

Installation instructions

This product must be installed by a qualified electrician, please read this instruction before installation.

To Dear clients:

Thank you for using our products, in order to ensure that you fully understand how to use this product safely and properly. Please read the instructions carefully. Meanwhile, please keep this manual carefully for reference in the future.

Remind:

1. For installation or maintenance, please cut off power supply and Don't open the enclosure while in the explosive atmosphere. Before turn it on, must confirm the light source and electrical installation is right connected.
2. No matter what circumstances, LED Luminaires can't be covered by thermal insulation material, or similar materials.
3. When an exception occurs, please quickly cut off the power and contact the distributor.
4. The product is suitable for outdoor, while using or just cut off the power for a minute, please don't touch the light.
5. Any maintenance should be performed by trained person only.
6. **The battery is not intended to be replaceable.** Please contact the agents or factory to get new one if the battery damaged.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. Installation shall be performed according to the latest version of IEC 60079-14.
2. For LED lamps of different models and enclosure structures, the corresponding relationships among the applicable ambient temperature, temperature class, maximum input power, and input voltage range are shown in the technical data in the appendix.
3. The blanking element, LED driver and external cable gland are separate certified in compliance with IECEx Certificate of conformity. It cannot be replaced or repaired by the end-user. Contact the manufacturer in case of damage or repair.
4. During normal operation, the equipment must be internally and externally grounded.
5. The cable shall be selected and installed by the end user. The installer shall ensure that the cable is effectively clamped, and the clamping shall be performed outside the enclosure, adjacent to the mounting position of the cable entry device.
6. When using an LED lamp with an emergency power supply, the internal battery pack shall not be replaced arbitrarily. If replacement is necessary, contact the manufacturer.
7. The LED luminaire enclosure and the PC cover may present a risk of electrostatic charge accumulation. Therefore, they shall only be cleaned with a damp cloth.

1. General Description

List of the standards:

- IEC 60079-0:2017 Ed.7.0 Explosive Atmospheres - Part 0: Equipment - General Requirements
- IEC 60079-7:2017 Ed.5.1 Explosive Atmospheres - Part 7: Equipment Protection By Increased Safety "e"
- IEC 60079-18:2025 Ed.5.0 Explosive Atmospheres - Part 18: Equipment Protection By Increased Safety "m"
- **IEC 60079-31:2013 Ed.2.0** Explosive Atmospheres - Part 31: Equipment Dust Ignition Protection By Enclosure "t"

Ex-marking

The label shall be include below protection mark and ambient temperature.

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Ex-marking	Temperature Classification	Ambient Temp.	Situation
Ex eb mb IIC T6...T4 Gb	T6/T5/T4	-40°C to +70°C	Normal
Ex tb IIIC T80...100°C Db	T4/T5/T6	-10°C to +60°C	Emergency Power

1.1 Warnings and Cautions

Electrostatic warning:

- POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS!
- Clean the luminaires by damp cloth.

WARNING:

- KEEP TIGHTLY CLOSED WHEN IN OPERATION.
- DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT!
- POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS!
- DO NOT OPEN WHEN ENERGIZED

CAUTION:

- Min 105°C power supply cable shall be provide.
-

Model description:

EX	***W	A	D	50	D40	CCG	A	O	S	2	M	-E
1	2	3	4	5	6	7	8	9	10	11	12	13

Position Description

Position:	Description
1	Explosion-proof
2	Rated power of the driver output: 20, 40...480 W 20=20 W, 40=40 W... 480=480 W
3	Product code: A, A2, A3, A4, B, B2, B3, B4, B5, BX, FLGA1, FLGA2, FLGA4, FLGA5, FLGB1, FLGB2, FLGB4, FLGB5
4	Dimmable option: D, blank D: Dimmable, blank: Non-dimmable
5	Color temperature: 18, 20,27...65 18=1800 K, 2000K, 27=2700 K...65=6500 K
6	Beam angle: D40, D60, D90, D120 D40 = 40 degrees, D60 = 60 degrees D90 = 90 degrees D120 = 120 degrees
7	Diffuser type: Blank, CCG, CCP, CFP, CSG, FFG, FCG, FSG Blank = Clear Flat Glass, "CCG" = Clear Convex Glass, "CCP" = Clear Convex PC, "CFP" = Clear Flat PC, "CSG" = Clear Spherical Glass, "FFG" = Frosted Flat Glass, "FCG" = Frosted Convex Glass, "FSG" = Frosted Spherical Glass
8	8- Represents Driver Box Cover, it can be A, B, C, D, E, F, G, H, blank, B1, C1, D1, B2. "A" = Driver Housing A, "B" = Driver Housing B, "C" = Driver Housing C, "D" = Driver Housing D, "E" = Driver Housing E, "F" = Driver Housing F, "G" = Driver Housing G, "H" = Driver Housing H, Blank = Driver Housing A1, "B1" = Driver Housing B1, "C1" = Driver Housing C1, "D1" = Driver Housing D1, "B2" = Driver Housing B2.

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9	9- Represents Lamp Enclosure Heatsink, it can be O, blank, P "O" = Lamp Enclosure Heatsink O, Blank = Lamp Enclosure Heatsink P, "Q" = Lamp Enclosure Heatsink Q
10	10- Represents a number for Lens Cover, it can be blank or S Blank = Alternate Lamp Enclosure Cover 1 (Normal cover), "S" = Lamp Enclosure Cover 1 (Step cover).
11	Designates for LED type, it can be 1, 2 "1" = 5050, "2" = 2835
12	Input rating: Blank: 100-277 V AC, M: 200-277 V AC, D: DC input 125-270V DC
13	Emergency power: Blank or -E: blank: No emergency power, -E: With emergency power

1.2 General

1.2.1 Manufacturer: Dongguan Pan American Electronics Co., Ltd ; trade mark:

1.2.2 Model No.: EX-***W*****

1.2.3 Product code: A2/A/A3/A4/B2/B/B3/B4/B5/BX/FLGA2/FLGA4/FLGA5/FLGB2/ FLGB4/FLGB5

1.2.4 Input: 100-277VAC, 50/60Hz; 200-277V, 50/60Hz; DC125~270V

1.2.5 Electrical rate: I

1.2.6 Ambient Temp.: -40°C~ +70°C, Emergency: -10°C to +65°C

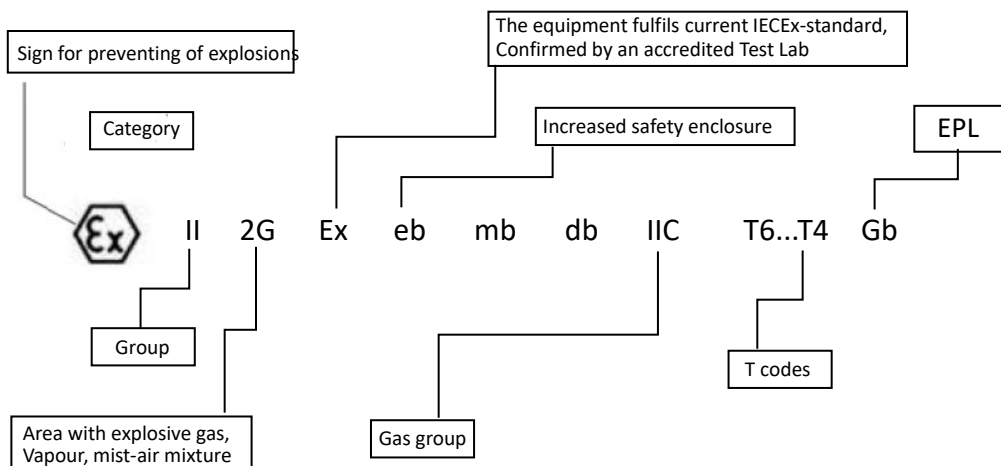
1.2.7 IECEx marking: Ex eb mb IIC T6...T4 Gb or Ex eb mb db IIC T6...T4 Gb; Ex tb IIIC T80...100°C Db

1.2.8 ATEX marking: II 2G Ex eb mb IIC T6...T4 Gb or II 2G Ex eb mb db IIC T6...T4 Gb;

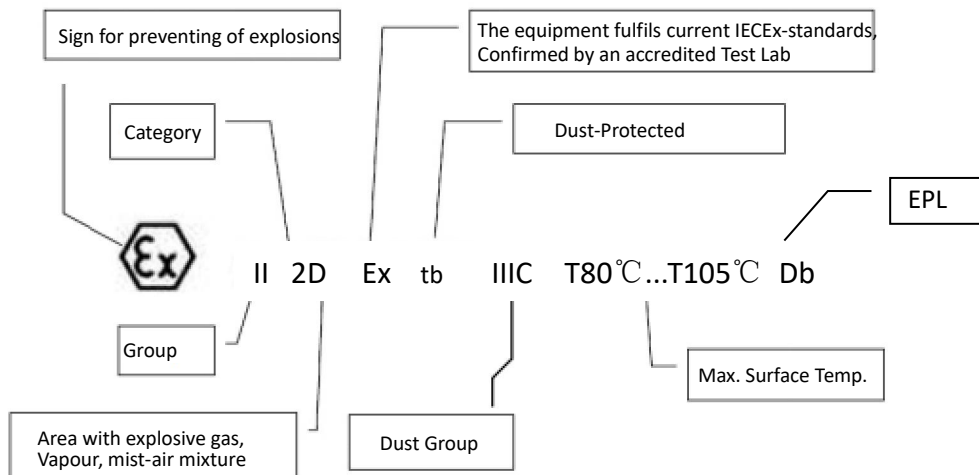
II 2D Ex tb IIIC T80...100°C Db

1.2.9 The certification body: TPS

Marking of entire machine



Series A, B, FLG installation instruction



2. Instructions for safety regulation

● On-site assembling

This instruction is specialized installation information for the user, based on the fixture is used for hazardous location, the installer shall be qualified electrician. The entry threads are 3/4"NPT, M20 or M25, please double the check the mark on the entry and select the pipe thread .

● Installation and erection

The power wire need to install in the explosion proof power pipe system or metal conduit,

● Adjustment and parameter setting

The minimum height of installation is 2 meters for this luminaires, it's for heating dissipation, please don't try to install less than the height.

● Putting into service - of the equipment / of the whole installation

Based one above conditions, the luminaires can work in 100-277VAC, 50/60Hz; 200-277V, 50/60Hz; DC125~270V power system, turn on the power to test the single fixture is work, and then start to mass install other luminaires. The Gas Atmosphere Group is IIC, EPL is **Gb** for gas protection; the dust Atmosphere Group is IIIC, EPL is Db for dust protection.

● Use and setting-up

All fixtures need to test the wiring is correct and the installation is safe before using, it will avoid the risk of electrical damage, installation safety problem, however these jobs must be carried by a qualified electrician.

● Maintenance

We recommend the user to clean the luminaires every 12 months by damp cloth if it's dirty. Please ask the qualified electrician to check if the fixture flicker or buzz.

● Assembling and disassemble

For a convenient packing, the accessories need to pack independently, so the installer need to read the instruction carefully before assembling accessories. Please contact the manufacture if there are some confusions during the installation. It's very important that turn off the power before removing the fixtures, and the installer need to have a qualified electrician, remember that turn off the power at least 5 minutes to operate the remove.

● Repair

To reduce the risk of ignition of hazardous atmospheres, disconnect the luminaire from the supply circuit opening. Keep tightly closed when in operation, connect the grounding finally. Don't try to repair a damage lamp if someone without an electrical license. When luminaire damaged, please don't try to repair the fixture without manufacture's guide. The manufacture will repair damage fixtures if they are in the warranty.

● Cleaning

The LED luminaire enclosure and the PC cover may present a risk of electrostatic charge accumulation. Therefore, they shall only be cleaned with a damp cloth.

● Where applicable and special remind

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The suitable application location is for gas zone1 & zone 2, dust zone 21 & zone 22; the gas group is IIC and dust group is IIC; gas EPL will be Gb, dust EPL will be Db. Please don't use a bend appearance fixture if you found this case.

● Training instructions for a safe use

The wiring diagram refer to below installation detailed instruction. Roughly, black wire contact to live wire, white wire to null wire, green and yellow wire to grounding. The connectors shall be in the junction box and the cable should be in the metal pipe or conduit.

● Packing list

That packing includes a equipment list as following

Items	QTY	Remark
Fixture	1	
Mounting accessory	1	Pole or bracket
Installation instruction	1	

● Store temp.: -40℃~+60℃

3. Instructions for installation

Critical Features

- Spacing** - In primary circuits, 6.4 mm minimum spacing are maintained through air and 3.2 mm over surfaces of insulating material between current-carrying parts of opposite polarity and between such current-carrying parts and dead-metal parts or low voltage isolated circuits.
- Accessibility of Live Parts** - All non-insulated live parts in primary circuitry should housed within a metal enclosure constructed with no openings.
- Grounding** - Internal grounding wire should connected to PE, external grounding wire should connected to the equipment protective ground wire, both internal and external grounding wire section area is not less than 4mm².
- Gable Gland** - An Ex certified cable gland need to install the entry for protection. Its marking shall be Ex db II C Gb and Ex tb III C Db IP66/IP68. The cable diameter is 8-12 mm, at least 250mm non-circular and sheath shall be keep for cable gland rubber holder. Please engaged at least 5 pcs threads by a tightening torque 130~180 N.m.
- Blind plug** - An Ex certified blind plug need to install the entry if there is no installation for the entries. Its marking shall be Ex db II C Gb and Ex tb III C Db IP66/IP68.

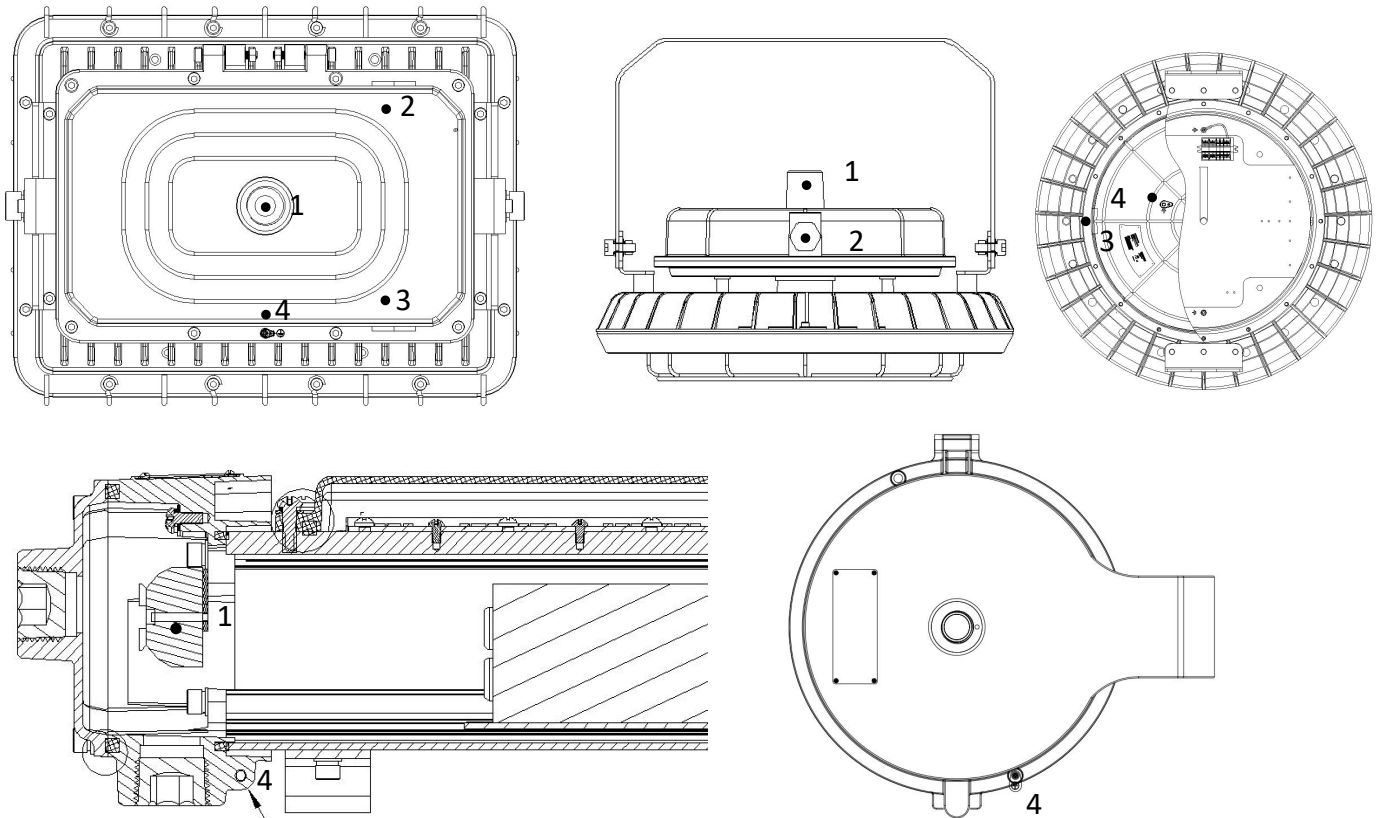
Installation notice

- The installer need to refer to **IEC/EN60079-14** standard.
- Internal and external grounding wire, including Single-conductor or Multiple-conductor, should be typed with steel cable lug first, then connected to the grounding connector. Tighten the screw and make sure screw torque not less than 2 N.m.
- When LED luminaires are installed in explosive gas atmosphere, cable gland or blanking plug, complying with IEC/EN60079-0 IEC/EN60079-31 and IEC/EN60079-7 with type of protection Ex mb eb II C Gb and degree of protection IP66, shall be adopted.
- Maximum service temperature of cable for field wiring shall be no less than 105℃, when the LED luminaires are used for -40~+70℃.
- **Gaskets frequency of replacement:** It's no need to replace the power enclosure gasket in the first 5 years, the installer can replace the power gasket after six years if the gasket is no good. The replacement is to be conducted by contacting with manufacturer using the sealing ring and sealing glue provided by the manufacturer. Clean the seal groove and then spread the sealing glue on it. Put

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seal ring into the groove and fasten for 20 minutes. Please do not open and replace light source enclosure gasket and the joint between light source enclosure and power enclosure. (Gasket installation- Match the gasket to the gap and close the enclosure. Please don't touch the lamp when just cut off power)

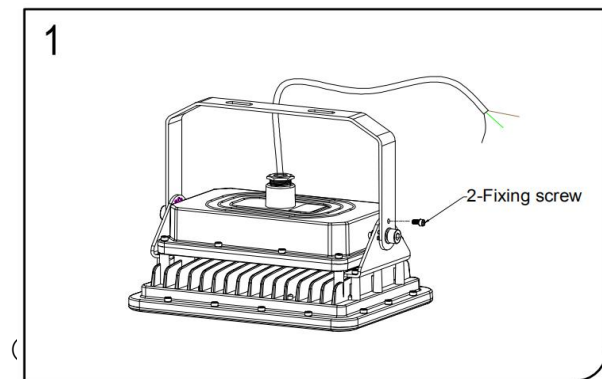
- Forbid to disassemble other components except power enclosure cover! If opened by wrong operation please contact the distributor.
- **Entry:** 3/4 NPT-22mm ANSI/ASME B1.20.1, Minimum number of engaged threads 5 pcs.
- **Section of cable:** All power supply wires minimum is 18AWG, and external bonding wire section should not less than 4 mm².
- **Type of cable gland:** 3/4" NPT, suitable for 8~11mm diameter cable, IP66/IP68.
- **Location of cable gland or plugs:** Point 1 for 3/4" NPT-22mm ANSI/ASME B1.20.1 cable gland, Point 2 and 3 for 3/4" NPT-22mm ANSI/ASME B1.20.1/M16×1.5-6g/M20×1.5-6g/M25×1.5-6g plugs. The entries must be installed a plug if they are unused. (Refer to below picture)
- **Location of external bonding:** The external bonding location as bellow picture where's point 4. Tighten the screw and make sure screw torque should not less than 4.83 N·m. (Refer to below picture)



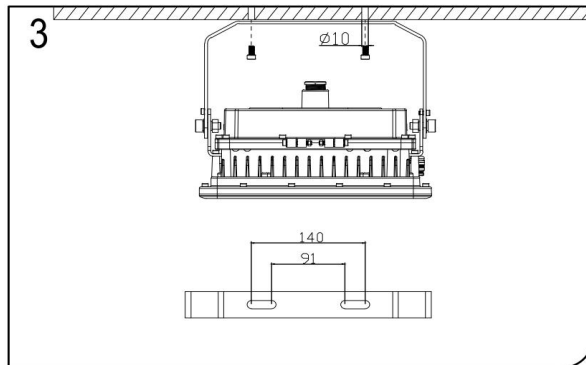
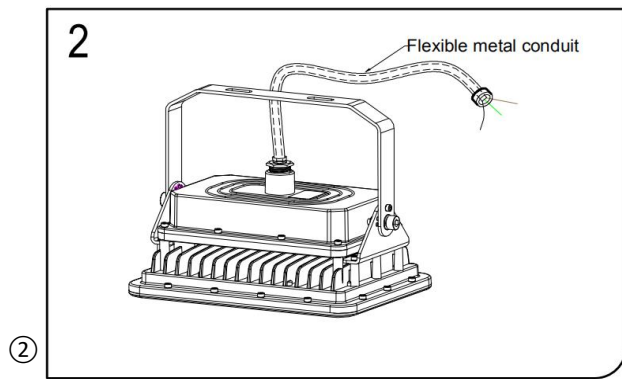
Series A operation instructions

1. Bracket mounting (Turn off the power before installation)

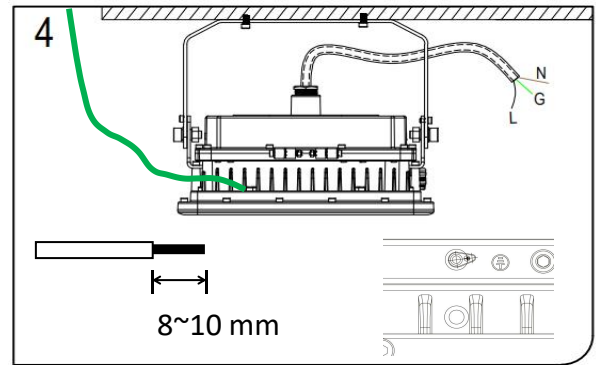
Series A, B, FLG installation instruction



(O-rings must be inspected for proper seating before reassembly)

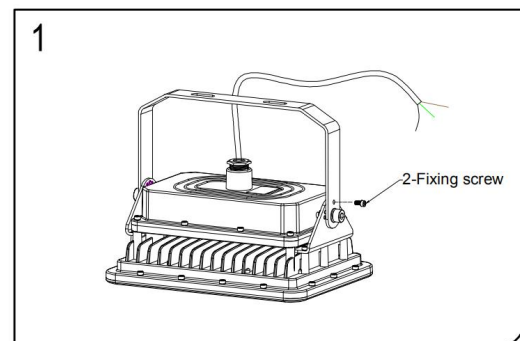


③ Drill 2x hole as Fig.2, the distance can be 91~140mm, fixing M10×30 mm expansion screws and fixture.

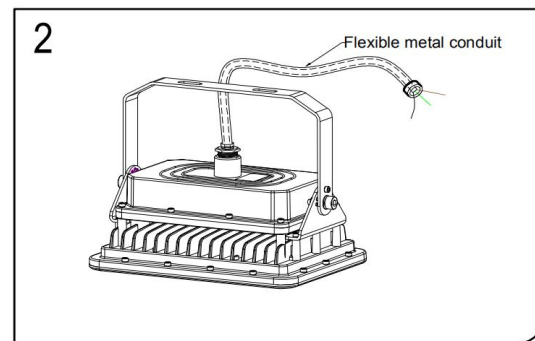


④ Connect the AC cable, black cable joins to L, white cable joins to N, green cable joins to grounding. Connect earthing cable to external bonding location.

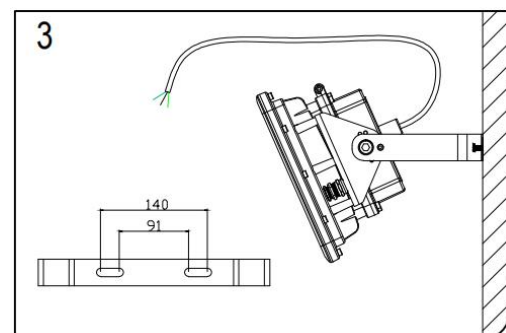
2. Wall mounting (Turn off the power before installation)



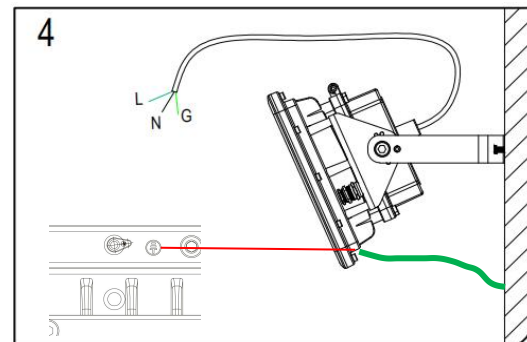
① Tighten 2x angle holder screws as Fig.1.
(O-rings must be inspected for proper seating before reassembly)



② Install 3/4 NPT Ex cable gland as per critical features point 4.



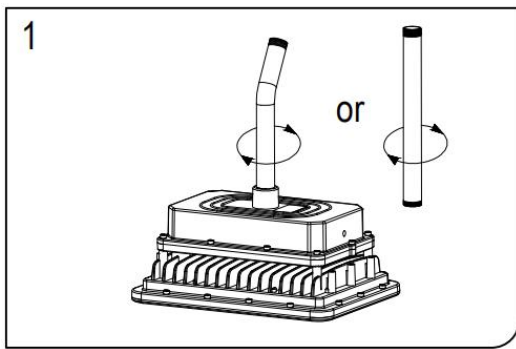
③ Drill 2x hole as Fig.2, the distance can be 91~140mm, fixing M10×30 mm expansion screws and fixture.



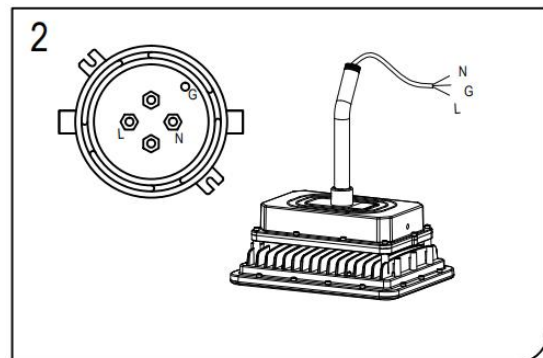
④ Connect the AC cable, black cable joins to L, white cable joins to N, green cable joins to grounding. Connect earthing cable to external bonding location.

3. Pole mounting (Turn off the power before installation, the pole need to filling 16mm compound)

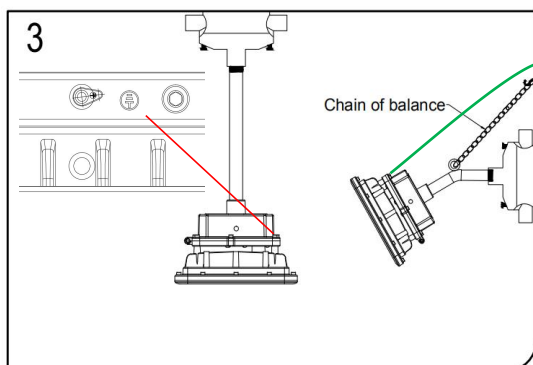
Series A, B, FLG installation instruction



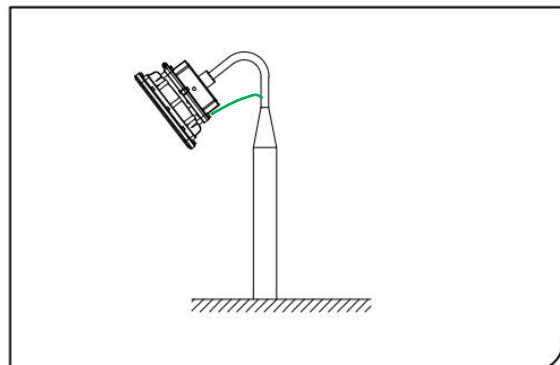
① Take the fixture and pole accessory out from cartoon box, tighten pole as Fig.1, filling 16mm compound to pole. (O-rings must be inspected for proper seating before reassembly).



② Connect the AC cable to installation box, Black cable joins to L, white cable joins to N, green cable joins to grounding.



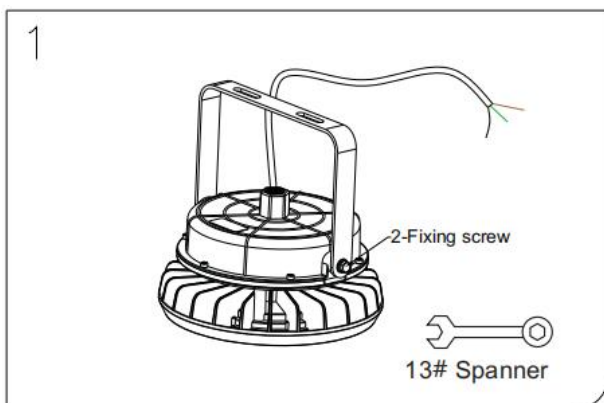
③ Install the junction box to the wall or ceiling as Fig.3. Tighten the pole to the box, and adjust the chain to balance. Connect earthing cable to external bonding location.



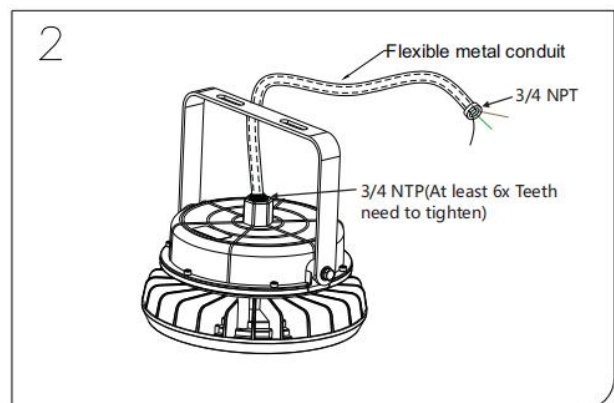
④ Install the fixture to the light post after cable connecting. (Please filling 16mm thickness compound to pole)

Series B operation instructions

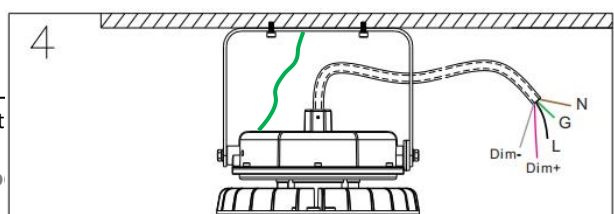
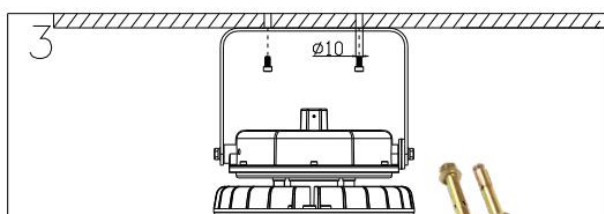
1. Bracket mounting (Turn off the power before installation)



① Tighten 2x angle holder screws as Fig.1. (O-rings must be inspected for proper seating before reassembly)



② Install 3/4 NPT Ex cable gland as per critical features point 4.



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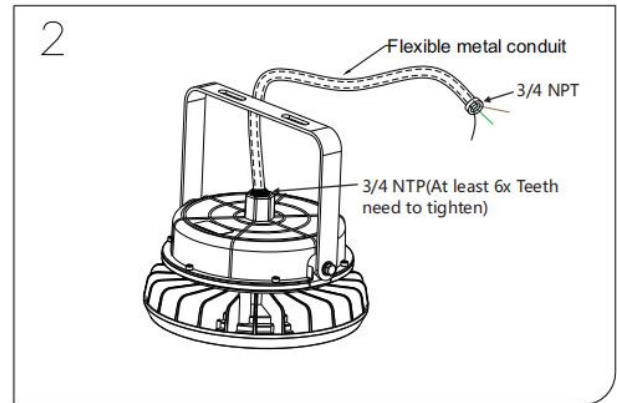
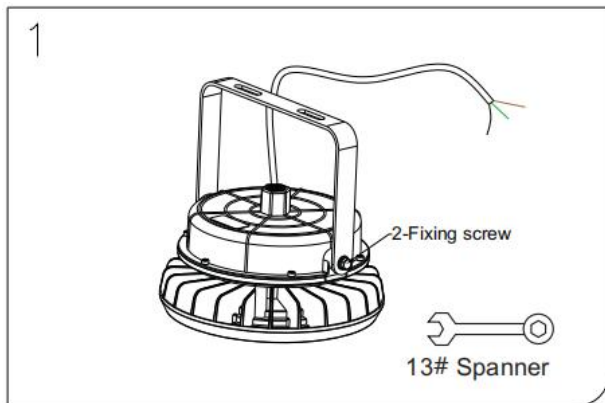
Do

v. A1

③ Drill 2x hole as Fig.2, the distance can be 91~140mm, fixing M10×30 mm expansion screws and fixture.

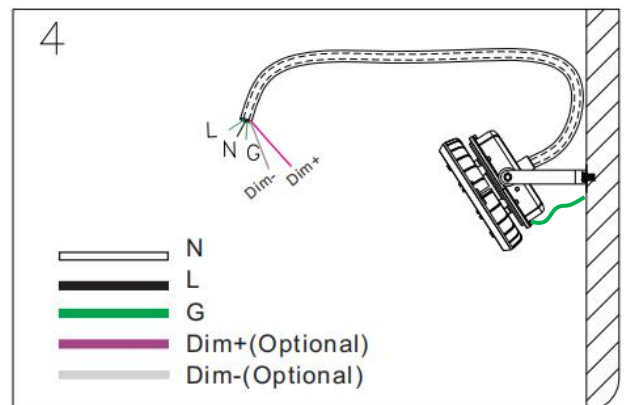
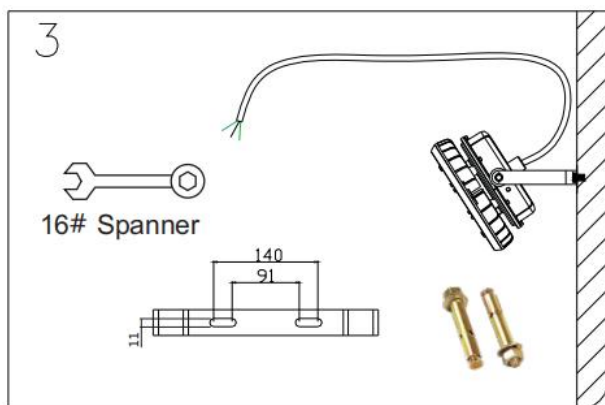
④ Connect the AC cable, black cable joins to L, white cable joins to N, green cable joins to grounding. Purple cable to Dim+, gray cable to Dim-. Connect the external bonding location wire.

2. Wall mounting (Turn off the power before installation)



① Tighten 2x angle holder screws as Fig.1.
(O-rings must be inspected for proper seating before reassembly)

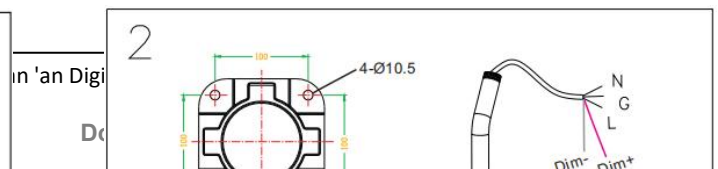
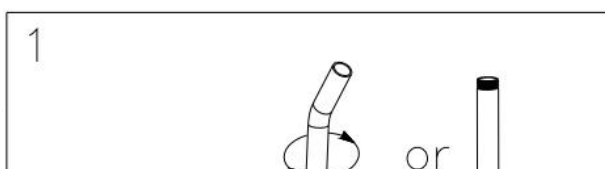
② Install 3/4 NPT Ex cable gland as per critical features point 4.



③ Drill 2x hole as Fig.2, the distance can be 91~140mm, fixing M10×30 mm expansion screws and fixture.

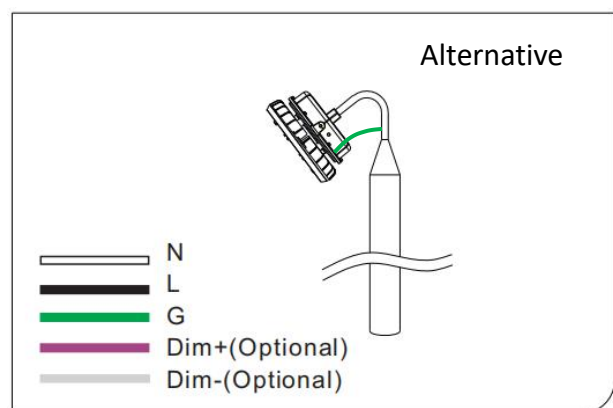
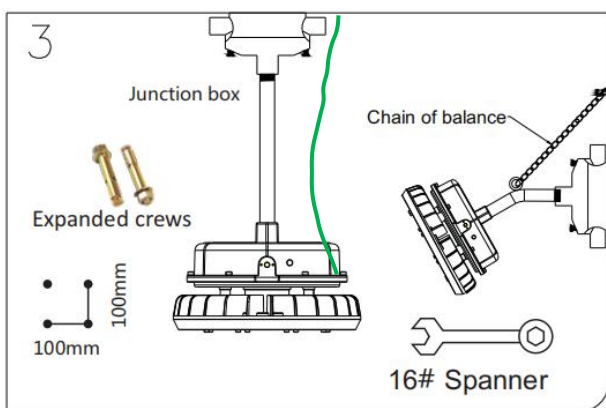
④ Connect the AC cable, black cable joins to L, white cable joins to N, green cable joins to grounding. Purple cable to Dim+, gray cable to Dim-. Connect the external bonding location wire.

3. Pole mounting



① Take the fixture and pole accessory out from cartoon box, tighten pole as Fig.1, filling 16mm compound to pole. (Linear pole or bend pole)

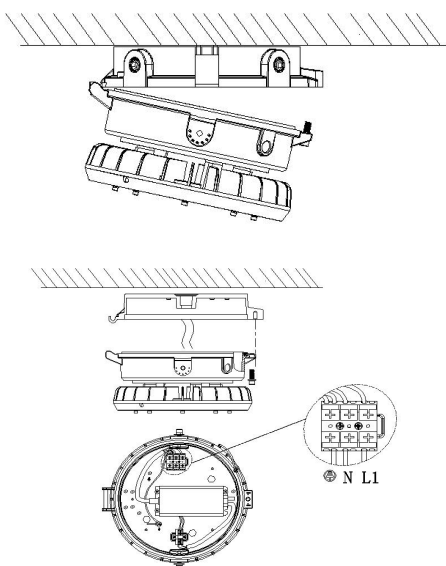
② Connect the AC cable to installation box, Black cable joins to L, white cable joins to N, green cable joins to grounding. Purple cable to Dim+, gray cable to Dim-.



③ Install the junction box to the wall or ceiling as Fig.3. Tighten the pole to the box, and adjust the chain to balance.

④ Install the fixture to the light post after cable connecting. Connect the external bonding location wire.

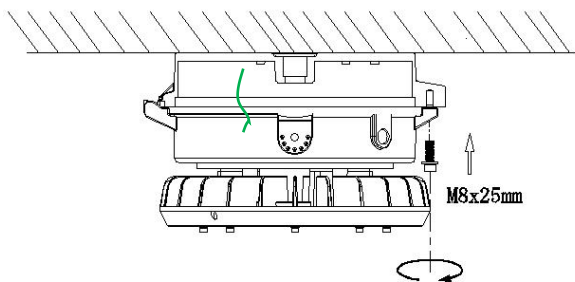
4. B5 ceiling mounting



Step 1: Drill 2x Ø12mm holes for expanded screws, the distance between 83mm to 110mm, tighten the nuts fixing the fixtures.

Step 2: Contact the wire to power supply circuit, green and yellow to grounding, white to null wire, black to live wire.

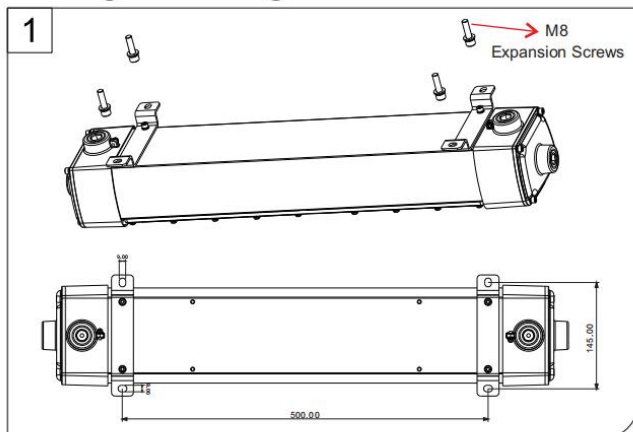
Series A, B, FLG installation instruction



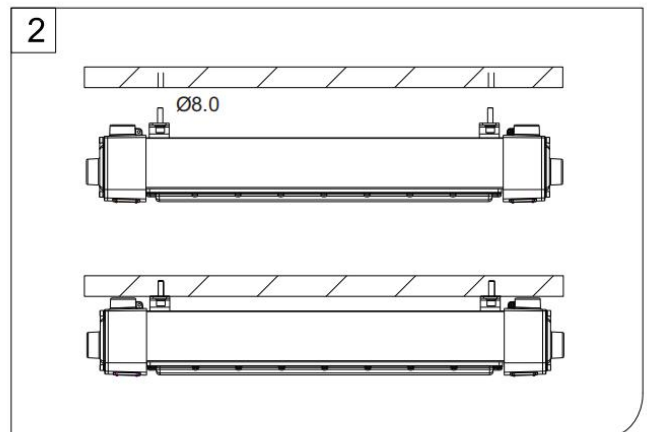
Step 3: Close the power enclosure and tighten M8 × 25mm screw.
Turn on the power to test the lamp is work.

Series FLG operation instructions

Ceiling Mounting

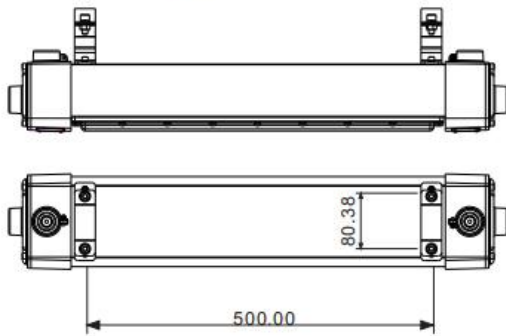


(1)a. As shown in Fig. 1, drill four expansion bolt holes on the installation surface according to the size requirements, and install the expansion bolts.

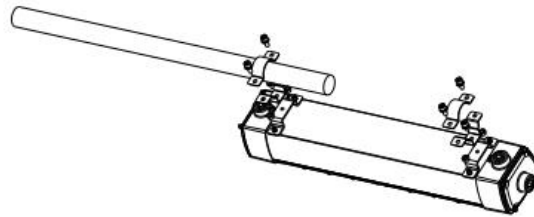


(2)a. Each side has two NPT3/4 screw holes, which can be selected to open the cover on either side and connect the wire according to the L, N, G, L' mark on the terminals.
b. Secure the fixture until it is tightened.

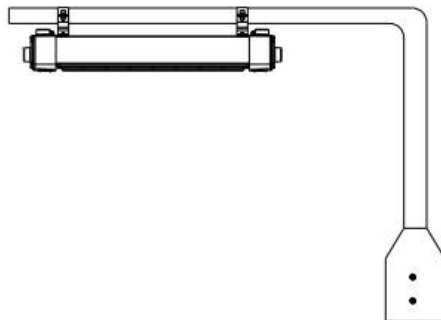
Pole Mounting



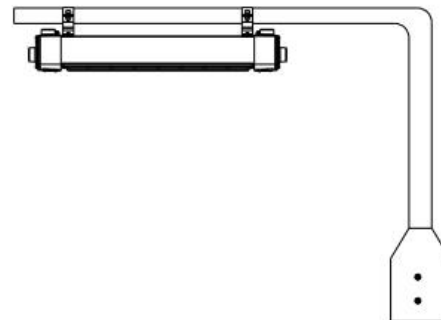
1. Fix the lamp to the pole provided by mounting bracket welded at the back of lamp. Tighten the screws on the mounting bracket.



2. Put the pole provided to the top of your pole. Then tighten four set screws shown in the figure above.

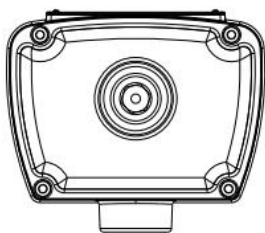


3. Properly connect wires and conduit. Each side has two NPT3/4 screw holes, which can be selected to open the cover on either side and connect the wire according to the L, N, G, L' mark on the terminals.



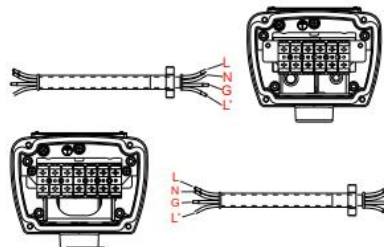
4. Installation completed (suitable for all installation angles).

1

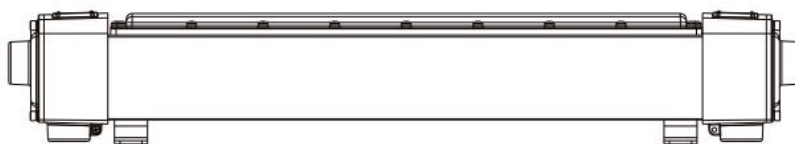


(1) One wiring access cover with captive screws on both sides. Open the cover with an Allen Key.

2



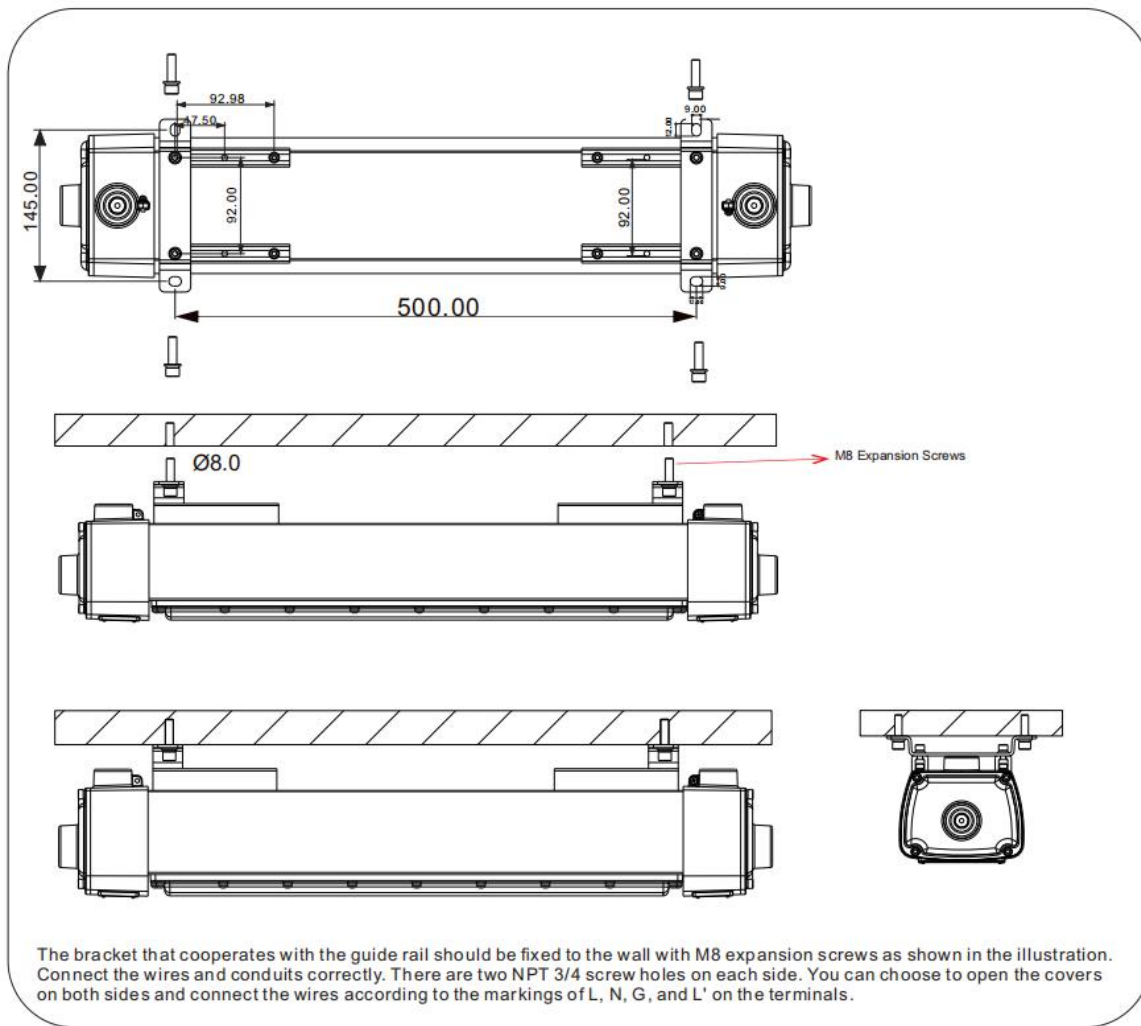
(2) a. Open the junction box cover at either end. Select any of the four 3/4 "NPT plugs as the interface for the cable input line.
b. 600V when each wired terminal is surrounded by not used adjacent terminals. If metal screws are used for mounting the terminal blocks, it needs to be installed on a suitable insulated mounting surface.



(3) Mounting completed.

Series A, B, FLG installation instruction

Guide Rail Mounting



Maintenance Contact Method

Please try to contact the agents when you meet product quality problems. Otherwise, you also can contact manufacturer as below.

Manufacturer: Dongguan Pan American Electronics Co., Ltd.

Address: Building 6, Building 3 Room 103, Building 3 Floor 8/9/10/11, Tian 'an Digital City, No.88 Jinyuan Road, Zhongtang Town, Dongguan City, 523227 Guangdong, China

Contact email: link@fanmei.com.cn

Telephone: +86 0769 38930008