



Protueksplozijski zaštićena ovjesna LED svjetiljka PLFS 50 LED

Explosion proof pendant LED light fittings PLFS 50 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 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 ovjesna svjetiljka PLFS 50 LED namijenjena je za upotrebu u industrijskim prostorima 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.

2. SUKLADNOST PROIZVODA

Proizvod je sukladan Pravilniku o opremi i zaštitnim sustavima namijenjenim za uporabu u potencijalno eksplozivnim atmosferama, NN br. 33/16.

Proizvod je sukladan normama:

- EN IEC 60079-0:2018,
- EN 60079-1:2014,
- EN IEC 60079-7:2015/A1:2018,
- EN 60079-28:2015,
- EN 60079-31:2014.

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

Proizvod je sukladan ATEX Direktivi 2014/34/EU.

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 19 ATEX 0030
Oznaka kategorije i protueksplozijske zaštite uređaja:	 II 2G Ex db eb op is IIC T6 Gb II 2D Ex tb op is IIIC T80°C Db
Temperatura okoline:	-40/-20°C ≤ T _a ≤ +40/+50/+55/+60°C
Mehanička zaštita:	IP 66
Otpornost na udar:	IK 08
Klasa zaštite:	I (PE - zaštitno uzemljenje)
Nazivni napon Un:	230 V AC, 50 Hz
Radni napon:	90 - 305 V AC / 127 - 431 V DC
Nazivna snaga Pn:	35 W – PLFS 50 LED – 1 50 W – PLFS 50 LED – 2 60 W – PLFS 50 LED – 3
Faktor snage:	>0,95
LED izvor:	CLU058-1825C4, Citizen Electronics

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1. PURPOSE

Explosion protected pendant light fitting type PLFS 50 LED is intended for general lighting in industrial areas with potentially explosive atmosphere in Zones 1, 2, 21, 22 according to EN 60079-10-1 and EN 60079-10-2.

2. PRODUCT CONFORMITY

The product complies with the standards:

- EN IEC 60079-0:2018,
- EN 60079-1:2014,
- EN IEC 60079-7:2015/A1:2018,
- EN 60079-28:2015,
- EN 60079-31:2014.

The product has been developed, manufactured and tested according to the existing state of technique accordance with the standards EN ISO 9001, EN ISO 80079-34 and EN ISO 14001.

The product is in compliance with the ATEX Directive 2014/34/EU.

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. TECHNICAL DATA

Certificate:	FIDI 19 ATEX 0030
Category and explosion protection:	 II 2G Ex db eb op is IIC T6 Gb II 2D Ex tb op is IIIC T80°C Db
Ambient temperature:	-40/-20°C ≤ T _a ≤ +40/+50/+55/+60°C
Mechanical protection:	IP66
Resistance to shock:	IK 08
Class of protection:	I (PE - protective earthing)
Rated voltage Un:	230 V AC, 50 Hz
Service voltage:	90 - 305 V AC / 127 - 431 V DC
Rated power Pn:	35 W – PLFS 50 LED – 1 50 W – PLFS 50 LED – 2 60 W – PLFS 50 LED – 3
Power factor:	>0,95
LED light source:	CLU058-1825C4, Citizen Electronics

LED driver:	HSG-70-48 MeanWell
OVP zaštita:	IEC 61000-4-5, EN 62031 3kV/1min - udarni prenapon 8/20μs 6kV/3kA
OCP zaštita:	2A T, IEC 60127 2,5A T, IEC 60127
OTP zaštita:	Tsmax=80°C, povratno, IEC 60730-1
Svjetlosni tok LED modula:	5020lm – PLFS 50 LED – 1 7180lm – PLFS 50 LED – 2 8610lm – PLFS 50 LED – 3
Svjetlosni tok svjetiljke:	4520lm – PLFS 50 LED – 1 6460lm – PLFS 50 LED – 2 7750lm – PLFS 50 LED – 3
Koeficijent izlaznog svjetlosnog toka svjetiljke:	0,9
Efikasnost LED modula:	156 lm/W
Efikasnost svjetiljke:	127 lm/W
Temperatura boje svjetlosti:	4000 K
Indeks uzvrata boje (CRI):	>80
Očekivana životna dob;	70 000 radnih sati uz ispad 30% svjetlosnom degradacijom 20% n Tamb=20°C
Priključne stezaljke:	-stezaljke za priključak faznih i neutralnog vodiča L1, L2, L3, N; 2 x 2,5 mm ² max. jednožični, višežični -unutrašnja stezaljka za uzemljenje - PE; 2 x 6 mm ² max. višežični -vanjska stezaljka za uzemljenje - 2 x 6 mm ² max. fleksibilni -moment pritezanja vijaka priključne stezaljke 1,2 Nm
Uvodi:	dva uvoda ISO 25, u skladu s EN 60423:2007
Ex eb uvodnica i čep:	- jedna Ex eb II 2G / II 2D kabela uvodnice M25x1,5 za promjere kabela Ø7-15 mm, i jedan Ex eb II 2G / II 2D čep M20x1,5 sukladno EN 50262, sastavni su dijelovi svjetiljke
Momenti pritezanja:	Pritisna matica Ex eb uvodnice 2,5 Nm Tijelo Ex eb uvodnice i čepa 3,5 Nm
Masa:	7,4 kg – PLFS 50 LED – 1,2,3

Vijčani raspori:

- M195x 2 - 6H/6g, srednja tolerancija prema ISO 965-1, navoj DIN 13 T.24, 8 punih navoja,
- M20 x 1,5 - 6H/6g, srednja tolerancija prema ISO 965-1, navoj ISO 965-3, 9 punih navoja,
- M120 x 1,5 - 6H/6g, srednja tolerancija prema ISO 965-1, navoj ISO 965-3, 14 i 27 punih navoja,

Cilindrični raspor sukladan EN 60079-1:2014 tč. 5.2.

L=15mm, i=0,02-0,12mm.

LED driver:	HSG-70-48 MeanWell
OVP protection:	IEC 61000-4-5, EN 62031 3kV/1min impulse overvoltage 8/20μs 6kV/3kA
OCP protection:	2A T, IEC 60127 2,5A T, IEC 60127
OTP protection:	Tsmax=80°C, resettable, IEC 60730-1
Luminous flux LED module:	5020lm – PLFS 50 LED – 1 7180lm – PLFS 50 LED – 2 8610lm – PLFS 50 LED – 3
Luminous flux light fitting:	4520lm – PLFS 50 LED – 1 6460lm – PLFS 50 LED – 2 7750lm – PLFS 50 LED – 3
Light output ratio of luminaire:	0,9
LED modul efficacy:	156 lm/W
System efficacy:	127 lm/W
Light colour:	4000 K
Refractive index (CRI):	>80
Estimated service life:	70 000 working hours with 30% failure max. with light degradation 20% max. Tamb=20°C
Connection terminal:	- terminals for phase and neutral conductors L1, L2, L3, N; max 2 x 2,5 mm ² sol(r), sol(s), f -terminal for protective earthing -PE; max 2 x 6 mm ² sol(s), f -terminal for external grounding, max 2 x 6 mm ² sol(s), f - torque screw for terminals is 1,2 Nm
Cable entries:	Two entries ISO 25, in accordance to EN 60423:2007
Ex eb cable gland and plug:	One Ex eb II 2G / II 2D cable glands M25x1,5 for cable Ø7-15 mm, and one Ex eb II 2G / II 2D plug M25x1,5 in accordance with EN 50262, are integral parts of lamps
Tightening torques values:	Pinch nut of the Ex eb cable glands 2,5 Nm Body of the Ex eb glands and plug: 3,5 Nm
Weight:	7,4 kg – PLFS 50 LED – 1,2,3

Threaded joint:

- M195x 2 - 6H/6g, middle tolerance according to ISO 965-1, thread DIN 13 T.24, 8 full threads,
- M20 x 1,5 - 6H/6g, middle tolerance according to ISO 965-1, thread ISO 965-3, 9 full threads,
- M120 x 1,5 - 6H/6g, middle tolerance according to ISO 965-1, thread ISO 965-3, 14 and 27 full threads.

Cylindrical joints according to EN 60079-1:2014 clause 5.2.

L=15mm, i=0,02-0,12mm.

4. TIPNA OZNAKA

PLFS 50 LED – 1 – instalirana snaga 35W [$-40^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$]

PLFS 50 LED – 2 – instalirana snaga 50W [$-40^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$]

PLFS 50 LED – 3 – instalirana snaga 60W [$-40^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$]

5. MONTAŽA

Montaža i instaliranje svjetiljke se izvodi prema podacima na natpisnim pločicama na 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 svjetiljke.

Montaža svjetiljke na podlogu vrši se preko nosača vijčanim priborom M6.

Otvaranje kućišta se vrši odvrtanjem četiri vijka M5x25. Priključni kabel se uvodi u kućište kroz predviđene uvednice. Pri tome treba provjeriti da su kabeli čisti i neoštećeni. Posebnu pažnju treba posvetiti odabiru unutarnjeg brtvenog prstena uvednice prema vanjskom promjeru kabela. Pritisnu maticu uvednice i tijelo uvednice treba pritegnuti nazivnim momentom. Neiskorišteni uvod, na isti način, obavezno treba zatvoriti čepom. Električni priključak izvodi se spajanjem mrežnih vodiča (L, N, PE) na priključne stezaljke i unutarnje uzemljenje.

Zatvaranje kućišta se izvodi na opisani način, suprotnim redoslijedom radnji.

6. DIMENZIJE

4. TYPES

PLFS 50 LED – 1 – installed power 35W [$-40^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$]

PLFS 50 LED – 2 – installed power 50W [$-40^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$]

PLFS 50 LED – 3 – installed power 60W [$-40^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$]

5. INSTALATION

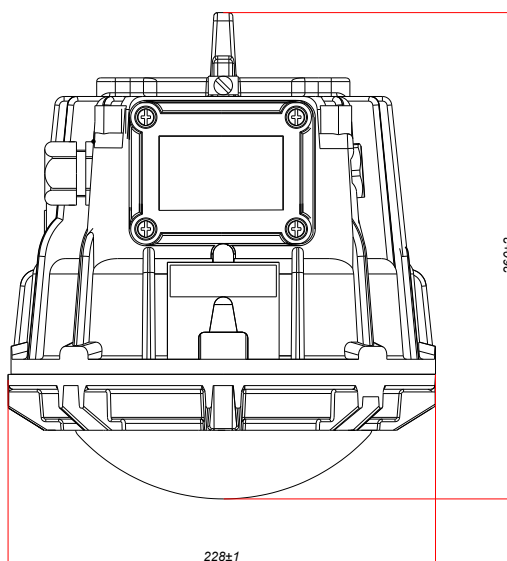
Installation and putting into operation have to be done according to technical and certification data on warning label on lamp, this user manual, national regulations and laws. Only with that, explosion-proof protection of bulkhead light fitting is ensured with EU-type examination certificate.

Installation of lamp (on wall or ceiling) is done with steel brackets with M6 screws.

Opening of Ex e enclosure is done by unscrewing four screws M5x25. Special attention must be dedicated to selection of inner gasket sealing ring of Ex e cable glands according to diameter of connecting cable. Pressure nut and intermediate gland must be tightened with nominal torque. Unused cable entries must be closed with plug. The electric connecting is performing by connecting power supply cable (L, N, PE) on the connection terminals and terminal for internal grounding.

The closing of the Ex e enclosure should be done by a reverse sequence of action.

6. DIMENSIONS



7. PREGLED, ODRŽAVANJE, POPRAVAK I OBNAVLJANJE

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 kućište, svi dijelovi kućišta, zaštitno staklo i brtve bez puknuća i oštećenja,
- da je kućište potpuno zatvoreno sklopom zaštitnog stakla,

7. INSPECTION, MAINTENANCE, REPAIR AND OVERHAUL

Inspections are carried out in accordance with EN 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 housing, all part of housing, protective glass and gasket are without rupture and damage,
- that the housing is completely closed with set of protective glass

- da su uvodnica, čep, vijci kutnika brtve, vijak stezaljke za uzemljenje pritegnuti nazivnim momentom.

Popravlak, 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 izjava sukladnosti proizvođača postaje nevažeća.

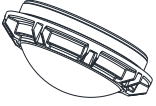
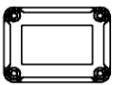
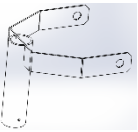
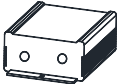
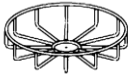
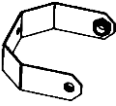
- that the cable gland, plug, connecting terminals, screws of protective grid are tightened with nominal torque.

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 Declaration of conformity becomes invalid.

8. REZERVNI DIJELOVI I PRIBOR

8. SPARE PARTS AND ACCESSORIES

Rezervni dijelovi / Spare parts	Opis / Description	Šifra / Code	Pribor / Accessories	Opis / Description	Šifra / Code
	PLFS 50 LED Sklop zaštitnog stakla, komplet / The glass protective framework, set	PLFS 50 LED 10-110		PLFS-T Odsijač vanjski, komplet / External reflector set	PLFS 50 LED 20-110
	Ex eb poklopac priključne komore, komplet / Ex eb terminal chamber cover set PLFS-T	PLFS 50 LED 10-120		PLFS-T nosač za rasvjetni stup Ø 1 1/2", komplet / Lamp holder for pipe Ø 1 1/2" set	PLFS 50 LED 20-120
	LED driver PLFS 50 LED – 1,2,3	PLFS 50 LED 10-130		PLFS 50 LED Zaštitna rešetka / Protection grid	PLFS 50 LED 20-130
	Hladilo+LED / PLFS 50 LED-1,2,3	PLFS 50 LED 10-150		nosač za zidnu montažu, komplet / lamp holder for wall set PLFS-T	PLFS 50 LED 20-140
				ISO25 Ex eb uvodnica, komplet / Ex eb cable gland set	SPU 25
				ISO25 Ex eb čep, Komplet / Ex eb plug set	SPC 25

9. 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.

10. SKLADIŠTENJE I TRANSPORT

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

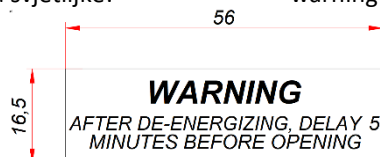
11. JAMSTVO PROIZVOĐAČA

Proizvođač daje jamstvo na proizvod u trajanju od godine dana prema odredbama Zakona o obveznim odnosima. Ova izjava ima snagu Jamstvenog lista.

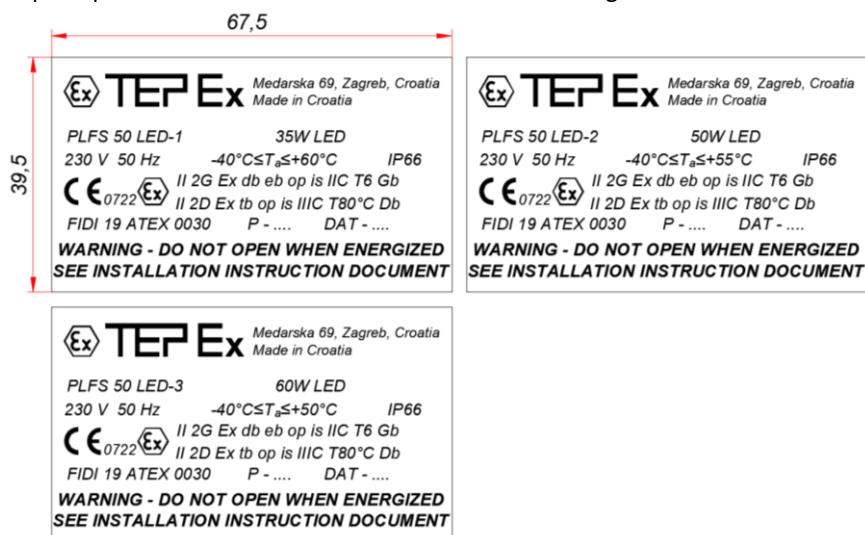
12. OZNAČAVANJE

Protueksplozijski zaštićena ovisna svjetiljka PLFS 50 LED-. označena je:

- natpisnom pločicom upozorenja na kućištu svjetiljke:



- natpisnom pločicom na poklopcu Ex eb komore:



9. 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.

10. STORAGE AND TRANSPORT

Transportation and warehousing of the lamps is only allowed in the original packaging, as outlined in a cardboard box.

11. MANUFACTURER'S WARRANTY

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

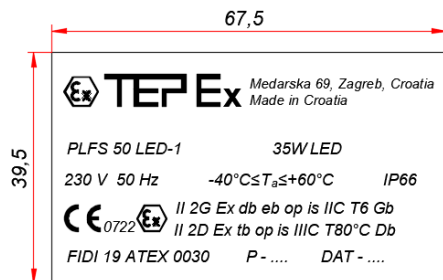
12. MARKING

Explosion protected pendant light fitting PLFS 50 LED-. is marked with:

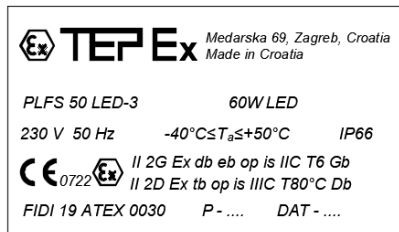
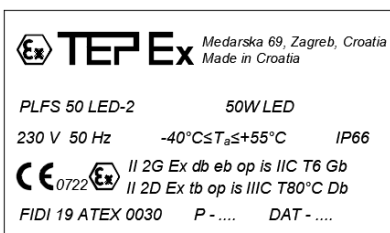
- warning label on housing of light fitting:

- marking label on cover of terminal chamber:

- natpisnom pločicom u Ex db kućištu s unutrašnje strane hladila:



- marking label in Ex db housing on inner side of heatsink:



- natpisnom pločicom upozorenja na vanjskoj strani Ex db kućišta LED drivera (samo tip PLFS 50 LED - 4):

- warning label on outer side of Ex db housing LED heatsink (only for PLFS 50 LED - 4):

