

PLFS-N 200 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 cijele Upute za uporabu,
- Izvršiti odgovarajuću obuku odgovornog osoblja,
- Provjeriti da je sadržaj ovih Uputa 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 ovih Uputa 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 ovjesna svjetiljka tip PLFS-N 200 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 i EN IEC 60079-10-2.

2. SUKLADNOST PROIZVODA

Ovjesna svjetiljka je konstruiran u skladu sa zahtjevima ATEX i IECEx certifikacijskog sustava za opremu namijenjenu uporabi u potencijalno eksplozivnim atmosferama.

Proizvod je sukladan normama:

- EN 60079-0:2018 / IEC 60079-0:2017,
- EN 60079-1:2014 / IEC 60079-1:2014,
- EN IEC 60079-7:2015/A1:2018, IEC 60079-7:2017,
- EN 60079-31:2014 / IEC 60079-31:2013.

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

Proizvod je sukladan aparatnim normama:



EN 60598-1:2015+A1:2018, EN 62471:2008 i EN 61347:2015.

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 26 ATEX 0014 IECEx FIDI 26.0014
Oznaka kategorije i protueksplozijske zaštite uređaja (ATEX):	  II 2G Ex db eb IIC T5 Gb II 2D Ex tb IIIC T85°C Db
Oznaka kategorije i protueksplozijske zaštite uređaja (IECEx):	Ex db eb IIC T5 Gb Ex tb IIIC T85°C Db
Temperatura okoline:	-40°C/-30°C ≤ Ta ≤ +50°C
Mehanička zaštita:	IP 66
Otpornost na udar:	IK 08
Klasa zaštite:	I (PE - zaštitno uzemljenje)
Nazivni napon Un:	110 - 240 V 50/60 Hz , 220 V DC

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1. PURPOSE

Explosion protected LED pendant light fitting type PLFS-N 200 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 and EN IEC 60079-10-2.

2. PRODUCT CONFORMITY

The pendant light fitting is designed in accordance with the requirements of the ATEX and IECEx certification system for equipment intended for use in potentially explosive atmospheres.

The product complies with the standards:

- EN IEC 60079-0:2018 / IEC 60079-0:2017,
- EN 60079-1:2014 / IEC 60079-1:2014,
- EN IEC 60079-7:2015/A1:2018, IEC 60079-7:2017,
- EN 60079-31:2014 / IEC 60079-31:2013.

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 apparatus norms:



EN 60598-1:2015+A1:2018, EN 62471:2008 and EN 61347:2015.

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 26 ATEX IECEx FIDI
Category and explosion protection (ATEX):	  II 2G Ex db eb IIC T5 Gb II 2D Ex tb IIIC T85°C Db
Category and explosion protection (IECEx):	Ex db eb IIC T5 Gb Ex tb IIIC T85°C Db
Ambient temperature:	-40°C/-30°C ≤ Ta ≤ +50°C
Mechanical protection:	IP 66
Impact resistance:	IK 08
Class of protection:	I (PE - protective earthing)
Rated voltage Un:	110 - 240 V 50/60 Hz , 220 V DC

Nazivna AC snaga:	PLFS-N 200 LED - 1 – P _n = 140 W PLFS-N 200 LED - 2 – P _n = 160 W PLFS-N 200 LED - 3 – P _n = 200 W
Faktor snage:	> 0,95 at 230 V/ 50 Hz, 200 W
Struja (AC):	0,95 A pri 230 V, pri punom opterećenju.
THD:	< 10 % at 230 V/ 50 Hz, 200 W
Korisnost:	94% at 230 V / 50 Hz, 200 W
Potezna struja:	I _{peak} = 75 A, 400 μs/50 % I _{peak} , hladni start at 230 VAC, NEMA 410
Maks. broj MCB 16 A:	3 komada MCB tip B, 6 komada MCB tip C, ovisno o tipu/proizvođaču MCB-a.
Struja odvoda:	0,75 mA max. pri 230 V, 50 Hz, IEC 61347-1
LED:	Zpower LED-Z5-M4, Seoul Semiconductors, Korea
LED driver:	XLG-200-L-DA2, Meanwell, Taiwan DALI 2 Standard prema: IEC 62386-101,102,207,251 uređaj tipa 6 (DT6)
Nazivna struja LED modula:	PLFS-N 200 LED - 1 – I _n = 560 mA PLFS-N 200 LED - 2 – I _n = 640 mA PLFS-N 200 LED - 3 – I _n = 800 mA
Prenaponska zaštita:	6 kV L/N-PE, 4 kV L-N IEC 61000-4-5
Temperaturna zaštita:	T _{c driver} > +90 °C: automatsko smanjenje snage automatski oporavak.
Efikasnost LED izvora:	190 lm/W pri Ta = 25°C i In = 800 mA
Svjetlosni tok:	PLFS-N 200 LED - 1 – 14369 lm pri Ta = 25°C PLFS-N 200 LED - 2 – 16452 lm pri Ta = 25°C PLFS-N 200 LED - 3 – 20565 lm pri Ta = 25°C
Životna dob L _{80F10} :	100 000 h, Ta=20°C 40 000 h, Ta _{max}
Temperatura boje svjetlosti:	4000 K
Indeks uzvrata boje (CRI):	> 80
Kabelski uvodi:	Dva uvoda ISO 25 sukladno s EN 60423
Utične priključne stezaljke:	5 × (2 × 2,5 mm ² , 1 × 4 mm ² – mnogožični, višezični ili puni vodiči; 1 × 6 mm ² – puni vodič), moguće prolazno ožičenje.
Utične priključne stezaljke napomena:	Za ugradnju vodiča u utične priključne stezaljke potrebno je koristiti profesionalni odvijač za ravne vijke dimenzija 0,5×3,0 do 0,6×3,5 u skladu s normom EN IEC 60900.
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 stremena: 5 Nm
Osnovne mjere:	PLFS-N 200 LED Ø 360 mm x 215 mm (opseg x visina)
Masa:	- 12 kg (sa nosačem) - 11,3 kg (bez nosača)
Radni položaj:	od 0° (horizontalno) do +45°

Nominal AC power:	PLFS-N 200 LED - 1 – P _n = 140 W PLFS-N 200 LED - 2 – P _n = 160 W PLFS-N 200 LED - 3 – P _n = 200 W
Power factor:	> 0,95 at 230 V/ 50 Hz, 200 W
Current AC:	0,95 A, at 230 V, at full load
THD:	< 10 % at 230 V/ 50 Hz, 200 W
Efficiency:	94% at 230 V / 50 Hz, 200 W
Inrush current:	I _{peak} = 75 A, 400 μs/50 % I _{peak} , cold start at 230 VAC, NEMA 410
Max.No. of MCB 16A	3 units MCB B type, 6 units MCB C type, depends on the type/manufacturer of the MCB
Leakage current:	0,75 mA max. at 230 V, 50 Hz, IEC 61347-1
LED:	Zpower LED-Z5-M4, Seoul Semiconductors, Korea
LED driver:	XLG-200-L-DA2, Meanwell, Taiwan DALI 2 Standard according to: IEC 62386-101,102,207,251 device type 6 (DT6)
Nominal current of LED module:	PLFS-N 200 LED - 1 – I _n = 560 mA PLFS-N 200 LED - 2 – I _n = 640 mA PLFS-N 200 LED - 3 – I _n = 800 mA
Surge immunity:	6 kV L/N-PE, 4 kV L-N IEC 61000-4-5
Thermal protection:	T _{c driver} > +90°C, automatically derating, automatically recovery
LED flux efficiency:	190 lm/W at Ta = 25°C and In = 800 mA
Luminous flux:	PLFS-N 200 LED - 1 – 14396 lm at Ta = 25°C PLFS-N 200 LED - 2 – 16452 lm at Ta = 25°C PLFS-N 200 LED - 3 – 20565 lm at Ta = 25°C
Estimated service life L _{80F10} :	100 000 h, Ta=20°C 40 000 h, Ta _{max}
Light colour:	4000 K
Refractive index (CRI):	> 80
Cable entries:	Two cable entries ISO 25 accordance with EN 60423
Spring clamp terminal connection:	5 x (2 x 2,5, 1x 4 mm ² , stranded, solid, flexible, 1 x 6 mm ² solid), through-wiring possible
Spring clamp terminal note:	For wire installation in the spring clamp terminal the professional screwdriver acc. EN IEC 60900 for flattened head screws 0,5x3,0 to 0,6x3,5 have to be used.
Connection terminal for grounding:	Terminal for external grounding, equipotential bounding, max. 2 x 6 mm ² sol(s), f
Nominal tightening torques:	Ex eb gland and Ex eb plug: 2.5 Nm Ex eb gland pressure nut: 3.5 Nm Terminal chamber cover screws: 2 Nm Housing screws: 5 Nm
Basic dimensions:	PLFS-N 200 LED Ø 360 mm x 215 mm (radius x height)
Weight:	- 12 kg (with suspension bracket) - 11,3 kg (without suspension bracket)
Operating positions:	from 0° (horizontal) up to +45°

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

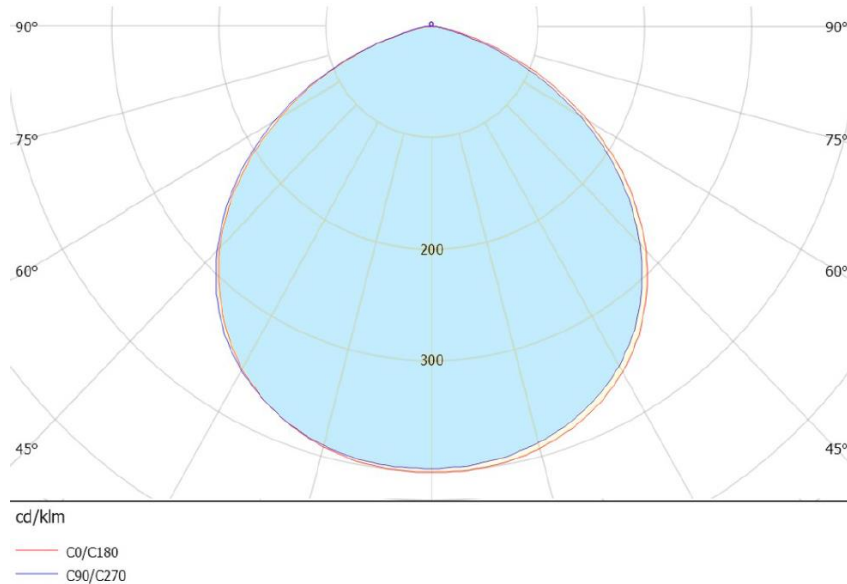
- M20×1,5 – 6g/6H, srednja tolerancija prema ISO 965-1, navoj prema ISO 965-3, 9 punih navoja
- M20×1,5 – 6g/6H, srednja tolerancija prema ISO 965-1, navoj prema ISO 965-3, 7 punih navoja
- M85×1,5 – 6g/6H, srednja tolerancija prema ISO 965-1, navoj prema ISO 965-3, 12 punih navoja

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

- M20x1.5 – 6g/6H, medium tolerance according to ISO 965-1, thread ISO 965-3, 9 full threads,
- M20x1.5 – 6g/6H, medium tolerance according to ISO 965-1, thread ISO 965-3, 7 full threads
- M85x1.5 – 6g/6H, medium tolerance according to ISO 965-1, thread ISO 965-3, 12 full threads

4. SVJETLOTEHNIČKA KARAKTERISTIKA

4. LIGHT DISTRIBUTION CURVE



5. TIPNA OZNAKA

5. TYPES

PLFS-N 200 LED

- Osnovna tipska oznaka:
Nazivna snaga:
- 1 – 140 W
 - 2 – 160 W
 - 3 – 200 W

PLFS-N 200 LED

- Basic type:
Nominal power:
- 1 – 140 W
 - 2 – 160 W
 - 3 – 200 W

6. MONTAŽA

6. INSTALLATION

Montaža i instaliranje ovjesne svjetiljke izvodi se prema podacima na natpisnim pločicama na ovjesnoj svjetiljci, 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 ovjesne svjetiljke na podlogu vrši se preko nosača vijčanim priborom M8.

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 ovjesne svjetiljke ostvaruje se

Installation and putting into operation have to be done according to technical and certification data on warning label on the pendant light fitting, this user manual, national regulations and laws. Only with that, explosion-proof protection of the pendant light fitting 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 pendant light fitting is done with steel bracket with M8 screws.

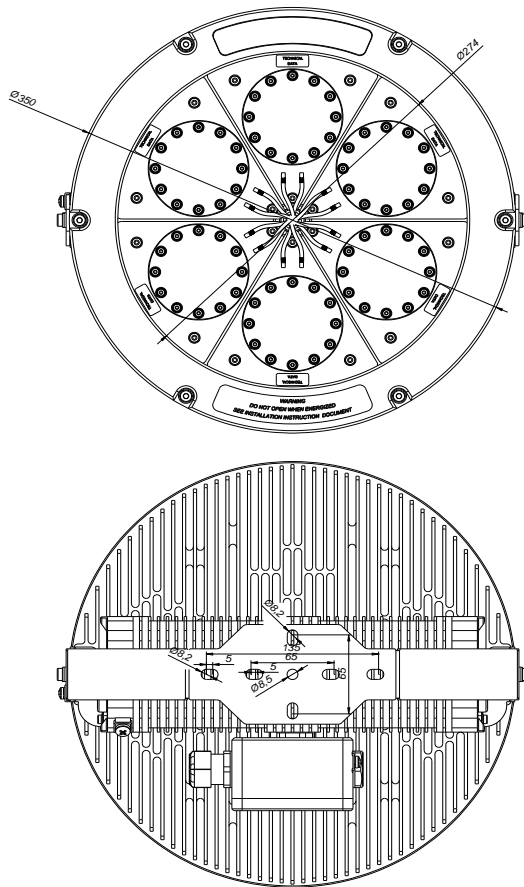
The power cable is inserted into the connection chamber through the provided cable gland. Before that, you should check whether the cables are clean and undamaged.

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

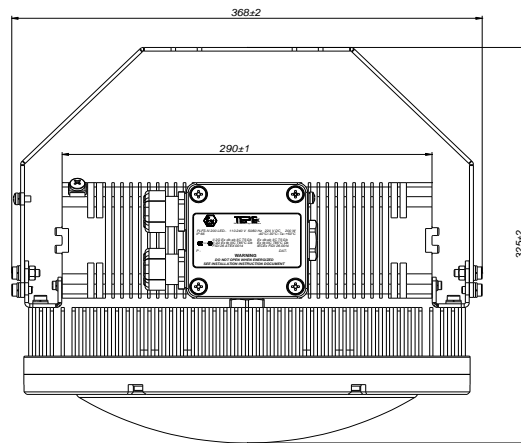
priključkom kabela napajanja na priključne stezaljke (L, NE, PE) i stezaljku za unutarnje i vanjsko uzemljenje.

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 IEC 60079-17, 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,
- da su uvodnica, čep, vijci poklopa priključne komore i vijci stezaljke 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 ovisne svjetiljke obavlja proizvođač ili od proizvođača ovlaštena pravna osoba, originalnim dijelovima prema proizvodnoj dokumentaciji, a sve sukladno normi EN IEC 60079-19.

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

8. INSPECTION, MAINTENANCE, REPAIR AND OVERHAUL

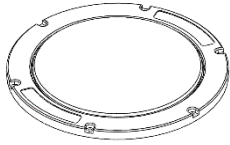
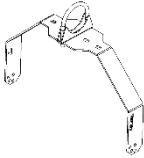
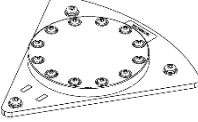

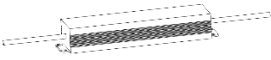



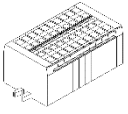

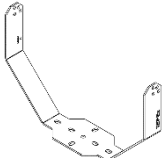
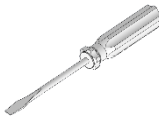


Inspections are carried out in accordance with EN IEC 60079-17, general and special conditions of manufacturer and users Regulations and includes supervision of parts on which the explosion protection depends, especially:

- that the 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,
- 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.

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.

SKETCH	DESCRIPTION (Spare parts)	ORDERING CODE	SKETCH	DESCRIPTION (Accessories)	ORDERING CODE
	PLFS-200 LED Glass frame, set	PLFS-200 LED 10-110		PLFS-200 LED Pipe mounting, set	PLFS-200 LED 20-110
	LED LEDEx 06	PLFS-200 LED 10-120		Ex-eb plastic cable gland for 40°C ≤ Ta ≤ +50°C ISO 25, set	PLFS-200 LED 20-120
	PLFS-200 LED LED driver	PLFS-200 LED 10-130		Ex-eb plastic plug for 40°C ≤ Ta ≤ +50°C ISO 25, set	PLFS-200 LED 20-130
	Connection chamber, set	PLFS-200 LED 10-140		Ex db/eb tb metal cable gland ISO 25	PLFS-200 LED 20-140
	Connection terminals 5 x 0,5 – 4 mm ² , set	PLFS-200 LED 10-150		Ex db/eb metal plug M25	PLFS-200 LED 20-150
	PLFS-200 LED suspension bracket	PLFS-200 LED 10-160		Screwdriver 603VDETBI 0,6x3,5x100	
	Ex-eb plastic cable gland ISO 25, set	SPU 25			
	Ex-eb plastic plug ISO 25, set	SPC 25			

10. ODGOVORNOSTI I OVLAŠTENJA

10. RESPONSIBILITY AND AUTHORIZATION

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).
 - IECEx sustav – Međunarodni sustav certificiranja sukladnosti za norme koje se odnose na opremu za upotrebu u eksplozivnim atmosferama, temeljen na IEC normama.
- Odgovorna osoba dužna je osigurati njihovo provođenje u pogonu.

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)
- IECEx System – International Conformity Certification System for standards relating to equipment for use in explosive atmospheres, based on IEC standards.

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

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 ovjesna svjetiljka tip PLFS-N 200 LED-. označen je:

Vanjska natpisna pločica s nazivnim podacima na poklopcu priključne komore:

11. STORAGE AND TRANSPORT

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

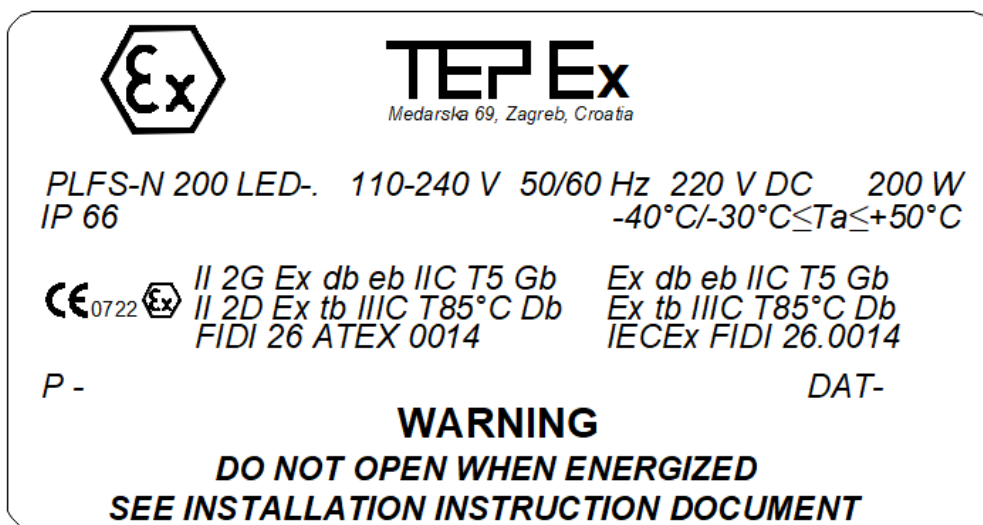
12. MANUFACTURER'S WARRANTY

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.

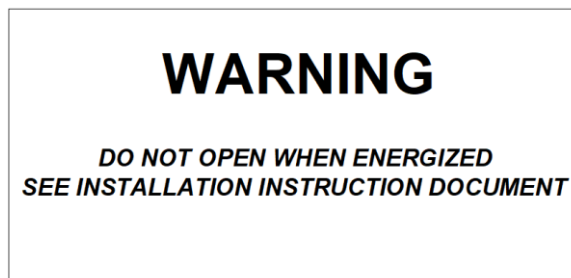
13. MARKING

Explosion protected pendant light fitting PLFS-N 200 LED-. is marked:

External label with nominal data on the cover of the connection chamber:



Dvije vanjske pločice upozorenja na poklopcima kućišta drivera: Two external warning plates on the covers of the driver housing:



Vanjska pločica upozorenja na sklopu okvira stakla:

External warning plate on the glass frame assembly:

