

[1] **EU-TYPE EXAMINATION CERTIFICATE**

[2] Equipment or protective system intended for use in potentially explosive atmospheres – Directive 2014/34/EU

[3] EU-type examination certificate Number: **CETS 22 ATEX 012 U** Issue:0

[4] Product: **Packet switches, circuit breaker drives; Rotary switches; Hidden buttons, mushroom buttons and buttons with indication; Light indicators; Adapters, stop plugs and drain devices of the series**
Series: **MP...; P...; K...; L...; KV...**

[5] Manufacturer: **LIMITED LIABILITY COMPANY "Company SMD"**

[6] Address: **Apartment 18, building 76, Lenin street, Togliatti city, Samara region, 445009**

[7] This product any of acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] The Certification body SIA «CE-Test», notified body number 2861 in accordance with Article 17 of the Directive 2014/34/EU of European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in confidential Evaluation report number 012/2022 from 07.02.2022.

[9] Compliance with Essential Health and Safety Requirements has been assured by compliance with: EN IEC 60079-0:2018, EN 60079-1:2014, EN IEC 60079-7:2015/A1:2018, EN 60079-31:2014

[10] If the sign «U» is placed after the certificate number, it indicates that the product is incomplete and is not suitable for installation without further evaluation.

[11] This EU-Type Examination Certificate relates only to the design and construction of the specified product in accordance to the Directive 2014/34/EU. Further requirements of the directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

[12] The marking of the equipment or protective system shall include the following:



Certification
body Ltd "CE-Test"

Delu iela 4, Rīga
Latvia, LV-1004











Phone: + 37128163200

E-mail: info@ce-test.lv

www.ce-test.lv

Certificate without signature are void. This certificate may only be reproduced in its entirety and without any change, schedule included.

Page 1 of 6 of certificate CETS 22 ATEX 012 U

Ex marking	Series
 I M 2 Ex db I Mb  I M 2 Ex eb I Mb  II 2 D Ex tb IIIC Db	For MP, P, K, L, KV made of Galvanized steel and Stainless steel
 II 2 G Ex db IIB Gb  II 2 G Ex db IIC Gb  II 2 G Ex eb IIC Gb  II 2 D Ex tb IIIC Db	For MP, P, K, L made of Galvanized steel, Stainless steel and Aluminum alloys For KV Galvanized steel, Stainless steel and Nickel plated brass
 I M 2 Ex db eb I Mb  II 2 G Ex db eb IIC Gb  II 2 D Ex tb IIIC Db	For P, K, L made of polyamide

Date of Certificate: 14.02.2022

Responsible person: Ing. Pavlo Khorunzhyy
Head of certification body





[13] SCHEDULE

[14] EU-TYPE EXAMINATION CERTIFICATE: **CETS 22 ATEX 012 U** Issue: 0

[15] Description of Product

Control elements for mounting in flameproof enclosures "d" according to EN 60079-1:2014.

Control elements of the MP series consist of the following main parts: body, axle, handle and face plate. An axle is installed in the body, on which the handle is attached. There is a sealing ring on the axis, which limits the ingress of moisture and dust into the shell. The anti-twist handle is limited by the faceplate. Connected to the axis inside the flameproof enclosure, the movable mechanism allows you to install various electrical equipment. On the outer side of the housing there is a metric thread M24x1.5 with a tolerance field of 6g. Depending on the thickness of the cover, the gas explosion group and the switching force, the body, shaft and handle are available in different versions. Marking is applied by engraving on the handle. The opposite side is fixed without fail with a lock nut.

Control elements of the K and P series consist of the following main parts: housing, pusher and contact block. The housing and the contact block are connected by means of a thread, followed by the installation of a pusher. The pusher is connected to the contact block with a screw connection. The pusher has a sealing ring that limits the ingress of moisture and dust into the shell. Buttons in various modifications have one or two contacts (NO, NC, NONO, NONC, NCNC), and the switches also have different locking positions. On the outer side of the housing there is a metric thread M30x1.5 with a tolerance field of 6g. Depending on the thickness of the cover, the gas explosion subgroup, the body and pusher have different versions. The opposite side is fixed with a locknut. If it is not possible to use a locknut, a thread sealant must be used. Marking is applied by means of an engraving on the case. The pusher can be made in any shape (hidden button, mushroom button, button with indication, rotary switch and similar devices) and color (red, yellow, blue and others).

Light indicators of the L series have a metal case in which an LED lamp is installed along the thread. On the outer side of the housing there is a metric thread M30x1.5 with a tolerance field of 6g. The indicator lamp installed inside the housing is filled with compound. Depending on the thickness of the cover, the gas explosion subgroup, the body has different versions. The opposite side is fixed with a locknut. If it is not possible to use a locknut, a thread sealant must be used. Marking is applied by means of an engraving on the case. The glow color can be red, green, yellow and others.

Control elements for installation in enclosures with increased protection type "e" in accordance with EN IEC 60079-7:2015/A1:2018.

P series control elements consist of the following main parts: housing, pusher, contact block and connecting platform. The pusher is fixed in the housing with the subsequent installation of the contact block through the connecting platform. There is a thread on the outer side of the case. Up to two contact blocks with different contacts (NO or NC) can be installed on



the connecting platform. A sealing ring is installed between the body and the shell, which limits the ingress of moisture and dust into the shell. The control elements are fixed and protected against loosening by means of a lock nut.

Inside the contact block there is a flameproof compartment with remote terminals. The installed rod perceives the force from the pusher, thereby closing or opening the contact. Part of the free volume of the compartment and the contact clamps are filled with compound. The cable is connected using screw terminals. The marking is printed on the contact block. The pusher can be made in any shape (hidden button, mushroom button, rotary switch and similar devices) and color (red, yellow, blue and others).

Light indicators series L consist of the following main parts: indicator cap, contact block and connecting platform. There is a thread on the outside of the indicator cap. The indicator cap is connected to the contact block using a connecting platform. Up to three contact blocks can be installed on the connection platform. A sealing ring is installed between the indicator cap and the shell, which limits the ingress of moisture and dust into the shell. Fixation of indicator lights and protection against loosening is carried out using a lock nut.

Inside the contact block there is a capsule with a remote LED and contact clamps. Part of the capsule and the contact clamps are filled with compound. During assembly, the LED is placed in the indicator cap. The cable is connected using screw terminals. The marking is printed on the contact block. The glow color can be red, white, green, yellow and other colors.

The length of the threaded part of the external thread, control and indication elements, forming an explosion-proof connection intended for installation in equipment, must be at least 8 mm. The thread parameters that form explosion-proof connections must meet the requirements of EN IEC 60079-7:2015/A1:2018. The explosion protection marking must be applied to the housing.

Threaded adapters have a metal body with both inside and outside threads. The threads on the adapters are coaxial (coaxial) or at an angle. The sealing washer provides reliable sealing of the case. The threaded connection is protected from loosening (adapter shell) by using a lock nut or thread sealant.

Stop plugs have a metal body with an external thread. Depending on the thread, the plugs are cylindrical or conical. The sealing washer installed between the shell and the plug ensures reliable tightness. The threaded connection is protected from loosening (plug shell) by using a lock nut or thread sealant.

Drainage devices with type of protection "explosion-proof enclosure" d "have a metal case, inside which there is a stem with a gap and a minimum length in accordance with EN 60079-1:2014. The stem in the body is fixed with cotter pins. The sealing washer provides reliable sealing of the case. The threaded connection is protected from loosening (sheath-drainage) by using a lock nut or thread sealant.

Drainage devices with the type of protection "protection type" e "according to EN IEC 60079-7:2015/A1:2018 have a metal case. The case has a blind hole, into which a porous copper insert is installed, and a hole perpendicular to the first one. Interconnected holes limited by a porous copper insert provide interaction with the external environment. The threaded connection is protected from loosening (sheath-drainage) by using a lock nut or thread sealant.

Table 1 - Technical characteristics of MP...; P...; K...; L...series units.

Name of indicator, unit of measurement	Value
Rated operating voltage, V	220, 380, 415 AC 12, 24, 36, 48, 110 AC/DC
Switched AC/DC voltage, V	no more than 660
Switched current, A - AC/DC for L series - alternating / direct current for series P, K - AC/DC for MP series	no more than 1 no more than 10 or 16 no more than 630
Ambient temperature range: for MP series for P, K, L series	-60°C < Ta < +180°C -60°C < Ta < +70°C
The degree of protection of the shell in accordance with IEC 60529:2013: for MP, P, K series for L series	IP66 IP66/IP67

Table 2 - Technical characteristics of KV...series units

Name of indicator, unit of measurement	Value
Ambient temperature range:	-60°C < Ta < +190°C
The degree of protection of the shell in accordance with IEC 60529:2013: Ex-components, adapters, stop plugs drainage devices	IP66/IP67 IP66

For a more detailed description of the design, please refer to the relevant instruction manual.

[16] Test Report

The examination and test results are recorded in confidential Evaluation Report number 012/2022 from 07.02.2022

[17] Specific conditions of use

- Ex components must only be used for fixed installation in fixed electrical equipment;
- Installation of Ex-components must be carried out in the absence of an explosive environment and without voltage;
- The control and indication elements must be installed in a flameproof enclosure which has a threaded hole M24x1.5-6H (for the MP series) or M30x1.5-6H (for the P, K, L series), with a nominal tightening torque. The nominal torque must be checked with a torque wrench;
- It is not allowed to use Ex-components outside the operating temperature;
- Installation of Ex-components must be carried out in accordance with the requirements of EN 60079-14:2014;
- The end user must ensure that components and indications are set to minimum five full turns in the flameproof enclosure and secured against loosening;
- When installing Ex-components in a flameproof enclosure where it is not possible to use a locknut, the end user must apply a thread sealant;
- It is not allowed to adjust the thread with any sealant and make changes to the design.

Certificate without signature are void. This certificate may only be reproduced in its entirety and without any change, schedule included.



- To comply with the requirements regarding threaded connections in accordance with EN 60079-1:2014, the wall thickness of the flameproof enclosure must be at least 10 mm;
- It is not allowed to use stop plugs with an adapter;
- For a cylindrical thread, a sealing ring from the delivery set is mandatory.

[18] Essential health and safety requirements

The Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9.

Additional information: None.

[19] Drawings and Documents

The documents are listed in the Evaluation report number 012/2022 from 07.02.2022

Title Technical Documents	Decimal number	Date
MP, P, K, L Operation Manual	SMD 346420 180 000 RE	2021
KV Operation Manual	SMD 305331 540 000 RE	2021
Drawing of series MP	SMD 303000 191 000-000 BO	-
Drawings of series P	SMD 346420 527 000 BO, SMD 346420 184 000 BO	-
Drawings of series K	SMD 346420 526 000 BO, SMD 346420 525 000 BO, SMD 346420 186 000 BO, SMD 346420 183 000 BO, SMD 346420 180 000 BO	-
Drawings of series L	SMD 346420 528 000 BO, SMD 346420 185 000 BO	-
Drawings of series KV	SMD 305331 543 000 BO, SMD 305331 542 000 BO, SMD 305331 541 000 BO, SMD 305331 540 000 BO, SMD 305331 538 000 BO, SMD 305331 359 000 BO	-