



# 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](http://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

<b>Contact temperature</b>		Teach-in of the reference vibration pattern
		Raw data output for parameterization
	Measuring range	- 40 °C ... + 80 °C
	Accuracy	Typ. $\pm 1$ °C
<b>Shock</b>	Resolution	1 °C
	Number of axis	3
	Measuring range	10 g ... 200 g

## Mechanics/electronics

<b>Supply voltage</b>	10 V DC ... 30 V DC
<b>Voltage drop</b>	$\leq 1$ V
<b>Continuous current <math>I_a</math></b>	$\leq 200$ mA
<b>Enclosure rating</b>	IP68
<b>Protection class</b>	III
<b>Power consumption</b>	< 350 mW
<b>Ambient operating temperature</b>	-40 °C ... +80 °C
<b>Shock and vibration resistance</b>	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
<b>Reverse polarity protection</b>	Yes
<b>Short-circuit protection</b>	Yes
<b>EMC</b>	According to IO-Link IEC 61131-9 standard
<b>Connection type</b>	Cable with connector M12, with knurled nuts, 0.3 m
<b>Connection type Detail</b>	
Cable diameter	Ø 2.6 mm
Conductor cross section	0.08 mm <sup>2</sup>
Bending radius	For flexible use > 10 x cable diameter With fixed installation > 5 x cable diameter
Cable outlet	Axial
<b>Material</b>	
Housing	Stainless steel
Cable	PUR
<b>Dimensions (W x H x D)</b>	10 mm x 28 mm x 28 mm
<b>Device status</b>	Yes
<b>Operating hour counter</b>	Yes
<b>Operating hours counter with reset function</b>	Yes
<b>Digital switching output</b>	Yes
<b>Boot cycle counter</b>	Yes
<b>IO-Link</b>	Yes
<b>Status indicator</b>	LED, green/orange
<b>Switching output</b>	Push-pull: PNP/NPN

### Safety-related parameters

<b>MTTF<sub>D</sub></b>	428 years
<b>DC<sub>avg</sub></b>	0%
<b>T<sub>M</sub> (mission time)</b>	20 years

### Communication interface

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

### Smart Task

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

### Certificates

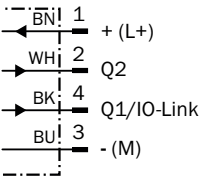
<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>Moroccan declaration of conformity</b>	✓
<b>China RoHS</b>	✓
<b>cULus certificate</b>	✓
<b>IO-Link certificate</b>	✓

### Classifications

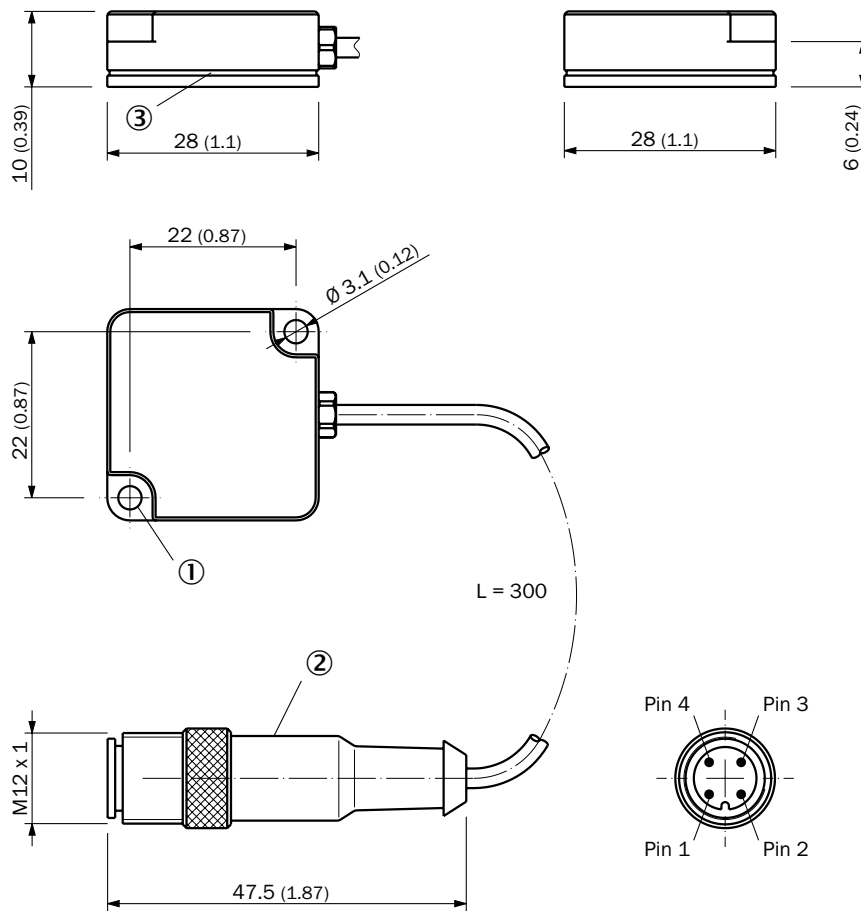
<b>ECLASS 5.0</b>	27209090
<b>ECLASS 5.1.4</b>	27209090
<b>ECLASS 6.0</b>	27209090
<b>ECLASS 6.2</b>	27209090
<b>ECLASS 7.0</b>	27209090

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












Dimensions in mm (inch)

- 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](http://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			
	<ul style="list-style-type: none"><li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li><li>• <b>Connection type head B:</b> Flying leads</li><li>• <b>Signal type:</b> Sensor/actuator cable</li><li>• <b>Cable:</b> 5 m, 4-wire, PUR, halogen-free</li><li>• <b>Description:</b> Sensor/actuator cable, unshielded</li><li>• <b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li></ul>	YF2A14-050UB3XLEAX	2095608
Mounting systems			
	<ul style="list-style-type: none"><li>• <b>Material:</b> Aluminum</li><li>• <b>Details:</b> Aluminum</li><li>• <b>Items supplied:</b> Mounting hardware included</li><li>• <b>Usable for:</b> Magnetic mounting plate for screwless mounting of the Multi Physics Box</li></ul>	BEF-APM-MPB	2125439
	<ul style="list-style-type: none"><li>• <b>Material:</b> Aluminum</li><li>• <b>Details:</b> Aluminum</li><li>• <b>Items supplied:</b> Mounting hardware included</li><li>• <b>Usable for:</b> Adapter plate with M5 threaded hole for mounting the Multi Physics Box</li></ul>	BEF-AP5-MPB	2129152
	<ul style="list-style-type: none"><li>• <b>Material:</b> Aluminum</li><li>• <b>Details:</b> Aluminum</li><li>• <b>Items supplied:</b> Mounting hardware included</li><li>• <b>Usable for:</b> Adapter plate with M8 threaded hole for mounting the Multi Physics Box</li></ul>	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](http://www.sick.com)