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Vibration sensor

VIM32PL-E1G10-0RE-I420V14

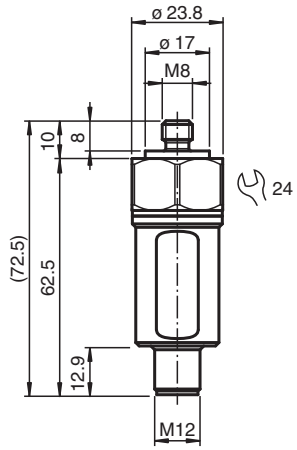
- Analog current output
- Screw-in thread for simple installation
- Simple electrical commissioning
- Rugged stainless steel housing
- Vibration acceleration in g (rms) acc. to DIN ISO 10816/20816

Vibration sensor with analog current output

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 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		

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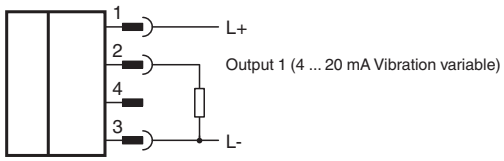
Technical Data

$MTTF_d$		329 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %
Electrical specifications		
Fusing		external fuse is required: 1 A , fast acting , 30 V DC
Operating voltage	U_B	18 ... 30 V DC
Current consumption		max. 120 mA
Power consumption	P_0	max. 3.6 W
Time delay before availability	t_v	2 s (rms filter is calculated intially with measurement data before they are available at the output)
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		
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
Vibration evaluation		DIN ISO 10816/20816
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		max. 80 °C (max. 176 °F)
Ambient conditions		
Ambient temperature		-40 ... 85 °C (-40 ... 185 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications		
Connection type		plug
Housing material		Stainless steel 1.4305 / AISI 303
Degree of protection		IP66 / IP67 only in connected state
Connector		
Threading		M12
Number of pins		4
Mass		approx. 100 g
Dimensions		
Length		72.5 mm
Diameter		23.8 mm

Connection



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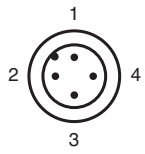
Connection Assignment



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Vibration sensor

VIM32PL-E1AC8-0RE-IO-1V1401

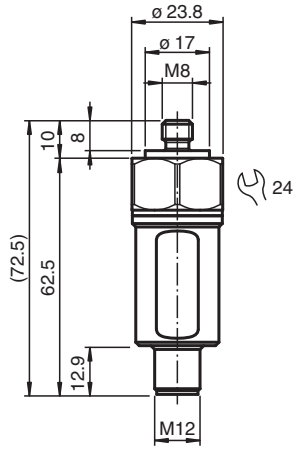
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816
- Vibration acceleration in g (rms) acc. to DIN ISO 10816/20816
- IO-Link Interface for process data, parameterization and diagnosis
- Switching output and current output parameterizable
- Additional temperature value output
- Rugged stainless steel housing

Vibration sensor with IO-Link and programmable switching output or analog current output

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 integrated IO-Link interface provides an optimal adaption to different applications through parameterization and process data transmission for condition monitoring.
The simple mounting allows for commissioning in any application.

Dimensions



Technical Data

General specifications		
Type		Vibration sensor
Measuring technology		MEMS capacitive
Series		Performance Line
Measured variable		Vibration velocity Vibration acceleration Temperature
Measuring range		
Vibration velocity	v-rms	0 ... 128 mm/s
Vibration acceleration	a-rms	0 ... 10 g rms
Temperature		-40 ... 85 °C (-40 ... 185 °F)

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Technical Data

Measurement accuracy		Vibration velocity: ± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measuring range greater than 8 mm/s Vibration acceleration: ± 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
Resolution		Vibration velocity: 0.01 mm/s Vibration acceleration: 0.01 g
Frequency range		10 ... 1000 Hz
Averaging time		for v-rms: 2 s for a-rms: 2 s
Sampling rate		8 kHz
Functional safety related parameters		
$MTTF_d$		329 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %
Electrical specifications		
Fusing		external fuse is required: 1 A , fast acting , 30 V DC
Operating voltage	U_B	18 ... 30 V DC
Current consumption		max. 700 mA
Power consumption	P_0	max. 21 W
Time delay before availability	t_v	≤ 1 s
Surge protection		up to 2 kV
Interface		
Interface type		IO-Link (via C/Q = Pin 4)
IO-Link revision		1.1
Device profile		Identification and Diagnosis - I&D
Process data		Input 16 Byte measurement channels: -rms value velocity - peak value acceleration - rms value acceleration - temperature per measurement channel: - measurement value 2 Byte - scaling 8 Bit - switching signals 2 Bit status data
Vendor ID		1 (0x0001)
Device ID		5308417 (0x510001)
Transfer rate		COM2 (38.4 kBit/s)
Min. cycle time		5 ms
SIO mode support		yes
Compatible master port type		Class A Class B (use 3-pole adapter or 3-wire cable)
Output 1		
Output type		C/Q - Pin 4 in SIO mode (switching signal of the measured variable is programmable)
Switching function		Normally open/closed (NO/NC)
Operating current		≤ 100 mA
Short-circuit protection		yes
Output 2		
Output type		I/Q - pin 2 (parameterizable as analog current output or switching signal) - I: analog output for the measured variable, current 4 ... 20 mA - Q: switching signal of the measured variable is parameterizable, PNP normally open
Switching function		Normally open/closed (NO/NC)
Operating current		≤ 120 mA for switching signal
Voltage drop		< 2 V
Output current		4 ... 20 mA at analog output
Load resistor		≤ 500 Ω at analog output
Short-circuit protection		yes

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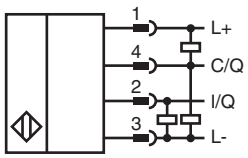
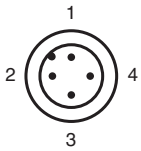
Technical Data

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
Vibration evaluation		DIN ISO 10816/20816
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		max. 80 °C (max. 176 °F)
Ambient conditions		
Ambient temperature		-40 ... 85 °C (-40 ... 185 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications		
Connection type		plug
Housing material		Stainless steel 1.4305 / AISI 303
Degree of protection		IP66 / IP67 only in connected state
Connector		
Threading		M12
Number of pins		4
Mass		approx. 100 g
Dimensions		
Length		72.5 mm
Diameter		23.8 mm

Connection



Connection Assignment



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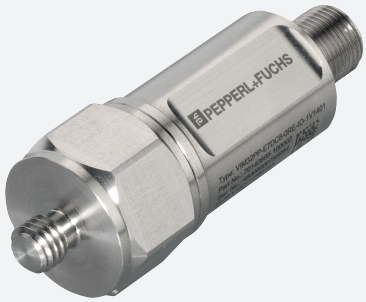


Vibration sensor

VIM32PP-E7DC8-0RE-IO-1V1401

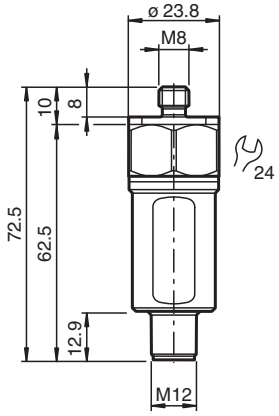
- Raw data for vibration acceleration a-Raw by means of BLOB transfer
- Frequency range up to 12 kHz with sampling rate up to 64 kHz
- Bearing status parameter according to DIN ISO 13373
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816
- Vibration acceleration in g (rms) acc. to DIN ISO 10816/20816
- Additional temperature value output
- IO-Link Interface for process data, parameterization and diagnosis
- Rugged stainless steel housing

Vibration sensor with IO-Link and programmable switching output or 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 integrated IO-Link interface provides an optimal adaption to different applications through parameterization and process data transmission for condition monitoring.
Using BLOB transfer, larger amounts of data can be transferred, which enables high-frequency vibration acceleration measurements. You can use this measured data as the basis for a frequency analysis using a fast Fourier transform (FFT).
The simple mounting allows for commissioning in any application.

Dimensions



Technical Data

General specifications		
Type		Vibration sensor
Measuring technology		MEMS capacitive
Series		Performance Plus Line
Measured variable		Vibration velocity Vibration acceleration Bearing status parameter Crest factor Temperature
Measuring range		
Vibration velocity	v-rms	0 ... 128 mm/s
Vibration acceleration	a-rms	0 ... 34 g rms

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Technical Data

Vibration acceleration	a-Peak	0 ... 48 g peak value per 1 s
Vibration acceleration	a-Raw	-48 ... 48 g by means of BLOB transfer
Bearing status parameter		1 ... 4 see section characteristic curve
Crest factor		0 ... 100
Temperature		-40 ... 85 °C (-40 ... 185 °F)
Measurement accuracy		Vibration velocity: ± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measuring range greater than 8 mm/s Vibration acceleration: ± 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
Resolution		Vibration velocity: 0.01 mm/s Vibration acceleration: 0.01 g Bearing status parameter: 0.01
Frequency range		Vibration acceleration a-raw: 1 ... 12 kHz , by means of BLOB transfer Vibration velocity rms: 10 ... 1000 Hz , acc. to DIN ISO 10816/20816 , programmable Vibration acceleration rms: 1 ... 1000 Hz , acc. to DIN ISO 10816/20816 , programmable Vibration acceleration a-peak: 10 ... 10 kHz Crest factor: 10 ... 10 kHz Bearing status parameter: 10 ... 10 kHz , acc. to DIN ISO 13373-3
Averaging time		for v-rms: 2 s for a-rms: 2 s
Sampling rate		Vibration acceleration a-raw: 64 kHz , programmable Vibration velocity rms: 8 Hz Vibration acceleration rms: 8 kHz Vibration acceleration a-peak: 32 Hz Crest factor: 32 Hz Bearing status parameter: 32 kHz
Functional safety related parameters		
$MTTF_d$		329 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %
Electrical specifications		
Fusing		external fuse is required: 1 A , fast acting , 30 V DC
Operating voltage	U_B	18 ... 30 V DC
Current consumption		max. 320 mA
Power consumption	P_0	max. 10 W
Time delay before availability	t_v	≤ 3.6 s
Surge protection		up to 2 kV
Interface		
Interface type		IO-Link (via C/Q = Pin 4)
IO-Link revision		1.1
Device profile		Identification and Diagnosis - I&D , BLOB transfer
Process data		Input 24 Byte measurement channels: -rms value velocity - peak value acceleration - rms value acceleration - temperature - crest factor - bearing status parameter per measurement channel: - measurement value 2 Byte - scaling 8 Bit - switching signals 2 Bit status data
Vendor ID		1 (0x0001)
Device ID		5308673 (0x510101)
Transfer rate		COM3 (230.4 kbits/s)
Min. cycle time		3.8 ms
SIO mode support		yes

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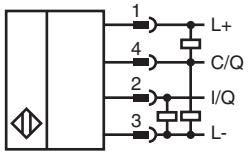
Technical Data

Compatible master port type		Class A Class B (use 3-pole adapter or 3-wire cable)
BLOB size		1.28 MByte , programmable
BLOB segments		200 Byte per request and BLOB segment respectively
Output 1		
Output type		C/Q - Pin 4 in SIO mode (switching signal of the measured variable is programmable)
Switching function		Normally open/closed (NO/NC)
Operating current		≤ 100 mA
Short-circuit protection		yes
Output 2		
Output type		I/Q - pin 2 (parameterizable as analog current output or switching signal) - I: analog output for the measured variable, current 4 ... 20 mA - Q: switching signal of the measured variable is parameterizable, PNP normally open
Switching function		Normally open/closed (NO/NC)
Operating current		≤ 120 mA for switching signal
Voltage drop		< 2 V
Output current		4 ... 20 mA at analog output
Load resistor		≤ 500 Ω at analog output
Short-circuit protection		yes
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 ... 12000 Hz
Vibration evaluation		DIN ISO 10816/20816 , DIN ISO 13373-3
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		max. 80 °C (max. 176 °F)
Ambient conditions		
Ambient temperature		-40 ... 85 °C (-40 ... 185 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications		
Connection type		plug
Housing material		Stainless steel 1.4305 / AISI 303
Degree of protection		IP66 / IP67 only in connected state
Connector		
Threading		M12
Number of pins		4
Mass		approx. 100 g
Dimensions		
Length		72.5 mm
Diameter		23.8 mm

Connection



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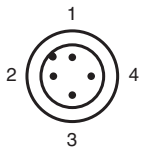
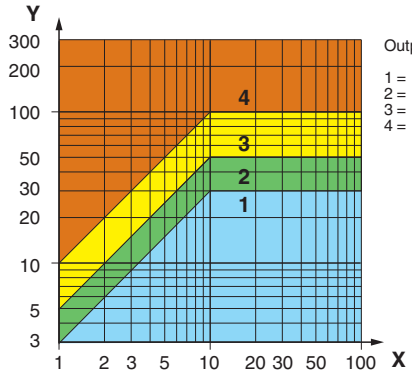
Connection Assignment



Characteristic Curve

Bearing status parameter dependent on vibration



Output current for bearing status parameter 1 ... 4:

1 = 4 ... 8 mA
2 = 8 ... 12 mA
3 = 12 ... 16 mA
4 = 16 ... 20 mA

Vibration intensity diagram [DIN ISO 13373-3]

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Vibration sensor

VIM62PL-E1V16-0ME-I420V14

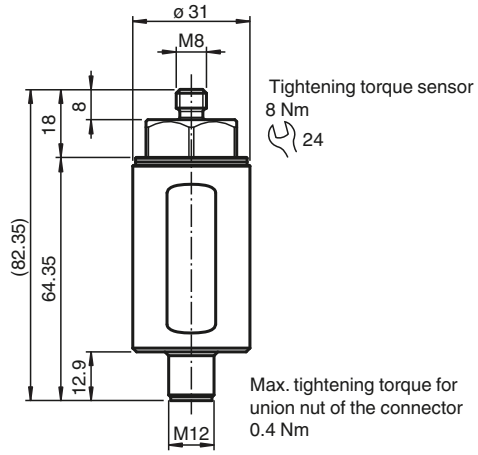
- Extended temperature range
- Screw-in thread for simple installation
- Simple electrical commissioning
- Rugged stainless steel housing
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816

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	
Type	Vibration sensor
Measuring technology	MEMS
Series	Performance Line

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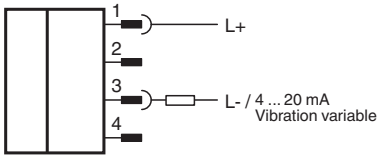
Technical Data

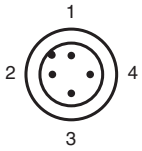
Measured variable		Vibration velocity
Measurement range		
Vibration velocity	v-rms	0 ... 16 mm/s
Measurement accuracy		± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measurement range greater than 8 mm/s
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis
Frequency range		10 ... 1000 Hz
Averaging time		for v-rms: 2 s
Electrical specifications		
Fusing		external 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_0	max. 750 mW
Time delay before availability	t_v	10 s (rms filter is calculated intially with measurement data before they are available at the output)
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		
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
Vibration evaluation		DIN ISO 10816/20816
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		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		plug
Housing material		Stainless steel 1.4305 / AISI 303
Degree of protection		IP66 / IP67 only in connected state
Connector		
Threading		M12
Number of pins		4
Mass		approx. 200 g
Dimensions		
Length		82.35 mm
Diameter		31 mm

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141166-100000_eng.pdf

Connection



Connection Assignment



Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141166-100000_eng.pdf

Vibration sensor

VIM62PL-E1T16-0ME-I420V14

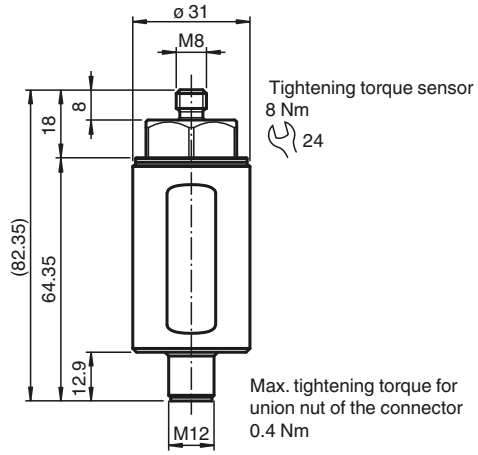
- Extended temperature range
- Screw-in thread for simple installation
- Simple electrical commissioning
- Rugged stainless steel housing
- Additional output with measured temperature value
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816

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.
Furthermore, the vibration sensor has an additional output for the output of the measured temperature value.
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		
Type		Vibration sensor
Measuring technology		MEMS

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141166-100001_eng.pdf

Technical Data

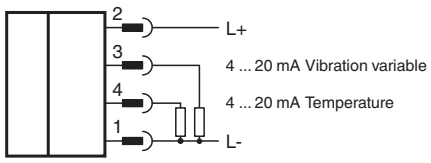
Series		Performance Line
Measured variable		Vibration velocity Temperature
Measurement range		
Vibration velocity	v-rms	0 ... 16 mm/s
Temperature		-40 ... 125 °C (-40 ... 257 °F)
Measurement accuracy		± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measurement range greater than 8 mm/s
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis
Frequency range		10 ... 1000 Hz
Averaging time		for v-rms: 2 s
Electrical specifications		
Fusing		external fuse is required: 3 A , semi-time-lag , 30 V DC
Operating voltage	U_B	10 ... 30 V DC
Current consumption		max. 50 mA
Power consumption	P_0	max. 750 mW
Time delay before availability	t_v	10 s (rms filter is calculated intially with measurement data before they are available at the output)
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
Output 2		
Output type		analog output, current output of the temperature
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
Vibration evaluation		DIN ISO 10816/20816
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		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		plug
Housing material		Stainless steel 1.4305 / AISI 303
Degree of protection		IP66 / IP67 only in connected state
Connector		
Threading		M12
Number of pins		4
Mass		approx. 200 g
Dimensions		
Length		82.35 mm

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141166-100001_eng.pdf

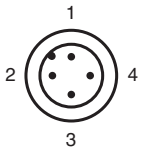
Technical Data

Diameter		31 mm

Connection



Connection Assignment



Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141166-100001_eng.pdf

Vibration sensor

VIM62PL-E0T16-0ME-I420V14

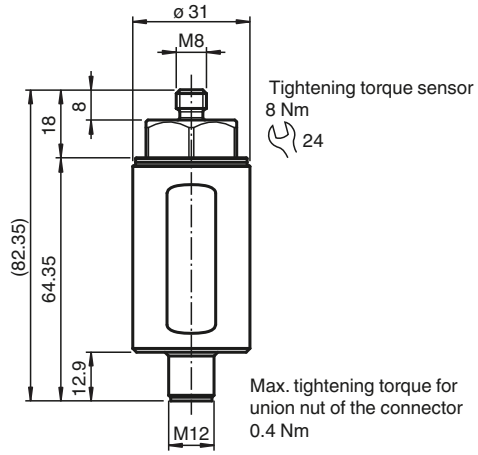
- Extended temperature range
- Screw-in thread for simple installation
- Simple electrical commissioning
- Rugged stainless steel housing
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816
- Detection of low frequency vibrations
- Additional output with measured temperature value

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.
Furthermore, the vibration sensor has an additional output for the output of the measured temperature value.
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		
Type		Vibration sensor
Measuring technology		MEMS

Release date: 2024-08-16 Date of issue: 2024-08-16 Filename: 70141166-100002_eng.pdf

Technical Data

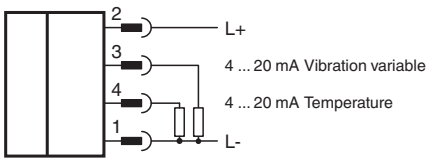
Series		Performance Line
Measured variable		Vibration velocity Temperature
Measurement range		
Vibration velocity	v-rms	0 ... 16 mm/s
Temperature		-40 ... 125 °C (-40 ... 257 °F)
Measurement accuracy		± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measurement range greater than 8 mm/s
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis
Frequency range		1 ... 1000 Hz
Averaging time		for v-rms: 12 s
Electrical specifications		
Fusing		external fuse is required: 3 A , semi-time-lag , 30 V DC
Operating voltage	U_B	10 ... 30 V DC
Current consumption		max. 50 mA
Power consumption	P_0	max. 750 mW
Time delay before availability	t_v	10 s (rms filter is calculated intially with measurement data before they are available at the output)
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
Output 2		
Output type		analog output, current output of the temperature
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
Vibration evaluation		DIN ISO 10816/20816
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		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		plug
Housing material		Stainless steel 1.4305 / AISI 303
Degree of protection		IP66 / IP67 only in connected state
Connector		
Threading		M12
Number of pins		4
Mass		approx. 200 g
Dimensions		
Length		82.35 mm

Release date: 2024-08-16 Date of issue: 2024-08-16 Filename: 70141166-100002_eng.pdf

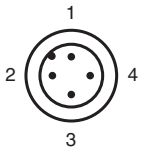
Technical Data

Diameter		31 mm

Connection



Connection Assignment



Vibration sensor

VIM62PL-E0G10-0ME-I420V14

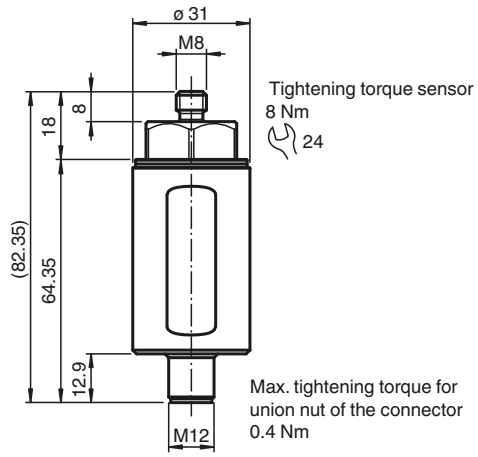
- Extended temperature range
- Screw-in thread for simple installation
- Simple electrical commissioning
- Rugged stainless steel housing
- Vibration acceleration in g (rms) acc. to DIN ISO 10816/20816
- Detection of low frequency vibrations

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	
Type	Vibration sensor
Measuring technology	MEMS
Series	Performance Line

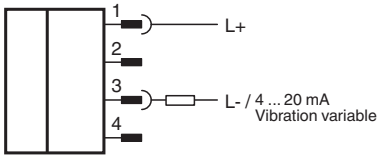
Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141166-100003_eng.pdf

Technical Data

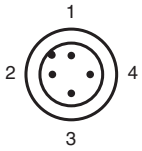
Measured variable		Vibration acceleration
Measurement range		
Vibration acceleration	a-rms	0 ... 10 g rms
Measurement accuracy		± 0.01 g (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis
Frequency range		1 ... 1000 Hz
Averaging time		for a-rms: 12 s
Electrical specifications		
Fusing		external 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_0	max. 750 mW
Time delay before availability	t_v	10 s (rms filter is calculated intially with measurement data before they are available at the output)
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		
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
Vibration evaluation		DIN ISO 10816/20816
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		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		plug
Housing material		Stainless steel 1.4305 / AISI 303
Degree of protection		IP66 / IP67 only in connected state
Connector		
Threading		M12
Number of pins		4
Mass		approx. 200 g
Dimensions		
Length		82.35 mm
Diameter		31 mm

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141166-100003_eng.pdf

Connection



Connection Assignment



Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141166-100003_eng.pdf

Vibration sensor

VIM62PL-E0G10-0ME-I420K24

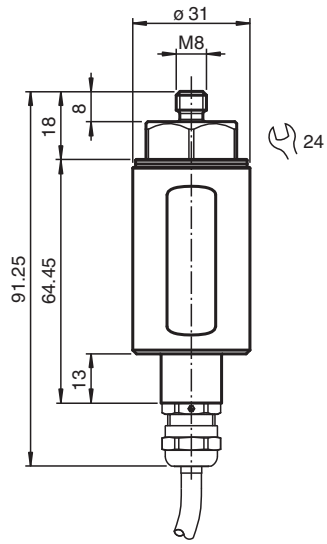
- Extended temperature range
- Screw-in thread for simple installation
- Simple electrical commissioning
- Rugged stainless steel housing
- Vibration acceleration in g (rms) acc. to DIN ISO 10816/20816
- Detection of low frequency vibrations

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	
Type	Vibration sensor
Measuring technology	MEMS
Series	Performance Line

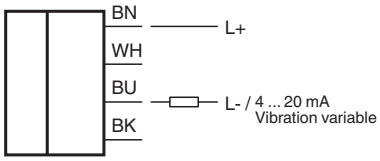
Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141166-100004_eng.pdf

Technical Data

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		1 ... 1000 Hz
Averaging time		for a-rms: 12 s
Electrical specifications		
Fusing		external 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_0	max. 750 mW
Time delay before availability	t_v	10 s (rms filter is calculated intially with measurement data before they are available at the output)
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		
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
Vibration evaluation		DIN ISO 10816/20816
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		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		cable
Housing material		Stainless steel 1.4305 / AISI 303
Degree of protection		IP66 / IP67 only in connected state
Cable		
Number of cores		4
Core cross section		0.34 mm^2
Length	L	2 m
Tension force		max. 80 N (tensile loading directly at the cable, not at the metal conduit if attached)
Mass		425 g
Dimensions		
Length		91.25 mm
Diameter		31 mm

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141166-100004_eng.pdf

Connection



Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141166-100004_eng.pdf

Vibration sensor

VIM62PP-E1T16-0NE-I420K24

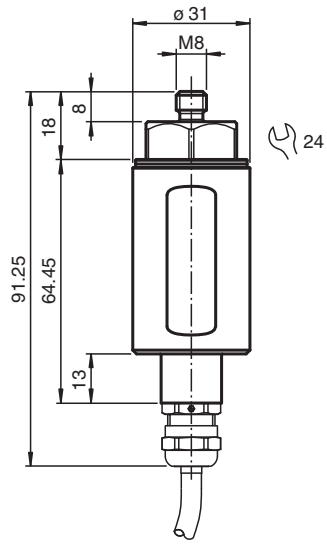
- Extended temperature range
- Screw-in thread for simple installation
- Simple electrical commissioning
- Rugged stainless steel housing
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816
- Suitable for use in harzadous area up to Zone 1/21 with type of protection explosionproof enclosure

Vibration sensor with analog current output, increased temperature resistance, suitable up to Zone 1/21 with type of protection explosionproof enclosure

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.
Furthermore, the vibration sensor has an additional output for the output of the measured temperature value.
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.
Furthermore there is an approval for the use of the sensor in hazardous areas.
The simple mounting allows for commissioning in any application.

Dimensions



Technical Data

General specifications	
Type	Vibration sensor

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141166-100006_eng.pdf

Technical Data

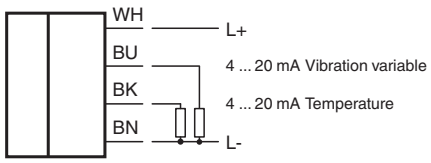
Measuring technology		MEMS
Series		Performance Plus Line
Measured variable		Vibration velocity Temperature
Measurement range		
Vibration velocity	v-rms	0 ... 16 mm/s
Measurement accuracy		± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measurement range greater than 8 mm/s
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis
Frequency range		10 ... 1000 Hz
Averaging time		for v-rms: 2 s
Electrical specifications		
Fusing		external fuse is required: 3 A , semi-time-lag , 30 V DC
Operating voltage	U_B	10 ... 30 V DC
Current consumption		max. 50 mA
Power consumption	P_0	max. 750 mW
Time delay before availability	t_v	10 s (rms filter is calculated intially with measurement data before they are available at the output)
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		
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
Vibration evaluation		DIN ISO 10816/20816
Approvals and certificates		
IECEx approval		
Equipment protection level Gb		IECEx CSAE 22.0042X
Equipment protection level Db		IECEx CSAE 22.0042X
ATEX approval		
Equipment protection level Gb		CSANe 21 ATEX 1074 X
Equipment protection level Db		CSANe 21 ATEX 1074 X
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		cable
Housing material		Stainless steel 1.4305 / AISI 303
Degree of protection		IP66 / IP67 only in connected state
Cable		
Number of cores		4
Core cross section		0.34 mm²
Length	L	2 m
Tension force		max. 80 N (tensile loading directly at the cable, not at the metal conduit if attached)
Mass		425 g
Dimensions		
Length		82.35 mm
Diameter		31 mm

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141166-100006_eng.pdf

Technical Data

General information		
Use in the hazardous area		see instruction manuals Only use accessories specified by the manufacturer.

Connection



Vibration sensor

VIM62PP-E1V16-0PE-I420V15

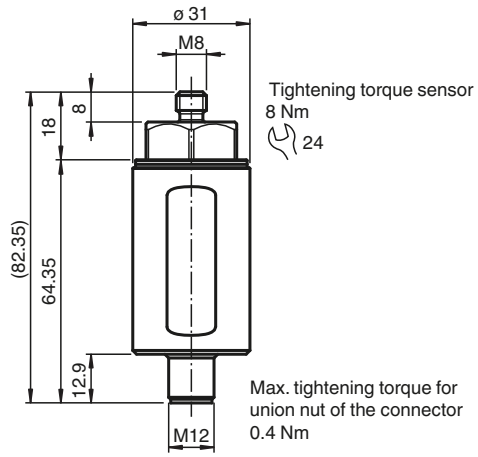
- Extended temperature range
- Screw-in thread for simple installation
- Simple electrical commissioning
- Rugged stainless steel housing
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816
- Suitable for use in harzadous area up to Zone 1/21 with type of protection intrinsic safety

Vibration sensor with analog current output, increased temperature resistance, suitable up to Zone 1/21 with type of protection intrinsic safety

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		
Type		Vibration sensor
Measuring technology		MEMS

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141166-100007_eng.pdf

Technical Data

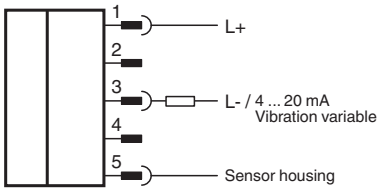
Series		Performance Plus Line
Measured variable		Vibration velocity
Measurement range		
Vibration velocity	v-rms	0 ... 16 mm/s
Measurement accuracy		± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measurement range greater than 8 mm/s
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis
Frequency range		10 ... 1000 Hz
Averaging time		for v-rms: 2 s
Electrical specifications		
Fusing		external 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_0	max. 750 mW
Time delay before availability	t_v	10 s (rms filter is calculated intially with measurement data before they are available at the output)
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		
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
Vibration evaluation		DIN ISO 10816/20816
Approvals and certificates		
IECEx approval		
Equipment protection level Gb		IECEx CSAE 22.0042X
Equipment protection level Db		IECEx CSAE 22.0042X
ATEX approval		
Equipment protection level Gb		CSANe 21 ATEX 1074 X
Equipment protection level Db		CSANe 21 ATEX 1074 X
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		plug
Housing material		Stainless steel 1.4305 / AISI 303
Degree of protection		IP66 / IP67 only in connected state
Connector		
Threading		M12
Number of pins		5
Mass		approx. 200 g
Dimensions		
Length		82.35 mm
Diameter		31 mm

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141166-100007_eng.pdf

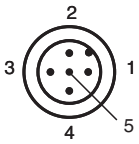
Technical Data

General information	
Use in the hazardous area	see instruction manuals Only use accessories specified by the manufacturer.

Connection



Connection Assignment



Vibration sensor

VIM62PP-E1V16-0HE-I420V14

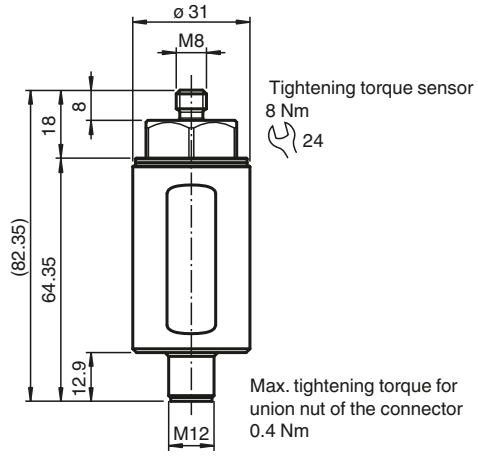
- Extended temperature range
- Screw-in thread for simple installation
- Simple electrical commissioning
- Rugged stainless steel housing
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816
- Suitable for use in harzadous area for Class I/II and Division 2

Vibration sensor with analog current output, increased temperature resistance, suitable for Class I/II and Division 2

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.
Furthermore, the vibration sensor has an additional output for the output of the measured temperature value.
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		
Type		Vibration sensor
Measuring technology		MEMS

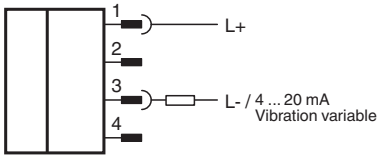
Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141166-100008_eng.pdf

Technical Data

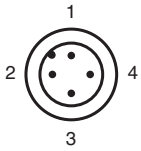
Series		Performance Plus Line
Measured variable		Vibration velocity
Measurement range		
Vibration velocity	v-rms	0 ... 16 mm/s
Measurement accuracy		± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measurement range greater than 8 mm/s
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis
Frequency range		10 ... 1000 Hz
Averaging time		for v-rms: 2 s
Electrical specifications		
Fusing		external 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_0	max. 750 mW
Time delay before availability	t_v	10 s (rms filter is calculated intially with measurement data before they are available at the output)
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		
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
Vibration evaluation		DIN ISO 10816/20816
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
Hazardous Location		E106378
Maximum permissible ambient temperature		max. 60 °C (max. 140 °F)
Control drawing		116-0492
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		plug
Housing material		Stainless steel 1.4305 / AISI 303
Degree of protection		IP66 / IP67 only in connected state
Connector		
Threading		M12
Number of pins		4
Mass		approx. 200 g
Dimensions		
Length		82.35 mm
Diameter		31 mm
General information		
Use in the hazardous area		see instruction manuals Only use accessories specified by the manufacturer.

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141166-100008_eng.pdf

Connection



Connection Assignment



Vibration sensor

VIM62PP-E1V16-0NE-I420KA4

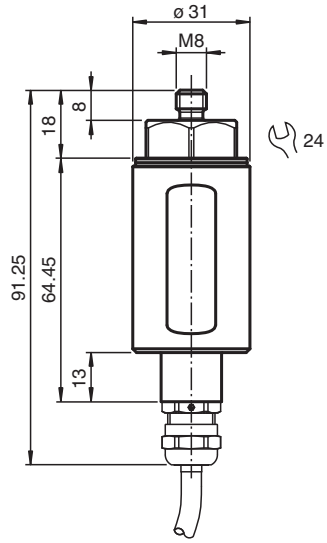
- Extended temperature range
- Screw-in thread for simple installation
- Simple electrical commissioning
- Rugged stainless steel housing
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816
- Suitable for use in harzadous area up to Zone 1/21 with type of protection explosionproof enclosure

Vibration sensor with analog current output, increased temperature resistance, suitable up to Zone 1/21 with type of protection explosionproof enclosure

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.
Furthermore there is an approval for the use of the sensor in hazardous areas.
The simple mounting allows for commissioning in any application.

Dimensions



Technical Data

General specifications		
Type		Vibration sensor
Measuring technology		MEMS

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141166-100009_eng.pdf

Technical Data

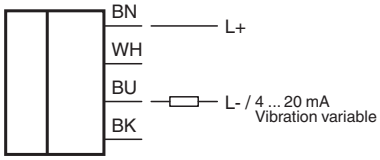
Series		Performance Plus Line
Measured variable		Vibration velocity
Measurement range		
Vibration velocity	v-rms	0 ... 16 mm/s
Measurement accuracy		± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measurement range greater than 8 mm/s
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis
Frequency range		10 ... 1000 Hz
Averaging time		for v-rms: 2 s
Electrical specifications		
Fusing		external 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_0	max. 750 mW
Time delay before availability	t_v	10 s (rms filter is calculated intially with measurement data before they are available at the output)
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		
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
Vibration evaluation		DIN ISO 10816/20816
Approvals and certificates		
IECEx approval		
Equipment protection level Gb		IECEx CSAE 22.0042X
Equipment protection level Db		IECEx CSAE 22.0042X
ATEX approval		
Equipment protection level Gb		CSANe 21 ATEX 1074 X
Equipment protection level Db		CSANe 21 ATEX 1074 X
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		cable
Housing material		Stainless steel 1.4305 / AISI 303
Degree of protection		IP66 / IP67 only in connected state
Cable		
Number of cores		4
Core cross section		0.34 mm²
Length	L	10 m
Tension force		max. 80 N (tensile loading directly at the cable, not at the metal conduit if attached)
Mass		740 g
Dimensions		
Length		82.35 mm
Diameter		31 mm
General information		

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141166-100009_eng.pdf

Technical Data

Use in the hazardous area		see instruction manuals Only use accessories specified by the manufacturer.

Connection



Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141166-100009_eng.pdf

Vibration sensor

VIM62PP-E1V32-0NE-I420K54

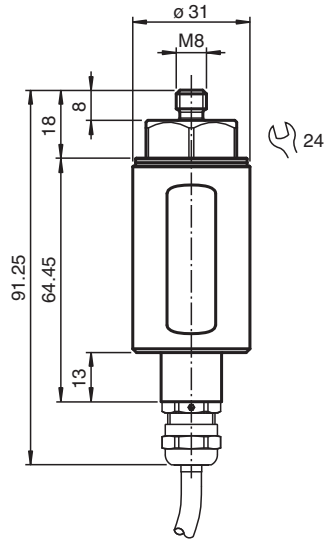
- Extended temperature range
- Screw-in thread for simple installation
- Simple electrical commissioning
- Rugged stainless steel housing
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816
- Suitable for use in harzadous area up to Zone 1/21 with type of protection explosionproof enclosure

Vibration sensor with analog current output, increased temperature resistance, suitable up to Zone 1/21 with type of protection explosionproof enclosure

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.
Furthermore there is an approval for the use of the sensor in hazardous areas.
The simple mounting allows for commissioning in any application.

Dimensions



Technical Data

General specifications		
Type		Vibration sensor
Measuring technology		MEMS

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141166-100010_eng.pdf

Technical Data

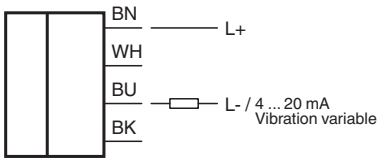
Series		Performance Plus Line
Measured variable		Vibration velocity
Measurement range		
Vibration velocity	v-rms	0 ... 32 mm/s
Measurement accuracy		± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measurement range greater than 8 mm/s
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis
Frequency range		10 ... 1000 Hz
Averaging time		for v-rms: 2 s
Electrical specifications		
Fusing		external 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_0	max. 750 mW
Time delay before availability	t_v	10 s (rms filter is calculated intially with measurement data before they are available at the output)
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		
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
Vibration evaluation		DIN ISO 10816/20816
Approvals and certificates		
IECEx approval		
Equipment protection level Gb		IECEx CSAE 22.0042X
Equipment protection level Db		IECEx CSAE 22.0042X
ATEX approval		
Equipment protection level Gb		CSANe 21 ATEX 1074 X
Equipment protection level Db		CSANe 21 ATEX 1074 X
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		cable
Housing material		Stainless steel 1.4305 / AISI 303
Degree of protection		IP66 / IP67 only in connected state
Cable		
Number of cores		4
Core cross section		0.34 mm²
Length	L	5 m
Tension force		max. 80 N (tensile loading directly at the cable, not at the metal conduit if attached)
Mass		460 g
Dimensions		
Length		82.35 mm
Diameter		31 mm
General information		

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141166-100010_eng.pdf

Technical Data

Use in the hazardous area		see instruction manuals Only use accessories specified by the manufacturer.

Connection



Vibration sensor

VIM82PU-S1V16-2AE-I422M28

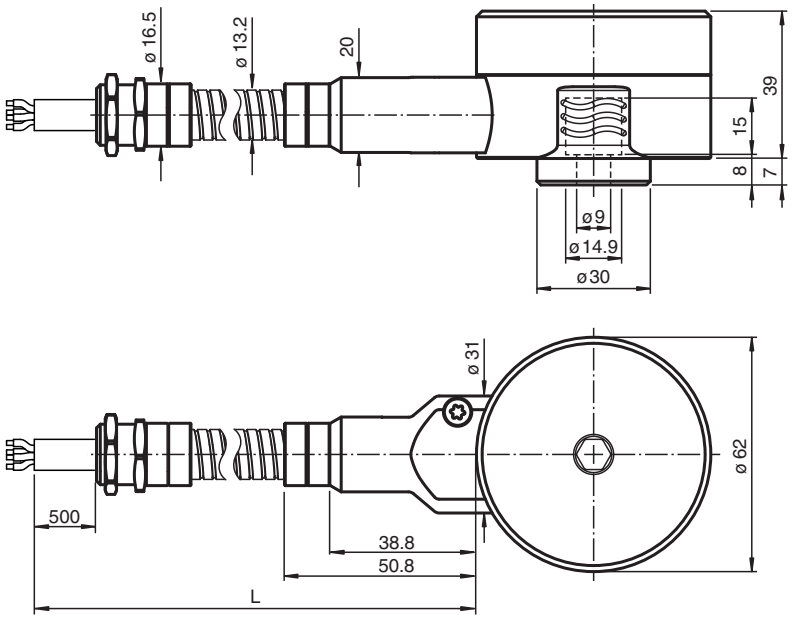
- Suitable for SIL2/PId applications
- Rugged stainless steel housing
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816
- 2 relays outputs for safety functions with adjustable switching tresholds, allowing pre- and main alarm

Vibration sensor with safety function both for the analog current output and for the 2 relay outputs with adjustable swichting thresholds

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 vibration sensor has a safety integrity level (SIL 2) for usage in functional safety applications.
For monitoring tasks within the scope of functional safety, 2 relay outputs with adjustable switching thresholds are available. With simultaneous evaluation of both relay outputs by a controller, monitoring of a pre-alarm and main alarm thus is possible, e.g. as part of Condition Monitoring.

Dimensions



Technical Data

General specifications	
Type	Vibration sensor
Measuring technology	MEMS
Series	Pure Line

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100000_eng.pdf

Technical Data

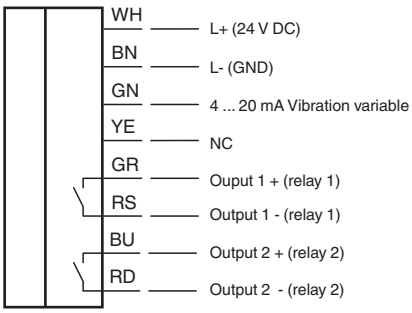
Measured variable		Vibration velocity
Measurement range		
Vibration velocity	v-rms	0 ... 16 mm/s
Measurement accuracy		± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measurement range greater than 8 mm/s
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis
Frequency range		10 ... 1000 Hz
Averaging time		for v-rms: 2 s
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 2
Performance level (PL)		PL d
Category		Cat. 2
$MTTF_d$		329 a
Mission Time (T_M)		10 a
Diagnostic Coverage (DC)		min. 90 %
Indicators/operating means		
Status indicator		6 LEDs for operating states
Control elements		4 rotary switches and 1 push button for programming
Electrical specifications		
Fusing		external fuse is required: 3 A , semi-time-lag , 30 V DC
Operating voltage	U_B	24 V DC + 7 % / - 10 %
Current consumption		max. 100 mA
Power consumption	P_0	2.6 W
Time delay before availability	t_v	15 s (initially self-test functions are executed before safe measured values are available at the output)
Surge protection		up to 2 kV
Output 1		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 2		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 3		
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
Vibration evaluation		DIN ISO 10816/20816
Functional safety		DIN EN IEC 61508 , SIL 2 EN ISO 13849 , PL d
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		max. 60 °C (max. 140 °F)

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100000_eng.pdf

Technical Data

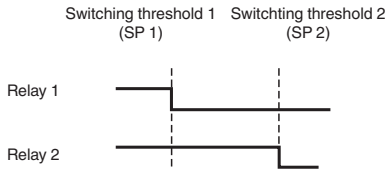
Ambient conditions		
Ambient temperature		-35 ... 60 °C (-31 ... 140 °F)
Measuring head temperature		-35 ... 125 °C (-31 ... 257 °F) directly at the mounting point
Storage temperature		-35 ... 60 °C (-31 ... 140 °F)
Mechanical specifications		
Connection type		cable
Housing material		Stainless steel 1.4305 / AISI 303
Degree of protection		IP66 / IP67 only in connected state and correctly mounted housing cover
Cable		
Number of cores		8
Length	L	2 m
Cable protection		Flexible metal conduit
Mass		1280 g
Dimensions		
Height		46 mm
Width		62 mm
Length		77.3 mm
General information		
Scope of delivery		1 x allen head screw M8 x 20 1 x spring washer M8 1 x seal label

Connection



Programming

Adjustable relay outputs



critical state = pre-alarm from SP1/main alarm from SP2 = relay is open = like de-energized state

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100000_eng.pdf

Vibration sensor

VIM82PU-S1V16-2AE-I422C28

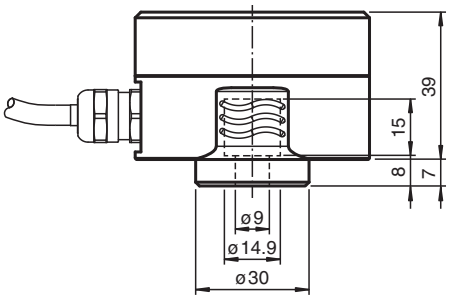
- Suitable for SIL2/PId applications
- Rugged stainless steel housing
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816
- 2 relays outputs for safety functions with adjustable switching tresholds, allowing pre- and main alarm

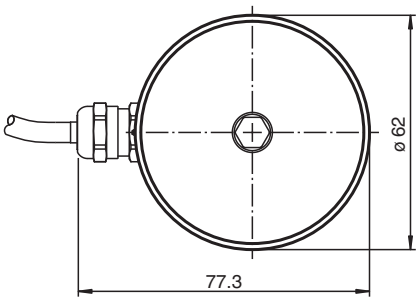
Vibration sensor with safety function both for the analog current output and for the 2 relay outputs with adjustable swichting thresholds

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 vibration sensor has a safety integrity level (SIL 2) for usage in functional safety applications.
For monitoring tasks within the scope of functional safety, 2 relay outputs with adjustable switching thresholds are available. With simultaneous evaluation of both relay outputs by a controller, monitoring of a pre-alarm and main alarm thus is possible, e.g. as part of Condition Monitoring.

Dimensions





Technical Data

General specifications	
Type	Vibration sensor
Measuring technology	MEMS
Series	Pure Line

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100001_eng.pdf

Technical Data

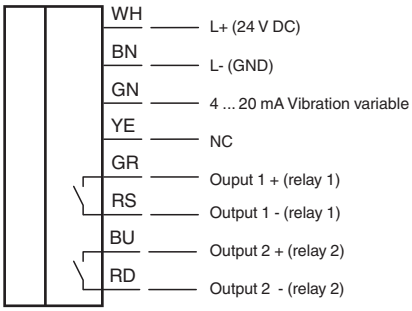
Measured variable		Vibration velocity
Measurement range		
Vibration velocity	v-rms	0 ... 16 mm/s
Measurement accuracy		± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measurement range greater than 8 mm/s
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis
Frequency range		10 ... 1000 Hz
Averaging time		for v-rms: 2 s
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 2
Performance level (PL)		PL d
Category		Cat. 2
$MTTF_d$		329 a
Mission Time (T_M)		10 a
Diagnostic Coverage (DC)		min. 90 %
Indicators/operating means		
Status indicator		6 LEDs for operating states
Control elements		4 rotary switches and 1 push button for programming
Electrical specifications		
Fusing		external fuse is required: 3 A , semi-time-lag , 30 V DC
Operating voltage	U_B	24 V DC + 7 % / - 10 %
Current consumption		max. 100 mA
Power consumption	P_0	2.6 W
Time delay before availability	t_v	15 s (initially self-test functions are executed before safe measured values are available at the output)
Surge protection		up to 2 kV
Output 1		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 2		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 3		
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
Vibration evaluation		DIN ISO 10816/20816
Functional safety		DIN EN IEC 61508 , SIL 2 EN ISO 13849 , PL d
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		max. 60 °C (max. 140 °F)

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100001_eng.pdf

Technical Data

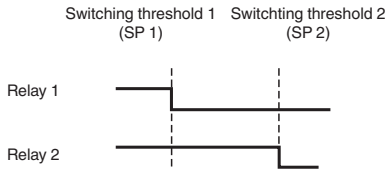
Ambient conditions		
Ambient temperature		-35 ... 60 °C (-31 ... 140 °F)
Measuring head temperature		-35 ... 125 °C (-31 ... 257 °F) directly at the mounting point
Storage temperature		-35 ... 60 °C (-31 ... 140 °F)
Mechanical specifications		
Connection type		cable
Housing material		Stainless steel 1.4305 / AISI 303
Degree of protection		IP66 / IP67 only in connected state and correctly mounted housing cover
Cable		
Number of cores		8
Length	L	2 m
Mass		880 g
Dimensions		
Height		46 mm
Width		62 mm
Length		77.3 mm
General information		
Scope of delivery		1 x allen head screw M8 x 20 1 x spring washer M8 1 x seal label

Connection



Programming

Adjustable relay outputs



critical state = pre-alarm from SP1/main alarm from SP2 = relay is open = like de-energized state

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100001_eng.pdf

Vibration sensor

VIM82PU-S1V16-2AE-I422K28

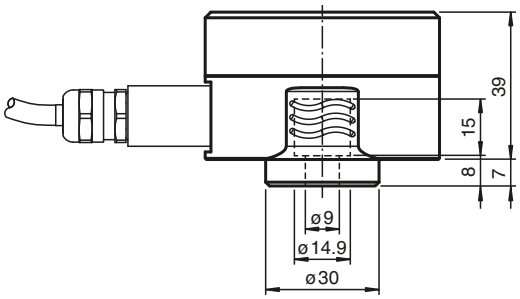
- Suitable for SIL2/PId applications
- Rugged stainless steel housing
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816
- 2 relays outputs for safety functions with adjustable switching tresholds, allowing pre- and main alarm

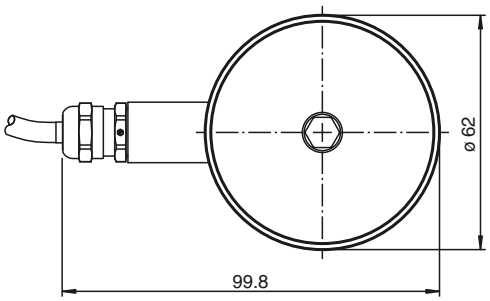
Vibration sensor with safety function both for the analog current output and for the 2 relay outputs with adjustable swichting thresholds

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 vibration sensor has a safety integrity level (SIL 2) for usage in functional safety applications.
For monitoring tasks within the scope of functional safety, 2 relay outputs with adjustable switching thresholds are available. With simultaneous evaluation of both relay outputs by a controller, monitoring of a pre-alarm and main alarm thus is possible, e.g. as part of Condition Monitoring.

Dimensions





Technical Data

General specifications	
Type	Vibration sensor
Measuring technology	MEMS
Series	Pure Line

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100002_eng.pdf

Technical Data

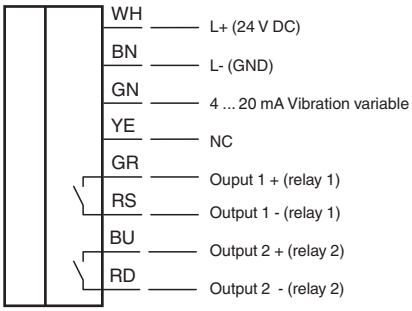
Measured variable		Vibration velocity
Measurement range		
Vibration velocity	v-rms	0 ... 16 mm/s
Measurement accuracy		± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measurement range greater than 8 mm/s
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis
Frequency range		10 ... 1000 Hz
Averaging time		for v-rms: 2 s
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 2
Performance level (PL)		PL d
Category		Cat. 2
$MTTF_d$		329 a
Mission Time (T_M)		10 a
Diagnostic Coverage (DC)		min. 90 %
Indicators/operating means		
Status indicator		6 LEDs for operating states
Control elements		4 rotary switches and 1 push button for programming
Electrical specifications		
Fusing		external fuse is required: 3 A , semi-time-lag , 30 V DC
Operating voltage	U_B	24 V DC + 7 % / - 10 %
Current consumption		max. 100 mA
Power consumption	P_0	2.6 W
Time delay before availability	t_v	15 s (initially self-test functions are executed before safe measured values are available at the output)
Surge protection		up to 2 kV
Output 1		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 2		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 3		
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
Vibration evaluation		DIN ISO 10816/20816
Functional safety		DIN EN IEC 61508 , SIL 2 EN ISO 13849 , PL d
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		max. 60 °C (max. 140 °F)

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100002_eng.pdf

Technical Data

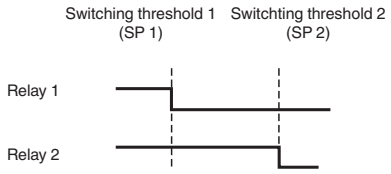
Ambient conditions		
Ambient temperature		-35 ... 60 °C (-31 ... 140 °F)
Measuring head temperature		-35 ... 125 °C (-31 ... 257 °F) directly at the mounting point
Storage temperature		-35 ... 60 °C (-31 ... 140 °F)
Mechanical specifications		
Connection type		cable
Housing material		Stainless steel 1.4305 / AISI 303
Degree of protection		IP66 / IP67 only in connected state and correctly mounted housing cover
Cable		
Number of cores		8
Length	L	2 m
Mass		880 g
Dimensions		
Height		46 mm
Width		62 mm
Length		77.3 mm
General information		
Scope of delivery		1 x allen head screw M8 x 20 1 x spring washer M8 1 x seal label

Connection



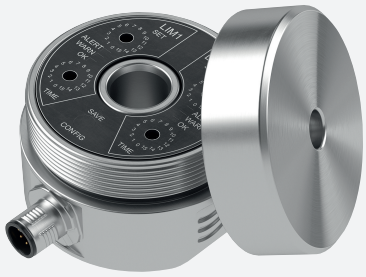
Programming

Adjustable relay outputs



critical state = pre-alarm from SP1/main alarm from SP2 = relay is open = like de-energized state

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100002_eng.pdf



Vibration sensor

VIM82PU-S1V16-20E-I422V19

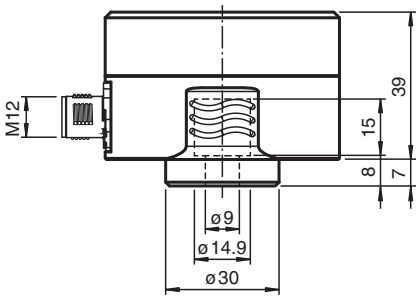
- Suitable for SIL2/PId applications
- Rugged stainless steel housing
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816
- 2 relays outputs for safety functions with adjustable switching tresholds, allowing pre- and main alarm

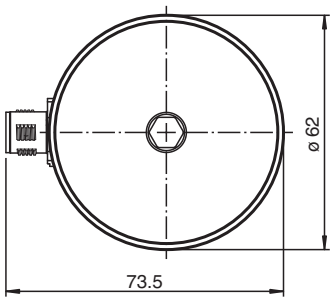
Vibration sensor with safety function both for the analog current output and for the 2 relay outputs with adjustable swichting thresholds

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 vibration sensor has a safety integrity level (SIL 2) for usage in functional safety applications.
For monitoring tasks within the scope of functional safety, 2 relay outputs with adjustable switching thresholds are available. With simultaneous evaluation of both relay outputs by a controller, monitoring of a pre-alarm and main alarm thus is possible, e.g. as part of Condition Monitoring.

Dimensions





Technical Data

General specifications	
Type	Vibration sensor
Measuring technology	MEMS
Series	Pure Line

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100003_eng.pdf

Technical Data

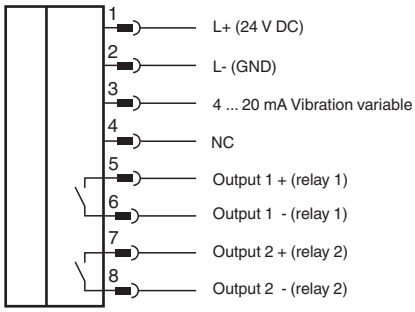
Measured variable		Vibration velocity
Measurement range		
Vibration velocity	v-rms	0 ... 16 mm/s
Measurement accuracy		± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measurement range greater than 8 mm/s
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis
Frequency range		10 ... 1000 Hz
Averaging time		for v-rms: 2 s
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 2
Performance level (PL)		PL d
Category		Cat. 2
$MTTF_d$		329 a
Mission Time (T_M)		10 a
Diagnostic Coverage (DC)		min. 90 %
Indicators/operating means		
Status indicator		6 LEDs for operating states
Control elements		4 rotary switches and 1 push button for programming
Electrical specifications		
Fusing		external fuse is required: 3 A , semi-time-lag , 30 V DC
Operating voltage	U_B	24 V DC + 7 % / - 10 %
Current consumption		max. 100 mA
Power consumption	P_0	2.6 W
Time delay before availability	t_v	15 s (initially self-test functions are executed before safe measured values are available at the output)
Surge protection		up to 2 kV
Output 1		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 2		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 3		
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
Vibration evaluation		DIN ISO 10816/20816
Functional safety		DIN EN IEC 61508 , SIL 2 EN ISO 13849 , PL d
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		max. 60 °C (max. 140 °F)

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100003_eng.pdf

Technical Data

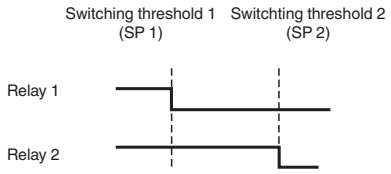
Ambient conditions	
Ambient temperature	-40 ... 60 °C (-40 ... 140 °F)
Measuring head temperature	-40 ... 85 °C (-40 ... 185 °F) directly at the mounting point
Storage temperature	-40 ... 60 °C (-40 ... 140 °F)
Mechanical specifications	
Connection type	plug
Housing material	Stainless steel 1.4305 / AISI 303
Degree of protection	IP66 / IP67 only in connected state and correctly mounted housing cover
Connector	
Threading	M12
Number of pins	8
Mass	approx. 500 g
Dimensions	
Height	46 mm
Width	62 mm
Length	73.5 mm
General information	
Scope of delivery	1 x allen head screw M8 x 20 1 x spring washer M8 1 x seal label

Connection



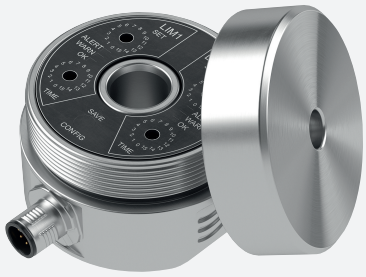
Programming

Adjustable relay outputs



critical state = pre-alarm from SP1/main alarm from SP2 = relay is open = like de-energized state

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100003_eng.pdf



Vibration sensor

VIM82PU-S1G10-20E-I42WV19

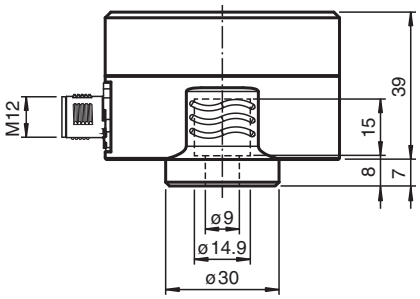
- Suitable for SIL2/PId applications
- Rugged stainless steel housing
- Vibration acceleration in g (rms) acc. to DIN ISO 10816/20816
- 2 relays outputs for safety functions with adjustable switching tresholds, allowing monitoring of a window area

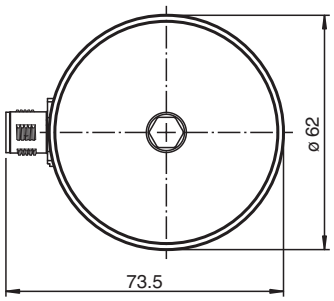
Vibration sensor with safety function both for the analog current output and for the 2 relay outputs with adjustable swichting thresholds

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 vibration sensor has a safety integrity level (SIL 2) for usage in functional safety applications.
For monitoring tasks within the scope of functional safety, 2 relay outputs with adjustable switching thresholds are available. With simultaneous evaluation of both relay outputs by a controller, monitoring of a window area is thus possible, e.g. as part of Condition Monitoring.

Dimensions





Technical Data

General specifications	
Type	Vibration sensor
Measuring technology	MEMS
Series	Pure Line

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100004_eng.pdf

Technical Data

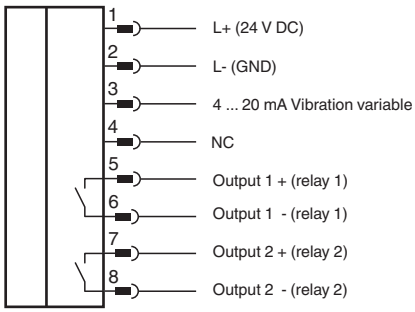
Measured variable		Vibration acceleration
Measurement range		
Vibration acceleration	a-rms	0 ... 10 g rms
Measurement accuracy		± 0.01 g (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis
Frequency range		10 ... 1000 Hz
Averaging time		for a-rms: 2 s
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 2
Performance level (PL)		PL d
Category		Cat. 2
$MTTF_d$		329 a
Mission Time (T_M)		10 a
Diagnostic Coverage (DC)		min. 90 %
Indicators/operating means		
Status indicator		6 LEDs for operating states
Control elements		4 rotary switches and 1 push button for programming
Electrical specifications		
Fusing		external fuse is required: 3 A , semi-time-lag , 30 V DC
Operating voltage	U_B	24 V DC + 7 % / - 10 %
Current consumption		max. 100 mA
Power consumption	P_0	2.6 W
Time delay before availability	t_v	15 s (initially self-test functions are executed before safe measured values are available at the output)
Surge protection		up to 2 kV
Output 1		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 2		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 3		
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
Vibration evaluation		DIN ISO 10816/20816
Functional safety		DIN EN IEC 61508 , SIL 2 EN ISO 13849 , PL d
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		max. 60 °C (max. 140 °F)
Ambient conditions		

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100004_eng.pdf

Technical Data

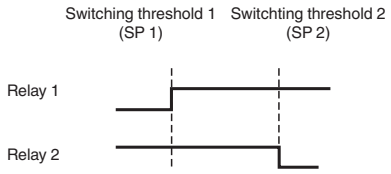
Ambient temperature	-40 ... 60 °C (-40 ... 140 °F)
Measuring head temperature	-40 ... 85 °C (-40 ... 185 °F) directly at the mounting point
Storage temperature	-40 ... 60 °C (-40 ... 140 °F)
Mechanical specifications	
Connection type	plug
Housing material	Stainless steel 1.4305 / AISI 303
Degree of protection	IP66 / IP67 only in connected state and correctly mounted housing cover
Connector	
Threading	M12
Number of pins	8
Mass	approx. 500 g
Dimensions	
Height	46 mm
Width	62 mm
Length	73.5 mm
General information	
Scope of delivery	1 x allen head screw M8 x 20 1 x spring washer M8 1 x seal label

Connection



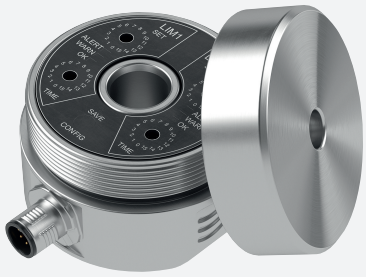
Programming

Adjustable relay outputs



critical state = out of window (SP1, SP2) = relay is open = like de-energized state

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100004_eng.pdf



Vibration sensor

VIM82PU-S1B10-20E-I42WV19

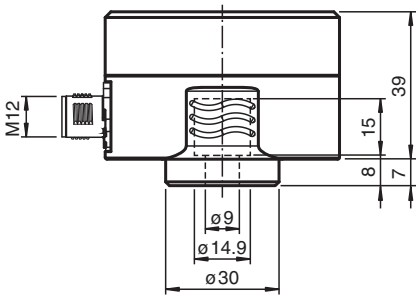
- Suitable for SIL2/PId applications
- Rugged stainless steel housing
- Vibration acceleration in g (rms) acc. to DIN ISO 10816/20816
- Bearing status parameter according to DIN ISO 13373
- 2 relays outputs for safety functions with adjustable switching tresholds, allowing monitoring of a window area

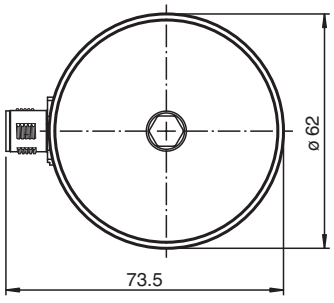
Vibration sensor with safety function both for the analog current output and for the 2 relay outputs with adjustable swichting thresholds

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 vibration sensor has a safety integrity level (SIL 2) for usage in functional safety applications.
For monitoring tasks within the scope of functional safety, 2 relay outputs with adjustable switching thresholds are available. With simultaneous evaluation of both relay outputs by a controller, monitoring of a window area is thus possible, e.g. as part of Condition Monitoring.
An additional analog current output provides the bearing status parameter weighted according to DIN ISO 13373. This allows a qualitative assessment of the condition of rolling-element bearings.

Dimensions





Technical Data

General specifications		
Type		Vibration sensor
Measuring technology		MEMS

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100005_eng.pdf

Technical Data

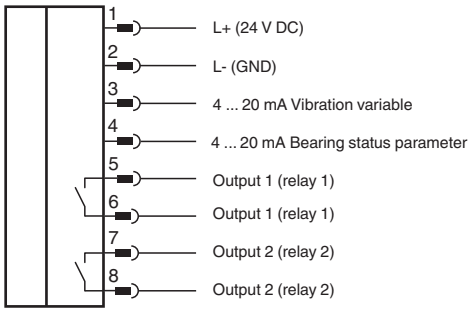
Series		Pure Line
Measured variable		Vibration acceleration Bearing status parameter
Measurement range		
Vibration acceleration	a-rms	0 ... 10 g rms
Bearing status parameter		1 ... 4 see section characteristic curve
Measurement accuracy		± 0.01 g (calibration point: 90% of the measuring range; 159.2 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		
Safety Integrity Level (SIL)		SIL 2
Performance level (PL)		PL d
Category		Cat. 2
$MTTF_d$		329 a
Mission Time (T_M)		10 a
Diagnostic Coverage (DC)		min. 90 %
Indicators/operating means		
Status indicator		6 LEDs for operating states
Control elements		4 rotary switches and 1 push button for programming
Electrical specifications		
Fusing		external fuse is required: 3 A , semi-time-lag , 30 V DC
Operating voltage	U_B	24 V DC + 7 % / - 10 %
Current consumption		max. 100 mA
Power consumption	P_0	2.6 W
Time delay before availability	t_v	15 s (initially self-test functions are executed before safe measured values are available at the output)
Surge protection		up to 2 kV
Output 1		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 2		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 3		
Output type		analog output, current output of the vibration variable
Output current		4 ... 20 mA
Load resistor		≤ 500 Ω
Output 4		
Output type		analog output, current output of the bearing status parameter
Output current		4 ... 20 mA (bearing status parameter according to DIN ISO 13373-3, see section characteristic curve) with steps: 1 = 4 ... 8 mA 2 = 8 ... 12 mA 3 = 12 ... 16 mA 4 = 16 ... 20 mA
Load resistor		≤ 500 Ω
Standard conformity		

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100005_eng.pdf

Technical Data

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
Vibration evaluation		DIN ISO 10816/20816
Functional safety		DIN EN IEC 61508 , SIL 2 EN ISO 13849 , PL d
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		max. 60 °C (max. 140 °F)
Ambient conditions		
Ambient temperature		-40 ... 60 °C (-40 ... 140 °F)
Measuring head temperature		-40 ... 85 °C (-40 ... 185 °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
Degree of protection		IP66 / IP67 only in connected state and correctly mounted housing cover
Connector		
Threading		M12
Number of pins		8
Mass		approx. 500 g
Dimensions		
Height		46 mm
Width		62 mm
Length		73.5 mm
General information		
Scope of delivery		1 x allen head screw M8 x 20 1 x spring washer M8 1 x seal label

Connection



Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100005_eng.pdf

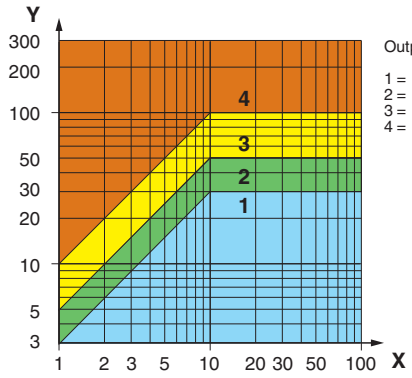
Installation

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.

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.

Characteristic Curve

Bearing status parameter dependent on vibration

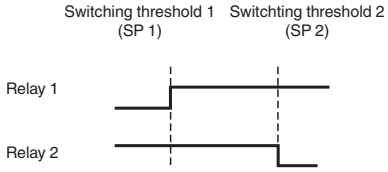


Output current for bearing status parameter 1 ... 4:

1 = 4 ... 8 mA
2 = 8 ... 12 mA
3 = 12 ... 16 mA
4 = 16 ... 20 mA

Vibration intensity diagram [DIN ISO 13373-3]

Adjustable relay outputs



critical state = out of window (SP1, SP2) = relay is open = like de-energized state

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100005_eng.pdf

Vibration sensor

VIM82PP-S1V16-21E-I422C28

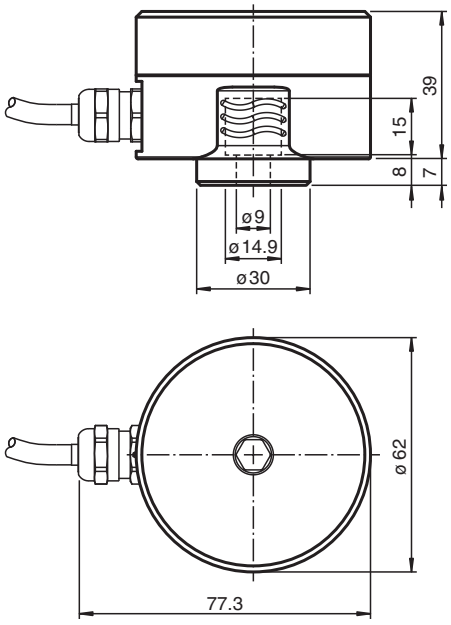
- Suitable for SIL2/PId applications
- Rugged stainless steel housing
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816
- Suitable for use in harzadous area up to Zone 1/21 with type of protection explosionproof enclosure

Vibration sensor with safety function both for the analog current output and for the 2 relay outputs with adjustable swichting thresholds

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 vibration sensor has a safety integrity level (SIL 2) for usage in functional safety applications.
For monitoring tasks within the scope of functional safety, 2 relay outputs with adjustable switching thresholds are available. With simultaneous evaluation of both relay outputs by a controller, monitoring of a pre-alarm and main alarm thus is possible, e.g. as part of Condition Monitoring.
Furthermore there is an approval for the use of the sensor in hazardous areas.

Dimensions



Technical Data

General specifications		
Type		Vibration sensor
Measuring technology		MEMS

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100006_eng.pdf

Technical Data

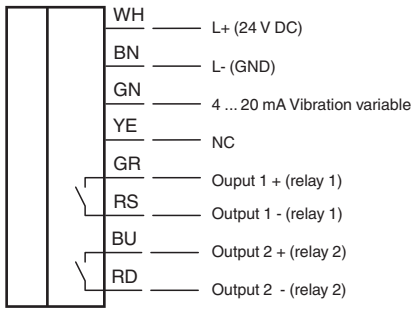
Series		Performance Plus Line
Measured variable		Vibration velocity
Measurement range		
Vibration velocity	v-rms	0 ... 16 mm/s
Measurement accuracy		± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measurement range greater than 8 mm/s
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis
Frequency range		10 ... 1000 Hz
Averaging time		for v-rms: 2 s
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 2
Performance level (PL)		PL d
Category		Cat. 2
$MTTF_d$		329 a
Mission Time (T_M)		10 a
Diagnostic Coverage (DC)		min. 90 %
Indicators/operating means		
Status indicator		6 LEDs for operating states
Control elements		4 rotary switches and 1 push button for programming
Electrical specifications		
Fusing		external fuse is required: 3 A , semi-time-lag , 30 V DC
Operating voltage	U_B	24 V DC + 7 % / - 10 %
Current consumption		max. 100 mA
Power consumption	P_0	2.6 W
Time delay before availability	t_v	15 s (initially self-test functions are executed before safe measured values are available at the output)
Surge protection		up to 2 kV
Output 1		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 2		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 3		
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
Vibration evaluation		DIN ISO 10816/20816
Functional safety		DIN EN IEC 61508 , SIL 2 EN ISO 13849 , PL d
Approvals and certificates		
IECEx approval		
Equipment protection level Gb		IECEx ULD 22.0031X
Equipment protection level Db		IECEx ULD 22.0031X

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100006_eng.pdf

Technical Data

ATEX approval		
Equipment protection level Gb		UL 22 ATEX 2869 X
Equipment protection level Db		UL 22 ATEX 2869 X
Ambient conditions		
Ambient temperature		-40 ... 60 °C (-40 ... 140 °F)
Measuring head temperature		-40 ... 85 °C (-40 ... 185 °F) directly at the mounting point
Storage temperature		-40 ... 60 °C (-40 ... 140 °F)
Mechanical specifications		
Connection type		cable
Housing material		Stainless steel 1.4305 / AISI 303
Degree of protection		IP66 / IP67 only in connected state and correctly mounted housing cover
Cable		
Number of cores		8
Length	L	2 m
Mass		880 g
Dimensions		
Height		46 mm
Width		62 mm
Length		77.3 mm
General information		
Scope of delivery		1 x allen head screw M8 x 20 1 x spring washer M8 1 x seal label
Use in the hazardous area		see instruction manuals Only use accessories specified by the manufacturer.

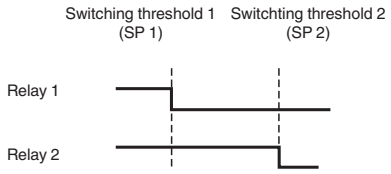
Connection



Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100006_eng.pdf

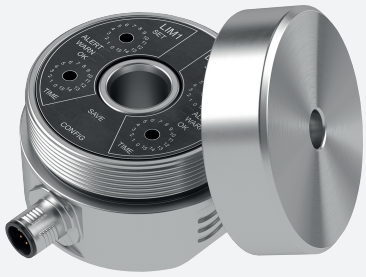
Programming

Adjustable relay outputs



critical state = pre-alarm from SP1/main alarm from SP2 = relay is open = like de-energized state

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100006_eng.pdf



Vibration sensor

VIM82PL-S1V16-22E-I422V19

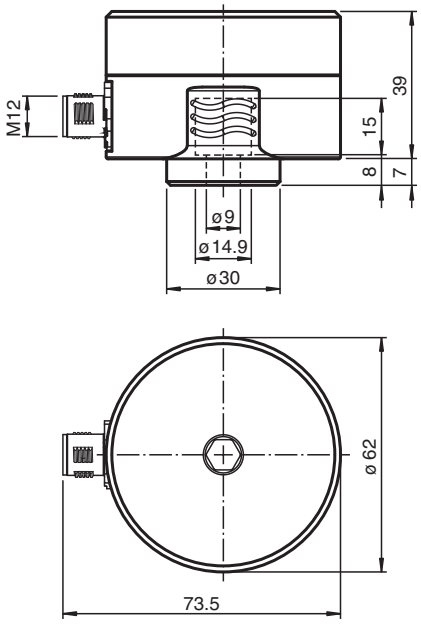
- Suitable for SIL2/PId applications
- Rugged stainless steel housing
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816
- Suitable for use in harzadous area up to Zone 2/21 with type of protection increased safety and for Class I/II and Division 2

Vibration sensor with safety function both for the analog current output and for the 2 relay outputs with adjustable swichting thresholds

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 vibration sensor has a safety integrity level (SIL 2) for usage in functional safety applications.
For monitoring tasks within the scope of functional safety, 2 relay outputs with adjustable switching thresholds are available. With simultaneous evaluation of both relay outputs by a controller, monitoring of a pre-alarm and main alarm thus is possible, e.g. as part of Condition Monitoring.
Furthermore there is an approval for the use of the sensor in hazardous areas.

Dimensions



Technical Data

General specifications		
Type		Vibration sensor
Measuring technology		MEMS

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100007_eng.pdf

Technical Data

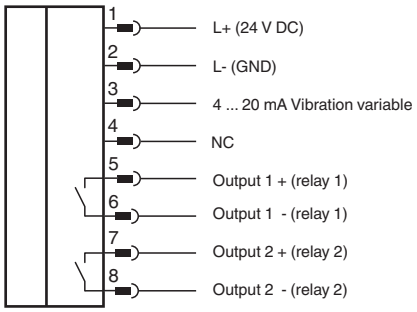
Series		Performance Line
Measured variable		Vibration velocity
Measurement range		
Vibration velocity	v-rms	0 ... 16 mm/s
Measurement accuracy		± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measurement range greater than 8 mm/s
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis
Frequency range		10 ... 1000 Hz
Averaging time		for v-rms: 2 s
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 2
Performance level (PL)		PL d
Category		Cat. 2
$MTTF_d$		329 a
Mission Time (T_M)		10 a
Diagnostic Coverage (DC)		min. 90 %
Indicators/operating means		
Status indicator		6 LEDs for operating states
Control elements		4 rotary switches and 1 push button for programming
Electrical specifications		
Fusing		external fuse is required: 3 A , semi-time-lag , 30 V DC
Operating voltage	U_B	24 V DC + 7 % / - 10 %
Current consumption		max. 100 mA
Power consumption	P_0	2.6 W
Time delay before availability	t_v	15 s (initially self-test functions are executed before safe measured values are available at the output)
Surge protection		up to 2 kV
Output 1		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 2		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 3		
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
Vibration evaluation		DIN ISO 10816/20816
Functional safety		DIN EN IEC 61508 , SIL 2 EN ISO 13849 , PL d
Approvals and certificates		
IECEx approval		
Equipment protection level Gc		IECEx ULD 22.0031X
Equipment protection level Dc		IECEx ULD 22.0031X

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100007_eng.pdf

Technical Data

ATEX approval		
Equipment protection level Gc		UL 22 ATEX 2870 X
Equipment protection level Dc		UL 22 ATEX 2870 X
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
Hazardous Location		E106378
Maximum permissible ambient temperature		max. 60 °C (max. 140 °F)
Control drawing		116-0493
Ambient conditions		
Ambient temperature		-40 ... 60 °C (-40 ... 140 °F)
Measuring head temperature		-40 ... 85 °C (-40 ... 185 °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
Degree of protection		IP66 / IP67 only in connected state and correctly mounted housing cover
Connector		
Threading		M12
Number of pins		8
Mass		approx. 500 g
Dimensions		
Height		46 mm
Width		62 mm
Length		73.5 mm
General information		
Scope of delivery		1 x allen head screw M8 x 20 1 x spring washer M8 1 x seal label
Use in the hazardous area		see instruction manuals Only use accessories specified by the manufacturer.

Connection



Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100007_eng.pdf

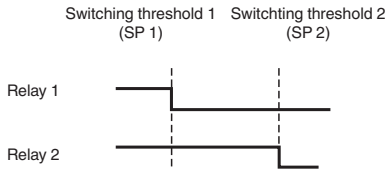
Installation

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.

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.

Programming

Adjustable relay outputs



critical state = pre-alarm from SP1/main alarm from SP2 = relay is open = like de-energized state

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100007_eng.pdf

Vibration sensor

VIM82PP-S1V16-2BE-I422C28

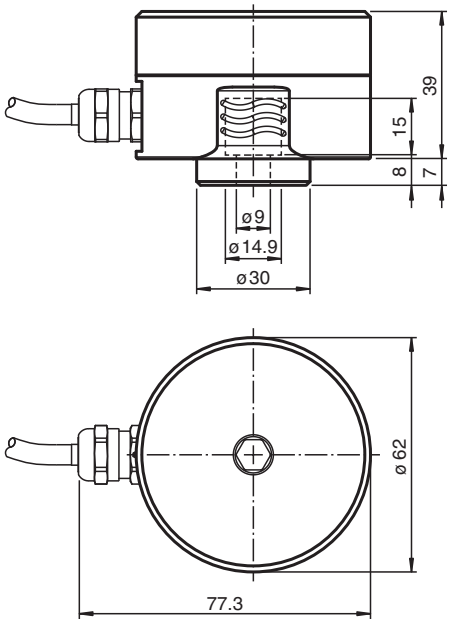
- Suitable for SIL2/PId applications
- Rugged stainless steel housing
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816
- Suitable for use in harzadous area up to Zone 1/21 with type of protection explosionproof enclosure

Vibration sensor with safety function both for the analog current output and for the 2 relay outputs with adjustable swichting thresholds

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 vibration sensor has a safety integrity level (SIL 2) for usage in functional safety applications.
For monitoring tasks within the scope of functional safety, 2 relay outputs with adjustable switching thresholds are available. With simultaneous evaluation of both relay outputs by a controller, monitoring of a pre-alarm and main alarm thus is possible, e.g. as part of Condition Monitoring.
Furthermore there is an approval for the use of the sensor in hazardous areas.

Dimensions



Technical Data

General specifications		
Type		Vibration sensor
Measuring technology		MEMS

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100008_eng.pdf

Technical Data

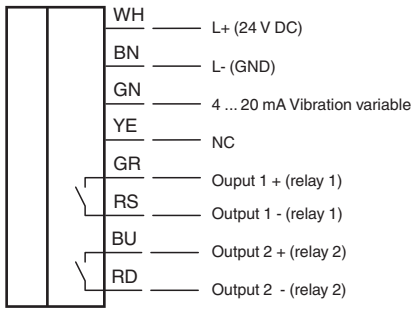
Series		Performance Plus Line
Measured variable		Vibration velocity
Measurement range		
Vibration velocity	v-rms	0 ... 16 mm/s
Measurement accuracy		± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measurement range greater than 8 mm/s
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis
Frequency range		10 ... 1000 Hz
Averaging time		for v-rms: 2 s
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 2
Performance level (PL)		PL d
Category		Cat. 2
$MTTF_d$		329 a
Mission Time (T_M)		10 a
Diagnostic Coverage (DC)		min. 90 %
Indicators/operating means		
Status indicator		6 LEDs for operating states
Control elements		4 rotary switches and 1 push button for programming
Electrical specifications		
Fusing		external fuse is required: 3 A , semi-time-lag , 30 V DC
Operating voltage	U_B	24 V DC + 7 % / - 10 %
Current consumption		max. 100 mA
Power consumption	P_0	2.6 W
Time delay before availability	t_v	15 s (initially self-test functions are executed before safe measured values are available at the output)
Surge protection		up to 2 kV
Output 1		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 2		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 3		
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
Vibration evaluation		DIN ISO 10816/20816
Functional safety		DIN EN IEC 61508 , SIL 2 EN ISO 13849 , PL d
Approvals and certificates		
IECEx approval		
Equipment protection level Gb		IECEx ULD 22.0031X
Equipment protection level Db		IECEx ULD 22.0031X

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100008_eng.pdf

Technical Data

ATEX approval		
Equipment protection level Gb		UL 22 ATEX 2869 X
Equipment protection level Db		UL 22 ATEX 2869 X
Ambient conditions		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
Measuring head temperature		-20 ... 125 °C (-4 ... 257 °F) directly at the mounting point
Storage temperature		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		
Connection type		cable
Housing material		Stainless steel 1.4305 / AISI 303
Degree of protection		IP66 / IP67 only in connected state and correctly mounted housing cover
Cable		
Number of cores		8
Length	L	2 m
Mass		880 g
Dimensions		
Height		46 mm
Width		62 mm
Length		77.3 mm
General information		
Scope of delivery		1 x allen head screw M8 x 20 1 x spring washer M8 1 x seal label
Use in the hazardous area		see instruction manuals Only use accessories specified by the manufacturer.

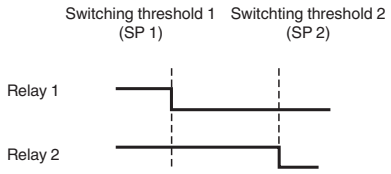
Connection



Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100008_eng.pdf

Programming

Adjustable relay outputs



critical state = pre-alarm from SP1/main alarm from SP2 = relay is open = like de-energized state

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100008_eng.pdf

Vibration sensor

VIM82PL-S1V16-2CE-I422C28

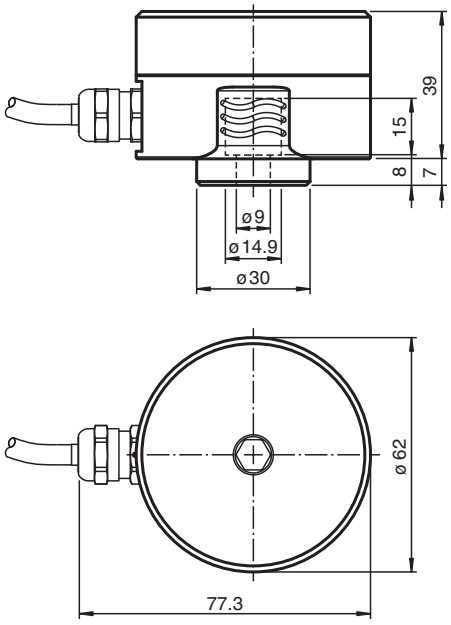
- Suitable for SIL2/PId applications
- Rugged stainless steel housing
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816
- Suitable for use in harzadous area up to Zone 2/21 with type of protection increased safety and for Class I/II and Division 2

Vibration sensor with safety function both for the analog current output and for the 2 relay outputs with adjustable switching thresholds

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 vibration sensor has a safety integrity level (SIL 2) for usage in functional safety applications.
For monitoring tasks within the scope of functional safety, 2 relay outputs with adjustable switching thresholds are available. With simultaneous evaluation of both relay outputs by a controller, monitoring of a pre-alarm and main alarm thus is possible, e.g. as part of Condition Monitoring.
Furthermore there is an approval for the use of the sensor in hazardous areas.

Dimensions



Technical Data

General specifications		
Type		Vibration sensor
Measuring technology		MEMS

Release date: 2024-11-22 Date of issue: 2024-11-22 Filename: 70141684-100009_eng.pdf

Technical Data

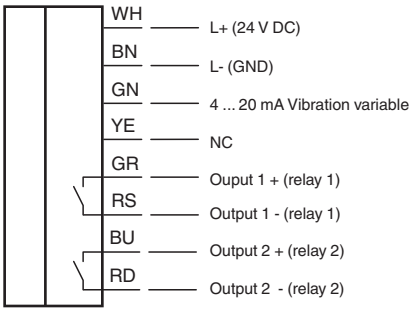
Series		Performance Line
Measured variable		Vibration velocity
Measuring range		
Vibration velocity	v-rms	0 ... 16 mm/s
Measurement accuracy		± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measuring range greater than 8 mm/s
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis
Frequency range		10 ... 1000 Hz
Averaging time		for v-rms: 2 s
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 2
Performance level (PL)		PL d
Category		Cat. 2
$MTTF_d$		329 a
Mission Time (T_M)		10 a
Diagnostic Coverage (DC)		min. 90 %
Indicators/operating means		
Status indicator		6 LEDs for operating states
Control elements		4 rotary switches and 1 push button for programming
Electrical specifications		
Fusing		external fuse is required: 3 A , semi-time-lag , 30 V DC
Operating voltage	U_B	24 V DC + 7 % / - 10 %
Current consumption		max. 100 mA
Power consumption	P_0	2.6 W
Time delay before availability	t_v	15 s (initially self-test functions are executed before safe measured values are available at the output)
Surge protection		up to 2 kV
Output 1		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 2		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 3		
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
Vibration evaluation		DIN ISO 10816/20816
Functional safety		DIN EN IEC 61508 , SIL 2 EN ISO 13849 , PL d
Approvals and certificates		
IECEx approval		
Equipment protection level Gc		IECEx ULD 22.0031X
Equipment protection level Dc		IECEx ULD 22.0031X

Release date: 2024-11-22 Date of issue: 2024-11-22 Filename: 70141684-100009_eng.pdf

Technical Data

ATEX approval		
Equipment protection level Gc		UL 22 ATEX 2870 X
Equipment protection level Dc		UL 22 ATEX 2870 X
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
Hazardous Location		E106378
Maximum permissible ambient temperature		max. 60 °C (max. 140 °F)
Control drawing		116-0493
Ambient conditions		
Ambient temperature		-35 ... 60 °C (-31 ... 140 °F)
Measuring head temperature		-35 ... 125 °C (-31 ... 257 °F) directly at the mounting point
Storage temperature		-35 ... 60 °C (-31 ... 140 °F)
Mechanical specifications		
Connection type		cable
Housing material		Stainless steel 1.4305 / AISI 303
Degree of protection		IP66 / IP67 only in connected state and correctly mounted housing cover
Cable		
Number of cores		8
Length	L	2 m
Mass		880 g
Dimensions		
Height		46 mm
Width		62 mm
Length		77.3 mm
General information		
Scope of delivery		1 x allen head screw M8 x 20 1 x spring washer M8 1 x seal label
Use in the hazardous area		see instruction manuals Only use accessories specified by the manufacturer.

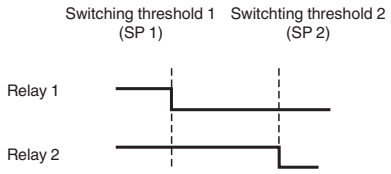
Connection



Release date: 2024-11-22 Date of issue: 2024-11-22 Filename: 70141684-100009_eng.pdf

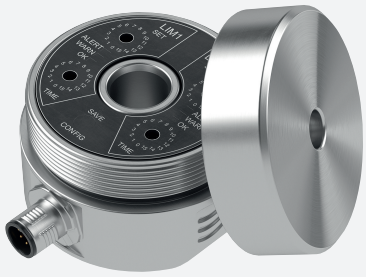
Programming

Adjustable relay outputs



critical state = pre-alarm from SP1/main alarm from SP2 = relay is open = like de-energized state

Release date: 2024-11-22 Date of issue: 2024-11-22 Filename: 70141684-100009_eng.pdf



Vibration sensor

VIM82PU-S0V16-20E-I422V19

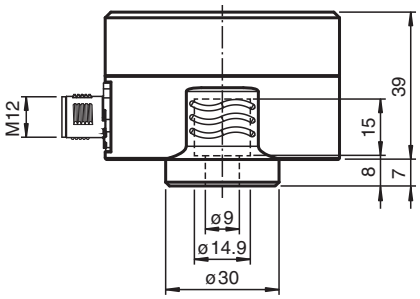
- Suitable for SIL2/PId applications
- Rugged stainless steel housing
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816
- 2 relays outputs for safety functions with adjustable switching tresholds, allowing pre- and main alarm

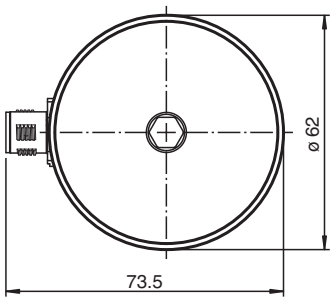
Vibration sensor with safety function both for the analog current output and for the 2 relay outputs with adjustable swichting thresholds

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 vibration sensor has a safety integrity level (SIL 2) for usage in functional safety applications.
For monitoring tasks within the scope of functional safety, 2 relay outputs with adjustable switching thresholds are available. With simultaneous evaluation of both relay outputs by a controller, monitoring of a pre-alarm and main alarm thus is possible, e.g. as part of Condition Monitoring.

Dimensions





Technical Data

General specifications	
Type	Vibration sensor
Measuring technology	MEMS
Series	Pure Line

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100010_eng.pdf

Technical Data

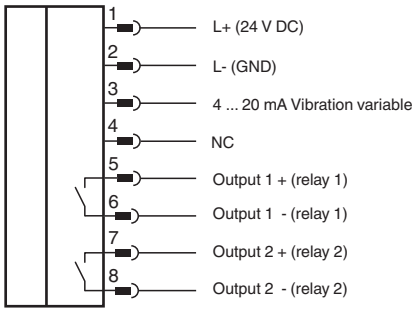
Measured variable		Vibration velocity
Measurement range		
Vibration velocity	v-rms	0 ... 16 mm/s
Measurement accuracy		± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measurement range greater than 8 mm/s
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis
Frequency range		1 ... 1000 Hz
Averaging time		for v-rms: 2 s
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 2
Performance level (PL)		PL d
Category		Cat. 2
$MTTF_d$		329 a
Mission Time (T_M)		10 a
Diagnostic Coverage (DC)		min. 90 %
Indicators/operating means		
Status indicator		6 LEDs for operating states
Control elements		4 rotary switches and 1 push button for programming
Electrical specifications		
Fusing		external fuse is required: 3 A , semi-time-lag , 30 V DC
Operating voltage	U_B	24 V DC + 7 % / - 10 %
Current consumption		max. 100 mA
Power consumption	P_0	2.6 W
Time delay before availability	t_v	15 s (initially self-test functions are executed before safe measured values are available at the output)
Surge protection		up to 2 kV
Output 1		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 2		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 3		
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
Vibration evaluation		DIN ISO 10816/20816
Functional safety		DIN EN IEC 61508 , SIL 2 EN ISO 13849 , PL d
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		max. 60 °C (max. 140 °F)

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100010_eng.pdf

Technical Data

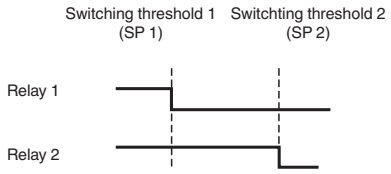
Ambient conditions	
Ambient temperature	-40 ... 60 °C (-40 ... 140 °F)
Measuring head temperature	-40 ... 85 °C (-40 ... 185 °F) directly at the mounting point
Storage temperature	-40 ... 60 °C (-40 ... 140 °F)
Mechanical specifications	
Connection type	plug
Housing material	Stainless steel 1.4305 / AISI 303
Degree of protection	IP66 / IP67 only in connected state and correctly mounted housing cover
Connector	
Threading	M12
Number of pins	8
Mass	approx. 500 g
Dimensions	
Height	46 mm
Width	62 mm
Length	73.5 mm
General information	
Scope of delivery	1 x allen head screw M8 x 20 1 x spring washer M8 1 x seal label

Connection



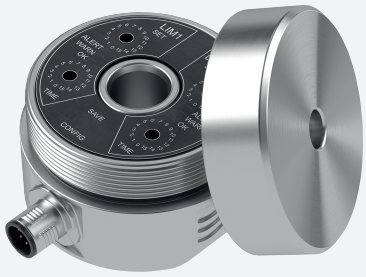
Programming

Adjustable relay outputs



critical state = pre-alarm from SP1/main alarm from SP2 = relay is open = like de-energized state

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100010_eng.pdf



Vibration sensor

VIM82PU-S1V32-20E-I422V19

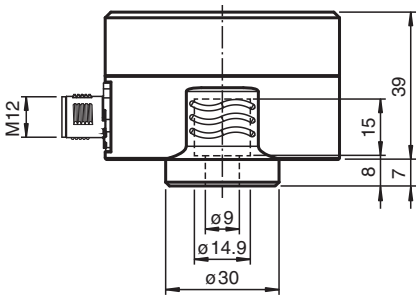
- Suitable for SIL2/PId applications
- Rugged stainless steel housing
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816
- 2 relays outputs for safety functions with adjustable switching tresholds, allowing pre- and main alarm

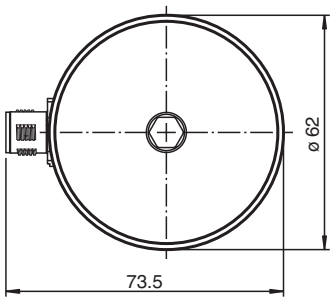
Vibration sensor with safety function both for the analog current output and for the 2 relay outputs with adjustable swichting thresholds

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 vibration sensor has a safety integrity level (SIL 2) for usage in functional safety applications.
For monitoring tasks within the scope of functional safety, 2 relay outputs with adjustable switching thresholds are available. With simultaneous evaluation of both relay outputs by a controller, monitoring of a pre-alarm and main alarm thus is possible, e.g. as part of Condition Monitoring.

Dimensions





Technical Data

General specifications	
Type	Vibration sensor
Measuring technology	MEMS
Series	Pure Line

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100011_eng.pdf

Technical Data

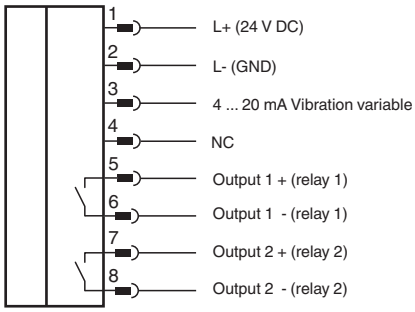
Measured variable		Vibration velocity
Measurement range		
Vibration velocity	v-rms	0 ... 32 mm/s
Measurement accuracy		± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measurement range greater than 8 mm/s
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis
Frequency range		10 ... 1000 Hz
Averaging time		for v-rms: 2 s
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 2
Performance level (PL)		PL d
Category		Cat. 2
$MTTF_d$		329 a
Mission Time (T_M)		10 a
Diagnostic Coverage (DC)		min. 90 %
Indicators/operating means		
Status indicator		6 LEDs for operating states
Control elements		4 rotary switches and 1 push button for programming
Electrical specifications		
Fusing		external fuse is required: 3 A , semi-time-lag , 30 V DC
Operating voltage	U_B	24 V DC + 7 % / - 10 %
Current consumption		max. 100 mA
Power consumption	P_0	2.6 W
Time delay before availability	t_v	15 s (initially self-test functions are executed before safe measured values are available at the output)
Surge protection		up to 2 kV
Output 1		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 2		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 3		
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
Vibration evaluation		DIN ISO 10816/20816
Functional safety		DIN EN IEC 61508 , SIL 2 EN ISO 13849 , PL d
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		max. 60 °C (max. 140 °F)

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100011_eng.pdf

Technical Data

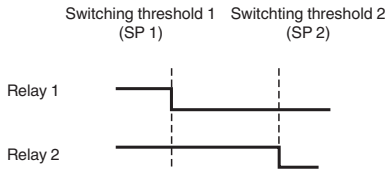
Ambient conditions	
Ambient temperature	-40 ... 60 °C (-40 ... 140 °F)
Measuring head temperature	-40 ... 85 °C (-40 ... 185 °F) directly at the mounting point
Storage temperature	-40 ... 60 °C (-40 ... 140 °F)
Mechanical specifications	
Connection type	plug
Housing material	Stainless steel 1.4305 / AISI 303
Degree of protection	IP66 / IP67 only in connected state and correctly mounted housing cover
Connector	
Threading	M12
Number of pins	8
Mass	approx. 500 g
Dimensions	
Height	46 mm
Width	62 mm
Length	73.5 mm
General information	
Scope of delivery	1 x allen head screw M8 x 20 1 x spring washer M8 1 x seal label

Connection



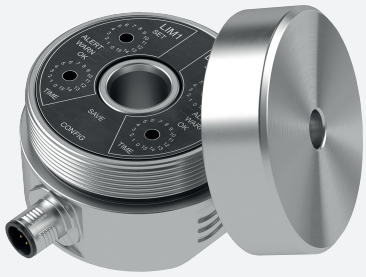
Programming

Adjustable relay outputs



critical state = pre-alarm from SP1/main alarm from SP2 = relay is open = like de-energized state

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100011_eng.pdf



Vibration sensor

VIM82PU-S0V32-20E-I422V19

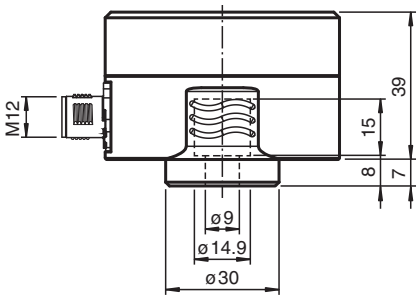
- Suitable for SIL2/PId applications
- Rugged stainless steel housing
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816
- 2 relays outputs for safety functions with adjustable switching tresholds, allowing pre- and main alarm

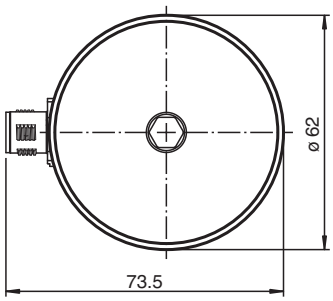
Vibration sensor with safety function both for the analog current output and for the 2 relay outputs with adjustable swichting thresholds

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 vibration sensor has a safety integrity level (SIL 2) for usage in functional safety applications.
For monitoring tasks within the scope of functional safety, 2 relay outputs with adjustable switching thresholds are available. With simultaneous evaluation of both relay outputs by a controller, monitoring of a pre-alarm and main alarm thus is possible, e.g. as part of Condition Monitoring.

Dimensions





Technical Data

General specifications	
Type	Vibration sensor
Measuring technology	MEMS
Series	Pure Line

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100012_eng.pdf

Technical Data

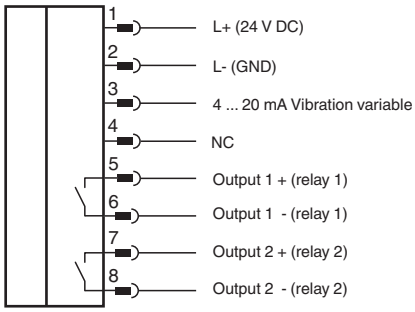
Measured variable		Vibration velocity
Measurement range		
Vibration velocity	v-rms	0 ... 32 mm/s
Measurement accuracy		± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measurement range greater than 8 mm/s
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis
Frequency range		1 ... 1000 Hz
Averaging time		for v-rms: 2 s
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 2
Performance level (PL)		PL d
Category		Cat. 2
$MTTF_d$		329 a
Mission Time (T_M)		10 a
Diagnostic Coverage (DC)		min. 90 %
Indicators/operating means		
Status indicator		6 LEDs for operating states
Control elements		4 rotary switches and 1 push button for programming
Electrical specifications		
Fusing		external fuse is required: 3 A , semi-time-lag , 30 V DC
Operating voltage	U_B	24 V DC + 7 % / - 10 %
Current consumption		max. 100 mA
Power consumption	P_0	2.6 W
Time delay before availability	t_v	15 s (initially self-test functions are executed before safe measured values are available at the output)
Surge protection		up to 2 kV
Output 1		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 2		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 3		
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
Vibration evaluation		DIN ISO 10816/20816
Functional safety		DIN EN IEC 61508 , SIL 2 EN ISO 13849 , PL d
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		max. 60 °C (max. 140 °F)

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100012_eng.pdf

Technical Data

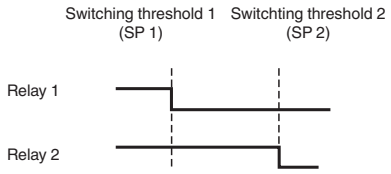
Ambient conditions	
Ambient temperature	-40 ... 60 °C (-40 ... 140 °F)
Measuring head temperature	-40 ... 85 °C (-40 ... 185 °F) directly at the mounting point
Storage temperature	-40 ... 60 °C (-40 ... 140 °F)
Mechanical specifications	
Connection type	plug
Housing material	Stainless steel 1.4305 / AISI 303
Degree of protection	IP66 / IP67 only in connected state and correctly mounted housing cover
Connector	
Threading	M12
Number of pins	8
Mass	approx. 500 g
Dimensions	
Height	46 mm
Width	62 mm
Length	73.5 mm
General information	
Scope of delivery	1 x allen head screw M8 x 20 1 x spring washer M8 1 x seal label

Connection



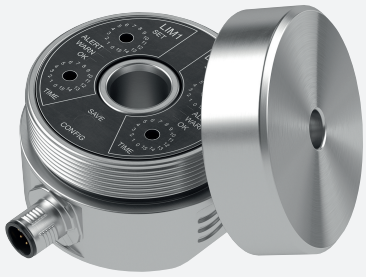
Programming

Adjustable relay outputs



critical state = pre-alarm from SP1/main alarm from SP2 = relay is open = like de-energized state

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100012_eng.pdf



Vibration sensor

VIM82PU-S0V64-20E-I422V19

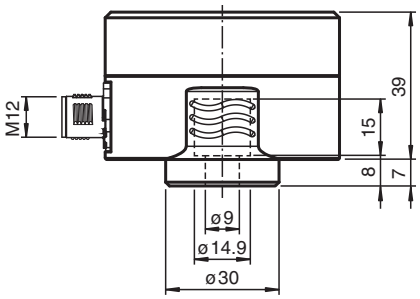
- Suitable for SIL2/PId applications
- Rugged stainless steel housing
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816
- 2 relays outputs for safety functions with adjustable switching tresholds, allowing pre- and main alarm

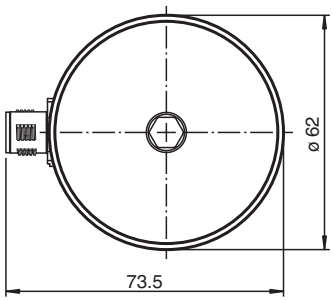
Vibration sensor with safety function both for the analog current output and for the 2 relay outputs with adjustable swichting thresholds

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 vibration sensor has a safety integrity level (SIL 2) for usage in functional safety applications.
For monitoring tasks within the scope of functional safety, 2 relay outputs with adjustable switching thresholds are available. With simultaneous evaluation of both relay outputs by a controller, monitoring of a pre-alarm and main alarm thus is possible, e.g. as part of Condition Monitoring.

Dimensions





Technical Data

General specifications	
Type	Vibration sensor
Measuring technology	MEMS
Series	Pure Line

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100013_eng.pdf

Technical Data

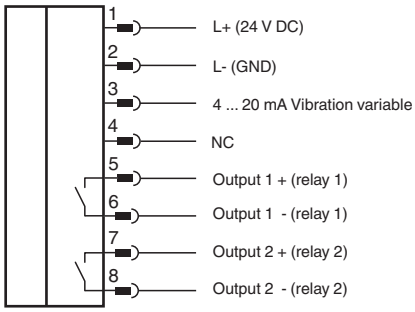
Measured variable		Vibration velocity
Measurement range		
Vibration velocity	v-rms	0 ... 64 mm/s
Measurement accuracy		± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measurement range greater than 8 mm/s
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis
Frequency range		1 ... 1000 Hz
Averaging time		for v-rms: 2 s
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 2
Performance level (PL)		PL d
Category		Cat. 2
$MTTF_d$		329 a
Mission Time (T_M)		10 a
Diagnostic Coverage (DC)		min. 90 %
Indicators/operating means		
Status indicator		6 LEDs for operating states
Control elements		4 rotary switches and 1 push button for programming
Electrical specifications		
Fusing		external fuse is required: 3 A , semi-time-lag , 30 V DC
Operating voltage	U_B	24 V DC + 7 % / - 10 %
Current consumption		max. 100 mA
Power consumption	P_0	2.6 W
Time delay before availability	t_v	15 s (initially self-test functions are executed before safe measured values are available at the output)
Surge protection		up to 2 kV
Output 1		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 2		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 3		
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
Vibration evaluation		DIN ISO 10816/20816
Functional safety		DIN EN IEC 61508 , SIL 2 EN ISO 13849 , PL d
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		max. 60 °C (max. 140 °F)

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100013_eng.pdf

Technical Data

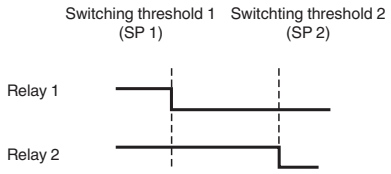
Ambient conditions	
Ambient temperature	-40 ... 60 °C (-40 ... 140 °F)
Measuring head temperature	-40 ... 85 °C (-40 ... 185 °F) directly at the mounting point
Storage temperature	-40 ... 60 °C (-40 ... 140 °F)
Mechanical specifications	
Connection type	plug
Housing material	Stainless steel 1.4305 / AISI 303
Degree of protection	IP66 / IP67 only in connected state and correctly mounted housing cover
Connector	
Threading	M12
Number of pins	8
Mass	approx. 500 g
Dimensions	
Height	46 mm
Width	62 mm
Length	73.5 mm
General information	
Scope of delivery	1 x allen head screw M8 x 20 1 x spring washer M8 1 x seal label

Connection



Programming

Adjustable relay outputs



critical state = pre-alarm from SP1/main alarm from SP2 = relay is open = like de-energized state

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100013_eng.pdf

Vibration sensor

VIM82PP-S1V32-2BE-I422C28

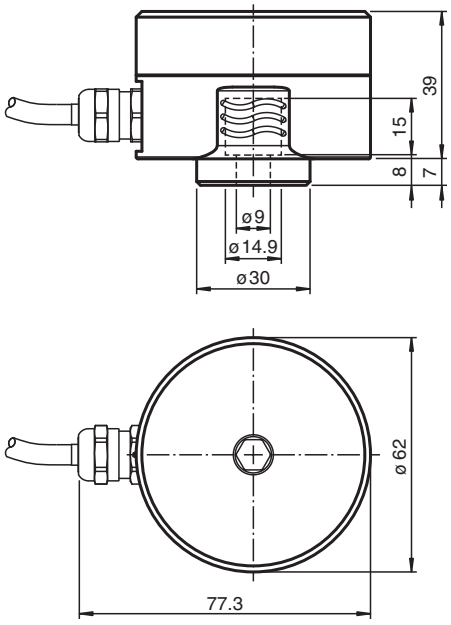
- Suitable for SIL2/PId applications
- Rugged stainless steel housing
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816
- Suitable for use in harzadous area up to Zone 1/21 with type of protection explosionproof enclosure

Vibration sensor with safety function both for the analog current output and for the 2 relay outputs with adjustable swichting thresholds

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 vibration sensor has a safety integrity level (SIL 2) for usage in functional safety applications.
For monitoring tasks within the scope of functional safety, 2 relay outputs with adjustable switching thresholds are available. With simultaneous evaluation of both relay outputs by a controller, monitoring of a pre-alarm and main alarm thus is possible, e.g. as part of Condition Monitoring.
Furthermore there is an approval for the use of the sensor in hazardous areas.

Dimensions



Technical Data

General specifications		
Type		Vibration sensor
Measuring technology		MEMS

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100014_eng.pdf

Technical Data

Series		Performance Plus Line
Measured variable		Vibration velocity
Measurement range		
Vibration velocity	v-rms	0 ... 32 mm/s
Measurement accuracy		± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measurement range greater than 8 mm/s
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis
Frequency range		10 ... 1000 Hz
Averaging time		for v-rms: 2 s
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 2
Performance level (PL)		PL d
Category		Cat. 2
$MTTF_d$		329 a
Mission Time (T_M)		10 a
Diagnostic Coverage (DC)		min. 90 %
Indicators/operating means		
Status indicator		6 LEDs for operating states
Control elements		4 rotary switches and 1 push button for programming
Electrical specifications		
Fusing		external fuse is required: 3 A , semi-time-lag , 30 V DC
Operating voltage	U_B	24 V DC + 7 % / - 10 %
Current consumption		max. 100 mA
Power consumption	P_0	2.6 W
Time delay before availability	t_v	15 s (initially self-test functions are executed before safe measured values are available at the output)
Surge protection		up to 2 kV
Output 1		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 2		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 3		
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
Vibration evaluation		DIN ISO 10816/20816
Functional safety		DIN EN IEC 61508 , SIL 2 EN ISO 13849 , PL d
Approvals and certificates		
IECEx approval		
Equipment protection level Gb		IECEx ULD 22.0031X
Equipment protection level Db		IECEx ULD 22.0031X

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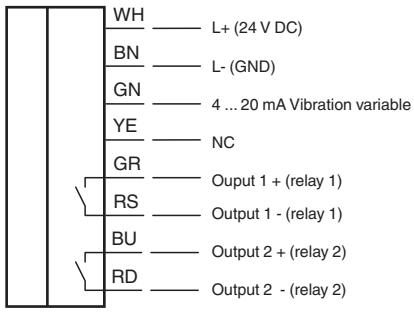
Technical Data

ATEX approval		
Equipment protection level Gb		UL 22 ATEX 2869 X
Equipment protection level Db		UL 22 ATEX 2869 X
Ambient conditions		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
Measuring head temperature		-20 ... 125 °C (-4 ... 257 °F) directly at the mounting point
Storage temperature		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		
Connection type		cable
Housing material		Stainless steel 1.4305 / AISI 303
Degree of protection		IP66 / IP67 only in connected state and correctly mounted housing cover
Cable		
Number of cores		8
Length	L	2 m
Mass		880 g
Dimensions		
Height		46 mm
Width		62 mm
Length		77.3 mm
General information		
Scope of delivery		1 x allen head screw M8 x 20 1 x spring washer M8 1 x seal label
Use in the hazardous area		see instruction manuals Only use accessories specified by the manufacturer.

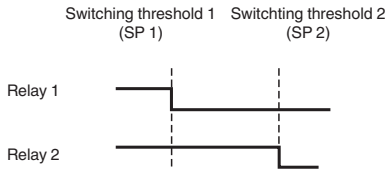
Connection



Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70141684-100014_eng.pdf

Programming

Adjustable relay outputs



critical state = pre-alarm from SP1/main alarm from SP2 = relay is open = like de-energized state

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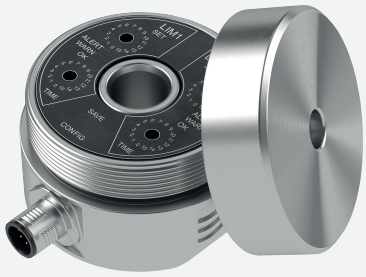


Vibration sensor

VIM82PU-S1G06-20E-I42WV19

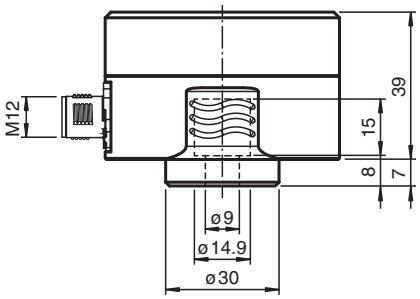
- Suitable for SIL2/PId applications
- Rugged stainless steel housing
- Vibration acceleration in g (rms) acc. to DIN ISO 10816/20816
- 2 relays outputs for safety functions with adjustable switching tresholds, allowing monitoring of a window area

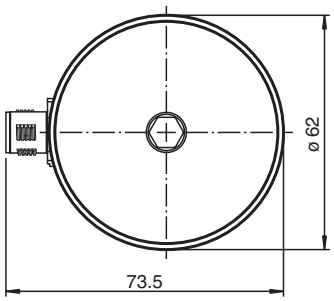
Vibration sensor with safety function both for the analog current output and for the 2 relay outputs with adjustable swichting thresholds

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 vibration sensor has a safety integrity level (SIL 2) for usage in functional safety applications.
For monitoring tasks within the scope of functional safety, 2 relay outputs with adjustable switching thresholds are available. With simultaneous evaluation of both relay outputs by a controller, monitoring of a window area is thus possible, e.g. as part of Condition Monitoring.

Dimensions





Technical Data

General specifications	
Type	Vibration sensor
Measuring technology	MEMS
Series	Pure Line

Release date: 2024-10-15 Date of issue: 2024-10-15 Filename: 70141684-100015_eng.pdf

Technical Data

Measured variable		Vibration acceleration
Measuring range		
Vibration acceleration	a-rms	0 ... 6 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		
Safety Integrity Level (SIL)		SIL 2
Performance level (PL)		PL d
Category		Cat. 2
$MTTF_d$		329 a
Mission Time (T_M)		10 a
Diagnostic Coverage (DC)		min. 90 %
Indicators/operating means		
Status indicator		6 LEDs for operating states
Control elements		4 rotary switches and 1 push button for programming
Electrical specifications		
Fusing		external fuse is required: 3 A , semi-time-lag , 30 V DC
Operating voltage	U_B	24 V DC + 7 % / - 10 %
Current consumption		max. 100 mA
Power consumption	P_0	2.6 W
Time delay before availability	t_v	15 s (initially self-test functions are executed before safe measured values are available at the output)
Surge protection		up to 2 kV
Output 1		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 2		
Output type		relay
Switching function		Normally open (NO)
Switching voltage		max. 30 V DC
Switching current		max. 1 A
Output 3		
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
Vibration evaluation		DIN ISO 10816/20816
Functional safety		DIN EN IEC 61508 , SIL 2 EN ISO 13849 , PL d
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		max. 60 °C (max. 140 °F)
Ambient conditions		

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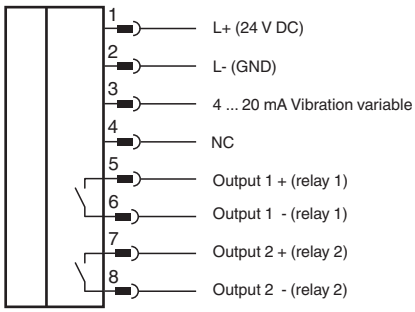
Technical Data

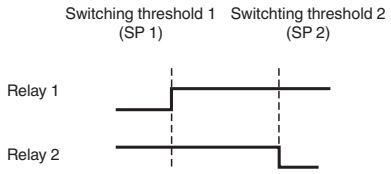
Ambient temperature	-40 ... 60 °C (-40 ... 140 °F)
Measuring head temperature	-40 ... 85 °C (-40 ... 185 °F) directly at the mounting point
Storage temperature	-40 ... 60 °C (-40 ... 140 °F)
Mechanical specifications	
Connection type	plug
Housing material	Stainless steel 1.4305 / AISI 303
Degree of protection	IP66 / IP67 only in connected state and correctly mounted housing cover
Connector	
Threading	M12
Number of pins	8
Mass	approx. 500 g
Dimensions	
Height	46 mm
Width	62 mm
Length	73.5 mm
General information	
Scope of delivery	1 x allen head screw M8 x 20 1 x spring washer M8 1 x seal label

Connection



Programming

Adjustable relay outputs



critical state = out of window (SP1, SP2) = relay is open = like de-energized state

Release date: 2024-10-15 Date of issue: 2024-10-15 Filename: 70141684-100015_eng.pdf

Vibration sensor

VIM32PL-E1V16-0RE-I421V14

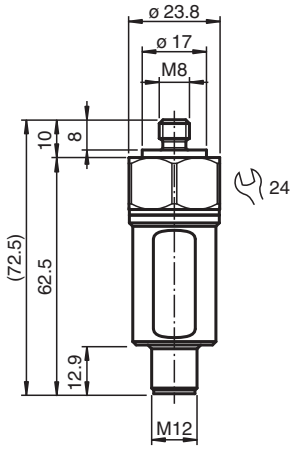
- Analog current output
- Screw-in thread for simple installation
- Simple electrical commissioning
- Rugged stainless steel housing
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816
- Switching output

Vibration sensor with switching output and analog current output

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.
In addition, a switching output with preset switching characteristics is included. This means a permanent monitoring of the vibration measured value is not required, because a necessary maintenance of the plant is signalized directly. The switching characteristics are provided with a preset response time. Thus, the output is only set if the vibration event lasts longer than this time. Short-time vibration events are hence filtered out.
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 velocity
Measurement range		
Vibration velocity	v-rms	0 ... 16 mm/s
Measurement accuracy		± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measurement range greater than 8 mm/s
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis

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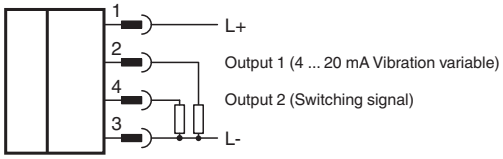
Technical Data

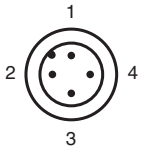
Frequency range		10 ... 1000 Hz
Averaging time		for v-rms: 2 s
Functional safety related parameters		
$MTTF_d$		329 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %
Electrical specifications		
Fusing		external fuse is required: 1 A , fast acting , 30 V DC
Operating voltage	U_B	18 ... 30 V DC
Current consumption		max. 220 mA
Power consumption	P_0	max. 6.6 W
Time delay before availability	t_v	2 s (rms filter is calculated intially with measurement data before they are available at the output)
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
Output 2		
Output type		PNP
Switching function		Normally closed (NC)
Operating current		≤ 100 mA
Voltage drop		< 2 V
Switching threshold		1.6 mm/s (10 % of the measuring range)
Preset response time		2 s (minimum time for a vibration event above the switching threshold so that the output switches)
Short-circuit protection		yes
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
Vibration evaluation		DIN ISO 10816/20816
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		max. 80 °C (max. 176 °F)
Ambient conditions		
Ambient temperature		-40 ... 85 °C (-40 ... 185 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications		
Connection type		plug
Housing material		Stainless steel 1.4305 / AISI 303
Degree of protection		IP66 / IP67 only in connected state
Connector		
Threading		M12
Number of pins		4
Mass		approx. 100 g
Dimensions		
Length		72.5 mm
Diameter		23.8 mm

Release date: 2024-07-04 Date of issue: 2024-07-04 Filename: 70146714-100000_eng.pdf

Connection



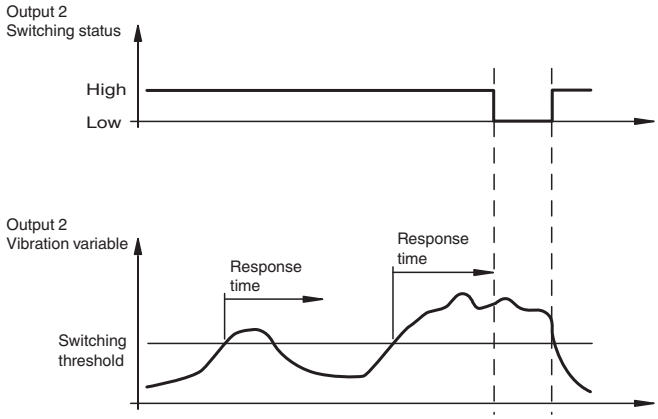
Connection Assignment



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.

Operation

Switching Characteristics



Release date: 2024-07-04 Date of issue: 2024-07-04 Filename: 70146714-100000_eng.pdf

Vibration sensor

VIM32PL-E1V16-0RE-I420V14

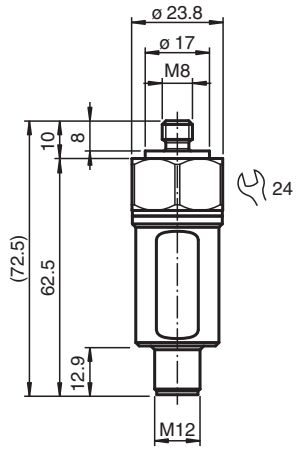
- Analog current output
- Screw-in thread for simple installation
- Simple electrical commissioning
- Rugged stainless steel housing
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816

Vibration sensor with analog current output

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 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 velocity
Measurement range		
Vibration velocity	v-rms	0 ... 16 mm/s
Measurement accuracy		± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measurement range greater than 8 mm/s
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis
Frequency range		10 ... 1000 Hz
Averaging time		for v-rms: 2 s

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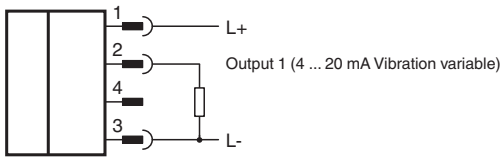
Technical Data

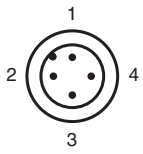
Functional safety related parameters		
$MTTF_d$		329 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %
Electrical specifications		
Fusing		external fuse is required: 1 A , fast acting , 30 V DC
Operating voltage	U_B	18 ... 30 V DC
Current consumption		max. 120 mA
Power consumption	P_0	max. 3.6 W
Time delay before availability	t_v	2 s (rms filter is calculated intially with measurement data before they are available at the output)
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		
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
Vibration evaluation		DIN ISO 10816/20816
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		max. 80 °C (max. 176 °F)
Ambient conditions		
Ambient temperature		-40 ... 85 °C (-40 ... 185 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications		
Connection type		plug
Housing material		Stainless steel 1.4305 / AISI 303
Degree of protection		IP66 / IP67 only in connected state
Connector		
Threading		M12
Number of pins		4
Mass		approx. 100 g
Dimensions		
Length		72.5 mm
Diameter		23.8 mm

Connection



Release date: 2024-07-04 Date of issue: 2024-07-04 Filename: 70146714-100001_eng.pdf

Connection Assignment



Vibration sensor

VIM32PL-E1V64-0RE-I421V14

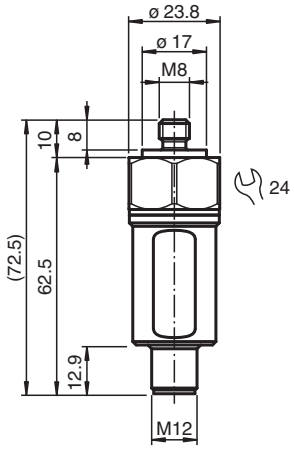
- Analog current output
- Screw-in thread for simple installation
- Simple electrical commissioning
- Rugged stainless steel housing
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816
- Switching output

Vibration sensor with switching output and analog current output

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.
In addition, a switching output with preset switching characteristics is included. This means a permanent monitoring of the vibration measured value is not required, because a necessary maintenance of the plant is signalized directly. The switching characteristics are provided with a preset response time. Thus, the output is only set if the vibration event lasts longer than this time. Short-time vibration events are hence filtered out.
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 velocity
Measurement range		
Vibration velocity	v-rms	0 ... 64 mm/s
Measurement accuracy		± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measurement range greater than 8 mm/s
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis

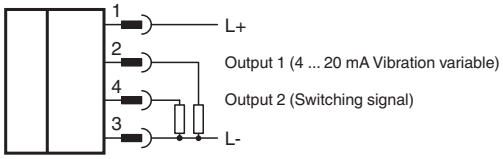
Release date: 2024-07-04 Date of issue: 2024-07-04 Filename: 70146714-100003_eng.pdf

Technical Data

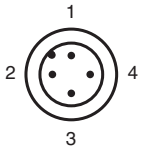
Frequency range		10 ... 1000 Hz
Averaging time		for v-rms: 2 s
Functional safety related parameters		
$MTTF_d$		329 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %
Electrical specifications		
Fusing		external fuse is required: 1 A , fast acting , 30 V DC
Operating voltage	U_B	18 ... 30 V DC
Current consumption		max. 220 mA
Power consumption	P_0	max. 6.6 W
Time delay before availability	t_v	2 s (rms filter is calculated intially with measurement data before they are available at the output)
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
Output 2		
Output type		PNP
Switching function		Normally closed (NC)
Operating current		≤ 100 mA
Voltage drop		< 2 V
Switching threshold		6.4 mm/s (10 % of the measuring range)
Preset response time		2 s (minimum time for a vibration event above the switching threshold so that the output switches)
Short-circuit protection		yes
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
Vibration evaluation		DIN ISO 10816/20816
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		max. 80 °C (max. 176 °F)
Ambient conditions		
Ambient temperature		-40 ... 85 °C (-40 ... 185 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications		
Connection type		plug
Housing material		Stainless steel 1.4305 / AISI 303
Degree of protection		IP66 / IP67 only in connected state
Connector		
Threading		M12
Number of pins		4
Mass		approx. 100 g
Dimensions		
Length		72.5 mm
Diameter		23.8 mm

Release date: 2024-07-04 Date of issue: 2024-07-04 Filename: 70146714-100003_eng.pdf

Connection

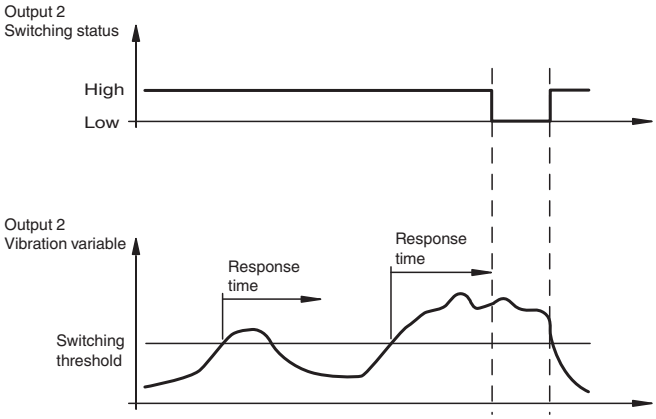


Connection Assignment



Operation

Switching Characteristics



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Vibration sensor

VIM32PL-E1V25-0RE-I421V14

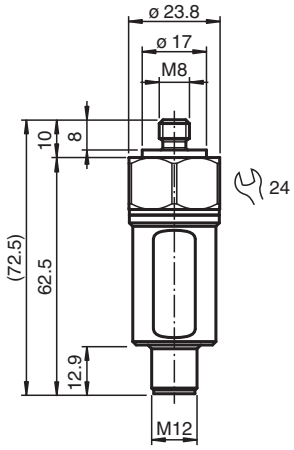
- Analog current output
- Screw-in thread for simple installation
- Simple electrical commissioning
- Rugged stainless steel housing
- Vibration velocity in mm/s (rms) acc. to DIN ISO 10816/20816
- Switching output

Vibration sensor with switching output and analog current output

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.
In addition, a switching output with preset switching characteristics is included. This means a permanent monitoring of the vibration measured value is not required, because a necessary maintenance of the plant is signalized directly. The switching characteristics are provided with a preset response time. Thus, the output is only set if the vibration event lasts longer than this time. Short-time vibration events are hence filtered out.
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 velocity
Measurement range		
Vibration velocity	v-rms	0 ... 25 mm/s
Measurement accuracy		± 0.1 mm/s (calibration point: 90% of the measuring range; 159.2 Hz) Complies with the tolerance requirements of DIN ISO 2954 for measurement range greater than 8 mm/s
Cross-sensitivity		< 5 % of the partial lateral acceleration, which acts exactly 90° to the measuring axis

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Technical Data

Frequency range		10 ... 1000 Hz
Averaging time		for v-rms: 2 s
Functional safety related parameters		
$MTTF_d$		329 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %
Electrical specifications		
Fusing		external fuse is required: 1 A , fast acting , 30 V DC
Operating voltage	U_B	18 ... 30 V DC
Current consumption		max. 220 mA
Power consumption	P_0	max. 6.6 W
Time delay before availability	t_v	2 s (rms filter is calculated intially with measurement data before they are available at the output)
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
Output 2		
Output type		PNP
Switching function		Normally closed (NC)
Operating current		≤ 100 mA
Voltage drop		< 2 V
Switching threshold		2.5 mm/s (10 % of the measuring range)
Preset response time		2 s (minimum time for a vibration event above the switching threshold so that the output switches)
Short-circuit protection		yes
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
Vibration evaluation		DIN ISO 10816/20816
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		max. 80 °C (max. 176 °F)
Ambient conditions		
Ambient temperature		-40 ... 85 °C (-40 ... 185 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications		
Connection type		plug
Housing material		Stainless steel 1.4305 / AISI 303
Degree of protection		IP66 / IP67 only in connected state
Connector		
Threading		M12
Number of pins		4
Mass		approx. 100 g
Dimensions		
Length		72.5 mm
Diameter		23.8 mm

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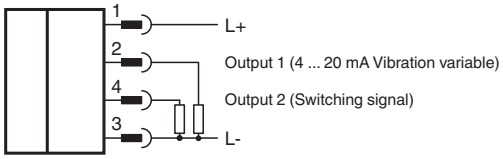
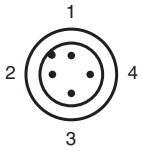
Connection

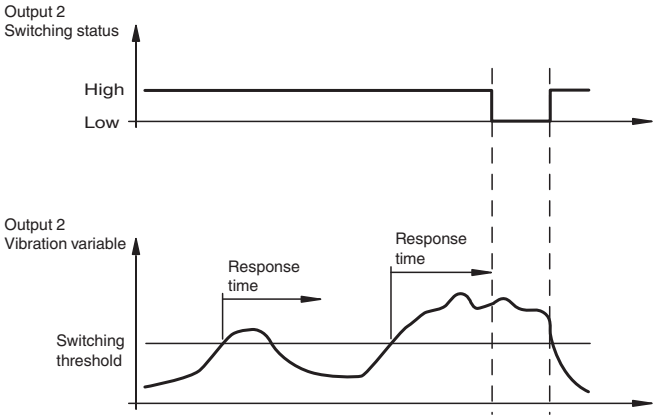


Connection Assignment



Operation

Switching Characteristics



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