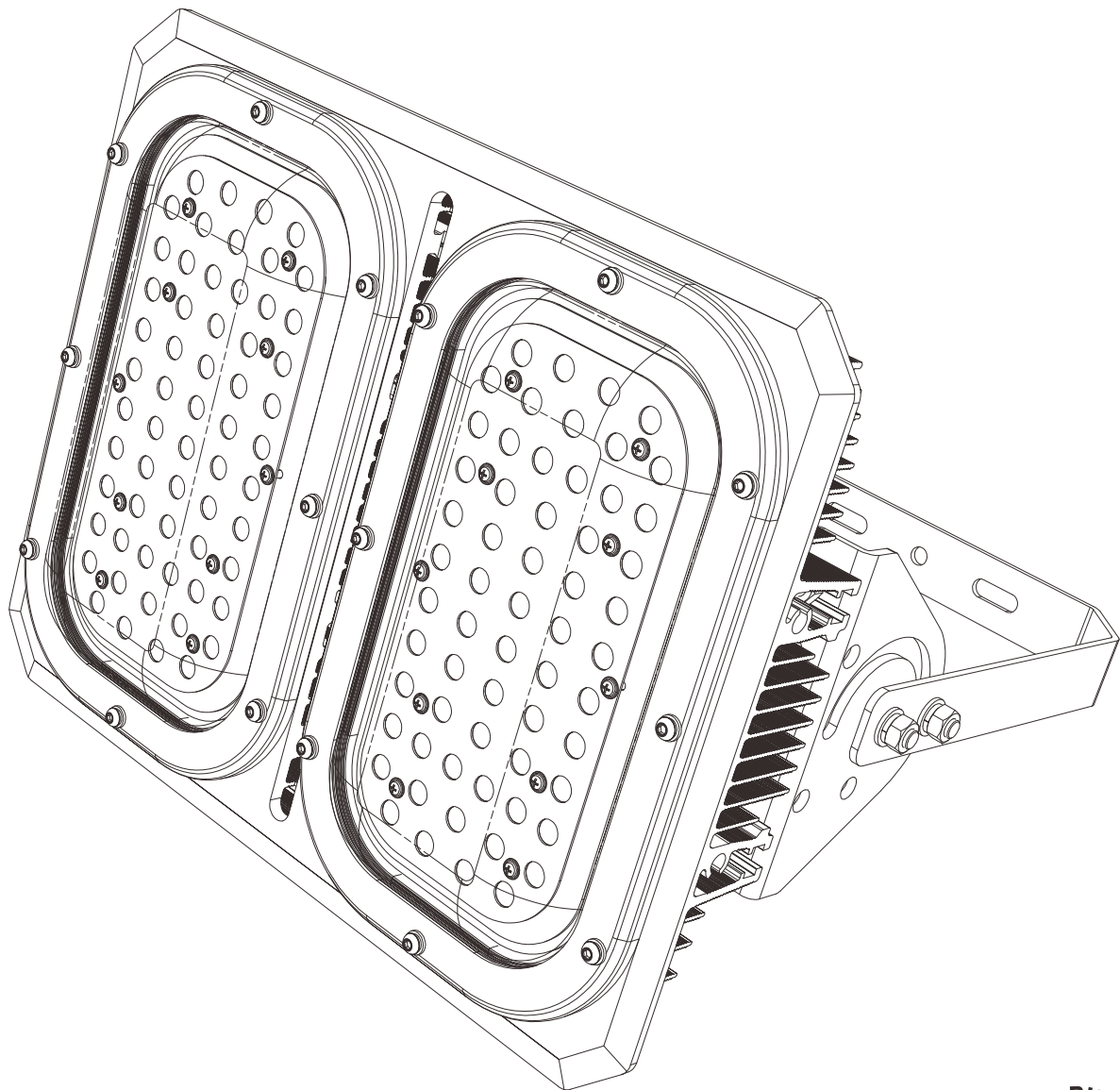


## Operation & Maintenance Manual K Polarbear Series-NV2.0



**Important information:**

These instructions contain safety information, read and follow them carefully. KHJ will not accept any responsibility for injury, damage or loss which may occur due to incorrect installation, operation or maintenance

# Product Important Information

Area Classficcition	Class I Division 2, Group A,B,C,D			
Protection Standards	UL 844 - Luminaires for Use in Hazardous UL 1598 - Luminaires. UL 8750 - Light Emitting Diode (LED) Equipment for Use in Lighting Products UL 1598A - Supplemental Requirements for Luminaires for Installation on Marine Vessels CSA C22.2 No. 137-M1981 - Electric Luminaires for Use in Hazardous Locations CSA C22.2 No. 250.0-08 - Luminaires CSA C22.2 No. 250.13 - Light Emitting Diode (LED) Equipment for Lighting Applications.			
Installation	NFPA70			
Certificate	20171221-E491372, 20171201-E491374			
Equipment Coding	Class I Division 2, Group A,B,C,D UL 1598A UL 1598			
Temperature Class	Rated power (W)	-40℃ ≤ Ta ≤ +50℃	-40℃ ≤ Ta ≤ +45℃	-40℃ ≤ Ta ≤ +40℃
	80W	T4A	T4A	/
	120W-150W	T4	T4A	/
	200W-240W	/	T4	T4A
Ingress Protection	IP66			
Cable Entry	M20*1.5,M25*1.5,3/4 NPT			
UL Mark	The UL marking of this product applies to NEC 500. The Equipment is declared to meet the provisions of the NEC 500 by reason of the UL. Type Examination and compliance with the Essential Health and Safety Requirements.			

## 01.Introduction-Polarbear series LED light

- This user manual covers the range of UL PolarBear series LED luminaire.  
These luminaires are constructed with corrosion resistant epoxy coated copper free aluminum alloy body and high impact resistance tempered glass diffuser.
- Polarbear series LED are available from 80W to240W, providing ideal solutions for a wide range of harsh and hazardous applications.

## 02.Electrical Supplies

	Small size:400*210mm	Medium size:400*260mm		Large size:400*500mm	
Voltage Range(AC)	100~277VAC				
Frequency Range(Hz)	50/60Hz				
Power Watts(W)	80W	120W	150W	200W	240W
Standard Current Range(A)	0.29~0.8	0.44~1.2	0.58~1.8	0.72~2.0	0.87~2.4

## 03.General

- These instructions should be read fully and carefully before attempting to install the luminaire.  
For details of servicing operations, opening etc. see section 5.
- Copies of these instructions should be held in a safe place for future reference.  
It is the responsibility of the installer to ensure that the apparatus selected is fit for its intended purpose and that the installation, operation and maintenance of the apparatus complies with applicable regulations, standards or codes of practice.
- Risk of electrostatic discharge:
  - a. Avoid mounting near fast moving streams of air
- The luminaire should be effectively earthed.  
Certification details on the nameplate must be verified against the application requirements before installation.
- The information in this leaflet is correct at the time of publication. The company reserves the right to make specification changes as required without notice.
- Use in Combustible Dust Atmospheres.
  - a. De-rating of the surface temperature will be required where dust clouds may be present
  - b. Do not allow dust to accumulate in layers
  - c. Dust in layers has the potential to form ignitable clouds and to burn at lower temperatures

### 3.1 Tools

- 4 mm and 5 mm flat blade screwdriver, large cross head screwdriver and inner hexagon counter wrench, suitable spanners for installing cable gland, pliers, knife, wire stripper and cutter.

### 3.2 Mounting

- Luminaire should be installed where access for maintenance is practical and in accordance with lighting design information.  
Refer to the note in 3. concerning electrostatic charge.
- See 5 installation diagram for installation mode and method.

### 3.3 Cabling and Cable Gland

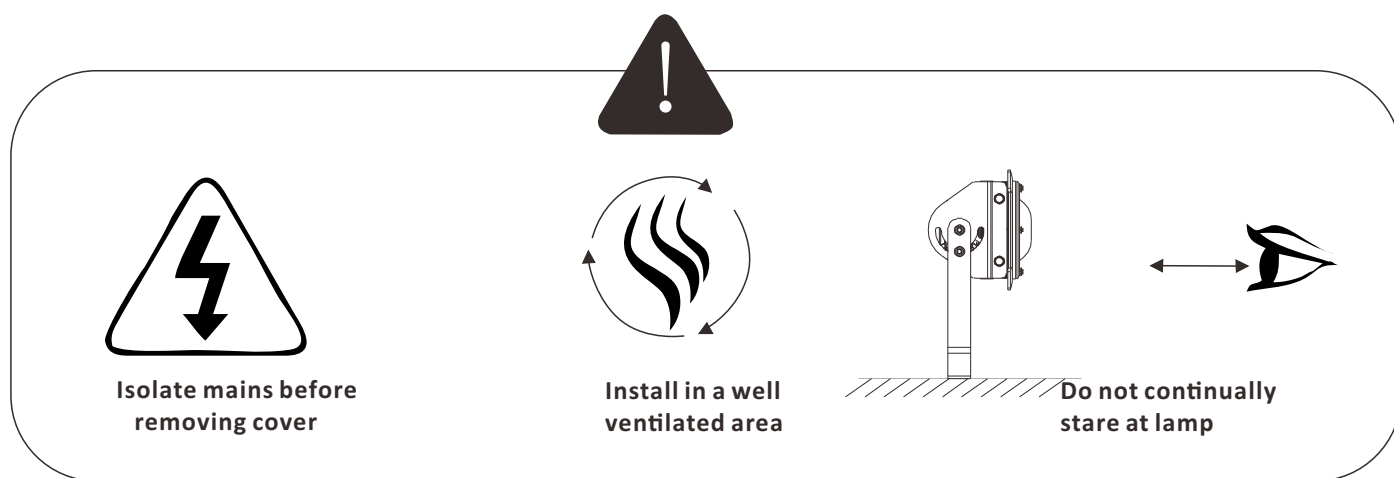
- The temperature conditions at the supply cable entry point are such that 90°C (ordinary PVC) cable can be used.
- Cable gland and stopping plug must be suitably certified.  
When installed the cable gland or stopping plug should maintain the IP rating of the enclosure IP66.
- Installation requirements are detailed in the "remarks" part of Clause 5.

### 3.4 Electrical Connections and Testing

- If any operation is to be done on any luminaire already connected to the electrical system, the luminaire must be isolated from the system.
- To access the mains terminals, loosen the fixing screws, remove the power cover.
- The wiring diagram is detailed in 5.2.1.  
The maximum amount of insulation allowed beyond the throat of the terminal is 4mm<sup>2</sup>.
- The normal method of insulation testing is to connect Live and Neutral together and test between this point.  
However, if this is not possible luminaire can be tested with an insulation tester that complies with IEC 364 with a maximum output current of 1mA and output voltage of 500V dc. (Units damaged by incorrect insulation testing can be detected).  
Before completing the wiring, ensure that all the connections are correctly introduced into place before reassembling the luminaire.

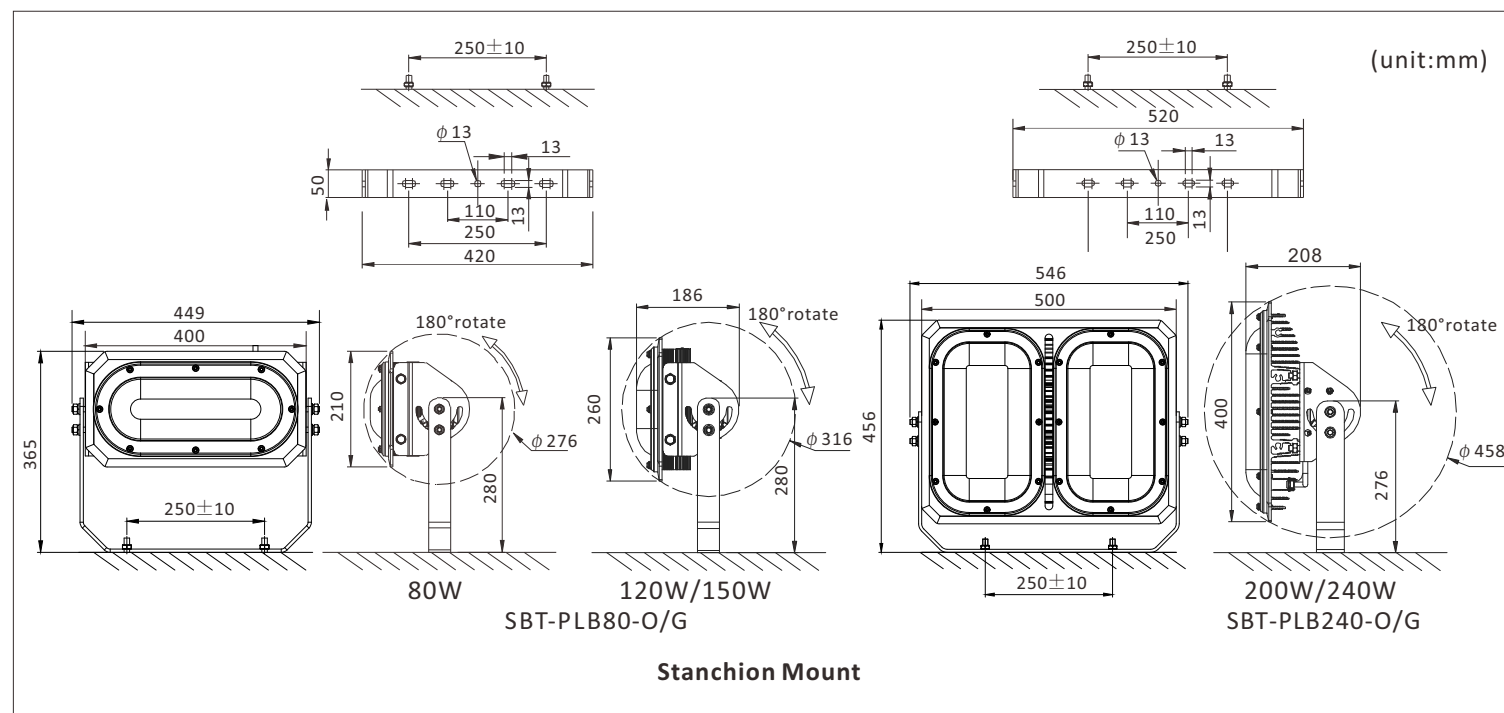
## 04.Safety instruction

- Read this leaflet carefully before commencing to install the luminaire unit and retain it for future use. This product should be installed, inspected, and maintained by a qualified electrician, in accordance with all applicable electrical codes.
- Be certain electrical power is OFF before and during installation and maintenance.
- Before installation, ensure that the unit complies with the hazardous area classification Class I, Division 2 per NEC. Make sure the supply voltage is within the luminaires' voltage rating.
- Do not operate in ambient temperatures above those indicated on the luminaire nameplate.
- Luminaire must be supplied by a wiring system suitable for Class I, Division 2 per NEC with an equipment grounding conductor.
- Use proper supply cable as specified on the luminaire nameplate.
- The gland should be supplied and installed to the luminaire accordance with the IP rating on the nameplate to maintain rating.
- Do not operate if the lens is cracked or damaged. All fasteners should be properly seated.

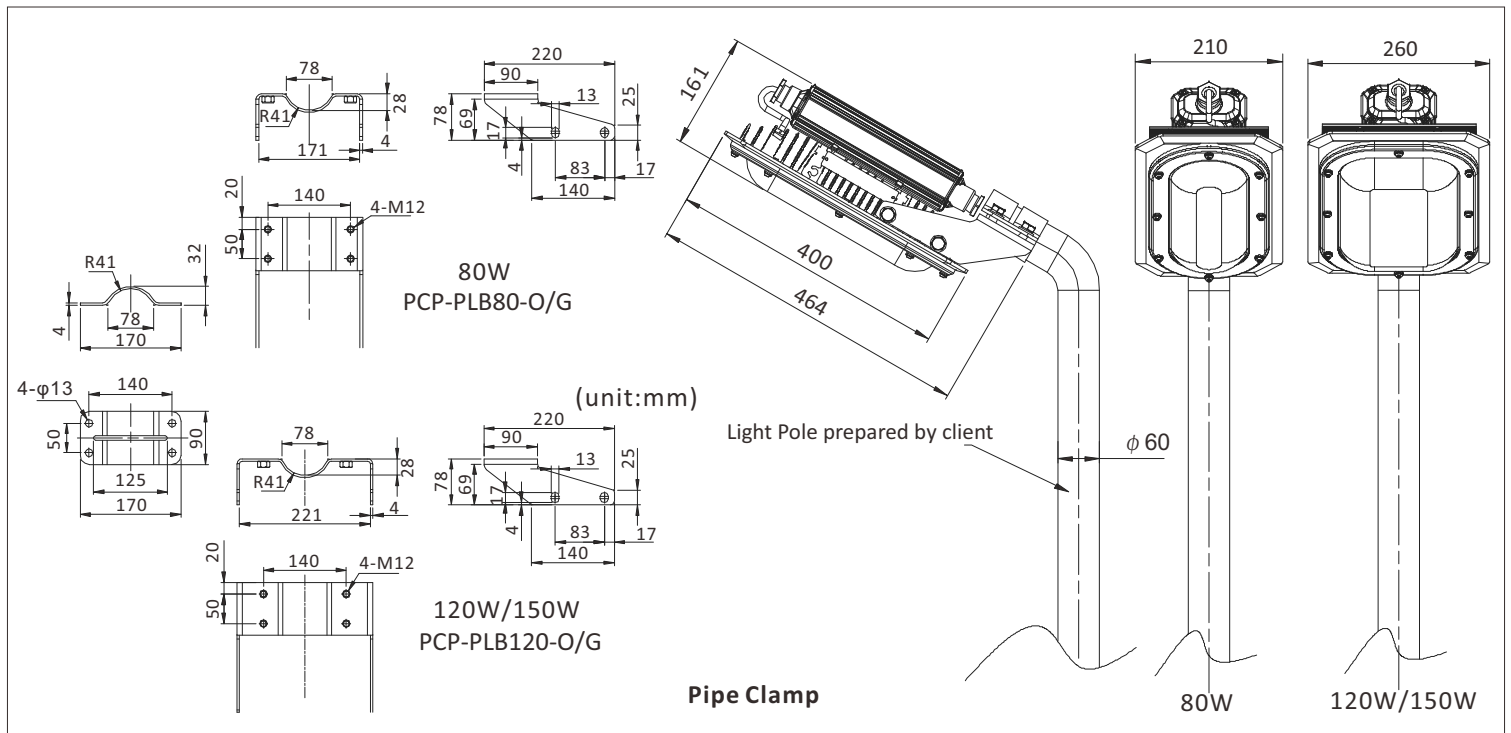


## 05.Installation method

Based on the use of the scene and actual requirements, we have designed the following installation methods for customers to choose from (including but not limited to):







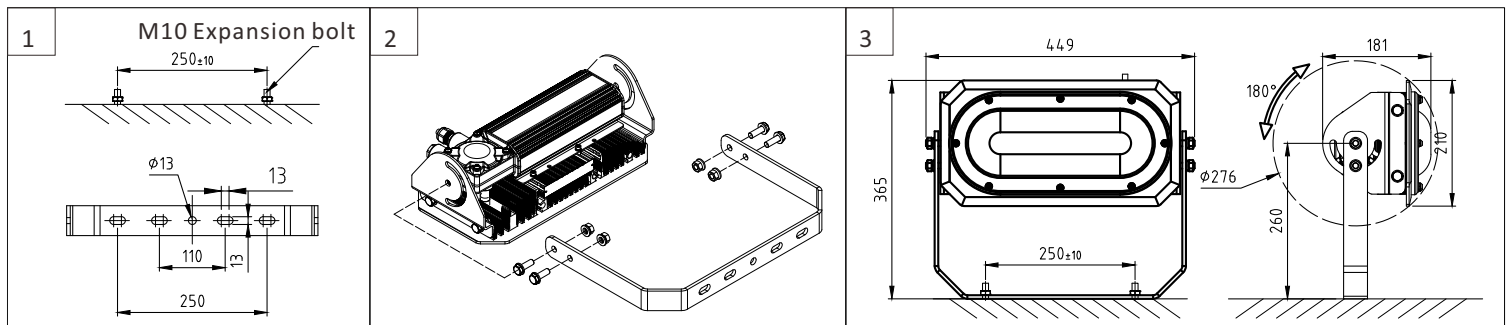
#### Remarks:

- External grounding cable cross-sectional area is not less than 4mm<sup>2</sup>.
- Entries into enclosures torque of locking cable introduction device 35 N.M~40 N.M.
- Select the cable gland or plug must be suitably certified.

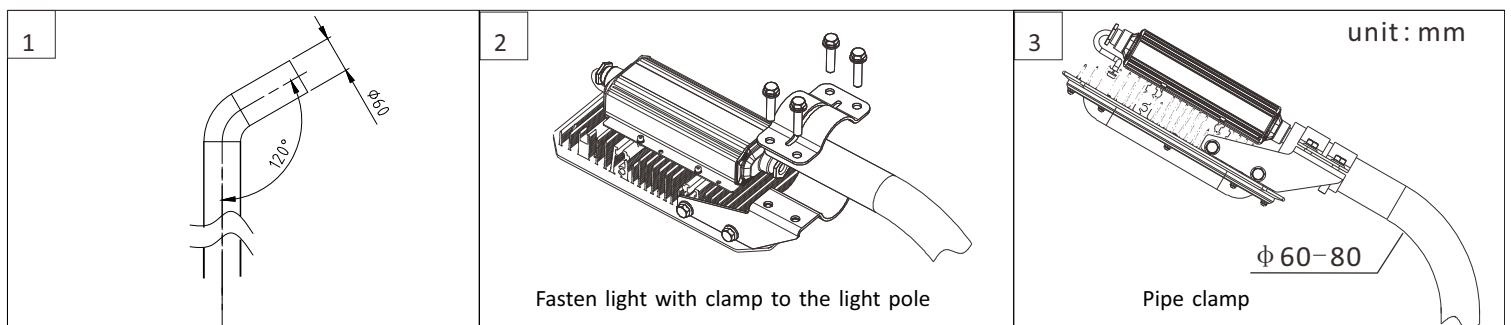
### 5.1 Installation decomposition

It is the responsibility of the installer to ensure that the apparatus selected is fit for its intended purpose and that the installation, operation and maintenance of the apparatus complies with applicable regulations, standards or codes of practice. Installation should be carried out in accordance with (IEC)EN60079-14 or with local hazardous area code of practice, whichever is appropriate. Please refer to the following installation drawing for different installation methods.

#### • 5.1.1 Wall mount/Stanchion mount(unit:mm)

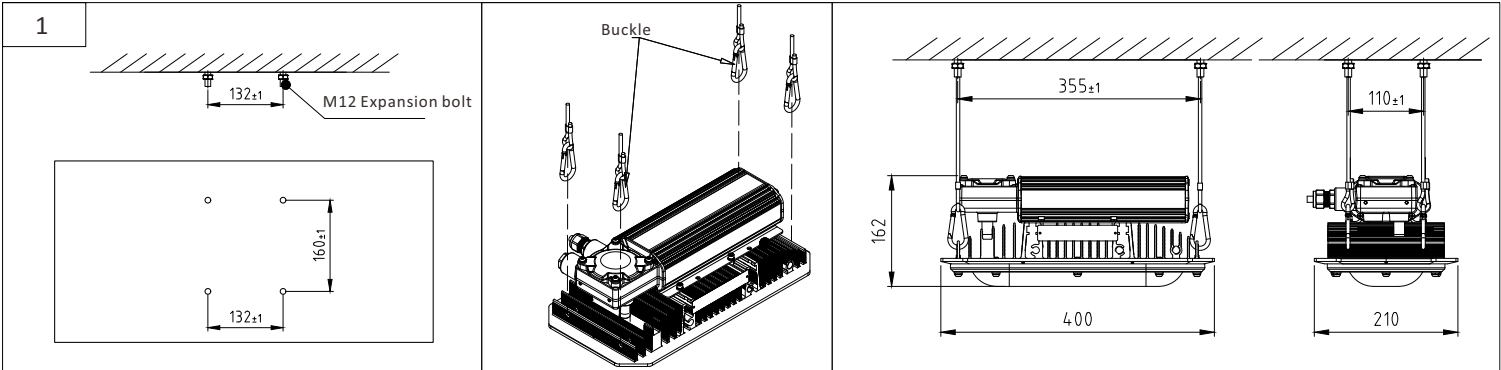


#### • 5.1.2 Pipe Clamp(unit:mm)

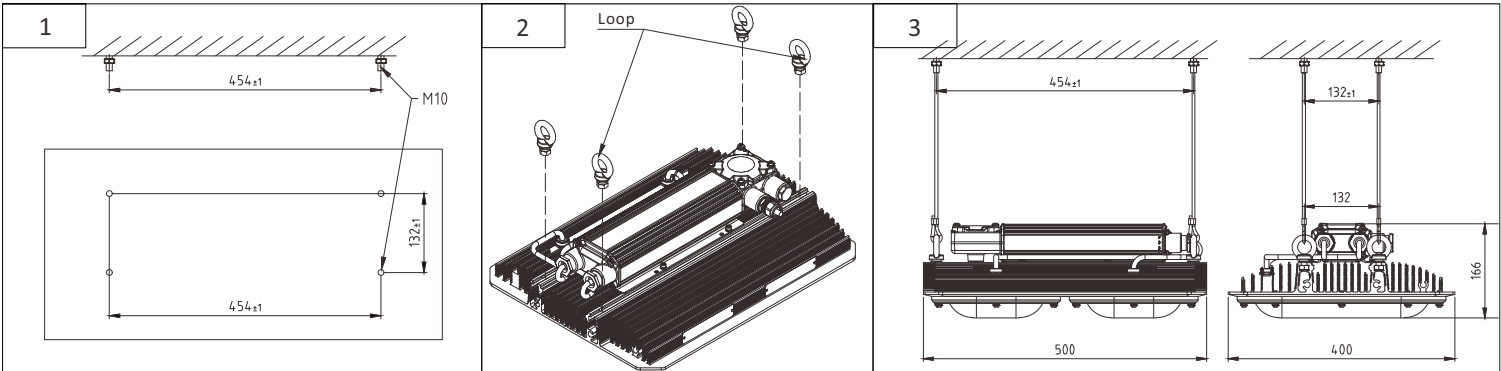


• 5.1.3 Pendant mount(unit:mm)

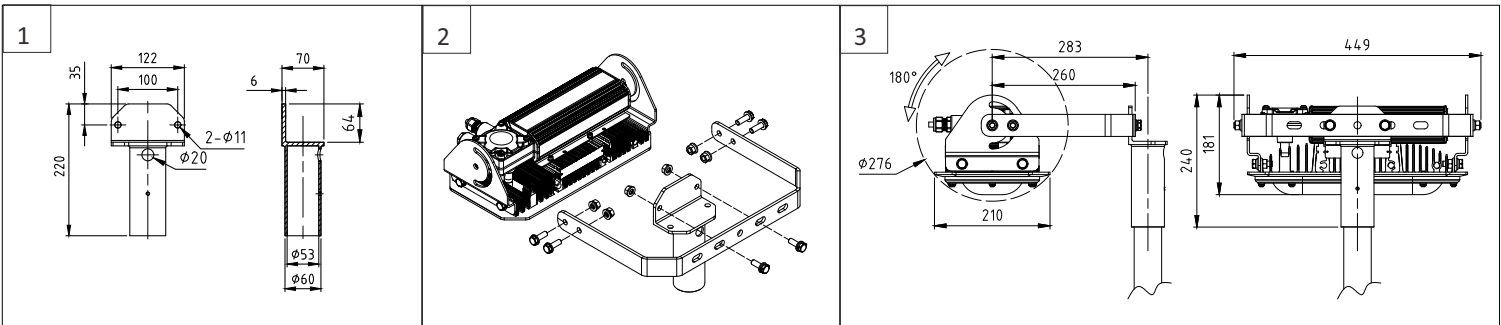
80W,120W,160W



200W,240W



• 5.1.4 Pole mount(unit:mm)

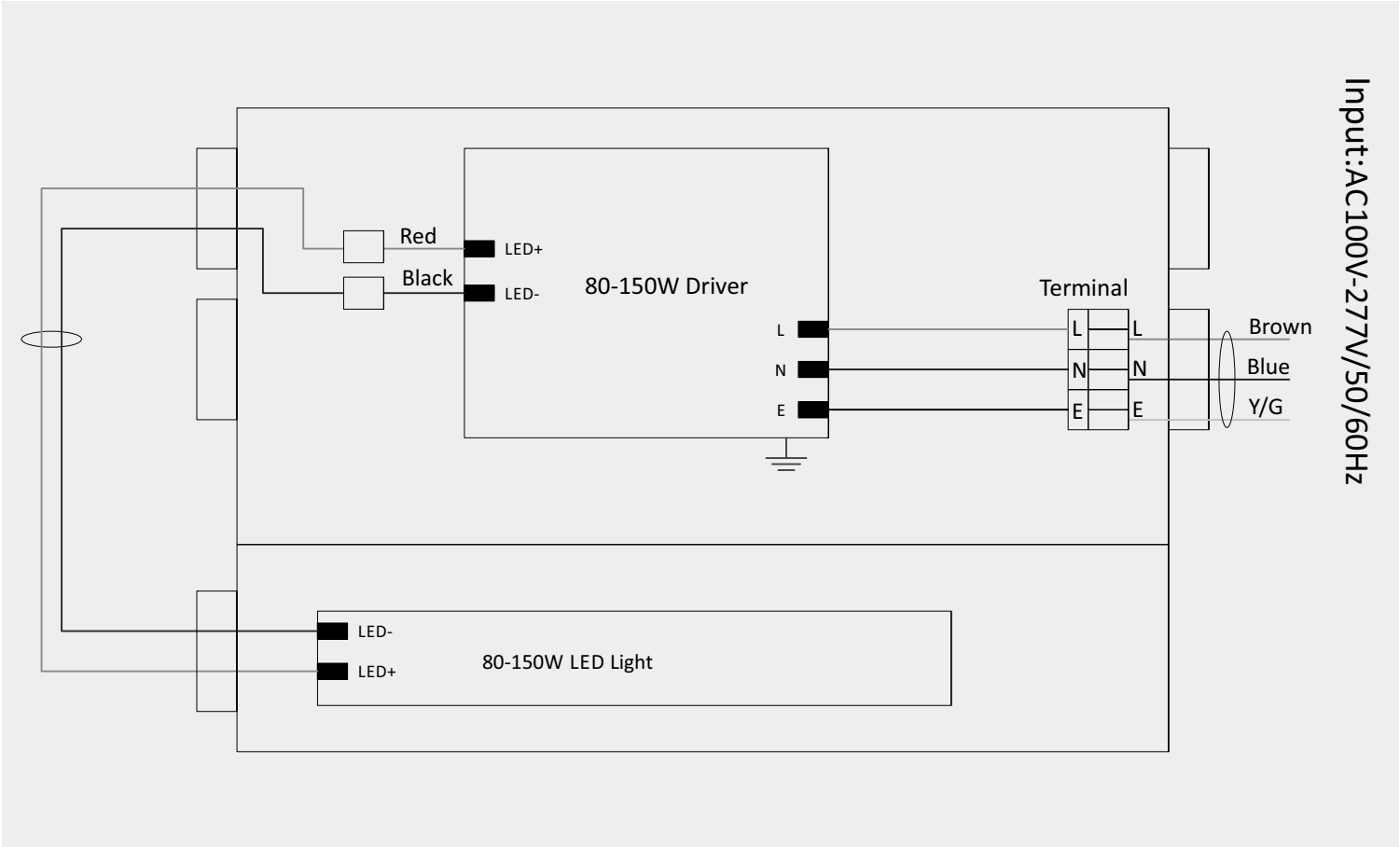


Note: the size of the structure is for reference only. We reserve the right to optimize and adjust some parts of the structure without notice.

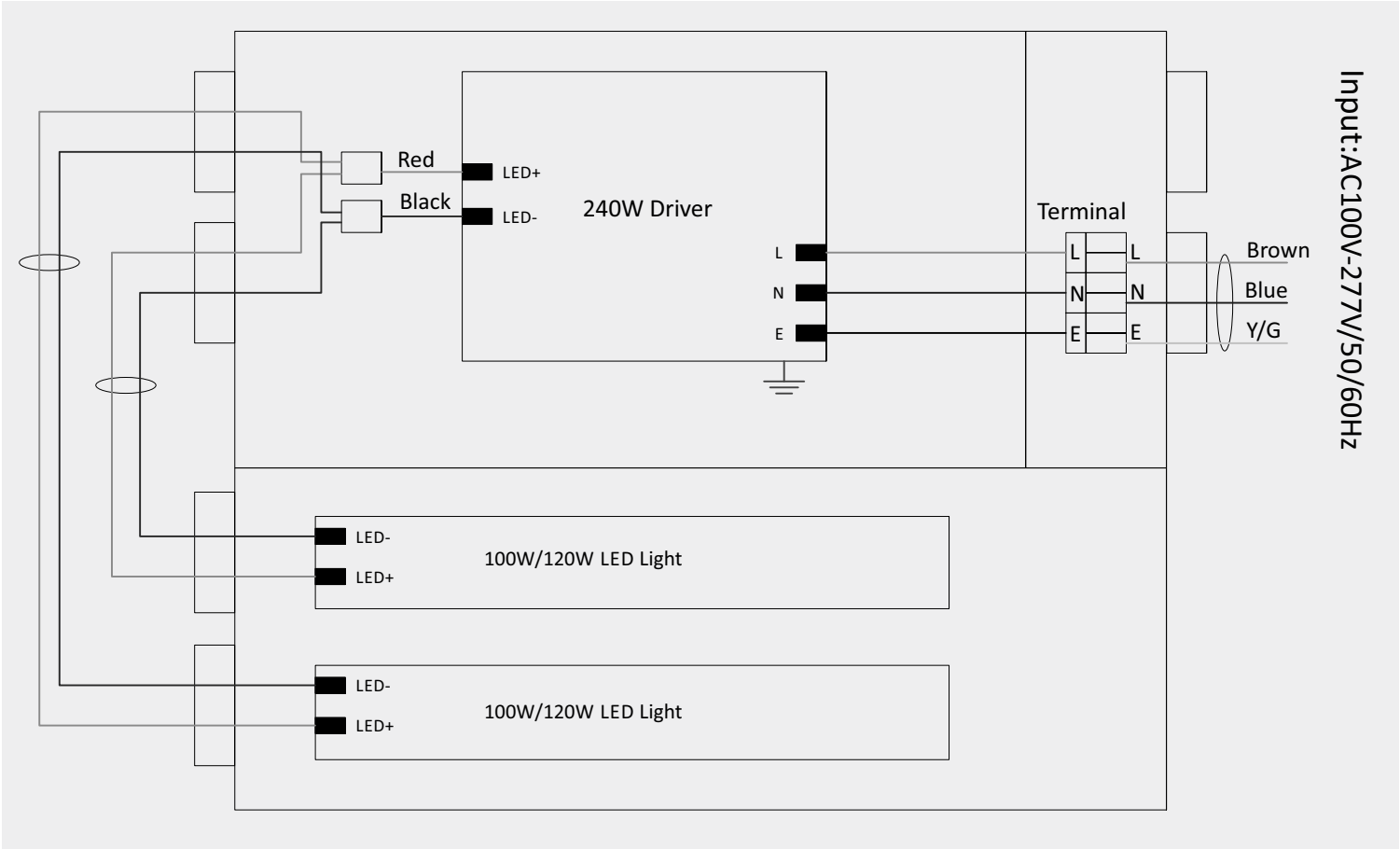
5.2 Electrical Principles and Connections

Make connections using appropriate wire interconnection methods such as lever connectors or wire nuts. Ensure all connections are compliant with the connector manufacturer's specifications as well as all applicable codes .

• 5.2.1 Electrical Principles (80-150W type)



• 5.2.2 Electrical Principles (200-240W type)





5.3 Cascade

MCB Type	Rating	80W	120W	160W	200W	240W
B	16A	3	4	4	4	4
C	16A	6	7	7	6	6

According to MCB data sheet, the qty of luminaires in one Parallel connection is calculated at 230VAC

06.Repairs Maintenance

Visual tests and checks should be carried out at intervals described by the appropriate regulations, and should include the following(including but not limited to).

- Check for mechanical damage/corrosion.
- Check connections, fixings, glands and plugs.
- Check for undue accumulations of dust, dirt or moisture.
- Check for unauthorized modifications.

Periodic inspection of the enclosure seal should be checked out to ensure that the seal is sound.

If the luminaire has been subject to abnormal conditions, for example, severe mechanical impact or chemical spillage, it must be de-energised until it has been inspected by an authorized and competent person.

07.Cleaning of luminaire

- The complete luminaire (without disassemble) can be cleaned with neutral water solution.  
After cleaning, rinse with clean water and wipe dry .
- It is forbidden to use any chemical or hydrocarbon solvent cleaner to clean the diffuser, otherwise serious damage may be caused.
- Please clean the luminaire regularly if it is used under dust environment.

08.Disposal of Material

General

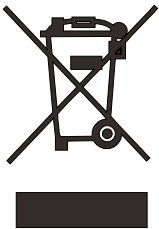
Disposal of the luminaire as waste should be carried out in accordance with national regulations.

Any disposal must satisfy the requirements of the WEEE directive [2012/19/EU] and therefore must not be treated as commercial waste.

The unit is mainly made from incombustible materials.

The control gear contains plastic, resin and electronic components.

All electrical components may give off noxious fumes if incinerated.



To comply with the Waste Electrical and Electronic Equipment directive 2012/19/EU the apparatus cannot be classified as commercial waste and as such must be disposed of or recycled in such a manner as to reduce the environmental impact.

9.Transportation

Weatherproof measures should be taken during transportation.











It is strictly forbidden to load and unload violently, and it is strictly forbidden to drop and roll from high altitude, so as to prevent mechanical damage.

10.Storage

The luminaire should be stored in ventilated,non-dropping and non-liquid warehouse at the temperature of -20℃ to +40℃ and relative humidity ≤95%RH.

The surroundings should be kept from corrosive gases which may damage metal and insulation.

## 11.Optional Parts

No.	Installation accessories	Part No.	Picture	Material	Weight(Kg)	QTY	Remark
1	Pipe clamp	PCP-PLB80-O/G		Q235	2.1	1	Pipe clamp (80W)
2	Pipe clamp	PCP-PLB120-O/G		Q235	2.3	1	Pipe clamp (120W/150W)
3	Buckle	BU-PLB80		SUS316	0.1	4	Buckle mount (80W/120W/150W)
4	Loop	LO-PLB		SUS316	0.8	1	Pendant mount (200W/240W)
5	Stanchion Bracket	SBT-PLB80-O/G		Q235	4	1	Wall mount Stanchion mount (80W/120W/150W)
6	Stanchion Bracket	SBT-PLB240-O/G		Q235	4.3	1	Wall mount Stanchion mount (200W/240W)
7	Stanchion Bracket2	SBT2-F-O/G SBT-PLB80-O/G		Q235	5.63	1	Pole mount (80W/120W/150W)
8	Stanchion Bracket2	SBT2-F-O/G SBT-PLB240-O/G		Q235	5.83	1	Pole mount (200W/240W)
9	Guard-1	GU-PLB80-MC		SUS304	0.3	1	(80W)
10	Guard-2	GU-PLB120-MC		SUS304	0.35	1	(120W/150W)
		GU-PLB240-MC			0.7	1	(200W/240W)



#### Contact

SHENZHEN KHJ SEMICONDUCTOR LIGHTING CO., LTD.

**Web: [www.khjled.com](http://www.khjled.com)**

Address: 4-5 Floor, Building 1, Chuangxin industrial park, Xintian community, Guanlan, Longhua new district, Shenzhen, China.

Tel: +86-755-82949977  
E-mail: [khjledsales@khj.cn](mailto:khjledsales@khj.cn)

Fax: +86-755-82949800  
Web: [www.khjled.com](http://www.khjled.com)