

# Vibration sensor

## VIM32PL-E1G10-0RE-I420V14



- Analog current output
- Screw-in thread for simple installation
- Simple electrical commissioning
- Rugged stainless steel housing
- Vibration acceleration in g via root mean square formation (rms)

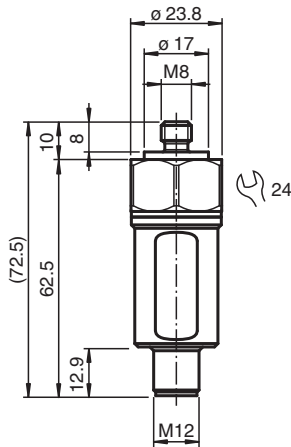
Vibration sensor with analog current output



### Function

The vibration sensor determines the vibration quantity using rms (root mean square) averaging. This form of quadratic averaging or pre-filtering enables precise trend statements about the condition of the application. The simple mounting allows for commissioning in any application.

### Dimensions



### Technical Data

General specifications		
Type	Vibration sensor	
Measuring technology	MEMS	
Series	Performance Line	
Measured variable	Vibration acceleration	
Measurement range		
Vibration acceleration	a-rms	0 ... 10 g rms
Measurement accuracy	± 0.01 g (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954	
Cross-sensitivity	< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis	
Frequency range	10 ... 1000 Hz	
Averaging time	for a-rms: 2 s	
Functional safety related parameters		

Release date: 2023-10-25 Date of issue: 2023-10-25 Filename: 70146714-100002\_eng.pdf

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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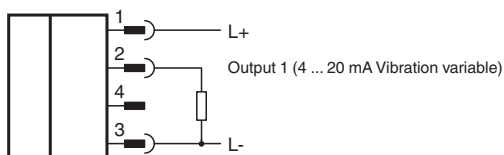
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## Technical Data

MTTF <sub>d</sub>		329 a
Mission Time (T <sub>M</sub> )		20 a
Diagnostic Coverage (DC)		0 %
<b>Electrical specifications</b>		
Fusing		external fuse is required: 1 A , fast acting , 30 V DC
Operating voltage	U <sub>B</sub>	18 ... 30 V DC
Current consumption		max. 120 mA
Power consumption	P <sub>0</sub>	max. 3.6 W
Time delay before availability	t <sub>v</sub>	2 s (rms filter is calculated initially with measurement data before they are available at the output)
Surge protection		up to 2 kV
<b>Output 1</b>		
Output type		analog output, current output of the vibration variable
Output current		4 ... 20 mA
Load resistor		≤ 500 Ω
<b>Standard conformity</b>		
Degree of protection		DIN EN 60529, IP66, IP67
Shock resistance		DIN EN 60068-2-27, 60 g, 6 ms
Vibration resistance		DIN EN 60068-2-6, 16.5 g, 10 ... 1000 Hz
<b>Approvals and certificates</b>		
UL approval		
Ordinary Location		E468231 cULus Listed, Class III Power Source and limited energy , if UL marking is marked on the product. For use in NFPA 70 Applications only. adapters providing field wiring on request
Maximum permissible ambient temperature		max. 80 °C (max. 176 °F)
<b>Ambient conditions</b>		
Ambient temperature		-40 ... 85 °C (-40 ... 185 °F)
Storage temperature		-40 ... 60 °C (-40 ... 140 °F)
<b>Mechanical specifications</b>		
Connection type		plug
Housing material		Stainless steel 1.4305 / AISI 303
Housing length		72.5 mm
Housing diameter		23.8 mm
Degree of protection		IP66 / IP67 only in connected state
Connector		
Threading		M12
Number of pins		4
Mass		approx. 100 g

## Connection



## Connection Assignment



## Accessories

Accessories for this product can be found on the internet at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com).

## Installation

### Further Documentation

The sensor manual is also available as detailed overall documentation. Among other things, installation, grounding concepts and mounting are described there in detail.

You can access the manual via the product detail page at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com).

### Note

The correct electrical connection and the selection of the appropriate grounding concept are crucial for malfunction-free operation of the sensor. For detailed information you may refer to the manual of the sensor.