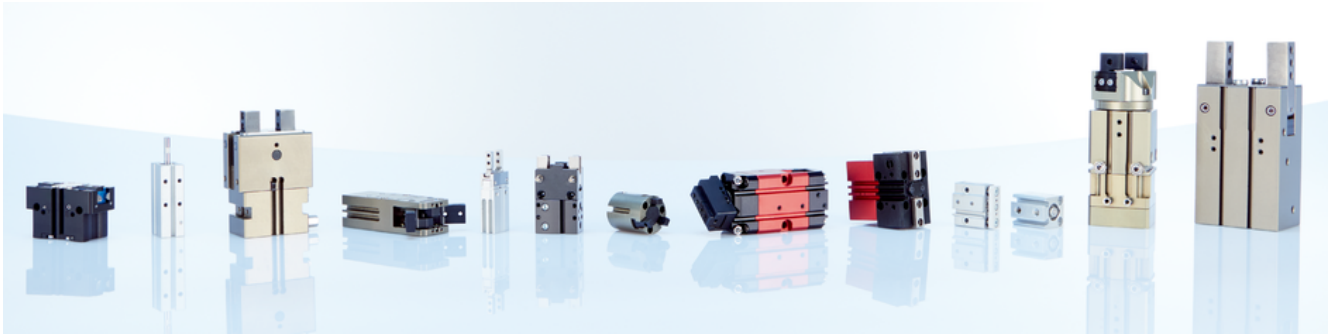
Condition monitoring of pneumatic drives

Pneumatic drives wear like any other mechanical component. With the MPS-G, however, critical components can be identified, readjusted or exchanged in a timely manner, thereby preventing unplanned machine downtime. The MPS-G ensures more process transparency for actuators and machines. Unauthorized intervention by operating staff can also be tracked using the position sensor. The MPS-G delivers basic data for optimal adjustment and condition monitoring of pneumatic drives – and without installing any other components.
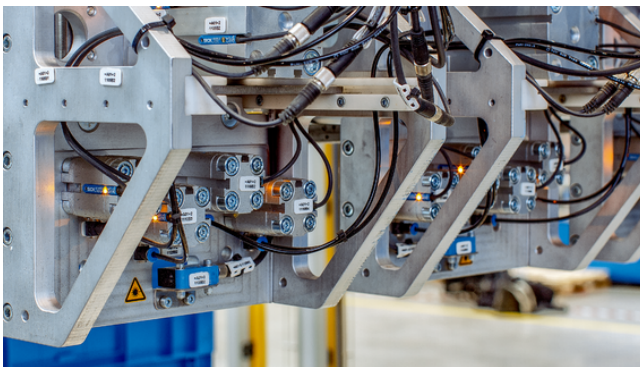
The MPS-G delivers data on possible wear or if the cylinders are not optimally adjusted

Traversing speed, cylinder travel, dwell time in the end positions and magnetic field strength are only some examples of diagnostic data the MPS-G generates

The MPS-G delivers basic data for optimal adjustment and condition monitoring of pneumatic drives – and without installing any other components.
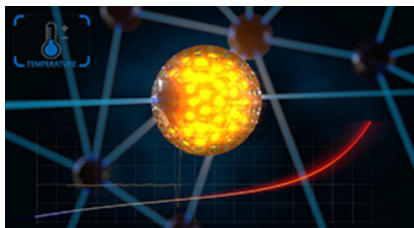
Diagnosis

Equipped with a wide range of diagnostic functions, Smart Sensors make it possible to look into the future in order to detect process deviations in advance and prevent unplanned machine or system downtime. In addition to the actual sensor data, Smart Sensors can deliver other valuable in on the status of the machine, plant or process.

Smart Sensors will send a notification independently if safe operation is at risk. Thanks to predictive maintenance, flexible, needs-based maintenance schedules can be created, helping reduce service costs. If problems should arise, however, the cause can be easily determined thanks to comprehensive visualization options, avoiding unplanned system downtime.
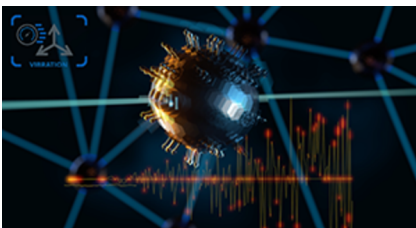
Vibration analysis
Defective, worn or loose components change the characteristic vibration pattern of machines. The MPS-G Smart Sensor with diagnostic functions analyzes and monitors the vibration of critical components in the machine in the time and frequency range.

Temperature measurement
Temperature monitoring helps ensure process and product quality. The MPS-G Smart Sensor with diagnostic function records changes in the application temperature.
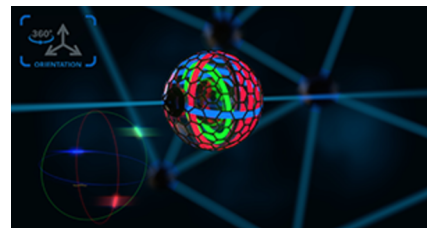
Orientation monitoring
The Smart Sensor with diagnostic functions makes it possible to monitor its own orientation or the orientation of the machine part on which it is mounted.

✚ Highest availability levels thanks to predictive maintenance

MPS-G

Technical data overview

Output function	Analog / IO-Link (depending on type)
IO-Link	– / ✔ (depending on type)
Teach-in	Yes
Special features	Completely embedded mounting in the slot, providing protection
Cylinder types with adapter	T-slot cylinders Round body cylinder Profile cylinders and tie-rod cylinders
Measuring range	50 mm
Housing length	25 mm

Product description

MPS-G position sensors continuously detect the position of the fingers of a pneumatic gripper and the piston position in miniature cylinders using a non-contact method. The compactly built magnetic distance measuring system determines these positions with micrometer precision. The sensor can be easily inserted into C-slots or, with the help of an adapter, into T-slots and is simple to fasten to a drive. The MPS-G is available in two product variants: as a sensor with an analog voltage output and as an IO-Link sensor with a Smart Sensor profile and three configurable digital outputs. SICK is thereby able to offer suitable solutions for numerous application requirements. The MPS-G also delivers comprehensive diagnostic data via IO-Link, including performance data for pneumatic drives or data for condition monitoring of systems.

At a glance

- Position feedback with a measuring range of up to 50 mm
- Up to 3 digital switching signals
- 8 switching points via IO-Link
- Dynamic teach-in for up to 3 switching signals
- Actuator diagnosis data: piston velocity, cylinder stroke, magnetic field strengths, etc.
- Process diagnosis data: temperature, vibration, position, max. acceleration

Your benefits

- Definition of two, three or more switching points to differentiate between gripper positions and several objects
- Simple measurement of components with absolute position value
- Micrometer-accurate detection of very small object tolerances
- Fits in all standard C-slots used around the world or in T-slots in conjunction with an adapter, regardless of the gripper and cylinder profile
- Saves time on initial installation and when replacing devices as the sensor can be inserted into the slot from above. The end caps of the drive do not have to be removed.
- Predictive condition monitoring of pneumatic drives and machine processes via an actuator and process diagnosis function

Fields of application

- End position detection in pneumatic miniature cylinders
- Continuous position detection in pneumatic cylinders
- Continuous position detection in pneumatic grippers and miniature cylinders
- Position detection (open/close) in pneumatic grippers

Ordering information

Other models and accessories → www.sick.com/MPS-G

- **Output function:** Analog
- **Electrical wiring:** DC 4-wire
- **Cable material:** PUR
- **Measuring range:** 50 mm
- **Connection type:** Cable with connector M8, with knurled nuts, 0.5 m

Type	Part no.
MPS-G50CFH15D43ZZZ	1108672
MPS-G50CSH15D43ZZZ	1108673
MPS-G50CSH55D43ZZZ	1108674

- **Communication interface:** IO-Link
- **Smart Sensor:** Enhanced Sensing, efficient communication, diagnosis
- **Output function:** IO-Link
- **Switching output:** 2 x push-pull: PNP/NPN
- **Electrical wiring:** DC 4-wire
- **Cable material:** PUR
- **Measuring range:** 50 mm

Connection type	Type	Part no.
Cable with connector M12, with knurled nuts, 0.3 m	MPS-G50CFH13E31DZZ	1108678
		1127845
	MPS-G50CSH13E31DZZ	1108679
		1127846
	MPS-G50CSH53E31DZZ	1108680
		1127847
Cable with connector M8, with knurled nuts, 0.5 m	MPS-G50CFH15D31DZZ	1108675
		1127842
		1108681
		1127848
	MPS-G50CSH15D31DZZ	1108676
		1127843
		1127849
		1108682
	MPS-G50CSH55D31DZZ	1108677
		1127844

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**

SICK AG | Waldkirch | Germany | www.sick.com

SICK
Sensor Intelligence.