

# Operating Instructions

## Explosion-proof LED Tower Lamp

### Model L1920

# THT-EX

Drawing No: RD-EX-L1920-A

Revision Level: A1

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## Contents

1. General Safety Instructions .....	1
2. Intended Field of Application.....	1-2
3. Technical Data .....	2
4. Model code.....	3
5. Dimension .....	3
6. Assembly and Installation .....	3-7
7. Maintenance .....	7-8
8. Accessories and Spare Parts .....	8
9. Transport, Storage and Disposal .....	8

## 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.

**WARNING – Potential Electrostatic Charging Hazard.**

**WARNING – Do not clean or rub when an explosive atmosphere may be present.**

**If the equipment is used in hazardous zone 2 location, the equipment is intended for installation in an area providing at least pollution degree 2**

### 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 60079-14) apply.

### 1.2 When operating the device:

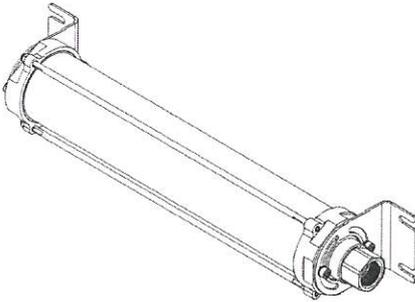
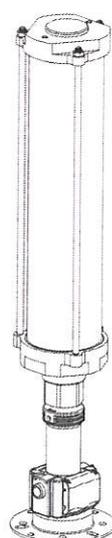
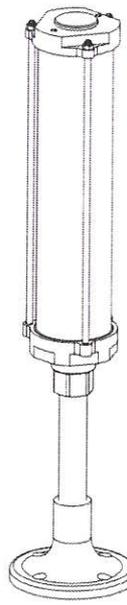
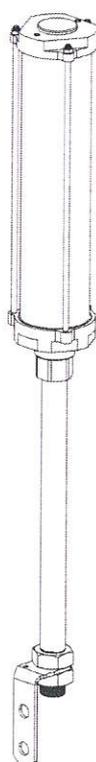
- ☞ Ensure the operating instructions are made available for the person in charge on location at all times.
- ☞ Observe these instructions, other working instructions and national safety regulations.
- ☞ Verify the implementation of safety instructions.

## 2. Intended Field of Application

The Explosion-proof LED Tower Lamp, Model L1920 is intended for using in gas explosive atmospheres (Zone 2 according to IEC 60079-10-1) and dust explosion hazards (Zone 21 according to IEC 60079-10-2).

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	Description					
Explosion Protection IECEX	IECEX TUR 21.0040X					
Gas Explosion Protection	Ex ec IIC T4 Gc					
Dust Explosion Protection	Ex tb IIIC T80°C Db					
ATEX	TÜV 21 ATEX 8710 X and TÜV 21 ATEX 8713 X					
Gas Explosion Protection	CE II 3 G Ex ec IIC T4 Gc					
Dust Explosion Protection	CE0035 II 2 D Ex tb IIIC T80°C Db					
Function	Non-Flashing mode Flashing mode Flashing mode with Buzzer Non-Flashing mode with Buzzer					
Rated Voltage	110Vac ,50/60Hz 220Vac ,50/60Hz 12Vac ,50/60Hz 24Vac ,50/60Hz 12Vdc 24Vdc					
LED Lamp and Buzzer Rated Current (Reference only) **Regardless of Color						
	12VDC	12VAC	24VDC	24VAC	110VAC	220VAC
LED**	0.08A	0.15A	0.05A	0.07A	0.02A	0.02A
Buzzer	0.08A	0.08A	0.02A	0.02A	0.01A	0.01A
Ambient Temperate	-20°C ≤ Ta ≤ +40°C					
Degree of Protection	IP67 / IPX4					
Color	Red ,Orange ,Green ,Blue ,White					
Mounting Type		Pole type (Including mounting base)				
		Foldable mount	Foldable mount	Foldable mount	Foldable mount	
						



#### 4. Model Code

THTH1920①②DZ③④T

(1) Function, L = Non-Flashing mode

F = Flashing mode

S = Flashing mode with Buzzer

B = Non-Flashing mode with Buzzer

(2) Appearance type, N = Without Terminal Block (Provide cable)

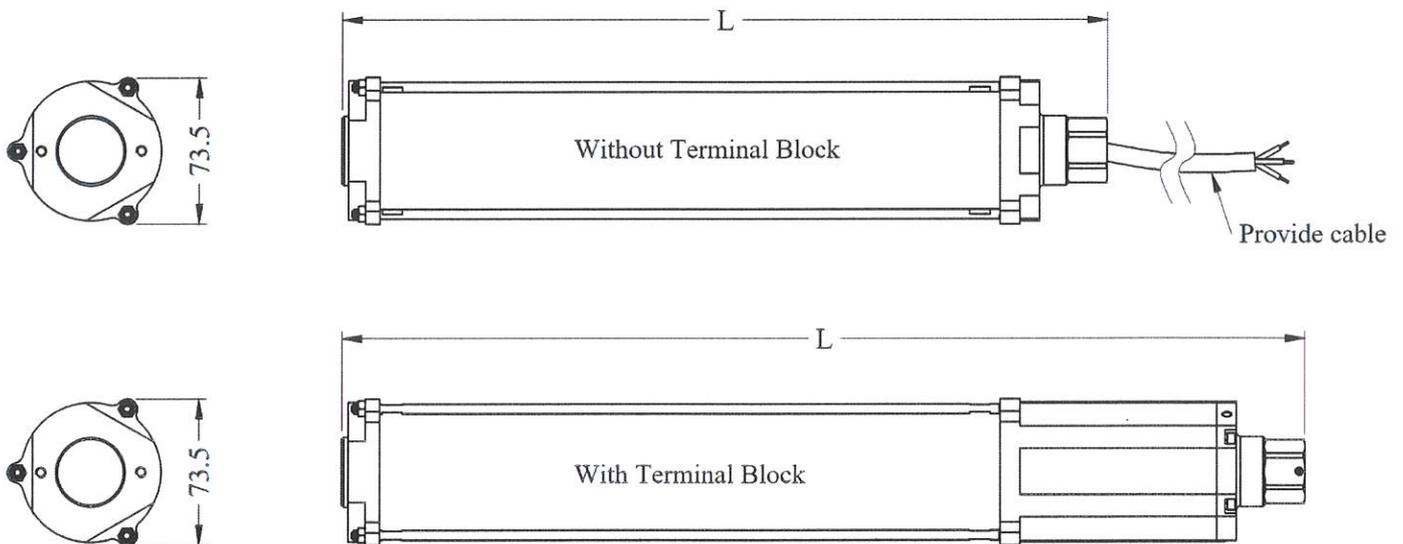
C = With Terminal Block

(3) Voltage, 1 = 110V ,2 = 220V ,3 = 24V ,L = 12V

(4) Section, 1~5 (Red ,Orange ,Green ,Blue ,White ,selecting from top to bottom)



#### 5. Dimensions and Weight (All Dimensions in mm)



Total Height "L"				
Section	Without Terminal Block		With Terminal Block	
	THTH1920LNDZxxT	THTH1920FNDZxxT THTH1920SNDZxxT THTH1920BNDZxxT	THTH1920LCDZxxT	THTH1920FCDZxxT THTH1920SCDZxxT THTH1920BCDZxxT
1	255 mm	255 mm	354 mm	354 mm
2	255 mm	319 mm	354 mm	418 mm
3	319 mm	383 mm	418 mm	482 mm
4	383 mm	447 mm	482 mm	546 mm
5	447 mm	511 mm	546 mm	610 mm

#### 6. Assembly and Installation

Transient protection shall be provided that is set at a level not exceeding 140 % of the peak rated voltage value at the supply terminals to the equipment.

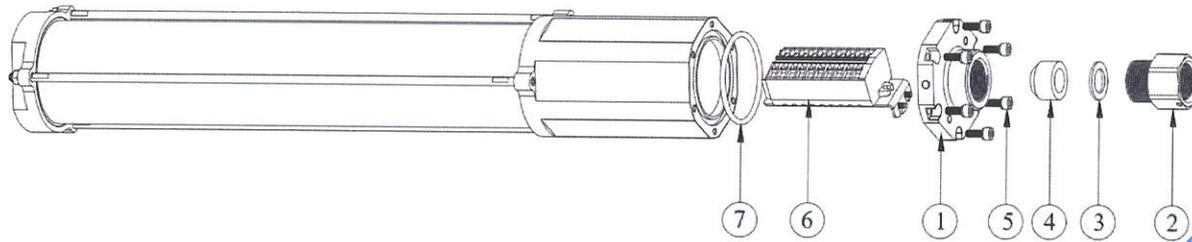
The terminals shall be mounted in an enclosure that meets the requirements of an approved type of protection as specified in IEC 60079-0, clause 1 or IEC 60079-31.

When installing the terminals in an enclosure designed to Increased Safety "eb" type of protection as specified in IEC 60079-7, the clearance and creepage distances shown in table 2 shall be duly considered. If accessories are used, the instructions for installation provided by the manufacturer shall be observed.

Since in this case the requirements of the standard are identical, the terminal blocks may be used both in group II and group I.

The use of this component requires a further assessment by an ExCB.

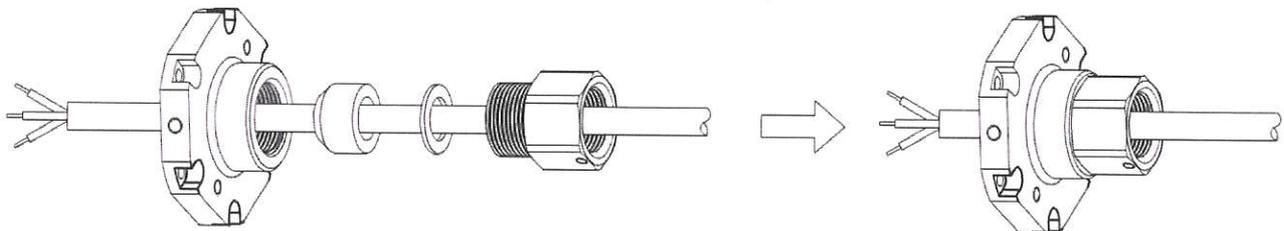
### 6.1 Conductor termination (THTH1920xCDZxxT)



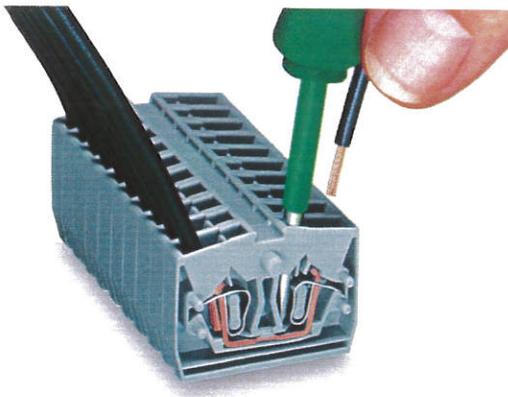
No.	Item	No.	Item
1	Down Cover	5	M4 Screw
2	Pressure Nut	6	Terminal Block
3	Washer	7	O-ring
4	Sealing Tube		



- ☞ Please loosen the M4 screw (combine the M4 washer) on the Down Cover to open the Down Cover.
- ☞ Pass the cable through Pressure Nut, Washer, Sealing Tube and Down Cover.
- ☞ Screw the Pressure Nut into Down Cover. (Torque Values: 65Nm.)

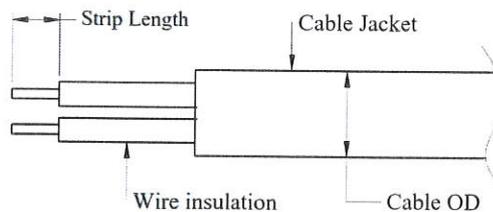


- ☞ Use the flathead screwdriver to compress the spring. Then insert the wire into the terminal. Release the flathead screwdriver. (For wiring diagram, please refer to 6.2)

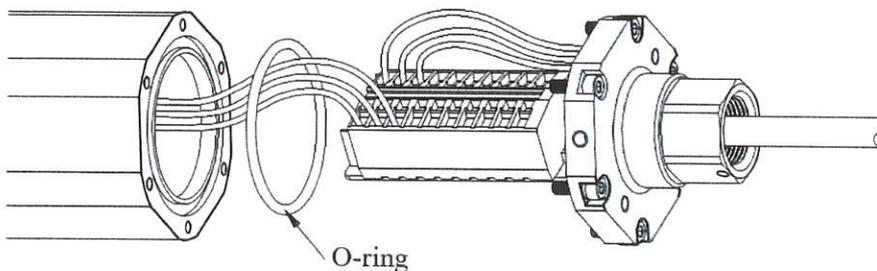


#### Specification of the used cable:

- a) Cable OD range: 7.5~14.0mm.
- b) The cross sectional area of wire: 0.2~0.75 mm<sup>2</sup> / 24~18 AWG.
- c) Wire Strip Length: 9mm.

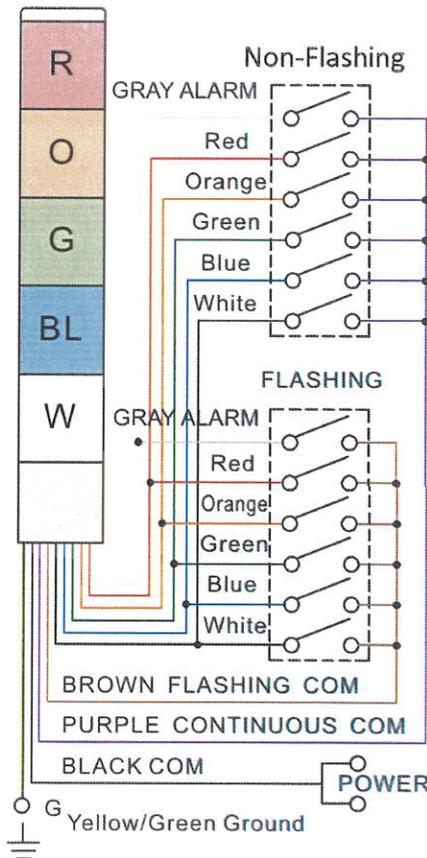
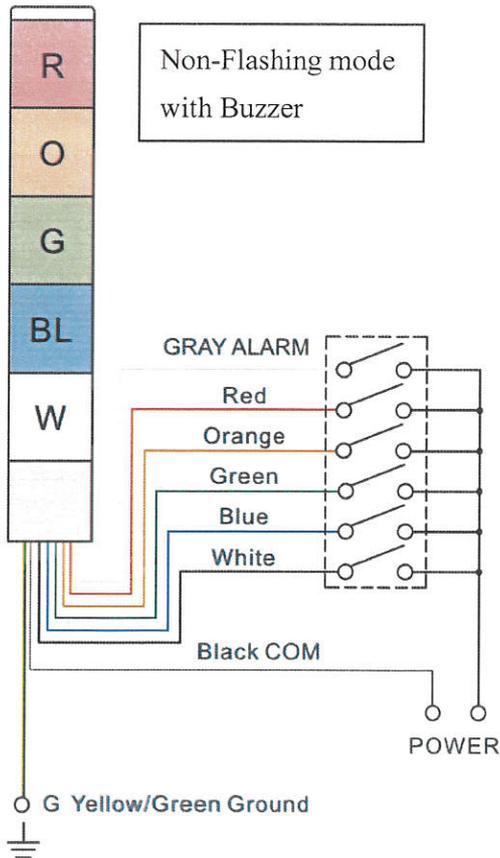
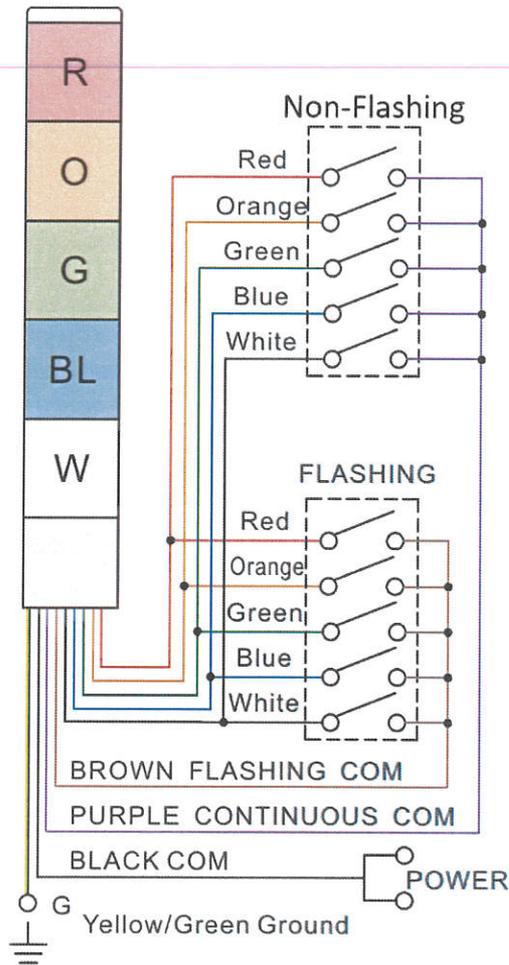
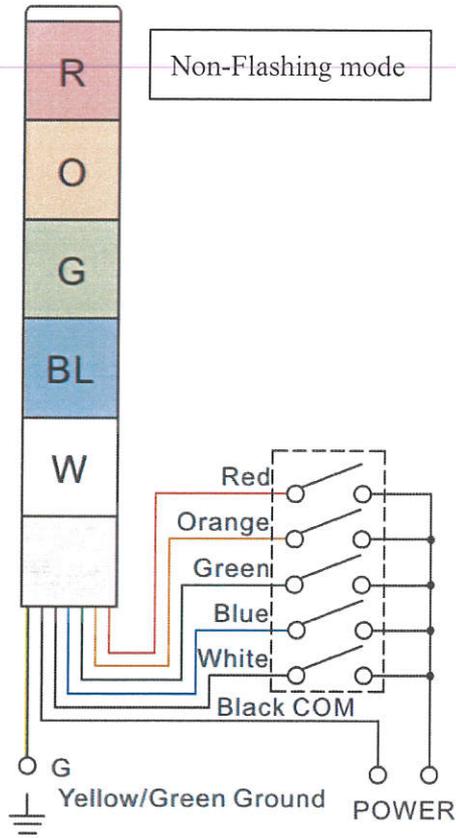


- ☞ Please check that the O-ring are installed when fixing the screw.



- ☞ Fix the M4 hexagon screw to the Body through the Down Cover. Please taking extreme care not to damage the surface in the process. (Torque Values: 14.0 kgf-cm.)

## 6.2 Wiring diagram



### 6.3 Mounting Bracket Installation

#### 6.3.1 Two Position (Wall /Ceiling) Adjustable Trunnion Mounting Bracket

- The mount bracket is for the use of both ceiling mount (Figure 1) and wall mount (Figure 2).
- Position the bracket holders and fix it by means of the provided M5, Torque Values:29.0 kgf-cm.
- Secure the wall/ceiling mounting bracket to the structure by using four fasteners (not provided) (Figure 3).
- The angle of lighting fixture can be adjusted.

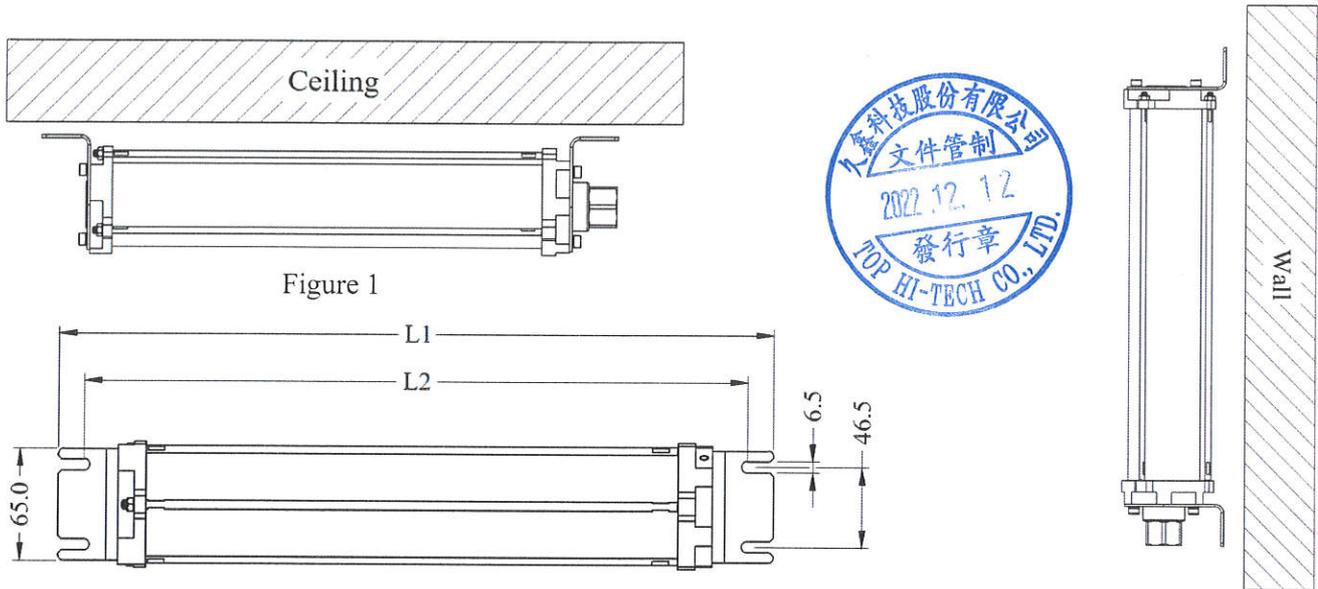


Figure 1

Figure 3

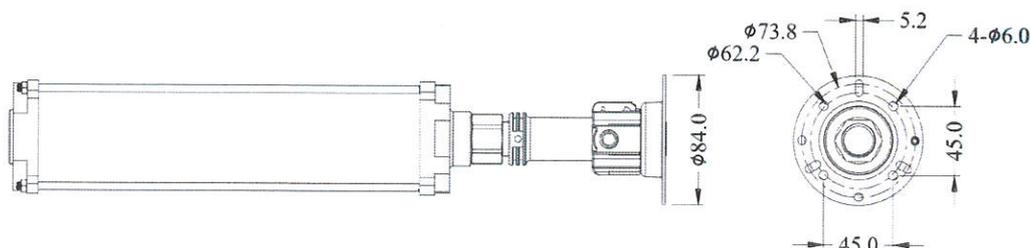
Figure 2

Length "L1"				
Section	Without Terminal Block		With Terminal Block	
	THTH1920LNDZxxT	THTH1920FNDZxxT THTH1920SNDZxxT THTH1920BNDZxxT	THTH1920LCDZxxT	THTH1920FCDZxxT THTH1920SCDZxxT THTH1920BCDZxxT
1	288 mm	288 mm	387 mm	387 mm
2	288 mm	352 mm	387 mm	451 mm
3	352 mm	416 mm	451 mm	515 mm
4	416 mm	480 mm	515 mm	579 mm
5	480 mm	544 mm	579 mm	643 mm
Length "L2"				
Section	Without Terminal Block		With Terminal Block	
	THTH1920LNDZxxT	THTH1920FNDZxxT THTH1920SNDZxxT THTH1920BNDZxxT	THTH1920LCDZxxT	THTH1920FCDZxxT THTH1920SCDZxxT THTH1920BCDZxxT
1	258 mm	258 mm	357 mm	357 mm
2	258 mm	322 mm	357 mm	421 mm
3	322 mm	386 mm	421 mm	485 mm
4	386 mm	450 mm	485 mm	549 mm
5	450 mm	514 mm	549 mm	613 mm

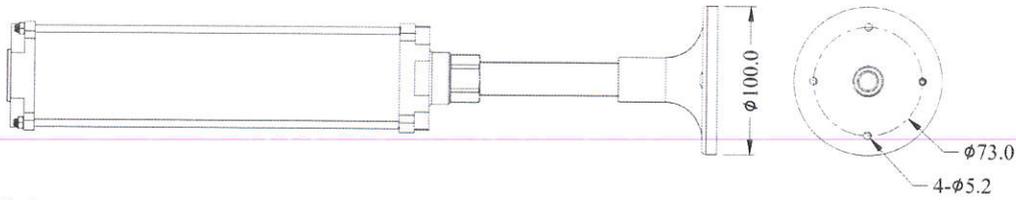
#### 6.3.2 Pole type (Including mounting base)

- Secure the pole type mounting base to the structure by fastener (not provided).

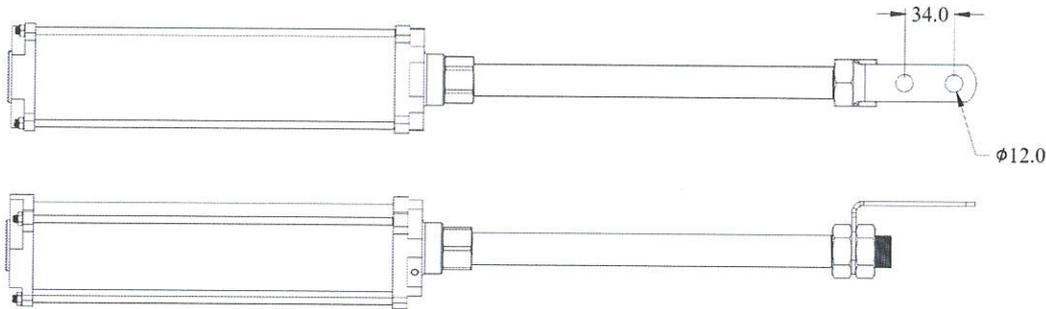
##### Foldable mount



## Pole stand



## Pole mount



## 6.4 Ground wire

- ☞ The external earth ground hole as show the Figure 4.
- ☞ The terminal type as show the Figure 5.
- ☞ Ground wire cross-sectional area = 4 mm<sup>2</sup> , max current = 1A; @V = 12 Vac-10%.
- ☞ Both ground screw and washer material is stainless steel.
- ☞ Screw hole spec: M5 ,torque requirement: 14.5 kgf-cm.
- ☞ Ensure wire is tied assured.



Figure 5

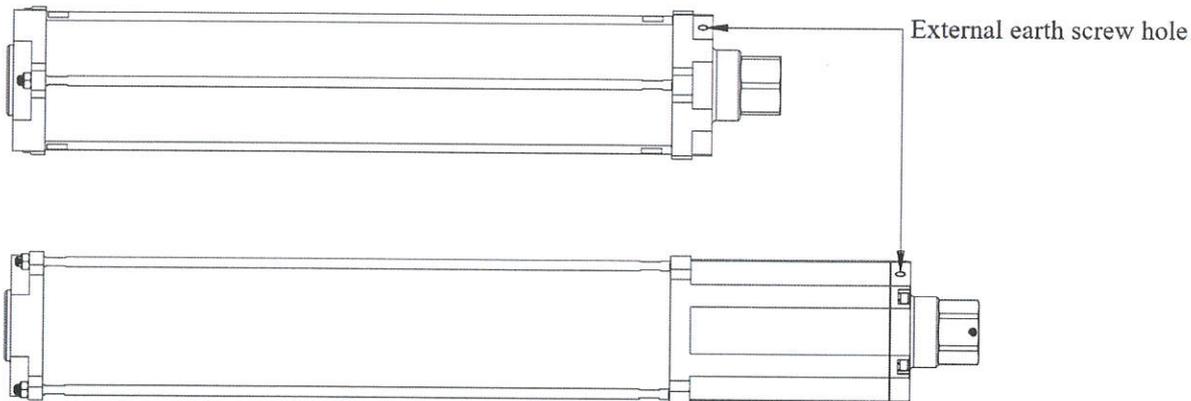


Figure 4

## 6.5 Putting into Service

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

- ☞ the Tower lamp is correctly installed.
- ☞ the connection has been correctly made.
- ☞ the cable has been inserted correctly.
- ☞ the voltage is 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 luminaire 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.

## Regular Maintenance

- ☞ Consult the relevant national regulations (e.g. IEC 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](http://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.

