

## FLXE 118 LED-N



### Upute za uporabu User manual



#### UPOZORENJE

Upute za uporabu sadrže osnovne informacije o proizvodu. Montaža, instaliranje, uporaba i održavanje trebaju biti izvedeni prema ovoj Uputi kako bi bio osiguran siguran rad unutar nazivnih karakteristika. Ovu Uputu nadopunjuju nacionalni Pravilnici i norme. Odgovorna osoba korisnika je dužna osigurati njihovo provođenje. Neprovođenje može umanjiti protueksplozijsku zaštitu uređaja i dovesti u opasnost ljude, imovinu i okoliš. Svako neispravno i nedozvoljeno postupanje kao i nepoštivanje odredbi ove Upute isključuje svaku odgovornost proizvođača.

#### Prije ugradnje/puštanja u pogon:

- Pažljivo pročitati cijelu Uputu za uporabu,
- Izvršiti odgovarajuću obuku odgovornog osoblja,
- Provjeriti da je sadržaj ove Upute u potpunosti razumljiv odgovornim osobama,
- Uvjeriti se da su primijenjeni svi zahtjevi nacionalnih Pravilnika i posebne sigurnosne mjere ukoliko postoje.

#### U slučaju nejasnoća:

- Kontaktirati proizvođača.

#### Tijekom pogona:

- Osigurati da ove Upute za uporabu i druge radne upute korisnika budu vidljivo istaknute i dostupne odgovornom osoblju cijelo vrijeme,
- Provjeravati provođenje ove Upute i svih drugih sigurnosnih uputa korisnika.



#### WARNING

The user manual contains basic information about the product. Mounting, installation, usage and maintenance should be carried out under this user manual to provide and ensure safe operation within the nominal characteristics. This user manual complements national Regulation and Standards. The responsible person shall ensure their implementation. Failure off implement this user manual can reduce explosion protection and endanger people, property and the environment. Any improper and illegal actions as well as non-compliance with the provisions of this user manual excludes all responsibility by manufacturer side.

#### Before installation/commissioning:

- Carefully read all instructions,
- Execute proper training of responsible personnel,
- Check that the contents of these instructions is fully understandable by the responsible personnel,
- Make sure that all the requirements and national Regulations as well as all special security measures are applied.

#### In lack of understanding:

- Contact the manufacturer.

#### During operation:

- Ensure that this user manual and other work instructions are available to the responsible staff at all times,
- Check the implementation of these instructions and all other safety user's instructions.

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**1. NAMJENA**

Protueksplozijski zaštićena sigurnosna svjetiljka tip FLXE 118 LED-N ./ s autonomnim napajanjem namijenjena je za nužnu (sigurnosnu i nadomjesnu) i opću rasvjetu u industriji na mjestima s potencijalno eksplozivnom atmosferom plinova, para i prašina u zonama opasnosti 1, 2, 21, 22, sukladno normama EN 60079-10-1 i EN 60079-10-2.

Svjetiljka omogućuje projektiranje i izvođenje nužne rasvjete prema svjetlotehničkim i elektrotehničkim zahtjevima sukladno normama EN 1838 i EN 50172.

**2. SUKLADNOST PROIZVODA**

Proizvod je sukladan zahtjevima normi EN 60598-1/A11, EN 60598-2-22, EN 62034, EN 62031, EN 62471, EN 62386-202 i svim povezanim normama.

Proizvod je sukladan ATEX Direktivi 2014/34/EU i normama:

- EN IEC 60079-0:2018,
- EN 60079-1:2014,
- EN IEC 60079-7:2015/A1:2018,
- EN 60079-31:2014.

Proizvod je razvijen, proizveden i ispitan prema postojećem stanju tehnike sukladno normama EN ISO 9001, EN ISO/IEC 80079-34 i EN ISO 14001.

Proizvod je sukladan LVD Direktivi 2014/35/EU.

Proizvod je sukladan RoHS Direktivi 2011/65 EU.

Proizvod je sukladan EMC Direktivi 2014/30/EU.

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**1. PURPOSE**

Explosion protected emergency luminaire type FLXE 118 LED-N ./ with autonomous power supply is intended for emergency and general lighting in areas with a potentially explosive atmosphere of gases, vapours and dust in hazardous areas 1, 2, 21, 22, according to EN 60079-10-1 and EN 60079-10-2.

Explosion protected emergency luminaire allows planning and execution of emergency lighting and electrical requirements in accordance with EN 1838 and EN 50172 standard.

**2. PRODUCT CONFORMITY**

The product complies with the EN 60598-1 / A11, EN 60598-2-22, EN 62034, EN 62031, EN 62471, EN 62386-202 and all related regulations.

The product complies with the ATEX Directive 2014/34 EU and standards:

- EN IEC 60079-0:2018,
- EN 60079-1:2014,
- EN IEC 60079-7:2015/A1:2018,
- EN 60079-31:2014.

The product is developed, manufactured and tested according to the prior art in accordance with EN ISO 9001, EN ISO/IEC 80079-34 and EN ISO 14001.

The product is in compliance with the LVD Directive 2014/35 EU.

The product is in compliance with the RoHS Directive 2011/65 EU.

The product is in compliance with the EMC Directive 2014/30 EU.

### 3. TEHNIČKI PODACI

|                                                                                        |                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Certifikat:                                                                            | FIDI 19 ATEX 0028                                                                                                                                                               |
| Oznaka kategorije i protueksplozijske zaštite uređaja:                                 |  II 2G Ex db IIC T6 Gb ili<br>II 2G Ex db eb IIC T6 Gb<br>II 2D Ex tb IIIC T80°C Db            |
| Temperatura okoline (EN 60079-0):                                                      | $-20^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$                                                                                                                         |
| Radna temperatura okoline (EN 60598-2-22):                                             | $-20^{\circ}\text{C} \leq T \leq +50^{\circ}\text{C}$                                                                                                                           |
| Mehanička zaštita:                                                                     | IP66                                                                                                                                                                            |
| Otpornost na udar:                                                                     | IK 08                                                                                                                                                                           |
| Klasa zaštite:                                                                         | I (PE - zaštitno uzemljenje)                                                                                                                                                    |
| Nazivni napon $U_n$ :                                                                  | 220-240 V / 50-60Hz                                                                                                                                                             |
| Faktor snage:                                                                          | $\cos \phi > 0,95$                                                                                                                                                              |
| Nazivna autonomija:                                                                    | 3 sata                                                                                                                                                                          |
| Maksimalna potrošnja energije (pri punjenju baterija, radu grijača i radu LED izvora): | 10,8 VA                                                                                                                                                                         |
| Snaga i tip izvora u mrežnom i baterijskom radu:                                       | LED traka SMD 1,4 W                                                                                                                                                             |
| Svjetlosni tok; baterijski i mrežni rad:                                               | 250 lm                                                                                                                                                                          |
| Temperatura boje svjetlosti:                                                           | 4000 K                                                                                                                                                                          |
| Index uzvrat boje (CRI):                                                               | $R_a > 80$                                                                                                                                                                      |
| Očekivana životna dob LED-a:                                                           | $\geq 50\,000$ radnih sati - L80/B10                                                                                                                                            |
| Uočljivost (EN 1838)                                                                   | 22 m                                                                                                                                                                            |
| Efikasnost svjetiljke u radu:                                                          | $\sim 80\%$                                                                                                                                                                     |
| Napon prelaza s mrežnog na baterijsko napajanje:                                       | $U < 0,8 U_n$ u trajanju više od 0,5 sec                                                                                                                                        |
| Napon prelaza s baterijskog na mrežno napajanje:                                       | $U > 0,9 U_n$ u trajanju više od 1 sec                                                                                                                                          |
| Baterija 9,6 V / 1,5 Ah:                                                               | 2 litij-ion sekundarne ćelije LiFePO4 3,2 V / 1,5 Ah, tip ICR19/66 prema EN 61960-3, ugrađena u svjetiljku, mikroprocesorski upravljano punjenje, pražnjenje, grijanje i nadzor |
| Grijač:                                                                                | 2 x grijača ukupne snage 6 W<br>Uključuju se kada je temperatura na baterijama $< 5^{\circ}\text{C}$ i trajno održavaju temperaturu na baterijama $> 5^{\circ}\text{C}$         |
| Životna dob baterija:                                                                  | min. 2000 ciklusa punjenja odnosno min. 4 godine u nazivnim pogonskim uvjetima                                                                                                  |

### 3. TECHNICAL DATA

|                                                                                           |                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Certificate:                                                                              | FIDI 19 ATEX 0028                                                                                                                                                                                   |
| Category and explosion protection:                                                        |  II 2G Ex db IIC T6 Gb or<br>II 2G Ex db eb IIC T6 Gb<br>II 2D Ex tb IIIC T80°C Db                               |
| Ambient temperature (EN 60079-0):                                                         | $-20^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$                                                                                                                                             |
| Operating ambient temperature (EN 60598-2-22):                                            | $-20^{\circ}\text{C} \leq T \leq +50^{\circ}\text{C}$                                                                                                                                               |
| Degree of protection:                                                                     | IP66                                                                                                                                                                                                |
| Impact resistance:                                                                        | IK 08                                                                                                                                                                                               |
| Class of protection:                                                                      | I (protective earthing)                                                                                                                                                                             |
| Rated operating voltage:                                                                  | 220-240 V / 50-60Hz                                                                                                                                                                                 |
| Power factor:                                                                             | $\cos \phi > 0,95$                                                                                                                                                                                  |
| Rated autonomy:                                                                           | 3 hours                                                                                                                                                                                             |
| Maximal power consumption (when charging batteries, heater and LED source are operating): | 10,8 VA                                                                                                                                                                                             |
| Rated power and type of luminaire in main and battery mode:                               | LED strip SMD 1,4 W                                                                                                                                                                                 |
| Luminous flux; battery and main mode:                                                     | 250 lm                                                                                                                                                                                              |
| Correlated colour temperature:                                                            | 4000 K                                                                                                                                                                                              |
| Color rendering index (CRI):                                                              | $R_a > 80$                                                                                                                                                                                          |
| Average rated lifetime of LED:                                                            | $\geq 50\,000$ working hours - L80/B10                                                                                                                                                              |
| Visibility (EN 1838)                                                                      | 22 m                                                                                                                                                                                                |
| Operation efficiency:                                                                     | $\sim 80\%$                                                                                                                                                                                         |
| Switch-over Battery operation:                                                            | $U < 0,8 U_n$ for more than 0,5 sec                                                                                                                                                                 |
| Mains supply operation:                                                                   | $U > 0,9 U_n$ for more than 1 sec                                                                                                                                                                   |
| Battery 9,6 V / 1,5 Ah:                                                                   | 3 lithium-ion secondary cells LiFePO4 3.2 V / 1.5 Ah, type ICR19 / 66 according to EN 61960-3, built into the lamp, microprocessor-controlled charging, discharging, heating and monitoring         |
| Heater:                                                                                   | 2 x heaters, total power 6 W<br>They are switched on when the temperature on the batteries is $< 5^{\circ}\text{C}$ and permanently maintain the temperature on the batteries $> 5^{\circ}\text{C}$ |
| Battery life:                                                                             | min. 2000 charging cycles or min. 4 years in nominal operating conditions                                                                                                                           |

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Vrijeme punjenja baterija: | 15 sati (12 sati > 90% nazivne autonomije), trajno dopunjavanje baterija                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Charging time:        | 15 hours (12 hours > 90% nominal autonomy), continuous battery recharge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Uvodi:                     | - dva Ex d uvoda, M20x1,5-6H, sukladno EN 60079-1, ISO 965-1, ISO 965-3 ili<br>- dva Ex d uvoda, 3/4"NPT, sukladno ANSI/ASME B1.20.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Entries:              | - two Ex d entries, M20x1,5-6H, according to EN 60079-1, ISO 965-1, ISO 965-3 or<br>- two Ex d entries, 3/4"NPT, according to ANSI/ASME B1.20.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Ex db eb adapter:          | - tip ADP 24/1 i tip ADP 22/1<br>II 2G Ex db eb IIC T6 Gb<br>II 2D Ex tb IIIC T85°C Db,<br>- uvodnica ISO 25 za kabele<br>Ø <sub>v</sub> 7-15 mm, FIDI 19 ATEX 0014X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Ex db eb adapter:     | - type ADP 24/1 and type ADP 22/1<br>II 2G Ex db eb IIC T6 Gb<br>II 2D Ex tb IIIC T85°C Db,<br>- cable gland ISO 25 for cables<br>Ø <sub>v</sub> 7-15 mm, FIDI 19 ATEX 0014X                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Priključne stezaljke:      | FLXE 118 LED-N 0 /.,<br>FLXE 118 LED-N 1 /.<br>- priključni kontakti za mrežno napajanje L, L', N, PE, DALI 4 mm <sup>2</sup> maks. po stezaljci, jednožični, mnogožični, finožični - sol (r), s (r), f                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Connection terminals: | FLXE 118 LED-N 0 /.,<br>FLXE 118 LED-N 1 /.<br>- snap-in terminals for mains supply L, L', N, PE, DALI 4 mm <sup>2</sup> max. per terminal, solid, stranded, flexible - sol(r), s(r), f                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                            | FLXE 118 LED-N 2 /.<br>- vijčane stezaljke, Ex db eb adapter ADP, za mrežno napajanje L, L', N, PE kontakti<br>FLXE 118 LED-N 3 /.,<br>- vijčane stezaljke, Ex db eb adapter ADP, za mrežno napajanje L, L', N, PE kontakti i Ex db eb adapter ADP, za DALI priključak,<br>FLXE 118 LED-N 4 /.,<br>- vijčane stezaljke, dva Ex db eb adaptera ADP, za mrežno napajanje L, L', N, PE te prolazno ožičenje<br>-2,5 mm <sup>2</sup> maks. po stezaljci, jednožični, mnogožični, finožični - sol (r), s (r), f<br>-nazivni moment pritezanja 1,2Nm<br>- Ex eb kabelska uvodnica ISO 25 na adapteru ADP za kabele ø7-15mm;<br>- nazivni moment pritezanja 2,5 Nm |                       | FLXE 118 LED-N 2 /.<br>- screw terminals, of Ex db eb adapter ADP, for mains supply L, L', N, PE, DALI connectors<br>FLXE 118 LED-N 3 /.<br>- screw terminals, of Ex db eb adapter ADP, for mains supply L, L', N, PE and Ex db eb adapter ADP, for DALI connection, max.2,5 mm <sup>2</sup><br>FLXE 118 LED-N 4 /.<br>- screw terminals, two Ex db eb adapter ADP, for mains supply L, L', N, PE and trough-wiring<br>- 2,5mm <sup>2</sup> max. per terminal, solid, stranded, flexible - sol(r), s(r), f<br>- nominal fastening torque 1,2Nm<br>- Ex eb cable gland ISO 25 on adapter ADP for cable ø7-15mm;<br>- nominal fastening torque 2,5 Nm |
| Stezaljka za uzemljenje:   | - vanjska stezaljka za uzemljenje: max. 2 x 6 mm <sup>2</sup> po stezaljci jednožični, višezični, finožični - sol(r), s(r), f<br>-moment pritezanja vijka stezaljke 2,2 Nm<br>- unutarnja stezaljka za uzemljenje: Uzemljenje metalnih dijelova preko vodiča 1mm <sup>2</sup> – vijčana stopica na spojnoj šipki I PE stezaljci                                                                                                                                                                                                                                                                                                                             | Earthing terminal:    | - earthing terminal (external) (equipotential): 2 x 6mm <sup>2</sup> max. per terminal, solid, stranded, flexible - sol(r), s(r), f;<br>- nominal fastening torque 2,2 Nm<br>- earthing terminal (internal) grounding of the metal parts with a 1mm <sup>2</sup> conductor - screw lug on the connecting rod and PE terminal                                                                                                                                                                                                                                                                                                                        |
| Momenti pritezanja:        | - tijela Ex db eb provodne čahure i Ex d čepa 3,5 Nm<br>- pritisne matice uvodnice adaptera 2,5 Nm<br>- vijaka priključne stezaljke 1,2 Nm<br>- vijaka priključne stezaljke adaptera 1,2 Nm                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Tightening torques:   | - Ex db eb cable gland and Ex d plug 3.5 Nm<br>- adapter cable gland fitting nut 2.5 Nm<br>- connection terminal screws 1,2 Nm<br>- connection terminal screws of the adapter 1,2 Nm                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

#### Skladištenje:

- max. 4 mjeseca na temperaturi +5 °C: +25 °C i vlazi 65 ± 5%,
- max. 1 mjesec na temperaturi -20 °C: +5 °C ili +25 °C: +70 °C i vlazi 65 ± 5 %

#### Storage:

- max. 4 months on temperature +5 °C: +25 °C and humidity 65 ± 5%,
- max. 1 month on temperature - 20 °C: +5 °C or +25 °C: +70 °C and humidity 65 ± 5 %

Kod izvedbe sa montiranim Ex db eb adapterom (FLX 118 LED-N 2/., FLX 118 LED-N 3/., FLX 118 LED-N 4/.) postoje specifični uvjeti uporabe:

- korisnik mora osigurati adekvatno učvršćenje kabela izvan uvodnice zato jer je kabela uvodnica višezilnog provodnog izolatora s priključnom komorom ispitana s manjom silom izvlačenja sukladno tč. A.3.1.1 norme EN IEC 60079-0,
- uređaj mora biti ugrađen na mjesta s manjom opasnosti od udara zato što je višezilni provodni izolator s priključnom komorom ispitan nižom energijom udara sukladno EN IEC 60079-0.

For type with mounting Ex db eb adapter (FLX 118 LED-N 2/., FLX 118 LED-N 3/., FLX 118 LED-N 4/.) there are specific conditions of use:

- the user shall provide additional clamping of the cable outside the cable glands because multi-core bushing with connection chamber was tested with lower tensile strength according to A.3.1.1. of standard EN IEC 60079-0,
- the product shall be installed in areas with a lower risk of impact because multi-core bushing with connection chamber was tested with lower impact energy according to EN IEC 60079-0.

#### Vijčani raspori:

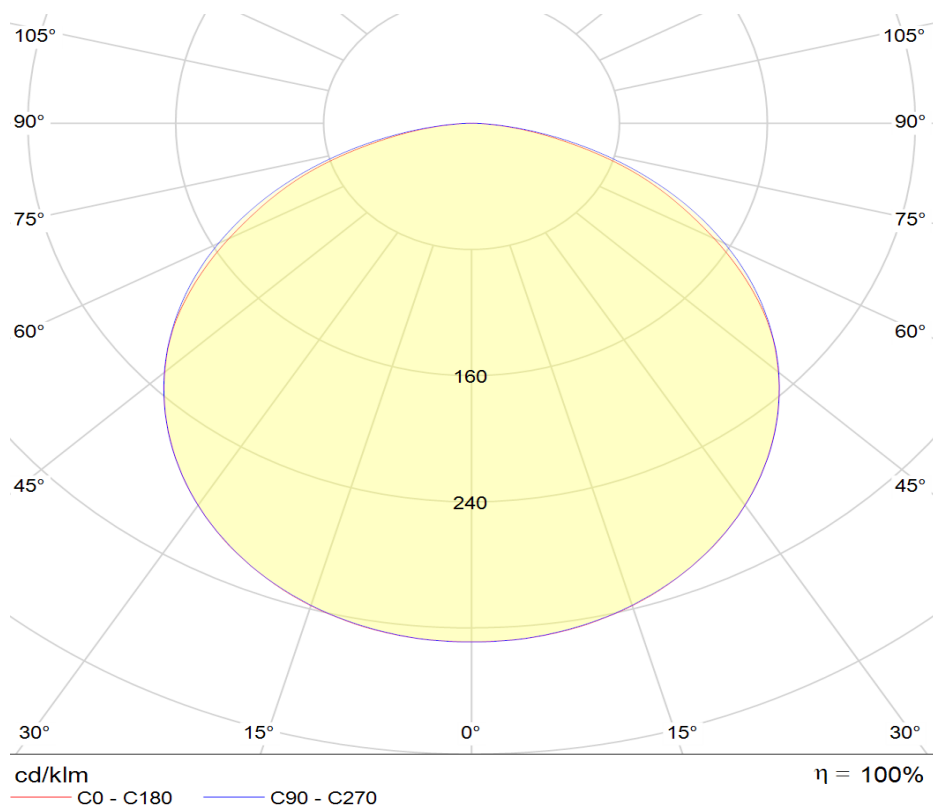
- M120x 1,5 - 6H/6g, prema ISO 965-1, navoj DIN 13 T.24, 12 punih navoja,
- M20 x 1,5 - 6H/6g, prema ISO 965-1, navoj ISO 965-3, 12 punih navoja
- 3/4" NPT prema ANSI/ASME B1.20.1, 10 punih navoja.

#### Threaded joint:

- M120x 1,5 - 6H/6g, according to ISO 965-1, thread DIN 13 T.24, 12 full threads,
- M20 x 1,5 - 6H/6g, according to ISO 965-1, thread ISO 965-3, 12 full threads
- 3/4" NPT according to ANSI/ASME B1.20.1, 10 full threads.

#### 4. SVJETLOTEHNIČKA KARAKTERISTIKA

#### 4. LUMINAIRE CHARACTERISTICS



FLXE 118 LED-N \_ / \_

**Osnovna tipna oznaka:****Oznaka tipa uvoda:**

- **0** - Ex db kabelski uvod 2 x M20, ISO 965-1, ISO 965-3  
Ex db cable entry 2 x M20, ISO 965-1, ISO 965-3
- **1** - Ex db kabelski uvod 2 x 3/4"NPT, ANSI/ASME B1.20.1  
Ex db cable entry 2 x 3/4"NPT, ANSI/ASME B1.20.1
- **2** - Ex db kabelski uvod 2 x M20, ISO 965-1, ISO 965-3 s jednim ugrađenim Ex db eb adapterom tip ADP 24/1 i jednim Ex db čepom  
- Ex db cable entry 2 x M20, ISO 965-1, ISO 965-3 with one installed Ex db eb adapter type ADP 24/1 and one Ex db plug
- **3** - Ex db kabelski uvod 2 x M20, ISO 965-1, ISO 965-3 s jednim ugrađenim Ex db eb adapterom tip ADP 24/1 i jednim ADP 22/1 za DALI priključak  
Ex db cable entry 2 x M20, ISO 965-1, ISO 965-3 with one installed Ex db eb adapter type ADP 24/1 and one ADP 22/1 for DALI interface
- **4** - Ex db kabelski uvod 2 x M20, ISO 965-1, ISO 965-3 s dva ugrađena Ex db eb adapterom tip ADP 24/1 za prolazno ožičenje  
- Ex db cable entry 2 x M20, ISO 965-1, ISO 965-3 with two installed Ex db eb adapter type ADP 24/1 for through-wiring

**Piktogram:** sukladno sa ISO 7010/ according to ISO 7010

|   |                                                                                     |   |                                                                                       |
|---|-------------------------------------------------------------------------------------|---|---------------------------------------------------------------------------------------|
| 0 | Without marking                                                                     | 5 |    |
| 1 |   | 6 |   |
| 2 |  | 7 |  |
| 3 |  | 8 |  |
| 4 |  | 9 |  |

**6. NAČINI RADA**

Svjetiljka može raditi u dvije vrste spoja:

**a) Trajni spoj** (Dauerschaltung, maintained)

Svjetiljka se može koristiti za opću i orijentacijsku rasvjetu s mrežnim napajanjem L' preko instalacijske sklopke korisnika. U slučaju pada napona ili ispada trajne faze L, bez obzira na stanje sklopke u krugu mrežnog napajanja L' (uključeno ili isključeno mrežno napajanje), svjetiljka svijetli u režimu baterijskog napajanja.

**b) Pripravan spoj** (Bereitschaftschaltung, non-maintained)

Svjetiljka ne može raditi na mrežnom napajanju već isključivo u režimu baterijskog napajanja u slučaju pada napona ili ispada trajne faze L.

Svjetiljka je izvedena s elektroničkim sklopom sa samonadzorom funkcionalnosti nužne rasvjete i signalizacijom stanja. Samonadzor je trajan. Signalizacija stanja se vrši crvenom i zelenom signalnom LED-om u stanju svjetiljke kada ona ne svijetli.

**Samonadzor ne uključuje kontrolu ispravnosti LED indikatora.****Svjetiljka se isporučuje sa napunjenim baterijama.****6. OPERATING MODES**

The luminaire can operate with two types of connection:

**a) Maintained** (Dauerschaltung)

The light fitting can be used for general and orientation lighting with mains power supply via L' (installation switch). In case of voltage drop or an interruption in the mains power supply L, the light fitting will continue to operate in battery-powered mode, regardless of the status of installation switch L' (ON/OFF)..

**b) Non maintained** (Bereitschaftschaltung)

In case of voltage drop or an interruption in the mains power supply L, the light fitting will operate only in battery-powered mode.

The light fitting is equipped with an electronic set for emergency lighting self-monitoring function and status signalling function. Self-monitoring is permanent. Status signalization is indicated with red and green indicator LED when the light fitting does not work.

**Self-monitoring does not include a control of the LED indicator validity.**

**The light fitting is supplied with charged battery's.**

X 1 ABCDE 180

X 1 ABCDE 180

X - sigurnosna svjetiljka s baterijama ugrađenim u svjetiljku,  
 1 - sigurnosna svjetiljka u trajnom spoju,  
 A - sigurnosna svjetiljka sa samonadzorom i signalizacijom stanja,  
 B - sigurnosna svjetiljka s daljinskom REST funkcijom,  
 C - sigurnosna svjetiljka s INHIBIT funkcijom,  
 D - sigurnosna svjetiljka za prostore s posebnim opasnostima,  
 E - sigurnosna svjetiljka sa pojedinačno nezamjenjivim izvorom svjetlosti i/ili baterijom,  
 180 - sigurnosna svjetiljka s autonomijom 3 sata.

X - emergency light fitting with built-in batteries,  
 1 - emergency light fitting in a permanent connection,  
 A - emergency light fitting with self-monitoring and status signalling function,  
 B - emergency light fitting with remote REST mode,  
 C - emergency light fitting with INHIBIT mode,  
 D - emergency light fitting for use in areas with special hazards,  
 E - emergency light fitting with individually irreplaceable light source and / or battery,  
 180 - emergency light fitting with autonomy of 3 hours

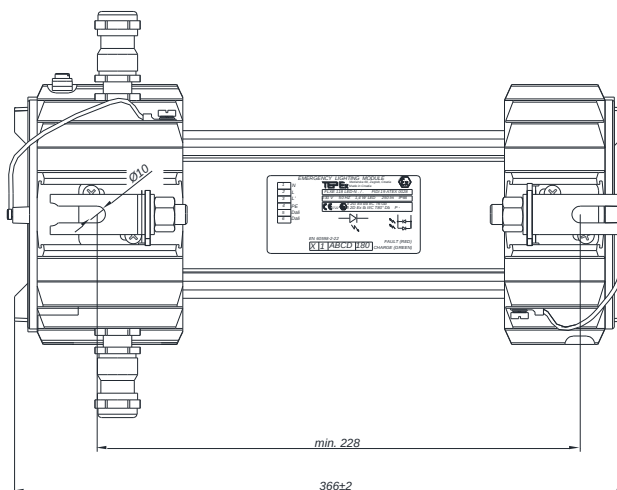
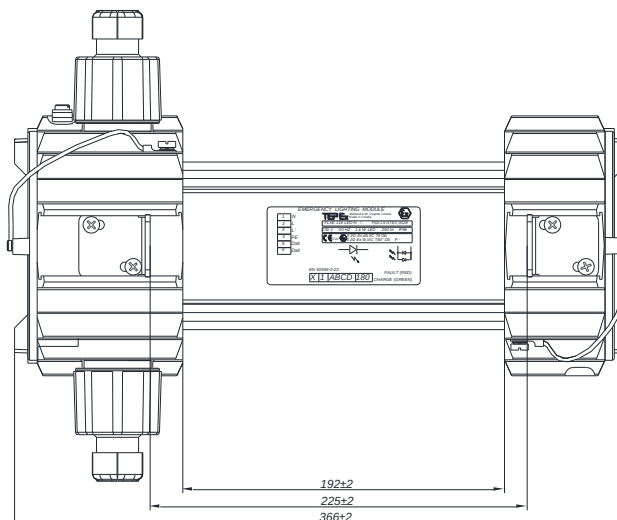
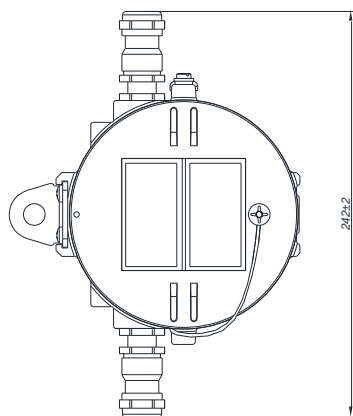
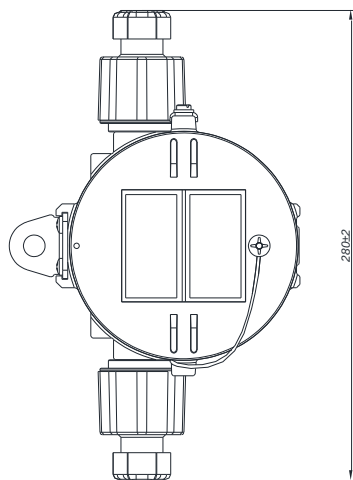
## Modovi signalnog indikatora / Indication codes

| MOD INDIKATORA /<br>MODULE MODE                                                      | LED INDIKATOR /<br>INDICATOR LED                                                                                     | STANJE /<br>STATUS   | SIGURNOSNA RASVJETA<br>EMERGENCY LAMP                                                |
|--------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------------------------------------------------------------------|
| Opći način rada<br>Stanje mirovanja /<br>Mains operation mode Standby mode           | Trajno zelena /<br>Permanent green                                                                                   | Normalno /<br>Normal | Isključena /<br>Off                                                                  |
| Test funkcionalnosti u postupku /<br>Function test in progress                       | Brzo trepteća zelena /<br>Fast flashing green                                                                        | Normalno /<br>Normal | U funkciji /<br>On                                                                   |
| Test nazivne autonomije u<br>postupku /<br>Duration test in progress                 | Sporo trepteća zelena /<br>Slow flashing green                                                                       | Normalno /<br>Normal | U funkciji /<br>On                                                                   |
| Proces puštanja u rad /<br>Commissioning in progress                                 | Sporo trepteća zelena /<br>Slow flashing green                                                                       | Normalno /<br>Normal | Isključeno osim kada je test<br>autonomije u postupku /<br>Off except during testing |
| Mod identifikacije /<br>Identification mode                                          | Sporo trepteća izmjenjivo zelena-crvena<br>Slow flashing green alternating<br>green/red                              | Normalno /<br>Normal | Isključena /<br>Off                                                                  |
| Mod dodatnog rada /<br>Prolong mode                                                  | Isključeno /<br>Off                                                                                                  | Normalno /<br>Normal | U funkciji /<br>On                                                                   |
| Mod isključenja sigurnosne<br>rasvjete /<br>Rest mode                                | Sporo trepteća duplo pulsirajuća zelena<br>Slow flashing double pulse green                                          | Normalno /<br>Normal | Isključena /<br>Off                                                                  |
| Mod isključenja sigurnosne<br>rasvjete /<br>Inhibit mode                             | Sporo trepteća duplo pulsirajuća zelena<br>Green slow flashing double pulse off                                      | Normalno /<br>Normal | Isključena /<br>Off                                                                  |
| Mod sigurnosne rasvjete /<br>Emergency mode                                          | Isključeno /<br>Off                                                                                                  | Normalno /<br>Normal | U funkciji /<br>On                                                                   |
| Neispravna svjetiljka /<br>Lamp fault                                                | Trajno crvena /<br>Permanent red                                                                                     | Greška /<br>Fault    | Isključena /<br>Off                                                                  |
| Neispravna baterija ili test /<br>Battery / Test failure                             | Sporo trepteće crvena /<br>Slow flashing red                                                                         | Greška /<br>Fault    | Isključena /<br>Off                                                                  |
| Neuspjelo punjenje baterija /<br>Battery charging failure                            | Brzo trepteće crvena /<br>Fast flashing red                                                                          | Greška /<br>Fault    | Isključena /<br>Off                                                                  |
| Nestanak glavnog ili baterijskoga<br>napajanja /<br>Loss of mains and battery supply | Isključeno /<br>Off                                                                                                  | Greška /<br>Fault    | Isključena /<br>Off                                                                  |
| Mod samo-identifikacije /<br>Self-test reconfigured indication                       | 3 x dva crvena signal te dva zelena<br>signala /<br>3 x fast double pulse red followed by<br>fast double pulse green | Normalno /<br>Normal | Isključena /<br>Off                                                                  |

Svijetiljka FLXE 118 LED-N sadrži grijače baterije koji služe za održavanje temperature na baterijama  $>5^{\circ}\text{C}$ .  
U slučaju kada je temperatura na baterijama  $<5^{\circ}\text{C}$ , pale se grijači i trajno održavaju temperature baterija  $>5^{\circ}\text{C}$ .

Light fitting FLXE 118 LED-N contains battery heaters that are used to maintain the temperature on batteries  $>5^{\circ}\text{C}$ . In case the battery temperature is  $<5^{\circ}\text{C}$ , the heaters are switched on and maintain battery temperatures  $>5^{\circ}$ .

## 7. DIMENZIJE



## 8. MONTAŽA

Standardna montaža svjetiljke se izvodi ovjesom ili vijčanim učvršćenjem preko ušica s rupom  $\varnothing 13$  mm. Uporabom pribora za montažu na zid i strop FLXE 20-170 moguće je direktno učvršćenje svjetiljke za zid ili strop vijčani pribor  $\varnothing 8$  na razmaku 230 mm. Uporabom pribora za montažu na cijev FLXE 20-180 moguće je direktno učvršćenje svjetiljke za stup promjera do 2". Kod FLXE 118 LED 0/. i FLXE 118 LED 1/. Ex db uvodnice i Ex db čepovi nisu sastavni dio isporuke već ih osigurava korisnik. Standardna izvedba svjetiljke pretpostavlja zatvaranje uvida sa zaštitnim čepovima.

Kod FLXE 118 LED 2/. jedan montirani Ex db eb adapter, tip ADP 24/1 i jedan Ex db eb čep su sastavni dio proizvoda.

## 8. MOUNTING

Standard mounting is performed with suspension or fixing with a screw's through an  $\varnothing 13$  mm hole. Using accessories for wall and ceiling mounting FLXE 20-170 can be directly fixed on the wall or ceiling with screw accessories  $\varnothing 8$  at a distance of 230 mm. Using accessories for pipe mounting FLXE 20-180 can be directly fixed on the pole with diameter up to 2".

Ex db glands and plugs are not part of the delivery for the types FLXE 118 LED .0 / . and FLXE 118 LED .1 / . and they must be provided by users. Standard version of the luminaire assumes enclosure of the cable entries with plugs.

Type FLXE 118 LED 2 / . luminaire is equipped with an Ex db eb adapter, type ADP 24/1 and one Ex db eb plug and they are standard part of delivery.



Kod FLXE 118 LED 3/. i FLXE 118 LED 4/. dva montirana Ex db eb adaptera, tip ADP 24/1 su sastavni dio proizvoda.

**Ako korisnik zahtjeva prolazno ožičenje, potrebno je koristiti dva Ex db eb adaptera ili dvije Ex db uvodnice.**

**U slučaju da se koriste jedan Ex db eb adapter, nije moguće prolazno ožičenje niti DALI opciju.**

**U slučaju prolaznog ožičenja nije moguća DALI opcija.**

**U slučaju DALI opcije nije moguće prolazno ožičenje.**



Turn Ex db cover (the cover must be closed with the enclosure) / Zatvoriti Ex db poklopac (poklopac mora biti zatvoren do kraja)

Nakon svakog otvaranja, navoj svjetiljke treba se odmastiti te ponovno zaštititi sa zaštitnom masti.

## 9. INSTALIRANJE I PUŠTANJE U RAD

Priključak na instalaciju treba izvesti preko stezaljki koje se nalaze na LED modulu FLXE 10-130 prema shemi spajanja i tehničkim podacima:

Trajni spoj:

Trajnu fazu treba priključiti na stezaljku L (crna). Fazni vodič za mrežno napajanje treba preko instalacijske sklopke priključiti na stezaljku L' (smeđa). Pri tome treba paziti da faze L (crna) i L' (smeđa) budu ista faza. Neutralni vodič treba priključiti na stezaljku N (plava), a zaštitni na stezaljku PE (žuto-zelena).

Pripravní spoj:

Trajnu fazu treba priključiti na stezaljku L (crna). Neutralni vodič treba priključiti na stezaljku N (plava), a zaštitni na stezaljku PE (žuto-zelena). Stezaljku L' (smeđa) ostaviti praznu.

Vanjsko uzemljenje, izjednačenje potencijala se priključuje na predviđenu vanjsku stezaljku za uzemljenje s vodičem max.6 mm<sup>2</sup> sol(r), s(r), f.

Natpisna naljepnica sa shemom spajanja nalazi se na LED modulu FLXE 10-130.

Ukoliko se priključak vrši preko Ex db eb adaptera unutarnje ožičenje je izvedeno u tvornici. Priključak na stezaljke adaptera treba izvršiti prema bojama vodiča u adapteru niže danoj shemi spajanja.

Type FLXE 118 LED 3/. and FLXE 118 LED 4/. luminare are equipped with two Ex db eb adaptera, type ADP 24/1 and they are standard part of delivery.

**If the user requests through-wiring, it is necessary to use two Ex db eb adapters or two Ex db glands. In case of usage one Ex db eb adapter, through-wiring and DALI option are not possible.**

**In the case of true-wiring, the DALI option is not possible.**

**In the case of the DALI option, transient wiring is not possible.**



Secure the cover with the M5 blocking screw (unscrewing protection) / Osigurati poklopac sa M5 blokadnim vijkom (zaštita od samo odvrtanja)

After each opening, the lamp thread should be degreased and protected again with protective grease.

## 9. INSTALLING AND PUTTING INTO OPERATION

Network connection is performed through terminals located on the LED module FLXE 10-130 according to wiring diagram and technical data:

Maintained:

Permanent main line has to be connected to the L (black) terminal. Phase conductor for power supply has to be connected through installation switch to the L' (brown) terminal. User should be careful that phase L (black) and L' (brown) are the same phase. Neutral conductor has to be connected to the N (blue) terminal and protective earth conductor to the PE (yellow-green) terminal.

Non maintained:

Permanent main line has to be connected to the L (black) terminal. Neutral conductor has to be connected to the N (blue) terminal and protective earth conductor to the PE (yellow-green) terminal. L' (brown) terminal is not connected.

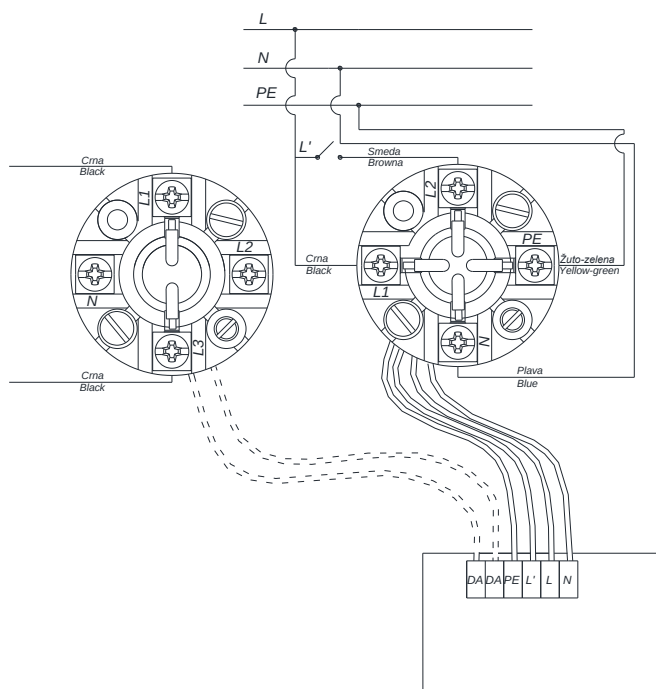
External grounding, equipotential is connected to an external terminal provided with a grounding conductor max.6 mm<sup>2</sup> solid (r), s (r), f.

Label with a wiring diagram is on the LED module FLXE 10-130.

If the electrical connection is performed through Ex db eb adapter, internal wiring is done by the manufacturer.

The electrical connection to the terminals of adapter have to be performed according to wiring diagram below.

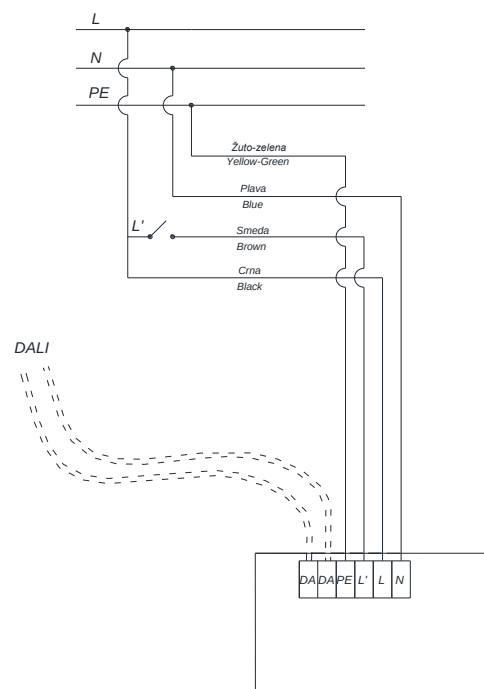
**INDIREKTAN UVOD - Ex db eb adapter**  
**INDIRECT ENTRY - Ex db eb adapter**



Po potrebi, baterijski rad svjetiljke se može isključiti kratkim spajanjem kontakata sa slike (u slučaju remonta pogona ili transporta svjetiljaka). Prethodno je potrebno svjetiljku odspojiti sa mrežnog napona.

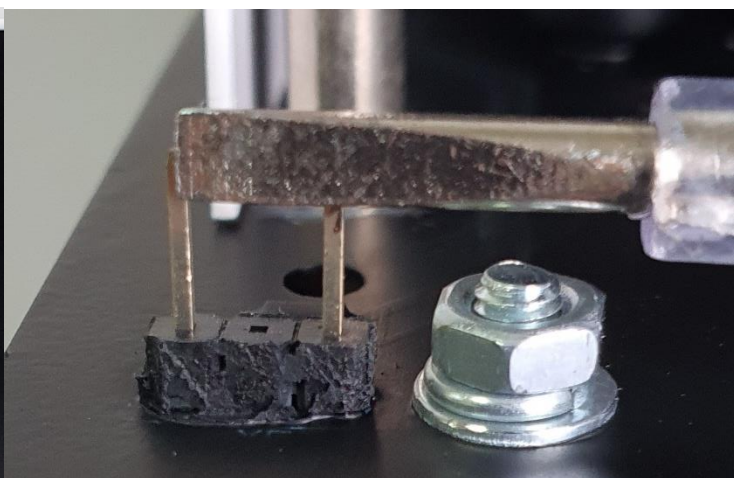
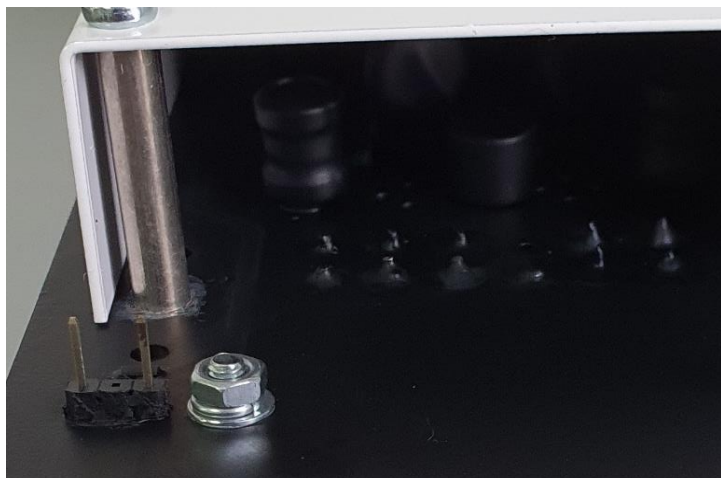
Ponovnim spajanjem na mrežni napon svjetiljka nastavlja sa normalnim modom rada te se baterijski mod rada opet aktivira.

**DIREKTAN UVOD - Ex db uvodnica**  
**DIRECT ENTRY - Ex db cable gland**



If necessary, the battery operation of the lamp can be switched off by short-circuiting the contacts in the picture (in case of overhaul or transport of lamps). The lamp must first be disconnected from the mains voltage.

By reconnecting to mains voltage, the lamp resumes normal mode and the battery mode is reactivated.



Automatska samo-provjera prije puštanja u rad izvršit će se nakon što se na modul spoje trajni mrežni napon i baterija. To će osigurati ispravnost sustava, LED izvora za nužnu rasvjetu i baterije. Dok je ova provjera u tijeku, lokalni LED indikator polako će treptati zeleno te je moguće testiranje funkcionalnosti modula za provjeru nužnog rada, bilo naredbom uz pomoć DALI ili prekidom napajanja.

U sklopu samo-provjere puštanja u rad, provodi se ispitivanje nazivne autonomije nakon što se baterija puni max.24 sata. Ako se prekine razdoblje punjenja, razina punjenja vraća se na nulu i započinje novo 24-satno razdoblje punjenja.

Automatska samo-provjera prije puštanja u rad završava nakon uspješno završenoga testa autonomije. Lokalni LED indikator tada se mijenja u trajno-zeleno.

An automatic self-commissioning check will be done once a permanent mains supply and the battery have been connected to the module. This will ensure that the system, the emergency lamp and battery are performing correctly. Whilst this check is in progress the local LED indicator will slowly flash green and it is still possible for the module to be put into a function test to check emergency operation, either by a DALI command or by interrupting the mains supply.

As part of the self-commissioning check, a full duration test is performed once the battery has been charged for 24 hours. If this initial charge period is interrupted, the charge level is reset to zero and the 24-hour charge period recommences. The self-commissioning check ends after successful completion of the

#### Napomena:

Ako se automatska samo-provjera koja je u tijeku otkáže zbog naredbe DALI 229 'STOP TEST', tada je odgovornost inženjera za puštanje u rad sustava da osigura da je automatska samo-provjera modula dovršena.

Automatsko puštanje u rad ponavlja se kad god se sa modula maknu svi izvori napajanja, a zatim se napajanje povraća, isto tako ako se baterija potpuno isprazni nakon prekida napajanja.

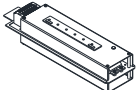
duration test. The local LED indicator then changes to a steady green once the check is complete.

#### NOTE:

If a self-commissioning check that is in progress is cancelled due to a module receiving a DALI 229 'STOP TEST' command. It is then the responsibility of the system commissioning engineer to ensure that the modules self-commissioning check is completed.

Automatic self-commissioning is repeated whenever all power is removed from the module and then restored, equally if the battery is fully discharged after an interruption to the mains supply.

### 10. REZERVNI DIJELOVI I PRIBOR

| SKICA<br>SKETCH                                                                     | OPIS<br>DESCRIPTION                                    | KOD<br>CODE    | SKICA<br>SKETCH                                                                                    | OPIS<br>DESCRIPTION                                                      | KOD<br>CODE      |
|-------------------------------------------------------------------------------------|--------------------------------------------------------|----------------|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|------------------|
|    | Poklopac<br>kućišta kompl.<br>Housing cover<br>assably | FLXE<br>10-110 |                   | Ex db kabelska<br>uvodnica ISO 20<br>Ex db cable gland ISO<br>20         | SPUD 20          |
|    | Brtva poklopca<br>Housing cover<br>gasket              | FLXE<br>10-120 |           | Ex db kabelska<br>uvodnica 3/4\"NPT<br>Ex db cable gland<br>3/4\"NPT     | SPUD 3/4\"NPT    |
|    | LED modul<br>kompl.<br>LED module<br>assably           | FLXE<br>10-130 |                   | Ex db čep<br>ISO 20<br>Ex db plug<br>ISO 20                              | SPCD 20          |
|   | Zaštitna<br>rešetka<br>Protective grid                 | FLXE<br>20-140 |  | Ex db čep 3/4\"NPT<br>Ex db plug 3/4\"NPT                                | SPCD<br>3/4\"NPT |
|  | Vanjski<br>reflector<br>External<br>reflector          | FLXE<br>20-150 |                 | Set za montažu na zid<br>i strop<br>Set for wall and ceiling<br>mounting | FLXE<br>20-170   |
|  | Adapter<br>Ex db eb                                    | ADP<br>10-160  |                 | Set za montažu na<br>cijev<br>Set for pipe mounting                      | FLXE<br>20-180   |

Nije moguća zamjena samo baterija, već zamjena cijelog kompleta (LED modul kompl. – FLXE 10-130)  
It is not possible to replace only the battery, but to replace the whole set (LED module set - FLXE 10-130)

### 11. ODRŽAVANJE, POPRAVAK, OBNAVLJANJE I PREGRADNJA

Potrebno je obavljati preglede i održavati sve dijelove uređaja o kojima ovisi protueksplozijska zaštita sukladno normi EN 60079-17, općim i posebnim uputama proizvođača i Pravilnicima korisnika, a naročito:

- da su kućišta, zaštitno staklo i brtve bez puknuća i oštećenja,
- da su brtve poklopca bez puknuća i oštećenja te da je poklopac zategnut nazivnim momentom i blokiran od odvrtanja pomoću blokadnog vijka,
- da su uvodnica, čep, adapte, stezaljke, te zaštitna rešetka pritegnuti nazivnim momentom.

Popravak, obnavljanje ili pregradnju kućišta obavlja proizvođač ili od proizvođača ovlaštena pravna osoba, originalnim dijelovima prema proizvodnoj dokumentaciji, a sve sukladno normi EN 60079-19.

Ukoliko popravak i/ili obnavljanje i/ili pregradnju vrši treća osoba, prestaje svaka odgovornost proizvođača za proizvod, a EU Izjava o sukladnosti proizvođača postaje nevažeća.

### 11. INSPECTION, MAINTENANCE, REPAIR AND OVERHAUL

Inspections are carried out in accordance with IEC 60079-17, general and special conditions of manufacturer and users Regulations and includes supervision of parts on which the explosion protection depends, especially:

- that the housings, protective glass and gasket are without rupture and damage,
- that the cover gaskets are without rupture and damage and that the cover is tightened with a nominal torque and blocked from unscrewing with a blocking screw,
- that the cable gland, plug, adapter, connecting terminals, screws of protective grid are tightened with nominal torque.

All the repairs must be performed by the manufacturer or the manufacturer's authorized personal using the original parts according to the product documentation, all in accordance with EN 60079-19.

If repair or any other procedure are performed on the product by unauthorized person, all producer responsibility for the product and the warranty and the manufacturer's EU Declaration of conformity becomes invalid.

## 12. ODGOVORNOSTI I OVLAŠTENJA

Ova Uputa predstavlja najvažniju informaciju o proizvodu. Nadopunjuju ju odgovarajući nacionalni zakoni i propisi. Proizvodnja, uporaba, certifikacija i nadzor određene su na nacionalnoj razini:

- a) Pravilnikom o opremi i zaštitnim sustavima namijenjenim za uporabu u prostorima ugroženim eksplozivnom atmosferom (NN br. 33/16, odnosno EU Direktiva ATEX 2014/34/EU) i
- b) Pravilnikom o najmanjim zahtjevima sigurnosti i zaštite zdravlja radnika te tehničkom nadgledanju postrojenja, opreme, instalacija i uređaja u prostorima ugroženim eksplozivnom atmosferom (NN br. 39/06, 106/07.), odnosno EU Direktiva 1999/92/EC (ATEX 137).

Odgovorna osoba dužna je osigurati njihovo provođenje u pogonu.

## 13. SKLADIŠTENJE I TRANSPORT

Transport i skladištenje svjetiljke treba vršiti samo u uvjetima kako je rečeno u ovoj uputi u originalnoj ambalaži, na način istaknut na kartonskoj kutiji.

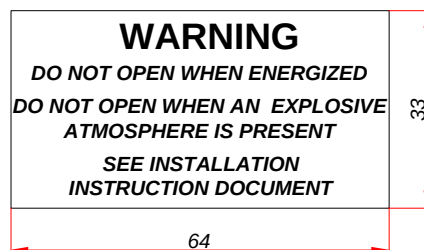
## 14. JAMSTVO PROIZVOĐAČA

Proizvođač daje jamstvo na svjetiljku u trajanju od dvije godine te jamstvo na baterije u trajanju od šest mjeseci od trenutka preuzimanja proizvoda prema odredbama Zakona o obveznim odnosima. Ova izjava ima snagu Jamstvenog lista.

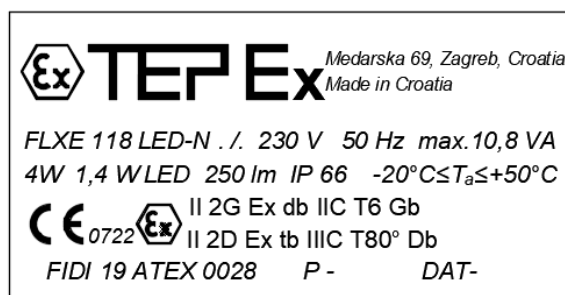
## 15. OZNAČAVANJE

Protueksplozijski zaštićena LED sigurnosna svjetiljka, tip FLXE 118 LED-N označena je s:

- pločicom upozorenja na poklopcu svjetiljke:



- natpisnom pločicom s tehničkim podacima na poklopcu kućišta:



## 12. RESPONSIBILITY AND AUTHORIZATION

This Manual represents the most relevant information about the product. Adequate national laws and regulations supplement it. Production, usage, certification and supervision are determined at the national level with:

- a) Regulations of Equipment and protective systems intended for use in potentially explosive atmospheres (EU Directive ATEX 2014/34/EU) and
- b) Regulations of minimum requirements for safety and health protection of workers and technical inspection of facilities, equipment, installations and devices in potentially explosive atmospheres EU Directive 1999/92/EC (ATEX 137).

The responsible person shall ensure their implementation at the facility.

## 13. STORAGE AND TRANSPORT

Transport and storage are only allowed in the original packaging, on the way pointed out on the carton box.

## 14. MANUFACTURER'S WARRANTY

The manufacturer provides a warranty on the light fitting for a period of two years and a warranty on batteries for a period of six months starting from the moment of taking over the product under the provisions of this user manual and the law on obligations. This statement has the force of Warranty sheet.

## 15. MARKING

Explosion protected fluorescent light fitting, type FLXE 118 LED-N is labeled with:

- a warning labels with technical data on the housing:

- natpisnom naljepnicom sa shemom spajanja na LED modulu  
FLXE 10-130:
- a label with the wiring diagram in the LED module FLXE 10-130:

|   |      |
|---|------|
| 1 | N    |
| 2 | L    |
| 3 | L'   |
| 4 | PE   |
| 5 | Dali |
| 6 | Dali |

EMERGENCY LIGHTING MODULE

TEPEx

Medarska 69, Zagreb, Croatia

Made in Croatia

FLXE 118 LED-N . / .

FIDI 19 ATEX 0028

230 V 50 HZ 4W 1,4 W LED 250 lm IP66

CE0722

II 2G Ex db IIC T6 Gb

II 2D Ex tb IIIC T80° Db P -

EN 60598-2-22

X

1

ABCDE

180

FAULT (RED)

CHARGE (GREEN)