MPB10-VS00VSIQ00

Multi Physics Box

CONDITION MONITORING SENSORS

SICK
Sensor Intelligence.

MPB10-VS00VSIQ00 | Multi Physics Box

CONDITION MONITORING SENSORS

Ordering information

Type	Part no.
MPB10-VS00VSIQ00	1123926

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

Detailed technical data

Features

Vibration	
Number of axis	3
Measuring range	± 8 g
Measurement error	± 6 %
Measuring range a-RMS	0 g … 5.65 g
Measuring range v-RMS	0 mm/s … 100 mm/s, At 88 Hz
Frequency range	0.78 Hz … 3,200 Hz
Frequency resolution	≥ 0.78 Hz
Bandpass filter	Freely parameterizable in the range 1 … 3200 Hz
Trigger	Automatic/IO-Link/external
Block length	0.02 s … 1.28 s
Signal type	Acceleration/speed
Vibration analysis	a-RMS v-RMS Variance Skewness Kurtosis Peak to peak Shape factor Crest factor Impulse factor Frequency analysis
Vibration monitoring	Evaluation of the severity zone according to ISO 10816-3 Teach-in of the reference vibration pattern Raw data output for parameterization
Contact temperature	
Measuring range	- 40 °C … + 80 °C
Accuracy	Typ. ± 1 °C

Resolution	1 °C
Shock	
Number of axis	3
Measuring range	10 g … 200 g

Mechanics/electronics

Supply voltage	10 V DC … 30 V DC
Voltage drop	≤ 1 V
Continuous current I_a	≤ 200 mA
Enclosure rating	IP68
Protection class	III
Power consumption	< 350 mW
Ambient operating temperature	−40 °C … +80 °C
Shock and vibration resistance	EN 60068-2-27 shock resistance Ea: 30 g 11 ms; 3 shocks in each direction of the 3 coordinate axes IEC 60068-2-31 drop test: 2 times from 1 m, 100 times from 0.5 m EN 60068-2-6 vibration resistance Fc: 10 Hz … 150 Hz, 1 mm / 15 g
Reverse polarity protection	Yes
Short-circuit protection	Yes
EMC	According to IO-Link IEC 61131-9 standard
Connection type	Cable with connector M12, with knurled nuts, 0.3 m
Connection type Detail	
Cable diameter	Ø 2.6 mm
Conductor cross section	0.08 mm²
Bending radius	For flexible use > 10 x cable diameter With fixed installation > 5 x cable diameter
Cable outlet	Axial
Material	
Housing	Stainless steel
Cable	PUR
Dimensions (W x H x D)	10 mm x 28 mm x 28 mm
Device status	Yes
Operating hour counter	Yes
Operating hours counter with reset function	Yes
Digital switching output	Yes
Boot cycle counter	Yes
IO-Link	Yes
Status indicator	LED, green/orange
Switching output	Push-pull: PNP/NPN

Safety-related parameters

$MTTF_D$	428 years
DC_{avg}	0%
T_M (mission time)	20 years

Communication interface

Communication interface	IO-Link V1.1
Communication Interface detail	COM3
Cycle time	5 ms
Process data length	160 Bit
Process data structure	Bit 0 … 15 = alarm bit 1 - alarm bit 16 Bit 16 … bit 31 = reserved Value 0 … 3 = configurable with vibration and temperature data
VendorID	26
DeviceID HEX	0x8002F6
DeviceID DEC	8389366
Compatible master port type	A
SIO mode support	Yes

Smart Task

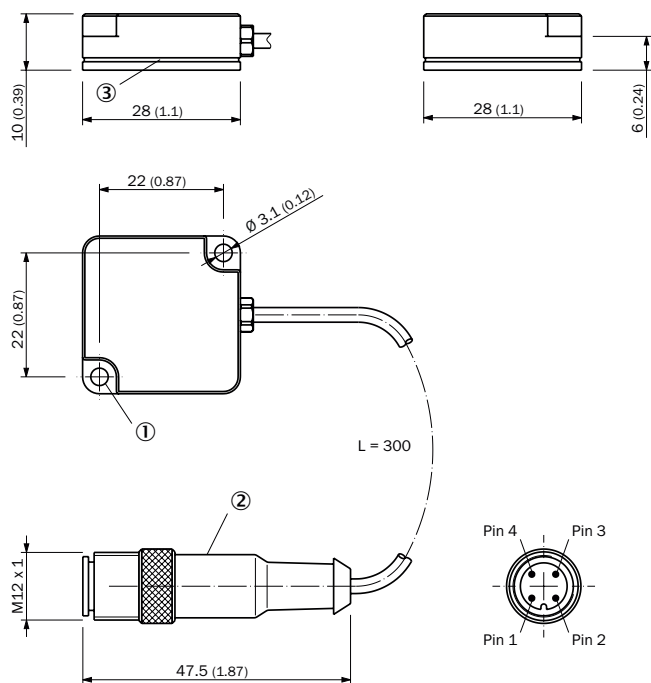|	
Smart Task name	Base logics
Logic function	Direct AND OR
Timer function	Deactivated Switch-on delay Off delay ON and OFF delay Impulse (one shot)
Inverter	Yes
Switching signal	
Switching signal Q_{L1}	Switching output
Switching signal $\bar{Q}_{L1}$	Switching output

Classifications

ECLASS 5.0	27209090
ECLASS 5.1.4	27209090
ECLASS 6.0	27209090
ECLASS 6.2	27209090
ECLASS 7.0	27209090
ECLASS 8.0	27209090
ECLASS 8.1	27209090
ECLASS 9.0	27209090
ECLASS 10.0	27209090
ECLASS 11.0	27209090
ECLASS 12.0	27209090
ETIM 5.0	EC004309
ETIM 6.0	EC004309
ETIM 7.0	EC004309
ETIM 8.0	EC004309
UNSPSC 16.0901	39121552

Connection diagram

Cd-466

BN	1	+ (L+)
WH	2	Q2
BK	4	Q1/IO-Link
BU	3	- (M)
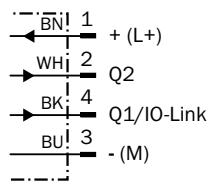
Dimensional drawing (Dimensions in mm (inch))

10 (0.39)
28 (1.1)
③

28 (1.1)
6 (0.24)

22 (0.87)
Ø 3.1 (0.12)
22 (0.87)
①
L = 300

②
M12 x 1
47.5 (1.87)

Pin 4   Pin 3
Pin 1   Pin 2

① Mounting holes for M3 x 10 EN ISO 4762
② Connection
③ Transparent seal with several integrated status LEDs

Recommended accessories

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

	Brief description	Type	Part no.
Connection modules			
	IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A	IOLA2US-01101 (SiLink2 Master)	1061790

	Brief description	Type	Part no.
Mounting brackets and plates			
	Aluminum, mounting hardware included	BEF-AP5-MPB	2129152
		BEF-AP8-MPB	2129153
		BEF-APM-MPB	2125439
	• **Sub product family:** SIM1012 • **Product category:** Programmable devices • **Supported products:** 2D and 3D LiDAR sensors, Devices with FW2.x.x.: pico- and midiCam2 series, GigE-Vision compatible cameras (from 2022) Devices with FW1.x.x.: picoCam1 and midiCam1 series, incremental and absolute encoders, Image-based code readers, Fixed mount barcode scanners, RFID read/write device, displacement measurement sensors, Photoelectric sensors • **Processor:** Dual-core ARM Cortex-A9 CPU with NEON accelerator • **Toolkit:** SICK algorithm API • **Further functions:** FPGA for I/O handling • **Connections:** Power, Incremental, serial, CAN, S1-S6, IO-Link Master, Ethernet • **Enclosure rating:** IP65	SIM1012-0P0G200	1098146
	• **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 4-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with oils and lubricants, Drag chain operation, Robot	YF2A14-050UB3XLEAX	2095608
Sensor Integration Gateway			
	• **Further functions:** Web server integrated, IIoT interface available (dual talk) • **Logic editor:** no • **Communication interface:** IO-Link, Ethernet, PROFINET, REST API, MQTT, OPC UA • **Product category:** IO-Link Master	SIG350-0004AP100	6076871
	• **Further functions:** Web server integrated, IIoT interface available (dual talk) • **Logic editor:** no • **Communication interface:** IO-Link, Ethernet, EtherNet/IP™, REST API, MQTT, OPC UA • **Product category:** IO-Link Master	SIG350-0005AP100	6076923
	• **Further functions:** Web server integrated, IIoT interface available (dual talk) • **Logic editor:** no • **Communication interface:** IO-Link, Ethernet, EtherCAT®, REST API, MQTT, OPC UA • **Product category:** IO-Link Master	SIG350-0006AP100	6076924
	• **Further functions:** Web server integrated, USB connection for easy configuration of the SIG200 Sensor Integration Gateway with SOPAS ET, the engineering tool from SICK, logic editor is available for easy configuration of logic functions • **Connection CONFIG:** 1 x M8, 4-pin female connector, USB 2.0 (USB-A) • **Logic editor:** yes • **Communication interface:** IO-Link, USB, Ethernet, PROFINET, REST API • **Product category:** IO-Link Master	SIG200-0A0412200	1089794
	• **Description:** The SIG200 Sensor Integration Gateway is an IO-Link master with 4 configurable ports through which the IO-Link devices or standard inputs or standard outputs can be connected to a PLC or cloud application using the REST API. • **Further functions:** Web server integrated, USB connection for easy configuration of the SIG200 Sensor Integration Gateway with SOPAS ET, the engineering tool from SICK, logic editor is available for easy configuration of logic functions • **Connection CONFIG:** 1 x M8, 4-pin female connector, USB 2.0 (USB-A) • **Logic editor:** yes • **Communication interface:** IO-Link, USB, Ethernet, EtherNet/IP™, REST API • **Product category:** IO-Link Master	SIG200-0A0512200	1089796

	Brief description	Type	Part no.
	• **Further functions:** Web server integrated, USB connection for easy configuration of the SIG200 Sensor Integration Gateway with SOPAS ET, the engineering tool from SICK, logic editor is available for easy configuration of logic functions • **Connection CONFIG:** 1 x M8, 4-pin female connector, USB 2.0 (USB-A) • **Logic editor:** yes • **Communication interface:** IO-Link, USB, Ethernet, REST API • **Product category:** IO-Link Master	SIG200-0A0G12200	1102605

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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