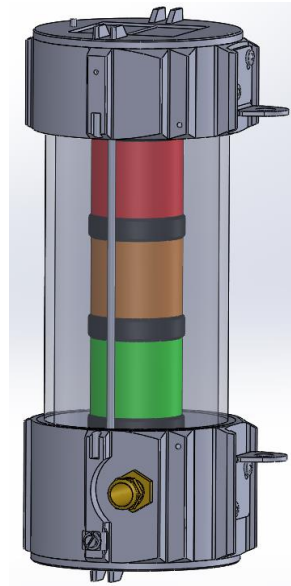


# Signalni LED toranj / Signal LED tower FLXS 118 LED



## 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 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 zaštićeni signalni LED toranj tip FLXS 118 LED namijenjen je za signalizaciju 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 ATEX Direktivi 2014/34/EU i normama:

- EN IEC 60079-0:2018,
- EN 60079-1:2014,
- 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.

### 3. TEHNIČKI PODACI

Certifikat:	FIDI 19 ATEX 0028
Oznaka kategorije i protueksplozijske zaštite uređaja:	 II 2G Ex db IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Temperatura okoline:	$-20^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$
Mehanička zaštita:	IP66
Otpornost na udar:	IK 08
Klasa zaštite:	I (PE - zaštitno uzemljenje)
Nazivni napon $U_n$ :	24V AC/DC 110-120V AC 230-240V AC
Radni napon:	24V AC/DC $\pm 10\%$ 110-120V AC $\pm 10\%$ 230-240V AC $\pm 10\%$
Nazivna struja:	trajno svjetlo 24V AC/DC – 0,054A trajno svjetlo 110V AC – 0,031A trajno svjetlo 230V AC – 0,028A trepteće svjetlo 24V AC/DC – 0,136A

## CONTENTS:

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### 1. PURPOSE

Explosion protected signal LED tower type FLXS 118 LED is intended for signaling 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.

### 2. PRODUCT CONFORMITY

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

- EN IEC 60079-0:2018,
- EN 60079-1:2014,
- 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. TECHNICAL DATA

Certificate:	FIDI 19 ATEX 0028
Category and explosion protection:	 II 2G Ex db IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Ambient temperature:	$-20^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$
Degree of protection:	IP66
Impact resistance:	IK 08
Class of protection:	I (protective earthing)
Nominal voltage $U_n$ :	24V AC/DC 110-120V AC 230-240V AC
Operating voltage:	24V AC/DC $\pm 10\%$ 110-120V AC $\pm 10\%$ 230-240V AC $\pm 10\%$
Nominal current:	steady light 24V AC/DC – 0,054A steady light 110V AC – 0,031A steady light 230V AC – 0,028A flash light 24V AC/DC – 0,136A

	trepteće svjetlo 110V AC – 0,01A trepteće svjetlo 230V AC – 0,01A
Životna dob LED modula:	do 100 000 sati
Uvodi:	dva Ex db/tb uvoda, M20x1,5-6H, sukladno EN 60079-1, ISO 965-1, ISO 965-3
Čep M20:	ATEX certificiran čep M20 II 2G/D Ex db/tb IP66
Uvodnica M20:	ATEX certificirana uvodnica M20 II 2G/D Ex db/tb IP66
Priključne stezaljke unutar kućišta:	Vijčane stezaljke PE, N, RED, ORANGE, GREEN max. 4 mm <sup>2</sup> po stezaljci, jednožični, višezični, finožični – sol(r), s(r), f
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 moment pritezanja vijka stezaljke 2,2 Nm - unutarnja stezaljka za uzemljenje: uzemljenje metalnih dijelova preko vodiča 1mm <sup>2</sup> – vijčana stopica na spojnoj šipki i PE stezaljka
Momenti pritezanja:	- tijela Ex db/tb uvodnice i Ex db/tb čepa 3,5 Nm - vijaka priključne stezaljke 0,5 Nm

	flash light 110V AC – 0,01A flash light 230V AC – 0,01A
Life time LED module	Up to 100 000h
Entries:	two Ex db/tb entries, M20x1,5-6H, according to EN 60079-1, ISO 965-1, ISO 965-3
Plug:	ATEX certified plug M20 II 2G/D Ex db/tb IP66
Cable gland M20:	ATEX certified cable gland M20 II 2G/D Ex db/tb IP66
Connection terminals inside housing:	Screw terminals PE, N, RED, ORANGE, GREEN max. 4 mm <sup>2</sup> per terminal, solid, stranded, flexible – sol(r), s(r), f
Earthing terminal:	- earthing terminal (external) (equipotential): 2 x 6mm <sup>2</sup> max. per terminal, solid, stranded, flexible - sol(r), s(r), f; nominal fastening torque 2,2 Nm - earthing terminal (internal): grounding of the metal parts with a 1mm <sup>2</sup> conductor - screw lug on the connecting rod and PE terminal
Tightening torques:	- Ex db/tb cable gland and Ex db/tb plug 3,5 Nm - connection terminal screws 0,5 Nm

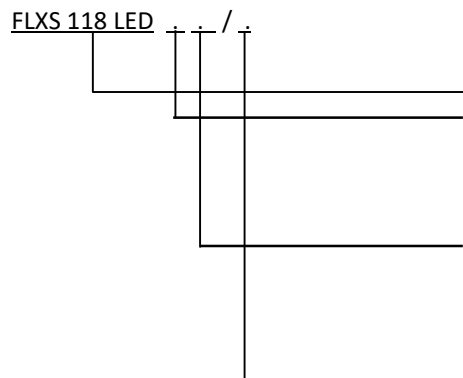
#### Vijčani raspori:

- M120x 1,5 - 6H/6g, prema ISO 965-1, navoj DIN 13 T.24, 10 punih navoja,
- M20 x 1,5 - 6H/6g, prema ISO 965-1, navoj ISO 965-3, 6,5 punih

#### Threaded joint:

- M120x 1,5 - 6H/6g, according to ISO 965-1, thread DIN 13 T.24, 10 full threads,
- M20 x 1,5 - 6H/6g, according to ISO 965-1, thread ISO 965-3, 6,5 full threads

#### 4. IZVEDBE



#### Osnovna tipna oznaka / Basic type:

#### Nazivni napon / Nominal voltage:

- 1 – 24V AC/DC
- 2 – 110-120V AC
- 3 – 230-240V AC

#### LED moduli / LED modules

- R – crveni LED modul / red LED module
- O – narančasti LED modul / orange LED module
- G – zeleni LED modul / green LED module

#### Tip svjetla / Type of light

- S – trajno svjetlo / steady light
- F – trepteće svjetlo / flash light



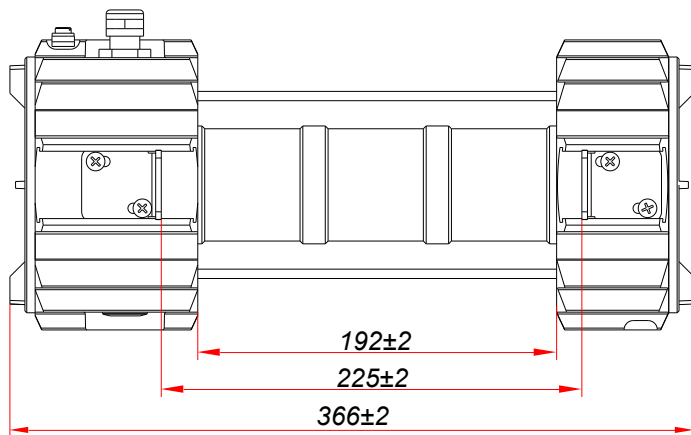
#### Primjeri označavanja:

- Signalni LED toranj za nazivni napon 230V AC sa tri modula svjetlosti (modul I = zelena, modul II = narančasta, modul III = crvena) u modu trajnog svjetla ima tipnu oznaku FLXS 118 LED 3GOR/S,
- Signalni LED toranj za nazivni napon 24V AC/DC sa dva modula svjetlosti (modul I = zelena, modul II = crvena) u modu treptećeg svjetla ima tipnu oznaku FLXS 118 LED 1GR/F.

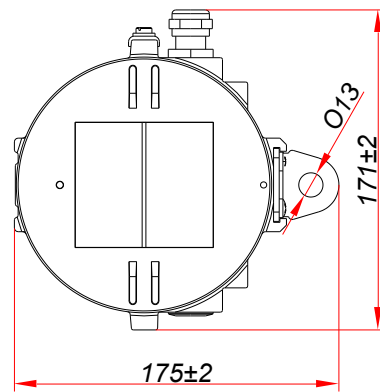
#### Examples of marking:

- Signal LED tower for nominal voltage 230V AC with three light modules (module I = green, module II = orange, module III = red) in steady light mode has type FLXS 118 LED 3GOR/S
- Signal LED tower for nominal voltage 24V AC/DC with two light modules (module I = green, module II = red) in flash light mode has type FLXS 118 LED 1GR/F.

## 5. DIMENZIJE



## 5. DIMENSION

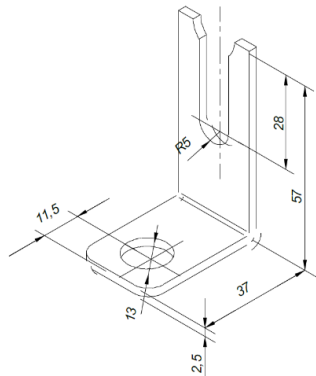


## 6. MONTAŽA

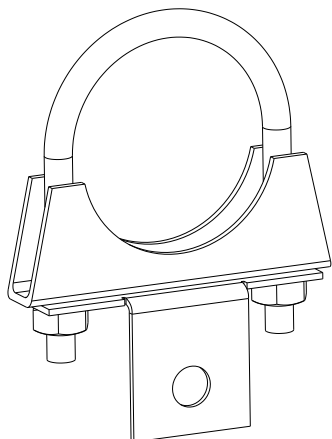
Standardna montaža signalnog LED tornja izvodi se ovjesom ili vijčanim učvršćenjem preko ušica s rupom  $\varnothing 13$  mm.

Po zahtjevu kupca, signalni LED toranj može biti opremljen:

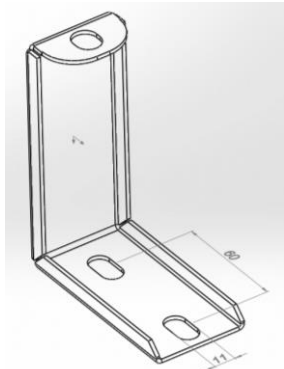
- priborom za montažu na zid / strop - FLXS 20-140



- priborom za montažu na cijev - FLXS 20-150



- priborom za montažu na ravnu plohu - FLXS 20-160



## 6. MOUNTING

Standard mounting is performed with suspension or fixing with a screw's through an  $\varnothing 13$  mm hole.

On special request signal LED tower can be equipped:

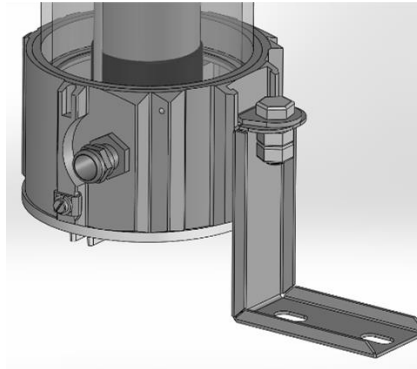
- accessories for wall / ceiling mounting - FLXS 20-140



- accessories for pipe mounting - FLXS 20-150



- accessories for mounting on flat surface - FLXS 20-160



Uporabom pribora za montažu na zid / strop FLXS 20-140 moguće je direktno učvršćenje signalnog LED tornja za zid ili strop sa vijčanim priborom M8 na razmaku 225 mm.

Uporabom pribora za montažu na cijev FLXS 20-150 moguće je direktno učvršćenje signalnog LED tornja za stup promjera do 2".

Uporabom pribora za montažu na ravnu plohu FLXS 20-160 moguće je direktno učvršćenje pomoću M10 vijčanog pribora na udaljenosti 60 mm.

Ako korisnik zahtjeva prolazno ožičenje, potrebno je koristiti dvije Ex db / tb ulaznice.

Using accessories for wall and ceiling mounting FLXS 20-140 can be directly fixed on the wall / ceiling with screw accessories M8 at a distance of 225 mm.

Using accessories for pipe mounting FLXS 20-150 can be directly fixed on the pole with diameter up to 2".

Using accessories for mounting on flat surface FLXS 20-160 can be directly fixed with screw accessories M10 at a distance of 60 mm

If the user requests through-wiring, it is necessary to use two Ex db / tb cable glands

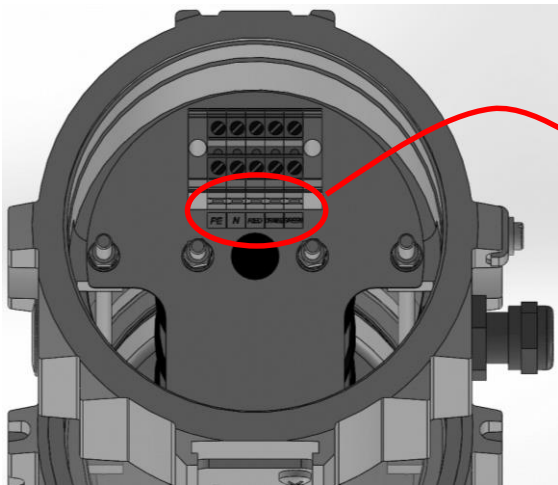
Otvaranje i zatvaranje kućišta:



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

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

Ožičenje:



N žica (stezaljka) je zajednička za sve LED module.

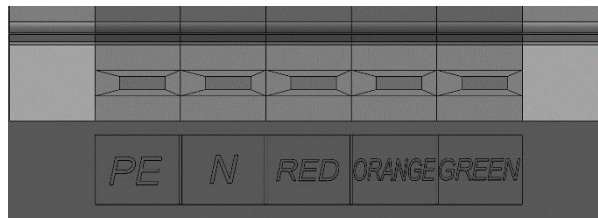
Opening and closing the housing:



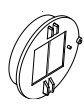



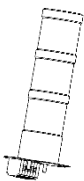

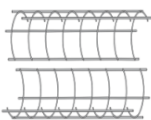
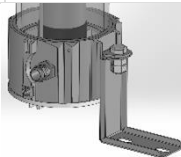

Osigurati poklopac sa M5 blokadnim vijkom (zaštita od samo odvrtanja) / Secure the cover with the M5 blocking screw (unscrewing protection)

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

Wiring:



N wire (terminal) is common for all LED module.

SKICA SKETCH	OPIS DESCRIPTION	KOD CODE	SKICA SKETCH	OPIS DESCRIPTION	KOD CODE
	Poklopac kućišta kompl. Housing cover assably	FLXS 10-110		Ex db / tb čep ISO 20 Ex db / tb plug ISO 20	FLXS 20-130
	Brtva poklopca Housing cover gasket	FLXS 10-120		Set za montažu na zid / strop Set for wall / ceiling mounting	FLXS 20-140
	Sklop LED signalnog tornja Signal tower set	FLXS 10-130		Set za montažu na cijev Set for pipe mounting	FLXS 20-150
	Zaštitna rešetka Protective grid	FLXS 20-110		Set za montažu na ravnu plohu / Set for mounting on flat surface	FLXS 20-160
	Ex db kabelska uvodnica ISO 16 Ex db / tb cable gland ISO 16	FLXS 20-120			

Nije moguća zamjena samo jednog LED modula, već zamjena cijelog kompleta (sklop LED signalnog tornja – FLXS 10-130)  
It is not possible to replace only one LED module, but to replace the whole set (signal LED tower set - FLXS 10-130)

#### 8. 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, stezaljke 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.

#### 8. 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, connecting terminals 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.

## 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 Direktiva 1999/92/EC (ATEX 137).

Odgovorna osoba dužna je osigurati njihovo provođenje u pogonu.

## 10. 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.

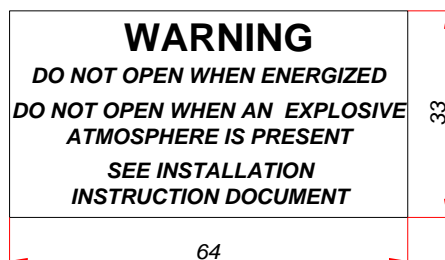
## 11. JAMSTVO PROIZVOĐAČA

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

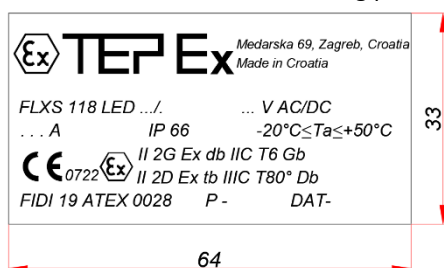
## 12. OZNAČAVANJE

Protueksplozijski zaštićeni signalni LED toranj, tip FLXS 118 LED označen je s:

- pločicom upozorenja na poklopcu svjetiljke:



- natpisnom pločicom s tehničkim podacima na poklopcu kućišta:



- natpisnom naljepnicom s tehničkim podacima unutar kućišta. Tehnički podaci su jednaki kao i na natpisnoj pločici

## 9. 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:

- Regulations of Equipment and protective systems intended for use in potentially explosive atmospheres (EU Directive ATEX 2014/34/EU) and
- 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.

## 10. STORAGE AND TRANSPORT

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

## 11. MANUFACTURER'S WARRANTY

The manufacturer provides a warranty on the product for a period of one year 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.

## 12. MARKING

Explosion protected signal LED tower, type FLXS 118 LED is labeled with:

- a warning plate with technical data on the housing:

- a marking plate with technical data on the housing cover:

- a marking label with technical data inside housing. The technical data is the same as on the marking plate