



MPS-G50CSH53E31DZZ

MPS-G

CYLINDER SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
MPS-G50CSH53E31DZZ	1108680

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



Detailed technical data

Features

Cylinder type	C-slot
Preferred manufacturer slot	SMC, PHD, Bimba
Detection zone	0 mm ... 50 mm ¹⁾
Cylinder types with adapter	T-slot cylinders Round body cylinder Profile cylinders and tie-rod cylinders
Measuring range	50 mm
Housing length	25 mm
Switching output	2 x push-pull: PNP/NPN
Output function	IO-Link
Electrical wiring	DC 4-wire
Enclosure rating	IP67
Adjustment	
Teach-in button	Initialization of dynamic teach for 1 to 3 switching points Manual programming of 1 to 3 switching points (digital outputs) Adjustment of overrun distance per switching point Resetting of switching points
IO-Link	Configuration of up to 16 switching points
Diagnostic functionality	Actuator diagnosis
Special features	Completely embedded mounting in the slot, providing protection

¹⁾ Deviations are possible depending on the drive.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC
Voltage drop	≤ 1 V
Continuous current I_a	≤ 200 mA ¹⁾
Protection class	III
Time delay before availability	0.15 s
Power consumption	≤ 550 mW
Required magnetic field sensitivity, typ.	2 mT ... 20 mT ²⁾
Overrun distance	Configurable
Hysteresis	Configurable
Resolution, typ.	0,01 mm ³⁾
Linearity error, typ.	0.3 mm ⁴⁾
Repeat accuracy, typ.	0.05 mm ⁵⁾
Sampling rate, typ.	1 ms
Reverse polarity protection	Yes
Short-circuit protection	Yes
Status indicator LED	Yes
Digital switching output	Yes
Teach-in	Yes
Ambient operating temperature	-20 °C ... +70 °C
Shock and vibration resistance	30 g, 11 ms / 10 ... 55 Hz, 1 mm
EMC	According to EN 60947-5-2
Connection type	Cable with connector M12, 4-pin, with knurled nut, 0.3 m
Connection type Detail	
Conductor cross section	0.08 mm ²
Cable diameter	Ø 2.6 mm
Bending radius	For flexible use > 10 x cable diameter
	With fixed installation > 5 x cable diameter
Cable outlet	Axial
Control elements connection cable	
Connection type	Cable, 4-wire, 0.5 m
Control elements connection cable detail	
Conductor size	0.09 mm ²
Cable diameter	Ø 2.2 mm
Bending radius	For flexible use > 10 x cable diameter
	With fixed installation > 5 x cable diameter
Cable outlet	Axial

¹⁾ ≤ 200 mA (PUSH); ≥ -200 mA (PULL).

²⁾ The sensor must not be subjected to magnetic fields strengths of > 20 mT!

³⁾ For measuring range > 37 mm, the following applies for the resolution: Measuring range / 3,723.

⁴⁾ At 25 °C, linearity error (maximum deviation) depending on response curve and minimal deviation function.

⁵⁾ At 25 °C, repeatability magnet movement in one direction.

Material	Housing	Plastic, PA, strengthened
	Cable	PUR
	Control element	Plastic, TPU, reinforced

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Safety-related parameters

MTTF_D	358 years
DC_{avg}	0 %
T_M (mission time)	20 years

Communication interface

Communication interface	IO-Link V1.1
Communication Interface detail	COM3
Cycle time	1 ms
Process data length	32 Bit
Process data structure	Bit 0 ... 15 = switching signal Qint1 - Qint16 Bit 16 ... 31 = position (in x10 µm)

Diagnosis

Actuator diagnosis	Status data	Cycle count, travel time, cylinder travel, dwell time, piston velocity
	Magnetic field strength	2 mT ... 18 mT

Certificates

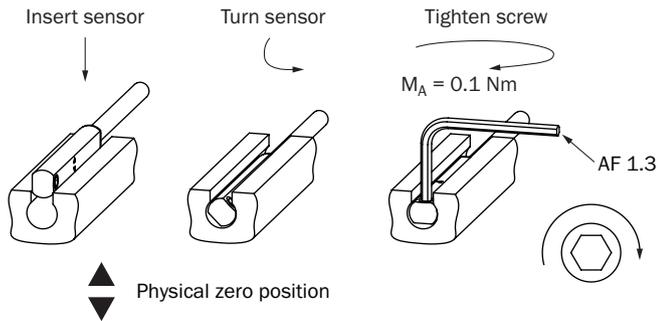
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
IO-Link certificate	✓

Classifications

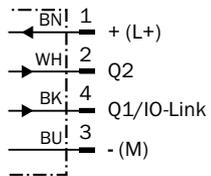
ECLASS 5.0	27270104
ECLASS 5.1.4	27270104
ECLASS 6.0	27270104
ECLASS 6.2	27270104
ECLASS 7.0	27270104
ECLASS 8.0	27270104
ECLASS 8.1	27270104
ECLASS 9.0	27270104
ECLASS 10.0	27270104

ECLASS 11.0	27270104
ECLASS 12.0	27274301
ETIM 5.0	EC002544
ETIM 6.0	EC002544
ETIM 7.0	EC002544
ETIM 8.0	EC002544
UNSPSC 16.0901	39122230

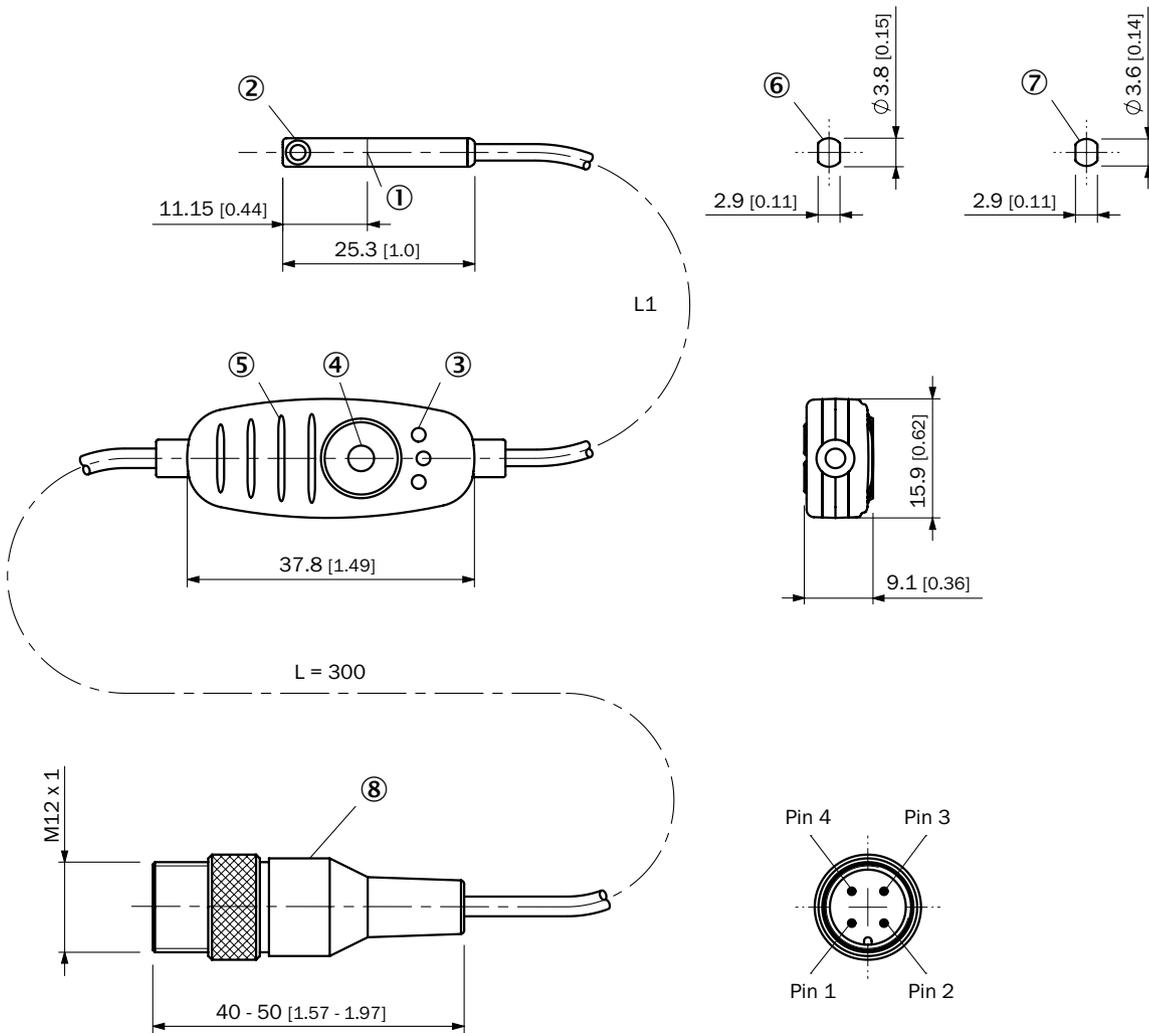
Installation note



Connection diagram Cd-466



Dimensional drawing Cable with connector M12, with knurled nut



Dimensions in mm (inch)

- ① Center of sensor element
- ② Fixing screw SW 1.3
- ③ Display LED
- ④ Teach-in button
- ⑤ ribbing for cable ties
- ⑥ For SMC, Schunk, PHD, Bimba slot (MPS-G50CS...)
- ⑦ for Festo, Zimmer, Gimatic slot (MPS-G50CF...)
- ⑧ Connection

Part no.	Type	L1	Number of cores
1127845	MPS-G50CFH13E31DZZ	100 mm	4
1127846	MPS-G50CSH13E31DZZ	100 mm	4
1127847	MPS-G50CSH53E31DZZ	500 mm	4
1149229	MPS-G50CSHA5D31DZZ	1000 mm	4

Recommended accessories

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

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> Description: Mounting is by means of the enclosed adhesive pad, 2x M3 countersunk screws or 2x cable ties Material: Plastic Details: Plastic Items supplied: Including double-sided adhesive pad Usable for: MPS-G 	BEF-CPMPS-G	2117133
	<ul style="list-style-type: none"> Description: Preferred manufacturer slot Festo, SMC, Pneumax, Airtec Material: Plastic Details: Plastic Usable for: MPS-G, MZC2, MZ2Q-C 	BEF-KHZ-TC3	2117770

	Brief description	Type	part no.
network devices			
		IOLA2US-01101 (SiLink2 Master)	1061790
		SIG200-0A0512200	1089796
		SIG200-0A0412200	1089794
		SIG200-0A0G12200	1102605
		SIG350-0004AP100	6076871
		SIG350-0005AP100	6076923
		SIG350-0006AP100	6076924
		SIG300-0A0GAA100	1131014

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none">• Connection type head A: Male connector, M12, 4-pin, straight, A-coded• Description: Unshielded• Connection systems: Screw-type terminals• Permitted cross-section: ≤ 0.75 mm²	STE-1204-G	6009932

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.”

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