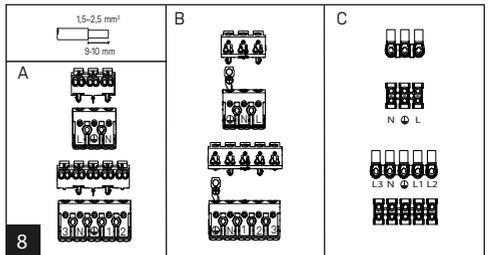
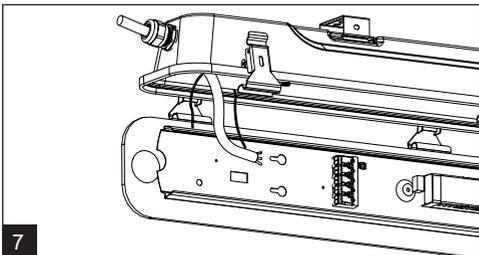
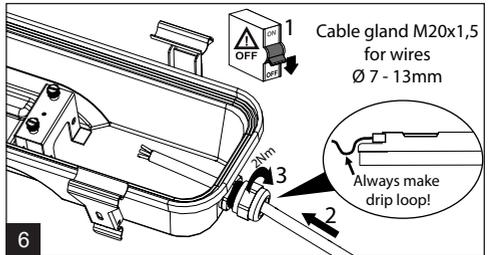
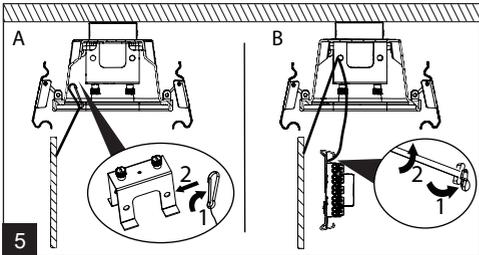
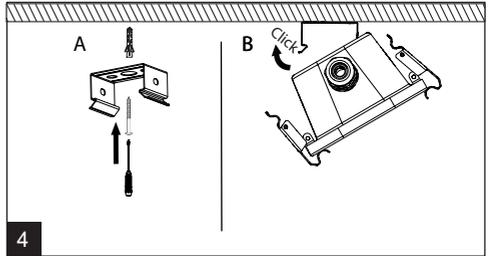
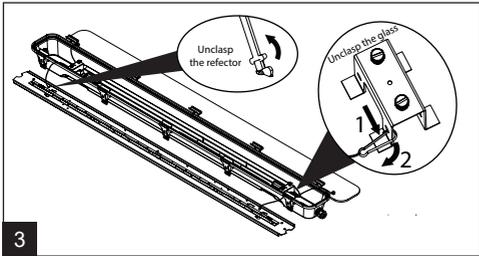
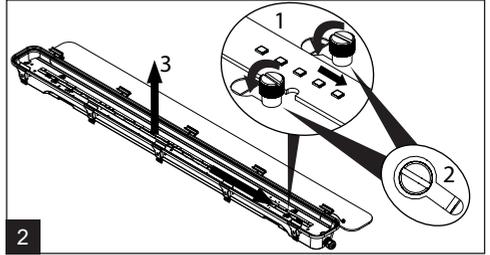
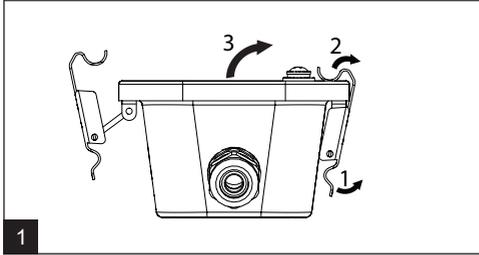
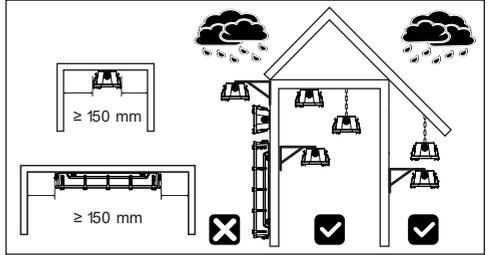
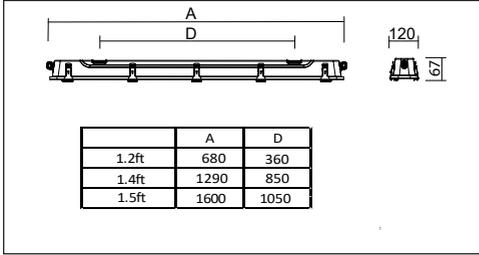
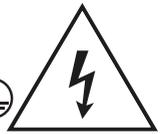


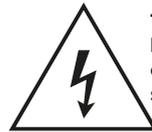
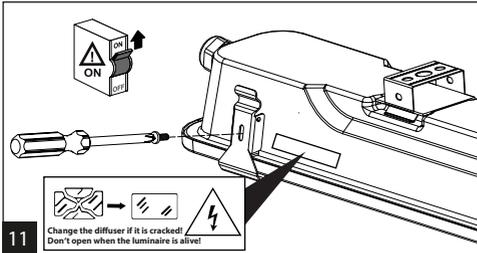
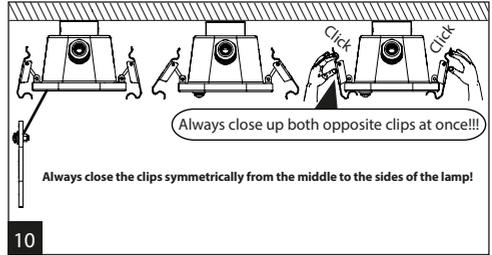
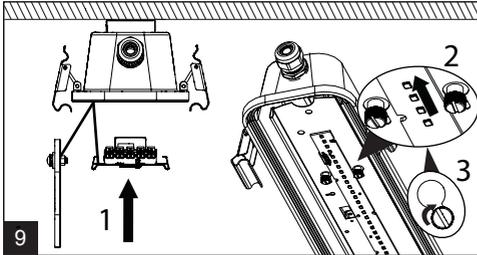


# PERUN SLIM Ex

IP65

220-240V  
0/50/60Hz





**The light source in this luminaire may be replaced only by the manufacturer or its contractual service technician or similarly qualified person!**

Installation can only be carried out by an authorized person and according to the mounting instructions. Any other installation is considered to be improper. For well installation and good luminaire work is necessary ensure a planarity of a mounting surface. Make sure that the luminaire is always disconnected from the power supply before the installation work. Do not use the luminaire if damaged or if damaged the power cable. Only damp microfiber cloth can be used for cleaning. Technical changes are subjected without notice. Do not dispose the luminaire or its parts as household waste, but make the proper recycling.

Take care while fitting glass on rubber sealing for impacts on side of the glass and fast temperature changes. Properties of heat toughened glass and its susceptibility to breaking follow standard EN 12150-1. For areas where spontaneous fracture of glass means a higher safety risk and/or financial loss, we recommend usage of safety film (SF). Individual cases should be discussed with our technicians.

# Technical instructions for installing of PERUN SLIM Ex, PERUN SLIM Ex Mxh, PERUN SLIM Ex NMxh luminaires

**For installation and operation in potentially explosive environments, safety instructions as outlined in national laws and standards must be followed.**

1. Remove the luminaire from the transport packaging.
2. Loosen the steel clips and disassemble the diffuser.
3. Push the hooks on the spacer holding the luminaire reflector together, and remove the reflector from the luminaire.
4. Assemble the empty housing using one of the methods described in the manual.
5. Pull the connection cable through the M20x1.5 ATEX gland. Tighten the cable gland.  
The connection cable must have an outer diameter of between 7 mm and 13 mm.  
This is crucial for the cable gland to work properly.
6. Connect the connection cable to the free side of the terminal block as follows:

Terminal	1F instalation	3F instalation	M3h instalation
L1	Phase conductor	Phase conductor	Phase conductor
L2	-	Phase conductor	-
L3	-	Phase conductor	M3h
N	Neutral conductor	Neutral conductor	Neutral conductor
	Earthing conductor	Earthing conductor	Earthing conductor

Ensure that proper wire stripping (9 mm – 10 mm) and proper insertion into the terminal block is carried out. The terminal block permits use of wires with a cross-section of 0.5 – 2.5 mm<sup>2</sup> (AWG 13 to AWG 20). If wiring is continuous, keep the maximum number of luminaires to hand according to Table 2.

7. Put the reflector back into the luminaire.
8. Reassemble the diffuser, close the steel clips and secure them with the corresponding screws.

**The manufacturer is not responsible for damage caused by failure to observe these technical instructions!**

## 1. Using luminaires

These luminaires are used in potentially explosive environments:

Tab.1

	Description of external influences	Area classification	
		Description	According to standard
<b>Risk of explosion – flammable dust</b>	<b>BE3N1</b>	<b>ZONE 22</b>	<b>EN 60 079-17</b> <b>EN 60 079-14</b> <b>EN 60 079-10-2</b>
<b>Risk of explosion – flammable gas and vapour</b>	<b>BE3N2</b>	<b>ZONE 2</b>	<b>EN 60 079-10-1</b> <b>EN 60 079-14</b>

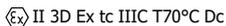
The luminaires are designed for ambient temperatures ranging from:

Variants: 1.2ft 1600/xxx, 1.2ft 2200/xxx, 1.4ft 3200/xxx, 1.4ft 4400/xxx, 1.5ft 4000/xxx, 1.5ft 5500/xxx = **-25° ≤ Ta ≤ +45°**  
1.4ft 6400/xxx, 1.4ft 8800/xxx, 1.5ft 8000/xxx, 1.5ft 11000/xxx = **-25° ≤ Ta ≤ +40°**

Mxh Variants: 1.4ft 3200/xxx, 1.4ft 4400/xxx, 1.5ft 4000/xxx, 1.5ft 5500/xxx = **5° ≤ Ta ≤ +40°**

NMxh Variants: 1.2ft = **5° ≤ Ta ≤ +40°**

xxx - CRI and colour temperature of LED

## 2. Conditions of use and maintenance

Please refer to the standards listed in Table 1 if using luminaires in the environments mentioned above.

- The specific conditions mentioned in the certificates of separately certified components have to be fulfilled.
- The luminaire must not be opened if the terminal block is voltage-carrying. Change the diffuser if it is cracked.
- LED components contained in this luminaire shall only be replaced by the manufacturer or his service agent or a similar qualified person and only with original spare parts.
- If the gasket is damaged it is necessary to replace it.
- Replacement of parts affecting explosion protection is prohibited.
- Disconnecting and replacing of the battery in the luminaire is only possible out of the environment with explosion hazard. (Spare battery order number 1720121199, LiFePO4 battery 3,2V, 4,5A with protections)
- The opening in the unused cable gland must be sealed with an ATEX plug.
- Potential electrostatic charging hazard. In potentially explosive environments, the luminaire may only be cleaned with a damp cloth and the person carrying out the cleaning must be earthed.
- The recommended fuse rating for continuously wired luminaires is type B; 10 A or 16 A.
- The luminaire PERUN SLIM Ex is approved for single and triple phase continuous wiring.  
Maximum allowed number of luminaires connected on one phase is listed in the table below.

Tab.2

Luminaire type	Automatic cut-out 10A	Automatic cut-out 16A
1.2ft	18	30
1.4ft	9	15
1.5ft	9	15

# LIGHT FITTING WITH EMERGENCY MODULE

In the light fitting is used the emergency module SelfTest variant:

**LAMPEC EMCU TS 105V/3W/3h, EMCU TS 220V/3W/3h**

**TCI ELED-A 3W 20-105V 3H BI, ELED-A 3W 100-220V 3H BI**

Or DALI variants:

**LAMPEC EMCU TDS 105V/3W/3h, EMCU TDS 220V/3W/3h**

**TCI ELED-DALI 3W 20-105V 3H BI, ELED-DALI 3W 100-220V 3H BI**

## Technical data of the emergency module:

Rated supply voltage:	220 - 240 V AC
Mains frequency:	50 / 60 Hz
Power output of emergency modules:	3 W
Ambient temperature (ta):	5 °C - +50 °C
Max. casing temperature of the emergency module (tc):	+65 °C
Maintenance-free high-temperature cells:	LiFePO <sub>4</sub> , cell size 18650
Accumulator voltage	3.2 V
Accumulator capacity:	4.5 Ah
Initial battery charge time:	24 h
Voltage output range:	20-105 V or 100-220 V
Max. power input:	5 W
Initial charge current:	230 mA
Upkeep current:	20 mA
LED current in emergency mode:	30 - 150 mA
Cross-sections of connecting wires:	0.5 – 1.5 mm <sup>2</sup>

## Characteristic of the emergency module:

Automatic switchover between network and emergency supply of the light fitting.

LED signaling of the condition of the module.

Protection from complete discharge of the accumulator.

Automatic initial battery regeneration.

Small dimensions and simple mounting.

## Mounting and operation:

The accumulator must be disconnected from the emergency module during the storage. The voltage of one cell must not drop below 2.0V. The replacement of the battery is necessary if the light fitting does not meet the nominal service life – after 4 years at the most. Unit activates new batteries, 3 full charging-discharging are performed to make sure batteries achieve their rated capacity. The function of the emergency module has to be checked every month – if the light fitting does not work check the light source and the accumulator. Do the function test by disconnecting the mains. To prevent the discharge of the accumulator connect the accumulator to the module only when the light fittings is connected to the mains.

## Advice:

The manufacturer is not responsible for the defects caused by improper handling of the light fitting.

The light fitting must be connected to electric grid by a professional technician in accordance with valid standards and regulations.

Do not check the duration test sooner than 36 hours after connecting the light fitting to the electric grid.

The emergency module only works correctly when the accumulator is fully charged.

Maximum current in through-wiring is 10 A for cross-section 1,5 mm<sup>2</sup> and 16 A for 2,5 mm<sup>2</sup>.

**Luminaire may not be switched from mains the first 168 hours after initialization!!**

Luminaires are not suitable for areas with frequent disconnection of the mains.

In such areas battery life and safety can not be guaranteed.

**Self testing:**

**Functional test:** Functional tests are carried out automatically once in 8-8.25 day. Test duration 2 minutes.

**Duration test:** A full duration test is carried out every ¼ of a year to check the capacity of the batteries.

**In case of problems or doubts, contact your supplier!**

**LED indicator:**

LED color	Signal	Status
red	no signal	emergency mode
	Intermittent flashing *	luminaire failure
	fast flashing*	battery failure
green	no signal	emergency mode
	shining	system OK (AC mode)
	Intermittent flashing	battery charging

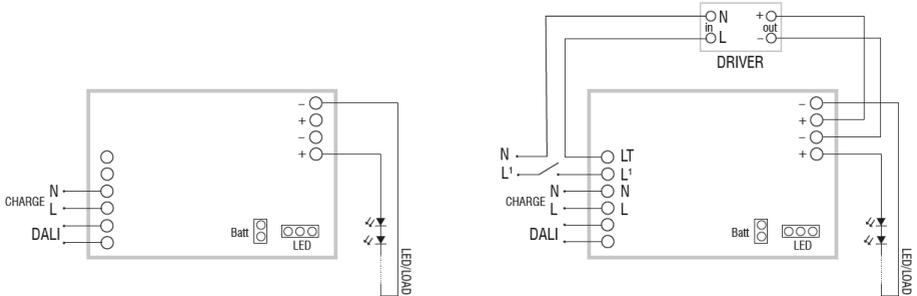
\* intermittent flashing (green - 8 s on - 1 s off) (red 4x blink 1x pause)

**Options table of EM:**

Type	Duration time	Accumulator	Power output	Luminous flux in emergency mode
EMCU TS/TDS 105V/3W/3h	3 h	LiFePO4 3.2V 4.5Ah - 14.4Wh	3 W	500 lm
EMCU TS/TDS 220V/3W/3h	3 h	LiFePO4 3.2V 4.5Ah - 14.4Wh	3 W	500 lm
ELED-A/DALI 20-105V/3W/3h	3 h	LiFePO4 3.2V 4.5Ah - 14.4Wh	3 W	500 lm
ELED-A/DALI 100-200V/3W/3h	3 h	LiFePO4 3.2V 4.5Ah - 14.4Wh	3 W	500 lm

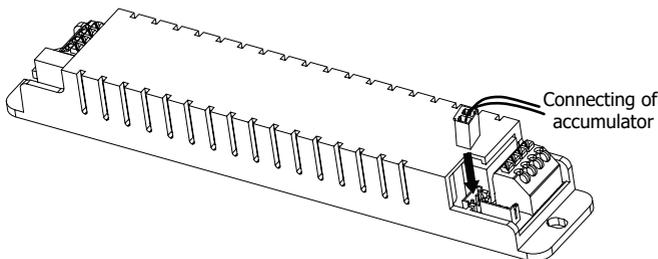
**Wiring diagram of the emergency module:**

**!!! The light fitting and the emergency module must be supplied from the same phase!!!**



Non-maintained (emergency only) diagram

Maintained with external electronic driver diagram



**Spare battery**  
 1720121199  
 LiFePO4 battery  
 3,2V, 4,5A  
 with protections

**Table for customer's records of the course of tests and service life of emergency module of light fitting.**

Type:		Date of installation:				Place of installation:			
month	test	1 <sup>st</sup> YEAR		2 <sup>nd</sup> YEAR		3 <sup>rd</sup> YEAR		4 <sup>th</sup> YEAR	
		date	signature	date	signature	date	signature	date	signature
1	FUNCTION								
2	FUNCTION								
3	FUNCTION								
4	FUNCTION								
5	FUNCTION								
6	FUNCTION								
7	FUNCTION								
8	FUNCTION								
9	FUNCTION								
10	FUNCTION								
11	FUNCTION								
12	FUNCTION								

month	test	5 <sup>th</sup> YEAR		6 <sup>th</sup> YEAR		7 <sup>th</sup> YEAR		8 <sup>th</sup> YEAR	
		date	signature	date	signature	date	signature	date	signature
1	FUNCTION								
2	FUNCTION								
3	FUNCTION								
4	FUNCTION								
5	FUNCTION								
6	FUNCTION								
7	FUNCTION								
8	FUNCTION								
9	FUNCTION								
10	FUNCTION								
11	FUNCTION								
12	FUNCTION								

# EU DECLARATION OF CONFORMITY

No.:2/7/23

**Product model/product:** Industrial LED Ex luminaire, IP65

 II 3G Ex nR IIC T6 Gc

 II 3D Ex tc IIIC T70°C Dc

**Name and address of the manufacturer:** **TREVOS, a.s.**  
Nová Ves 34, 511 01 Turnov, Czech Republic

**This declaration of conformity is issued under the sole responsibility of the manufacturer.**

**Object of the declaration:** **PERUN SLIM Ex, PERUN SLIM Ex Mxh (1F,3F,DALI)**  
**PERUN SLIM Ex 1.2ft NMxh (NM3h, 3F NM3h)**

Variants: 1.2ft 1600/xxx, 1.2ft 2200/xxx,  
1.4ft 3200/xxx, 1.4ft 4400/xxx, 1.5ft 4000/xxx, 1.5ft 5500/xxx =  $-25^{\circ}\leq T_{a}\leq +45^{\circ}$   
1.5ft 6400/xxx, 1.4ft 8800/xxx, 1.5ft 8000/xxx, 1.5ft 11000/xxx =  $-25^{\circ}\leq T_{a}\leq +40^{\circ}$

Mxh: 1.2ft NMxh =  $0^{\circ}\leq T_{a}\leq +45^{\circ}$   
1.4ft 3200/xxx, 1.4ft 4400/xxx,  
1.5ft 4000/xxx, 1.5ft 5500/xxx,

xxx - Colour temperature of LED

**The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:**

	2014/34/EU including amendments 2011/65/EU including amendments 2009/125/EC including amendments
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**References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:**

IEC Standards	European Standards
IEC 60598-1:2021 including amendments	EN IEC 60079-15:2019
IEC 60598-2-1:2020 including amendments	EN 60079-31:2014
EN 60598-2-22:2014	EN IEC 60079-0:2018
	EN 60598-1:2021
	EN 60598-2-1:2021

**Complementary information:**

ATEX certificate TÜV CY 23 ATEX 0206818 X of  
TÜV CYPRUS Ltd, 2 Papaflessa Str., 2235 Latsia, Nicosia.

Place of issue: Turnov

Manufacturer representative:

David Lazar

**TREVOS, a.s.**

Date of issue: 24.7.2023

Position: certification

Nová Ves 34  
511 01 Turnov  
IČO: 07829965

