



MPB10-VS00VSIQ00

Multi Physics Box

CONDITION MONITORING SENSORS

SICK
Sensor Intelligence.



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	
Vibration monitoring	Frequency analysis	
	Evaluation of the severity zone according to ISO 10816-3	

Contact temperature		Teach-in of the reference vibration pattern
		Raw data output for parameterization
	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 mm ²
	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

Certificates

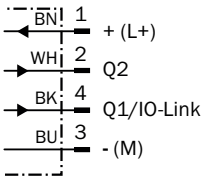
EU declaration of conformity	✓
UK declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
cULus certificate	✓
IO-Link	✓

Classifications

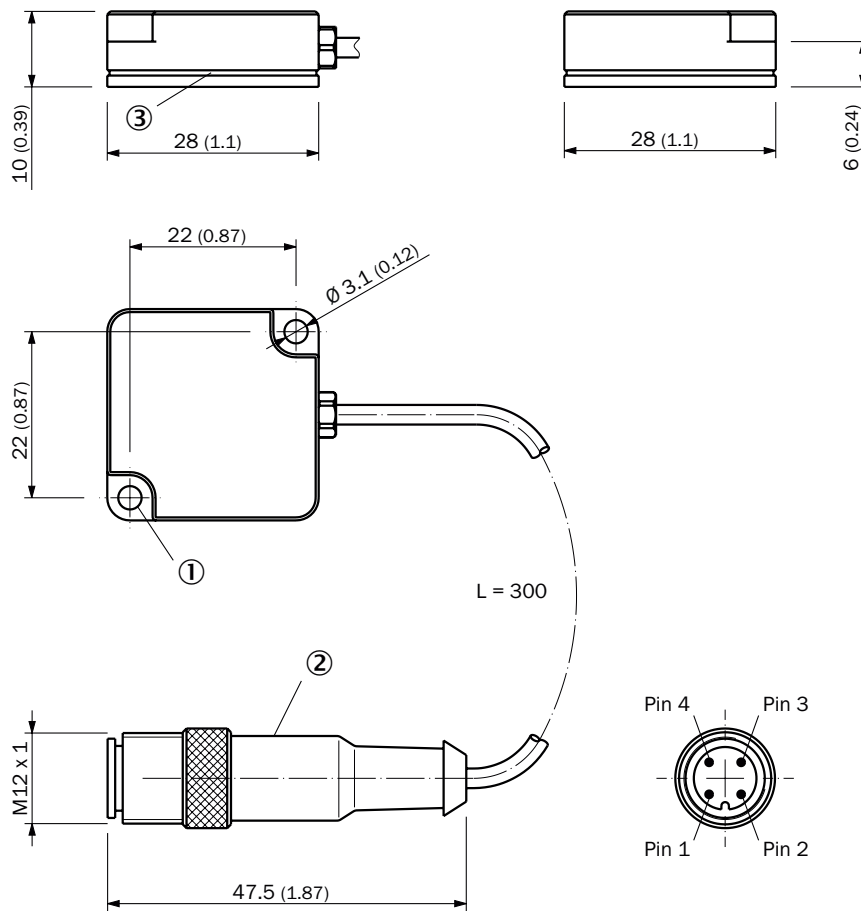
ECLASS 5.0	27209090
ECLASS 5.1.4	27209090
ECLASS 6.0	27209090
ECLASS 6.2	27209090
ECLASS 7.0	27209090

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



Dimensional drawing



Recommended accessories

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

	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.
edge computing devices			
		SIM1012-0P0G200	1098146
connectors and cables			
	• 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: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-050UB3XLEAX	2095608
Mounting systems			
	• Material: Aluminum • Details: Aluminum • Items supplied: Mounting hardware included • Usable for: Magnetic mounting plate for screwless mounting of the Multi Physics Box	BEF-APM-MPB	2125439
	• Material: Aluminum • Details: Aluminum • Items supplied: Mounting hardware included • Usable for: Adapter plate with M5 threaded hole for mounting the Multi Physics Box	BEF-AP5-MPB	2129152
	• Material: Aluminum • Details: Aluminum • Items supplied: Mounting hardware included • Usable for: Adapter plate with M8 threaded hole for mounting the Multi Physics Box	BEF-AP8-MPB	2129153

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