

RLF 320 LED

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 complement national Regulation and Standards. The responsible person shall ensure their implementation. Failure to 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 all the time,
- Check the implementation of these instructions and all other safety user's instructions.

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1. NAMJENA

Protueksplozijski zaštićeni LED reflektor tip RLF 320 LED-./., namijenjen je za opću i usmjerenu rasvjetu, u industrijskim prostorima na mjestima s potencijalno eksplozivnom atmosferom plinova, para i prašine u zonama opasnosti 1, 2, 21, 22 sukladno normama EN IEC 60079-10-1:2021 i EN 60079-10-2:2015.

2. SUKLADNOST PROIZVODA

Konstrukcija reflektora sukladna je s normama EN IEC 60598-1:2021, EN 62262, EN 60529/A1/A2 i svim povezanim normama. Proizvod je sukladan Pravilniku o opremi i zaštitnim sustavima namijenjenim za uporabu u potencijalno eksplozivnim atmosferama, NN br. 33/16.

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 ISO 9001, ISO/IEC 80079-34 i 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.

3. TEHNIČKI PODACI

Certifikat	FIDI 23 ATEX 0004
Oznaka kategorije i protueksplozijske zaštite uređaja:	 II 2G Ex db eb IIC T4 Gb II 2D Ex tb IIIC T100°C Db
Temperatura okoline:	RLF 320 LED-1/. -40°C ≤ T _a ≤ +50°C RLF 320 LED-2/. -40°C ≤ T _a ≤ +40°C
Mehanička zaštita:	IP 66
Otpornost na udar:	IK 08
Klasa zaštite:	I (PE - zaštitno uzemljenje)
Nazivni napon U _n :	110-240 V, 50/60 Hz
Nazivna snaga S _n :	250 VA/ 320 VA
Faktor snage:	> 0,98 pri 230V / 50 Hz, 320 VA

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1. PURPOSE

Explosion protected LED floodlight type RLF 320 LED-./., is intended for general and directional lighting in areas with a potentially explosive atmosphere of gases, vapors and dust in hazardous areas 1, 2, 21, 22, according to EN IEC 60079-10-1:2021 and EN 60079-10-2:2015.

2. PRODUCT CONFORMITY

The construction of the floodlight complies with EN IEC 60598-1:2021, EN 62262, EN 60529/A1/A2 and all related standards. 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 has been developed, manufactured and tested according to the existing state of technique accordance with the standards ISO 9001 and ISO/IEC 80079-34 and 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.

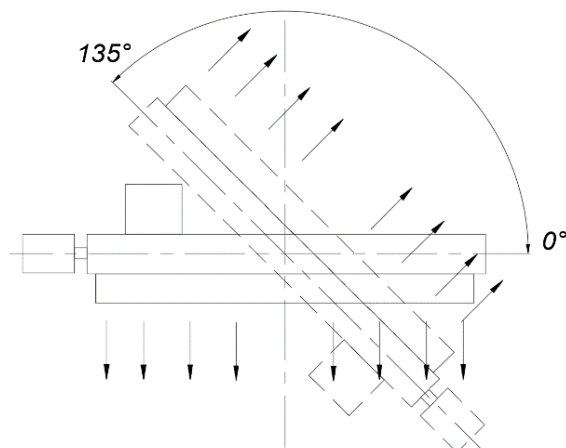
The product is in compliance with EMC Directive 2014/30/EU.

3. TECHNICAL DATA

Certificate:	FIDI 23 ATEX 0004
Category and explosion protection:	 II 2G Ex db eb IIC T4 Gb II 2D Ex tb IIIC T100°C Db
Ambient temperature:	RLF 320 LED-1/. -40°C ≤ T _a ≤ +50°C RLF 320 LED-2/. -40°C ≤ T _a ≤ +40°C
Mechanical protection:	IP 66
Impact resistance:	IK 08
Class of protection:	I (PE - protective earthing)
Rated voltage U _n :	110-240 V, 50/60 Hz
Rated power S _n :	250 VA/ 320 VA
Power factor:	> 0,98 at 230V / 50 Hz, 320 VA

THD:	< 15% pri 230 V/ 50 Hz, 320 VA												
Potezna struja:	$I_{peak} = 65 \text{ A}$, 1,2 ms/50% I_{peak} , < 0,25 A ² s, hladan start												
Struja odvoda:	0,75 mA max. pri 230 V 50 Hz, IEC 61347-1												
LED izvor:	LEDEx 04, TEPEX d.o.o. FIDI 23 ATEX 0002U												
LED driver:	BLD-320-C140-TRS-A00000, uPowerTek, Hangzhou, Kina												
Nazivna struja LED modula:	RLF 320 LED-1/. – $I_n = 1015 \text{ mA}$ RLF 320 LED-2/. – $I_n = 1295 \text{ mA}$												
Maksimalan broj svjetiljaka (kom.) po jednom automatskom instalacijskom prekidaču:	<table border="1"> <thead> <tr> <th colspan="4">Automatski instalacijski prekidač</th> </tr> <tr> <th>1p B 10A</th> <th>1p C 10A</th> <th>1p B 16A</th> <th>1p C 16A</th> </tr> </thead> <tbody> <tr> <td>12</td> <td>16</td> <td>16</td> <td>20</td> </tr> </tbody> </table>	Automatski instalacijski prekidač				1p B 10A	1p C 10A	1p B 16A	1p C 16A	12	16	16	20
Automatski instalacijski prekidač													
1p B 10A	1p C 10A	1p B 16A	1p C 16A										
12	16	16	20										
Prenaponska zaštita:	10 kV L/N-PE, 6 kV L-N, IEC 61000-4-5												
Temperaturna zaštita:	$T_{c \text{ driver}} = 110^\circ\text{C} \pm 10^\circ\text{C}$, automatski povrat $T_{c \text{ driver}} = 70^\circ\text{C} \pm 10^\circ\text{C}$												
Svjetlosni tok:	27000 lm pri $T_a = 25^\circ\text{C}$ za 250 VA, 34500 lm pri $T_a = 25^\circ\text{C}$ za 320 VA												
Životna dob L_{80F10} :	100 000 h, $T_a = 20^\circ\text{C}$ 40 000 h, $T_{a \text{ max}}$												
Temperatura boje svjetlosti:	4700 K												
Indeks uzvrata boje (CRI):	> 80												
Kabelski uvodi:	Dva uvoda ISO 25 sukladno s EN 60423												
Priključne stezaljke:	Stezaljke za spajanje faznog, neutralnog i zaštitnog vodiča L1, L2, L3, N, PE; max. 4 mm ² sol (r), sol (s), f, Moment pritezanja stezaljke: 1,2 Nm Proizvođač: Connectwell Pvt. d.o.o, Indija, Certifikat: CSANe 21ATEX3017U Oznaka kategorije i protueksplozijske zaštite: II 2G Ex eb IIC Gb												
Vanjske stezaljke za uzemljenje:	Stezaljke za vanjsko uzemljenje i izjednačavanje potencijala, max. 2 x 6 mm ² sol(s), f												
Momenti pritezanja:	Pritisna matica Ex eb uvodnica: 2,5 Nm, Tijelo Ex eb uvodnice i čepa: 3,5 Nm, Vijci poklopca priključne komore: 2 Nm, Vijci kućišta (okvir stakla i hladilo): 5 Nm, Vijci stremena: 5 Nm												
Osnovne mjere:	RLF 320 LED-./.. 605 x 400 x 95 (D x Š x V)												
Masa:	≈21,5 kg bez nosača ≈24 kg s nosačem												
Radni položaji (od 0° do 135°):													

THD:	< 15% at 230 V/ 50 Hz, 320 VA												
Inrush current:	$I_{peak} = 65 \text{ A}$, 1,2 ms/50% I_{peak} , < 0,25 A ² s, cold start												
Leakage current:	0,75 mA max. at 230 V 50 Hz, IEC 61347-1												
LED light source:	LEDEx 04, TEPEX d.o.o. FIDI 23 ATEX 0002U												
LED driver:	BLD-320-C140-TRS-A00000, uPowerTek, Hangzhou, China												
LED module rated current:	RLF 320 LED-1/. – $I_n = 1015 \text{ mA}$ RLF 320 LED-2/. – $I_n = 1295 \text{ mA}$												
Maximum number of lamps (pieces) per one automatic circuit breaker:	<table border="1"> <thead> <tr> <th colspan="4">Automatic circuit breaker</th> </tr> <tr> <th>1p B 10A</th> <th>1p C 10A</th> <th>1p B 16A</th> <th>1p C 16A</th> </tr> </thead> <tbody> <tr> <td>12</td> <td>16</td> <td>16</td> <td>20</td> </tr> </tbody> </table>	Automatic circuit breaker				1p B 10A	1p C 10A	1p B 16A	1p C 16A	12	16	16	20
Automatic circuit breaker													
1p B 10A	1p C 10A	1p B 16A	1p C 16A										
12	16	16	20										
OVP protection:	10 kV L/N-PE, 6 kV L-N, IEC 61000-4-5												
Temperature protection:	$T_{c \text{ driver}} = 110^\circ\text{C} \pm 10^\circ\text{C}$, automatic return $T_{c \text{ driver}} = 70^\circ\text{C} \pm 10^\circ\text{C}$												
Rated luminous flux:	27000 lm at $T_a = 25^\circ\text{C}$ for 250 VA, 34500 lm at $T_a = 25^\circ\text{C}$ for 320 VA												
Estimated service life L_{80F10} :	100 000 h, $T_a = 20^\circ\text{C}$ 40 000 h, $T_{a \text{ max}}$												
Light colour:	4700 K												
Refractive index (CRI):	> 80												
Cable entries:	Two cable entries ISO 25 accordance with EN 60423												
Connection terminal:	Terminals for phase, neutral and earthing conductors L1, L2, L3, N, PE; max. 4 mm ² sol(r), sol(s), f, Torque screw for terminals: 1,2 Nm Manufacturer: Connectwell Pvt. Ltd., India, Certificate: CSANe 21ATEX3017U Category and explosion protection: II 2G Ex eb IIC Gb												
Connection terminal for grounding:	Terminal for external grounding, equipotential bounding, max. 2 x 6 mm ² sol(s), f												
Tightening torques values:	Pinch nut of the Ex eb cable glands: 2,5 Nm, body of the Ex eb gland and plug: 3,5 Nm, connection chamber cover screws: 2 Nm, enclosure screws: 5 Nm, bracket screws: 5 Nm												
Basic measures:	RLF 320 LED-./.. 605 x 400 x 95 (L x W x H)												
Weight:	≈21,5 kg without steel bracket ≈24 kg with steel bracket												
Working positions (from 0° to 135°):													



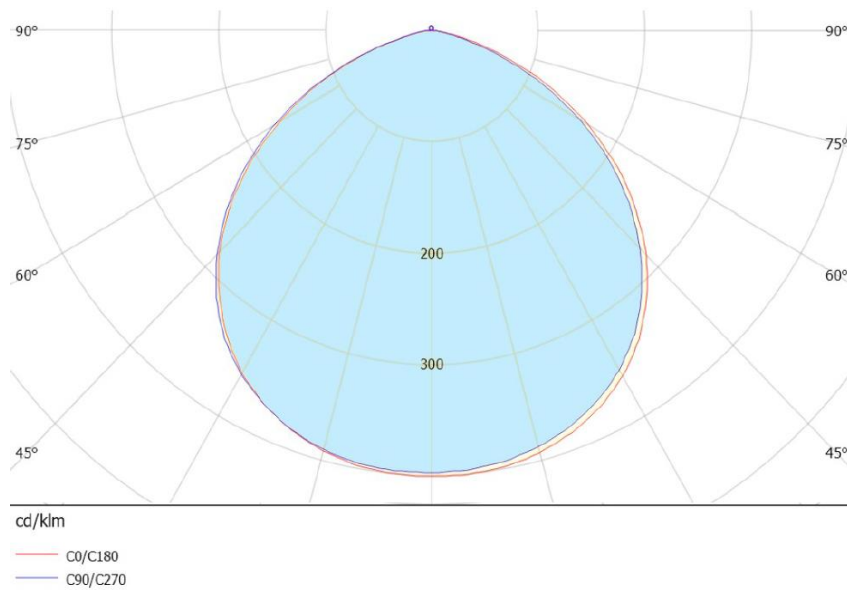
Vijčani raspori (prema EN 60079-1:2014, članak 5.3):

- M20x1,5 – 6g/6H, srednja tolerancija prema ISO 965-1/98, navoj ISO 965-3, 8 punih navoja,
- M85x1,5 – 6g/6H, srednja tolerancija prema ISO 965-1/98, navoj ISO 965-3, 12 punih navoja.

Threaded joints (According to EN 60079-1:2014, clause 5.3):

- M20x1,5 – 6g/6H, medium tolerance according ISO 965-1/98, thread ISO 965-3/98, 8 full threads,
- M85x1,5 – 6g/6H, medium tolerance according to ISO 965-1/98, thread ISO 965-3, 12 full threads.

4. SVJETLOTEHNIČKA KARAKTERISTIKA



4. LIGHT DISTRIBUTION CURVE

5. TIPNA OZNAKA

RLF 320 LED-./.

Prvi broj = Nazivna snaga

- 1 – 250 VA,
- 2 – 320 VA,

Drugi broj = Krivulja zračenja

- 1 – široki snop ($120^\circ/\pm 60^\circ$ - 50% I_{max})
- 2 – uski snop ($20^\circ/\pm 10^\circ$ - 50% I_{max})

5. TYPES

RLF 320 LED-./.

First number = Rated power

- 1 – 250 VA,
- 2 – 320 VA,

Second number = Light distribution curve

- 1 – broad beam ($120^\circ/\pm 60^\circ$ - 50% I_{max})
- 2 – narrow beam ($20^\circ/\pm 10^\circ$ - 50% I_{max})

6. MONTAŽA

Montaža i instaliranje reflektora izvodi se prema podacima na natpisnim pločicama na reflektoru, ovim i dodatnim uputama proizvođača, nacionalnim Propisima i Pravilnicima, kao i prema općenito priznatim pravilima tehnike. Samo uz taj uvjet osigurana je tipnim certifikatom potvrđena protueksplozijska zaštita reflektora.

Kvaliteta upotrijebljenih materijala jamči funkcionalnost sukladnu normi, u «normalnoj» industrijskoj atmosferi.

Za posebne uvjete pogona molimo kontaktirati proizvođača.

Montaža reflektora na podlogu vrši se preko nosača vijčanim priborom M8 ili M10.

Priključni kabel se uvodi u priključnu komoru kroz predviđenu uvodnicu. Pri tome treba provjeriti da su kabeli čisti i neoštećeni. Posebnu pažnju treba posvetiti odabiru unutarnjeg brtvenog prstena uvodnice prema vanjskom promjeru kabela. Pritisnu maticu uvodnice i tijelo uvodnice treba pritegnuti nazivnim momentom. Neiskorišteni uvod, na isti način, obavezno treba zatvoriti čepom. Napajanje reflektora ostvaruje se priključkom kabela napajanja na priključne stezaljke (L, NE, PE) i stezaljku za unutarnje i vanjsko uzemljenje.

6. INSTALLATION

Installation and putting into operation have to be done according to technical and certification data on warning label on the floodlight, this user manual, national regulations and laws. Only with that, explosion-proof protection of the floodlight is ensured with type certificate.

The quality of the materials ensures compliance with standard functionality in standard industrial atmosphere.

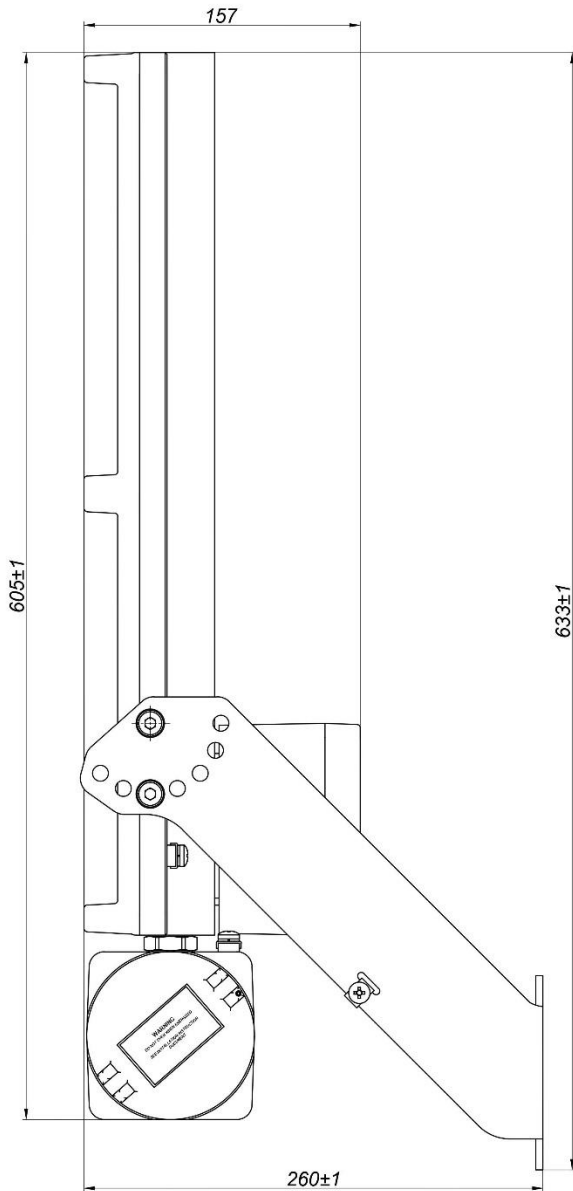
For special operating conditions please contact the manufacturer.

Installation of the floodlight is done with steel bracket with M8 or M10 screws.

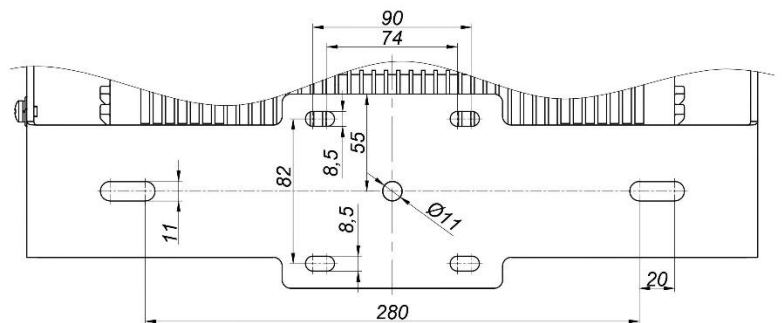
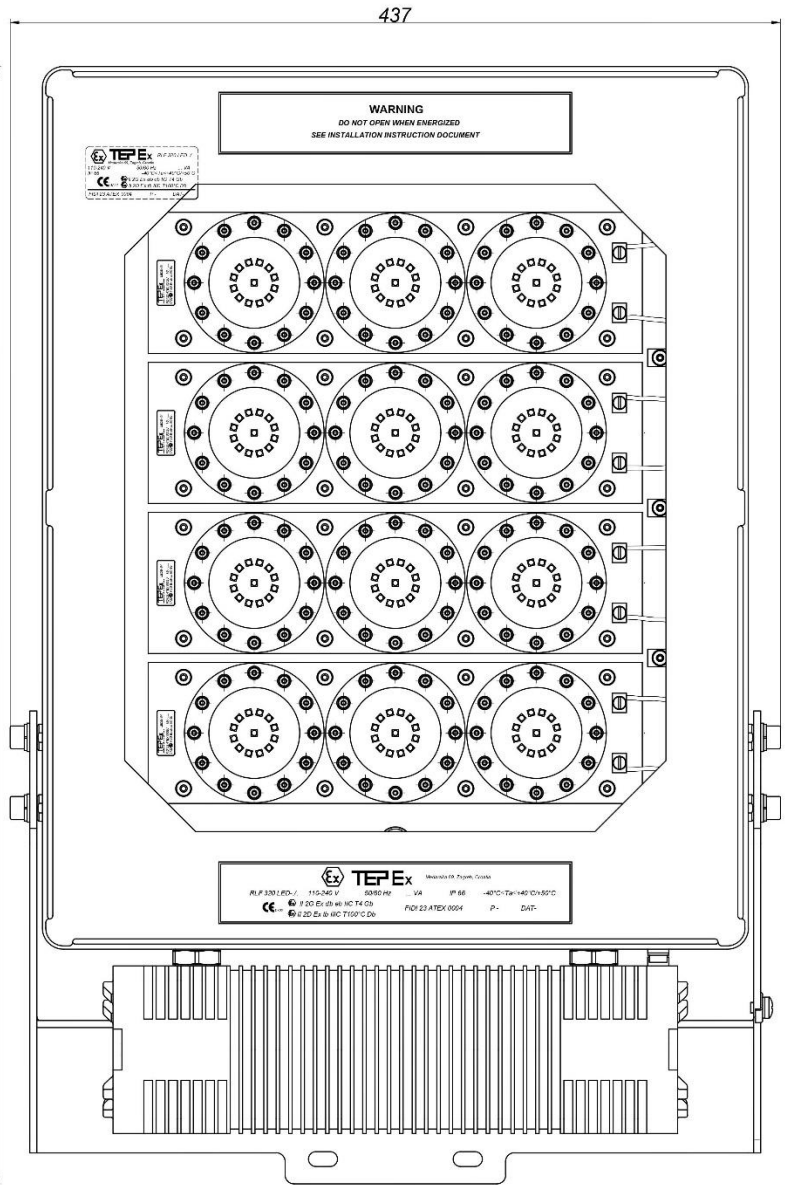
The power cable is inserted into the connection chamber through the provided cable gland. Before that, you should check whether the cables are clean and undamaged.

Special attention must be dedicated to selection of the inner gasket sealing ring of the cable glands according to diameter of connecting cable. The pressure nut and the intermediate gland must be tightened with nominal torque. The unused cable entries must be closed with a plug. The electrical connection is performing by connecting power supply cable (L, NE, PE) on the connection terminals and terminal for internal and external grounding.

7. DIMENZIJE



7. DIMENSIONS



8. PREGLED, ODRŽAVANJE, POPRAK I OBNAVLJANJE

Potrebno je obavljati preglede i održavati sve dijelove uređaja o kojima ovisi protueksplozijska zaštita sukladno normi EN 60079-17:2014, općim i posebnim uputama proizvođača i Pravilnicima korisnika, a naročito:

- da su hladilo, okvir stakla, zaštitno staklo i brtve, kućište drivera i poklopci bez puknuća i oštećenja,
- da je sklop hladila s okvirom stakla i zaštitnim staklom potpuno zatvoren, kao i kućište drivera s poklopcima,

8. INSPECTION, MAINTENANCE, REPAIR AND OVERHAUL

Inspections are carried out in accordance with EN 60079-17:2014, general and special conditions of manufacturer and users Regulations and includes supervision of parts on which the explosion protection depends, especially:

- that the enclosure, glass frame, protective glass and gaskets, driver enclosure and covers are without rupture and damage,
- that the enclosure assembly with the glass cover and protective glass itself is completely closed, as well as the driver enclosure with covers,

- da su uvodnica, čep, vijci poklopca priključne komore i vijci stezaljki za uzemljenje pritegnuti nazivnim momentom.

Vijčani raspored M20x1,5 – 6g/6H (8 punih navoja) tvori kućište LED drivera i provodna čahura, a vijčani raspored M85x1,5 – 6g/6H (12 punih navoja) tvori kućište LED drivera i pripadajući poklopac.

Popravak, obnavljanje ili pregradnju reflektora obavlja proizvođač ili od proizvođača ovlaštena pravna osoba, originalnim dijelovima prema proizvodnoj dokumentaciji, a sve sukladno normi EN IEC 60079-19:2019.

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

- that the cable gland, plug, connection chamber screws and connecting terminals screws are tightened with nominal torque.

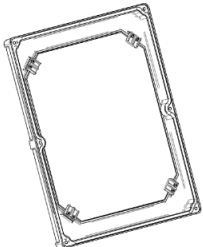
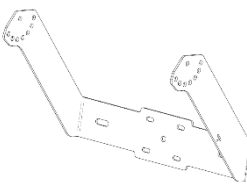
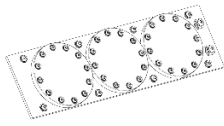
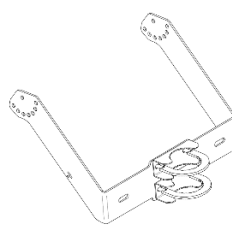
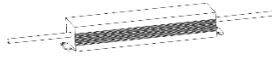

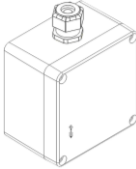

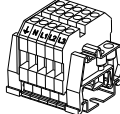


The threaded joint M20x1.5 – 6g/6H (8 full threads) forms LED driver enclosure and bushing and the threaded joint M85x1.5 – 6g/6H (12 full threads) forms the LED driver enclosure and the corresponding cover.

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 IEC 60079-19:2019.

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

9. REZERVNI DIJELOVI

9. SPARE PARTS

Rezervni dijelovi / Spare parts or accessories	Description/ Opis	Code/ Kod pozicije	Rezervni dijelovi / Spare parts or accessories	Description/ Opis	Code/ Kod pozicije
	RLF 320 LED Sklop okvira stakla/ The glass protective framework, set	RLF 320 LED 10-110		RLF 320 LED Stremen/ Bracket for wall and ceiling mounting, set	RLF 320 LED 20-110
	LED LEEx 04	RLF 320 LED 10-120		RLF 320 LED Set za montažu na cijev/ Pipe mounting set	RLF 320 LED 20-120
	RLF 320 LED LED driver	RLF 320 LED 10-130		Ex eb plastična uvodnica/ Ex-eb cable gland ISO 25, set	SPU 25
	Priključna komora/ Connection chamber, set	RLF 320 LED 10-140		Ex eb plastični čep/ Ex-eb plug ISO 25, set	SPC 25
	Set priključnih stezaljki/ Connecting terminals 5 x 0,5 – 4 mm ² , set	RLF 320 LED 10-150		Ex db/eb tb metalna uvodnica/ Ex db/eb tb metal cable gland ISO25	RLF 320 LED 10-160
				Ex db/eb tb metalni čep/ Ex db/eb metal plug M25	RLF 320 LED 10-170

10. 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:

- 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
- 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 Direktivi 1999/92/EC (ATEX 137).

Odgovorna osoba dužna je osigurati njihovo provođenje u pogonu.

11. SKLADIŠTENJE I TRANSPORT

Transport i skladištenje treba vršiti samo u originalnoj ambalaži, na način istaknut na kartonskoj kutiji.

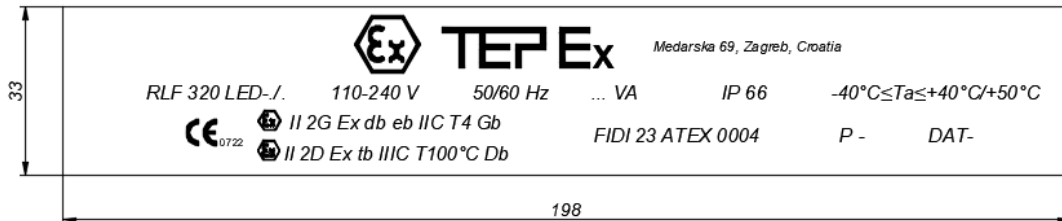
12. JAMSTVO PROIZVOĐAČA

Proizvođač izdaje jamstvo na proizvod u trajanju od 5 godina prema odredbama Zakona o obveznim odnosima. Ova izjava ima snagu Jamstvenog lista.

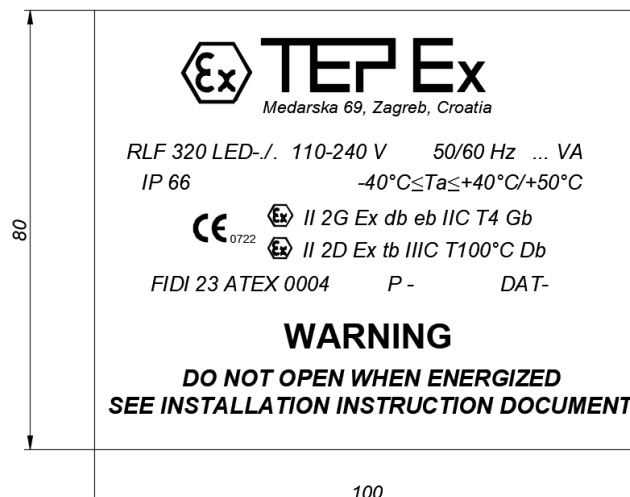
13. OZNAČAVANJE

Protueksplozijski zaštićeni LED reflektor tip RLF 320 LED-./, označen je s dvije vanjske natpisne pločice, s tri pločice upozorenja i s natpisnom naljepnicom unutar Ex eb komore.

Vanjska natpisna pločica s nazivnim podacima na okviru stakla:



Vanjska natpisna pločica s nazivnim podacima i upozorenjem na priključnoj komori reflektora:



10. RESPONSIBILITY AND AUTHORIZATION

This instruction is the basic information about the product. It is completed by the corresponding national laws and regulations. Production, use, certification and supervision are determined at the national level:

- Regulations concerning equipment and protective systems intended for use in potentially explosive atmospheres EU directive 2014/34/EU and
- Regulations on minimum requirements for safety and health protection of workers and technical inspection of facilities, equipment, installations and equipment in hazardous areas EU directive 1999/92/EC (ATEX 137).

The responsible person shall ensure their implementation at the working facility.

11. STORAGE AND TRANSPORT

Transportation and storage of the floodlight is only allowed in the original packaging, as indicated on a cardboard box.

12. MANUFACTURER'S WARRANTY

The manufacturer provides a warranty on the product for a period of five years under the provisions of this user manual and the law on obligations. This statement has the force of Warranty sheet.

13. MARKING

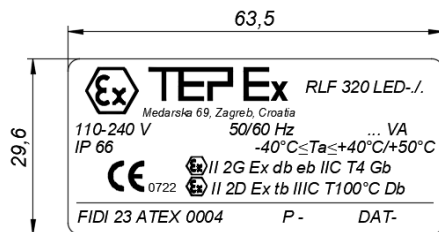
Explosion protected floodlight RLF 320 LED-./ is marked with two external labels with technical data, three warning labels and with technical data sticker inside Ex eb chamber.

External label with nominal data on the glass frame:

External label with nominal data and warning on the floodlight connection chamber:

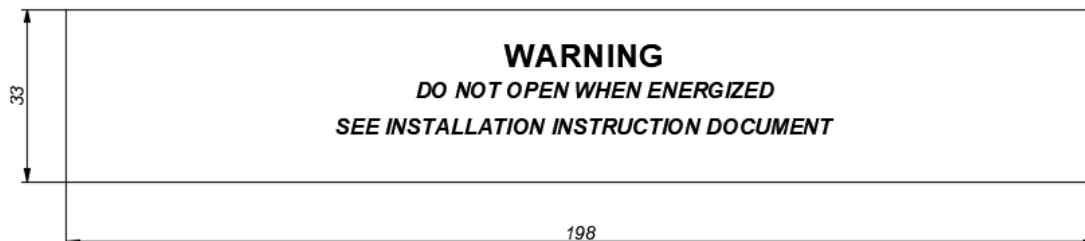
Natpisna naljepnica unutar Ex eb komore:

Technical data sticker inside Ex eb chamber:



Vanjska pločica upozorenja na okviru stakla:

External warning label on the glass frame:



Vanjske pločice upozorenja na kućištu LED drivera:

External warning labels on the LED driver enclosure:

