



Operating instructions

TPPL-EX series | Hazardous environments luminaires



⚠ Please read the instructions carefully before starting any works!

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1. Safety instructions



For skilled electricians and trained personnel in accordance with national legislation, including the relevant standards.

Observe the national safety rules and regulations for prevention of accidents and the following safety instructions:

- The light fitting must not be operated in any hazardous areas during installation !
- The technical data indicated on the light fitting are to be observed !
- Changes of the design and modifications to the light fitting are not permitted !
- The light fitting shall be operated as intended and only in undamaged and perfect condition !

2. Product's Range:

Description	Power	U range	Ta Range	FT3	Optic
TPPL-EX-D100-L1700-8400LM-STD	90W	110V-277V ~ 176V-276V =	-20°C<Tamb<45°C		120°
TPPL-EX-D100-L1700-8400LM-HB	90W	110V-277V ~ 176V-276V =	-20°C<Tamb<45°C		60°
TPPL-EX-D100-L1200-5600LM-STD	60W	110V-277V ~ 176V-276V =	-20°C<Tamb<45°C		120°
TPPL-EX-D100-L800-2800LM-STD	30W	110V-277V ~ 176V-276V =	-20°C<Tamb<45°C		120°
TPPL-EX-D100-L800-2800LM-BW	30W	110V-277V ~ 176V-276V =	-20°C<Tamb<45°C		180°
TPPL-EX-D100-FT3-L1700-8400LM-STD	90W	110V-277V ~ 176V-276V =	-20°C<Tamb<43°C	✓	120°
TPPL-EX-D100-FT3-L1700-8400LM-HB	90W	110V-277V ~ 176V-276V =	-20°C<Tamb<43°C	✓	60°
TPPL-EX-D100-FT3-L1200-5600LM-STD	60W	110V-277V ~ 176V-276V =	-20°C<Tamb<43°C	✓	120°
TPPL-EX-D100-FT3-L800-2800LM-BW	30W	110V-277V ~ 176V-276V =	-20°C<Tamb<43°C	✓	120°
TPPL-EX-D100-FT3-L800-2800LM-BW	30W	110V-277V ~ 176V-276V =	-20°C<Tamb<43°C	✓	180°

3. Technical data

EC type examination certificate :

CE KIWA 15ATEX0042 X
 IECEX KIWA15.0023X

Marking :

II 2G Ex e ib mb IIC T5 Gb

Insulation class according to EN 60598:

I

Degree of protection according to EN 60529:

IP54

Supply terminal clamping capacity 2x per terminal:

1.5 mm² to 2.5 mm², single- and multi-wire. Cable diam. 11-17mm

Conductor cross-section with through-wiring:	3G2.5 mm ²
Cable entry standard version:	Conductor device connector from WAGO® 862-2633 series (certificate number: IECEx PTB 0.5.0003U)
Test torque for cable entry:	<i>Min: 6Nm - Max: 8Nm</i>
Test torque for pressure screw:	<i>Min : 1Nm – Max : 1.2Nm Do not tighten above this value otherwise you can damage the product</i>

4. Conformity with standards

The light fitting is suitable for use in zone 1 & 2 hazardous areas according to IEC/EN 60079-0:2011, IEC/EN 60079-7:2006, IEC/EN 60079-11:2011, IEC/EN 60079-18:2014, IEC/EN 60079-31:2013. It has been designed, manufactured and tested according to the state of art and according to IEC 80079-34:2011, ISO 9001:2015 and ISO 14001:2015. For installation steps please refer to IEC/EN 60079-14:2008 and any "local regulations and applicable standards". Any maintenance operation shall be executed according to IEC60079-17:2014. As a luminaire it complies with European low voltage, EMC, REACH, RED and ROHS directives and relevant standards of compliance. The RF frequency is 2411MHz at +4dBm power level. Hereby, DIETAL declares that the radio equipment type TPPL is in compliance with the Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address : "http://www.dietal.com/wp-content/uploads/2017-03-14_02-EU-declaration-TPPL-Ex.pdf"

5. Installation



The respective national regulations as well as the general rules of engineering which apply to the installation and operation of such luminaires will have to be observed!

Transport and storage of the luminaire is permitted in original packing and specified position only.

5.1 Mounting

Warnings:

X : The Luminaire shall be installed such that the risk of mechanical danger is low.

The product is designed to be connected to a mesh network with wireless connectivity. The installation shall ensure that connectivity is not prevented by electromagnetics shielding effects (Faraday cage)

Temperature sensitivity vs. position: note that for commissioning the temperature sensing on WCM depends on luminaire installation. We can have up to 5°C mismatch when the actual mounting orientation is different from the commissioning.

The Luminaire shall be installed such that electrostatic charging and discharge is prevented during operation, maintenance and cleaning. The light fitting shall only be cleaned with a damp, non-fibrous cloth or sponge ! Only use customary household washing-up liquid diluted in water!

The water temperature may be max. 50°C. After that, rinse with clear water to prevent the risk of tension cracks in the protective bowl. Installation in places where conductive dust are on the go are not allowed (inside grain silo for example)

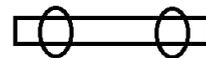
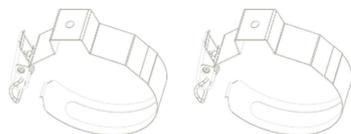
Dimensions:



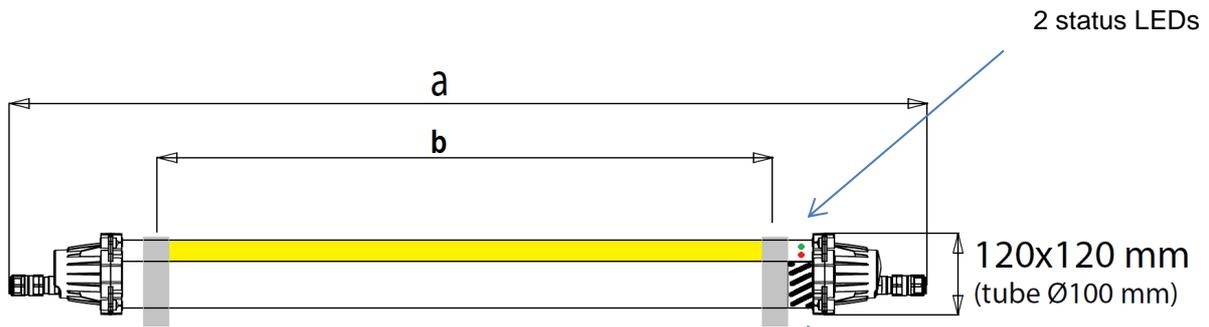
Length "a" (mm)		Versions			
		Stand alone		Feed-through option	
		Typical cable gland	"EC" option	Typical cable gland	"EC" option
Ref.	L800	782	825	801	888
	L1200	1241	1284	1260	1347
	L1700	1700	1743	1719	1806

There are 3 methods of mounting the product:

5.1.1 Directly to wall/ceiling surfaces with 2 "ring brackets"



Fixing distances should be set as follows (b):

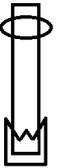
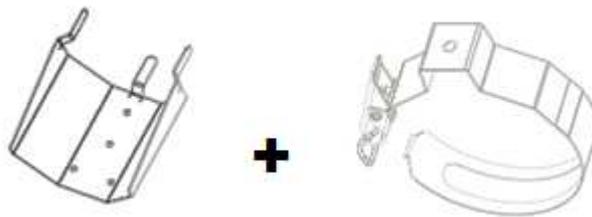


Length "b" (mm)		Minimum Value	Maximum Value
Ref.	L800	440	440
	L1200	600	895
	L1700	900	1355

⚠ Zebra area must remain "bracket free"

The 2 status LEDs (green/red) shall be visible when ON through the diffusor from below to enable the commissioning of each luminaire and indicate luminaire status.

5.1.2 Using "finger clip" bracket, as a vertical fixing :



5.1.3 Using the lamp holder attachment as a suspension bracket to 42-48 mm tube : same bracket as 4.1.1

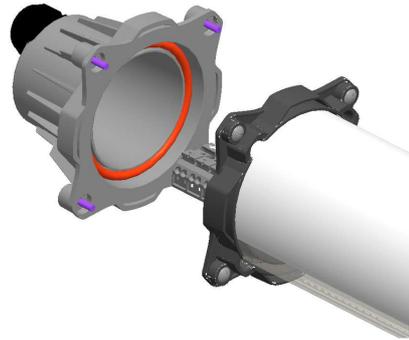


5.2 Opening and closing the light fitting

The luminaire is sealed for life and therefore cannot be opened. The junction box only can be opened for mains wiring connection. This junction box must remain clean and dry. A particular attention must be paid to close it and tight the gasket according to the following specifications.

5.3 Mains wiring connection

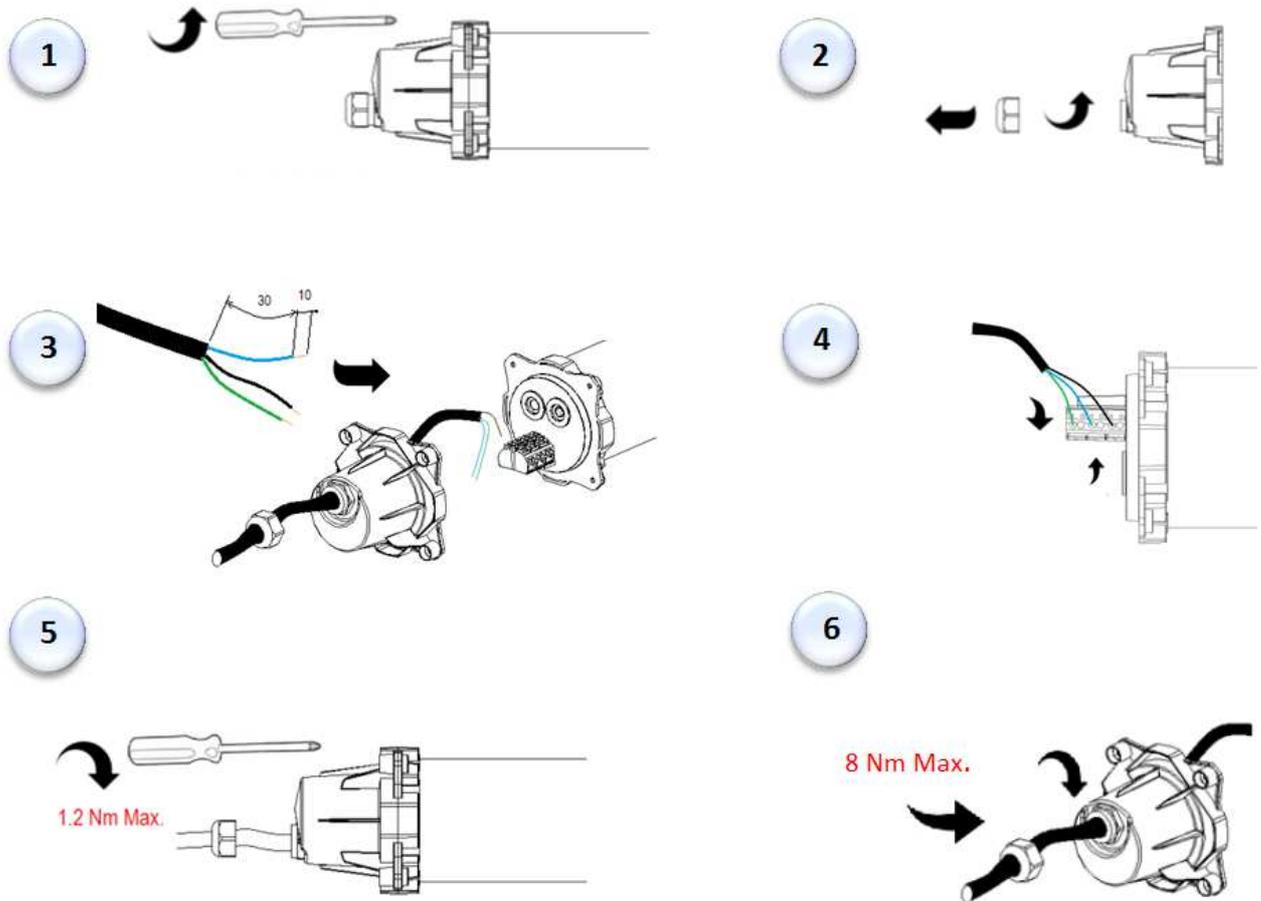
5.3.1 Open junction box



- 5.3.2 Pass wire through cable gland without tightening
 - 5.3.3 Strip wire according to installation instruction (See wiring following diagrams, 10-11mm for copper)
 - 5.3.4 Connect wires to connector (3 poles or 5 poles)
 - 5.3.5 Close junction box (Torque 1-1.2Nm) - **Ensure the red sealing ring is still in place**
 - 5.3.6 Tighten cable gland (Torque 6-8Nm)
- If through wiring, repeat the same operating instructions for the second junction box
If not through wiring, ensure that Ex-stopping plug is tightened (Torque 6-8Nm)



Please ensure that each live wire is connected to the relevant terminal in every connection boxes



Check the cable gland gasket as follows:

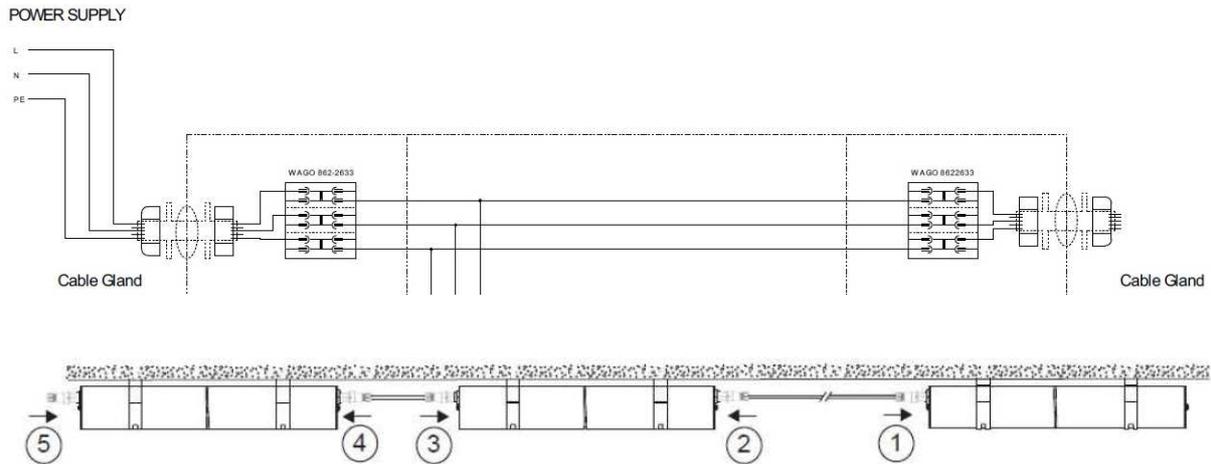


Wiring diagram with 3P/5P and through wiring 3P = See Wiring diagram TPPL Rev1.4.pdf
When using multi- or fine-wire connection cables, the wire ends must be provided with wire end sleeves or cable lugs.

Before closing the junction box, check that the rubber gasket is at its intended place. Finally close the junction box with screw torque. In case of metal cable gland you have to check that earthing is correctly linked to the terminal.

5.4 In-line connection

Through wiring luminaires must be installed in accordance to national regulations and state of art. The Max. Current per wire is limited to **20A max**. Please also ensure that circuit breakers are designed to suit to inrush currents. Max inrush current is 4A per driver for 500 μ sec.



5.5 Luminaire replacement

LED engines are sealed for life and therefore cannot be replaced (lumen output 10% of nominal for EOL condition / indication is red light ON): luminaire shall be replaced.

6. Taking into operations

⚠ Prior to operation, check the light fitting for its proper functioning and installation in compliance with these operating instructions and other applicable regulations!

Only carry out insulation measurements between PE and the external conductor L1, as well as between PE and N.

- Measuring voltage: max. 1 kV DC (TBD)
- Measuring current: max. 10 mA (TBD)

While taken into operation, the 2 colour LED indicators on each WCM module show the following status indication:

- Green/Red blinking every 3 sec : not commissioned
- 2 Green/1 Red blinking every 5 sec : Standalone mode under control
- 2 Red/1 Green blinking every 5 sec : Standalone mode without network
- **Green blinking every 3 sec : power supply connected, lamp commissioned, normal operation**
- Green blinking every 5 sec : power supply in DC mode, power reduced to 25%
- Red blinking every 3 sec : service is requested
- Red blinking every 1.5 sec : TPPL error
- Constant RED : EOL (End of Life)
- Green/Red blinking every 1.5 sec : firmware upload
- Green blinking every 1.5 sec : identification from the wireless network
- Long green (>10sec) : Power start up on reset

7. Maintenance



IEC 60079-17 applies. Observe the national regulations applicable to the maintenance, servicing and test of apparatus, as well as the general rules of engineering!

7.1 Safety inspection

No safety inspection is necessary (LED engines and power supply are maintenance free).

Temperature, burning hours, efficiency and energy consumption are continuously monitored using the Wireless Control Module (WCM) interface. Any abnormal behaviour or function failures of any electrical component are directly accessible through Luminizer service platform.

7.2 Outside servicing

The enclosure of this luminaire integrates specific polymer protection with UV blocker. This requires cleaning servicing depending on local level of air pollution in the direct environment of the luminaire.

In case of cleaning service :

- Check housing and junction box for any cracks or damages from external sources
- The light fitting shall only be cleaned with a damp, non-fibrous cloth or sponge
- Regular cleaning should be carried out depending on ambient pollution level to ensure a minimum loss in lighting transmission

Only use customary household washing-up liquid diluted in water (max. water temperature = + 50°C). Then rinse with clear water. Please report to the manufacturer website to check the chemical compatibility if the product is exposed to chemicals that may damage the enclosure.

7.3 Failure

Every luminaire is equipped with both green and red LED indicators operating differently in case of failure:

- Red constant ON: lamp is in EndOfLife mode and is waiting for replacement
- Red blinking in 1 sec on / 1 sec off : an error should be read out through

In case of enclosure or end caps damaged by external impact, the luminaire needs immediate replacement. In any case, no repair will be allowed on the luminaire.

7.4 End of life recycling

At the end of its life this luminaire is WEEE equipment and shall be recycled as an electronic device.

7.5 Repair:

This luminaire shall not be repaired and must be replaced in case of failure.