CLED EMERGENCY USER INSTRUCTION MANUAL

	Equipment	II2 G	II2 D
	Protection Level	EPL Gb Gc	EPL Db Dc
	Protection mode	Ex db eb IIC	Ex tb IIIC
	Ambient Temperature	-40°C to +55°C	
	Temperature Class	T4	135°C
	ATEX Certificate	ITS 18 ATEX 103084X	
	IECEx Certificate	IECEx ITS 18.0007X	
	IP Code	IP66	

1 CONDITION OF SAFE USE

- Products covered under this technical instruction leaflet shall only be used in Zone 1, 21 and Zone 2, 22 and conditions for which they have been certified, and the product meets the requirements of EN 60079-0:2018/IEC 60079-0:2017, EN/IEC 60079-1:2014 , EN/IEC 60079-7:2017, EN/ IEC 60079-31:2014(2013), IEC 60598-1:2014.
- Ex eb IIC Gb / Ex tb IIIC Db IP66 minimum rated cable glands and blanking elements to be used only. Each entry shall have no more than one thread adapter when an adapter is used. A blanking element shall not be used with an adapter.
- All the terminals wired or unwired need to be suitably tightened to the torque values as stated in installation documents. The wires with stripped length should be fully inserted into the Ex “eb” terminal block openings and screwed firmly with proposed torque of 0.6 – 0.8Nm for proper connections.
- The product covered by this certificate incorporate previously certified devices, it is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these devices, and the manufacturer shall inform the notified body of any modifications of the devices that may impinge upon the explosion safety design of their products.
- The drivers are factory programmed with required output current within the ‘settable output current’ range mentioned on the driver label. Programming the drivers on field is strictly prohibited.
- The distance of the lens from the light engine shall be identical to or greater than those shown in the scheduled drawings
- Use Cables suitable for operating temperature referring to marking as per recommendation of IEC/EN 60079-14.
- The temperature Tc (T case=90°C) point must not be exceeded of the LED drivers.
- Corrosion: End user should make sure that material of the equipment is compatible with the installation environment. (Metal Parts: Aluminum)
- Replacement of the battery pack is only permitted when the area is non-hazardous.

2 SPECIAL CONDITIONS

All the equipment shall be selected in compliance with the requirements stipulated in Directive 99/92/EC for users.
The product category shall match the installation zone.

All hardware shall be installed as stipulated under electrical installations standard EN/IEC 60079-14.
All personal involved in the installation process shall be qualified for the roles performed (EN/IEC 60079-14 Annex A).
Equipment must be connected as stipulated by regulations in force in accordance with the maximum permissible current-carrying capacity.

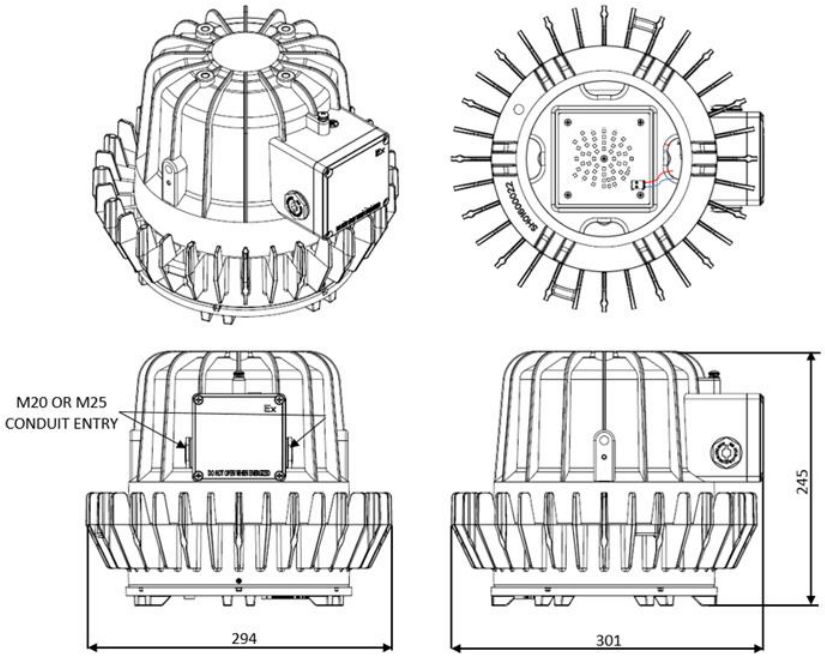
We shall be absolved from all responsibility for drilling operations performed on enclosures without our formal consent.

WARNING!!

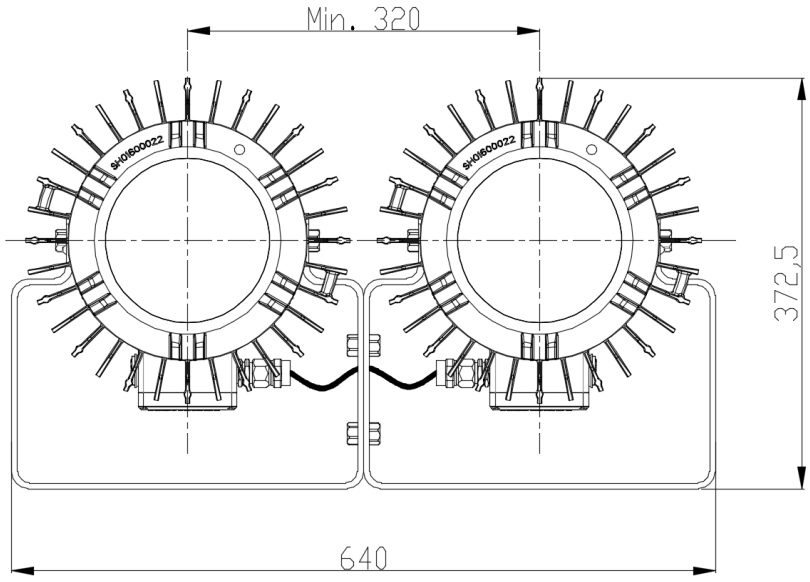
-Electrical Power must be turned "OFF" during Field connections and Maintenance.

-The batteries for Emergency type should be charged and discharged at least 1 time every 6 months.

LUMINAIRE DIMENSIONS (mm)

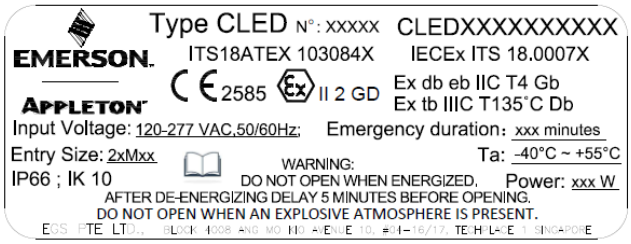


For CLED03xxxxxxxx/E/H; CLED04xxxxxxxx/E/H; CLED05xxxxxxxx/E/H; CLED06xxxxxxxx/E/H

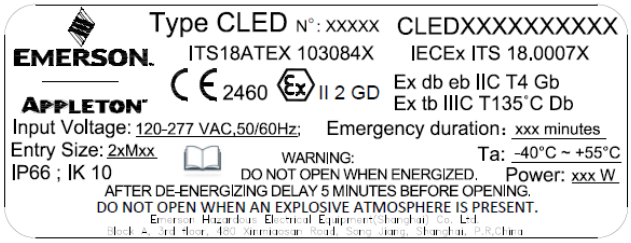


For CLED06xxxxxxxx/E/H; CLED08xxxxxxxx/E/H; CLED10xxxxxxxx/E/H; CLED12xxxxxxxx/E/H

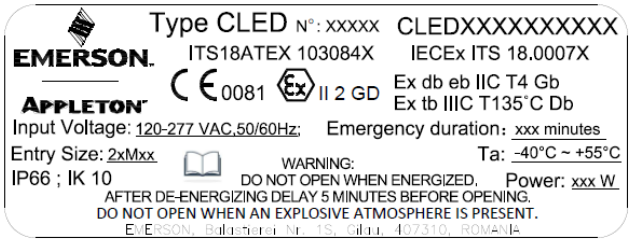
Marking Details:



THIS LUMINAIRE IS PROVIDED WITH A FACTORY INSTALLED EMERGENCY LIGHTING BATTERY PACK.
USE ONLY ON CLED SERIES EMERGENCY LUMINAIRE.
USE ONLY REPLACEABLE BATTERY PACK .
BATTERY PACK TYPE: NI-MH BATTERIES
NOMINAL VOLTAGE /CAPACITY：6.0V /6AH
MANUFACTURER'S NAME：EGS PTE LTD.,

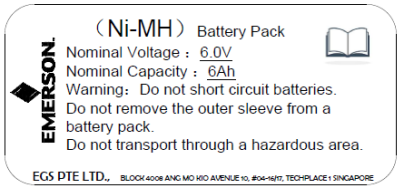


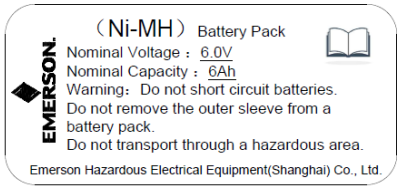
THIS LUMINAIRE IS PROVIDED WITH A FACTORY INSTALLED EMERGENCY LIGHTING BATTERY PACK.
USE ONLY ON CLED SERIES EMERGENCY LUMINAIRE.
USE ONLY REPLACEABLE BATTERY PACK .
BATTERY PACK TYPE: NI-MH BATTERIES
NOMINAL VOLTAGE /CAPACITY：6.0V /6AH
MANUFACTURER'S NAME：
Emerson Hazardous Electrical Equipment(Shanghai) Co. Ltd.

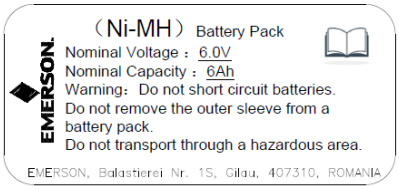


THIS LUMINAIRE IS PROVIDED WITH A FACTORY INSTALLED EMERGENCY LIGHTING BATTERY PACK.
USE ONLY ON CLED SERIES EMERGENCY LUMINAIRE.
USE ONLY REPLACEABLE BATTERY PACK .
BATTERY PACK TYPE: NI-MH BATTERIES
NOMINAL VOLTAGE /CAPACITY：6.0V /6AH
MANUFACTURER'S NAME：
EMERSON, GILAU, 407310, ROMANIA

Main Equipment label







Battery label

CAUTION:

REPLACE ONLY WITH FUSE RATED 3A,150VDC,
CONFORMING WITH THE IEC 60127.
REPLACEMENT FUSE MUST BE NON-ARCING(FILLED),
NON-INDICATING, AND CURRENT LIMITING.
FUSE IS FOR SUPPLEMENTARY PROTECTION ONLY.

Fuse label

Catalog Numbering Guide

CLED **03** **C** **G5** **1** **S** **BU** **D**

Series:
CLED = CLED Series Ex-proof Lighting Fixture

Lumen(nominal):
03 = 2900
04 = 3900
05 = 5000
06 = 6200
08 = 8000
10 = 10000
12 = 12000

CCT:
C = Cool, 5000K
N = Neutral, 4000K
W = Warm, 3000K
G = Green
A = Amber
Y = Yellow
B = Blue
R = Red

Light Distribution
G5 = NEMA TypeV
GM = Medium(55°)
GN = Narrow(25°)

Conduit Entry:
1 = M20
2 = M25

Wiring:
S = Standard
T = Three Phase
L = Dual Loop In/Out Through wired

Voltage:
BU = 120V~277VAC, 50Hz/60Hz or 125~300VDC

Options:
D = Diffuser
H = Emergency I*
E = Emergency II**

** the emergency duration is 90mins.*
*** the emergency duration is 180mins.*

3 Assembly / Disassembly

To connect field wire's:

- Open the housing cover by unscrewing four screws as shown in *Fig-1*(Follow the pattern)
- Remove the cover to have access to terminal block. Screws are captive and will not fall off from the cover
- Remove the required pre-installed blanking plugs. Use certified cable glands (M20 or M25)
- Wiring to be done as per the wiring details shown in *Fig-2*. The catalog logic CLEDxxxxxx**S**xxx states the type of wiring (S-Standard I; T-Standard II (3 phase); L-Dual loop in/out)
- It is recommended to use insulated wire ferrules which comply to wire requirements for proper and safe connection. Terminal markings for each terminal (L, N, G) are provided for easy identification
- Wires to be stripped to a length of 9mm max and fixed in the terminal block by tightening the terminal block screws to a torque of 0.6 Nm to 0.8 Nm. The terminal can accept wire range of 0.2 mm^2 (24 AWG) to 6 mm^2 (10 AWG) but recommended to use 0.8 mm^2 (18 AWG) to 6 mm^2 (10 AWG)
- After fixing the wires ensure that the cover is placed as shown in *Fig-1* and the screws are tightened to a torque of 2 Nm to 2.5 Nm (Follow the pattern)
- "External Grounding (wire size to be 4mm2)" arrangement is provided with a M5 screw as shown in *Fig-3*. Tighten the screw after connection to a torque of 3 Nm to 3.5 Nm
- M4x10 mm long grub screws of SS 316 class A2-70 are used for anti-rotation of heatsink and glass holder. Need to check periodically and ensure that those are secured properly
- Apply AC power to the unit. LED Indicator on to the Luminaire should begin to flash Green. If it flashes red; please refer section on Troubleshooting/Maintenance
- Battery will be fully charged within 24 hours (maximum). Emergency lamps may or may not light at this time, depending on the battery charge

Fig-1

Fig-3

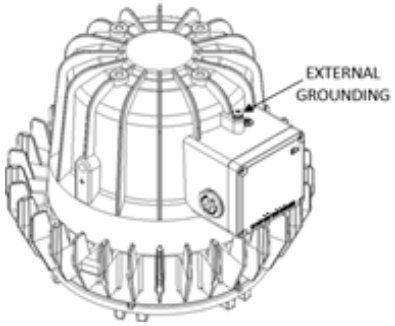
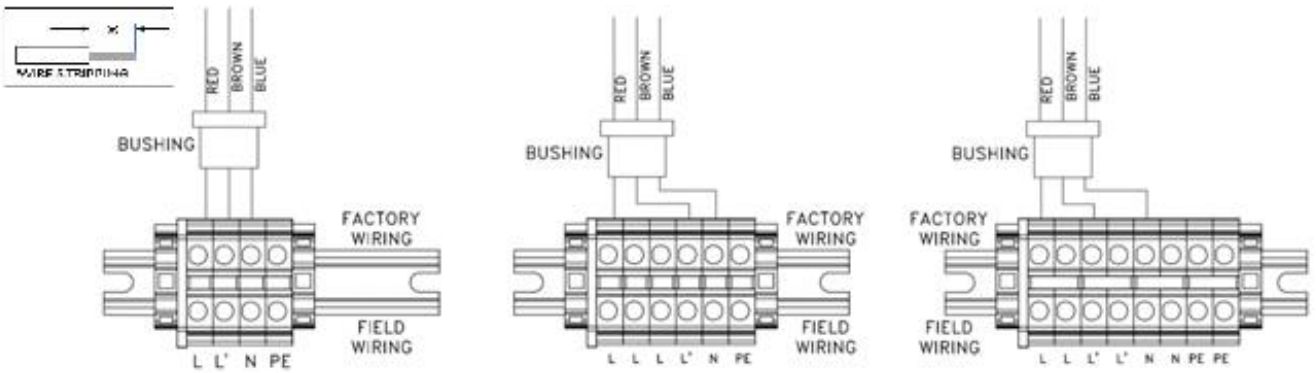
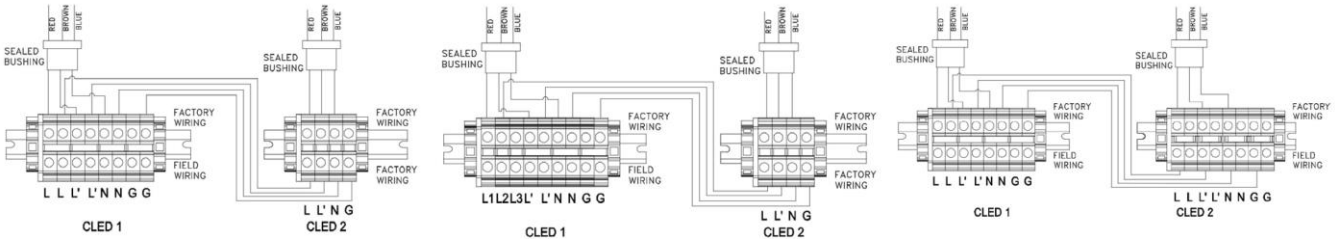


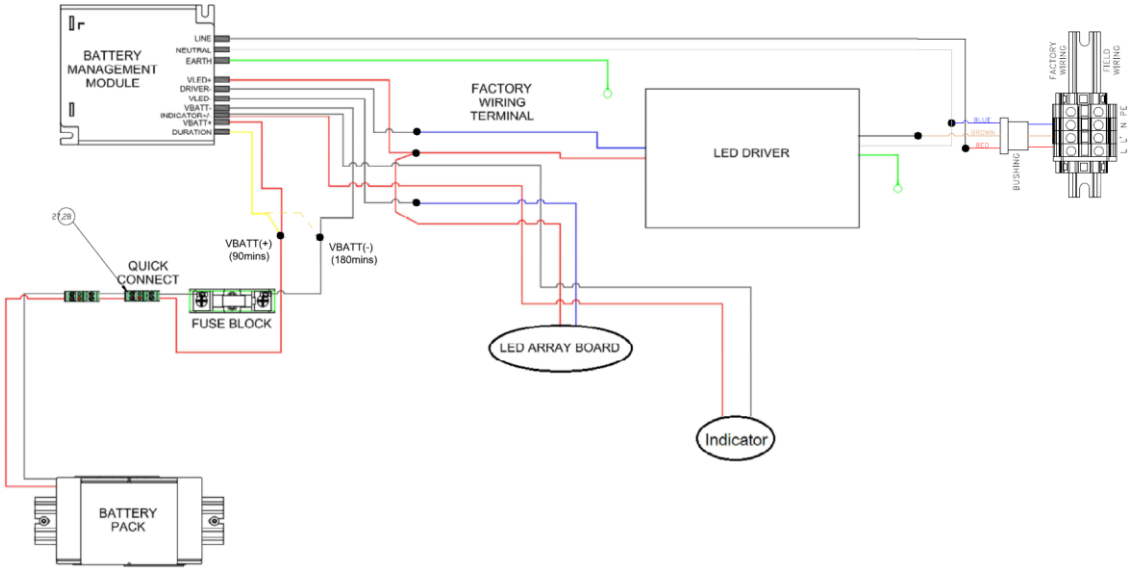
Fig- 2



CLED High Lumen:



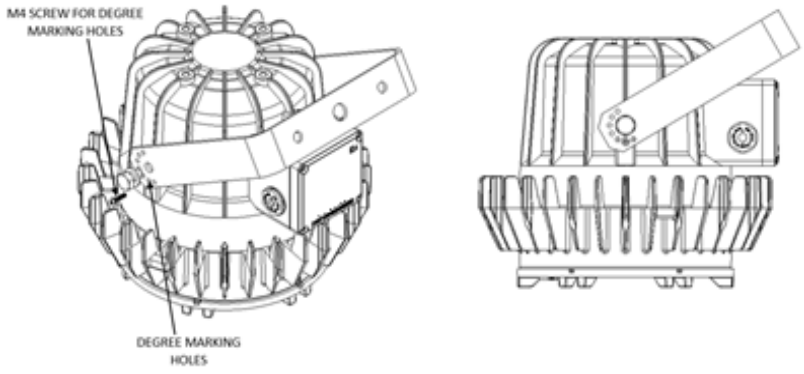
Wiring diagram



Instructions for Wall mounting accessory:

- Take the wall mounting bracket, place in on the luminaire as shown in *Fig-4*
- Align the holes of bracket and luminaire, make sure that the degree marking holes on bracket and small hole on luminaire are aligned as shown in *Fig-4*.
- Adjust the bracket to required angle (30° or 90°) by tightening the M4 screw.
- Tighten both the M10 screws to ensure that the bracket is properly secured/fixed with luminaire

Fig-4



Automatic Testing System:

Functional Testing

- Functional test starts within 24 to 45 hours after the initial power up of the module.
- Automatic self-diagnostic test occurs every 14 days after the aforementioned functional test and lasts for 5 minutes.
- At the completion of the test the LED indicator will display the status of the emergency luminaire when AC is present. See "Status Indicator Code Table" below for more information.

Full Duration Testing

- Starts within 14-35 days after the initial power up of the module.
- Occurs every 364 days after the initial functional test and lasts for full duration of rated emergency period.
- At the completion of the test the LED indicator will display the status of the emergency luminaire when AC is present. See "Status Indicator Code Table" below for more information.

Status Indicator Code Table		
LED Color	Status Description	Status Definition
Green	1 second ON: 1 second OFF	Charging okay. Battery not fully charged. No fault detected. Testing Okay.
Green	0.25 second ON: 0.25 second OFF	Functional/ Duration test on-going.
Green	Steady ON	Charging okay. Battery fully charged. No fault detected. Testing Okay.
Red	1 second ON: 1 second OFF	Installation issue. Battery is reverse, not connected or shorted. Functional test failure, full duration test failure. *(Refer to troubleshooting/ maintenance guide below)*
Indicator OFF, LED Array ON		No AC detected, Emergency mode ON.

4 PUTTING INTO SERVICE

Before the product is first integrated into operational service, double-check that the instructions stipulated in sections (1 to 3) have been fully complied with.

5 MAINTAINANCE

- The protection index for the enclosure (IP) must be kept for the complete duration of the material. Therefore, the sealing fittings must be maintained in good condition. Unused cable-entries must be sealed with rated blanking plugs (toque of 15Nm).
- Before carrying out any work on the equipment, the cited safety instructions must be very carefully observed (DO NOT OPEN WHEN ENERGIZED. DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT).
- The hardware installed shall be inspected on regular scheduled. Standard EN/IEC 60079-17 (close-up and in-depth visual inspection) specifies three inspection levels.
- It is the user's responsibility to ensure these inspections are implemented according to the protection modes of the equipment hardware installed.
- Any nationally-set requirements applicable on top of standard EN/IEC 60079-17 shall be complied with.
- Periodically glass lens should be cleaned with moist cloth.
- Although no routine maintenance is required to keep the emergency module functional, it should be checked periodically to ensure it is working property. Visually inspect the LED indicator lights monthly.

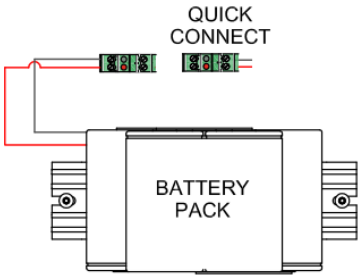
6 BATTERY PACK REPLACEMENT

If a fault is battery pack, proceed with the following steps:

- Replacement of the battery pack is intended to be done only when an explosive atmosphere gas is not present, make sure power is disconnected before servicing the luminaire and transfer the luminaire to the area is non-hazardous.
- Open luminaire by remove glass holder and heatsink.
- Dis-engage "Battery Pack Quick Connect". For reference, see *Fig-5*.
- Remove the old battery pack, and then install the new battery pack.

Fig-5

DISCONNECTED
QUICK CONNECTS



- Tighten both the M4 screws to ensure that the battery pack is properly secured/fixed with luminaire.
- Reconnect the "Battery Pack Quick Connect". For reference, see *Fig-5*.
- Swing the glass holder and heatsink up and tightly secure with the screws.
- Apply AC power to the unit. LED Indicator should flash green.
- Consult Technical support if a fault condition (flashing red).
- To replace Battery Pack, order a replacement Battery Kit from Factory.
- Do not use any other battery packs.

7 FUSE REPLACEMENT

- Replace only with a fuse rating (ampere and volts) as specified on the fuse label (located in the luminaire housing).
- The replacement fuse must be non-arcing (filled), non-indicating, and current limiting.
- Please order fuse replacement Kit from factory.

8 REPAIRS

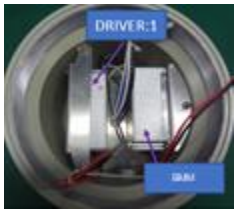
It is forbidden to perform repair work without first confirming with Appleton.

9 TRANSPORTATION, STORAGE

- Protective method should be used to keep the product safe from rain and snow when in transport or storage.
- Optimal storage conditions are:
  – relative humidity: < 65 %
  – temperature: -20 ... +25 °C

10 REPLACEMENT PARTS

- **LED DRIVER**

LUMINAIRE MODEL	CONSTANT CURRENT	LED DRIVER CATALOG NUMBER	QUANTITY OF DRIVERS	IDENTIFICATION	DRIVER LOCATION IMAGES
CLED03xxxxxxxx/E/H	510mA	APMS050C135UD51	01	48 LED ARRAY BOARD	
		ATXLEDBM1	01		
CLED04xxxxxxxx/E/H	690 mA	APMS050C135UD69	01	18 LED ARRAY BOARD	
		ATXLEDBM1	01		
CLED05xxxxxxxx/E/H	900 mA	APMS050C135UD90	01		

		ATXLEDBM1	01		
CLED06xxxxxxxx/E/H	950 mA	APMS050C135UD90	01		
		ATXLEDBM1	01		
CLED06xxxxxxxx/E/H	**2 x CLED03xxxxxxxx/E/H**				
CLED08xxxxxxxx/E/H	**2 x CLED04xxxxxxxx/E/H**				
CLED10xxxxxxxx/E/H	**2 x CLED05xxxxxxxx/E/H**				
CLED12xxxxxxxx/E/H	**2 x CLED06xxxxxxxx/E/H**				

- **BATTERY PACK**

LUMINAIRE MODEL	TYPE	NOMINAL VOLTAGE	NOMINAL CAPACITY	CHARGING CURRENT	DISCHARGING CURRENT	OPEN VOLTAGE	QUANTITY OF BATTERY PACK	IDENTIFICATION
CLED03xxxxxxx /E/H	5-HRH33/62(D)6000TX5 6.0V NI-MH BATTERIES	**6.0V**	**6AH**	**350 mA**	**180mA(emergency duration: 90 mins)/ 120mA(emergency duration: 180 mins)**	**6.25V**	**01**	**48 LED ARRAY BOARD**
CLED04xxxxxx /E/H								
CLED05xxxx /E/H								**18 LED ARRAY BOARD**
CLED05xxxx /E/H								

- **GLASS HOLDER SUB-ASSEMBLY**
  - WITH CLEAR GLASS: **CLED CG**
  - WITH DIFFUSER : **CLED DCG**