

TEPEX

make your work surroundings safer

Ex LED



LIGHT FITTINGS

01/2017

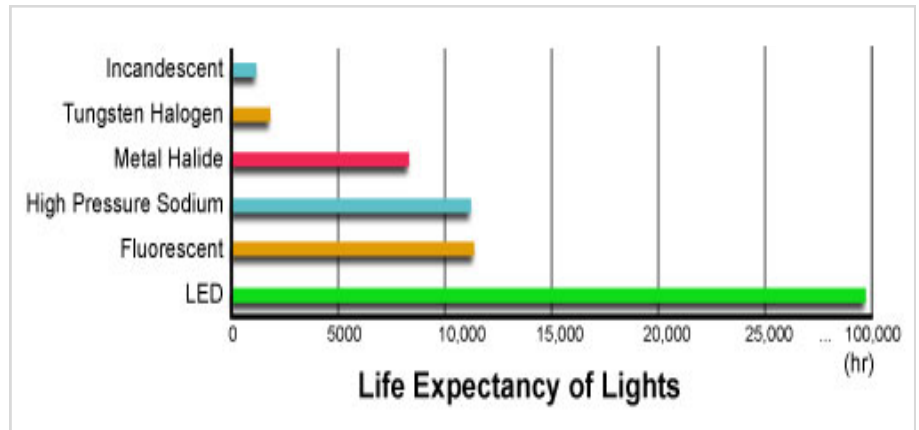
WWW.TEPEX.HR

Ex LED light fittings

Following new trends in Ex lighting, and the advent of LED sources in explosive areas, TEPEX already in 2013 started production of the first Ex lamps with LED light source (LED FLXE 118). Currently, several types of Ex certified LED lamps (suspension max. 80W and linear LED lamps with 36W).

The main advantages of LED lighting over conventional (mercury, fluorescent, metal-halide ...) lighting.

- *Durability*
- *Energy efficiency*
- *selectable color temperature*
- *environmentally friendly*



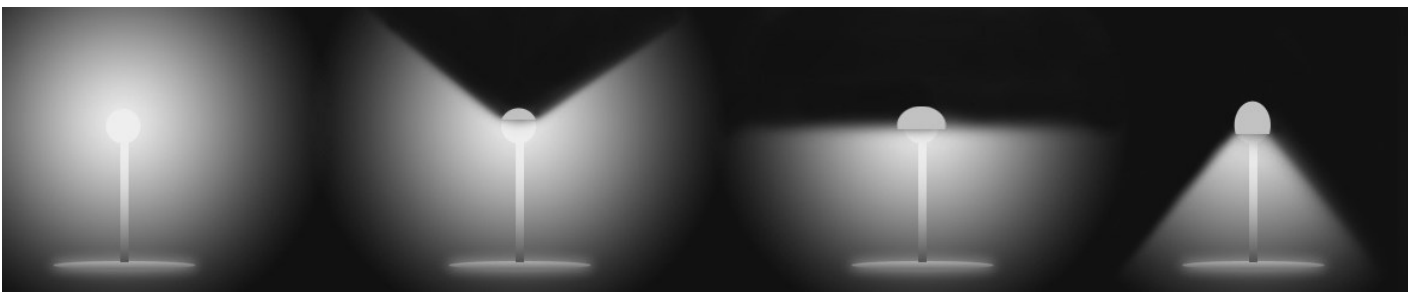
In 2017 we plan to start production of Ex pendant light fittings ~130W, and linear LED light fitting in GRP (Polyester) housing, Ex e type PSF 52 LED.



** PSF (75W, 52W, 40W, 28W) LED*

Modern LED lighting has a significantly longer service life than conventional lighting, does not contain harmful compounds (mercury, cadmium ...), does not emit UV rays, releases significantly less heat energy.

When creating light-technical calculations it should be noted that the LED lighting (directional light) contribute to the reduction of light pollution of the atmosphere and losses on light scattering.



LED

IP 66



IK08

**CONSTRUCTION**

Housing: aluminium powder painted casting
 Diffuser: borosilicate glass, silicone gasket
 Protected grid: AISI 316
 Standard version without protected grid

TECHNICAL DATA

Certificate:	EXA 16 ATEX 0015
Marking:	CE 0722
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex eb mb IIC T6 Gb Ex tb IIIC T80°C Db
Ambient temperature:	-30°C ≤ T _a ≤ +50°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	230 V
Frequency:	50Hz (60Hz on request)
Rated power:	20 W
Connecting terminals:	terminals L1 + N for 2 x 4 mm ² terminals PE for 2 x 4 mm ²
Cable entry:	2x M25 (1x M25 Exe cable gland, 1x Exe M25 plug)
Weight:	4 kg
Packing:	The packing contains: 1 pcs 360x240x205 mm

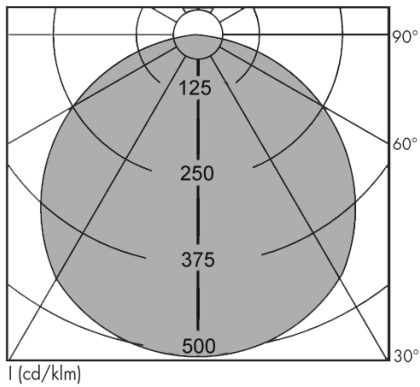
- Application in confined or restricted spaces
- Robust light alloy enclosure weighs only 4 kg
- Allowing the user to mount in areas where the available space is restricted
- Fast and easy installation
- Estimated service life 70 000 hours

Bulkhead LED light fitting

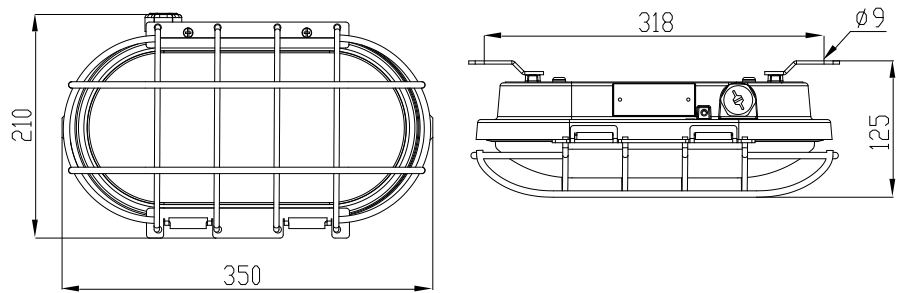
MODEL CODE

MODEL CODE	POWER CONSUMPTION [W]	VOLTAGE [V]	LUMINOUS FLUX [lm]	LIGHT OUTPUT RATIO η
0403.24 LED 20-1	20W	230V	2000	0,85

POLAR CURVE



DIMENSION DRAWING (all dimensions in mm)



MOUNTING Two brackets with two screws M6

SPARE PARTS AND ACCESSORIES

SKETCH	DESCRIPTION	CODE	SKETCH	DESCRIPTION	CODE
	Ex LED modul	0403.24 LED 10-110		Ex e cable gland M25	SPU 25
	Brtva 0403.24 LED	0403.24 LED 10-120		Ex e plug M25	SPC 25
	Glass cover	0403.24 LED 10-130			

Example of equivalent "traditional" light sources with Ex LED

LED		A - incandescent light bulb	
0403.24 LED 20	20W 100 lm/W	0403.24/10	100W 15 lm/W

The given information is for rough orientation only. In each individual case a lighting calculation is necessary.

LED

IP 66

IK08

T_a
C_a +40
-20

- Robust light alloy enclosure weighs only 3,5 kg
- Fast and easy installation
- PLFM 100/3 with E27 lampholder for LED bulb
- Estimated service life 70 000 hours
- LED module with 100lm/W



CONSTRUCTION

Housing: aluminium powder painted casting

Diffuser: borosilicate glass

Accessories: protected galvanized steel gird (INOX on request), assembly kit for wall, pipe and ceiling mounting

Standard version without protected grid

TECHNICAL DATA

Certificate:	EXA 14 ATEX 0056X
Marking:	CE 0722
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex de IIC T6 Gb Ex tb IIIC T80°C Db
Ambient temperature:	-20°C ≤ T _a ≤ +40°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	230 V
Frequency:	50Hz (60Hz on request)
Rated power:	20 W
Connecting terminals:	terminals L1 + N for 2 x 4 mm ² terminals PE for 2 x 4 mm ²
Cable entry:	2x M20 (1x M20 Ex de adapter ADP 23/1 for cable 7-15mm, 1x Exd M20 plug)
Weight:	3,5 kg
Packing:	The packing contains: 2 pcs
MOUNTING	440x260x170mm

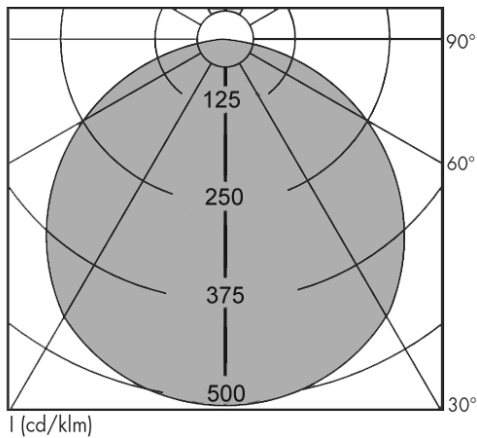
Pendant, on pipe, wall, ceiling

Pendant LED light fitting

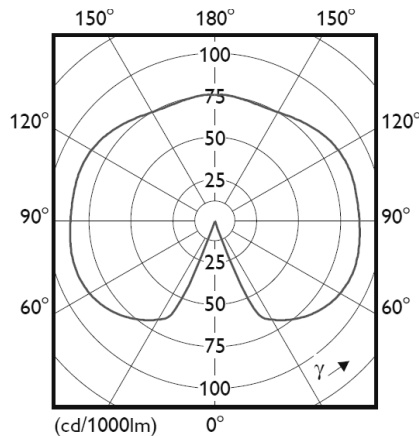
MODEL CODE

MODEL CODE	POWER CONSUMPTION [W]	VOLTAGE [V]	LUMINOUS FLUX [lm]	LIGHT OUTPUT RATIO η
PLFM 100/3-	12 W Osram 13 W Philips	230V	810 1055	0,80
PLFM 20 LED	LED module		2000	

POLAR CURVE

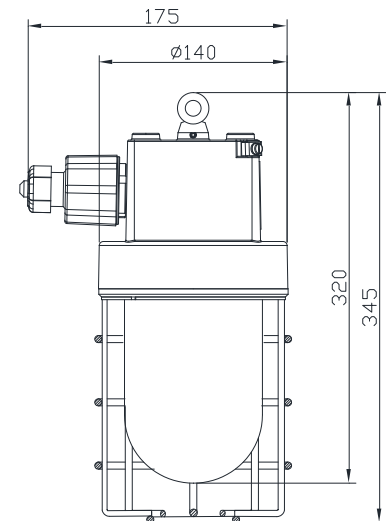


LED module
20W, 2000 lm



Master LEDbulb Osram
12W, 810 lm

DIMENSION DRAWING



SPARE PARTS AND ACCESSORIES

SKETCH	DESCRIPTION	CODE	SKETCH	DESCRIPTION	CODE
	Replacement glass PLFM	PLFM 10-120		Ex d metal plug M20	SPC 20
	Wire guard PLFM	PLFM 10-130		LED bulb E27	prema tablici izvedbi
	Gasket PLFM	PLFM 10-140		PLFM mounting bracket for pipe R2"	PLFM 20-120
	PLFM LED modul, set	PLFM 10-170		PLFM mounting bracket (ceiling)	PLFM 20-130
	Adapter ADP 23/1	PLFM 20-110		PLFM mounting bracket (wall)	PLFM 20-140

Example of equivalent "traditional" light sources with Ex LED

LED		QT (halogen)		CFL (compact fluo)	
PLFM 20 LED		PLFM 100 QT		PLFM 100/2	
	17W 100 lm/W		100W 18 lm/W		23W 65 lm/W

The given information is for rough orientation only. In each individual case a lighting calculation is necessary.

All technical data is relevant at the time of print.

LED

IP 66



IK08



- Robust light alloy enclosure weighs only 3,8 kg
- Estimated service life 70 000 hours
- LED module with 100lm/W



CONSTRUCTION

Housing: aluminium powder painted casting
 Diffuser: borosilicate glass,
 Accessories: assembly kit for wall, pipe and ceiling mounting

TECHNICAL DATA

Certificate:	In progress
Marking:	CE 0722
Apparatus category:	II 2G
Marking of explosion protection:	Ex e mb IIC T5 Gb
Ambient temperature:	$-20^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	230 V
Frequency:	50Hz (60Hz on request)
Rated power:	30 W
Connecting terminals:	terminals L1 + N for $2 \times 4 \text{ mm}^2$ terminals PE for $2 \times 4 \text{ mm}^2$
Cable entry:	2x M25 (1x M25 Ex e cable gland for cable 7-15mm, 1x Exe M25 plug)
Weight:	3,8 kg

MOUNTING

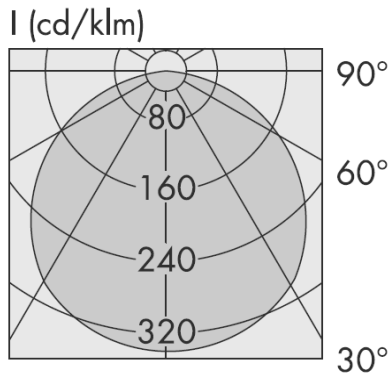
Pendant, on pipe, wall, ceiling

Pendant LED light fitting

MODEL CODE

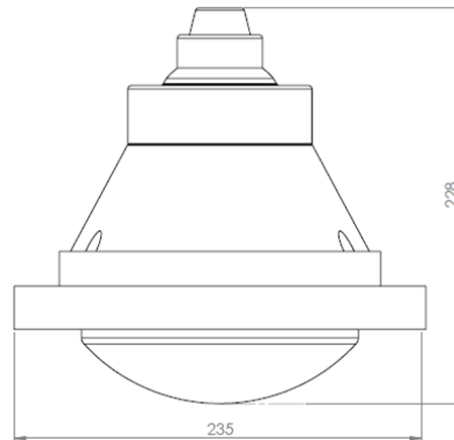
MODEL CODE	POWER CONSUMPTION [W]	VOLTAGE [V]	LUMINOUS FLUX [lm]	LIGHT OUTPUT RATIO η
0401.35 LED 30	30 W	230V	2850	0,85

POLAR CURVE



LED module
30W, 2850 lm

DIMENSION DRAWING



SPARE PARTS AND ACCESSORIES

SKETCH	DESCRIPTION	CODE	SKETCH	DESCRIPTION	CODE
	Replacement glass 0401.35 LED	0401.35 LED 10-130		Ex e cable gland M25	SPU 25
	LED module 30W	0401.35 LED 10-110		Gasket 0401.35	0401.35 LED 10-120

Example of equivalent "traditional" light sources with Ex LED

LED		HME (mercury)		HIE (metal halide)		QT (halogen)	
0401.35 LED 30	30W 95 lm/W	PLFS-T	80W 50 lm/W	PLFS-T 100	70W 80 lm/W	PLFS-T 200	230W 18 lm/W

The given information is for rough orientation only. In each individual case a lighting calculation is necessary.

All technical data is relevant at the time of print.

LED

IP 66

IK08

T_a
-40 +50Ex
ATEX

EAC

- Highest efficiency with luminous efficacy up to 170lm/W
- High colour rendering index CRI 80
- Estimated service life 70 000 hours
- With OVP, OCP, OTP protection
- Autonomous activation after recovery

new
LED
more lm/W



CONSTRUCTION

Housing: aluminium powder painted casting

Diffuser: borosilicate glass,

Accessories: protected galvanized steel gird, assembly kit for wall, pipe and ceiling mounting

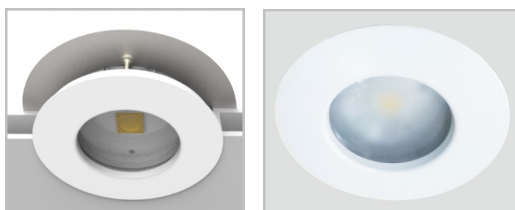
Gasket: silicon

TECHNICAL DATA

Certificate:	EXA 14 ATEX 0028 EAC RU C-HR.AB24.B.03244
Marking:	CE 0722
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex d e IIC T6/T5 Gb Ex tb IIIC T80°C/T85°C Db
Ambient temperature ATEX:	-40°C ≤ T _a ≤ +40°C / +50°C
EAC:	-50°C ≤ T _a ≤ +50°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	90 - 305 V AC 127 - 431 V DC
Frequency:	50Hz / 60Hz
Rated power:	30 W
Connecting terminals:	L1, L2, L3, N; max. 2 x 2,5 mm ² PE terminal ; max 2x6mm ² External PA terminal -PA; max 2x6mm ²
Cable entry:	2x M25 (1x M25 Ex e cable gland for cable 7-15mm, 1x Exe M25 plug)
Weight:	6,8kg
Packing:	The packing contains: 2 pcs 560 x 270 x 270 mm

MOUNTING

Pendant, on pipe, wall, ceiling, recessed (*clean room LED light fitting*)

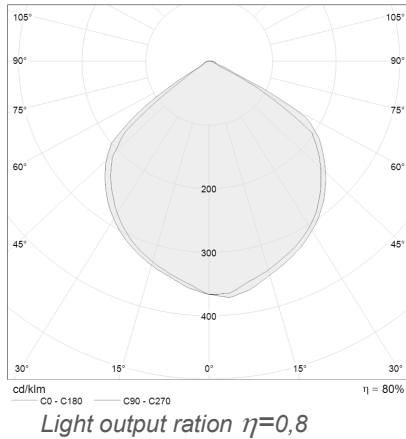


Pendant LED light fitting

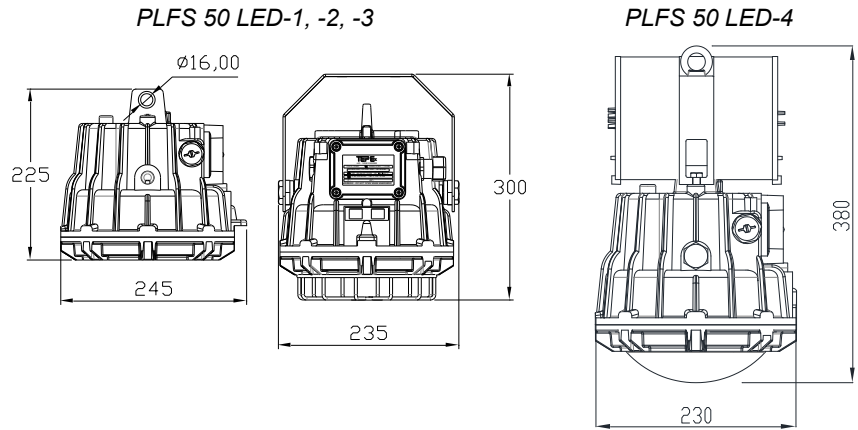
MODEL CODE

MODEL CODE	POWER CONSUMPTION [W]	VOLTAGE [V]	LUMINOUS FLUX [lm]	LIGHT OUTPUT RATIO η	AMBIENT TEMP.
PLFS 50 LED-1	35 W	90-305 V AC 127-431 V DC	5950	0,80	-40°C ÷ +50°C
PLFS 50 LED-2	50 W		8500		
PLFS 50 LED-3	60 W		10 200		40°C ÷ +40°C
PLFS 50 LED-4	80 W		13 600		

POLAR CURVE



DIMENSION DRAWING



SPARE PARTS AND ACCESSORIES

SKETCH	DESCRIPTION	CODE	SKETCH	DESCRIPTION	CODE
	Replacement glass PLFS LED	PLFS LED 10-120		PLFS-T fixing bracket for tube R 1 1/2"	PLFS 20-120
	Wire guard PLFS LED	PLFS LED 10-130		PLFS-T mounting bracket (ceiling and wall mounting)	PLFS 20-130

Example of equivalent "traditional" light sources with Ex LED

LED		HME (mercury))		HIE (metal halide)		QT (halogen) / A	
	35W 170 lm/W		125W 50 lm/W		100W 80 lm/W		230W QT 18 lm/W
	60W 170 lm/W		250W 52 lm/W		150W 80 lm/W		500W A 15 lm/W
	80W 170 lm/W		400W 50 lm/W		250W 80 lm/W		

The given information is for rough orientation only. In each individual case a lighting calculation is necessary.

All technical data is relevant at the time of print.

LED

IP 66



IK08



FLX 310 LED



CONSTRUCTION

Housing: aluminium powder painted casting

Diffuser: borosilicate glass tube,

Gasket: silicon

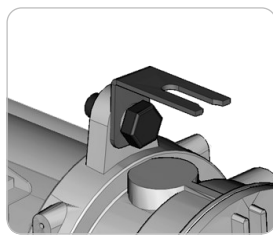
The light fitting is normally supplied with three LED linear sources, two entries M20 and wall/sealing mounting set

TECHNICAL DATA

Certificate:	EXA 15 ATEX 0050X
Marking:	CE 0722
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex d e IIC T6 Gb Ex tb IIIC T80°C Db
Ambient temperature:	-20°C ≤ T _a ≤ +40°C / +50°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	220-240 V 110V on request
Frequency:	50Hz / 60Hz
Rated power:	3x 12W
Connecting terminals:	L1, L2, L3, N; max. 2 x 2,5 mm ² PE terminal ; max 2x6mm ² External PA terminal -PA; max 2x6mm ²
Cable entry:	2 x M20 or 2 x 3/4"NPT or 2 x M20, with one Ex d plugs and one adapter type ADP 03/24 for cable φ6-15 mm
Weight:	7kg
Packing:	The packing contains: 1 pcs 540x230x200 mm

MOUNTING

Pendant, on pipe, wall, ceiling mounting . Operates in any position.



- High colour rendering index CRI >80
- Estimated service life ≥50 000 working hours at t_{amb} = 40°C
- LED 3 x 12W chip-on-board technology with OVP, OCP, OTP protection
- Autonomous activation after recovery
- Suitable for linear lighting up to 20 modules

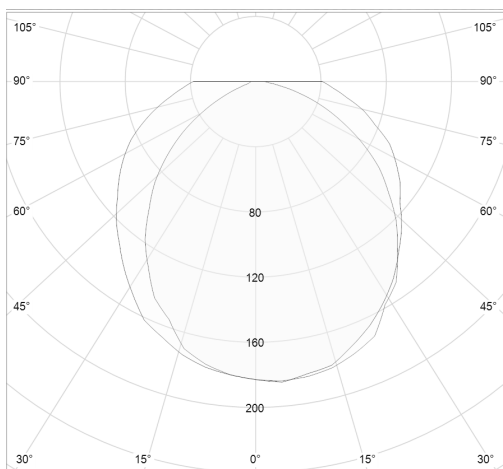
new
LED
more lm/W

Linear LED light fitting

MODEL CODE

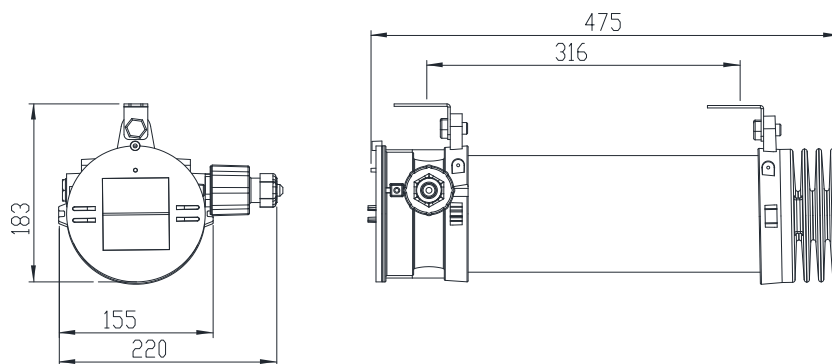
MODEL CODE	POWER CONSUMPTION [W]	VOLTAGE [V]	LUMINOUS FLUX [lm]	LIGHT OUTPUT RATIO η	AMBIENT TEMP.
FLX 310 LED	36W	220-240V	3600	0,85	-20°C + +40°C

POLAR CURVE



Light output ration $\eta=0,85$

DIMENSION DRAWING



SPARE PARTS AND ACCESSORIES

SKETCH	DESCRIPTION	CODE	SKETCH	DESCRIPTION	CODE
	Cover gasket FLX	FLX1 0-120		External reflector FLX	FLX LED 20-150
	Base plate FLX 310	FLX LED10-310		FLX Wall / ceiling mounting set	FLX 20-170
	Protective grid FLX set	FLX LED 20-140		FLX Pipe mounting set	FLX 20-180

All technical data is relevant at the time of print.



CONSTRUCTION

Housing: SMC polyester plastic reinforced with glass fiber, color RAL 7038

Diffuser: PC polycarbonate plastic

Gasket: silicone

Central locking: can be opened/closed using a socket key SW8, hinged lamp cover

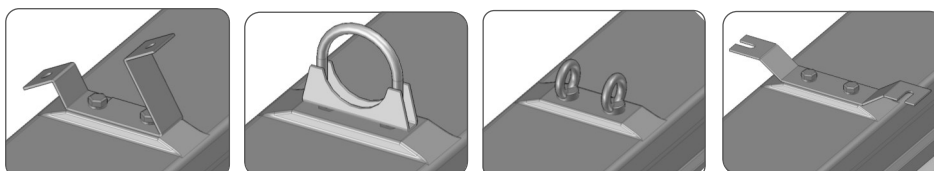
The light fitting is normally supplied with socket key, two Ex e cable glands M25, two Ex e plugs M25 and with mounting set PSF 30-110

TECHNICAL DATA

Certificate:	In progress
Marking:	CE 0722
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex db eb mb IIC T6 Gb Ex tb IIIC T80°C Db
Ambient temperature:	-20°C ≤ T _a ≤ +55°C -20°C ≤ T _a ≤ +40°C
Degree of protection:	IP 64 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	100-305 VAC 142-431VDC
Frequency:	47-63 Hz
Rated power:	See model code table
Estimated service life:	PSF LED 28-1, PSF LED 52-1 100 000 hours PSF LED 28-2, PSF LED 52-2 70 000 hours
Connecting terminals:	L1, L2, L3, N, PE - max. 2,5 mm ²
Cable entry:	Two entries Ex e M25x1,5 for cable diameters Ø6-15 mm, and two Ex e plugs
Disconnection of the light:	Switch with safety lock; when opening the central lock, all poles of the voltage supply to the ballast are disconnected; contacts of the switching element are NC contacts, they can only be switched on again when the lamp cover and the central locking system are closed. In case of a lamp fault, the electronic ballast disconnects the defective lamp from the power supply.
Packing:	The packing contains: 1 pcs PSF LED 52: 1420x270x210 mm PSF LED 28: 825x270x210 mm

MOUNTING

Pendant, on pipe, wall, ceiling



- Central locking with internal switch
- Through-wiring possible
- LED modules with innovative encapsulation
- Estimated service life up to 100 000 hours
- High color rendering index CRI 80
- Luminous efficacy 140lm/W
- With OVP, OCP, OTP protection
- Autonomous activation after recovery

Linear LED light fitting

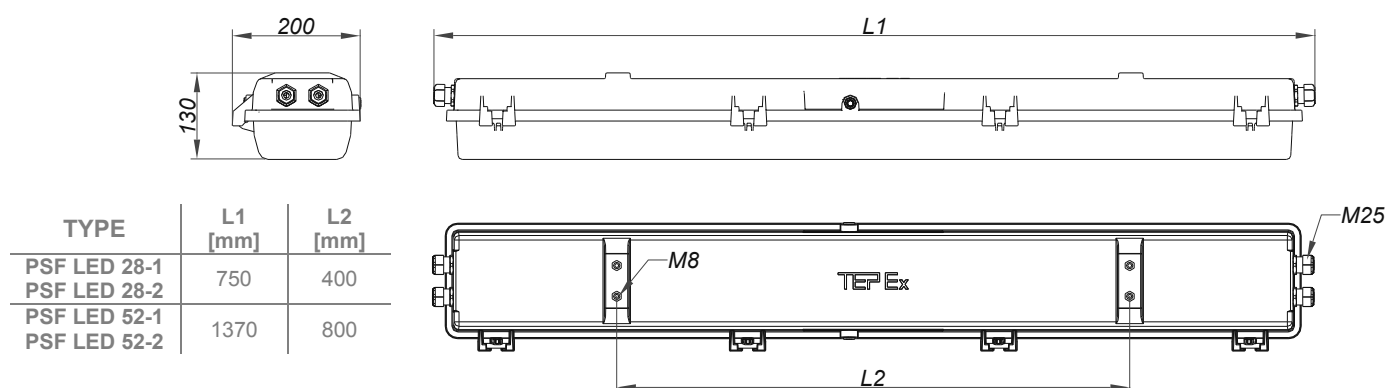
MODEL CODE

MODEL CODE	POWER CONSUMPTION [W]	VOLTAGE [V]	LUMINOUS FLUX [lm]	LIGHT OUTPUT RATIO η	AMBIENT TEMP.	WEIGHT
PSF LED 28-1	24 W	100-305V 142-431VDC	3360 lm	0,75	$-20^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$	7,0 kg
PSF LED 52-1	45 W		6300 lm			10,0 kg

Special types for the ambient temperature $-20^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$ and higher LED power .

PSF LED 28-2	34 W	100-305V 142-431VDC	4800 lm	0,75	$-20^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$	7,0 kg
PSF LED 52-2	67 W		9380 lm			10,0 kg

DIMENSION DRAWING (all dimensions in mm)



SPARE PARTS AND ACCESSORIES

SKETCH	DESCRIPTION	CODE	SKETCH	DESCRIPTION	CODE
	Diffuser PSF	PSF LED 28 10-120 PSF LED 52 20-120		Ex e cable gland SPU 25	SPU 25
	Gasket PSF	PSF LED 28 10-130 PSF LED 52 20-130		Ex e plug M25	SPC 25
	Internal reflector with LED module	PSF LED 28 10-140 PSF LED 52 20-140		PSF Ceiling mounting set	PSF 30-110
	LED driver	PSF LED 28 drive PSF LED 52 drive		PSF Pipe mounting set	PSF 30-120
	Terminals 5x2,5mm ²	PSF236 20-150		PSF Wall mounting set	PSF 30-130
	Socket key SW8	PSF236 20-160		Ring bolt M8	PSF 30-140
				PSF Pendant mounting set	PSF 30-150

All technical data is relevant at the time of print.

LED

IP 66



CONSTRUCTION

Housing: aluminium powder painted casting

Diffuser: borosilicate glass tube,

Gasket: silicon

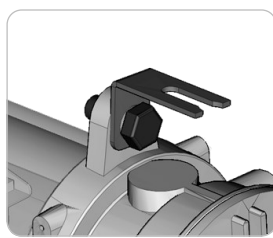
The light fitting is normally supplied with two entries M20 and wall/sealing mounting set

TECHNICAL DATA

Certificate:	EXA 15 ATEX 0001X EAC RU C-HR.AB24.B.03252
Marking:	CE 0722
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex d e IIC T6 Gb Ex tb IIIC T80°C Db
Ambient temperature:	-20°C ≤ T _a ≤ +40°C / +50°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	220-240 V 110V on request
Frequency:	50Hz / 60Hz
Rated power:	2x 1,2W
Connecting terminals:	L1, L2, L3, N; max. 2 x 2,5 mm ² PE terminal ; max 2x6mm ² External PA terminal -PA; max 2x6mm ²
Cable entry:	2 x M20 or 2 x 3/4"NPT or 2 x M20, with one Ex d plugs and one adapter type ADP 03/24 for cable φ6-15 mm
Weight:	4kg

MOUNTING

Pendant, on pipe, wall, ceiling mounting . Operates in any position.



- Used for marking escape routes and exits in potentially explosive atmospheres.
- Self-test, monitoring and diagnostics reduce costly maintenance checks.
- >3h autonomy
- Maintained / Non maintained operation
- Possibility of supplies with DALI compatible ballast
- Ni-MH 3,6V/2.2Ah, build in light fitting, microprocessor controlled charging, discharging and control of battery









Emergency LED light fitting

MODEL CODE

FLXE 118 LED

Pictogram

According with DIN 4844-2

0	Without	5	
1		6	
2		7	
3		8	
4			

Cable entry:

- 0 ... Ex d cable entry 2 x M20x1,5, ISO 965-1, ISO 965-3
- 1 ... Ex d cable entry 2 x 3/4"NPT, ANSI/ASME B1.20.1
- 2 ... Ex de adapter ADP 24 (for cable 6-15mm)
- 3 ... 2x Ex de adapters ADP 24 (for cable 6-15mm) through wiring

Rated voltage:

- 0 ... 24 V AC/DC
- 1 ... 60 V AC/DC
- 3 ... 110 - 127 V AC/DC
- 4 ... 220 - 240 V AC/DC

The lamp can operate with two types of connection:

a) Maintained (Dauerschaltung)

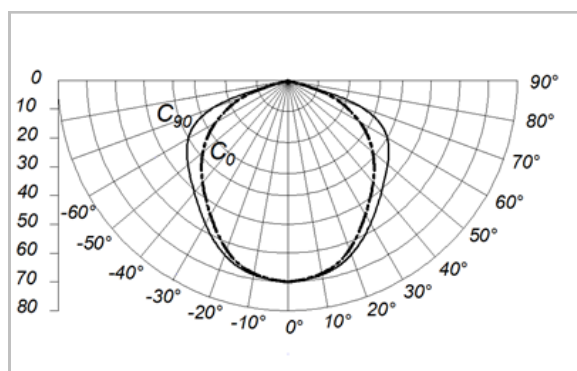
The light fitting can be used for general and orientation lighting with mains power supply via L' (installation switch). In case of voltage drop or an interruption in the mains power supply L, the light fitting will continue to operate in battery-powered mode, regardless of the status of installation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

b) Non maintained (Bereitschaftschaltung)

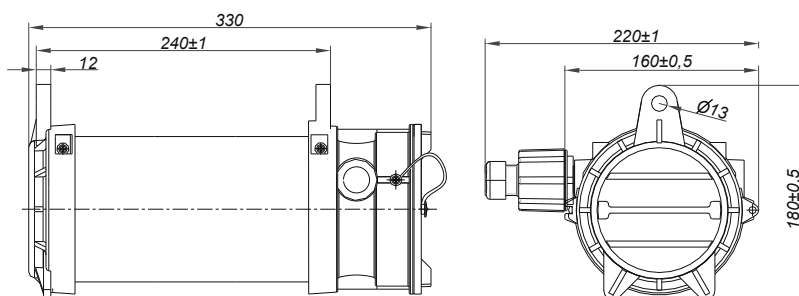
In case of voltage drop or an interruption in the mains power supply L, the light fitting will operate only in battery-powered mode.

In both types of the connection in the presence of continuous phase L, it is possible to verify the correctness of the emergency system by turning on the switch in the TEST circuit.



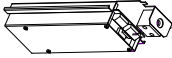



ISOCANDELA CURVE [l/cd]



DIMENSION DRAWING



SPARE PARTS AND ACCESSORIES

SKETCH	DESCRIPTION	CODE	SKETCH	DESCRIPTION	CODE
	Cover gasket FLX	FLX 10-120		External reflector FLX	FLX LED 20-150
	Base plate FLXE	FLXE 10-130		FLX Wall / ceiling mounting set	FLX 20-170
	Protective grid FLXE set	FLXE 20-140		FLX Pipe mounting set	FLX 20-180

All technical data is relevant at the time of print.