

Radial Slim IP66 batten Standard, Sensor and Emergency models

Advantages

- Slim Batten with tool free easy remove and close clips
- 4000K as standard, 3000 and 5000K available upon request
- All models are using the Osram ELEMENT drivers with Dip-switch for 4 output Lumen selection
- MERRYTEK sensor for occupancy comfort and Energy saving
- Emergency Lumen Output for 3 hours at 2.5W, >320Lm
- Cable through for easy and quick installation



Features

- Slim battens with High Lumen Efficacy >130Lm/W
- 3 sizes of 600, 1200, 1500mm
- 4000K LG or LumiLEDs 2835 chips
- Selectable input power and output Lumen by Osram drivers
- MERRYTEK sensor for basic lighting control with Sensing distance, Hold time and Daylight threshold adjustment
- Auto-test inverter with LiFePO₄ batteries for 3 hours emergency supply



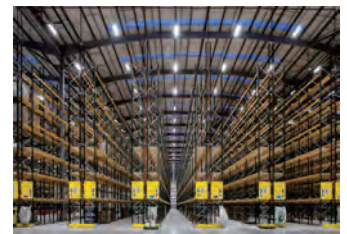
Outdoor parking lot



Fitness



Supermarket



Storehouse



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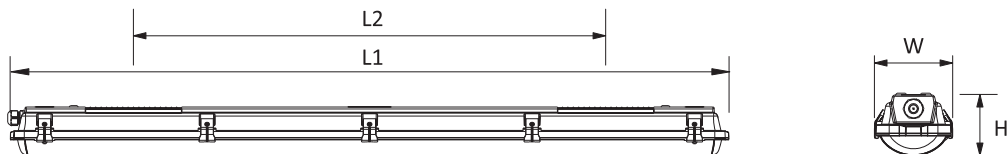
www.unibright.be



General specifications

Model	600mm	1200mm	1500mm
Structure for all models			
Body	Polycarbonate injection moulding in soft grey (RAL7035)		
Diffuser	Polycarbonate injection moulding in opal		
Gearplate	Cold Roll steel epoxy powder coated		
Accessories	Stainless steel mounting clips x 2, cable gland x 2, ceiling or wall mounted screws x 2 sets		
Cable through	3x1.5mm ² cable through		
No of stainless steel clips	6	10	12
IP rating	66		
IK rating	8		
Dimension (mm)	636 X 102 X 81	1176 X 102 X 81	1506 X 102 X 81
Working conditions and warranty			
Ambient temperature (°C)	-25 to 35		
Working Humidity (%)	10 to 90		
Life time (Hours)	50,000		
Warranty	5 years or 35,000 hours whichever come first		
Compliant	CE-LVD, CE-EMC, RoHS ,CE-RED for sensor models		

Dimension



Model	Length L1(mm)	Length L2(mm)	Width W(mm)	Height H(mm)
RDS6018K4, RDS6018K4S	636	330	102	81
RDS12038K4, RDS12038K4S, RDS12038K4E, RDS12038K4SE	1176	770	102	81
RDS15055K4, RDS15055K4S, RDS15055K4E, RDS15055K4SE	1506	870	102	81



Standard Models with and without Sensor

Standard model	RDS6018K4	RDS6018K4S	RDS12038K4	RDS12038K4S	RDS15055K4	RDS15055K4S
MERRYTEK sensor	X	MC098S	X	MC098S	X	MC098S
Emergency supply model			RDS12038K4E	RDS12038K4SE	RDS15055K4E	RDS15055K4SE
MERRYTEK sensor			X	MC098S	X	MC098S
Emergency Power Supply			✓	✓	✓	✓
Electrical data						
Driver model	EM FIT 18 / 220 – 240 / 350 DCS L		EM FIT 40 / 220 – 240 / 350 DCS L		EM FIT 60 / 220 – 240 / 350 DCS L	
Input voltage (Vac)	220-240Vac, 50Hz					
Max Input current (mA)	130		250		390	
Input power (W)	11/13/15/18		22/ 27/33/38		32/39/47/55	
Power factor	>0.95					
Driver Efficiency (%)	88		90		91	
Output voltage (Vdc)	48		96		135	
Output current (mA)	200/250/300/350					
Current ripple 100Hz	≤ 10%					
Class	I					
Inrush current (A)	35		50		40	
THD	<20%					
Surge protection Diff/common mode (KV)	1/2					
Short circuit protection	Yes					
Overload protection	Yes					
Over power protection	Yes					
Photometric data						
Ra	>80					
Color temperature (K)	Standard 4000K (3000 and 5000K available upon request)					
Max Lumen Output	2400		5000		7200	
Color tolerance	≤ 5 SDCM					
LED chips	LG or LumiLEDs 2835, 0.5w , 3Vdc					
No of chips	96		210		318	
Beam angle	120°					

Specification of Auto-test Emergency Supply

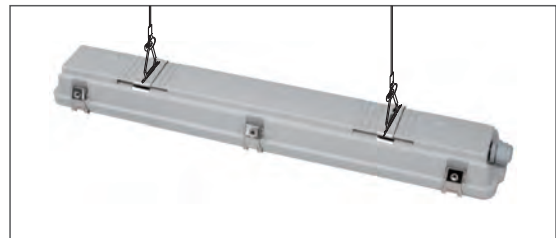


Parameter	Description
Inverter Dimension (mm)	157.5 X 30.4 X 21mm
Input Voltage	220-240Vac, 50/60Hz
Output Voltage	1.2/1.5m : 50-180Vdc
Battery type	LiFePO ₄ 3000mAH 3.2Vdc
Charge time	<24 hours
Designed Life	>4 Years
Operating Temp. (°C)	0 - 50°C
Emergency Power Output	2.5W
Work Mode	Switch ON/OFF, maintain and non-maintain depending on wiring as indicated below
Indicator Light	To show the status of the inverter and battery
Protection	Over-Charge / Over-Discharge
Operating time for 2.5W	>3.0 hours

Installation Method



Ceiling Mounted
Good for most installation environment.

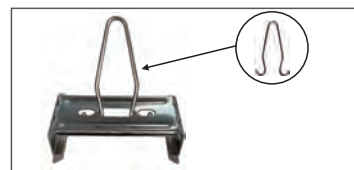


Pendant Mounted
This installation method is good for high ceiling taller than 3m.

Suspension accessories



Suspension wire
Adjustable length of
3M max for
pendant mounted



Hook for pendant
mounted

Radial Slim batten lout vs Input power and Lumen Output

Model : RDS6018/RDS6018S with Osram 18W EM FIT 18 / 220 – 240 / 350 D CS L

lout	Input power	Lumen Output at 4000K	PIN 1	PIN 2
200	11	1500	OFF	OFF
250	13	1750	OFF	ON
300	15	2000	ON	OFF
350	18	2400	ON	ON

Model : RDS12038/RDS12038S/RDS12038E/RDS12038SE with Osram 40W EM FIT 40 / 220 – 240 / 350 D CS L

lout	Input power	Lumen Output at 4000K	PIN 1	PIN 2
250	22	3000	OFF	OFF
300	27	3600	OFF	ON
350	33	4400	ON	OFF
350	38	5000	ON	ON

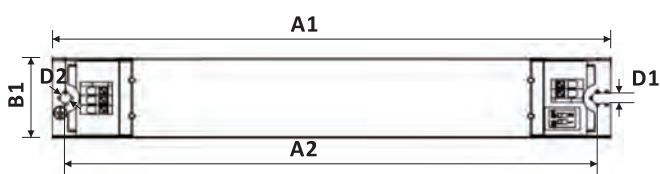
Model :RDS15055/RDS15060S/RDS15055E/RDS15055SE with Osram 60W EM FIT 60 / 220 – 240 / 350 D CS L

lout	Input power	Lumen Output at 4000K	PIN 1	PIN 2
200	32	4400	OFF	OFF
250	39	5300	OFF	ON
300	47	6300	ON	OFF
350	55	7200	ON	ON

Driver Specifications

OSRAM

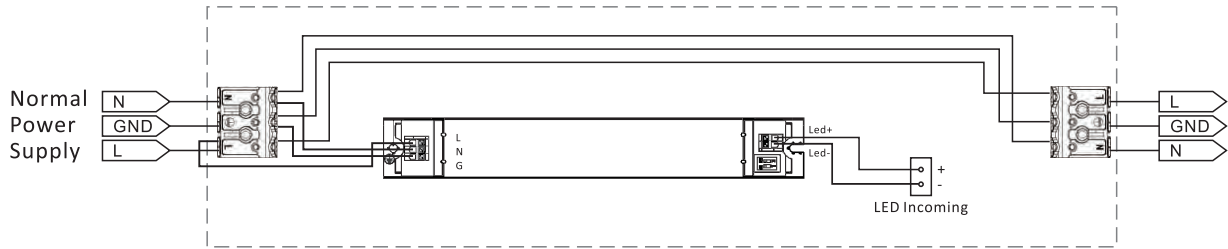
Driver Model	A1(mm)	A2(mm)	B1(mm)	C1(mm)	D1(mm)	D2(mm)
EM FIT 18 / 220 – 240 / 350 D CS L	210	200	30	21	4.1	4.1
EM FIT 40 / 220 – 240 / 350 D CS L	210	200	30	21	4.1	4.1
EM FIT 60 / 220 – 240 / 350 D CS L	210	200	30	21	4.1	4.1



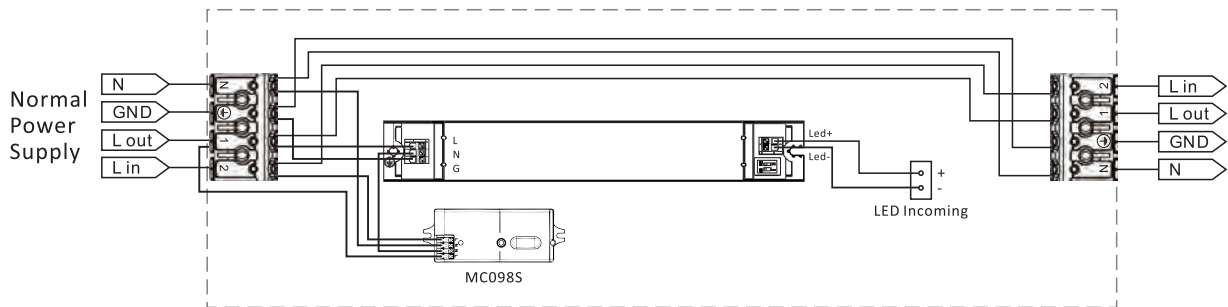
Wiring diagram



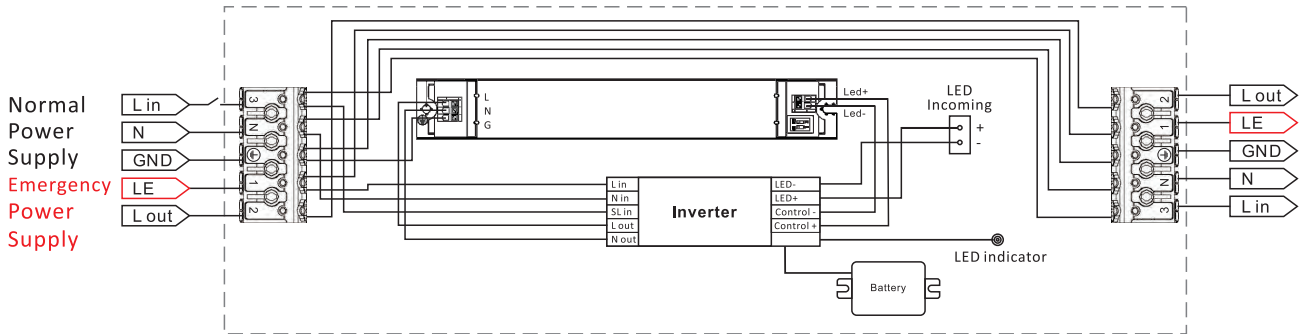
1. Wiring diagram of Standard models



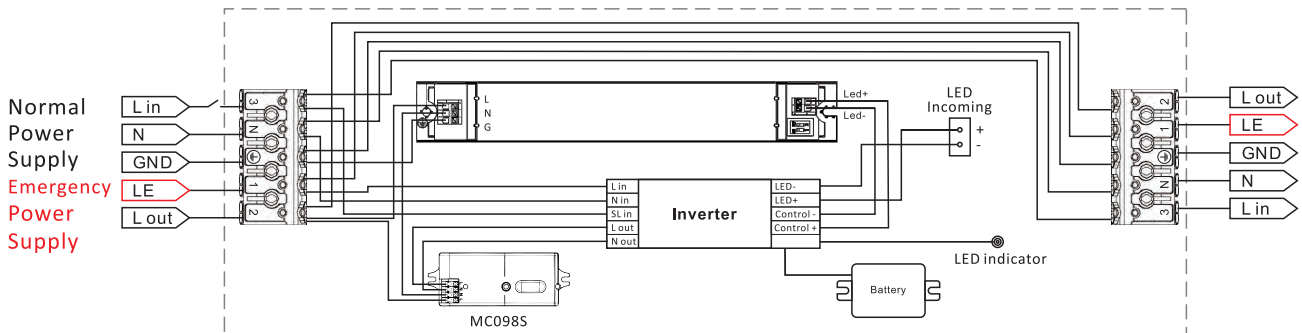
2. Wiring diagram of sensor models



3. Wiring diagram of models with Emergency supply (1.2m, 1.5m)

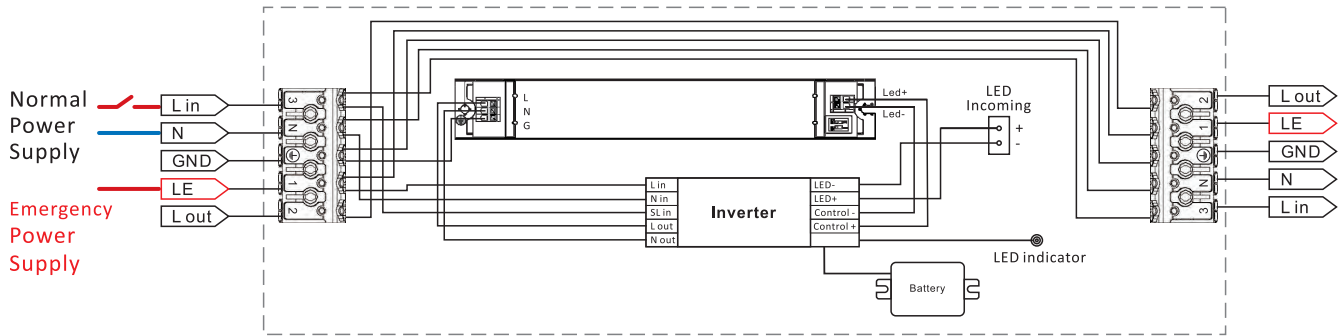


4. Wiring diagram of models with Sensor and Emergency supply (1.2m, 1.5m)

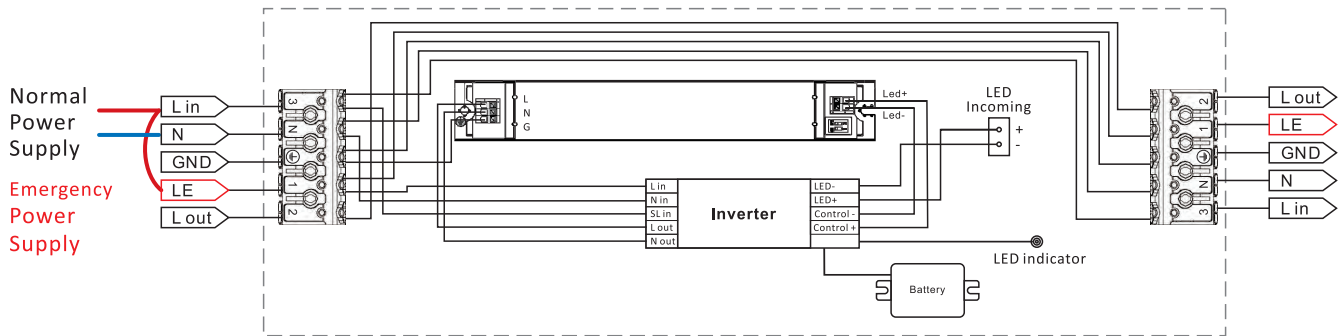


Different Emergency mode wiring

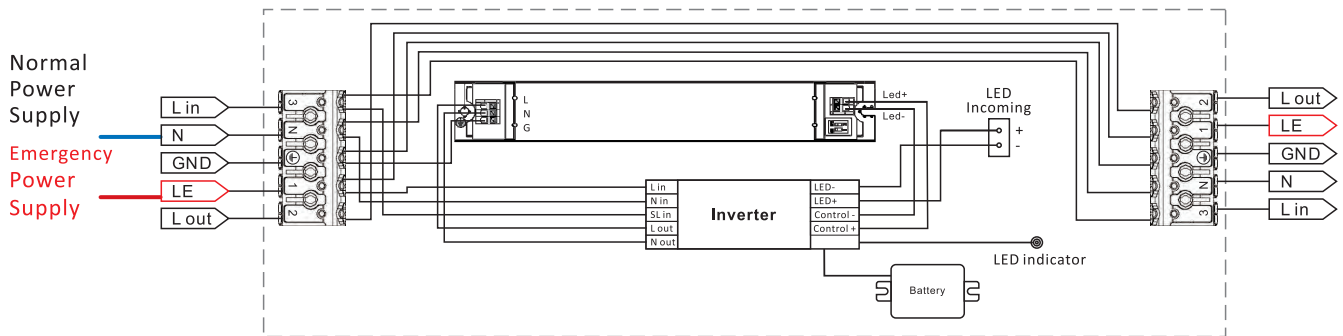
1. Switch ON/OFF and Emergency Power Supply wiring



2. Maintained type wiring



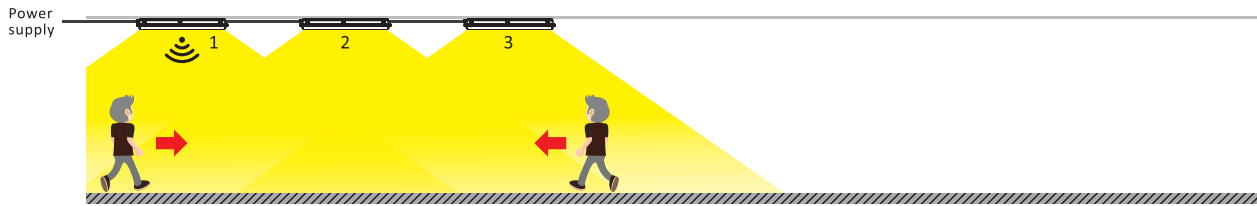
3. Non-maintained type wiring



Radial Slim batten one sensor to serve multi battersns

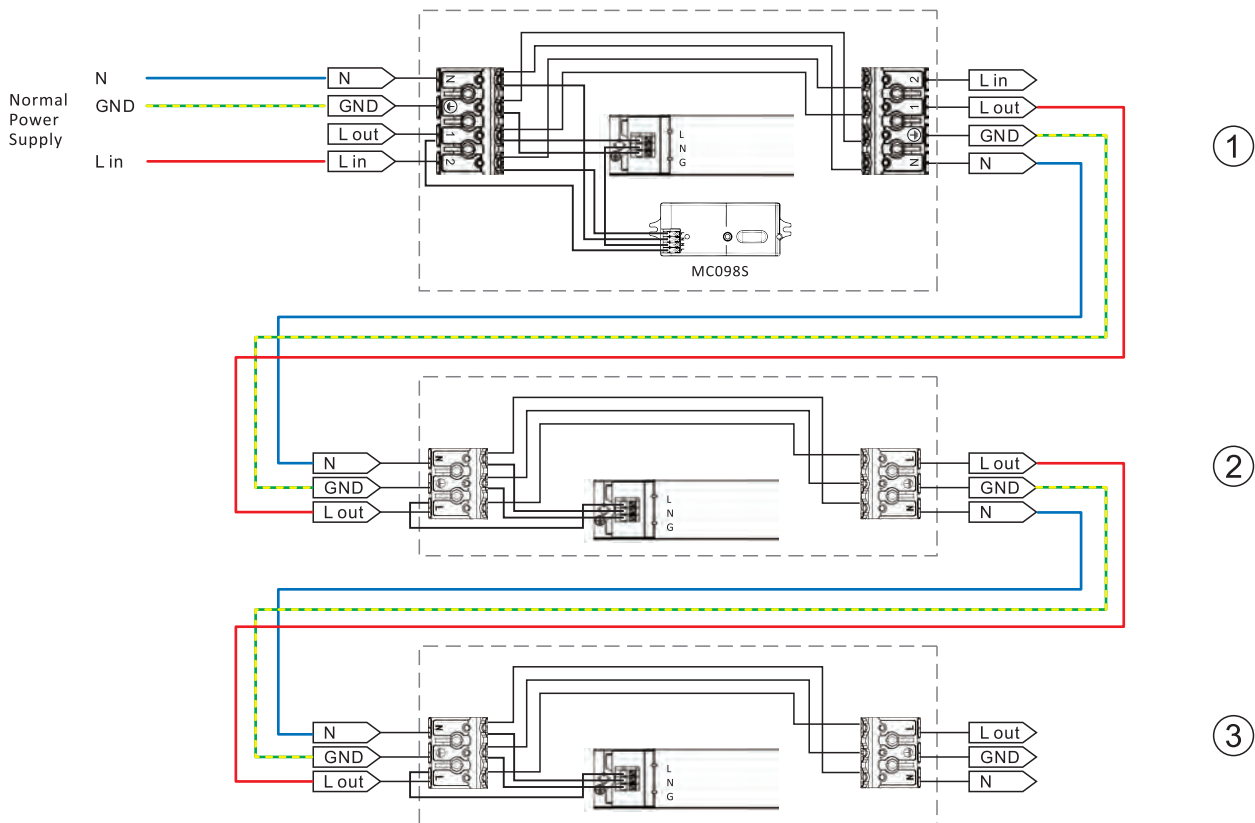


One sensor for multi-batters



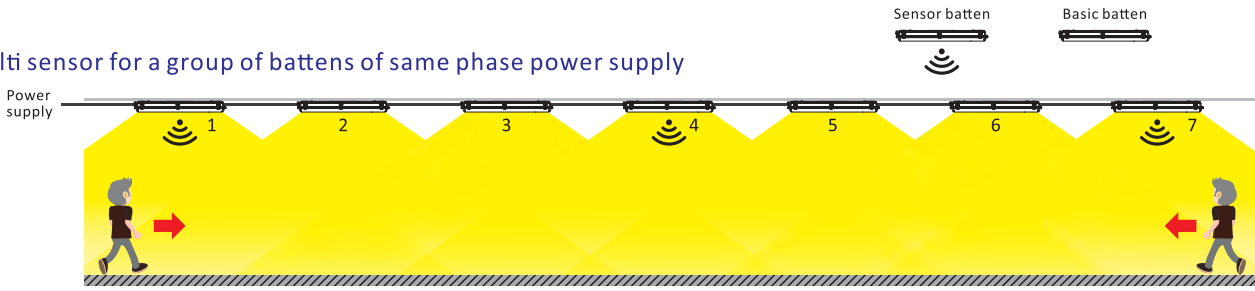
Remark :

1. Sensor max power : 400W
2. Sensor have max 8m so cannot go for distance longer than 8m
3. Multiple sensor wiring provided if necessary



Radial Slim batten 3 sensors to serve multi batters with same phase power supply

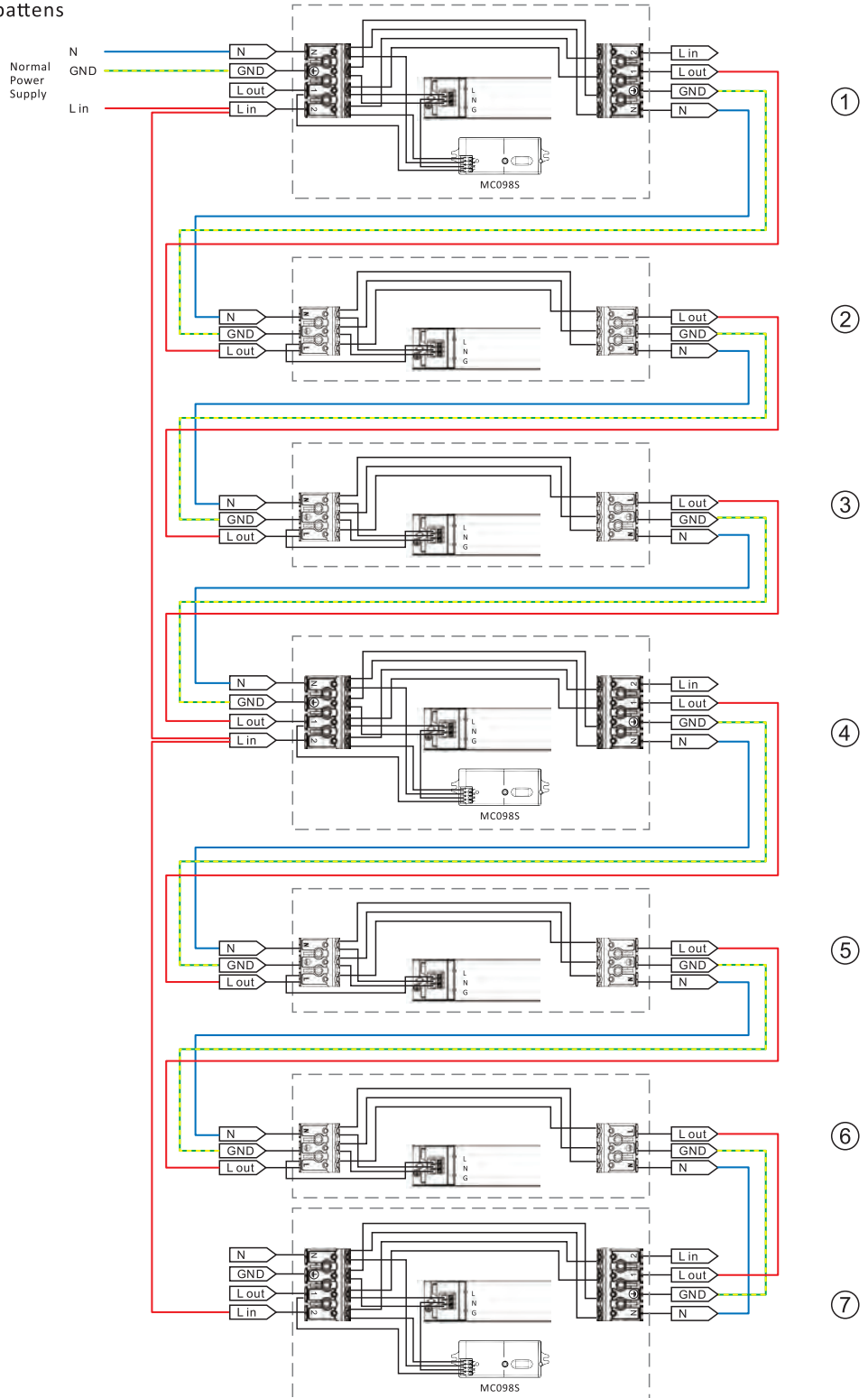
Multi sensor for a group of batters of same phase power supply



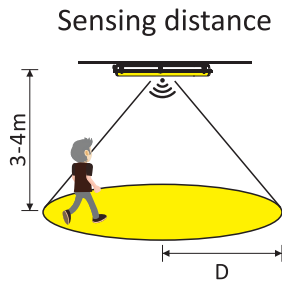
Remark :

1. Sensor max power : 400W
2. Sensor have max 8m so cannot go for distance longer than 8m
3. Multiple sensor wiring max no of batters

Size	Max no.
0.6m	20
1.2m	10
1.5m	7

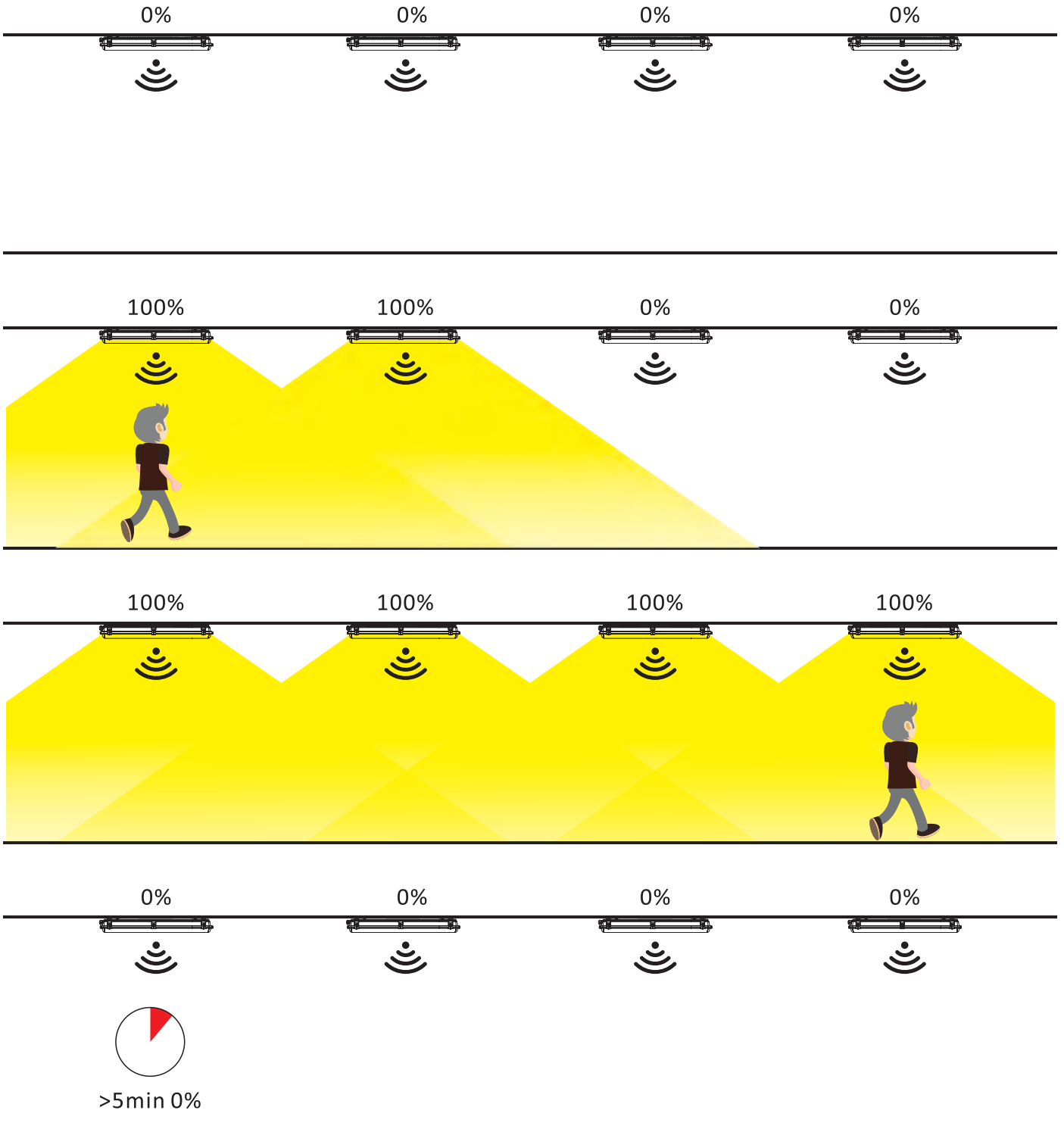


How Radial Slim work with sensor



Setting the following by the dip-switch in the sensor

- Sensing distance** : 1-2m, 2-4m, 4-6m, 6-8m
- Hold time** : 5s, 30s, 90s, 5min, 20min, 30min
- Daylight threshold** : 2Lux, 10Lux, 30Lux, 50Lux, Disable
- Override sensor** : Quick switch ON/OFF 3 times within 2sec to override sensor function. Lights will switch on all the time. Power off and on again to recover sensor function.



MERRYTEK sensor specifications

1. Features



MC0985

- Ultra-slim design for Tri-proof LED light
- Patented antenna design makes reliable detecting, avoid missing triggered when sensor built-in backside of metal LED plate.
- Adjustable detecting sensitivity via DIP switches, suitable to variety of installation sites.
- Support 6m Max. Mounting height .
- 5 years warranty

2. Parameter

Input	Operating Voltage Range	198-264V AC, 50Hz/60Hz
	Rated Voltage	220-240V AC, 50Hz/60Hz
	Stand-by Power	≤0.5W
	Surge Test	L--N: 1kV
Output	Working Mode	ON/OFF function
	Type of Load	Inductive or Resistive
	Load Capacity	400W(Inductive) ; 800W(Resistive)
	Max. Surge Capacity	30A (50% Ipeak, twidth =500uS, 230Vac full load, cold start); 60A (50% Ipeak, twidth =200uS, 230Vac, full load, cold start)
Sensor Parameters	Operating Frequency	5.8 GHz ±75 MHz, ISM Band.
	Transmitting power	0.5mW Max.
	Hold time	5s//30s/90s/5min/20min/30min
	Detection Sensitivity	100%/75%/50%/25%
	Daylight Sensor	2Lux/10Lux/30Lux/50Lux/Disable
	Detecting Radius	3-10m (mounting height 3-4m), 2-8m(mounting height 6m)
	Mounting Height	6m Max.
Operating Environment	Operating Temperature	-25°C...+60°C
	Storage Temperature	-40°C...+80°C(Humidity: 10%-95% Non-condensing)
Certificate Standards	Safety standards	EN61058-1
	EMC standards	EN300440; EN301489-1; EN55015; EN61547; EN61000-3-2;EN61000-3-3; EN62479
	Environmental Requirement	Compliant to RoHS
	Certificate	CE, RED

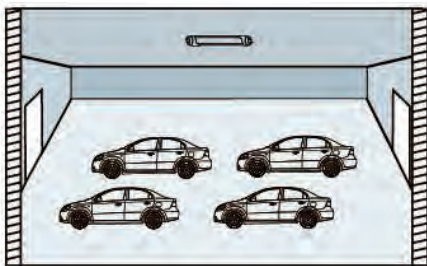
Others	Wiring	Press-in Type Terminals, wire diameter: 0.75-1.5mm ²
	IP Rating	IP20
	Protection Class	Class II
	Installation	Built-in
	Dimension	77.5*34.5*22mm
	Package	Bubble bag+Clapboard + Carton (K=A)
	Net Weight	58±2g
	Lifetime	5 years warranty @Ta 230V full load

Note

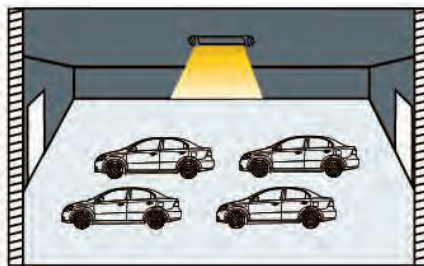
1. "N/A" means not available.
2. Detection area is effected on volume of motion object and motion speed. The detection area is tested by a 170cm height person and walking speed is 0.3m/s.

3. Function

On/OFF Function



- 1 With sufficient ambient light, the light will not be switched on even if with motion signal.

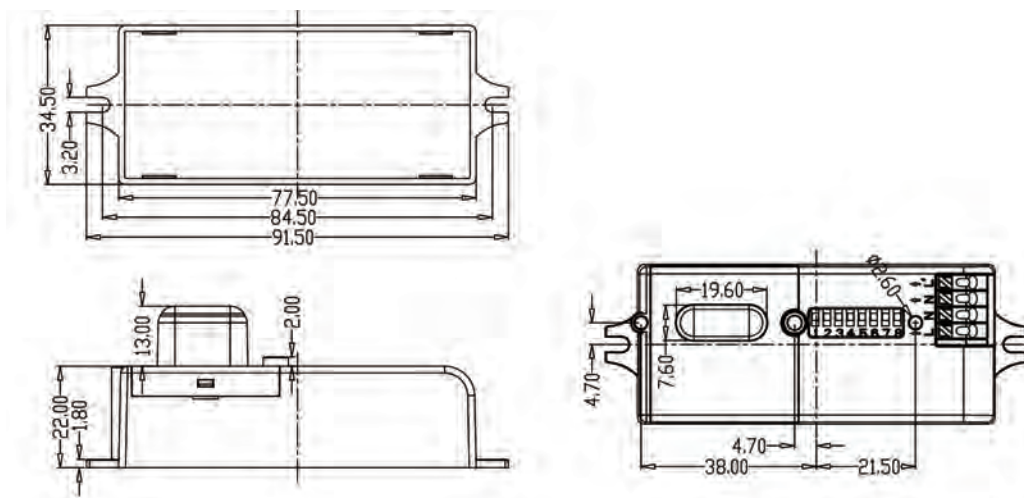


- 2 With insufficient ambient light, the sensor switches on the light when motion is detected.

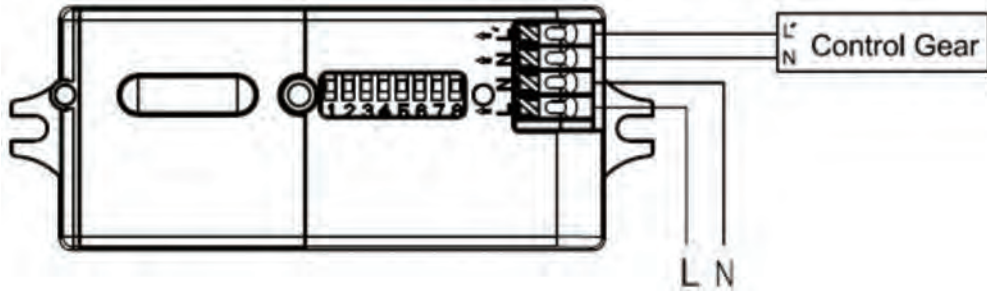


- 3 After elapse of hold time, the sensor switches off the light when no motion is detected.

4. Dimension (mm)

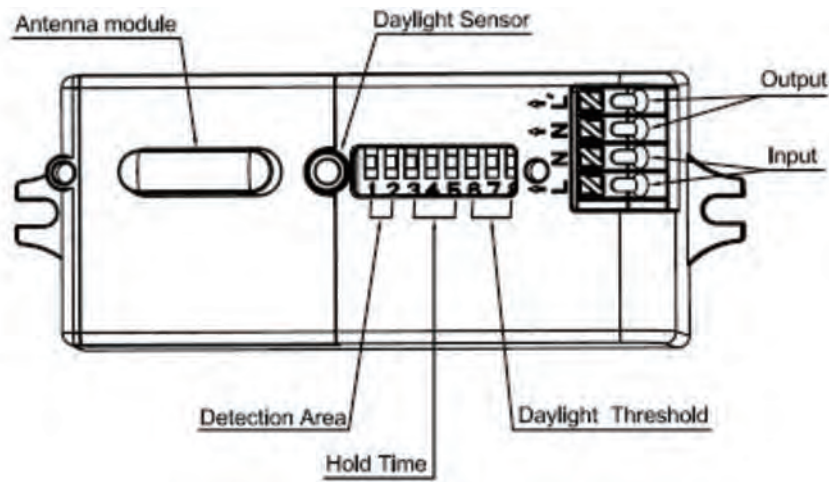


5. Wiring



*The sensor is designed for connect one load only. Connect more than one loads may damage the sensor.

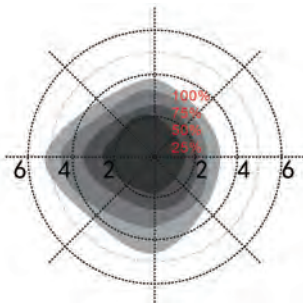
6. Structure



7. Radiation Pattern

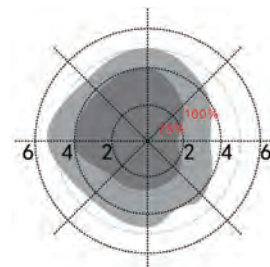
1) Ceiling mounting

Ceiling mounted height: 3m
Sensitivity: 100%/75%/50%/25%

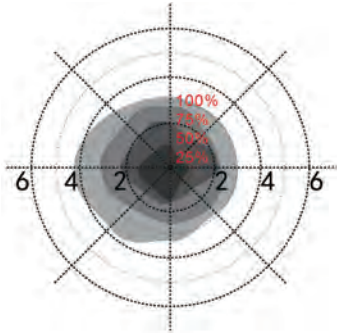


Normal moving (Speed:1m/s)

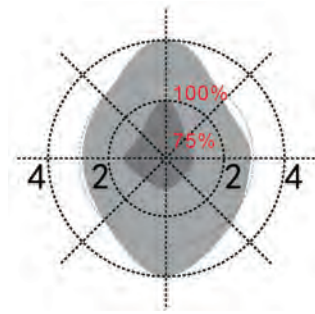
Ceiling mounted height: 6m(*)
Sensitivity:100%/75%



Normal moving (Speed:1m/s)



Slow moving (Speed: 0.3m/s)

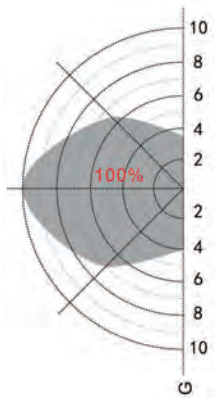


Slow moving (Speed: 0.3m/s)

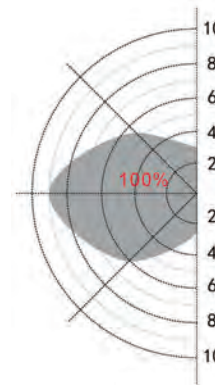
*Only 100%/75% detection sensitivity is workable when installed at 6m mounting height. 25%/50% sensitivity is not able to detect motion signal.

2) Wall mounting

Horizon mounted height: 2m
Sensitivity: 100%



Normal moving (Speed: 1m/s)



Slow moving (Speed 0.3m/s)

8. DIP Switch Setting

Detection Area (Sensitivity)

	1	2
100%	ON	ON
75%	-	ON
50%	ON	-
25%	-	-

Hold Time

	3	4	5	
I	ON	ON	ON	5S
II	-	ON	ON	30S
III	ON	-	ON	90S
IV	-	-	ON	5min
V	ON	ON	-	20min
VI	-	-	-	30min

Daylight Threshold

	6	7	8	
I	ON	ON	ON	2Lux
II	ON	ON	-	10Lux
III	-	ON	-	30Lux
IV	ON	-	-	50Lux
V	-	-	-	Disable*

*Disable” means the daylight sensor not work. it will turn on light once motion is detected regardless of ambient light .

9. Override Function

Quick switch ON/OFF 3 times within 2sec to override sensor function. Lights will switch on all the time. Power off and on again to recover sensor function.

10. Initialization

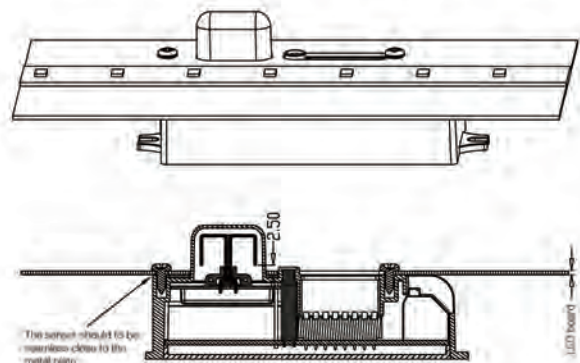
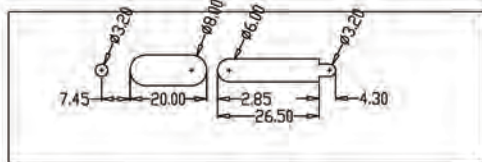
After power on, the sensor automatically turns on light at 100% brightness. After 10sec, it turns off the light. During the initialization, the sensor is not able to detect movement.

11. Factory Setting

Detection area: 100%, Hold Time: 5S, Daylight Sensor: Disable

12. Application Notice

- 1) The sensor should be installed by a professional electrician. Please turn off the power before installing, wiring, changing the setting of the DIP switch.
- 2) The sensor which installed in the plastic and glass lampshade will reduce the sensitivity. For every 3mm increase in thickness, the sensitivity will be reduced by 20%.
- 3) The light sensitivity threshold is in a sunny environment, no shadow and ambient light diffuse reflection. Ambient lux level will be different in different environment, weather, climate, time-of-day and season.
- 4) The parameters of the sensor may need to be reconfigured in different installation environments.
- 5) This sensor is for indoor use only. It will affect the waterproof effect for outdoor use. Wind, rain, and moving objects around will cause false triggering.
- 6) The distance between any inductive sensors should be greater than 3m.
- 7) Do not place the sensor close to high-density objects such as metal, glass, concrete walls, etc, false triggering could happen. When the sensor is installed in a metal lamp, metal reflective surface, or a narrow enclosed environment, the microwave will be reflected repeatedly and cause false triggering. Please reduce the sensitivity or contact the manufacturer for technical support.
- 8) Please ensure that there are no moving signals around the sensor, such as fan, DC motor, sewer pipe, air outlet, etc., the sensor may generate false trigger.
- 9) You are advised to test 5 samples before mass application of sensor in a new lighting project.
- 10) Due to continuous improvement, the contents of this instruction could be changed without prior notice.
- 11) If the sensor is built under metal board, make sure the sensor surface should to be seamless close to the metal plate without space.



Auto-test Emergency supply



Application

- For LED module with a forward voltage of 20-60/40-90/50-180Vdc
- EEC19L/M/H is SELV output voltage
- Plug-in Lithium Iron Phosphate battery
- 4 years guarantee electronic
- 2 years guarantee battery
- Constant power output, output current self-adjustable



EEC19H-ST-2.5W-3H

Properties

- Maintained/Non-maintained operation
- 1-3h rated duration
- Automatic shutdown of output if LED load is out of range
- Electronic charge system
- Deep discharge protection
- Short-circuit-proof battery connection
- Open-circuit-proof
- Polarity reversal protection for battery

Technical Data

Rated supply voltage	220~240VAC
Mains frequency	50/60Hz
Mains input current, min	13mA
Mains input current, max	18mA
Input power in mains operation, min	2W±10%
Input power in mains operation, max	2.2W±10%
Battery charge time	24h
Ambient temperature t_a	0°C~55°C
Max. Casing temperature t_c	75°C
Type of protection	IP20

1.All specifications are typical on the 230VAC unless otherwise stated.

2.The emergency function test must be performed when a battery is fully charged for 16 hours.

Battery Discharge & Charge Specification

Parameter	Min.	Typ.	Max.	Note
Battery discharge current	700mA	-	800mA	* EEC19H EM 2.5W * Measured at 3.2V input from batteries
Output voltage	50Vdc	-	180Vdc	
Output current	10mA	-	35mA	
Emergency power	2.2W	-	2.6W	

Item Code	Batteries	Emergency Power	Emergency Duration	Charge Current	Charge Time
EEC19H-ST-2.5W-3H	3.2V/3000mAhLiFePO ₄ battery	2.5W	3h	200mA±10%	24h

Note: All specifications are typical at 25°C unless otherwise stated.

Service Life

Average life-time 50,000 hours under rated conditions with a failure rate of less than 10% for the emergency converter as rated power. Average failure rate of 0.2% per 1000 operating hours.

Compliance

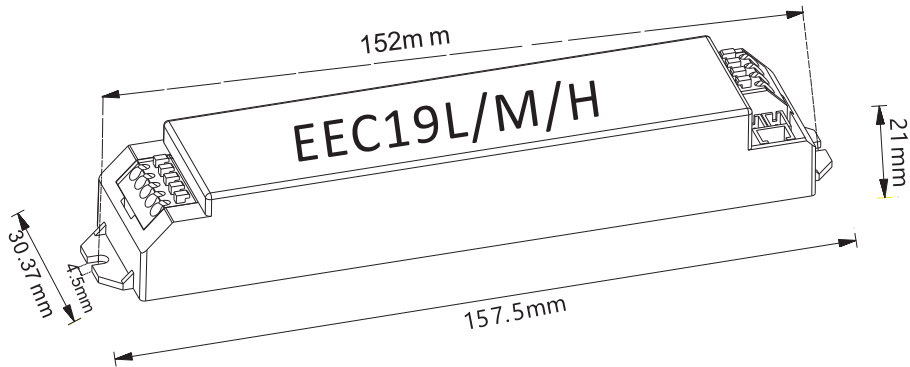
Safety Category	Countries	Standard
CE	Europe	EN61347-1, EN61347-2-7, EN61347-2-13
EMC Category	Countries	Standard
EMI	Europe	EN 55015
EMS	Europe	EN 61000-3-2, EN 61000-3-3, EN 61547
Safety Category	Countries	Standard
AS	Australia	AS/NZS 61347-1/ AS/NZS 61347-2-7
EMC Category	Countries	Standard
C-TICK(EMC)	Australia	AS/NZS CISPR 15

Rohs Compliance

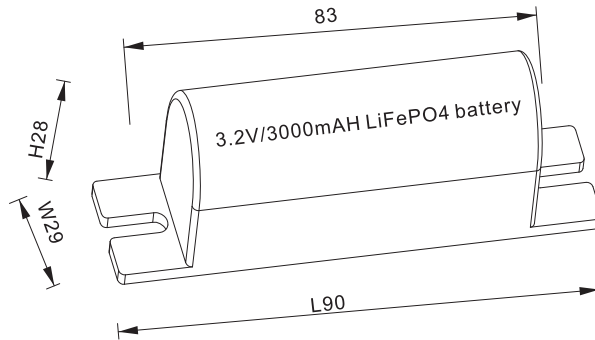
Our products comply with the European Directive 2011/65/EU, calling for the elimination of lead and other hazardous substances from electronic products.

Mechanical Outline

unit:mm

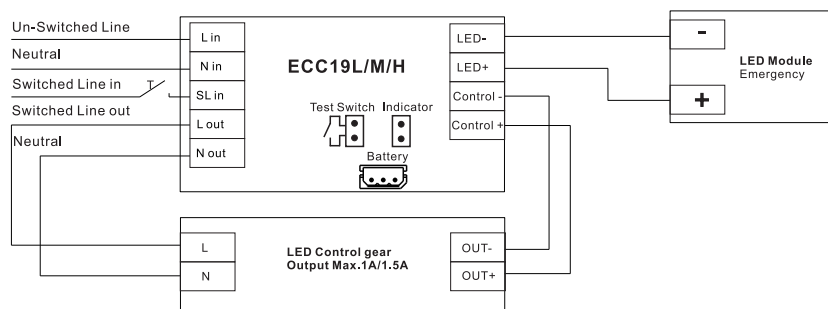


Battery Mechanical Outline



Wiring Diagram

The maximum no-load voltage of the LED Control gear is 400V



Notice: With the following cases, the indicator will be off

1. Mains power off, the light goes into emergency mode
2. Battery is disconnect when mains power on
3. ECC19L/M products are suitable for LED isolated drivers with A maximum no-load voltage of not more than 400V and output current of not more than 1.5A
4. ECC19H products are suitable for LED isolated drivers with A maximum no-load voltage of not more than 400V and output current of not more than 1.0A

Battery

- High-temperature grade battery cells
- 3.2V LiFePO₄ battery
- Male/female socket for simple connection

LiFePO₄ Battery

Case temperature range to ensure 4 years design life	0°C to +60°C
Battery voltage	3.2V per cell
Capacity 26650	3000mAh

Notice: Storage condition

- Batteries should be stored within the specified temperature range in low humidity conditions.
- Optimal storage conditions are:
 - Temperature: -20°C to +40°C
 - Humidity: 45% - 85%
- Avoid atmosphere with corrosive gas
- It is recommended to disconnect the battery before storage or delivery
- Battery should be charged once in three months in order to keeping it in initial performance

Status Indication Green LED

- A green LED indicates that charging current is flowing into the battery
- Plug connection 1



Test Switch

- For connection to the emergency lighting unit
- For checking the device function
- Plug connection



Testing/Commissioning(self test)

Functionality of the test switch

- 1) A short press (>1s) on the button start a function test lasting 5 seconds (The battery's capacity should be more than 5%=charging 30mins)
- 2) Holding down the button(>10s) resets the timer(System-resets)

Functional test

The 5 second long, each 7 days' function test serves to check the functionality of the emergency unit, the batteries and LED module.

Notice.

-If a mains supply failure occurs whilst a functional test is in progress, the test shall be postponed and the system shall enter emergency operation. Following restoration of the mains supply, a postponed functional test shall re-commence automatically as soon as conditions permit.

Duration test(EN-3hrs)

- Initial duration test: The test will be carried out exactly 24hours later after the initial installation.
- Half year duration test: The test will be carried out on each 180-182days.

Duration test(AU)

-Initial duration test(2hrs): The test will be carried out exactly 16 hours later after the initial installation.

-Half year duration test: The test will be carried out on each 180-182days. 2hrs duration test on the fist 180-182 days check the capacity of the batteries. 1.5hrs duration test is carried out on the next 180-182 days and yearly to check the capacity of the batteries.

Notice.

-A duration test shall only be started when the battery supply is fully charge if a mains supply failure occurs whilst a duration test is in progress, the test shall be postponed and the system shall enter emergency operation. Following restoration of the mains supply, a postponed duration test shall re-commence automatically when the battery supply is fully re-charge

-The indicator will be slow flashing Green within 5 days if the duration test be carried out successfully.

Indicator LED System status is locally by a bi-color indicator LED.

LED Indication	Status	Description
Permanent Green	Standby ,System OK	Mains Operation, battery is charged
Fast flashing Green (0.25s on 0.25s off)	Function test underway	Function test underway
Slow flashing Green (1s on 1s off)	Duration test underway	Duration test underway
Permanent Red	Lamp failure	Open Circuit or Short circuit or LED failure
Fast flashing Red (0.25s on 0.25s off)	Battery capacity failure	Battery failed duration test
Slow flashing Red (1s on 1s off)	Battery fault	Incorrect battery voltage or Short circuit or Open Circuit
Green and Red off	Battery Operation	Emergency mode:Mains disconnected or Mains failure

NOTICE

Fault status:

If an error is detected, the indicator LED switches to RED. If the error has been corrected please re-connecting the battery after the mains power off, the indicator LED immediately switches back to GREEN when mains power on.

NOTICE

Battery failed duration test:

After an exchange of the battery and holding down the button (>10S) reset the timer, the indicator LED switches to GREEN.

Important:

It is recommended that the unit is installed by a competent person ensuring the installation complies with the necessary standards.

The company accept no responsibility for incorrect installation, incorrect operation or improper maintenance.

After installation of the fitting, the battery must be charged for 24 hours for duration test.

