



## PRODUCT SPECIFICATION

# SMART PEDESTRIAN SYSTEM

**EVERY LITTLE LIGHT FOR SAFETY**

RRFB Intelligent Pedestrian System

# PRODUCT SPECIFICATION

## Contents

Contents.....	2
1 Scope.....	3
2 Products Description.....	3
2.1 Background.....	3
2.2 Brief Description.....	3
2.3 Features.....	3
3 Electrical-Economic Type.....	3
4 RRFB(Rectangular Rapid Flashing Beacon).....	4
4.1 Specification.....	4
4.2 Specification-Optical.....	4
4.3 Specification-Electrical.....	4
4.4 Structure Diagram.....	5
4.5 Product Image.....	5
5 Road Stud(optional).....	6
5.1 Specification.....	6
5.2 Specification-Optical.....	6
5.3 Specification-Electrical.....	6
5.4 Structure Diagram.....	6
6 Push Button-PB-003(optional).....	7
6.1 Specification.....	7
6.2 Specification-Electrical.....	7
6.3 Structure Diagram.....	7
7 Push Button-PB-002(optional).....	8
7.1 Specification.....	8
7.2 Specification-Electrical.....	8
7.3 Structure Diagram.....	8
8 Push Button-PB-001(optional).....	8
8.1 Specification.....	8
8.2 Specification-Electrical.....	9
8.3 Structure Diagram.....	9
9 Traffic Sign-install with push button(optional).....	9
10 Intelligent Pedestrian Camera(optional).....	10
10.1 Specification.....	10
10.2 Specification-Electrical.....	10
11 Intelligent Infrared Bollards(optional).....	10
11.1 Specification.....	10
12 Control Box.....	11
12.1 Specification.....	11
12.2 Structure Diagram.....	11
12.3 Wiring Pattern.....	11
13 Application.....	12
14 Auxiliary System - ELLUMIN Cloud.....	13
14.1 Description of ELLUMIN Cloud.....	13
14.2 Function.....	13

# PRODUCT SPECIFICATION

## 1 Scope

This specification covers the detailed Specification and Performance for the following products listed as below:

## 2 Products Description

### 2.1 Background

\*The official data showed higher motorist yielding rates at crosswalks where the similar system had been installed in comparison to lower rates for standard warning beacons. The higher yielding rates were sustained even after two years of operation, and no identifiable negative effects were found.



### 2.2 Brief Description

RRFB Intelligent Pedestrian System is a innovative system that complies with the MUTCD standard and enhances the safety of zebra crossings.

The system can be activated actively by push button or passively by the other activation equipment (e.g., Intelligent Pedestrian System Camera or Intelligent Infrared Bollards). Once the system starts, the warning equipment towards to drivers works timely (RRFB flashes) for warning them there ahead pedestrians will cross the crosswalk, please slow down and give way.

### 2.3 Features

- 2.3.1 FHWA MUTCD compliant
- 2.3.2 Daytime visible light design perform greatly at day and night
- 2.3.3 Automatically dim based upon ambient light-reducing glare
- 2.3.4 Solar or AC power supply optional
- 2.3.5 Environmentally friendly solar power supply, easy to install and maintain

## 3 Electrical-Economic Type

3.1 Power Supply: 20W Solar Module

3.2 Battery: 8.7Ah standard lithium-ion batteries

(can provide 4 days of rated use when fully charged, can activate 800 times per day, each activation duration is 30s)

3.3 Work time: Charge for 3 hours, can activate 800 times, each activation duration is 30s

# PRODUCT SPECIFICATION

## 4 RRFB(Rectangular Rapid Flashing Beacon)

### 4.1 Specification

Once the pre-warning system starts, the RRFB light bars toward to drivers flash for warning drivers there ahead pedestrians will cross the crosswalk, please slow down and give way.

4.1.1 Material: Aluminium sheet,surface with powder-coat

4.1.2 Product Size: 23.78" \* 4.72" \* 1.67" (604 \* 120 \* 42.4 mm)  
(MUTCD IA-21 requires the outside edges of the RRFB indications, including any housings, shall not project beyond the outside edges of the W11-2, S1-1, or W11-15 sign that it supplements. )

4.1.3 Each Indication Size: 6.90" \* 2.49"(175\*63mm)  
(MUTCD IA-21 requires the each RRFB indication shall be at least 5 inches wide by at least 2 inches high)

4.1.4 Space between the Two Indications: 7.59"(193mm)  
(MUTCD IA-21 requires the indicator light spacing should be at least 7")

4.1.5 Thickness(Aluminium Panel): 0.079" (2 mm)

4.1.6 Weight: 3.858 lbs

4.1.7 Operating Temperature: -4°F to +158°F( -20°C to +70°C)

4.1.8 Protection Level: IP55

4.1.9 Installation Method: Perforated installation

4.1.10 Top with an adjustable fastener, fastening it to give a fixed angle.



### 4.2 Specification-Optical

4.2.1 Color: Amber

4.2.2 LED Qty: 2 arrays of 40 LEDs

4.2.3 Meet SAE J595 CLASS 1 brightness.

4.2.4 Flash Pattern: WW + S (combination wig-wag and simultaneous flash)  
(MUTCD IA-21 requires the RRFB should be WW + S flashing pattern)

4.2.5 Product Flash Frequency: 75 times per min(or customized)

4.2.6 Each RRFB indication flash rate:5 flash per second  
(MUTCD IA-21 requires the flash rate of each individual RRFB indication, as applied over the full flashing sequence, shall not be between 5 and 30 flashes per second to avoid frequencies that might cause seizures.)

4.2.7 Auto brightness for conditions.  
(MUTCD IA-21 requires an automatic signal dimming device should be used to reduce the brilliance of the RRFB indications during nighttime conditions to minimize excessive glare during nighttime conditions.)

4.2.8 Each side of RRFB has one pedestrian Indicator light.The lights flash simultaneously with RRFB for notifying pedestrians that the RRFB is in operation.

4.2.9 Each LED equipped with a optical lens to reduce nighttime glare.

### 4.3 Specification-Electrical

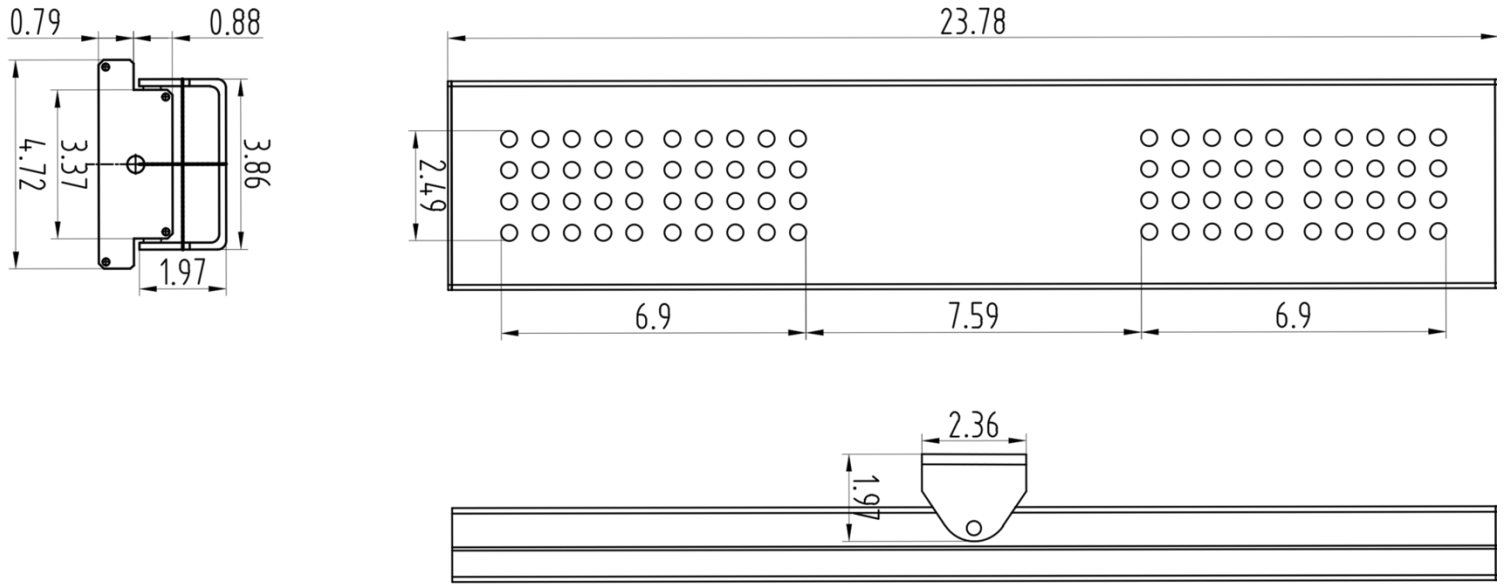
4.3.1 Power Supply: DC 12V

4.3.2 Power Consumption: <1.6W(when the one indication flashes)

4.3.3 Current Consumption: 140mA(when the one indication flashes)

# PRODUCT SPECIFICATION

## 4.4 Structure Diagram



Unit: Inch

## 4.5 Product Image



Front



Back



Top  
(with Adjustable Fastener)



Side  
(with pedestrian Indicator light)

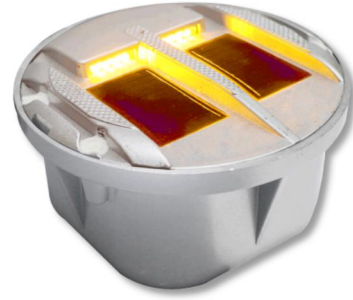
# PRODUCT SPECIFICATION

## 5 Road Stud(optional)

Once the pre-warning system starts, the led lamps toward to drivers flash for warning drivers there ahead pedestrians will cross the crosswalk, please slow down and give way.

### 5.1 Specification

- 5.1.1 Material: Aluminum
- 5.1.2 LED Protective Cover Material: Polycarbonate Window
- 5.1.3 Diameter:  $\varnothing 6.69$ " ( $\varnothing 170$  mm)
- 5.1.4 Height(with basement): 3.87" (98.2 mm)
- 5.1.5 Protection Level: IP68
- 5.1.6 Operating Temperature:  $-4^{\circ}\text{F}$  to  $+176^{\circ}\text{F}$  ( $-20^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$ )



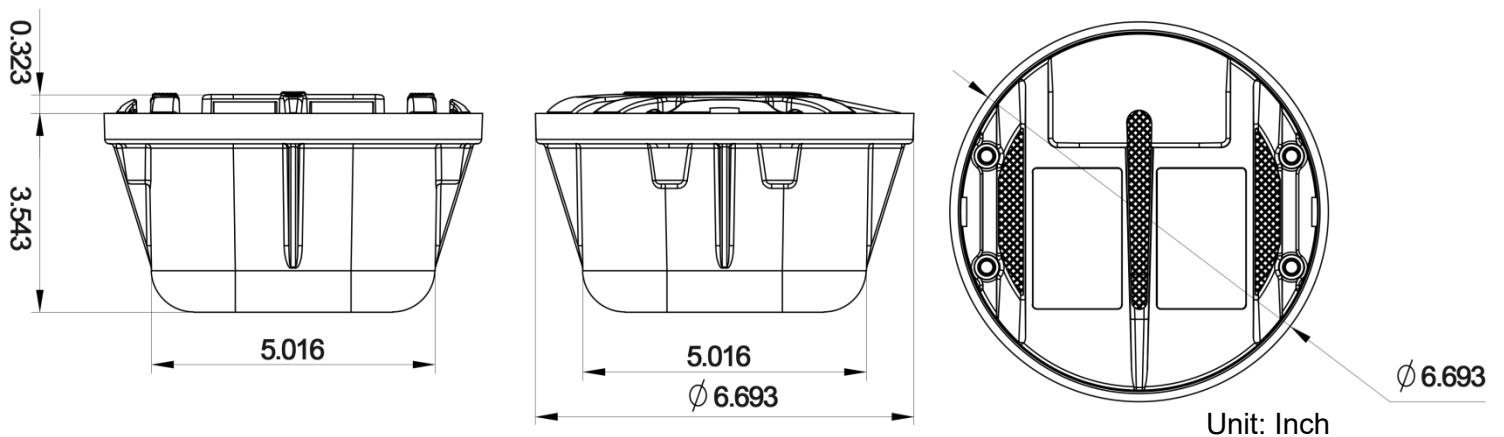
### 5.2 Specification-Optical

- 5.2.1 LED Qty: 8 LEDs
- 5.2.2 LED Color: Yellow (Red, Green, Blue, White is available upon request)
- 5.2.3 LED Brightness Intensity: 25000-30000mcd
- 5.2.4 LED Configuration: Unidirectional
- 5.2.5 Visual Distance: 1640 ft (500 m)

### 5.3 Specification-Electrical

- 5.3.1 Power Supply: 5V 100mA Solar Module
- 5.3.2 Power Consumption: 500mw
- 5.3.3 Current Consumption: 120mA
- 5.3.4 Lighting Time: 150H after fully charged in flashing mode

### 5.4 Structure Diagram





# PRODUCT SPECIFICATION

## 6 Push Button-PB-003(optional)

### 6.1 Specification

When the pedestrian who will cross the crosswalk pushes the button, the pre-warning system starts



6.1.1 Material: Aluminum

6.1.2 Protection Level: IP65

6.1.3 Dimension: Diameter:  $\phi$  92mm Thickness: 55.5mm

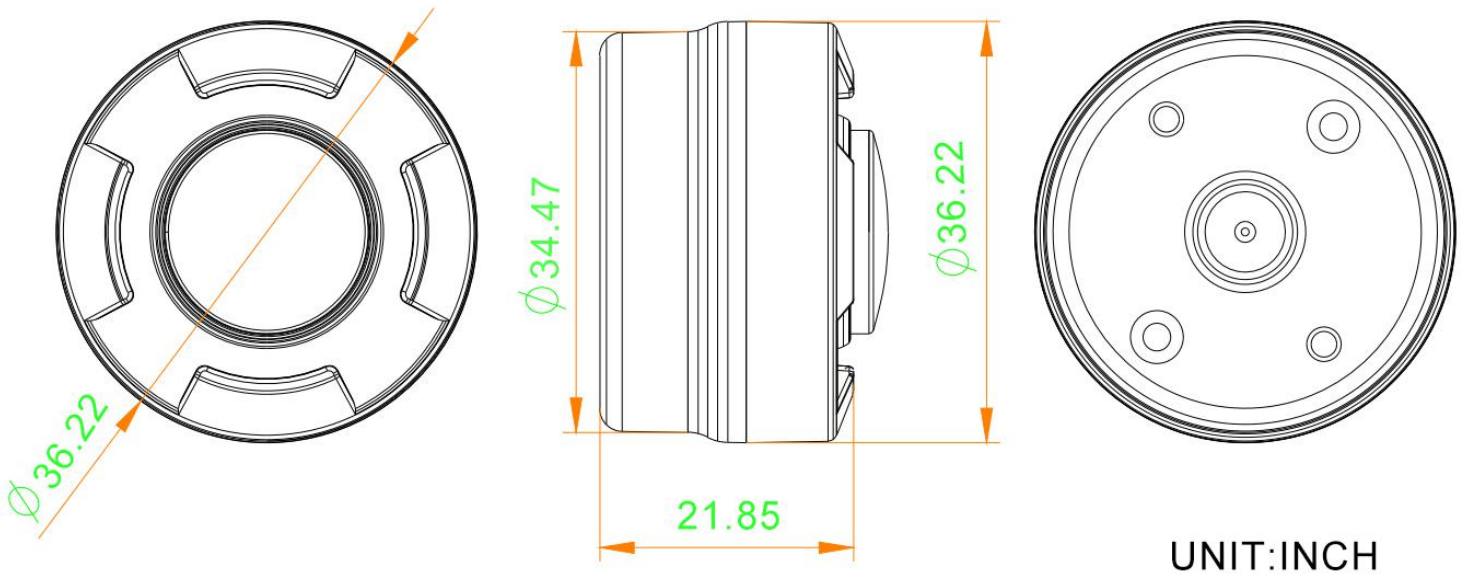
6.1.4 Weight: 570g

### 6.2 Specification-Electrical

6.2.1 Power Supply: Self-generated power

6.2.2 Current Consumption: 50mA

### 6.3 Structure Diagram



# PRODUCT SPECIFICATION

## 7 Push Button-PB-002(optional)

### 7.1 Specification

When the pedestrian who will cross the crosswalk pushes the button, the pre-warning system starts

7.1.1 Material: Aluminum housing with stainless steel accessories

7.1.2 Protection Level: IP65

7.1.3 Operating Temperature:  $-4^{\circ}\text{F}$  to  $+176^{\circ}\text{F}$  ( $-20^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$ )

7.1.4 The pattern of pilot light can be customizable.

7.1.5 A small pilot light is installed integral to the push button to give confirmation that the system is in operation. (Conform to the MUTCD IA-21)



### 7.2 Specification-Electrical

7.2.1 Power Supply: DC 12V

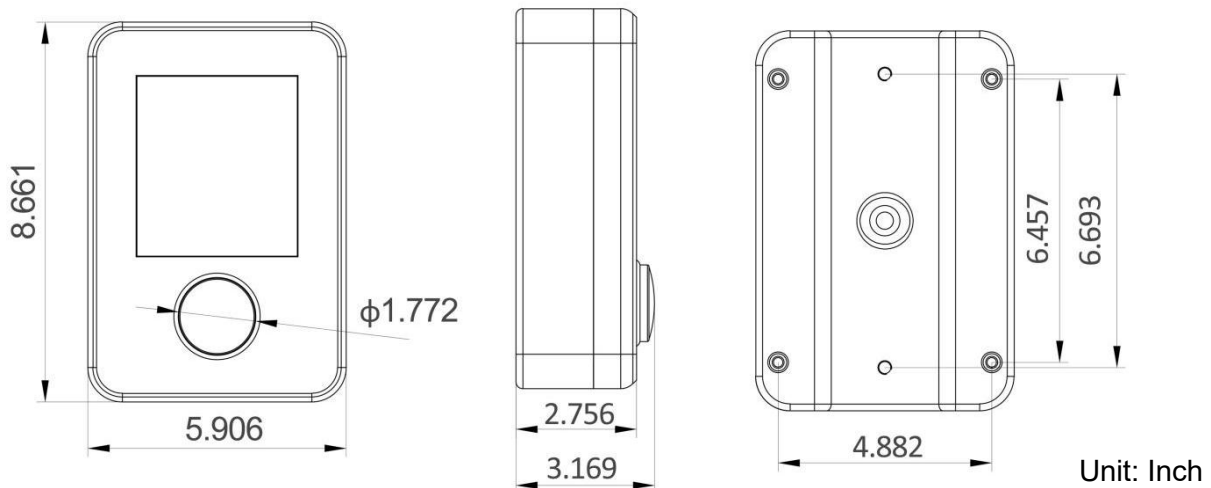
7.2.2 Standby Power Consumption: 0.06W

7.2.3 Max Power Consumption: 2W

7.2.4 Standby Current Consumption: 5mA

7.2.5 Max Current Consumption: 170mA

### 7.3 Structure Diagram



## 8 Push Button-PB-001(optional)

### 8.1 Specification

When the pedestrian who will cross the crosswalk pushes the button, the pre-warning system starts

8.1.1 Material: Aluminum housing with stainless steel accessories

8.1.2 Protection Level: IP65



# PRODUCT SPECIFICATION

8.1.3 Operating Temperature: -4°F to +176°F (-20°C to +80°C)

8.1.4 Film Color: Green / yellow / blue



## 8.2 Specification-Electrical

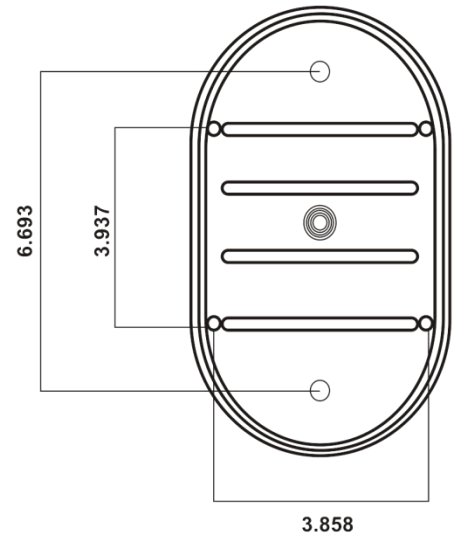
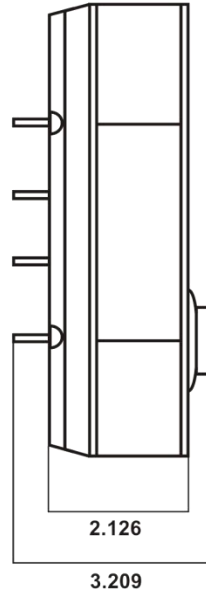
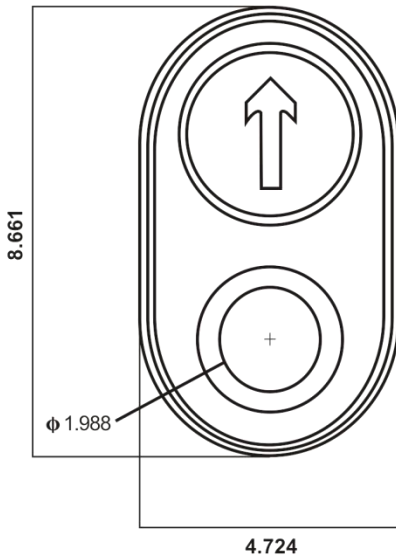
8.2.1 Contact Rating: 50W

8.2.2 Max.Switching Voltage: DC 200V

8.2.3 Max.Switching Current: DC 0.5A

8.2.4 Max.Carry Current: DC 1.0A

## 8.3 Structure Diagram



Unit: Inch

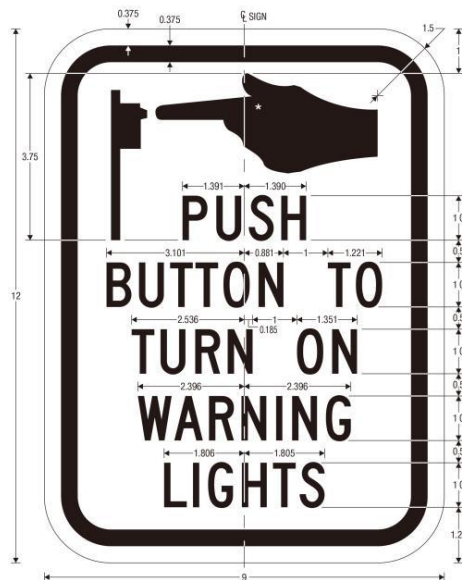
## 9 Traffic Sign-install with push button(optional)

9.1 Material: Double layer aluminium-plastic panel + reflective sheeting

9.2 MUTCD R10-25 sign should be installed with,explaining the purpose and use of the pedestrian push button detector.(Conform to the MUTCD IA-21)

9.3 Structure Diagram:

8.4 Product Image:



Unit: Inch



## 10 Intelligent Pedestrian Camera(optional)

### 10.1 Specification

As pedestrians move into the detecting area the camera set, the pre-warning system starts

- 10.1.1 Dimension: Ø3.5" \* 9.5" (Ø88 \* 242 mm)
- 10.1.2 Algorithm: Smart zebra cross algo
- 10.1.3 Resolution: 8MP 3840(H) \* 2160(V)
- 10.1.4 Day & Night: IR cut filter with auto switch (Day/Night/Auto/Schedule)
- 10.1.5 Video Compression: H.265 / H.264
- 10.1.6 Protection Level: IP66
- 10.1.7 Operating Temperature: -22°F to +122°F (-30°C to +50°C)
- 10.1.8 Avoid mistakenly alarm caused by non-set target.
- 10.1.9 Support up to 4 monitoring area.



### 10.2 Specification-Electrical

- 10.2.1 Power Supply: DC12V/POE
- 10.2.2 Power Consumption: ≤9W

## 11 Intelligent Infrared Bollards(optional)

### 11.1 Specification

When pedestrians cross between the infrared sensing bollards, the pre-warning system starts

- 11.1.1 Direction discrimination function (only detect pedestrians about to cross the crosswalk to activate the system)
- 11.1.2 People flow data statistics function



# PRODUCT SPECIFICATION

## 12 Control Box

### 12.1 Specification

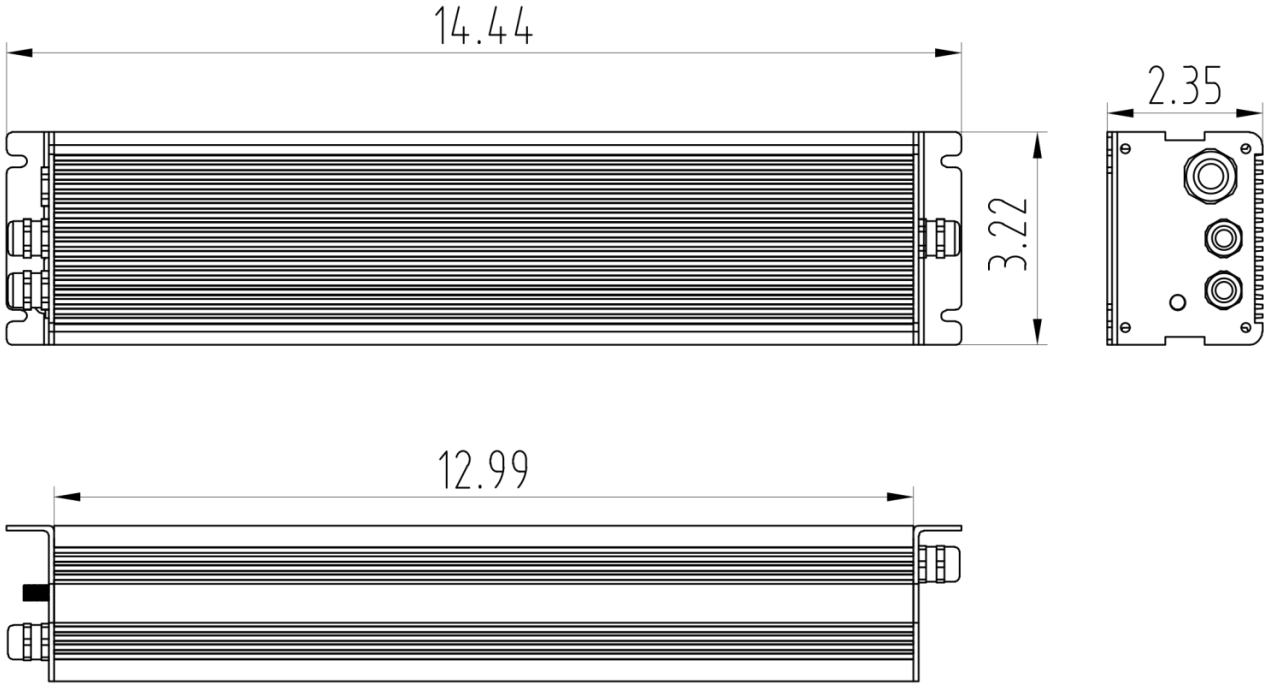
12.1.1 Material: Aluminum alloy

12.1.2 Product Size: 2.36" \* 3.23" \* 14.45"(60\*82\*367mm)

12.1.3 Operating Temperature: -4°F to +158°F (-20°C to +70°C)

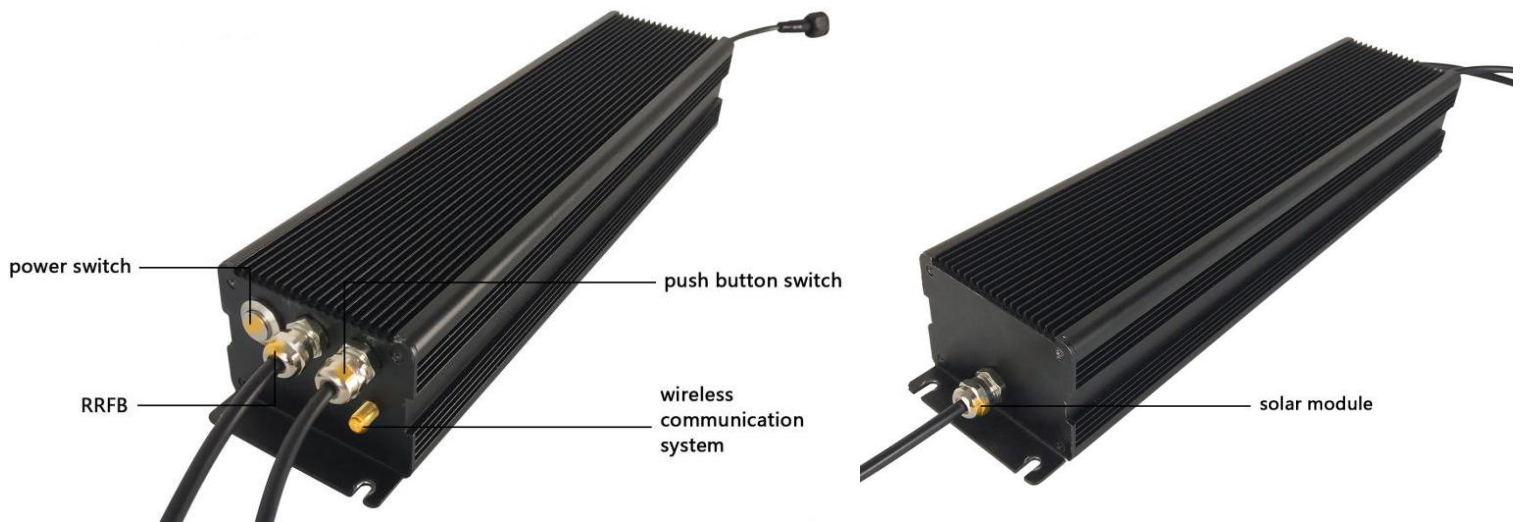
12.1.4 Protection Level: IP65

### 12.2 Structure Diagram



Unit: Inch

### 12.3 Wiring Pattern

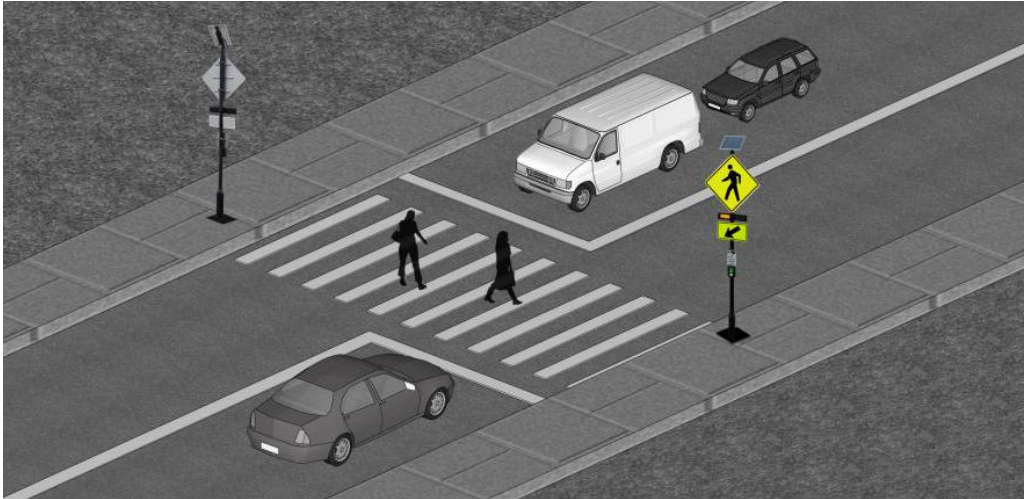




# PRODUCT SPECIFICATION

## 13 Application

RRFB Intelligent Pedestrian System suits to various road conditions.



Mounted on the Regular Crosswalk



Mounted on the Poor Visibility Crosswalk Section



Mounted on the Mid-Block Crosswalk

# PRODUCT SPECIFICATION

## 14 Auxiliary System - ELLUMIN Cloud

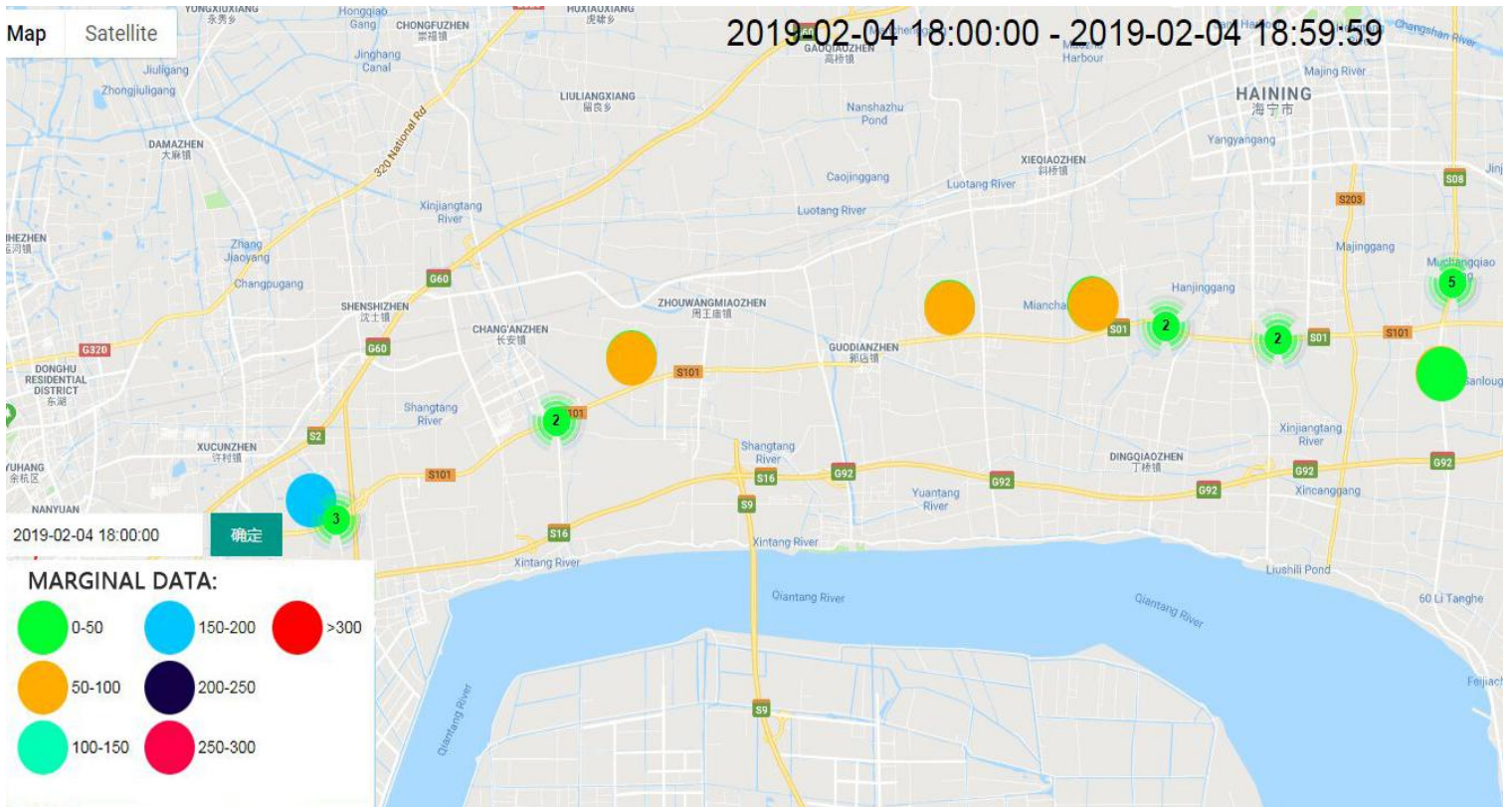
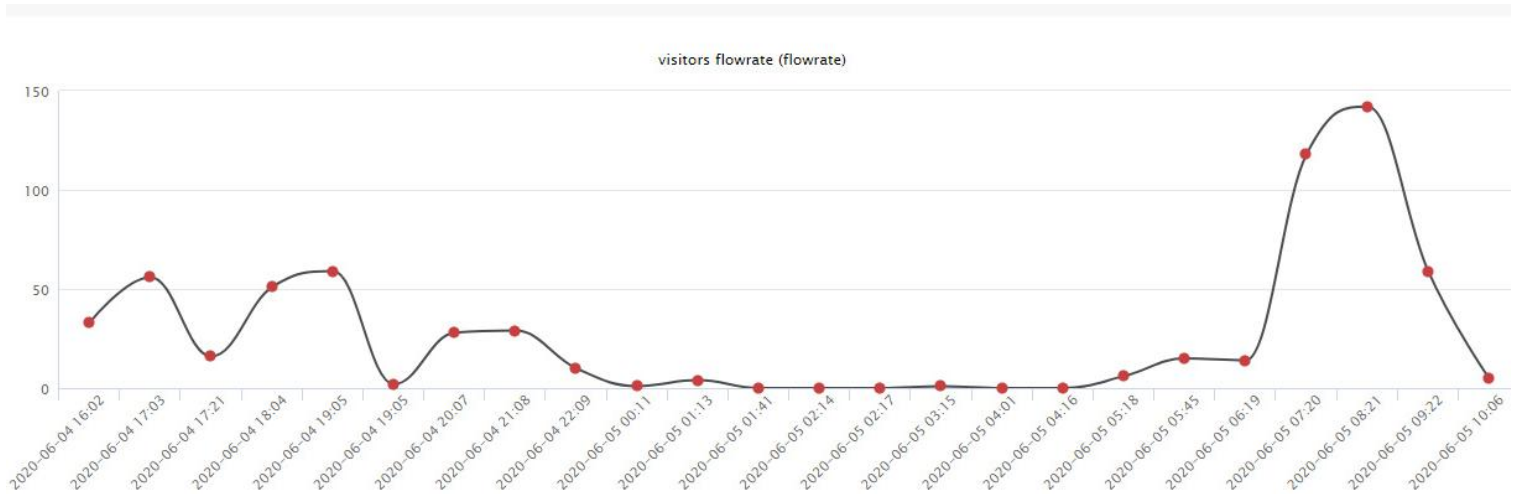
### 14.1 Description of ELLUMIN Cloud

ELLUMIN cloud platform is an important part of the smart city which can monitor the operation of the devices, as well as collect and analyze the devices' statistic for you.

### 14.2 Function

#### 14.2.1 Data Reporting

- It can generate professional data reports by capturing, filtering, summarizing and analyzing the data of the day.
- Provide strong data support by historical data exported to EXCEL in chronological order.





# PRODUCT SPECIFICATION

## 14.2.2 Monitoring Device

Monitoring device's operation and display in map pattern, and support to filter the dedicated device.

Devices are found in your area: 30 s

Type	Device Name	Device Status	Notification Status	Electronic Label

## 14.2.3 Online Control Device

Remotely change the operating status of the device online.

Current equipment is: (03030100000128) [show history](#)

[revise](#) [Reload](#)

Cut-off Voltage:  mV [revise](#) PanelLuminescenceDutyCycle:  % [revise](#) DelayTime:  second [revise](#)

Normal Working  ON  OFF

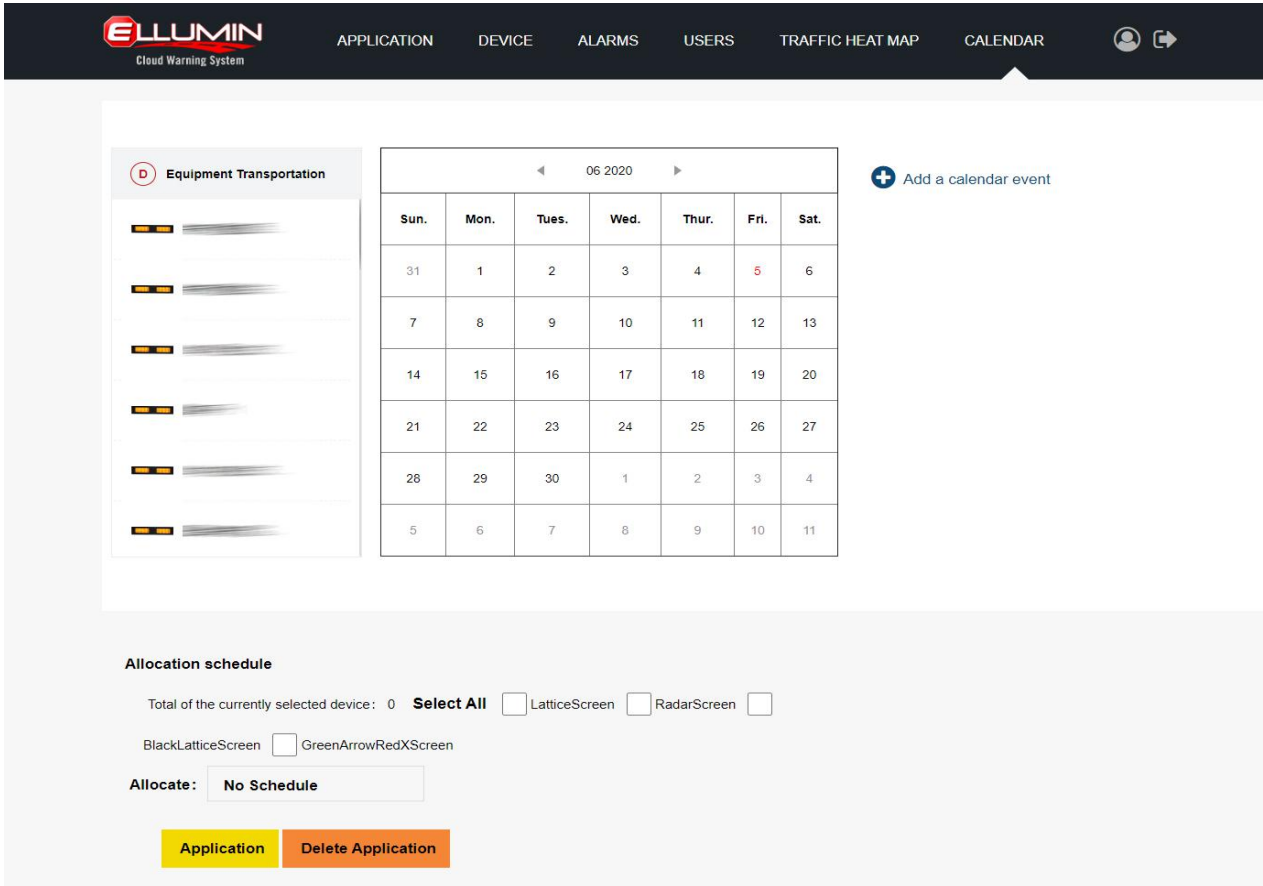


# PRODUCT SPECIFICATION

## 14.2.4 Programmable Control

Customize Calendar Editor is easy to schedule Manage devices.

(Based on the calendar year with the ability to program in holidays and daylight savings time,ideal for school, business and industrial facility work schedules)



## 14.2.5 Emergency Notification

When there is something wrong with the device, workers will immediately receive the notifications through E-mail and web page.

