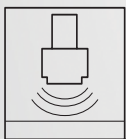
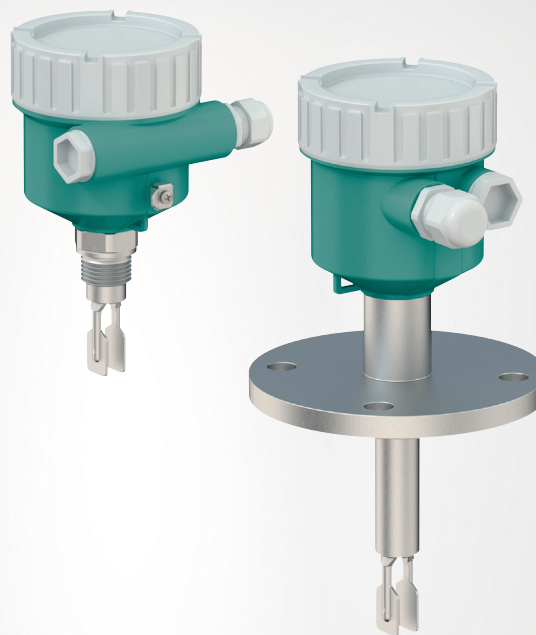


LVL-M4

Vibration Limit Switch

Control Drawing Div. 2

Temperature Tables



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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.

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.

This document is an integral part of the following documents: DOCT-8107, DOCT-8111, DOCT-8516.

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.

2 Supplementary Documentation

Information for explosion protection:

The information can be found on the Internet at www.pepperl-fuchs.com.

3 Manufacturer's Certificates

CSA C/US certificate

Certificate number: CSA C/US 80140625

The certificate is available on the product detail page of the devices on the internet at 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.

4 Manufacturer Address

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Lilienthalstraße 200, 68307 Mannheim, Germany

Internet: 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

Option	Electrical connection
B ¹	Gland M20, brass nickel plated, IP66/68, NEMA type 4X/6P
C ²	Gland M20, 316L, IP66/68, NEMA type 4X/6P
F	Thread M20, IP66/68, NEMA type 4X/6P
I	Thread NPT3/4, IP66/68, NEMA type 4X/6P

¹ Only in connection with feature **Housing, material**, option **A, D**

² Only in connection with feature **Housing, material**, option **A, 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
A	FEL61, 2-wire, 19 to 253 V AC with test button
B	FEL64DC, relay DPDT, 9 V DC to 20 V DC, contact 253 V/6 A with test button
E	FEL62, 3-wire PNP, 10 V DC to 55 V DC with test button
N	FEL64, relay DPDT, 19 V AC to 253 V AC/19 V DC to 55 V DC, contact 253 V/6 A with test button
M	FEL68, 2-wire NAMUR with test button

Option	Display, operation
A	Without display, switch
B ¹	LED module VU120 visible from the outside, switch

¹ Only in connection with feature **Electrical output**, option **B, E, N** and feature **Housing, material**, option **A, D**

Option	Approval
CC	CSA C/US Cl. I Div. 2 Gr. A-D

Optional specifications

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

Option	Accessory mounted
BL ¹	Bluetooth module VU121
VB ²	Bluetooth module VU121 for NAMUR output

¹ Only in connection with feature **Electrical output**, option **B, E, N**, feature **Housing, material**, option **A, D**

² Only in connection with feature **Electrical output**, option **M**, feature **Housing, material**, option **A, D**

Option	Accessory enclosed
ST ¹	Test magnet
WP ²	Weather protection cover, plastic
WS ³	Weather protection cover, 316L

¹ Only in connection with feature **Electrical output**, option **B, E, N, M**

² Only in connection with feature **Housing, material**, option **A, G**

³ Only in connection with feature **Housing, material**, option **D**

6 Safety Instructions: Installation

Continuous service temperature of the connecting cable/cable gland/cable entry:

- Basic specification, feature **Electrical output**, option **M**: $\geq T_{\text{amb}} + 20 \text{ K}$
- Basic specification, feature **Electrical output**, option **E**: $\geq T_{\text{amb}} + 35 \text{ K}$
- Basic specification, feature **Electrical output**, option **B, N**: $\geq T_{\text{amb}} + 45 \text{ K}$
- Basic specification, feature **Electrical output**, option **E** in connection with optional specification, feature **Sensor design**, option **DF, TD**: $\geq T_{\text{amb}} + 20 \text{ K}$
- Basic specification, feature **Electrical output**, option **B, N** in connection with optional specification, feature **Sensor design**, option **DF, TD**: $\geq T_{\text{amb}} + 25 \text{ K}$

7 Temperature Tables

General notes

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



Note

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

Description notes



Note

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

Class I, Div. 2

- 1st column: basic specification, feature **Housing material**, options **A, D, G**
1st column: basic specification, feature **Application, temperature**, options **A, B**
- 2nd column: with or without optional specification, feature **Sensor design**, option **DF, TD**
- 3rd column: maximum load current
- 4th column: temperature classes T6 (85 °C) to T1 (450 °C)
- Column P1 to P5: position (temperature value) on the axes of the derating
 - T_{amb} : ambient temperature in °C
 - T_{p} : process temperature in °C

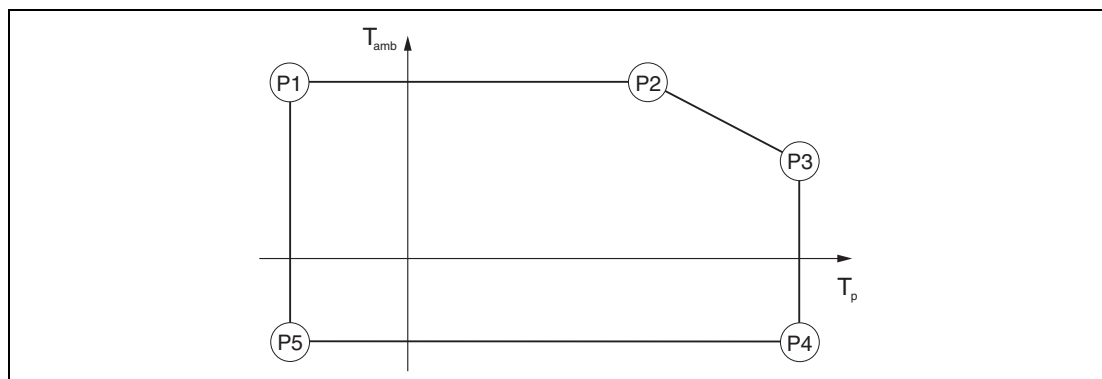


Figure 1

Class I, Div. 2

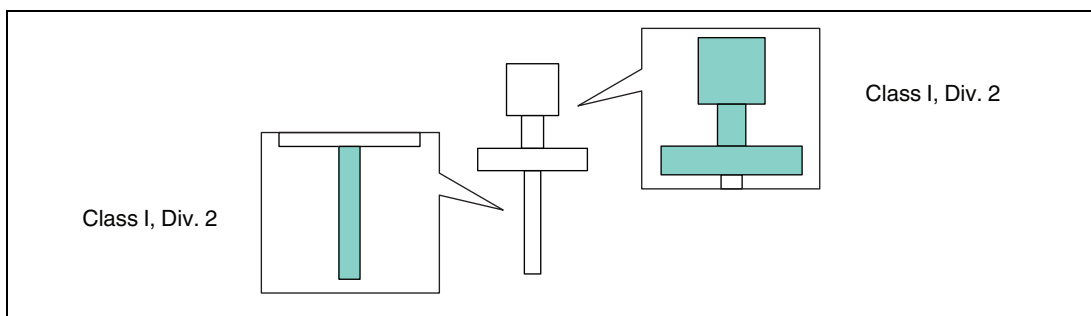


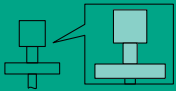
Figure 2

Basic specification, feature Electrical output, option A

Option A, G			Option A, B											
DF, TD	180 mA			P1		P2		P3		P4		P5		
				T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	
			T6	-50	60	60	60	80	50	80	-40	-50	-40	
			T5	-50	70	70	70	90	70	90	-40	-50	-40	
			T4	-50	70	70	70	130	70	130	-40	-50	-40	
			T3	-50	70	70	70	150	70	150	-40	-50	-40	
			T6	-50	60	60	60	80	55	80	-40	-50	-40	
			T5	-50	70	70	70	95	70	95	-40	-50	-40	
			T4	-50	70	70	70	130	70	130	-40	-50	-40	
			T3	-50	70	70	70	150	70	150	-40	-50	-40	
			T4	-50	70	70	70	130	70	130	-40	-50	-40	
			T3	-50	70	70	70	150	70	150	-40	-50	-40	

Table 1

Option D



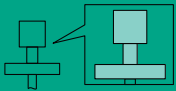
Option A, B

				P1		P2		P3		P4		P5	
				T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}
	DF, TD	180 mA											
			T6	-50	60	60	60	80	59	80	-40	-50	-40
			T5	-50	70	70	70	95	70	95	-40	-50	-40
			T4	-50	70	70	70	130	70	130	-40	-50	-40
			T3	-50	70	70	70	150	70	150	-40	-50	-40
	DF, TD	180 mA											
			T6	-50	60	60	60	80	60	80	-40	-50	-40
			T5	-50	70	70	70	95	70	95	-40	-50	-40
			T4	-50	70	70	70	130	70	130	-40	-50	-40
			T3	-50	70	70	70	150	70	150	-40	-50	-40
	DF, TD	350 mA											
			T4	-50	70	70	70	130	70	130	-40	-50	-40
			T3	-50	70	70	70	150	70	150	-40	-50	-40

Table 2

Basic specification, feature Electrical output, option E

Option A, G, D



Option A, B

				P1		P2		P3		P4		P5	
				T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}
	DF, TD	350 mA											
			T6	-50	70	70	70	80	70	80	-40	-50	-40
			T5	-50	70	70	70	95	70	95	-40	-50	-40
			T4	-50	70	70	70	130	55	130	-40	-50	-40
			T3	-50	70	70	70	150	45	150	-40	-50	-40
	DF, TD	350 mA											
			T6	-50	70	70	70	80	70	80	-40	-50	-40
			T5	-50	70	70	70	95	70	95	-40	-50	-40
			T4	-50	70	70	70	130	70	130	-40	-50	-40
			T3	-50	70	70	70	150	70	150	-40	-50	-40

Table 3

Basic specification, feature Electrical output, option B, N

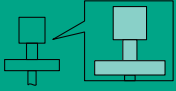
Option A, G, D													
													
Option A, B													
	DF, TD	2 A		P1		P2		P3		P4		P5	
				T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}
			T6	-50	52	52	52	80	40	80	-40	-50	-40
			T5	-50	67	67	67	95	55	95	-40	-50	-40
			T4	-50	70	70	70	130	47	130	-40	-50	-40
			T3	-50	70	70	70	150	38	150	-40	-50	-40
	DF, TD	2 A											
			T6	-50	52	52	52	80	50	80	-40	-50	-40
			T5	-50	67	67	67	95	65	95	-40	-50	-40
			T4	-50	70	70	70	130	67	130	-40	-50	-40
			T3	-50	70	70	70	150	65	150	-40	-50	-40

Table 4

Basic specification, feature Electrical output, option M

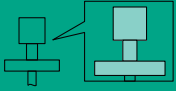
Option A, G, D													
													
Option A, B													
	DF, TD	2 A		P1		P2		P3		P4		P5	
				T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}
			T6	-50	70	70	70	80	70	80	-40	-50	-40
			T5	-50	70	70	70	95	70	95	-40	-50	-40
			T4	-50	70	70	70	130	70	130	-40	-50	-40
			T3	-50	70	70	70	150	70	150	-40	-50	-40

Table 5

8 Connection Data

Optional specification, feature **Access mounted**, option **BL, VB**

When using the Bluetooth[®] module: No changes to the connection values.

Basic specification, feature Electrical output

Option	Power supply circuit	Output
A	U = 19 to 253 V AC, 50/60 Hz P _{max} < 2 VA	I _{max} = 180 mA I _{max} = 350 mA ¹
E	U = 10 to 55 V DC P _{max} < 0.5 W	I _{max} = 350 mA
B	U = 9 to 20 V DC P _{max} < 1 W	2 potential free change-over contacts, 2 A
N	U = 19 to 253 V AC, 50/60 Hz or 19 to 55 V DC P _{max} < 25 VA or < 1.3 W	
M	U = 4 to 8.2 V DC	NAMUR, I _{max} = 3.8 mA

¹ Only in connection with basic specification, feature **Application, temperature**, option **A, B** and optional specification, feature **Sensor design**, option **DF, TD**

Table 6

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- Photoelectric Sensors
- Industrial Vision
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