

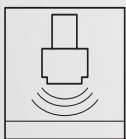
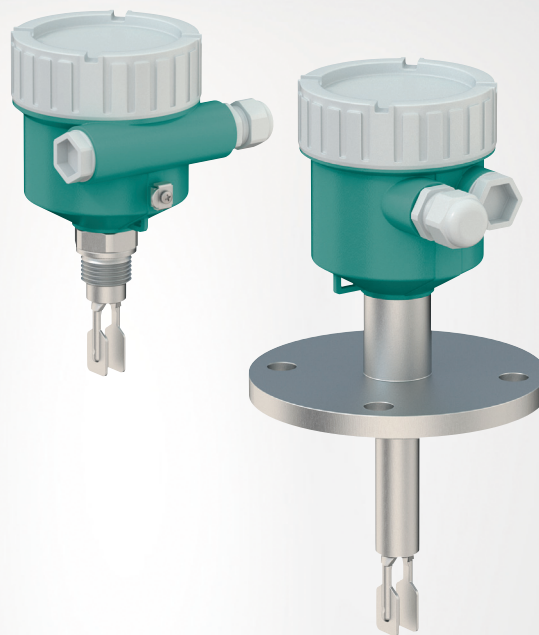
**LVL-M4**

## **Vibration Limit Switch**

ATEX: II 1 G Ex ia IIC T6...T1 Ga

IECEX: Ex ia IIC T6...T1 Ga

Temperature Tables



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With regard to the supply of products, the current issue of the following document is applicable:  
The General Terms of Delivery for Products and Services of the Electrical Industry, published by the Central Association of the Electrical Industry (Zentralverband Elektrotechnik und Elektroindustrie (ZVEI) e.V.) in its most recent version as well as the supplementary clause: "Expanded reservation of proprietorship"

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## 1 Associated Documentation

The corresponding datasheets, manuals, instruction manuals, declarations of conformity, EU type examination certificates, certificates, and control drawings if applicable are an integral part of this document. You can find this information under [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com).

This document does not substitute the instruction manual.

For full information on the product, refer to the instruction manual and further documentation on the Internet at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com).

- Manual: DOCT-8107
- Brief instructions: DOCT-8111
- Instruction manual: DOCT-7542

For specific device information such as the year of construction, scan the QR code on the device. As an alternative, enter the serial number in the serial number search at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com).

## 2 Supplementary Documentation

Information for explosion protection:

The information can be found on the Internet at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com).

## 3 Manufacturer's Certificates

### EU Declaration of Conformity

Declaration number: DOC-7442

### EU Type-Examination Certificate

Certificate number: CSANe 23ATEX1157X

List of applied standards: see EU Declaration of Conformity

### IEC Declaration of Conformity

Certificate number: IECEx CSAE 23.0044X

List of applied standards: see IECEx certificate



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#### Note

Further information is available on the product detail page of the devices on the internet at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com).

Enter the order designation in the search field → Select the appropriate product → Open the product detail page → Open the **Approvals+Certificates** tab.

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## 4 Manufacturer Address

Pepperl+Fuchs Group  
Lilienthalstraße 200, 68307 Mannheim, Germany

Internet: [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

## 5 Device Versions

Device type	Basic specifications	Optional specifications
LVL-M4	-XXXXXX-XXXXXX-XX	+XX

The X-marked letters of the type code are placeholders for versions of the device.

The following specifications reproduce an extract from the product structure and are used to assign.

### Basic specifications

Option	Type of probe
A	Compact version
B	Short tube version
C	Tube extension

Option	Housing, material
A	Single compartment, aluminum, coated
D	Dual compartment, L-shape, aluminum, coated
G	Single compartment, 316L, cast
P	Single compartment, plastic

Option	Electrical connection
A	Gland M20, plastic, IP66/68, NEMA type 4X/6P
B <sup>1</sup>	Gland M20, brass nickel plated, IP66/68, NEMA type 4X/6P
C <sup>2</sup>	Gland M20, 316L, IP66/68, NEMA type 4X/6P
F	Thread M20, IP66/68, NEMA type 4X/6P
G	Thread G1/2, IP66/68, NEMA type 4X/6P
H <sup>3</sup>	Thread NPT1/2, IP66/68, NEMA type 4X/6P
I <sup>4</sup>	Thread NPT3/4, IP66/68, NEMA type 4X/6P
M <sup>4</sup>	Plug M12, IP66/67, NEMA type 4X

<sup>1</sup> Only in connection with feature **Housing, material**, option **A, D**

<sup>2</sup> Only in connection with feature **Housing, material**, option **A, G**

<sup>3</sup> Only in connection with feature **Housing, material**, option **P**

<sup>4</sup> Only in connection with feature **Housing, material**, option **A, D, G**

Option	Application, temperature
A	Process: max. 150 °C/302 °F, max. 64 bar
B	Process: max. 150 °C/302 °F, max. 100 bar

Option	Electrical output
M	FEL68, 2-wire NAMUR with test button

Option	Approval
EA <sup>1</sup>	ATEX/IEC II 1G Ex ia IIC T6...T1 Ga

<sup>1</sup> In connection with feature **Accessory mounted**, option **VB**, temperature class changes to T4...T1

**Optional specifications**

Option	Test, certificate, declaration
U1 <sup>1</sup>	Ambient temperature -50 °C/-58 °F

<sup>1</sup> Only in connection with feature **Housing, material**, option **A, D, G**

Option	Sensor design
DF	Pressure tight feed through (second line of defense)
TD	Temperature spacer

Option	Accessory mounted
VB <sup>1</sup>	Bluetooth module VU121 for NAMUR output

<sup>1</sup> Only in connection with feature **Housing, material**, option **A, D, P**

Option	Accessory enclosed
ST	Test magnet
WP <sup>1</sup>	Weather protection cover, plastic
WS <sup>2</sup>	Weather protection cover, 316L

<sup>1</sup> Only in connection with feature **Housing, material**, option **A, G**

<sup>2</sup> Only in connection with feature **Housing, material**, option **D**

## 6 Temperature Tables

Optional specification, feature **Test, certificate, declaration**, option **U1**

**i**

### Note

Lower limit of the ambient temperature for explosion protection changes to  $-50\text{ °C}$ .

### General notes

Optional specification, feature **Accessories enclosed**, option **WP**

**i**

### Note

When using the weather protection cover: Reduce the values  $T_{\text{amb}}$  of P1, P2, P3 by 16 K.

### Description notes

**i**

### Note

Unless otherwise indicated, the positions always refer to the basic specification.

- 1st column: basic specification, feature **Application, temperature**, option **A, B**
- 2nd column: temperature classes T6 ( $85\text{ °C}$ ) to T1 ( $450\text{ °C}$ )
- Column P1 to P5: position (temperature value) on the axes of the derating
  - $T_{\text{amb}}$ : ambient temperature in  $\text{°C}$
  - $T_{\text{p}}$ : process temperature in  $\text{°C}$

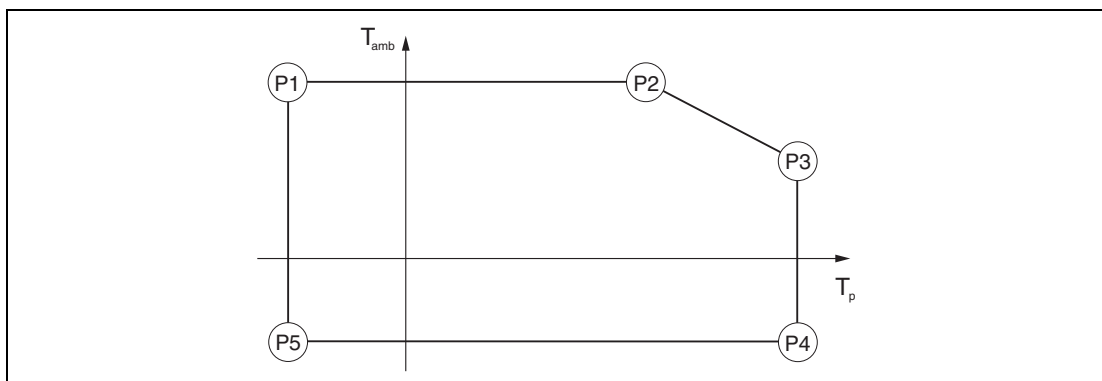


Figure 1

**Zone 0**

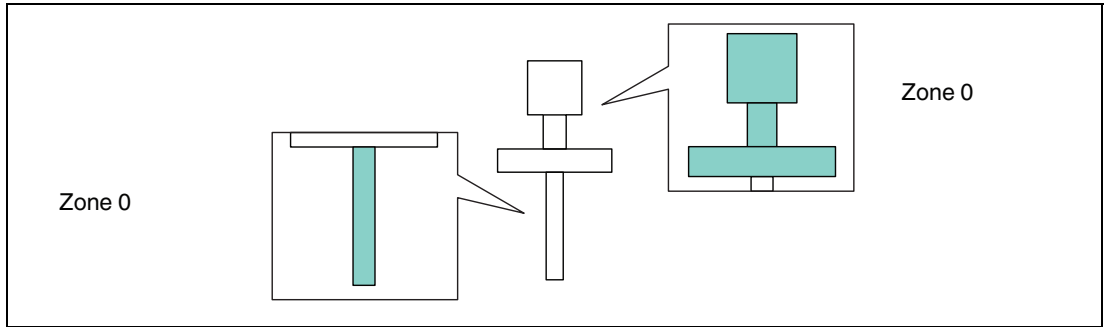


Figure 2

**Basic specification, feature Application, temperature**

Option A, B											
	T6...T1 <sup>1</sup>	P1		P2		P3		P4		P5	
		T <sub>p</sub>	T <sub>amb</sub>	T <sub>p</sub>	T <sub>amb</sub>	T <sub>p</sub>	T <sub>amb</sub>	T <sub>p</sub>	T <sub>amb</sub>	T <sub>p</sub>	T <sub>amb</sub>
	T6...T1 <sup>1</sup>	-20	60	60	60	60	60	60	-20	-20	-20

<sup>1</sup> In connection with optional specification, feature **Accessory mounted**, option **VB**, temperature class changes to T4...T1

Table 1

Outside Zone 0

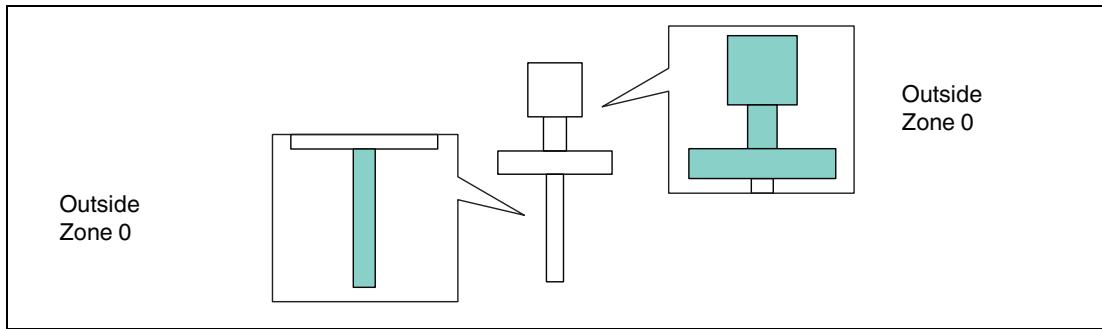


Figure 3

Basic specification, feature Application, temperature without optional specification, feature Sensor design, option DF, TD

Option A, B											
		P1		P2		P3		P4		P5	
		T <sub>p</sub>	T <sub>amb</sub>	T <sub>p</sub>	T <sub>amb</sub>	T <sub>p</sub>	T <sub>amb</sub>	T <sub>p</sub>	T <sub>amb</sub>	T <sub>p</sub>	T <sub>amb</sub>
	T6 <sup>1</sup>	-50	70 65 <sup>2</sup>	74	70 65 <sup>2</sup>	80	66	80	-40 -50 <sup>3</sup>	-50	-40 -50 <sup>3</sup>
	T5	-50	70 65 <sup>2</sup>	90	70 65 <sup>2</sup>	95	70	95		-50	
	T4	-50	70 65 <sup>2</sup>	112	70 65 <sup>2</sup>	130	62	130		-50	
	T3...T1	-50	70 65 <sup>2</sup>	112	70 65 <sup>2</sup>	150	53	150		-50	

<sup>1</sup> In connection with optional specification, feature **Accessory mounted**, option **VB**, temperature class changes to T4...T1

<sup>2</sup> Only in connection with optional specification, feature **Accessory mounted**, option **VB**

<sup>3</sup> Only in connection with optional specification, feature **Test, certificate, declaration**, option **U1**

Table 2

Basic specification, feature Application, temperature with optional specification, feature Sensor design, option DF, TD

Option A, B											
		P1		P2		P3		P4		P5	
		T <sub>p</sub>	T <sub>amb</sub>	T <sub>p</sub>	T <sub>amb</sub>	T <sub>p</sub>	T <sub>amb</sub>	T <sub>p</sub>	T <sub>amb</sub>	T <sub>p</sub>	T <sub>amb</sub>
	T6 <sup>1</sup>	-50	70 65 <sup>2</sup>	80	70 65 <sup>2</sup>	80	69	80	-40 -50 <sup>3</sup>	-50	-40 -50 <sup>2</sup>
	T5	-50	70 65 <sup>2</sup>	95	70 65 <sup>2</sup>	95	70	95		-50	
	T4	-50	70 65 <sup>2</sup>	130	70 65 <sup>2</sup>	130	70	130		-50	
	T3...T1	-50	70 65 <sup>2</sup>	150	70 65 <sup>2</sup>	150	70	150		-50	

<sup>1</sup> In connection with optional specification, feature **Accessory mounted**, option **VB**, temperature class changes to T4...T1

<sup>2</sup> Only in connection with optional specification, feature **Accessory mounted**, option **VB**

<sup>3</sup> Only in connection with optional specification, feature **Test, certificate, declaration**, option **U1**

Table 3



## 7 Connection Data

Optional specification, feature **Accessory mounted**, option **VB**

When using the Bluetooth<sup>®</sup> module: No changes to the connection values.

Associated intrinsically safe power supply unit with max. electrical specifications below the characteristic values of the electronic inserts

**Basic specification, feature Electrical output**

Option	Power supply circuit
M	$U_i$ (or $V_{max}$ ) = 16 V $I_i$ (or $I_{max}$ ) = 52 mA $P_i$ = 170 mW $L_i$ = 0 $C_i$ = 30 nF

Table 4

# Your automation, our passion.

## Explosion Protection

- Intrinsic Safety Barriers
- Signal Conditioners
- FieldConnex® Fieldbus
- Remote I/O Systems
- Electrical Ex Equipment
- Purge and Pressurization
- Industrial HMI
- Mobile Computing and Communications
- HART Interface Solutions
- Surge Protection
- Wireless Solutions
- Level Measurement

## Industrial Sensors

- Proximity Sensors
- Photoelectric Sensors
- Industrial Vision
- Ultrasonic Sensors
- Rotary Encoders
- Positioning Systems
- Inclination and Acceleration Sensors
- Fieldbus Modules
- AS-Interface
- Identification Systems
- Displays and Signal Processing
- Connectivity

### Pepperl+Fuchs Quality

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