

Operating Instructions

Universal Explosion Proof LED Lighting

Model THT-L1219



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1. General Safety Instructions

WARNING

This manual contains basic safety instructions to be observed during installation, operation and maintenance of the apparatus, and for properly and safety run of the apparatus according to its performance data. Any damage of the apparatus may result explosion protection null and void. This manual represents the most relevant information about the product, applicable codes and regulations shall supplement it. Non-observance will endanger persons, plant and the environment. The person in charge is required to secure its employment in the industrial unit. Any improper usage, as well as non-compliance with the rules under this manual, shall release the manufacturer's all responsibilities.

1.1 Before assembly/commissioning:

- ☞ Read through the operating instructions.
- ☞ Give adequate training to the assembly and operating personnel.
- ☞ Ensure that the contents of the operating instructions are fully understood by the personnel in charge.
- ☞ The national installation and assembly regulations (e.g. IEC/EN 60079-14) apply.

1.2 When operating the device:

- ☞ Ensure the operating instructions are made available for the person in charge on location at all times.
- ☞ Observe these instructions, other working instructions and national safety regulations.
- ☞ Verify the implementation of safety instructions.

2. Intended Field of Application

The Universal Explosion Proof LED Lighting, Model THT-L1219 is intended for using in gas explosive atmospheres (Zone 1 and Zone 2 according to IEC60079-10-1) and dust explosion hazards (Zone 21 and Zone 22 according to IEC60079-10-2). The use in other potentially explosive atmospheres does not correspond to the designated use and is therefore not allowed.

The apparatus is designed for using in indoor and outdoor environments.

3. Technical Data

Item	L1219A	L1219B	L1219C	L1219D			
Explosion Protection IECEX Gas Explosion Protection Dust Explosion Protection ATEX Gas Explosion Protection Dust Explosion Protection	Ex d IIB+H ₂ T6 Gb Ex tb IIIC T...°C ⊕ II 2 G Ex d IIB+H ₂ T6 Gb ⊕ II 2 D Ex tb IIIC T...°C Db	Ex d IIB+H ₂ T5 Gb Ex tb IIIC T...°C ⊕ II 2 G Ex d IIB+H ₂ T5 Gb ⊕ II 2 D Ex tb IIIC T...°C Db	Ex d IIB+H ₂ T5 Gb Ex tb IIIC T...°C ⊕ II 2 G Ex d IIB+H ₂ T5 Gb ⊕ II 2 D Ex tb IIIC T...°C Db	Ex d IIB+H ₂ T6 Gb Ex tb IIIC T...°C ⊕ II 2 G Ex d IIB+H ₂ T6 Gb ⊕ II 2 D Ex tb IIIC T...°C Db			
Color of LED light	Cool White, Warm White, Green & Red	Cool White & Warm White	Cool White & Warm White	Blue, Green, Red & Yellow			
Number of LED module	1	5	4	warning light set			
Color, Rated Voltage and Wattage of LED	See section 4:Model Code						
Power Factor	cos φ ≥ 0.9						
Ambient Temperature Range	-20°C ~ +40°C						
Degree of Protection	IP64						
Material	Enclosure: Aluminum alloy; Glass: Tempered glass						
LED Service Life	60,000 hrs						
Entrance Hole	Tall Top Cover: 4×G3/4" threaded holes Short Top Cover: 1×G3/4" threaded hole	Tall Top Cover: 4×G3/4" threaded holes Short Top Cover: 1×G3/4" threaded hole	Tall Top Cover: 4×G3/4" threaded holes Short Top Cover: 1×G3/4" threaded hole	Tall Top Cover: 1×G3/4" threaded hole			
Cable Gland	G3/4 x 1.814; Ø 7 ... 12mm						
Fitting Cable	Size of Tube		Fitting Cable				
	ID:Ø8.0, L=25.6mm		OD: Ø7.0~ Ø8.0				
	ID:Ø8.5, L=25.6mm		OD: Ø7.5~ Ø8.5				
	ID:Ø10.0, L=25.6mm		OD: Ø9.0~ Ø10.0				
ID:Ø12.0, L=25.6mm		OD: Ø11.0~ Ø12.0					
Weight/Top Cover Type	Tall	Short	Tall	Short	Tall	Short	Tall
Without mounting bracket	7.9kg	7.5kg	9.5kg	8.9kg	9.1kg	8.5kg	7.7kg
Wall mounting	8.4kg	7.8kg	10kg	9.4kg	9.6kg	9.0kg	9.0kg
Hanging mounting	8.4kg	7.8kg	10kg	9.4kg	9.6kg	9.0kg	9.0kg
Ceiling mounting	8.7kg	8.1kg	10.3kg	9.7kg	9.9kg	9.3kg	9.3kg
Stanchion mounting 25°	9.3kg	8.7kg	10.9kg	10.3kg	10.5kg	9.9kg	9.9kg
Stanchion mounting 90°	9.1kg	8.5kg	10.7kg	10.1kg	10.3kg	9.7kg	9.7kg
Pendant mounting	8.4kg	7.8kg	10kg	9.4kg	9.6kg	9kg	9kg

4. Model Code

4.1 L1219A

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
THT-EX	1219	*	*	S	*	1	*	_*

- (1) Brand name.
- (2) Series designation, 1219=L1219 series.
- (3) C.C.T., C=Cool white, W=Warm white, R=Red light, G=Green light.
- (4) Voltage, A=24Vac, B=100Vac, C=110Vac, D=200Vac, E=220Vac, F=120Vac, G=208Vac.
- (5) Type of LED carrier, S=Short Cylinder.
- (6) Type of Top Cover, A=Tall type (L1105T), B=Short type (L1105S).
- (7) LED quantity, 1=1 LED.
- (8) LED watts choose, 1=10W, 2=20W, 3=33W.
- (9) Mounting type. W25=Wall mounting 25°; W90= Wall mounting 90°; H25=Hanging mounting 25°; H90= Hanging mounting 90°; C90=Ceiling mounting 90°; S25=Stanchion mounting 25°; S90=Stanchion mounting 90°; P30=Pendant mounting.

Remarks:

- 1.33W for Green and Red LED light source is not available.
- 2.24V Cool white and Warm white LED light source can be used with 20watt model only.
- 3.Green Light and Red Light LED source can be used with 10W and 20W under work voltage 220V only.

4.2 L1219B

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
THT-EX	1219	*	*	C	*	5	*	_*

- (1) Brand name
- (2) Series designation, 1219=L1219 series.
- (3) C.C.T., C=Cool white, W=Warm white.
- (4) Voltage, A=24Vac, B=100Vac, C=110Vac, D=200Vac, E=220Vac, F=120Vac, G=208Vac.
- (5) Type of LED carrier, C=Cylinder.
- (6) Type of Top Cover, A=Tall type (L1105T), B=Short type (L1105S).
- (7) LED quantity, 5=5 LEDs.
- (8) LED watts choose, 1=10W, A=10W+20W, B=10W+33W, D=10W+20W+33W.
- (9) Mounting type. W25=Wall mounting 25°; W90= Wall mounting 90°; H25=Hanging mounting 25°; H90= Hanging mounting 90°; C90=Ceiling mounting 90°; S25=Stanchion mounting 25°; S90=Stanchion mounting 90°; P30=Pendant mounting.

Remarks:

1. When LED watts choose is "1," it consists of 10W LED, the highest wattage is 50W.
2. When LED watts choose is "A," it consists of 10W and 20W LED, the highest wattage is 90W.
3. When LED watts choose is "B," it consists of 10W and 33W LED, the highest wattage is 73W.
4. When LED watts choose is "D," it consists of 10W, 20W and 33W LED, the highest wattage is 83W.

4.3 L1219C

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
THT-EX	1219	*	*	T	*	4	*	_*

- (1) Brand name
- (2) Series designation, 1219=L1219 series.
- (3) C.C.T., C=Cool white, W=Warm white.
- (4) Voltage, A=24Vac, B=100Vac, C=110Vac, D=200Vac, E=220Vac, F=120Vac, G=208Vac.
- (5) Type of LED carrier, T=Triangular.
- (6) Type of Top Cover, A=Tall type (L1105T), B=Short type (L1105S).
- (7) LED quantity, 4=4 LEDs.
- (8) LED watts choose, 1=10W, 2=20W, A=10W+20W, B=10W+33W, D=10W+20W+33W.
- (9) Mounting type. W25=Wall mounting 25°; W90= Wall mounting 90°; H25=Hanging mounting 25°; H90= Hanging mounting 90°; C90=Ceiling mounting 90°; S25=Stanchion mounting 25°; S90=Stanchion mounting 90°; P30=Pendant mounting.

Remarks:

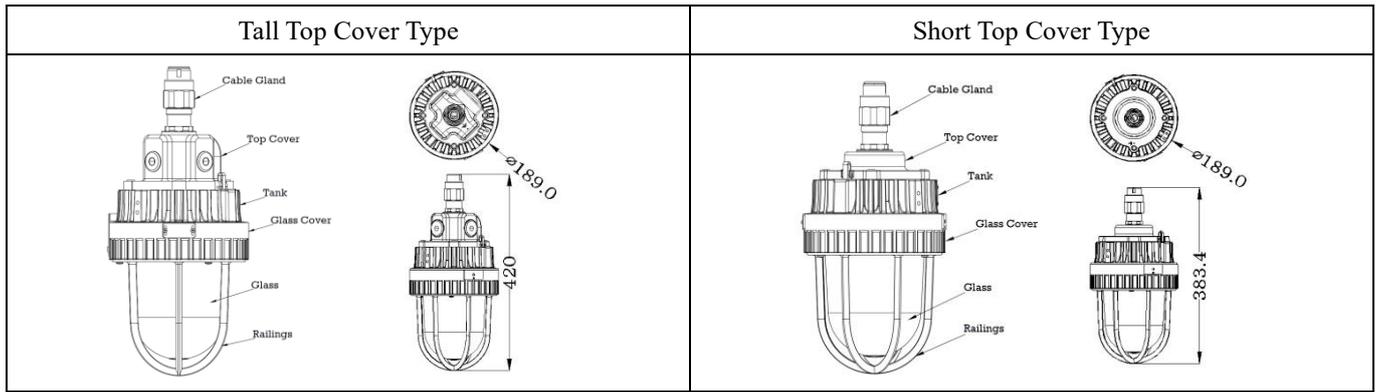
1. When LED watts choose is "1," it consists of 10W LED, the highest wattage is 40W.
2. When LED watts choose is "2," it consists of 20W LED, the highest wattage is 80W.
3. When LED watts choose is "A," it consists of 10W and 20W LED, the highest wattage is 70W.
4. When LED watts choose is "B," it consists of 10W and 33W LED, the highest wattage is 63W.
5. When LED watts choose is "D," it consists of 10W, 20W and 33W LED, the highest wattage is 73W.
6. When voltage is 24V, only 80W is available.

4.4 L1219D

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
THT-EX	1219	*	*	W	A	0	1	_*

- (1) Brand name
- (2) Series designation, 1219=L1219 series.
- (3) C.C.T., B=Blue light, Y=Yellow light, R=Red light, G=Green light.
- (4) Voltage, A=24Vac, B=100Vac, C=110Vac, D=200Vac, E=220Vac, F=120Vac, G=208Vac.
- (5) Type of LED carrier, W=Warning Light.
- (6) Type of Top Cover, A=Tall type (L1105T).
- (7) LED quantity, 0=Warning light set.
- (8) LED watts choose, 1=10W.
- (9) Mounting type. W25=Wall mounting 25°; W90= Wall mounting 90°; H25=Hanging mounting 25°; H90= Hanging mounting 90°; C90=Ceiling mounting 90°; S25=Stanchion mounting 25°; S90=Stanchion mounting 90°; P30=Pendant mounting.

5. Dimensions (All Dimensions in mm) – Subject to Alterations

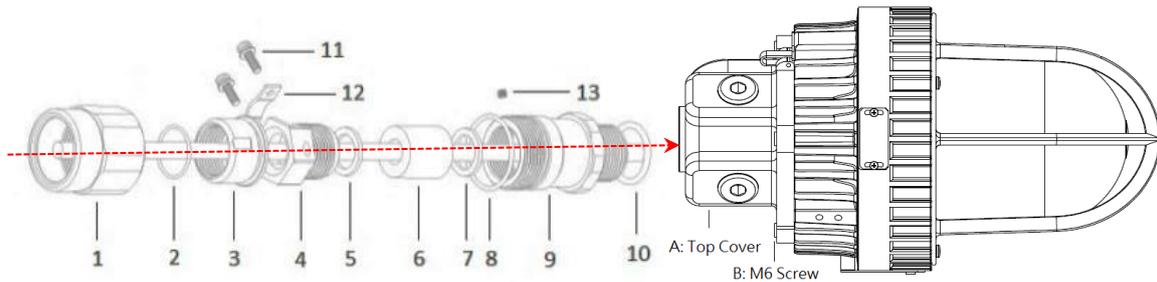


6. Assembly and Installation

6.1 Electrical Connection

Overview

A: Top Cover	B: M6 Screw×4	1: Sleeve	2: O-Ring	3: Connector (G 3/4")
4: Pressure nut	5: Washer	6: Tube	7: Washer	8: O-Ring
9: Body	10: O-Ring	11: M4 Screw×2	12: Nut Plate	13: M4 Socket Set Screw×1



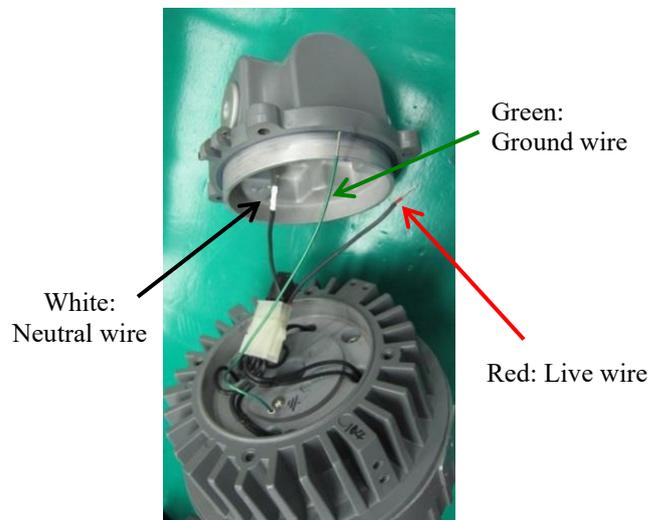
Cable Entries

6.1.1.1 Short Type of Top Cover

This Short Type of Top Cover is equipped with one cable entry hole by mounting a Cable Gland. To mount the Cable Gland proceed as follows:

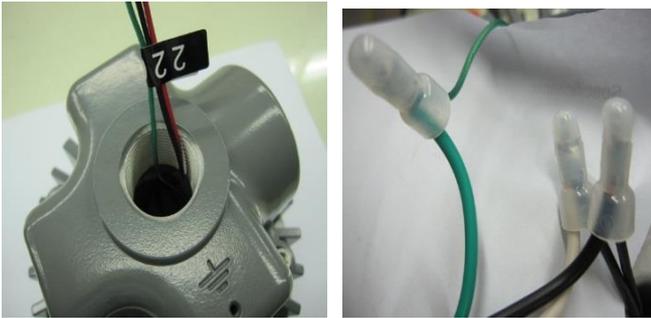
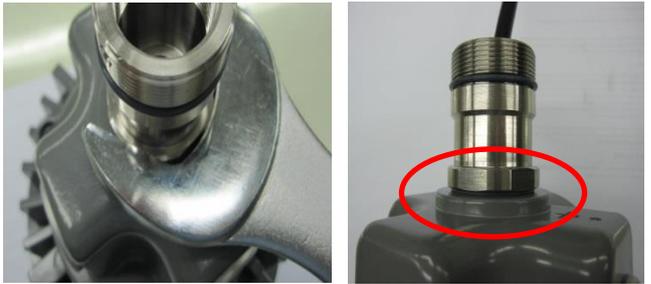
Electrical Connection

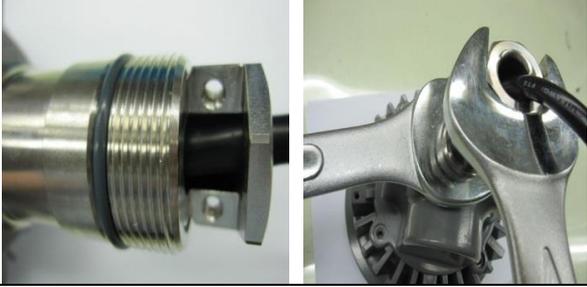
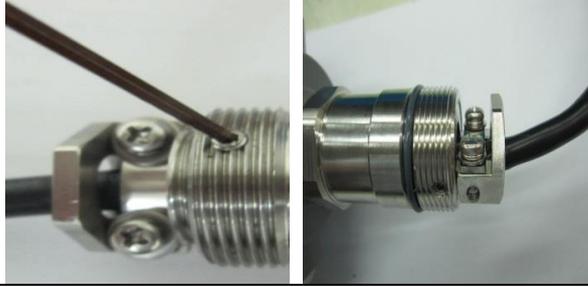
- ☞ Loosen the 4×M6-screw (B) of Top Cover (A) of the luminaire.
- ☞ Disassemble the Cable Gland; assemble the Body (9) and O-ring (10) of Cable Gland and tighten the Body (9) with the entry hole of the Top Cover, 650 kgf-cm.
- ☞ Insert the cable from outside through each part of Cable Gland and the Top Cover (A) which has been tightened with Body (9) of Cable Gland.
- ☞ Introduce the wires of the luminaire with wires of the cable by attached closed-end-terminals as following (see right picture):
 White-wire connects to Neutral;
 Red-wire connects to Live;
 Green-wire connects to Ground.
- ☞ Re-attach the Top Cover and tighten it by using the respective M6 screws (B), 24.5 kgf-cm.



- ☞ Orderly assemble the O-ring (8), Washers (7) & (5) and Tube (6), and Screw tighten Pressure nut (4) with the Body of Cable Gland by appropriate tool, 600 kgf-cm.
- ☞ Screw and tighten the M4 Socket Set Screw (13), 24.5 kgf-cm.
- ☞ Position the Nut Plate, then screw and tighten the 2 M4 screws provided, 24.5 kgf-cm.
- ☞ Assemble the O-ring (2) with the Connector (3), and attach the Sleeve (1) with the Main Body (9).
- ☞ Check the tightness of the Cable Gland and Top Cover, ensure the IP protection guaranteed. The Cable Gland is assembled completely.

Assemble the Cable Gland by following procedure:

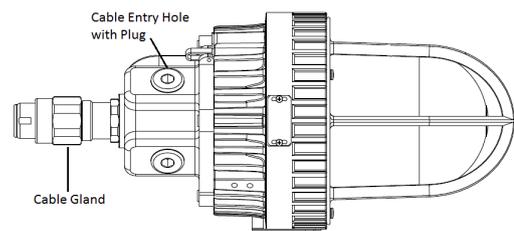
Step 1	Step 2
	
<p>Make sure above red-line areas have been set with matching O-Rings. Check below 7 parts are contained: ①Body②Nut Plate③Washer④Tube ⑤Pressure Nut ⑥Connector⑦Sleeve</p> <p>Note: The cable must be certified with EN/IEC.</p>	<p>Insert the cable into and through each part of Cable Gland successively, as set forth in above picture. Use watertight tape to twist round the screw part as red circle of above picture.</p> <p>Note: It's recommended to twist round the screw part with 3-circle.</p>
Step 3	Step 4
	
<p>Connect the Green-wire with the Ground-wire, connect the White-wire with the Neutral-wire and connect the Red-wire with the Live-wire by using the Closed-end-terminal, then put the said wires in the connection chamber of lighting fixture.</p> <p>Note:</p> <ol style="list-style-type: none"> 1. Pull the wires to ensure the Closed-end-terminal are fixed. 2. Ensure the description of voltage on the cables fit with the requirement of use. 	<p>Tighten the Cable Gland with the entry hole of cable of lighting fixture by using a wrench.</p> <p>Note:</p> <ol style="list-style-type: none"> 1. Torque Range: 65N.m. 2. O-Ring used in the connection area of Cable Gland and the lighting fixture, as red circle area on above picture, should not be pressed and extended over the outside diameter of Cable Gland.

Step 5	Step 6
	
<p>Put the parts that are worn by the cable as described in the Step 2 into the Cable Gland, then clockwise screw the "Pressure Nut" with 60N.m torque range, as set forth on above picture.</p> <p>Note: Please see the left picture to learn how to screw the Pressure Nut.</p>	<p>Press the Nut Plate against the cable and use M4 screws to fix the Pressure Nut with cable. Use a M4 screw to fix the cable from the side face of the Pressure Nut, as set forth on above left picture.</p> <p>Note: Make sure the M4 screws are completely tightened to make the cable be fully fixed.</p>
Step 7	Step 8
	
<p>Put the "Connector" in the volume of "Sleeve" and tighten the "Sleeve" with the body of Cable Gland, as above picture.</p>	<p>Completion of the Cable Gland setting.</p>

6.1.1.2 Tall Type of Top Cover

- ☞ This Tall Type of Top Cover is designed with four cable entry holes that users can choose either of them connecting the power as necessary. (See right picture).
- ☞ Choose a cable entry hole as necessary and mount the Cable Gland with the top cover and introduce wires of the luminary with wires of outside cable by following the steps as described in the section of Electrical Connection of 6.1.1.1 – Short Type of Top Cover.
- ☞ Rest of cable entry holes that are not used for

electrical connection should be tightened by the plug nut, 650 kgf-cm, as provided, to ensure the protection of flame-proof does work effectively.



6.2 Mounting Bracket Installation

6.2.1 Wall/Hanging Mount Bracket

- ☞ The mount bracket is for the use of both wall mount (Figure 1) and hanging mount (Figure 2).
- ☞ Position the bracket holders and fix it by means of the provided M6 screws, 24.5 kgf-cm.
- ☞ Secure the wall mounting bracket to the structure by using four fasteners (M8/SUS316, not provided).
- ☞ The lighting can be adjusted to 25° and 90°.

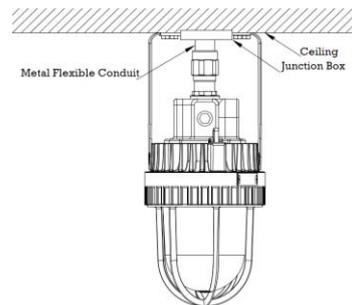


Figure 1

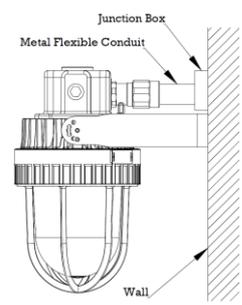


Figure 2

6.2.2 Ceiling Mount Bracket

- ☞ The mount bracket is for the use of ceiling mount (Figure 3).
- ☞ Position the bracket holders and fix it by means of the provided M6 screws, 24.5 kgf-cm.
- ☞ Secure the wall mounting bracket to the structure by using four fasteners (M8/SUS316, not provided).

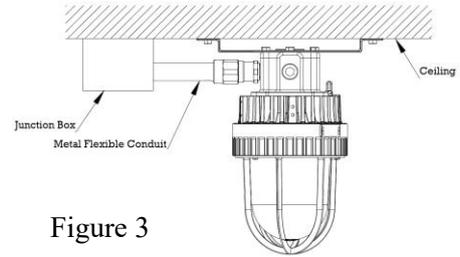


Figure 3

6.2.3 Pendant mount

- ☞ The mounting type is for the use of bending tube mounting (Figure 4).
- ☞ Tube mounting thread is M35.
- ☞ Thread the tube mounting on conduit and torque until wrench-tight as requirement, 6600 kgf-cm.

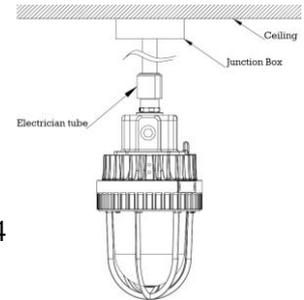


Figure 4

6.2.4 Stanchion 25° & 90°

- ☞ The mounting types are for the use of bending tube mounting, 25° & 90° (Figure 5, 6). Tube mounting thread is M35.
- ☞ Thread the tube mounting on conduit and torque until wrench-tight as requirement, 6600 kgf-cm.

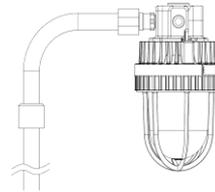


Figure 5

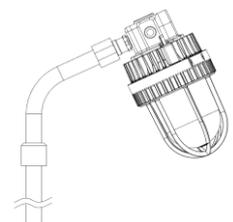


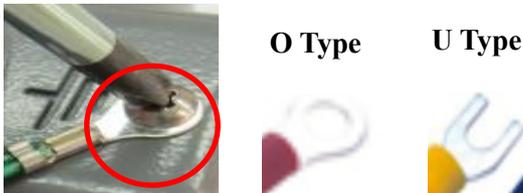
Figure 6

6.3 Ground wire

- ☞ External earth screw location as showing in the Red Circle of below pictures.



- ☞ The external earth ground wire installation and terminal type as show the following picture.



- ☞ Ground wire cross-sectional area=4mm² , max LED current=1A; @V=110Vac-10%.
- ☞ Both ground screw and washer material is M4*5 stainless steel.
- ☞ Torque Requirement: 7 kgf.cm.
- ☞ Screw material is SUS316.
- ☞ Ensure wire is tied assured.

6.4 Putting into Service

Before putting into operating, it's necessary to ensure that:

- ☞ the lighting is correctly installed.
- ☞ the connection has been correctly made.
- ☞ the cable has been inserted correctly.

7. Maintenance

WARNING

- ▶ **To avoid dangers due to energized parts, all connections and wiring must be disconnected from the power supply. Secure the connections against unauthorized activation.**
- ▶ **To avoid risk of burn to hands, let the housing, the cable gland and the protective glass cool down for approximate 30 minutes before touching them.**
- ▶ **Maintenance work is not permitted on flameproof enclosures. Repairs are only to be carried out by the manufacturer. Unauthorized repair shall cause the manufacturer's liability and warranty expires.**

7.1 Regular Maintenance

- ☞ Consult the relevant national regulations (e.g. IEC/EN 60079-17) to determine the type and extent of inspections.
- ☞ Arrange the plan of regular inspection with the equipment, one time per 3-month at least, so that any defects in the equipment which may be anticipated are promptly detected.

To check as part of the maintenance schedule as following:

- ☞ Cracks or damages on the glass cover and/or on the enclosure.
- ☞ Condition of the connecting cables.
- ☞ Screws of the mounting bracket are tightened.

8. Accessories and Spare Parts

WARNING

Use only original THT-EX accessories and spare parts. For accessories and spare parts, see data sheet at www.tht-ex.com.

9. Transport, Storage and Disposal

- ☞ Transport and storage is only allowed in the original packaging, on the way pointed out on the carton box.
- ☞ Transport – Shock-free in its original carton, do not drop, and handle carefully.
- ☞ Store – Store in a dry place in its original packaging.
- ☞ Disposal – Ensure environmentally friendly disposal of all components according to the legal regulations.