

# CERTIFICATE

## (1) EC-Type Examination

(2) **Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC**

(3) EC-Type Examination Certificate Number: **KEMA 01ATEX1149 X** Issue Number: **2**

(4) Equipment: **Capacitive Level Limit Switch Type LCL2-...**

(5) Manufacturer: **Pepperl + Fuchs GmbH**

(6) Address: **Lilienthalstrasse 200, 68307 Mannheim, Deutschland**

(7) This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) DEKRA Certification B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the directive.

The examination and test results are recorded in confidential test report number 201251000, Issue 2.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN 60079-0 : 2012 + A11**

**EN 60079-11 : 2012**

**EN 60079-31 : 2009**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:



**II 1/3 D Ex tc [Ia Da] IIIC T108 °C Dc**

This certificate is issued on 14 April 2016 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

DEKRA Certification B.V.

R. Schuller  
Certification Manager

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(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 01ATEX1149 X**

Issue No. 2

(15) **Description**

Capacitive Level Limit Switch for bulk materials Type LCL2-..., the level of powders or fine-grained solids is directly detected by a capacitive probe and converted into an electrical signal.

The probe, suitable for equipment category 1, consists of a plastic probe enclosure with two electrodes in it.

The electronics enclosure, made of aluminum, with the electronics insert inside is suitable for equipment category 3.

The probe is connected to the electronics enclosure via a reinforced cable (rope) with a maximum length of 10 m.

Depending on the type of electronics insert, a load is energized by an output transistor (dc version) or a potential free switch-over contact is available (ac/dc version).

The probe and the probe circuit are in type of protection intrinsic safety Ex ia IIIC.

Ambient temperature range of the enclosure -40 °C to +60 °C,  
process temperature range -40 °C to +80 °C.

The maximum surface temperature of the probe "T" is based on a maximum process temperature of 80 °C. The maximum surface temperature of the enclosure, based on a maximum ambient temperature of 60 °C, is T81 °C (< T108 °C).

**Electrical data**

Type LCL2-...-E5-... (dc version):

Supply: 10,8 ... 45 Vdc, max. 1,5 W  
Output current: max. 200 mA  
 $U_m = 253 \text{ Vac}$

Type LCL2-...-WA-... (ac/dc version):

Supply: 20 ... 253 Vac, 47 ... 63 Hz  
20 ... 55 Vdc, max. 2 W  
 $U_m = 253 \text{ Vac}$

Output: 1 switch-over contact, potential free  
max. 253 Vac, 4 A  
max. 30 Vdc, 4 A  
max. 253 Vdc, 0,2 A

Probe circuit of both versions:

In type of protection intrinsic safety Ex ia IIIC. The maximum length of the cable between probe and enclosure is 10 m.

The probe circuit is infallibly galvanically isolated from the non-intrinsically safe supply and output circuits up to a peak value of the nominal voltage of 375 V.

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 01ATEX1149 X**

Issue No. **2**

**Mechanical data**

Carrying capacity of the probe rope:

bearing-power of the probe  $\leq 3000\text{N}$  at  $20\text{ }^{\circ}\text{C}$  and  $\leq 2800\text{ N}$  at  $80\text{ }^{\circ}\text{C}$ .

The mechanical stress at the probe may not exceed the minimum value of the bearing-force of the probe rope.

**Installation instructions**

The instructions provided with the equipment shall be followed in detail to assure safe operation.

(16) **Test Report**

No. 201251000, Issue 2.

(17) **Special conditions for safe use**

Precautions shall be taken to assure that propagated brush discharges on the Marking plate are avoided.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. 201251000, Issue 2.