



MPS-G

Very short position sensors for grippers and miniature cylinders

POSITION SENSORS

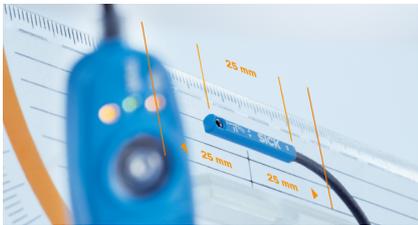
SICK
Sensor Intelligence.

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.



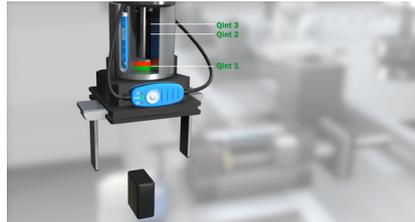
Can be flexibly adapted to any requirement - with innovative operating concepts

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



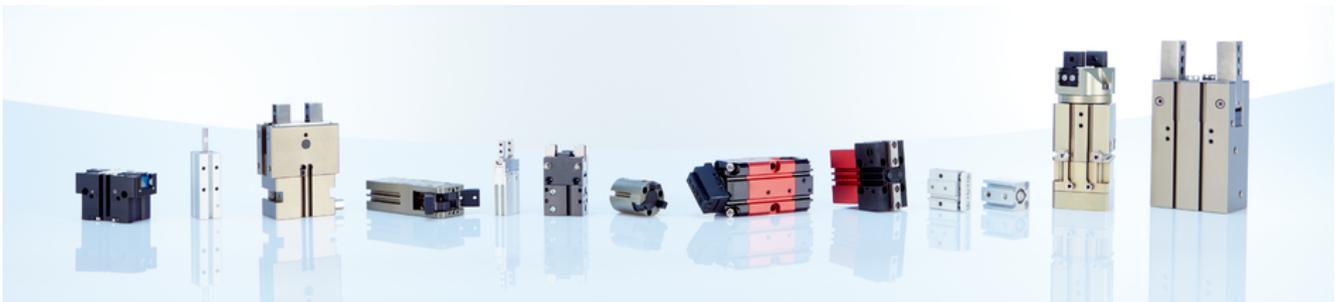
Switching signals can be generated flexibly and individually from the absolute position values



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. Even unauthorized intervention by operating staff can be tracked using the position sensor. When setting up the machine, the MPS-G data help find the optimal setting, for example for slowing down.



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

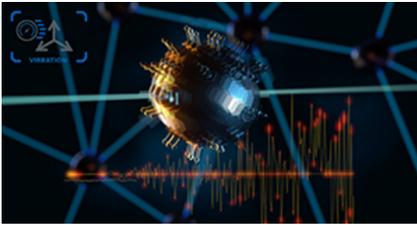
+ The MPS-G delivers basic data for optimal adjustment and condition monitoring of pneumatic drives – and without installing any other components.



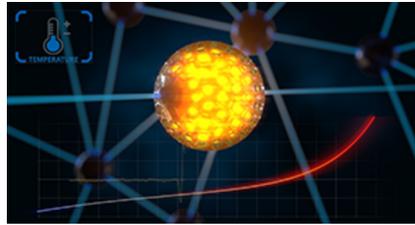
Diagnosis

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.

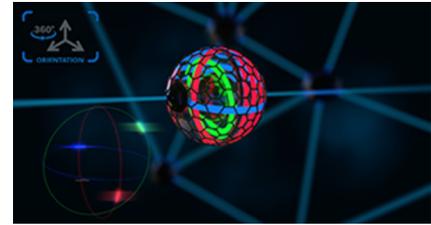
Smart Sensors will send a notification independently if safe operation is at risk. Thanks to predictive maintenance, flexible, needs-based maintenance schedules can be created, helping reduce service costs. If problems should arise, however, the cause can be easily determined thanks to comprehensive 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



Technical data overview

Output function	Analog / IO-Link (depending on type)
IO-Link	- / ✓ (depending on type)
Teach-in	✓
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
Supply voltage	13 V DC ... 30 V DC ¹⁾ 10 V DC ... 30 V DC

¹⁾ 12 V DC ... 30 V DC for deactivated out-of-range display.

Product description

MPS-G position sensors continuously detect the position of the fingers of pneumatic grippers and the piston position of miniature cylinders using a direct, non-contact method. The magnetic distance measuring system with the compact design enables extremely precise position determination. The sensor supports countless wiring and control concepts. SICK offers two product variants for this purpose: Sensors with analog voltage output and IO-Link sensors with Smart Sensor profile and two adjustable digital switching outputs – the right solution for nearly any requirement. Via IO-Link, the MPS-G also delivers comprehensive diagnostic data including performance data from pneumatic drives or data on condition monitoring of systems.

At a glance

- Position feedback with a measuring range of up to 50 mm
- Programming of up to 3 digital switching signals
- 16 switching points via IO-Link
- Adjustment of digital switching outputs via dynamic teach-in
- Diagnostic data of grippers and cylinders
- Data on machine temperature and vibration
- Detection of sensor head orientation

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
- Reproducible detection of very small object tolerances
- Completely protected due to flush installation of the sensor head
- Optimizes costs in orientation detection of objects and vibration monitoring in sensitive manufacturing process as additional sensors are not needed
- Optimizes processes and predictive maintenance of pneumatic systems by monitoring the drive performance
- Simplifies temperature monitoring in systems due to integrated temperature sensor

Fields of application

- Handling and assembly
- Pick-and-place applications in the electronics industry
- End-of-Arm Tooling and robot grippers

Ordering information

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

- **Output function:** Analog
- **Electrical wiring:** DC 4-wire
- **Teach-in:** ✓
- **Cable material:** PUR

Measuring range	Connection type	Type	Part no.
50 mm	Cable with connector M8, with knurled nuts, 0.5 m	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
- **Teach-in:** ✓
- **Cable material:** PUR

Measuring range	Connection type	Type	Part no.
50 mm	Cable with connector M12, with knurled nuts, 0.3 m	MPS-G50CFH13E31DZZ	1108678
		MPS-G50CSH13E31DZZ	1108679
		MPS-G50CSH53E31DZZ	1108680
	Cable with connector M8, with knurled nuts, 0.5 m	MPS-G50CFH15D31DZZ	1108675
		MPS-G50CFH15D31DZZ	1108681
		MPS-G50CSH15D31DZZ	1108676
		MPS-G50CSH15D31DZZ	1108682
		MPS-G50CSH55D31DZZ	1108677

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