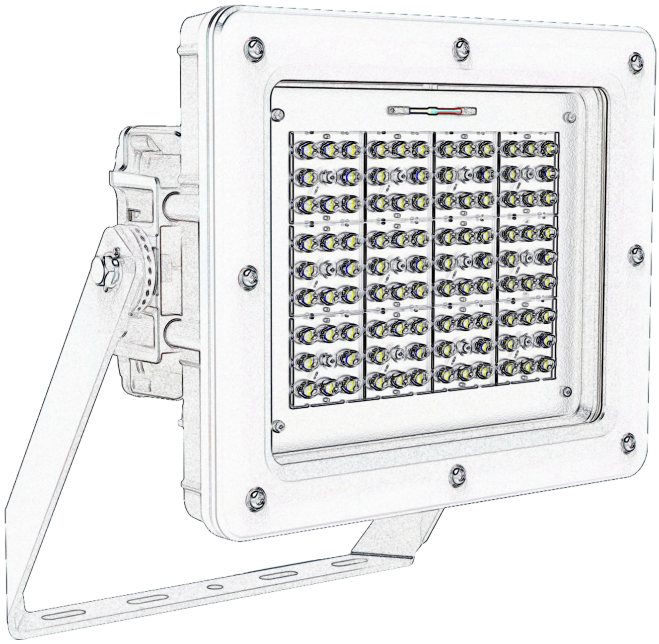
SHENZHEN KHJ SEMICONDUCTOR LIGHTING CO.,LTD

Operation & Maintenance Manual
Kseal-B Series-NV1.2



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	Ex ec,Ex nR,Ex tc
Protection Standards	IEC 60079-0:2017,Edition 7.0,IEC 60079-7:2015/A1:2017,Edition 5.1,IEC 60079-31:2022,Edition 3.0, EN IEC 60079-0:2018,EN IEC 60079-7:2015/A1:2018,EN 60079-31:2014, IEC 60079-15: 2017,Edition 5.0, EN IEC 60079-15: 2019 EN 55015, EN 61547, EN 61000-3-2, EN 61000-3-3, EN 60598-1, EN 60598-2-5, EN 62031, EN 62493, IEC 62321-1, IEC 62321-3-1, IEC 62321-4, IEC 62321-5, IEC 62321-6, IEC 62321-7-1, IEC 62321-7-2, IEC 62321-8
Area Classfiction	Zone 2 Areas to IEC 60079-10-1:2020,Edition 3.0/EN IEC 60079-10-1:2021, Zone 22 Areas to IEC 60079-10-2:2015,Edition 2.0/EN 60079-10-2:2015
Installation	IEC 60079-14:2013,Edition 5.0/EN 60079-14:2014
Certificate	Pending
Equipment Coding	II 3 G EX ec IIC T4/T5/T6 Gc II 3 G EX nR IIC T5/T6 Gc II 3 D Ex tc IIIC T95°C/T80°C Dc IP66

P/N	Rated Voltage	Rated Power (W)	Ta (°C)	Gas (Ex ec)	Gas (Ex nR)	Dust (°C)
Ex-KSE80-B	100~277VAC 50/60Hz	80W	-40-55°C	T5	T6	80°C
Ex-KSE100-B	100~277VAC 50/60Hz	100W	-40-55°C	T5	T6	80°C
Ex-KSE120-B	100~277VAC 50/60Hz	120W	-40-55°C	T5	T5	95°C
Ex-KSE120-B	100~277VAC 50/60Hz	120W	-40-52°C	T5	T6	80°C
Ex-KSE150-B	110~277VAC 50/60Hz	150W	-40-55°C	T5	T5	95°C
Ex-KSE150-B	110~277VAC 50/60Hz	150W	-40-52°C	T5	T6	80°C
Ex-KSE200-B	100~277VAC 50/60Hz	200W	-40-55°C	T5	T5	95°C
Ex-KSE200-B	100~277VAC 50/60Hz	200W	-40-50°C	T5	T6	80°C
Ex-KSE240-B	100~277VAC 50/60Hz	240W	-40-55°C	T5	T5	95°C
Ex-KSE240-B	100~277VAC 50/60Hz	240W	-40-50°C	T5	T6	80°C
Ex-KSE300N-B	220~277VAC 50/60Hz	300W	-40-50°C	T5	T5	95°C
Ex-KSE300N-B	220~277VAC 50/60Hz	300W	-40-42°C	T5	T6	80°C
Ex-KSE80D-B	347~480VAC 50/60Hz	80W	-40-55°C	T6	T6	80°C
Ex-KSE100D-B	347~480VAC 50/60Hz	100W	-40-55°C	T6	T6	80°C
Ex-KSE120D-B	347~480VAC 50/60Hz	120W	-40-55°C	T5	T5	95°C
Ex-KSE120D-B	347~480VAC 50/60Hz	120W	-40-53°C	T5	T6	80°C
Ex-KSE150D-B	347~480VAC 50/60Hz	150W	-40-55°C	T5	T5	95°C
Ex-KSE150D-B	347~480VAC 50/60Hz	150W	-40-53°C	T5	T6	80°C
Ex-KSE200D-B	347~480VAC 50/60Hz	200W	-40-55°C	T5	T5	95°C
Ex-KSE200D-B	347~480VAC 50/60Hz	200W	-40-47°C	T5	T6	80°C
Ex-KSE240D-B	347~480VAC 50/60Hz	240W	-40-55°C	T5	T5	95°C
Ex-KSE240D-B	347~480VAC 50/60Hz	240W	-40-47°C	T5	T6	80°C
Ex-KSE300D-B	347~480VAC 50/60Hz	300W	-40-50°C	T4	T5	95°C
Ex-KSE300D-B	347~480VAC 50/60Hz	300W	-40-44°C	T5	T6	80°C

ATEX Coding	II 3 G / II 3 D
Ingress Protection	IP66 (IEC)EN 60529
Cable Entry	M20*1.5, M25*1.5, 1/2 NPT, 3/4 NPT
CE Mark	The CE marking of this product applies to EU directives 2014/35/EU, 2014/30/EU, 2012/19/EU and 2014/34/EU respectively. The Equipment is declared to meet the provisions of the ATEX directive(2014/34/EU)by reason of the Type Examination and compliance with the Essential Health and Safety Requirements

01.Introduction-Seal Series LED light ATEX and IECEx

- This user manual covers the range of ATEX and IECEx Sealion series LED normal luminaire.
  These luminaires are constructed with corrosion resistant epoxy coated die casting aluminum alloy body and high impact resistance tempered glass diffuser.
- Seal series LED are available from 80W to 300W, providing ideal solutions for a wide range of harsh and hazardous applications.

02.Electrical Supplies

	Small size:332*282*167mm				Medium size:332*435*167mm		
Voltage Range(AC)	100~277VAC 347~480VAC				100~277VAC 347~480VAC		220~277VAC 347~480VAC
Frequency Range(Hz)	50/60Hz				50/60Hz		50/60Hz
Power Watts(W)	80W	100W	120W	150W	200W	240W	300W
Standard Current Range(A)	0.28~0.8	0.36~1.0	0.43~1.2	0.54~1.5	0.72~2.0	0.86~2.4	1.08~3.0

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 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 60079-14:2013,Edition 5.0 / EN 60079-14:2014 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 specifications changes as required without notice.
  The luminaire 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 IEC 60079-10-1:2020,Edition 3.0,IEC 60079-10-2:2015,Edition 2.0,IEC 60079-14:2013,Edition 5.0 / EN IEC 60079-10-1:2021,EN 60079-10-2:2015,EN 60079-14:2014for 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 5.1 for installation mode and method.

3.3 Cabling and Cable Gland

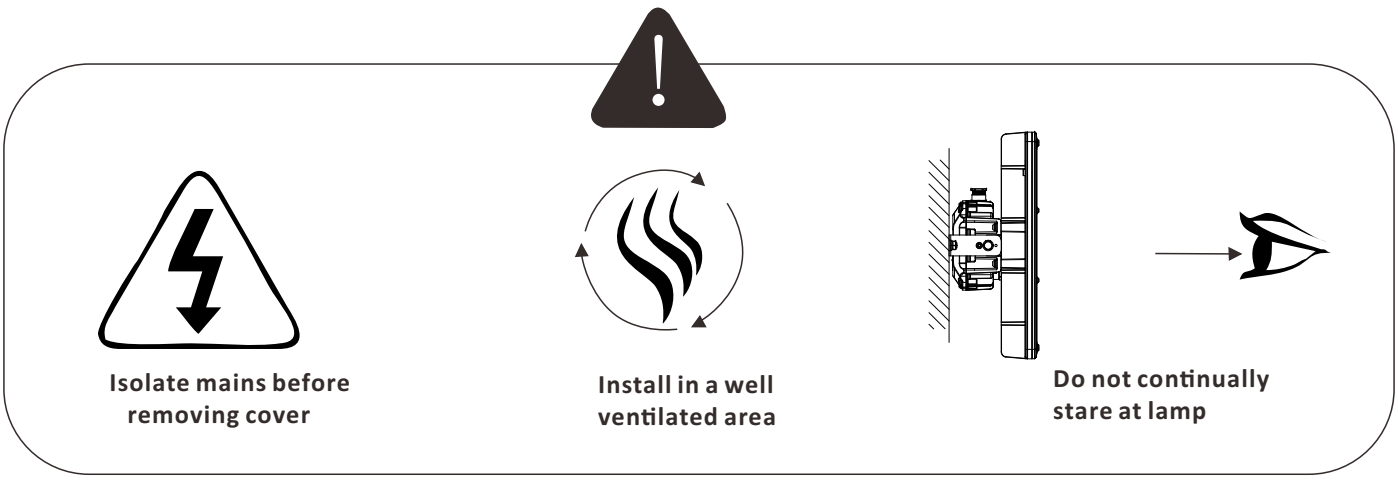
- The temperature conditions at the supply cable entry point are such that 90°C(ordinary PVC) cable can be used.
- Equipment certified cable gland and sealing plugs must have suitable IECEx / ATEX approval.
  When installed the cable gland or sealing plug should maintain the IP rating of the enclosure IP66.
- 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 and 5.2.2.
  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 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℃ 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 450Mpa.
- 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.



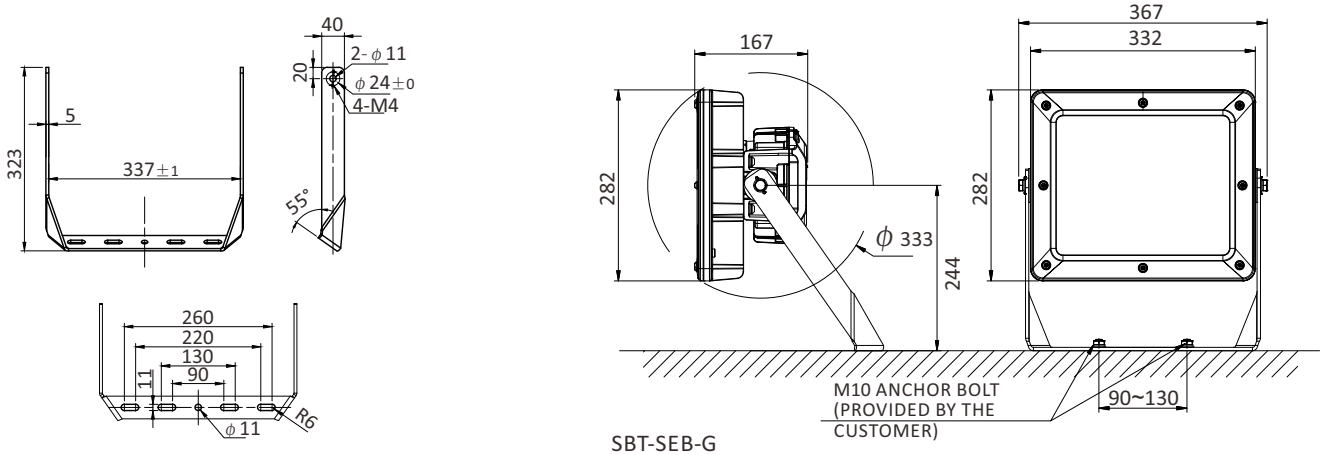
05.Installation Method

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):

80W/100W/120W/150W

(unit:mm)

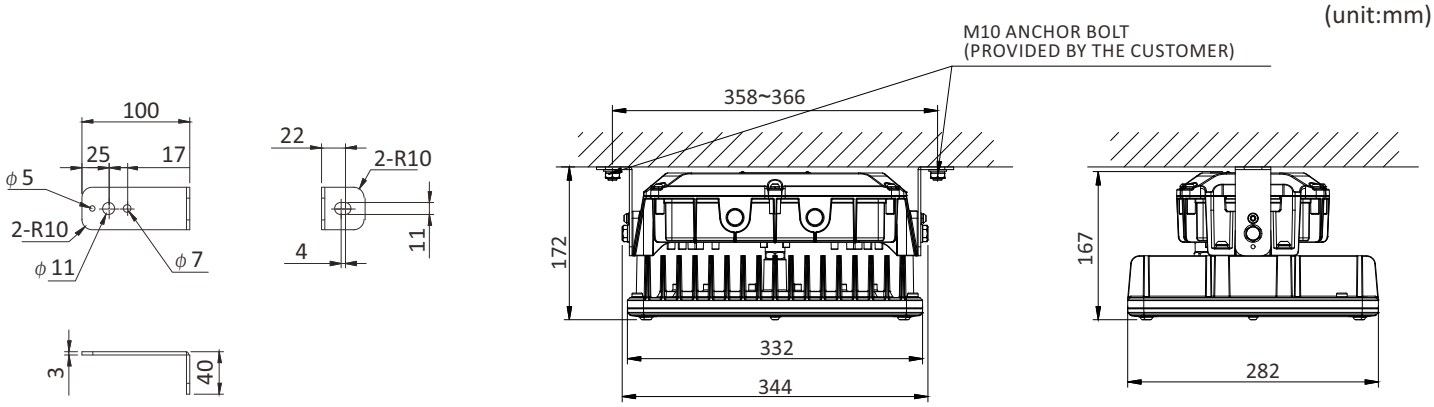
360°ROTATION(EVERY15° IS A ROTATION ANGLE),



SBT-SEB-G

Stanchion mount / Wall mount

(unit:mm)

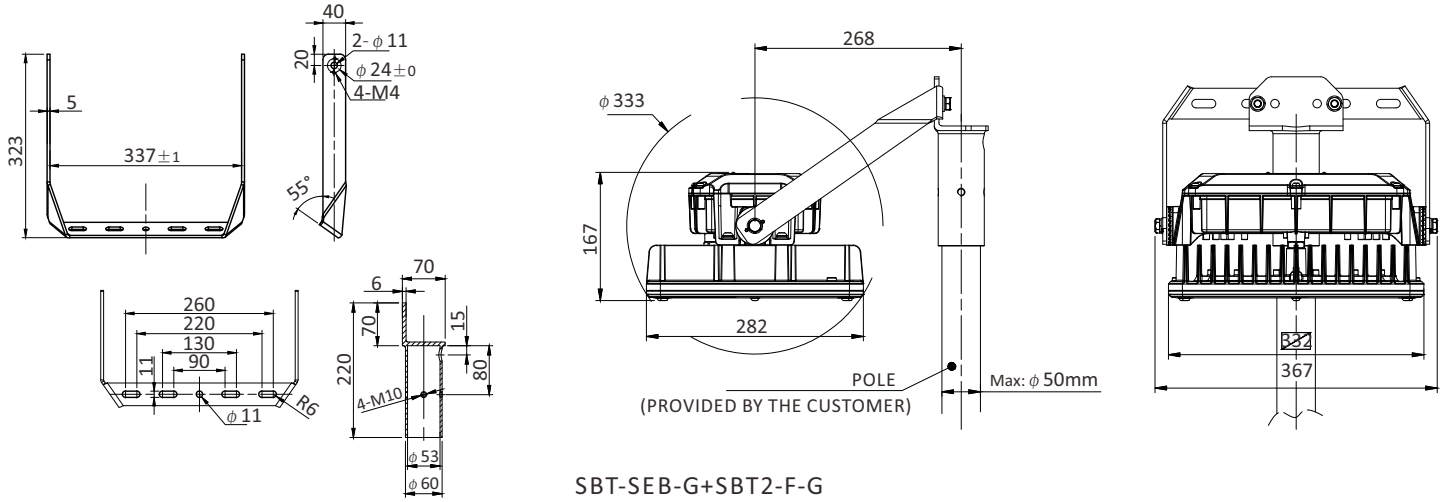


BR-SEB-G

Ceiling mount

(unit:mm)

360°ROTATION(EVERY15° IS A ROTATION ANGLE),



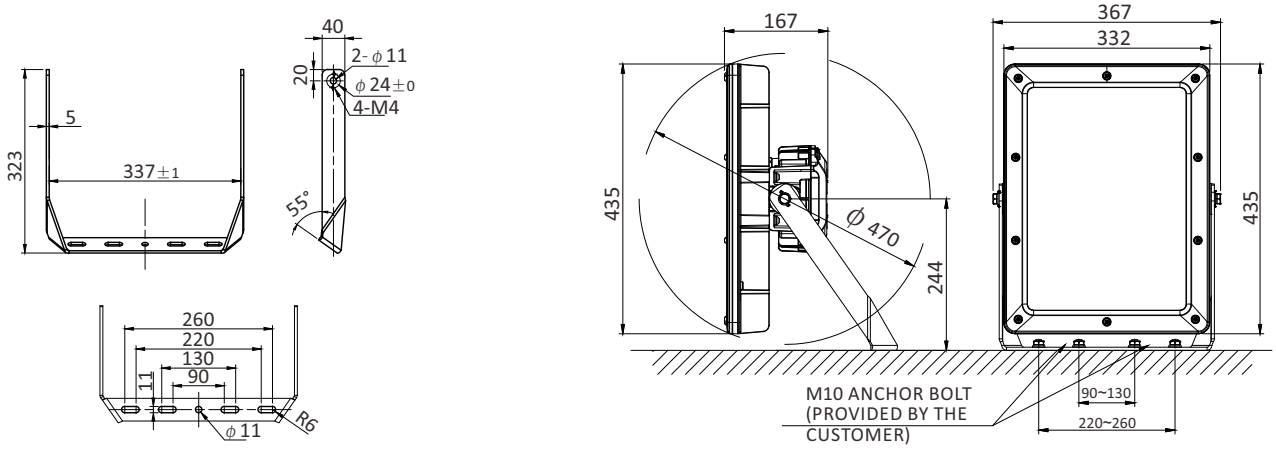
SBT-SEB-G+SBT2-F-G

Pole Mount

200W/240W/300W

(unit:mm)

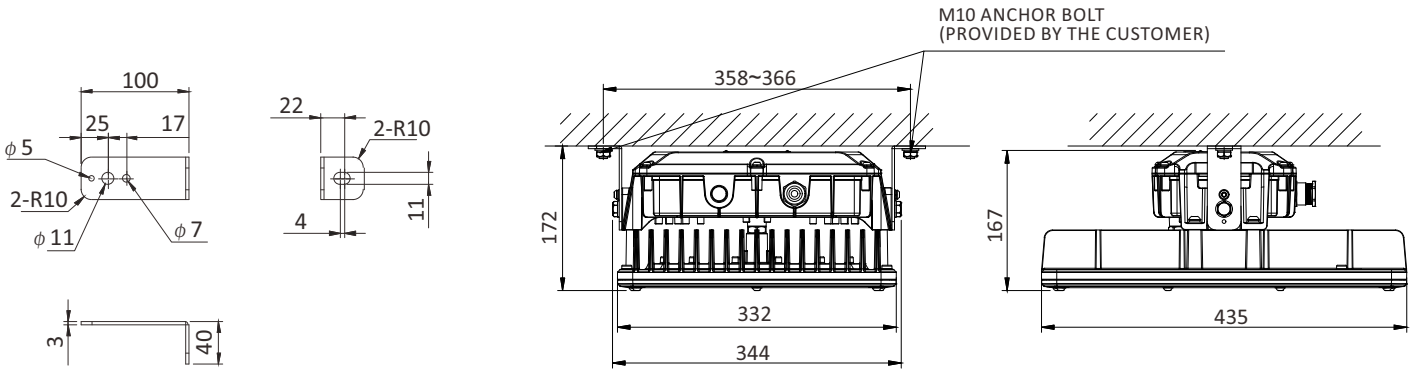
360°ROTATION(EVERY15° IS A ROTATION ANGLE),



SBT-SEB-G

Stanchion mount / Wall mount

(unit:mm)

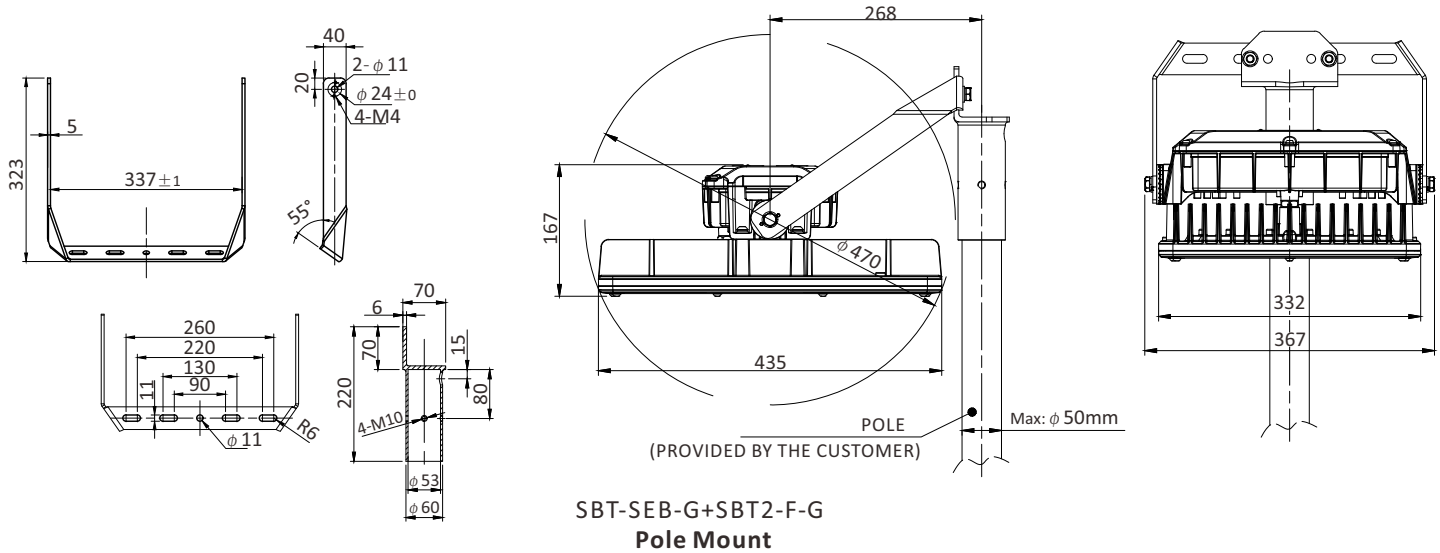


BR-SEB-G

Ceiling mount

(unit:mm)

360°ROTATION(EVERY15° IS A ROTATION ANGLE),



SBT-SEB-G+SBT2-F-G

Pole Mount

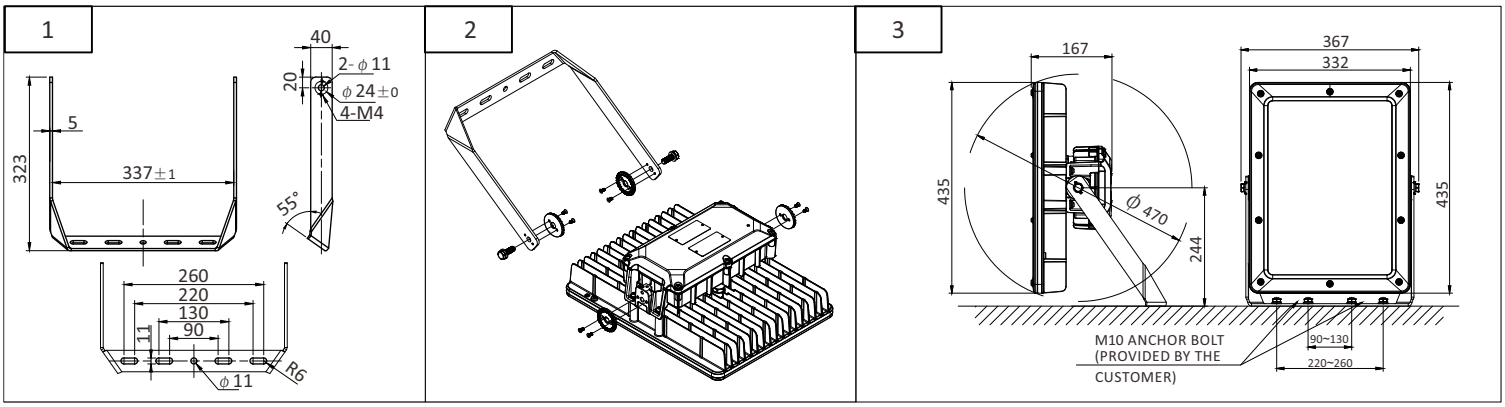
Remarks:

- 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 IEC 60079-0:2017,Edition 7.0 , EN IEC 60079-0:2018 , IEC 60079-7:2015/A1:2017,Edition 5.1 and the relevant requirements in the IEC 60079-14:2013,Edition 5.0/ EN 60079-14:2014.

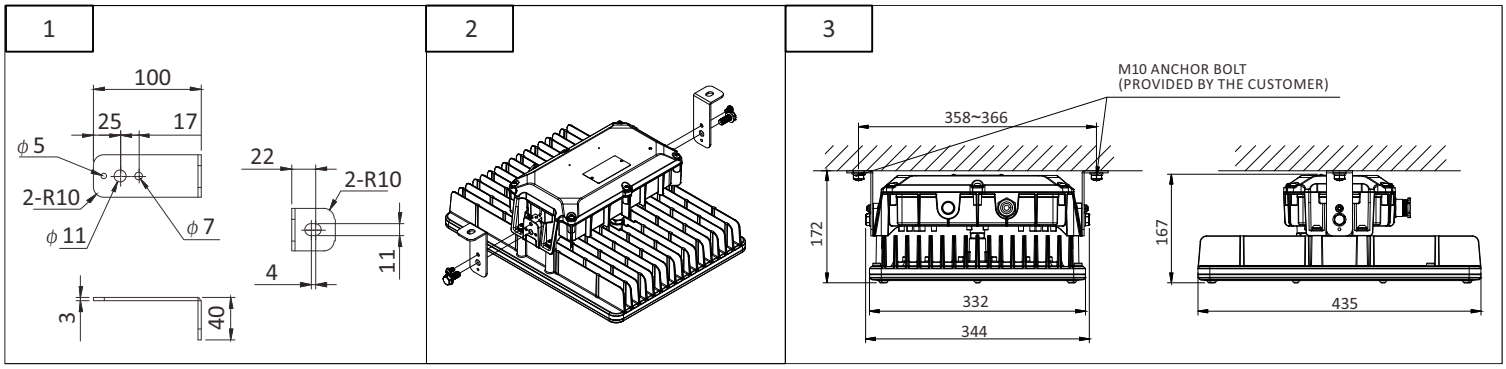
5.1 Installation Decomposition

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 60079-14:2013,Edition 5.0/EN 60079-14:2014 or with local hazardous area code of practice, whichever is appropriate.
Please refer to the following installation drawing for different installation methods.

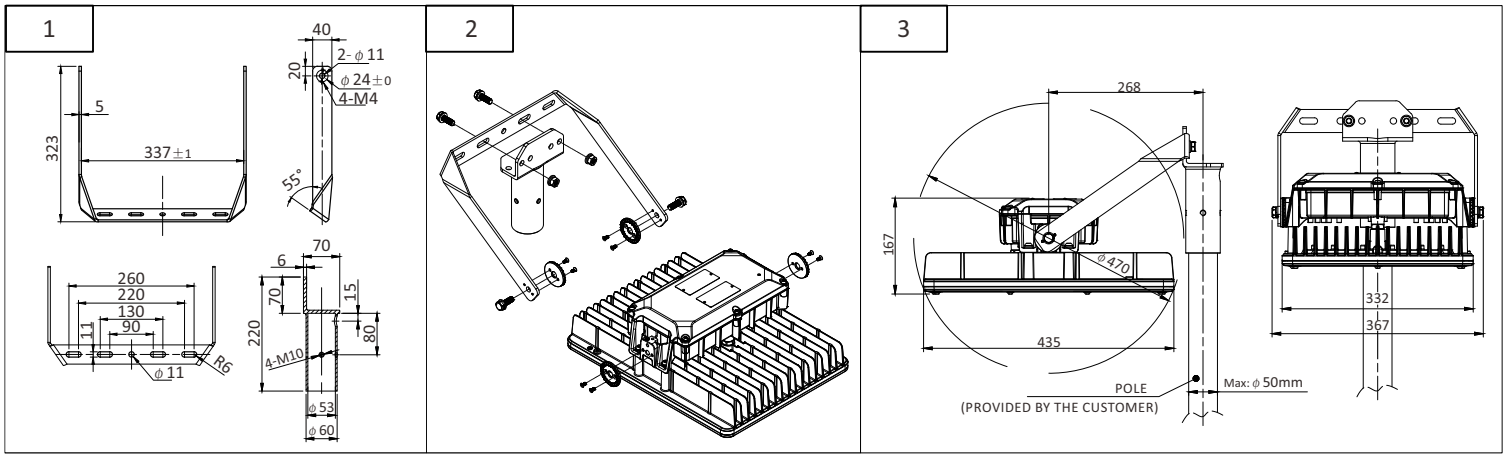
- 5.1.1 Stanchion Mount / Wall Mount(unit:mm)



- 5.1.2 Ceiling mount(unit:mm)



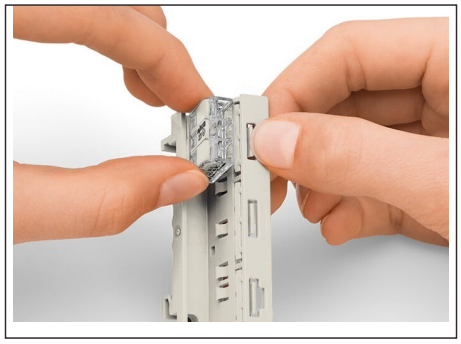
- 5.1.3 Pole Mount(unit:mm)



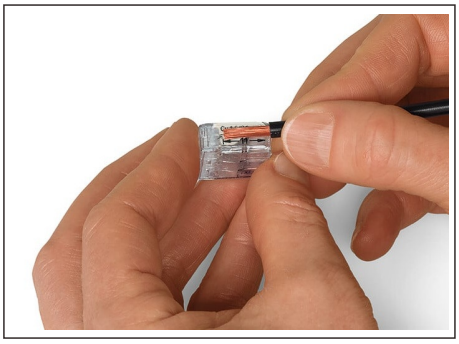
Installation Notes

- COMPACT Splicing Connector

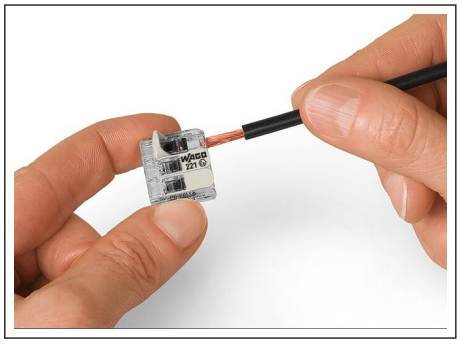
  Conductor termination： Easily terminate conductors from 0.14 to 4 mm².



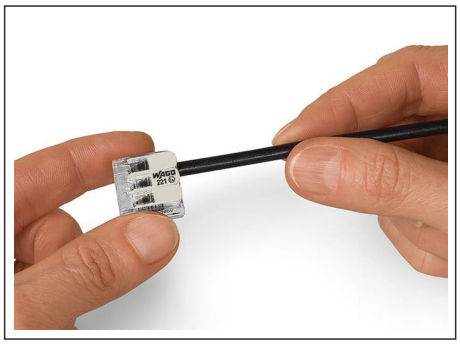
Removing a connector from the mounting carrier.



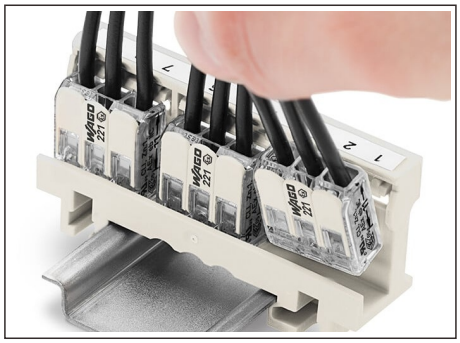
Strip conductor to 11 mm (0.43 inch).



Termination: Lift the lever to open the clamping unit and insert a stripped conductor.

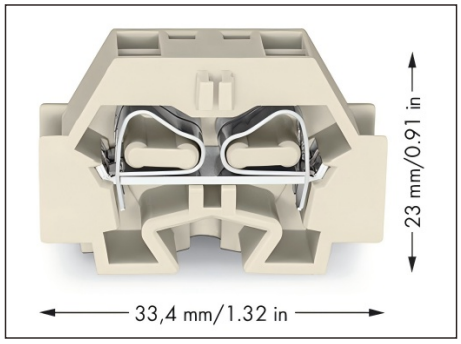


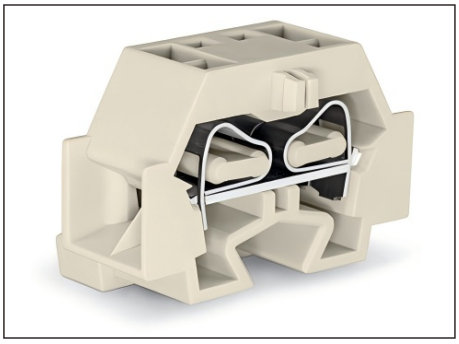
Then, lower the lever to close the clamp.

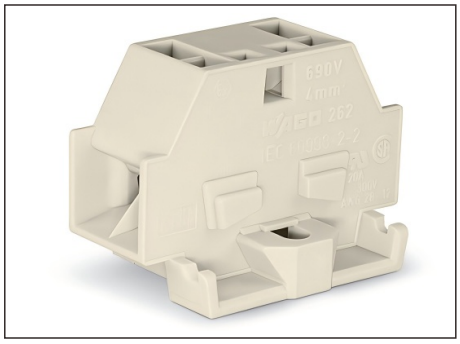


Inserting a connector into the mounting carrier.

- 4-Conductor terminal block







Medium size:Ø330*160mm)	
Rated voltage EN (Ex e II)	550V
Rated current (Ex e II)	30A

Medium size:Ø330*160mm)	
Connection points	4
Total number of potentials	1
Number of levels	1

Connection 1	
Connection technology	CAGE CLAMP®
Actuation type	Operating tool
Connectable conductor materials	Copper
Solid conductor	0.5 … 4 mm² / 20 … 12 AWG
Fine-stranded conductor	0.5 … 4 mm² / 20 … 12 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Wiring direction	Side-entry wiring

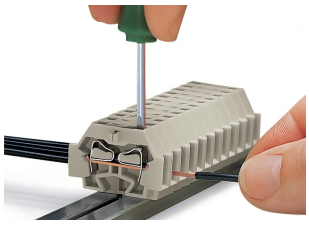
Jumper

Jumper; for conductor entry; 2-way;

Operating tool

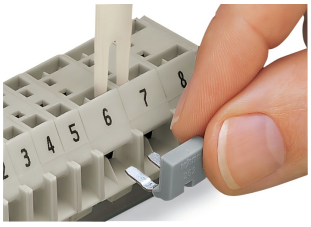
Operating tool; Blade: 3.5 x 0.5 mm;

Conductor termination



Inserting a conductor.

Operating tool

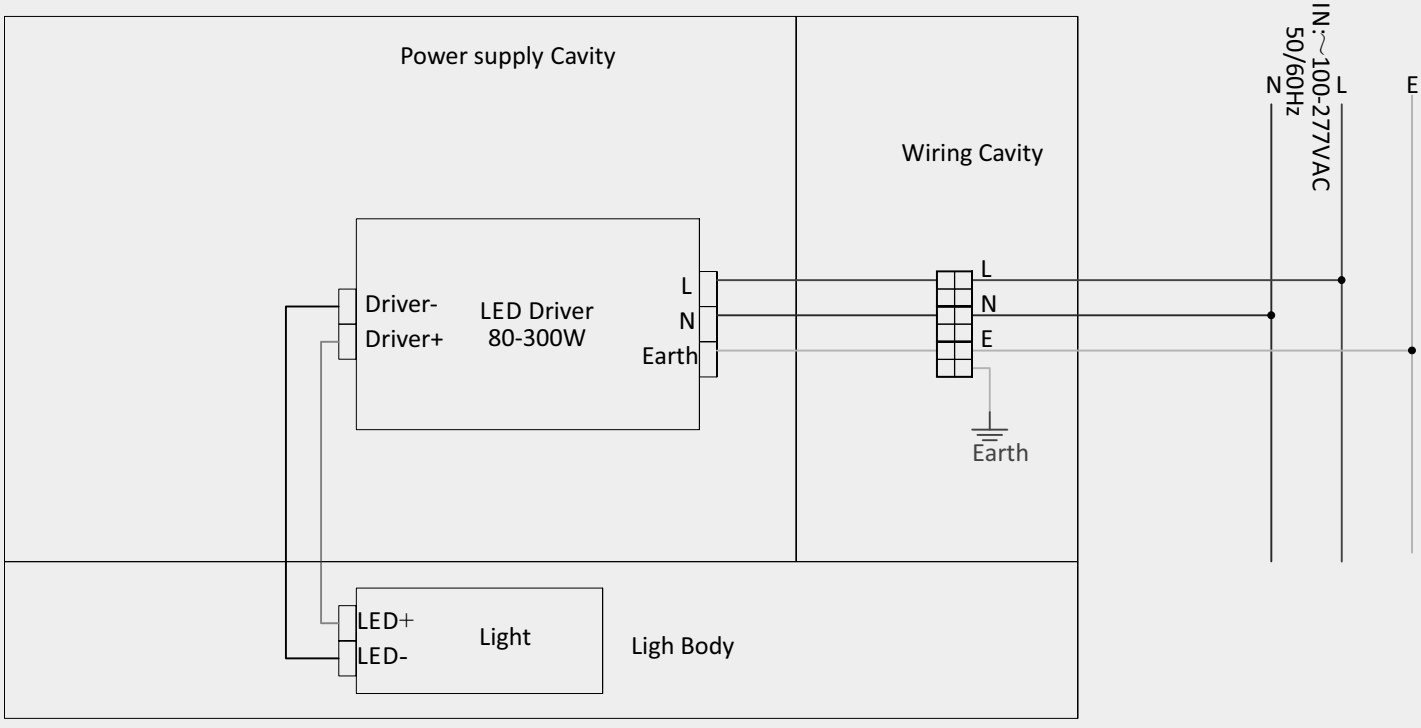


Commoning with comb-style jumper bar.

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 IEC 60079-14:2013,Edition 5.0/EN 60079-14:2014 shall strictly comply with the requirements of IEC 60079-14:2013,Edition 5.0/EN 60079-14:2014 when installing luminaire When installed, ensure that the luminaire is effectively grounded (internal or external).

• 5.2.2 Electrical Principles(Non Emergency type)



5.3 Cascade

MCB Type	Rating	80W	100W	120W	150W	200W	240W	300W
B	16A	9	9	4	4	3	2	2
C	16A	14	14	8	8	6	4	4
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, IEC 60079-17:2023,Edition 6.0, 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.

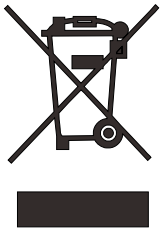
Periodic inspection of the enclosure seal should be checked out to ensure that the seal is sound.
If the luminaire has been subject to abnormal conditions, for example, severe mechanical impact or chemical spillage, it must be de-energised until it has been inspected by an authorized and competent person.

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.

09.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.
The battery should be fully charged and discharged at least once every 6 months.

11.Specific Conditions of Use

11.1 End user shall use certified cable gland with suitable type of protection for installation purpose
11.2 Minimum lP66 for chosen cable glands.

12.Warning

- Do not open when energized.
- The end user shall use more than a 4mm² wire for external earthing purpose.
- Clearances and creepage distances should be considered when installing the power cables.
- The specification and installation of power cables must be in accordance with user manual. The power cable shall be fixed as close as possible to the enclosure of the lamp after installation.
- Use only replaceable battery pack of HRH26/51© 4000Tx8 9.6V.
- Clean the luminaire regularly to prevent dust accumulation.
- All maintaining and repairing must be carried out by the qualified staff recognized by the manufacturer.
- POTENTIAL ELECTROSTATIC CHARGING HAZARD. Clean only with a damp cloth.
- For explosion-proof equipment of nR type, the sealing rings must be replaced every three years.
- For explosion-proof equipment of nR type, a tightness test must be carried out after the initial installation by the end user before the equipment can be put into normal operation.

13.Optional Parts

No.	Installation Accessories	Part No.	Picture	Material	Weight(Kg)	QTY	Remarks
1	Ceiling Bracket	BR-SEB-G		SUS316	0.9	1	Ceiling Mount
2	Stanchion Bracket	SBT-SEB-G		Q235	1.5	1	Stanchion Mount
3	Pole Mount Bracket	(SBT2-F-G) +(SBT-SEB-G)		SUS316 +Q235	3.0	1	Stanchion Mount

Rev: 1.2 / 11.03.2026

Contact

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