

# SUNA 100-200

## LED AREA LIGHTS



- High luminous efficiency of 185~220lm/w to maximize battery performance.

- Environment friendly-100% powered by the sun, solar panels reduce fossil fuel consumption, eliminating pollution.

- No trenching or cabling work needed, eliminating the need for extensive labor and infrastructure installation.

### THE FUSION OF SIMPLICITY, ELEGANCE, AND DURABILITY

The SUNA luminaire represents an advanced solution for providing carbon-neutral lighting in urban environments. Its design integrates solar panels and a large capacity battery, guaranteeing prolonged periods of high-intensity illumination without external power sources. This innovative construction ensures reliable and sustainable lighting for streets, pathways, and public areas.



## APPLICATIONS

- Street Lighting
- Roadway Lighting
- Pathway Lighting
- Ramp Lighting
- Sidewalk Lighting
- Private Road Lighting
- Farm Lighting
- Wildlife Area Lighting
- Perimeter Security
- Lighting · Park Lighting
- Railway Yard Lighting
- Jogging Path Lighting
- Fence Lighting
- Campus Lighting
- Ship Dock Lighting
- Remote Area Lighting
- Military Base Lighting
- Gate Lighting

## FEATURES



Only top quality mono - crystalline silicon solar panels with high efficiency and long lifetime are used.



Quality lithium batteries are used to store the energy, provide energy for immediate requirements, and enable a back-up for days when there is little or no sun.



High Lumen LED for maximum efficacy. Dedicated designed low-voltage solar controller technology with dimming capabilities for power-save management. Lifetime > 50,000 hrs and CRI nominal 70.






Microprocessor managed algorithms autonomously determine sunrise and sunset.



Easy to install without buying cables and rectifiers, directly on pole with an adjustable spigot 0°~90°.

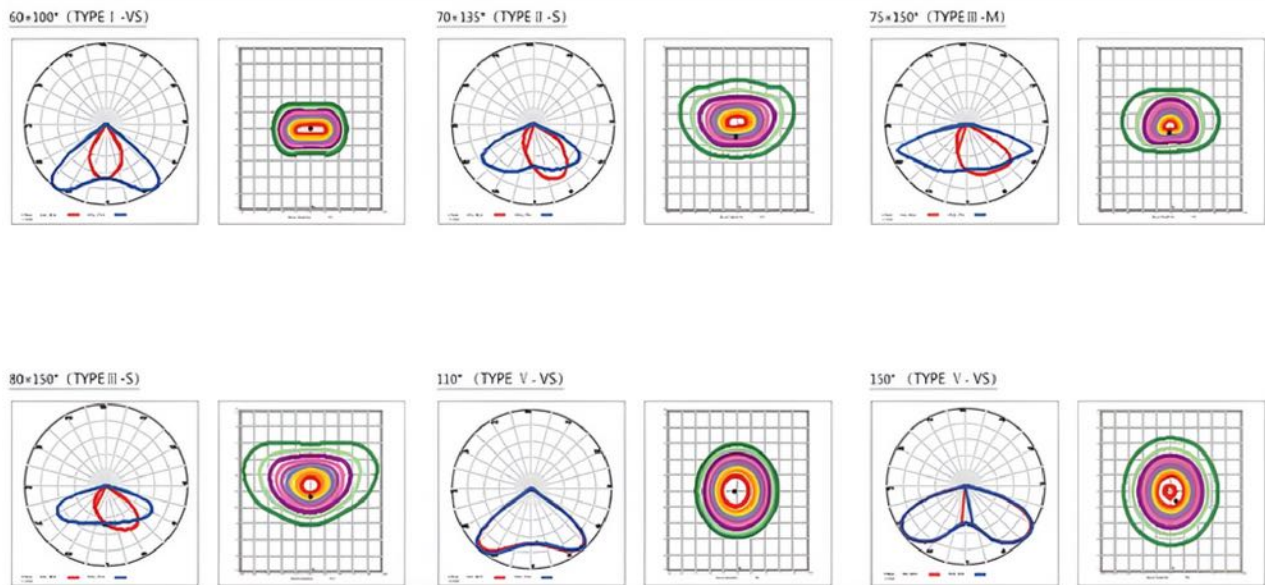


-  Off-grid roadway lighting made electric bill free.
-  IP66 Luminaire ensures long lasting and consistent high performance.
-  Self-contained solution - Light on/off controlled by automatic daylight sensing.




## THE DC CHARGE PORT

A DC charge port is offered as an option to be integrated into the SUNA, ensuring the battery remains charged even during extended periods in the warehouse. No more worrying about flat batteries when you need them the most.

## PHOTOMETRICS



## PERFORMANCE DATA

	100w~200w
	185~210lm/w
	Philips Lumileds
	PIR & Microwave & Timer Dimming
	MPPT Controller
	2200~6000K
	60×100° / 70×135° / 75×150° / 80×150° / 110° / 150°
	IP66
	IK08
	Monocrystalline silicon photovoltaic panels
	LiFeP04 battery
	Slip fitter
	Operating Temperature: -30°C to +45°C (-22°F to 113°F) and Storing Temperature: -40°C to +80°C (-40°F to 176°F)

## ACCESSORIES



+



NEMA Socket(7pins) + Shorting Cap for IOT Smart System)



AC Charger



## SPECIFICATIONS

Part#	Power	Modules	LED Efficacy		Solar Panel	Battery		Product Dimensions
			High Brightness Version	Standard Version		Standard	Premium	
AF44XEL-TASTII-100	100W	2	207 lm/w	190 lm/w	100W/36V	25.6V/24AH	25.6V/36AH	910×680×200mm
AF44XEL-TASTII-120	120W	2	207 lm/w	185 lm/w	140W/36V	25.6V/24AH	25.6V/36AH	990×810×200mm
AF44XEL-TASTII-150	150W	3	210 lm/w	190 lm/w	175W/36V	25.6V/30AH	25.6V/42AH	1150×880×200mm
AF44XEL-TASTII-180	180W	3	207 lm/w	185 lm/w	200W/36V	25.6V/36AH	25.6V/42AH	1150×1010×200mm
AF44XEL-TASTII-200	200W	4	210 lm/w	190 lm/w	220W/36V	25.6V/42AH	25.6V/48AH	1150×1100×200mm

The solar panel and battery configuration is based on 6 hours charging time.

## PRODUCT IMAGES



## SUNA 60w-200w MPPT Controller

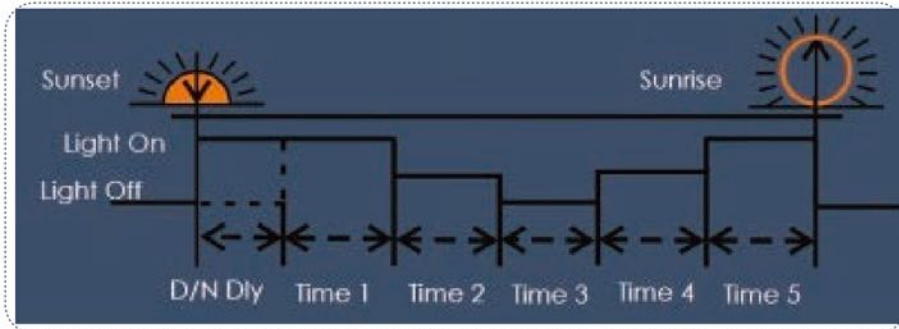
A Maximum Power Point Tracking (MPPT) controller is like a smart brain for solar panels. It helps extract the maximum power from solar panels by adjusting the voltage and current to find the "sweet spot" where they perform best.

To use an MPPT controller, you connect it between your solar panels and your battery. Then, it continuously checks the voltage and current coming from the panels and adjusts them to get the most power possible. It's like a wizard optimizing the performance of your solar panels, ensuring you get the most energy out of them, even when the sunlight changes throughout the day.



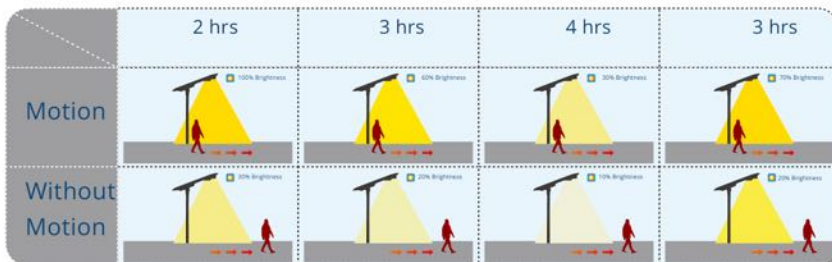
### Five-Stage Mode

The lighting system is divided into five stages, with customizable time and dimming settings for each stage based on specific requirements. By utilizing dimming settings, energy consumption is minimized while ensuring optimal performance and operation duration for the lamps.



### Motion Sensor Mode

Motion: 2 hrs-100%; 3 hrs-60%; 4 hrs-30%; 3 hrs-70%;  
Without Motion: 2 hrs-30%; 3 hrs-20%; 4 hrs-10%; 3 hrs-20%;



## INSTALLING YOUR SUNA FIXTURE

1. Due to variations in longitude and latitude at the installation site, the angle at which the sun's rays illuminate differs. During installation, it is crucial for the solar panel to be oriented towards the sun precisely at 12:00 noon. However, often due to factors like road direction and light poles, achieving this alignment becomes challenging. The solar panel must still maintain a horizontal position even if it can't be ideally oriented towards the sun at noon due to road lighting requirements.

Several conditions can lead to sub optimal functioning of standard lamps. Prior to making a purchase, it's important to communicate these factors to the sales person and consider increasing the solar panel's power capacity:

- Any deviation below the horizontal plane of the solar panel, relative to the solar irradiation angle, will result in a significant decline in the solar panel's power generation efficiency.
- When installing solar lamps and lanterns, it's essential to avoid any obstacles that might block sunlight, such as trees or buildings.
- Natural elements like rain, ice, snow, dust, clouds, and bird droppings can reduce the solar panel's power generation efficiency.

Ensuring that the solar panel remain sun obstructed by barriers like trees and buildings, and accounting for factors such as the solar panel's angle and external elements, are vital for optimal performance.

2. Install lamps at a considerable distance from areas prone to strong electromagnetic interference, such as high-voltage cables and high-power wireless transmission towers. These sources could potentially disrupt the lamp control system, leading to malfunctions and improper operation.

3. When the temperature drops below 0°C, the efficiency of lithium iron phosphate batteries for charge and discharge decreases. To prevent damage and the battery protection triggered by over-discharge, it's advisable to explain this to the sales staff and consider increasing battery capacity before making a purchase.

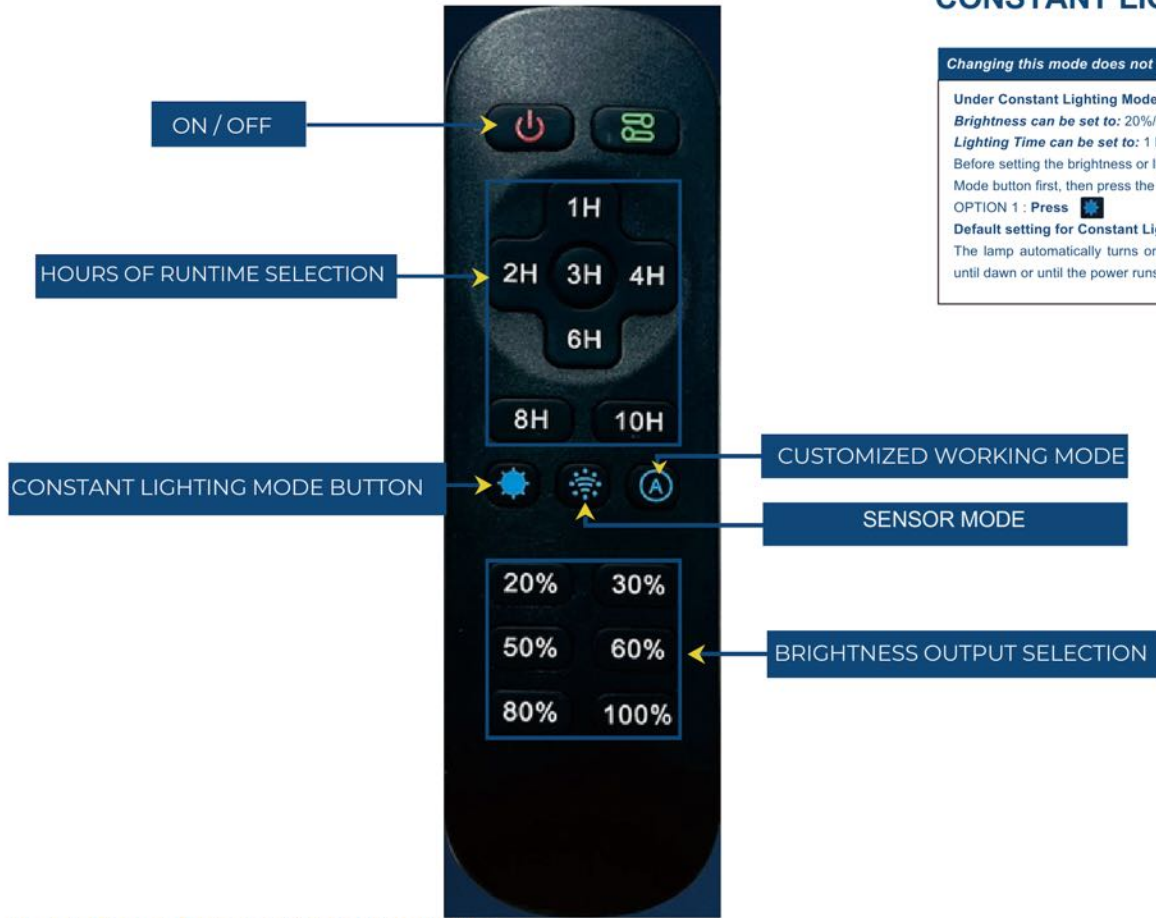
4. Any environmental impact can result in a decline in the efficiency of solar panel power generation. Repeated discharge of the lithium iron phosphate battery might easily activate the protection mechanism, causing the lamps to stop functioning normally. Most lithium batteries can be restored to operation by disconnecting and reconnecting the battery-light source connection and the solar panel connection.

5. Once the battery protection has been deactivated and reactivated, our focus should be on identifying and resolving any natural environmental factors that compromise the efficiency of solar panel power generation, as well as minimizing the power consumption of the light source.

6. Install the lamps on days abundant with sunshine. The lamps are initially set to 30% power upon leaving the factory. Prior to installation and usage, ensure that the lamps can receive effective sunlight charging for at least 4 hours after activation. Failure to do so may trigger battery startup stress protection due to excessive discharge, leading to abnormal lamp operation.

7. The self-discharge and stress protection features of the lithium iron phosphate battery necessitate that if the lamp remains unused and uninstalled for a period of 60 to 90 days from the factory departure, it must undergo a 4-hour effective sun charging upon activation. Instances where lamp functionality is compromised due to the aforementioned circumstances are not included in the warranty coverage. However, we are committed to assisting customers in identifying and analyzing the underlying causes, and devising plans for enhancements. It's important to note that lamps unable to activate after battery protection will not be covered by the warranty.

## INFRARED REMOTE CONTROL



Remote Control Distance: ≤ 35 Feet / 12 Meters

### Power Button:

Turning off the light with the remote control. This allows the unit to continue charging without turning on at night.

ON/OFF Button on the Remote Control	During Daylight Hours	At Night Time
Press to turn 'ON'	Lamp flashes one time, then turns off	Lamp turns on
Press to turn 'OFF'	Lamp flashes three times, then turns off	Lamp flashes three times, then turns off

### TURNING THE LIGHT ON:

Press and hold the **Power Button**. The fixture will light up for 3 seconds then turn off; which indicates that the light and the remote control have been successfully activated.

### TURNING THE LIGHT OFF:

Press the **Power Button** to completely turn off the light and deactivate the remote control.

### SENSOR MODE:

**Time and Brightness are NOT Adjustable.**  
For the sensor mode, press the sensor mode button, the light will operate as follows: Automatically operates at 30% brightness. When motion is detected, light increases to 100% until no motion is detected, then returns to 30% brightness. Detects motion up to 50 feet.

## CONSTANT LIGHTING MODE

Changing this mode does not provide dusk to dawn lighting.

### Under Constant Lighting Mode:

**Brightness can be set to:** 20%/30%/50%/60%/80%/100%

**Lighting Time can be set to:** 1 H/2H/3H/4H/6H/8H/10H

Before setting the brightness or lighting time, press the **Constant Lighting** Mode button first, then press the Brightness or Lighting Time option desired.

**OPTION 1:** Press [Sensor Mode Icon]

### Default setting for Constant Lighting Mode:

The lamp automatically turns on at dusk and will maintain 50% brightness until dawn or until the power runs out.

Changing this mode does not provide dusk to dawn lighting.

**OPTION 2:** Press [Sensor Mode Icon] + Select a Brightness Button For example:

Press + [Sensor Mode Icon] Press [60%]

Lamp automatically turns on at dusk and maintains 60% brightness until the power runs out.

**Note:** Under constant lighting mode, when you change the brightness but not the lighting time; it will keep lighting at the chosen brightness until power runs out.

## INDICATOR FUNCTIONS


There are 4 colors (green, red, blue, yellow) in the indicator light section. Each color indicates the working status of different parts of the lamp so you can easily troubleshoot your light.

Indicator Color	Indicator Status	Functions
Green Charging Indicator	Slow Flash (Flashes once every 2 seconds and keeps repeating)	MPPT charging correctly
	Fast Flash (Fast flash 3 times, then off for 2 seconds, keeps repeating)	The output voltage of the solar panel is lower than the charging voltage of the battery. (Usually because it's early morning or the solar panel is covered.)
	Off	Solar panel wiring does have a good connection. It's nighttime. Battery is fully charged. Battery wiring does have a good connection. Battery can't be charged / Faulty or old battery.
Red Battery Indicator	Off	Battery works normally.
	Slow Flash (Flash 1 time every 2 seconds, keep repeating)	Battery over discharge (Low Power).
Blue LED Indicator	Off	LEDs work normally.
	Fast Flash (Fast flash 3 times then off for 2 seconds, keeps repeating)	LED output over-voltage. LEDs have short circuited. LEDs are disconnected.
Yellow PIR Sensor Indicator	Constant Lighting On	PIR sensor works normally motion is detected at night.
	Off	It's daytime.


## REMOTE CONTROL BUTTON INDICATORS

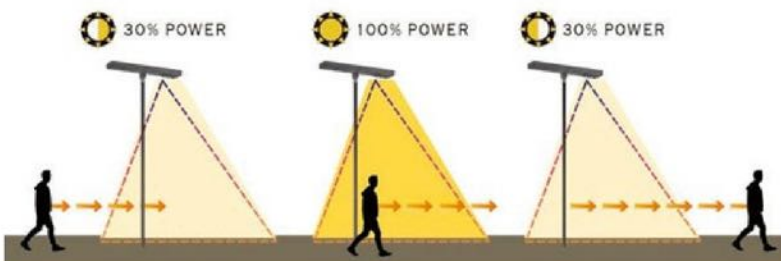



### Power Button

 **Constant Lighting Mode**  
Automatically operates at 50% brightness from dusk to dawn or until power is off.



 **Sensor Mode**  
Automatically operates at 30% brightness. When motion is detected, light increases to 100% until no motion is detected for 30 seconds, then returns to 30% brightness. Detection up to 50 feet.



 **Customized Working Mode**  
Automatically turns on at dusk and remains at up to 100% brightness for 4 hours, then it automatically turns to 30% brightness until dawn.



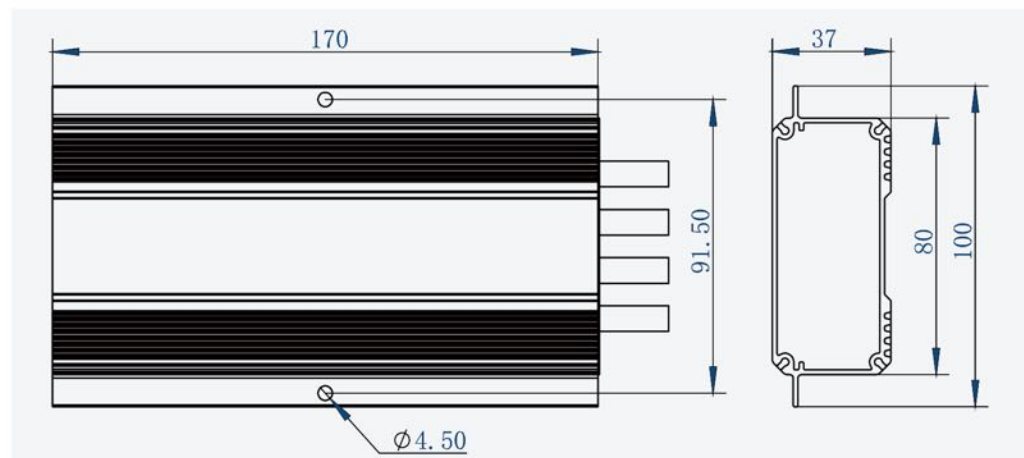


## TECHNICAL PARAMETERS

Items	Values		
Model	40W	80W	120W
Controller type	infrared remote control		
System voltage	12V		24V
Load current	0.82A	1.7A	2.6A
Load voltage	30~60V		
Maximum load power	40W/12V	80W/12V	120W/24V
Load conversion efficiency	95%		
Load current accuracy	≤3%±30mA		
Maximum solar input power	60W/12V	80W/12V	120W/24V
Maximum charge current	5A		
Maximum solar input voltage	≤20V		≤45V
MPPT Tracking efficiency	99%		
Operating temperature	-35°C ~ +60°C		
IP rating	IP67		
PIR sensor	Detection distance:8m		
Protections	Battery reverse polarity protection, solar panel reverse polarity protection, solar panel over-voltage protection, lithium battery overcharge and overdischarge protection, lithium battery BMS overcharge detection protection, load open circuit and short circuit protection		
Weight	1000g		
Controller dimensions (mm)	170×100×37		

## SPECIFICATIONS

Model	Dimension	N.W
EL-CNTR	170x100x37mm	1kg



## iNET SMART CONTROL SYSTEM

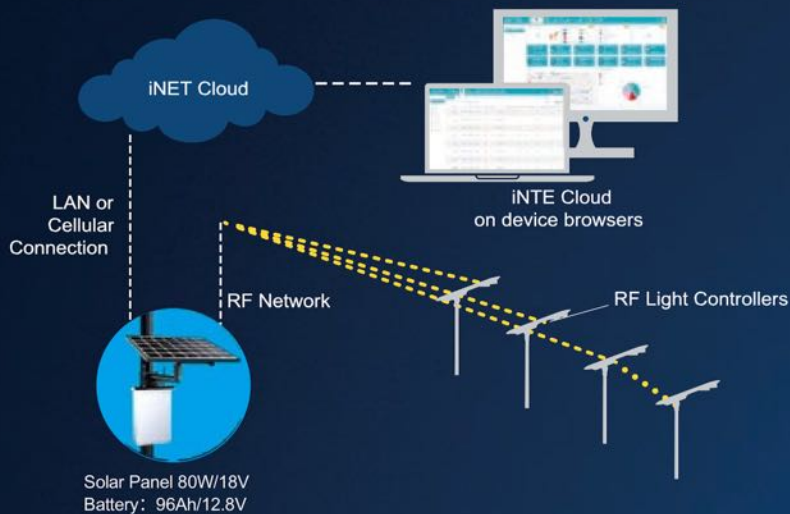


### Smart City

Smart controlling perfectly combines the solar street lighting fixture, internet of things with wireless communication technology, achieve monitoring and management of remote background data, real-time understand the normal working status of each component of solar energy (street lights, photovoltaic panels, batteries, controllers), allow you to know the product usage on the client terminal that is thousands of miles away without leaving home or to manage the opening and closing of street lights and the adjustment of bright spot power on me.

The solar street light management system can pre-set one or more lighting modes according to the different time of day and traffic flow, automatically turn on or off any light, and adjust the switching time and illumination according to environmental requirements to achieve the purpose of energy-saving and consumption reducing.

The integrated system is mainly composed of a street light component a centralized controller, a single light controller, and a smart cloud platform. The centralized controller and the single light controller aggregate the data collected by the single light via the RF wireless communication network. The centralized controller uploads data to the system cloud platform through GPRS data flow, providing data dependence for mobile phone and computer terminal access.



## System & Hardwares



### Automatic Light On/Off & Dimming Control

- By time setting
- On/off or dimming with motion sensor detection
- On/off or dimming with photocell detection



### Accurate Operation & Fault Monitor

- Real-time monitor on each light working status
- Accurate report on fault detected
- Provide location of fault, no patrol required
- Collect each light operation data, such as voltage, current, power consumption



### Extra I/O Ports for Sensor Expandability

- Environment Monitor
- Traffic Monitor
- Security Surveillance
- Seismic Activities Monitor



### Reliable Mesh Network

- Self proprietary wireless control node
- Reliable node to node, gateway to node communication
- Up to 1000 nodes per network
- Max. network diameter 2000m



### Easy-to-use Platform

- Easy monitor on each and all lights status
- Support lighting policy remote set-up
- Cloud server accessible from computer or hand held device