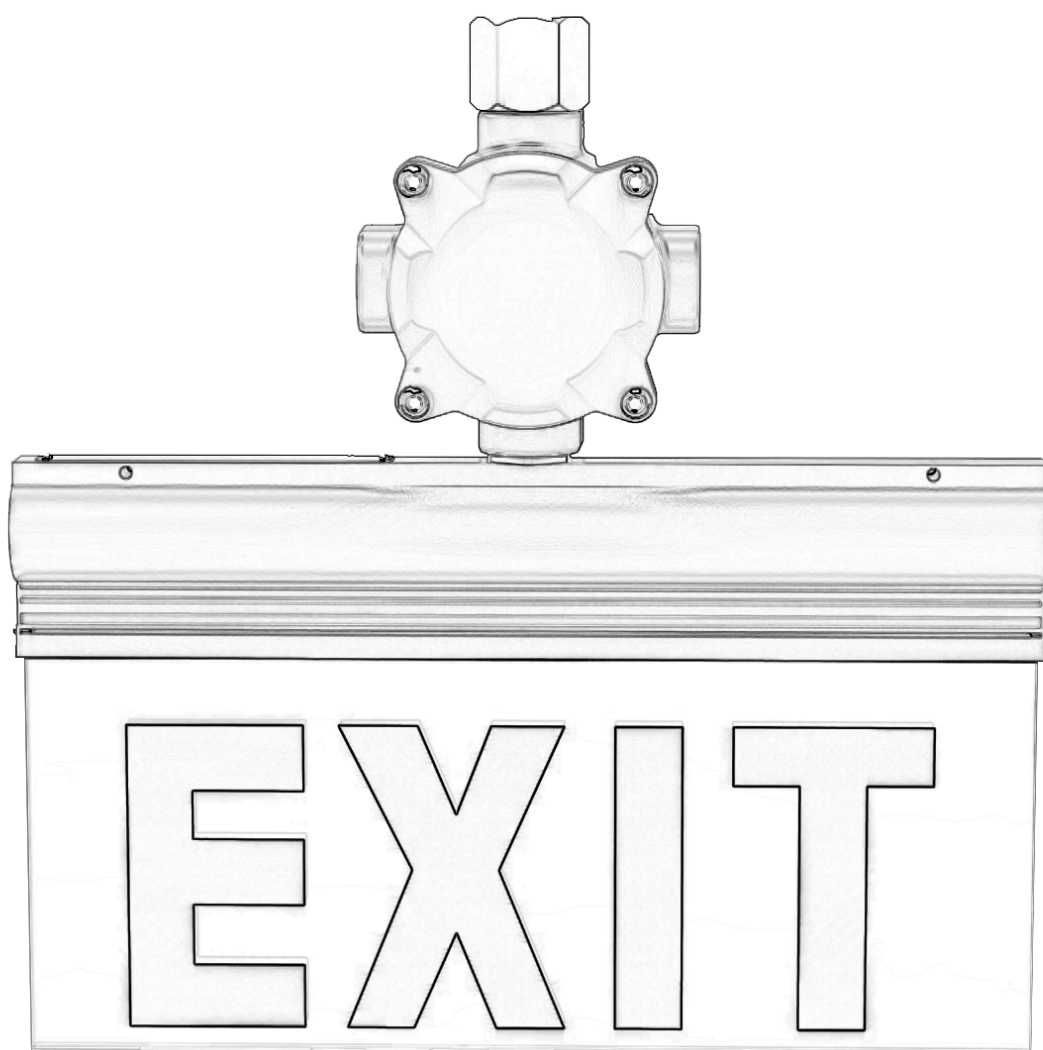



## Operation & Maintenance Manual KPolaris Series-NV1.0



**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	Ex mb ib
Protection Standards	(IEC)EN 60079-0, (IEC)EN 60079-11, (IEC)EN 60079-18, (IEC)EN 60079-28, EN 55015, EN 61547, EN 61000-3-2, EN 61000-3-3, EN 60598-1, EN 60598-2-5, EN 62031, EN 62493, IEC 62321-4, IEC 62321-5, IEC 62321-6, IEC 62321-7-1, IEC 62321-7-2, IEC 62321-8
Area Classification	Zone 1 & Zone 2 Areas to (IEC)EN 60079-10-1
Installation	(IEC)EN 60079-14
Certificate	ECM 19 ATEX-B SU43
Equipment Coding	Ex mb ib op is IIC T6 Gb
Temperature Class	-20°C ≤ Ta ≤ +55°C
ATEX Coding	 II 2 G
Ingress Protection	IP54 (IEC)EN 60529
Cable entry	M20*1.5,M25*1.5,NPT3/4"
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 EU Type Examination and compliance with the Essential Health and Safety Requirements

## 01.Introduction-Polaris series LED light ATEX

- This user manual covers the range of ATEX Polaris series Explosion Proof Emergency Exit Light. These luminaires are constructed with corrosion resistant epoxy coated free aluminum alloy body and high impact resistance tempered glass diffuser.
- Polaris series Explosion Proof Emergency Exit Light are available from 6W providing ideal solutions for a wide range of harsh and hazardous applications.

## 02.Electrical Supplies

		Size:337*315*76(Junction Box)/376*198*45(Normal)
Input Voltage Range(VAC)		100~277VAC 50/60Hz
Rated current(A)		<0.1A
Power Watts(W)		6W
Battery	Emergency Power(W)	0.5W
	Charge current(A)	0.23A
	Rated capacity(Ah)	Ni-MH 2.6Ah
	Back up(min)	180
	Charging time(h)	>12 hours
	Lifespan	500 Cycles
luminous intensity(cd/m <sup>2</sup> )	Normal	86
	Emergency	80

## 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 6.
- 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 luminaire are shipped with the battery pack disconnected, connection must be made on the initial insulation.
- Refer to (IEC)EN60079-10-1 & (IEC)EN60079-14 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

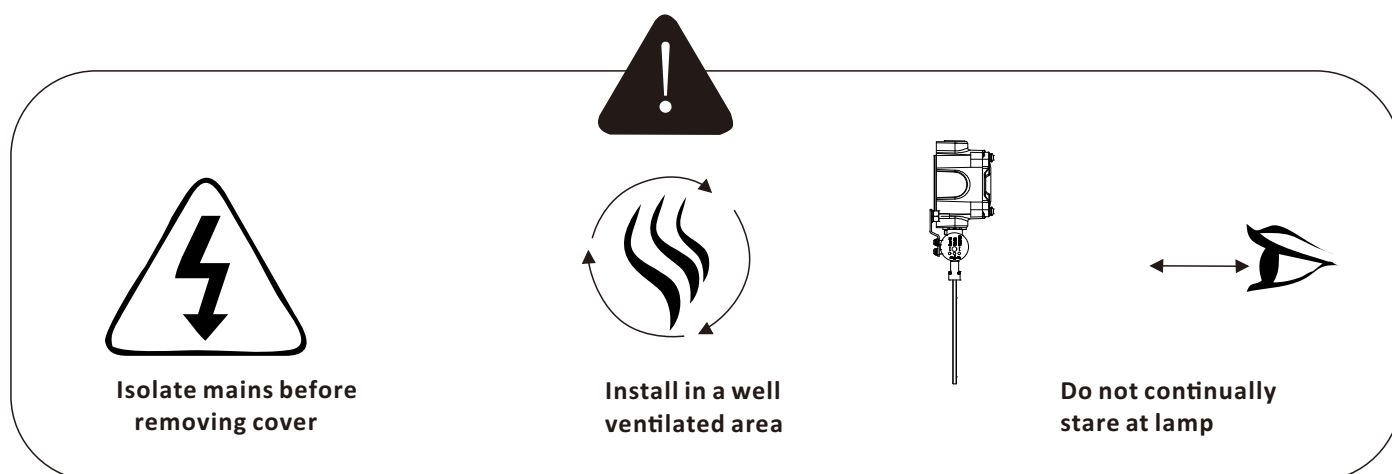
- The temperature conditions at the supply cable entry point are such that 90°C (ordinary PVC) cable can be used.
- Equipment certified cable gland and sealing plugs must have suitable IECEx / ATEX approval.  
When installed the cable gland or sealing plug should maintain the IP rating of the enclosure IP66.
- Installation requirements are detailed in the "remarks" part of Clause 6.

### 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 6.2.1.  
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.  
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.
- 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/mm<sup>2</sup>
- 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 IP54 rating must be maintained.

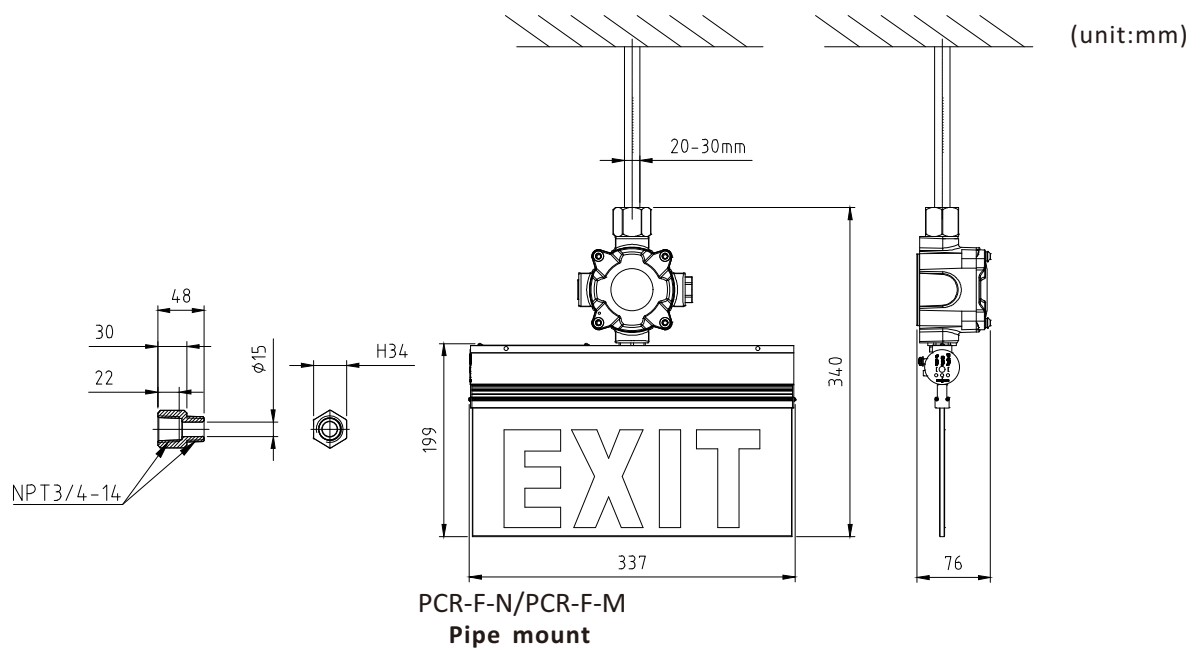
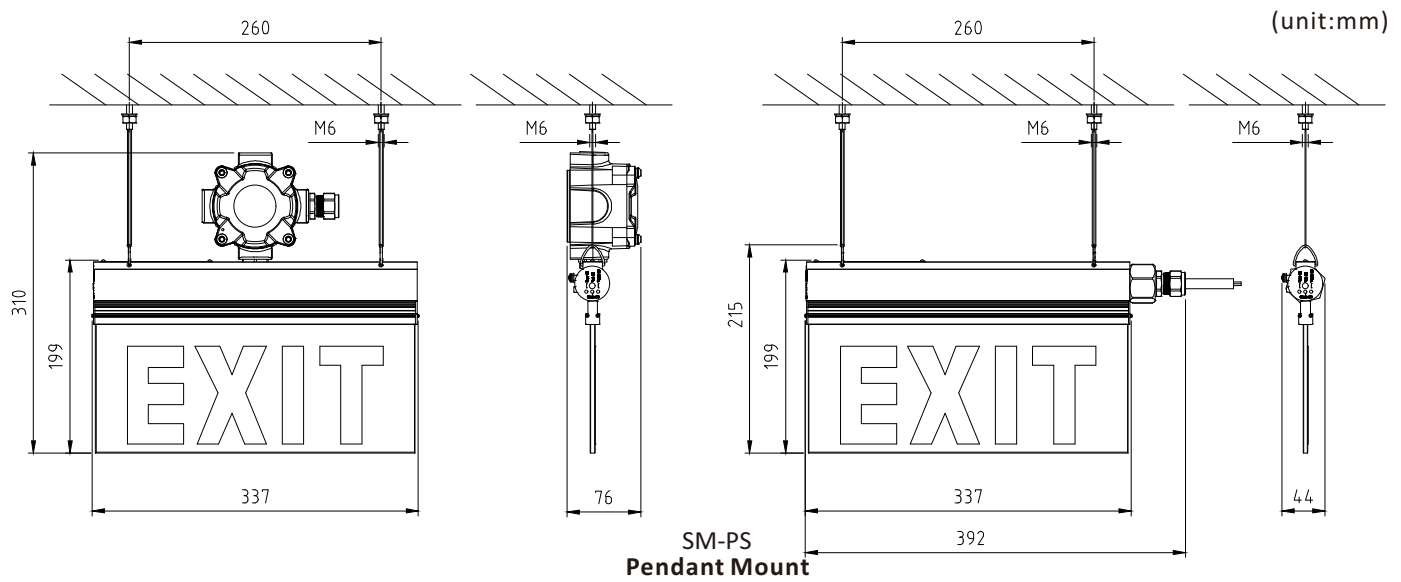
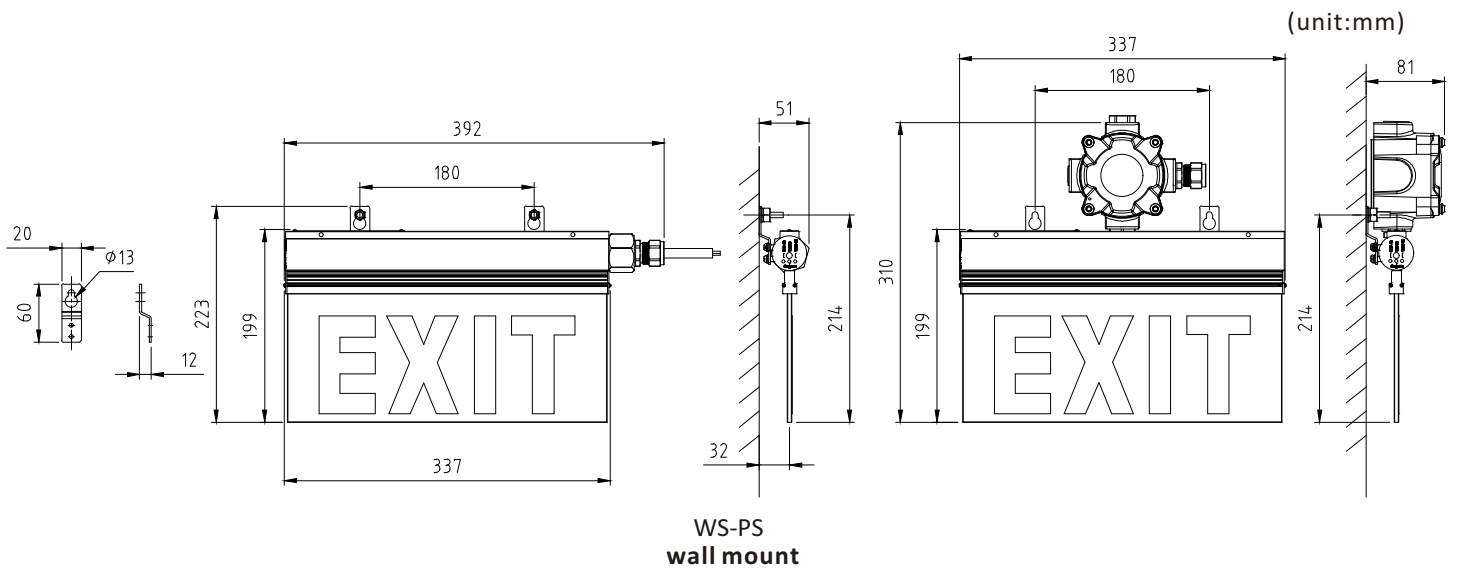


## 05.Charge display

- Main power indicator light: green LED on.
- Charging indicator light: red LED on, and will be off when the battery is fully charged.
- Malfunction indicator light: yellow LED flashes at a frequency of 1Hz to indicate the battery is faulty.  
Yellow LED flashes at a frequency of 2Hz to indicate the load light source is faulty.  
Yellow LED is always on and the buzzer sounds twice (sound once every minute) to indicate the battery is over-discharged during the annual/monthly inspection.
- Monthly inspection indicator light: green LED flashes at a frequency of 1 Hz.
- Annual inspection indicator light: green LED flashes at a frequency of 2 Hz.

## 06.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 glands or plug that meets the requirements in the (IEC)EN60079-0 and (IEC)EN60079-1 and the relevant requirements in the (IEC)EN60079-14.

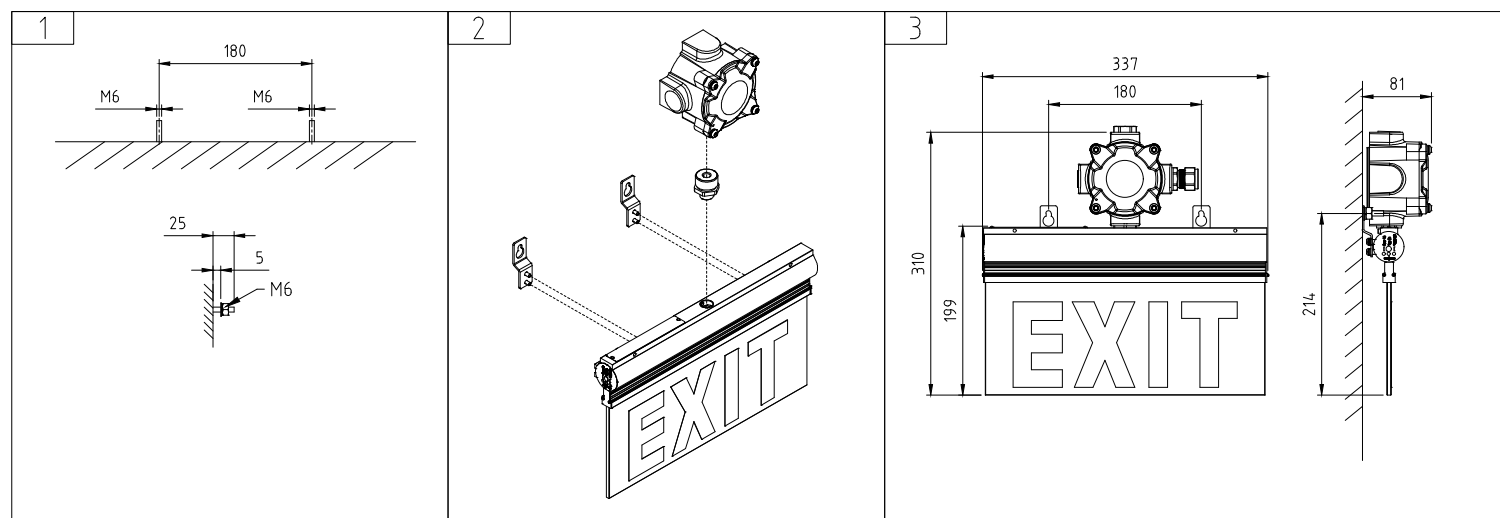
## 6.1 Installation decomposition

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.

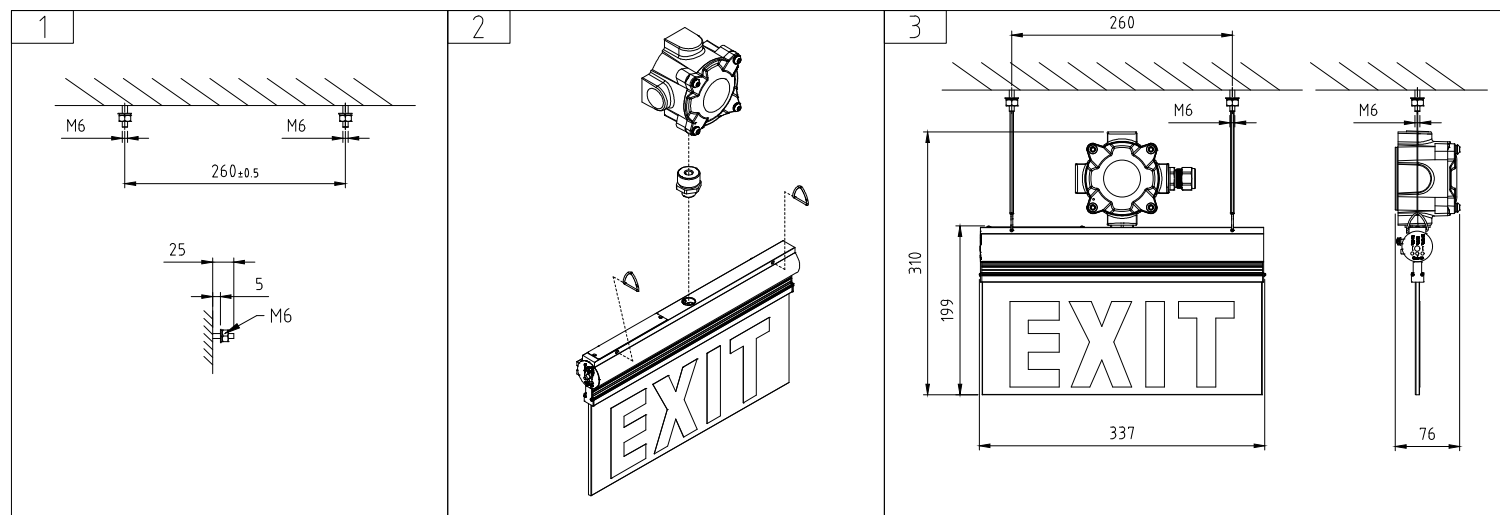
Installation should be carried out in accordance with (IEC)EN60079-14 or with local hazardous area code of practice, whichever is appropriate.

Please refer to the following installation drawing for different installation methods.

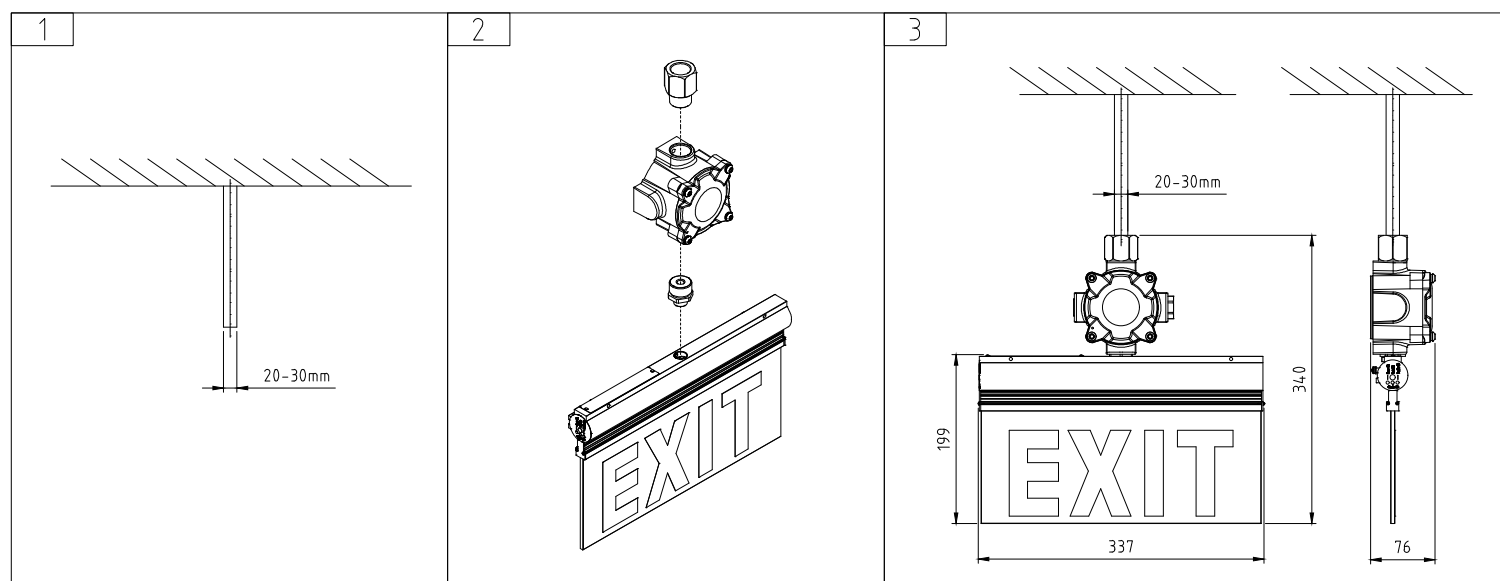
### • 6.1.1 Wall mount(unit:mm)



### • 6.1.2 Pendant mount(unit:mm)



- 6.1.3 Pipe Mount(unit:mm)

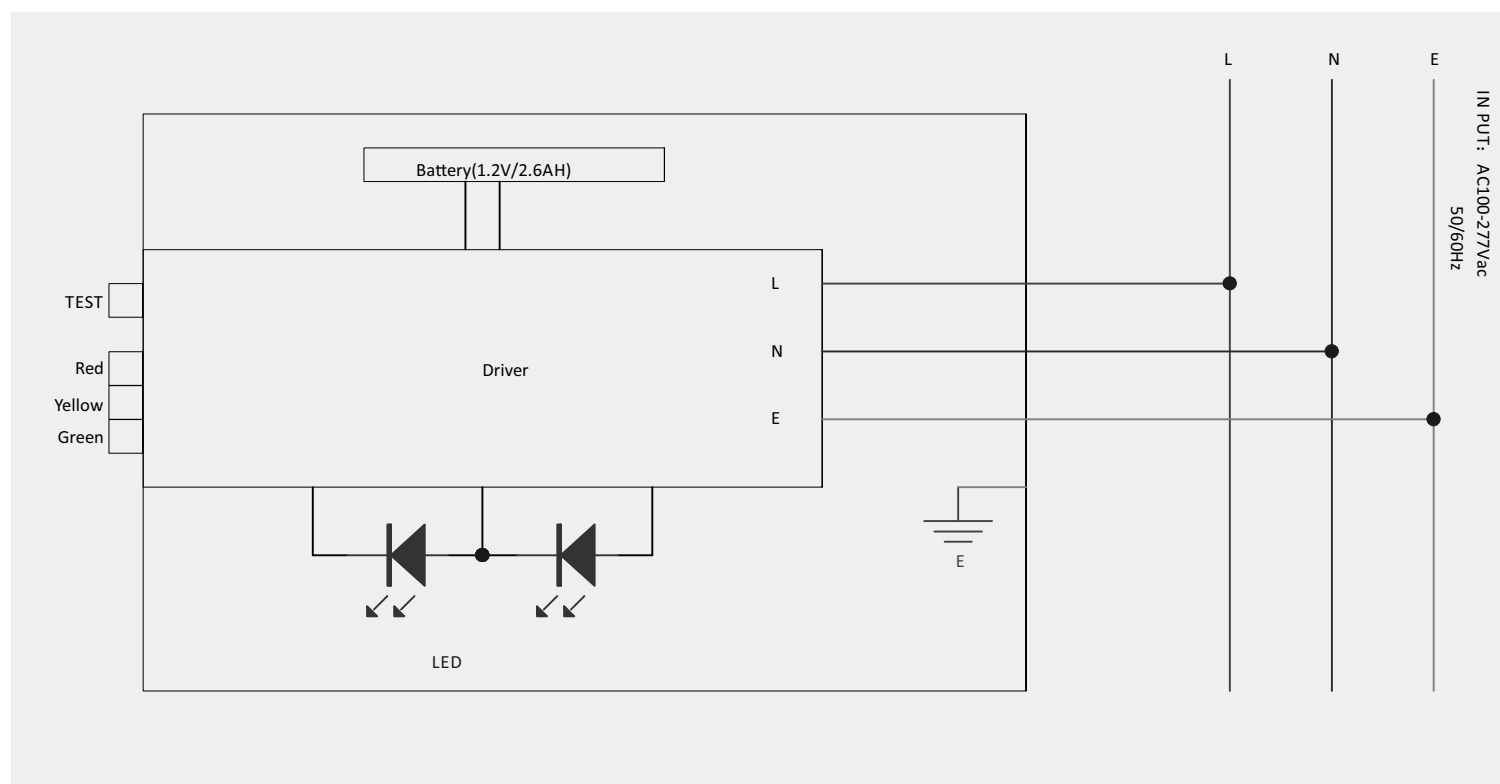


## 6.2 Electrical Principles and Connections

In addition to referring to the relevant contents of this manual, the certified personnel who have obtained the corresponding certificate according to (IEC)EN60079-14 shall strictly comply with the requirements of (IEC)EN60079-14 when installing luminaire.

When installed, ensure that the luminaire is effectively grounded (internal or external).

- 6.2.1 Electrical Principles for emergency luminaires



## 07.Repairs Maintenance

Visual tests and checks should be carried out at intervals described by the appropriate regulations, (IEC)EN 60079-17, and should include the following (including but not limited to).

- Check for mechanical damage/corrosion.
- Check connections, fixings.
- 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.

## 08.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 regularly if it is used under dust environment.

## 09.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.

### 9.1 .Battery Disposal

NI-Cd batteries are defined as 'controlled waste' under the hazardous waste regulations and the person disposing needs to observe a 'duty of care'.

They must be stored and transported safely and any necessary pollution control forms completed prior to transportation.

Take care to fully discharge batteries before transporting, or otherwise ensure that there can be no release of stored energy in transit.

For further details refer to our technical department.



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.

## 10.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.

## 11.Storage




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

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.



# 12.Optional Parts

No.	Installation accessories	Part No.	Picture	Material	Weight(Kg)	QTY	Remark
1	Bracket	WS-PS		SUS304	32	1	Wall Mount
2	Steel chain	SM-PS		Stainless Steel	10	1	Pendant Mount
3	Pipe connector	PCR-F-N PCR-F-M		SUS304	260	1	Pipe mount



#### Contact

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