Data sheet

MPS-G50CSH15D31DZZ

MPS-G

CYLINDER SENSORS

SICK
Sensor Intelligence.

Ordering information

Type	part no.
MPS-G50CSH15D31DZZ	1127849

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 8 switching points
Diagnostic functionality	Vibration Orientation Temperature Maximum acceleration 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

[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.

Voltage drop	≤ 1 V
Continuous current I_a	≤ 200 mA [1]
Protection class	III
Time delay before availability	0.175 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 M8, 4-pin, with knurled nut, 0.5 m
Connection type Detail	
Conductor cross section	0.08 mm²
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, 0.1 m
Control elements connection cable detail	
Conductor size	0.09 mm²
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
Material	
Housing	Plastic, PA, strengthened

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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 ... 7 = switching signal Qint1 - Qint8 (or up to 8 alarm notifications) Bit 8 ... 15 = scaling Bit 16 ... 31 = position (in x10 µm)

Diagnosis

Vibration	
Number of axis	3
Measuring range a-RMS	0 g ... 5.6 g
Frequency range	Typ. 1.4 kHz
Noise	Typ. 14 mg
Update rate	1.25 Hz
Vibration analysis	A-RMS, kurtosis, pulse factor
Orientation	
Number of axis	2
Roll Euler angle measuring range	± 180°
Pitch Euler angle measuring range	± 90°
Resolution	0.02°
Roll repeatability	Typ. ± 2.5°
Pitch repeatability	Typ. ± 2.5°
Noise	Typ. 0.25°
Update rate	100 Hz
Limit frequency	50 Hz
Device temperature	
Measuring range	–125 °C ... +125 °C
Accuracy	Typ. ± 1 °C
Maximum acceleration	
Measuring range	± 8 g
Update rate	1 kHz

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

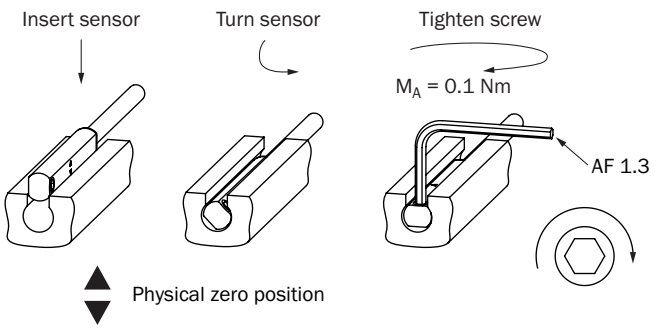
Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

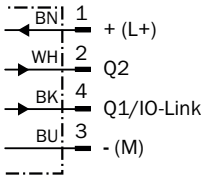
Classifications

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

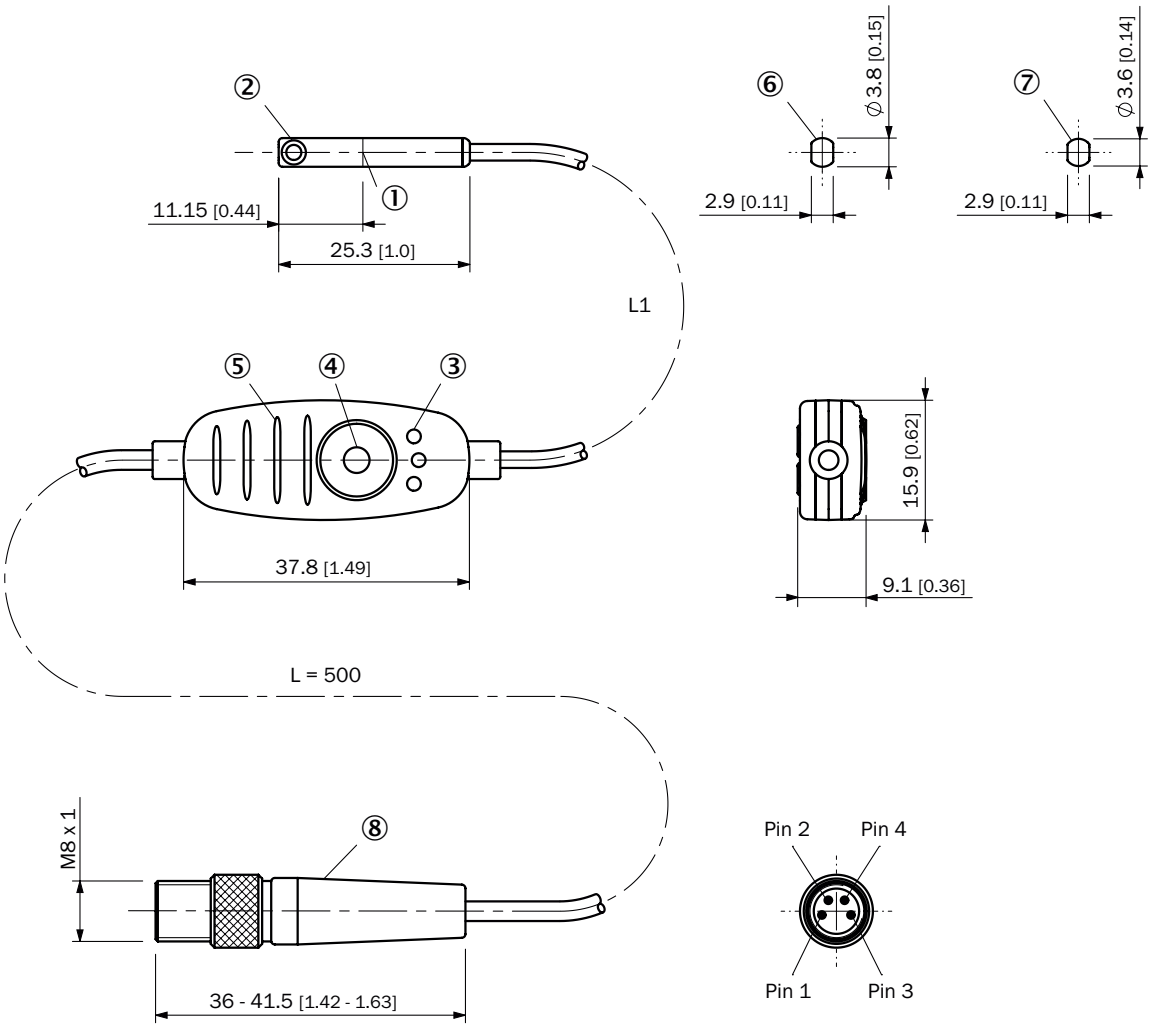
Installation note



Connection diagram Cd-466



Dimensional drawing Cable with plug M8, 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
1108672	MPS-G50CFH15D43ZZZ	100 mm	4

Part no.	Type	L1	Number of cores
1108673	MPS-G50CSH15D43ZZZ	100 mm	4
1108674	MPS-G50CSH55D43ZZZ	500 mm	4
1127842	MPS-G50CFH15D31DZZ	100 mm	4
1127843	MPS-G50CSH15D31DZZ	100 mm	4
1127844	MPS-G50CSH55D31DZZ	500 mm	4
1127848	MPS-G50CFH15D31DZZ	100 mm	4
1127849	MPS-G50CSH15D31DZZ	100 mm	4

Recommended accessories

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

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

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