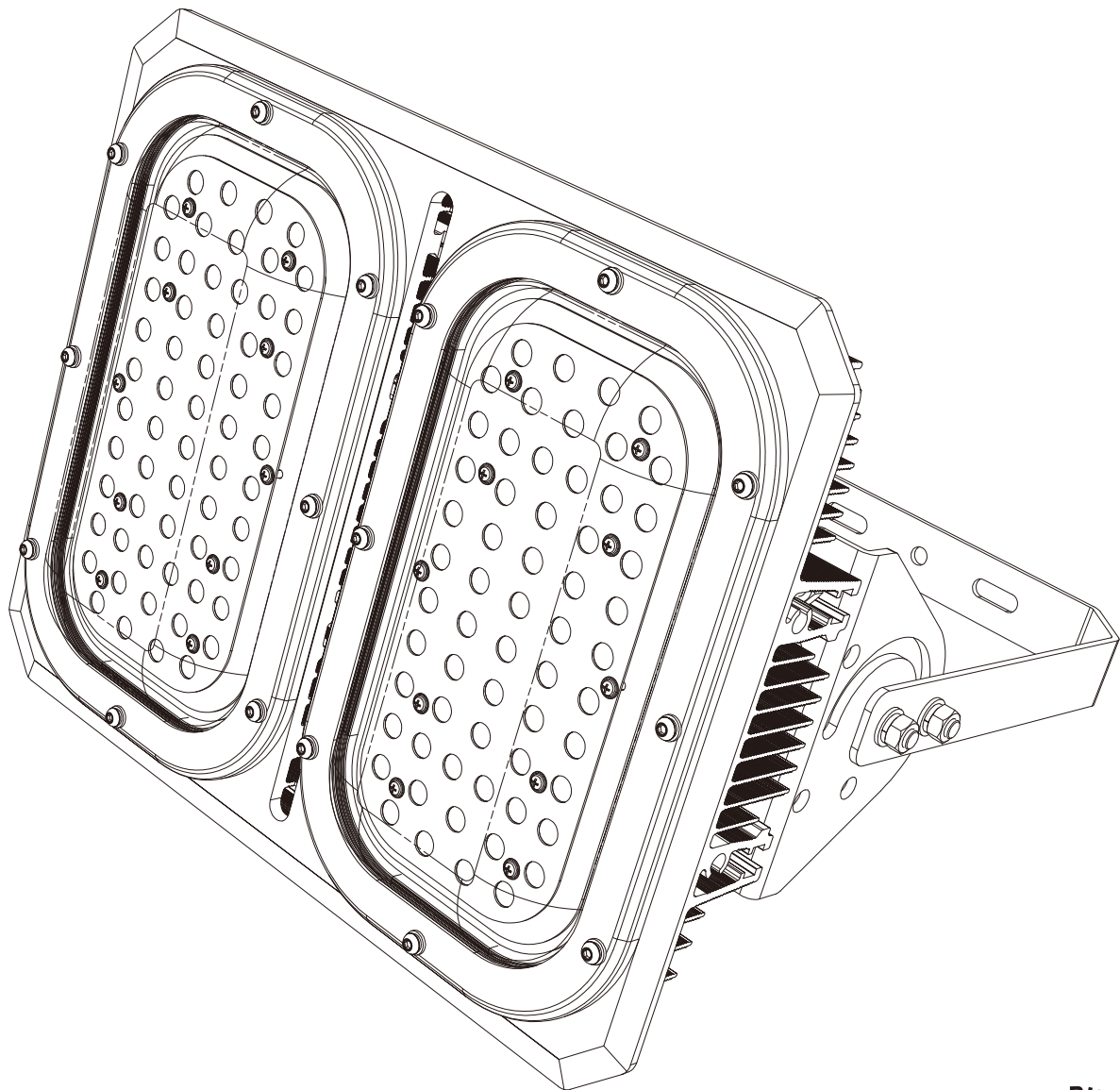


Operation & Maintenance Manual K Polarbear Series-NV1.0



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

Type Of Protection	Class I Division 2			
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			
Area Classification	Division II			
Installation	NFPA70			
Certificate	20170914-E491372			
Equipment Coding	Class I Division 2, Groups A,B,C,D UL 1598A UL 1598			
Temperature Class	Rated power (W)	-40℃ ≤ Ta ≤ +50℃	-40℃ ≤ Ta ≤ +45℃	-40℃ ≤ Ta ≤ +40℃
	80W	T4A	/	/
	120W-150W	T4	T4A	/
	200W-240W	/	T4	T4A
UL Coding	Class I			
Ingress Protection	IP66 (IEC)EN 60529			
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 UL

- This user manual covers the range of ATEX and IECEx 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.
- Swordfish 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. Installation should be carried out in accordance with (IEC)EN60079-14 or with a local hazardous area code of practice, whichever is appropriate.
- Risk of electrostatic discharge:
 - a. Avoid mounting near fast moving streams of air
- Any specific installation instructions must be referred to. The luminaire should be considered Class I to EN 60598 and 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. The luminaires are shipped with the battery pack disconnected, connection must be made on the initial insulation.
- 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
- Refer to EN(IEC)60079-10-1, EN(IEC)60079-10-2 & EN(IEC)60079-14 for additional details of selection and installation.

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

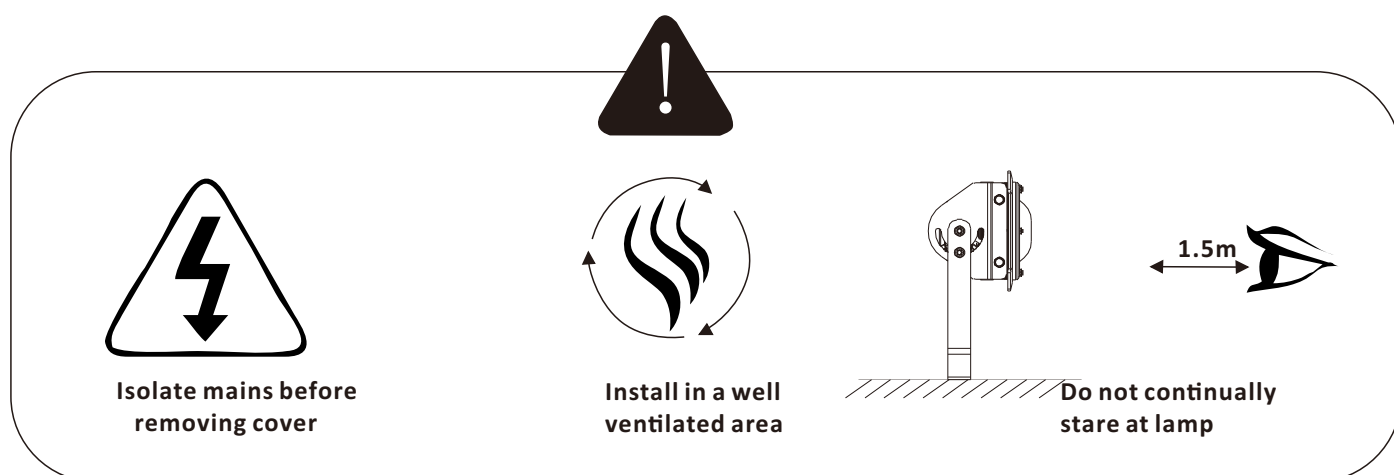
- The temperature conditions at the supply cable entry point are such that 70°C (ordinary PVC) cable can be used.
- Equipment certified cable gland and sealing plugs must have suitable IECEx / ATEX approval. When installed the cable gland or sealing plug should maintain the IP rating of the enclosure IP66.
- The thread specification and 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 cable connection method is detailed in 5.2.1. The maximum amount of insulation allowed beyond the throat of the terminal is 4mm².
- The normal method of insulation testing is to connect Live and Neutral together and test between this point. However, if this is not possible, the 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.

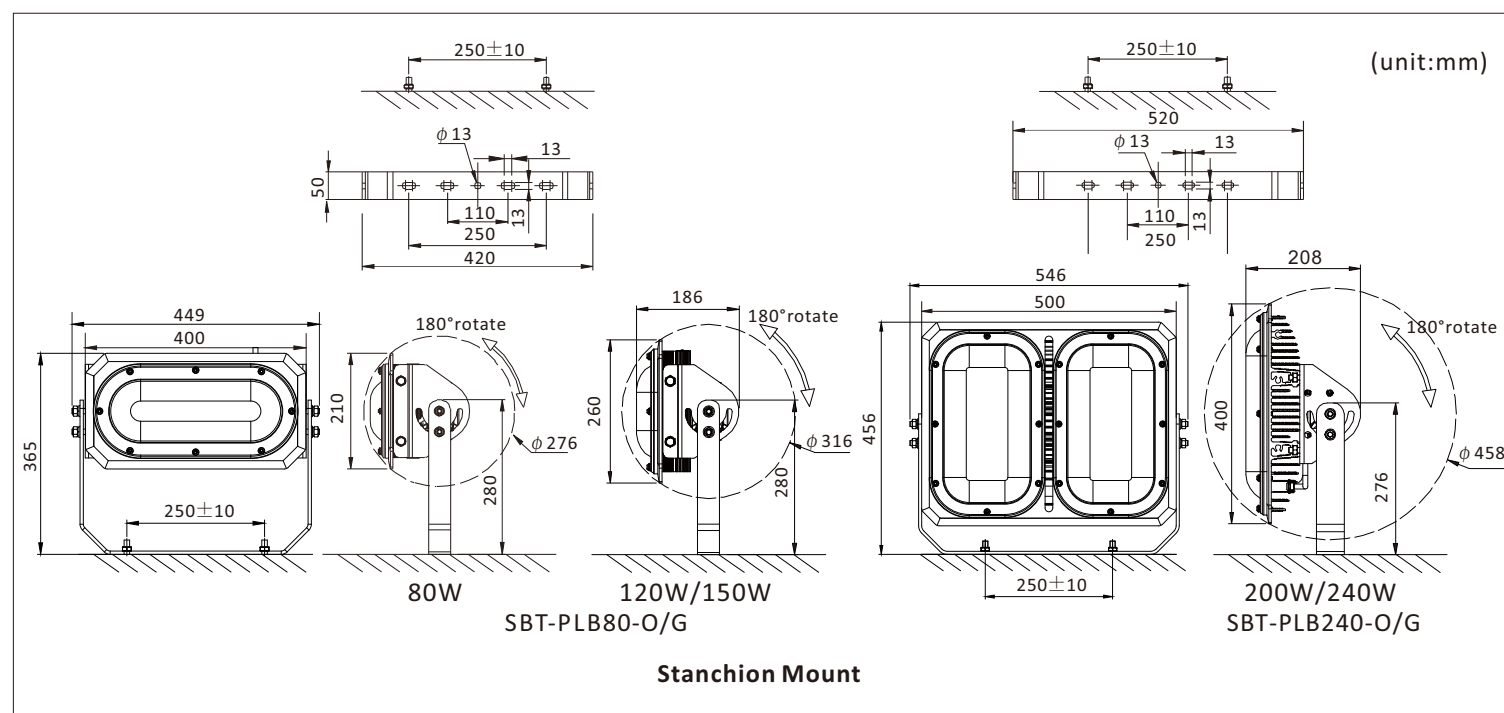
04.Safety instruction

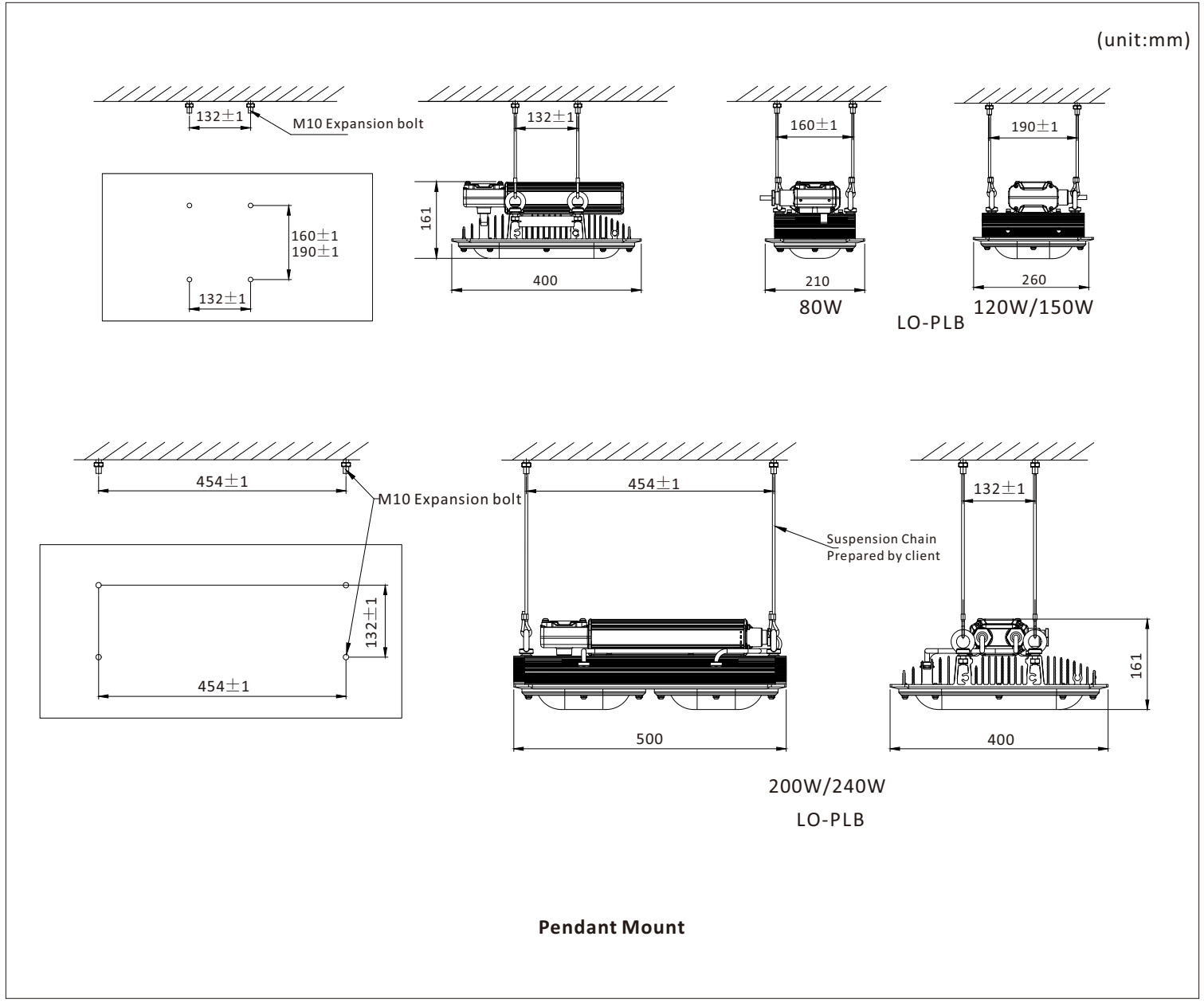
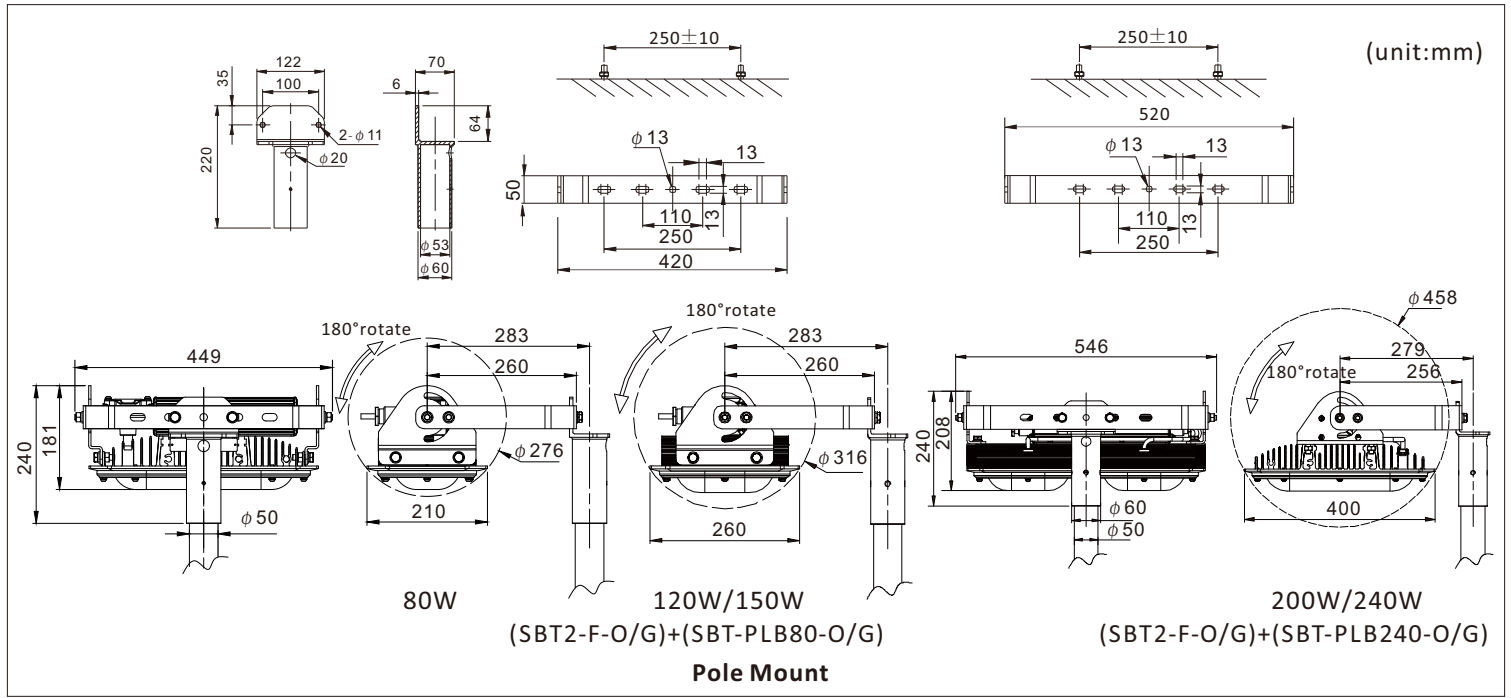
- Read this leaflet carefully before commencing to install the luminaire unit and retain it for future use. Installation can only be carried out by suitably qualified personnel.
- Check the certification to ensure that the Zone, mains supply, ambient temperature present and "T" rating are suitable for the environment the unit is being installed in.
- Check Product Important Information in this user manual to ascertain type of threaded cable entry on the luminaire. Select suitably certified ATEX/IECEX cable glands and stopper plugs with a minimum of 5 full thread engagement and be of a medium/ fine tolerance to ISO965-1 and ISO965-3. The cable entry devices selected must maintain the IP rating of the luminaire.
- The incoming mains cable should not exceed a temperature rise of 20°C above the ambient conditions; select suitable cable.
- To ensure the safety of the equipment, ensure that the 'flame-path' on Zone 1 variants are free from any corrosion. No repairs are possible to flameproof joints if in doubt please consult the manufacturer.
- External fasteners must have a yield strength of at least 450N/mm²
- On Zone 1 variants the LED assembly contains no user service able parts, the luminaire must not be operated without all the individual LED covers in position, the IP66 rating must be maintained.

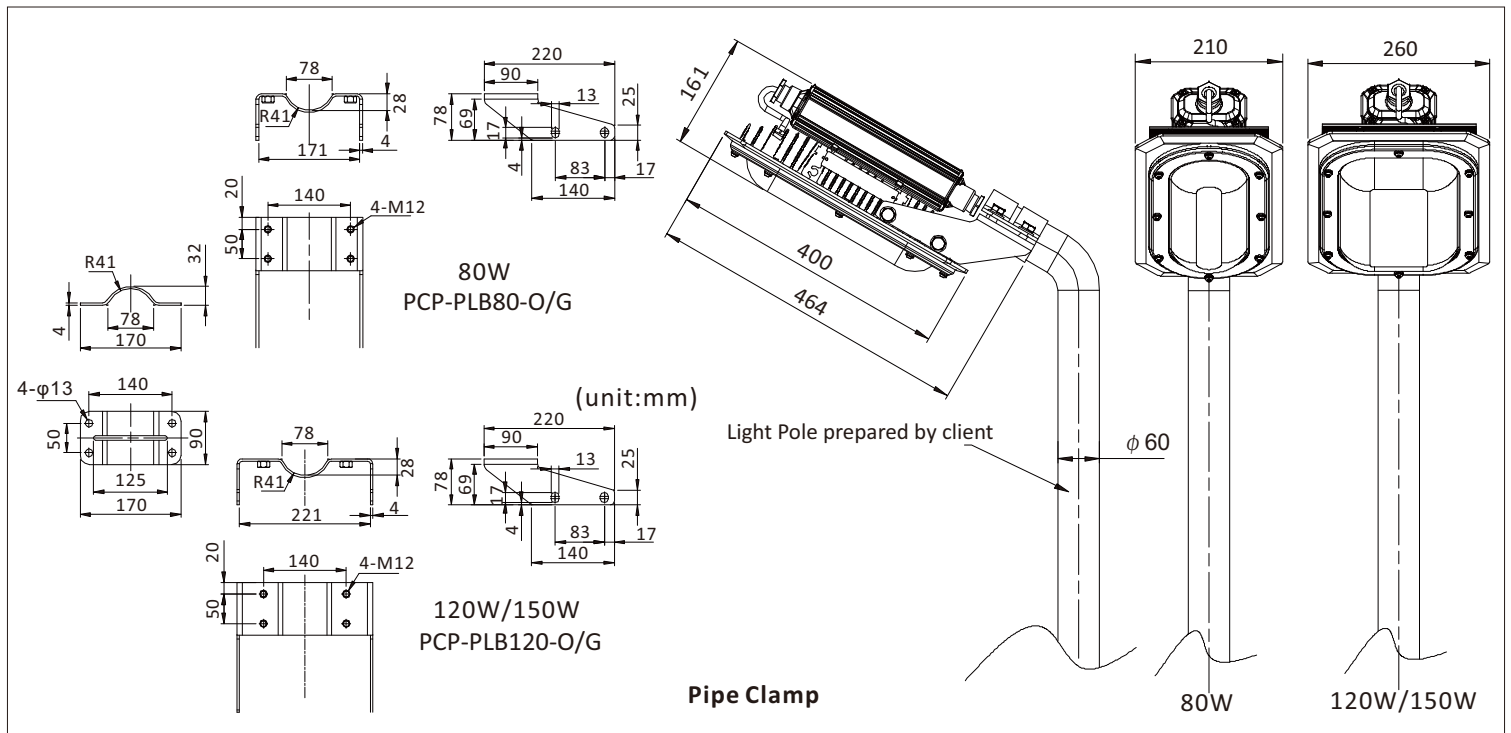


05.Installation method

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 4mm².
 - Entries into enclosures torque of locking cable introduction device 35 N.M~40 N.M.
 - Select the cable glands or plug that meets the requirements in the IEC60079-0 and IEC60079-1 and the relevant requirements in the IEC60079-14.
 - If using cable gland and stopping plug of KHJ, please refer to below table for cable spec (including but not limited to):

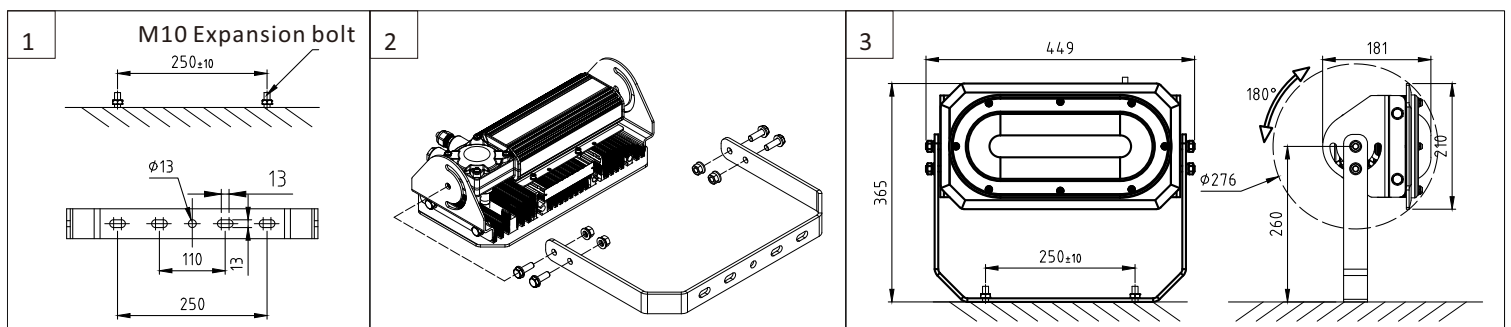
Type	Outer diameter(mm)	Inner diameter(mm)
M20 Armoured cable gland	12.5-20.9	6.5-13..9
M25 or 3/4 NPT Armoured cable gland	14-22	11.1-19.9
M20 Non-Armoured cable gland	9.5-15.9	/
M25 or 3/4 NPT Non-Armoured cable gland	12.5-20.5	/

- If you need to use other cables or different threads in actual installation, please contact the local dealer or our sales specialist.

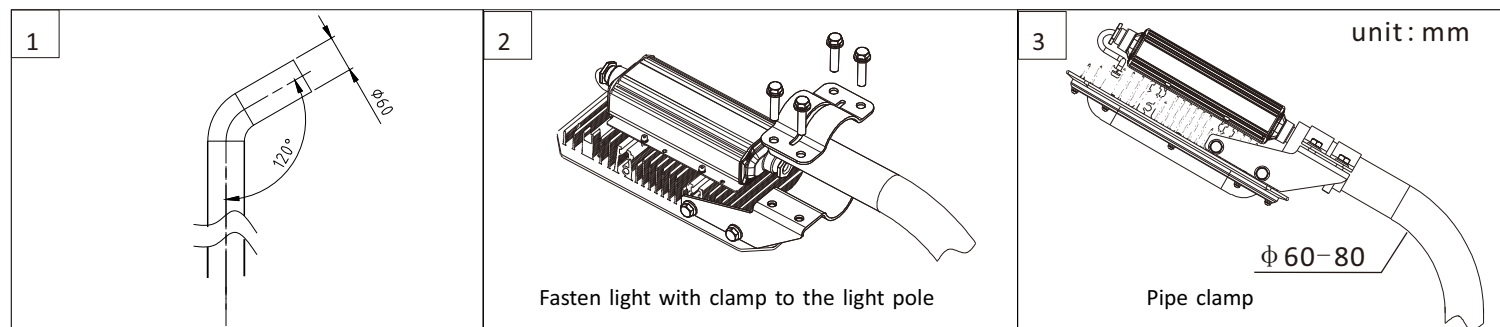
5.1 Installation decomposition

It is the responsibility of the installer to ensure that the apparatus selected is fit for it is 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.

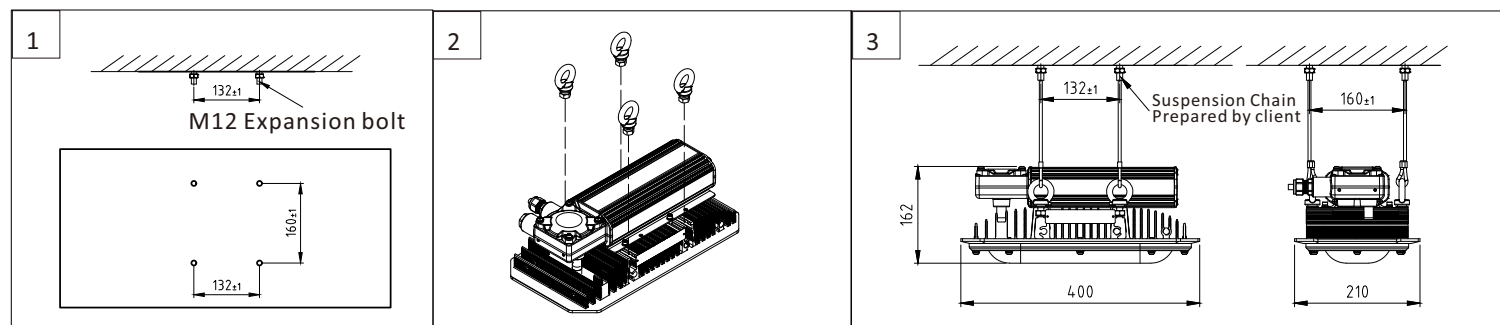
- 5.1.1 Wall mount/Stanchion mount(unit:mm)



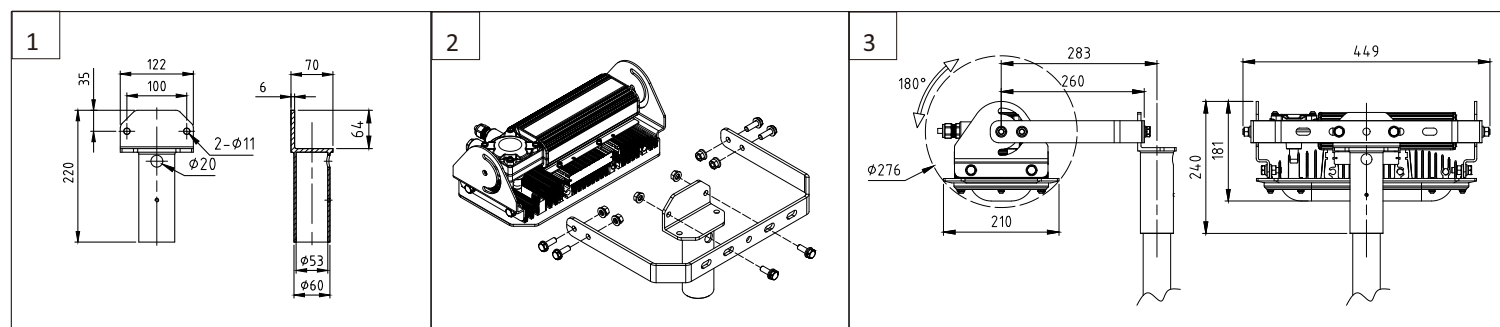
• 5.1.2 Pipe Clamp(unit:mm)



• 5.1.3 Pendant mount(unit:mm)



• 5.1.4 Pole mount(unit:mm)

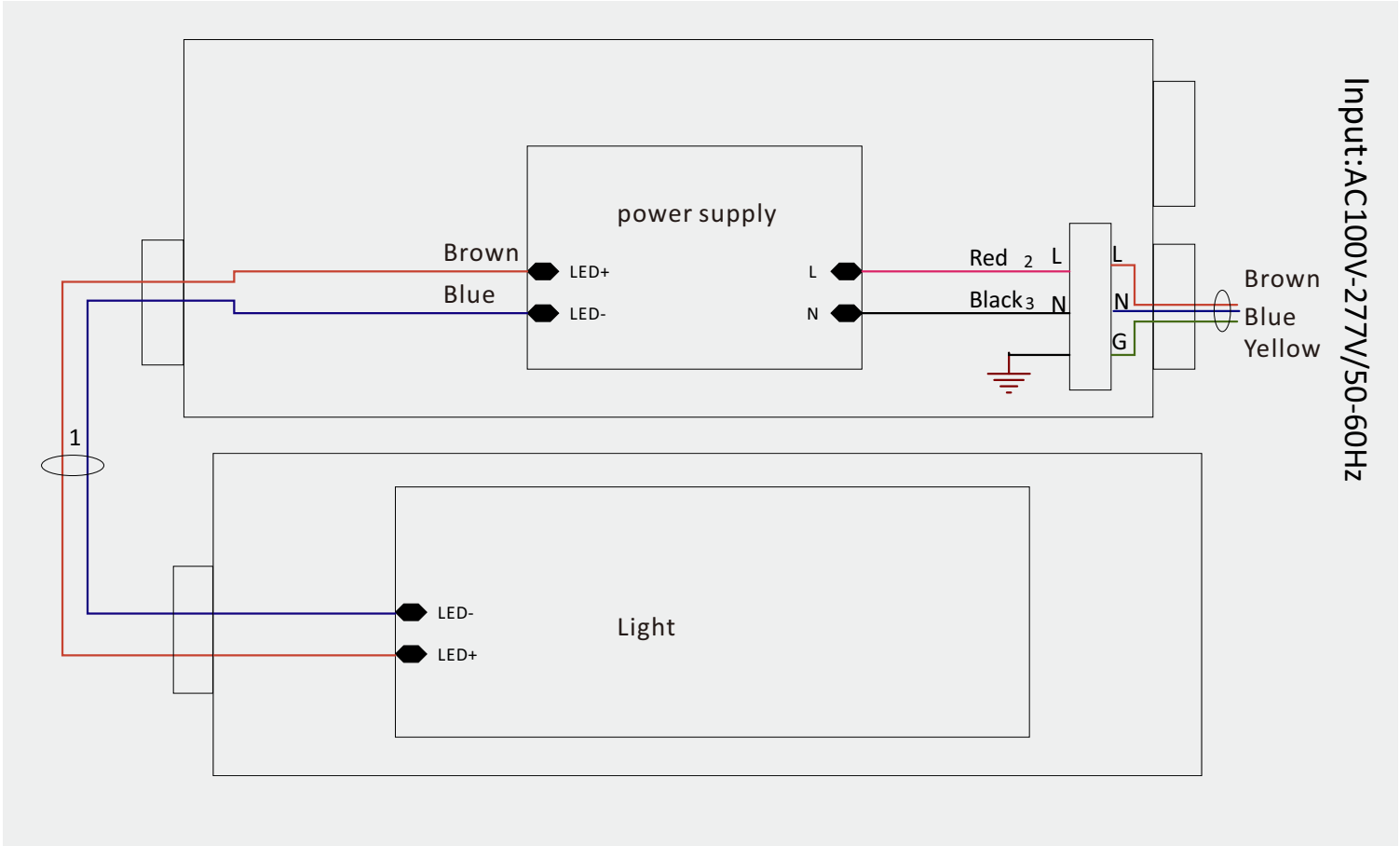


Note: the size of the structure is for reference only. We reserve the right to optimize and adjust some parts of the structure without notice.

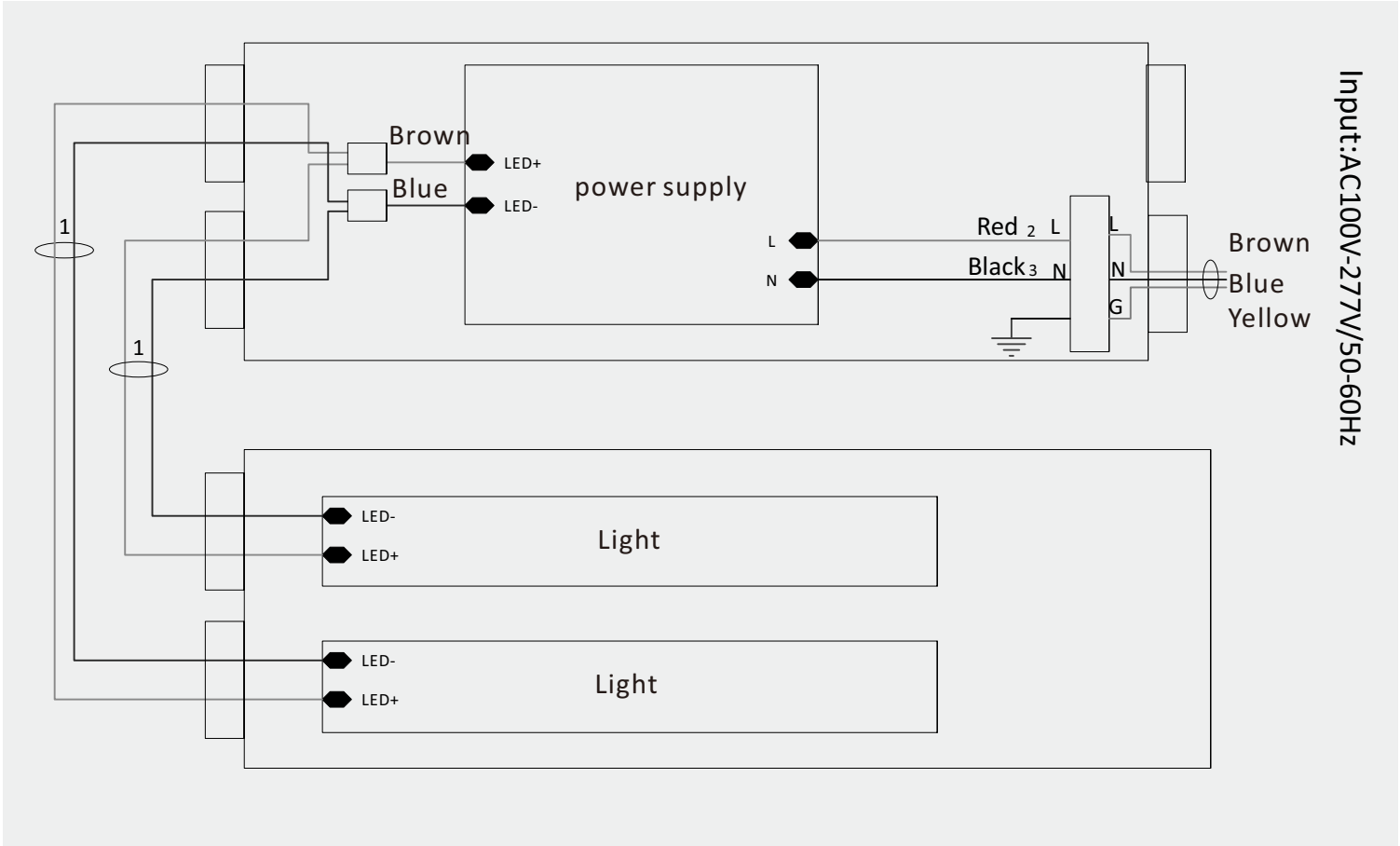
5.2 Electrical Principles and Connections

In addition to referring to the relevant contents of this manual, the certified personnel who have obtained the corresponding certificate according to IEC60079-14 shall strictly comply with the requirements of IEC60079-14 when installing luminaire. When installed, ensure that the luminaire is effectively grounded (internal or external).

• 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 230VDC

06.Repairs Maintenance

Visual tests and checks should be cared out at intervals described by the appropriate regulations, EN 60079-17,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.

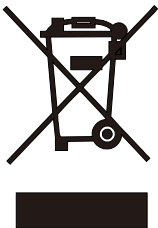
Periodic inspection of the enclosure seal should be checked out to ensure that the seal is sound.If the luminaire has been subject to abnormal conditions,for example,severe mechanical impact or chemical spillage, it must be de-energised until it has been inspected by an authorized and competent person.

07.Cleaning of luminaire

- The complete luminaire (without disassemble) can be cleaned with neutral water solution. After cleaning, rinse or wipe dry with clean water.
- 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 once a year 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	Loop	LO-PLB-MC		SUS316	0.8	1	Pendant mount
4	Stanchion Bracket	SBT-PLB80-O/G		Q235	4	1	Wall mount Stanchion mount (80W/120W/150W)
5	Stanchion Bracket	SBT-PLB240-O/G		Q235	4.3	1	Wall mount Stanchion mount (200W/240W)
6	Stanchion Bracket2	SBT2-F-O/G SBT-PLB80-O/G		Q235	5.63	1	Pole mount (80W/120W/150W)
7	Stanchion Bracket2	SBT2-F-O/G SBT-PLB240-O/G		Q235	5.83	1	Pole mount (200W/240W)
8	Guard-1	GU-PLB80-MC		SUS304	0.3	1	(80W)
9	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

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

Fax: +86-755-82949800
Web: www.khjled.com