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Vibration sensor

VIM62PL-E1V16-0ME-I420V14

- Extended temperature range
- Screw-in thread for simple installation
- Simple electrical commissioning
- Rugged stainless steel housing
- Vibration velocity in mm/s via root mean square formation (rms)

Vibration sensor with analog current output and increased temperature resistance







Function

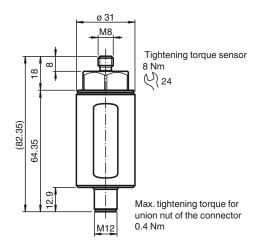
The vibration sensor determines the vibration quantity using rms (root meas square) averaging. This form of quadratic averaging or pre-filtering enables precise trend statements about the condition of the application.

The sensor's design is impressively robust against tough environmental conditions.

The stainless steel housing provides optimal protection against corrosion. The wide temperature range of the sensor enables reliable measured values even in harsh conditions.

The simple mounting allows for commissioning in any application.

Dimensions



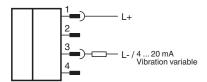
Technical Data

General specifications		
Туре	Vibration sensor	
Measuring technology	MEMS	
Series	Performance Line	

Fusing external fuse is required: 3 A , semi-time-lag , 30 V DC Operating voltage U _B 10 30 V DC Current consumption P _D max. 750 mW Time delay before availability t _V 10 s (rms filter is calculated initially with measurement data before they are available in the output) Surge protection up to 2 kV Dutput 1 Output type analog output, current output of the vibration variable Output current 4 20 mA Load resistor 5 500 Ω Standard conformity Degree of protection DIN EN 60529, IP66, IP67 Shock resistance DIN EN 60688-2-27, 60 g, 6 ms Vibration resistance DIN EN 60688-2-27, 60 g, 6 ms Vibration resistance UL approval Ordinary Location Seminary Semi	Technical Data		
Wibration velocity	Measured variable		Vibration velocity
Measurement accuracy Measurement accuracy Measurement accuracy Cross-sensitivity Cross-sensitivity Cross-sensitivity 10 1000 Hz Frequency range 10	Measurement range		
Cross-sensitivity Complies with the tolerance requirements of DIN ISO 2954 for measurement range greater than B mm/s Frequency range 10 1000 Hz Frequency range 10 1000 Hz Averaging time 5 for v-ms: 2 s Electrical specifications Fusing Vestermal fuse is required: 3 A , semi-time-lag , 30 V DC Operating voltage U _B 10 30 V DC Current consumption max. 25 mA Power consumption P _B max. 750 mW Time delay before availability t _v 10 s (ms filter is calculated initially with measurement data before they are available is the output) Surge protection up to 2 kV Output type up to 2 kV Output type up to 2 kV Output type up to 2 kV Output current 4 20 mA Load resistor 500 Ω Standard conformity Degree of protection DIN EN 60589, IP66, IP67 Shock resistance DIN EN 60688-26, 16.5 g, 10 1000 Hz Approvals and certificates UL approval Ordinary Location E468231 cUL us Listed, Class III Power Source and limited energy , if UL marking is marked on the product. For using on request Ambient temperature 40 60 °C (-40 140 °F) Measuring head temperature 40 60 °C (-40 140 °F) Measuring head temperature 40 60 °C (-40 140 °F) Measuring head temperature 40 60 °C (-40 140 °F) Measuring head temperature 40 60 °C (-40 140 °F) Measuring head temperature 40 60 °C (-40 140 °F) Mechanical specifications Comection type plug Housing material 5 Stainless steel 1.4305 / AISI 303 Housing length 28.35 mm Degree of protection IP66 / IP67 only in connected state Connector 10	Vibration velocity		0 16 mm/s
Frequency range	Measurement accuracy		Complies with the tolerance requirements of DIN ISO 2954 for measurement range
Averaging time	Cross-sensitivity		$<\!5\%$ of the partial lateral acceleration, which acts exactly 90° to the measuring axis
Fusing	Frequency range		10 1000 Hz
Fusing external fuse is required: 3 A , semi-time-lag , 30 V DC Operating voltage U _B 10 30 V DC Current consumption P _D max. 750 mW Time delay before availability t _V 10 s (rms filter is calculated initially with measurement data before they are available in the output) Surge protection up to 2 kV Dutput 1 Output type analog output, current output of the vibration variable Output current 4 20 mA Load resistor 5 500 Ω Standard conformity Degree of protection DIN EN 60529, IP66, IP67 Shock resistance DIN EN 60688-2-27, 60 g, 6 ms Vibration resistance DIN EN 60688-2-27, 60 g, 6 ms Vibration resistance UL approval Ordinary Location Seminary Semi	Averaging time		for v-rms: 2 s
Operating voltage U _B 10 30 V DC Current consumption p0 max. 25 mA Power consumption p0 max. 750 mW Time delay before availability t√ 10 s (rms filter is calculated initially with measurement data before they are available the output) Surge protection up to 2 kV Output 1 Up to 2 kV Output type analog output, current output of the vibration variable Load resistor 4 20 mA Load resistor 500 Ω Standard conformity Degree of protection DIN EN 605829, IP66, IP67 Shock resistance DIN EN 60568-2-27, 60 g, 6 ms Vibration resistance DIN EN 60568-2-6, 16.5 g, 10 1000 Hz Approval 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. 60 °C (~40 140 °F) Ambient temperature ~40 60 °C (~40 140 °F) Measuring head temperature ~40 60 °C (~40 140 °F) Measuring head temperature ~40 60 °C (~40 140 °F) Mechani	Electrical specifications		
Current consumption max. 25 mA Power consumption Po max. 750 mW Time delay before availability t, 10 s (rms filter is calculated intially with measurement data before they are available in the output). Output 1 vp to 2 kV Output 1 analog output, current output of the vibration variable. Output current 4 20 mA Load resistor ≤ 500 Ω Standard conformity DIN EN 60529, IP66, IP67 Shock resistance DIN EN 60068-2-27, 60 g, 6 ms Vibration resistance DIN EN 60068-2-27, 60 g, 6 ms Vibration resistance DIN EN 60068-2-6, 16.5 g, 10 1000 Hz Approvals and certificates EA68231 oULus Listed, Class III Power Source and limited energy, if UL marking is marked on the product. For use in NFPA 70 Applications only. adaptors providing field writing on request Maximum permissible ambient temperature Ambient conditions Ambient conditions -40 60 °C (-40 140 °F) Measuring head temperature -40 60 °C (-40 140 °F) Measuring head temperature -40 60 °C (-40 140 °F) Measuring head temperature -40 60 °C (-40 140 °F) Measuring material Stainless st	Fusing		external fuse is required: 3 A , semi-time-lag , 30 V DC
Power consumption Po the content of the product of the output) max. 750 mW Surge protection up to 2 kV Dutput 1 up to 2 kV Output type analog output, current output of the vibration variable Output current 4 20 mA Load resistor \$500 Ω Standard conformity 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 Approvals and certificates DIN EN 60068-2-6, 16.5 g, 10 1000 Hz UL approval 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 writing on request Ambient conditions max. 60 °C (max. 140 °F) Measuring head temperature -40 60 °C (-40 140 °F) Measuring head temperature -40 125 °C (-40 257 °F) directly at the mounting point Storage temperature -40 60 °C (-40 140 °F) Mechanical specifications Connection type plug Housing alareter Stainless steel 1.4305 / AlSi 303 Housing d	Operating voltage	U_B	10 30 V DC
Time delay before availability Surge protection Up to 2 kV Output 1 Output type Output current Load resistor Standard conformity Degree of protection DIN EN 60529, IP66, IP67 Shock resistance DIN EN 60529, IP66, IP67 Shock resistance DIN EN 60529, IP66, IP67 Shock resistance DIN EN 60068-2-27, 60 g, 6 ms DIN EN 60068-2-6, 16.5 g, 10 1000 Hz Approvals and certificates UL approval Ordinary Location Maximum permissible ambient temperature Ambient conditions Ambient temperature Ambient temperature -40 60 °C (-40 140 °F) Measuring head temperature -40 60 °C (-40 140 °F) Mechanical specifications Connection type Housing material Housing material Degree of protection Din EN 606 'IP67 only in connected state Degree of protection Connector Threading M12 Number of pins	Current consumption		max. 25 mA
Surge protection up to 2 kV Output 1 output type analog output, current output of the vibration variable Output current 4 20 mA Load resistor ≤ 500 Ω Standard conformity Fraction of the conformity Degree of protection DIN EN 60529, IP66, IP67 Shock resistance DIN EN 60068-2-27, 60 g, 6 ms Vibration resistance DIN EN 60068-2-27, 60 g, 6 ms Vibration resistance DIN EN 60068-2-27, 60 g, 6 ms Vibration resistance DIN EN 60068-2-27, 60 g, 6 ms Vibration resistance DIN EN 60068-2-27, 60 g, 6 ms Vibration resistance DIN EN 60068-2-27, 60 g, 6 ms Vibration resistance DIN EN 60068-2-27, 60 g, 6 ms Vibration resistance DIN EN 60068-2-27, 60 g, 6 ms Vibration resistance DIN EN 60068-2-27, 60 g, 6 ms Vibration resistance DIN EN 60068-2-27, 60 g, 6 ms Vibration resistance DIN EN 60068-2-27, 60 g, 6 ms Vibration resistance DIN EN 60068-2-27, 60 g, 6 ms Vibration resistance DIN EN 60068-2-27, 60 g, 6 ms Usual particulations Standard remembers <t< td=""><td>Power consumption</td><td>P_0</td><td>max. 750 mW</td></t<>	Power consumption	P_0	max. 750 mW
Coutput 1 Output type analog output, current output of the vibration variable Output current 4 20 mA Load resistor ≤ 500 Ω Standard conformity Degree of protection DIN EN 60529, IP66, IP67 Shock resistance DIN EN 60068-2-27, 60 g, 6 ms Vibration resistance DIN EN 60068-2-27, 60 g, 6 ms Vibration resistance DIN EN 60068-2-6, 16.5 g, 10 1000 Hz Approvals and certificates 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 Amximum permissible ambient temperature max. 60 °C (max. 140 °F) Ambient temperature -40 60 °C (√40 140 °F) Measuring head temperature -40 60 °C (-40 257 °F) directly at the mounting point Storage temperature -40 60 °C (-40 140 °F) Mechanical specifications Connection type Housing material Stainless steel 1.4305 / AISI 303 Housing diameter 31 mm Degree of protection P66 / IP67 only in connected state Connector M12 Threading	Time delay before availability	t _v	10 s (rms filter is calculated intially with measurement data before they are available a the output)
Output type analog output, current output of the vibration variable Output current 4 20 mA Load resistor ≤ 500 Ω Standard conformity Degree of protection DIN EN 60529, IP66, IP67 Shock resistance DIN EN 60068-2-27, 60 g, 6 ms Vibration resistance DIN EN 60068-2-27, 60 g, 6 ms Vibration resistance DIN EN 60068-2-6, 16.5 g, 10 1000 Hz Approvals and certificates 40 1000 Fc (-6.5 g, 10 1000 Hz UL approval 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. 60 °C (max. 140 °F) Ambient conditions 40 60 °C (-40 140 °F) Ambient temperature -40 60 °C (-40 140 °F) Measuring head temperature -40 60 °C (-40 140 °F) Mechanical specifications 50 60 °C (-40 140 °F) Connection type plug Housing material Stainless steel 1.4305 / AISI 303 Housing diameter 31 mm Degree of protection P66 / IP67 only in connected state Connector 1 P66 / IP67 only in con	Surge protection		up to 2 kV
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Load resistor ≤ 500 Ω Standard conformity 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 Approvals and certificates UL approval UL approval F468231 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. 60 °C (max. 140 °F) Measuring head temperature -40 60 °C (-40 140 °F) Measuring head temperature -40 60 °C (-40 140 °F) Mechanical specifications US of C (-40 140 °F) Mechanical specifications US of C (-40 140 °F) Mechanical specifications US stainless steel 1.4305 / AISI 303 Housing material Stainless steel 1.4305 / AISI 303 Housing diameter 31 mm Degree of protection IP66 / IP67 only in connected state Connector IP66 / IP67 only in connected state Threading M12 Number of pins 4	Output type		
Standard conformity Degree of protection DIN EN 60529, IP66, IP67 Shock resistance DIN EN 6068-2-27, 60 g, 6 ms Vibration resistance DIN EN 60068-2-6, 16.5 g, 10 1000 Hz Approvals and certificates 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 Ambient conditions Ambient temperature A0 60 °C (max. 140 °F) Measuring head temperature 40 60 °C (-40 140 °F) Measuring head temperature 40 60 °C (-40 140 °F) Mechanical specifications Connection type Housing material Housing material Housing length 82.35 mm Housing diameter Degree of protection IP66 / IP67 only in connected state Connector Threading Number of pins M12 Number of pins	Output current		4 20 mA
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 Approvals and certificates 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 Ambient conditions Ambient temperature Ambient temperature Ausuring head temperature Storage temperature Connection type Housing material Housing length Housing diameter Degree of protection IP66 / IP67 only in connected state Connector Threading Number of pins DIN En 60529, IP66, IP67 IN En 60068-2-27, 60 g, 6 ms IN En 60068-2-20, 1000 Hz In En 60068-2000 Hz In En 60068-20	Load resistor		≤ 500 Ω
Shock resistance Vibration resistance Vibration resistance DIN EN 60068-2-27, 60 g, 6 ms DIN EN 60068-2-6, 16.5 g, 10 1000 Hz Approvals and certificates UL approval Ordinary Location Maximum permissible ambient temperature Ambient conditions Ambient temperature Ambient temperature Ambient temperature Ambient temperature Ambient temperature Ambient temperature Ambient temperature Ambient temperature Ambient temperature Ambient temperature Ambient temperature Ambient temperature Au 60 °C (-40 140 °F) Measuring head temperature -40 60 °C (-40 140 °F) Mechanical specifications Connection type Housing material Housing length Housing diameter Degree of protection Threading Number of pins DIN EN 60068-2-27, 60 g, 6 ms DIN EN 60068-2-6, 16.5 g, 10 1000 Hz 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. address in NFPA	Standard conformity		
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Approvals and certificates 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 Maximum permissible ambient temperature Ambient conditions Ambient temperature -40 60 °C (-40 140 °F) Measuring head temperature -40 125 °C (-40 257 °F) directly at the mounting point Storage temperature -40 60 °C (-40 140 °F) Mechanical specifications Connection type Housing material Housing length 82.35 mm Housing diameter Degree of protection IP66 / IP67 only in connected state Connector Threading Number of pins M12 Number of pins	Shock resistance		DIN EN 60068-2-27, 60 g, 6 ms
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. 60 °C (max. 140 °F) Ambient conditions Ambient temperature -40 60 °C (-40 140 °F) Measuring head temperature -40 125 °C (-40 257 °F) directly at the mounting point Storage temperature -40 60 °C (-40 140 °F) Mechanical specifications Connection type Housing material Housing length B2.35 mm Housing diameter Degree of protection IP66 / IP67 only in connected state Connector Threading Mu2 Number of pins A 4	Vibration resistance		DIN EN 60068-2-6, 16.5 g, 10 1000 Hz
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. 60 °C (max. 140 °F) Ambient conditions -40 60 °C (-40 140 °F) Measuring head temperature -40 60 °C (-40 257 °F) directly at the mounting point Storage temperature -40 60 °C (-40 140 °F) Mechanical specifications Connection type plug Housing material Stainless steel 1.4305 / AISI 303 Housing length 82.35 mm Housing diameter 31 mm Degree of protection IP66 / IP67 only in connected state Connector M12 Number of pins 4	Approvals and certificates		
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Measuring head temperature Storage temperature -40 125 °C (-40 257 °F) directly at the mounting point -40 60 °C (-40 140 °F) Mechanical specifications Connection type plug Housing material Stainless steel 1.4305 / AISI 303 Housing length 82.35 mm Housing diameter 31 mm Degree of protection IP66 / IP67 only in connected state Connector Threading Number of pins 4	Ambient conditions		
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Connection type plug Housing material Stainless steel 1.4305 / AISI 303 Housing length 82.35 mm Housing diameter 31 mm Degree of protection IP66 / IP67 only in connected state Connector Threading M12 Number of pins 4			-40 125 °C (-40 257 °F) directly at the mounting point
Connection type plug Housing material Stainless steel 1.4305 / AISI 303 Housing length 82.35 mm Housing diameter 31 mm Degree of protection IP66 / IP67 only in connected state Connector Threading M12 Number of pins 4	Storage temperature		-40 60 °C (-40 140 °F)
Connection type plug Housing material Stainless steel 1.4305 / AISI 303 Housing length 82.35 mm Housing diameter 31 mm Degree of protection IP66 / IP67 only in connected state Connector Threading M12 Number of pins 4			
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Housing length 82.35 mm Housing diameter 31 mm Degree of protection IP66 / IP67 only in connected state Connector Threading M12 Number of pins 4	**		
Housing diameter 31 mm Degree of protection IP66 / IP67 only in connected state Connector Threading M12 Number of pins 4			
Degree of protection IP66 / IP67 only in connected state Connector Threading M12 Number of pins 4			31 mm
Connector Threading M12 Number of pins 4	-		
Number of pins 4			
Number of pins 4	Threading		M12
			approx. 200 g



Connection



Connection Assignment



Accessories

Accessories for this product can be found on the internet at 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.

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.