PRODUCT SPECIFICATION

SMART PEDESTRIAN SYSTEM

EVERY LITTLE LIGHT FOR SAFETY

RRFB Intelligent Pedestrian System

FHWA MUTCD compliant intelligent pedestrian crossing system

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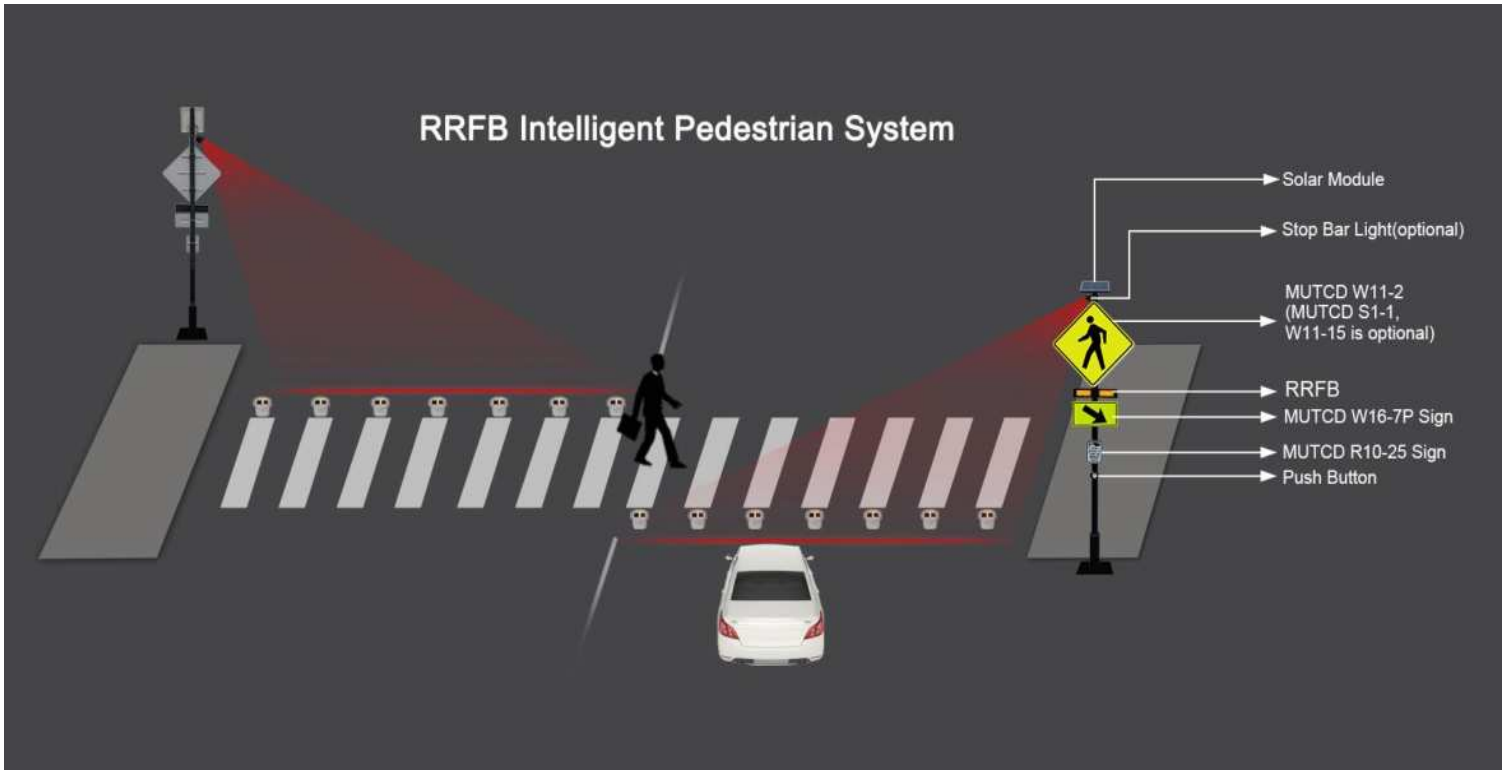
1 Scope

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 either manually through a Push Button or passively through Infrared Sensor Beacon. Once activated, RRFB, road studs and Led stop bar will be emitted light to alerting drivers that pedestrians are about to cross the pedestrian crossing ahead, please slow down. Upon receiving the warning, drivers should promptly reduce speed and prepare to yield.

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.

2.3 Features

2.3.1 FHWA MUTCD compliant

2.3.2 Daytime visible light design perform greatly at day and night

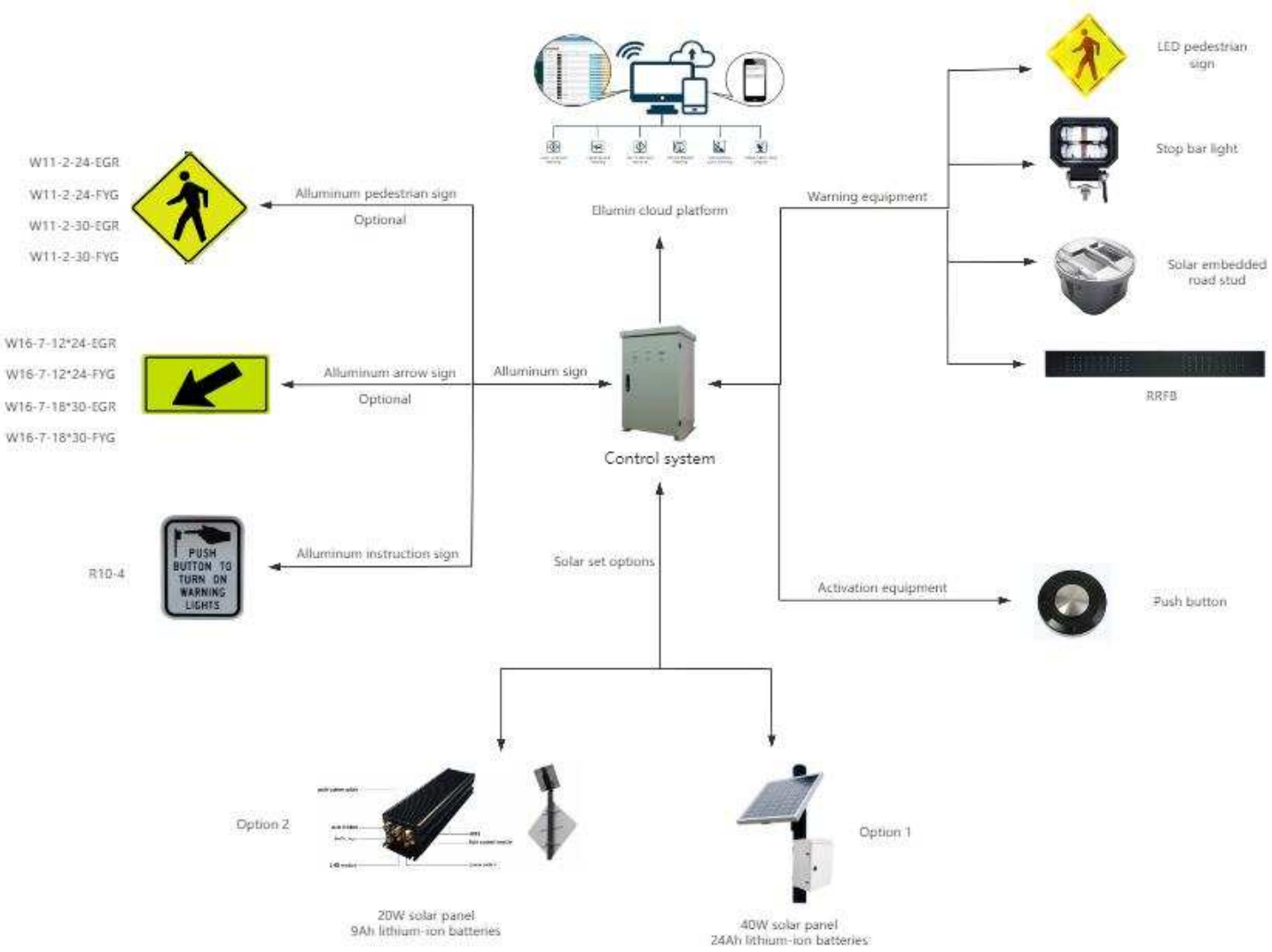
2.3.3 Automatically dim based upon ambient light-reducing glare

2.3.4 Solar or AC power supply optional

2.3.5 Can connect to the ELLUMIN Cloud for better solving traffic problems and managing traffic order

2.3.6 Suits to various road conditions

2.4 Topological graph



3 RRFB(Rectangular Rapid Flashing Beacon)

3.1 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.

3.1.1 Material: Aluminium sheet,surface with powder-coat

3.1.2 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.)

3.1.3 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)

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

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

3.1.6 Weight: 3.858 lbs

3.1.7 Operating Temperature: -4℉ to +158℉(-20°C to +70°C)

3.1.8 Protection Level: IP55

3.1.9 Installation Method: Perforated installation

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

3.2 Specification-Optical

3.2.1 Color: Amber

3.2.2 LED Qty: 2 arrays of 40 LEDs

3.2.3 Meet SAE J595 CLASS 1 brightness

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

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

3.2.6 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.)

3.2.7 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.)

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

3.2.9 Each LED equipped with a optical lens to reduce nighttime glare

3.3 Specification-Electrical

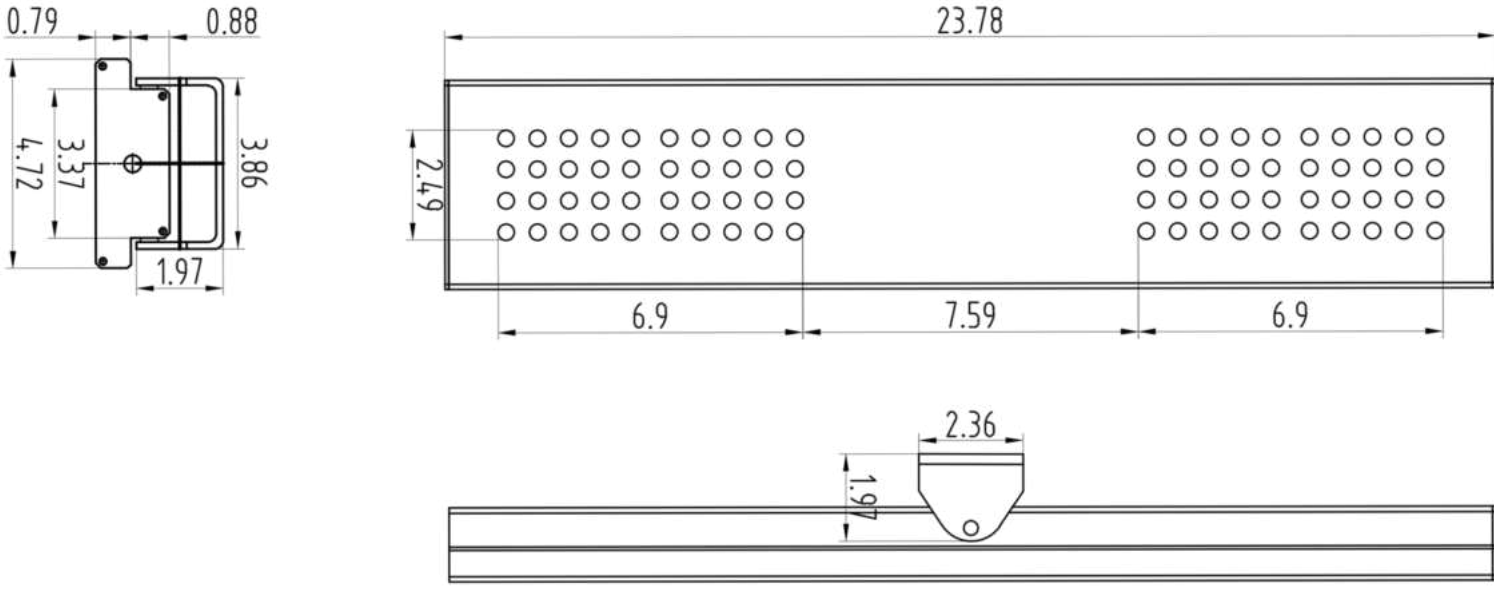
3.3.1 Power Supply: DC 12V

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

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

3.4 Structure Diagram

PRODUCT SPECIFICATION



Unit: Inch

3.5 Product Image

Front **Back**

Top
(with Adjustable Fastener)

Side
(with pedestrian Indicator light)

4 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.

4.1 Specification

4.1.1 Material: Aluminum

4.1.2 LED Protective Cover Material:Polycarbonate Window

4.1.3 Diameter: Ø6.69" (Ø170 mm)

4.1.4 Height(with basement): 3.87" (98.2 mm)

4.1.5 Protection Level: IP68

4.1.6 Operating Temperature: -4℉ to +176℉(-20°C to +80°C)

4.2 Specification-Optical

4.2.1 LED Qty: 8 LEDs

4.2.2 LED Color: Yellow(Red,Green,Blue,White is available upon request)

4.2.3 LED Brightness Intensity: 25000-30000mcd

4.2.4 LED Configuration: Unidirectional

4.2.5 Visual Distance: 1640 ft(500 m)

4.3 Specification-Electrical

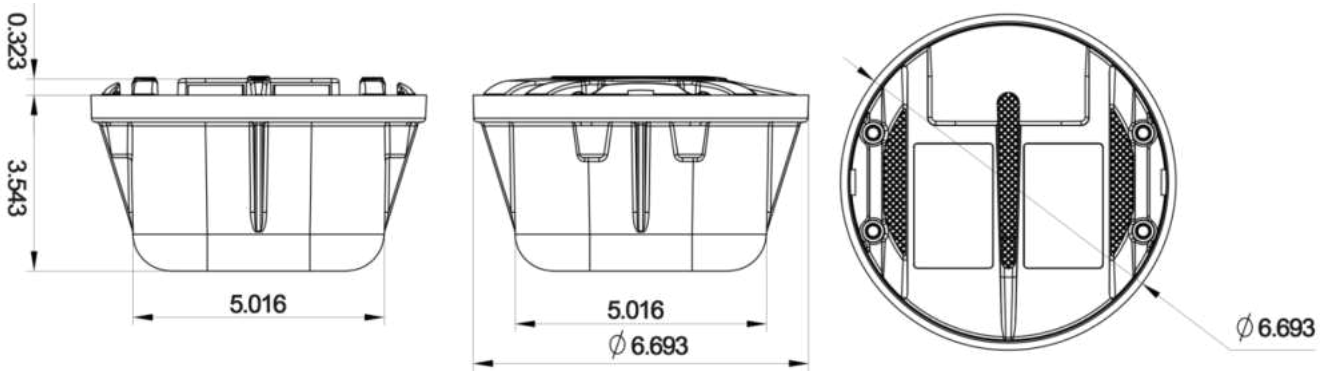
4.3.1 Power Supply: 5V 100mA Solar Module

4.3.2 Power Consumption: 500mw

4.3.3 Current Consumption: 120mA

4.3.4 Lighting Time: 150H after fully charged in flashing mode

4.4 Structure Diagram



Unit: Inch

5 Push Button-PB-003

5.1 Specification

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

5.1.1 Material: Aluminum

5.1.2 Protection Level: IP65

5.1.3 Dimension:Diameter: Φ92mm Thickness:55.5mm

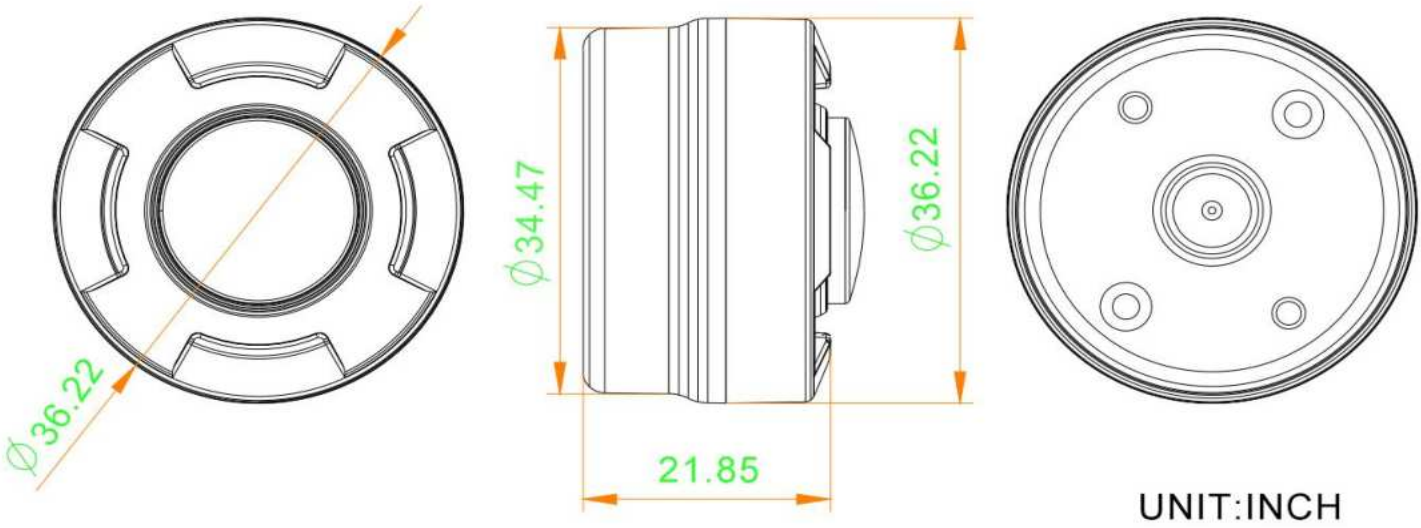
5.1.4 Weight:570g

5.2 Specification-Electrical

5.2.1 Power Supply: Self-generated power

5.2.2 Current Consumption: 50mA

5.3 Structure Diagram



6 MUTCD Standard Aluminum Sign(optional)

6.1 Specification

6.1.1Material: Double layer aluminium-plastic panel + reflective sheeting

6.1.2 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)

6.2 Structure Diagram:

6.3 MUTCD Standard Aluminum Sign

The W11-2 sign indicates pedestrian crossing ahead, please slow down(Optional signs:W11-15/S1-1).
The W16-7P sign indicates the actual location of the crosswalk to drivers.

6.3.1 Compliant with MUTCD standards

6.3.2 Aluminum sign, 3mm thickness, lightweight yet sturdy and durable

6.3.3 With optional EGP/FYG reflective film, good reflective effect

6.3.4 Optional model:

Aluminum Pedestrian Sign

W11-2-24-EGR 24'' MUTCD DIAMOND SIGN (EGR)

W11-2-24-FYG 24''MUTCD DIAMOND SIGN (FYG)

W11-2-30-EGR 30''MUTCD DIAMOND SIGN (EGR)

W11-2-30-FYG 30'' MUTCD DIAMOND SIGN (FYG)

Aluminum Arrow Sign

W16-7-12X24-EGR 12''x24''Diagonal Arrow (EGR)

W16-7-12X24-FYG 12''x24''Diagonal Arrow (FYG)

W16-7-18X30-EGR 18''x30''Diagonal Arrow (EGR)

W16-7-18X30-FYG 18''x30''Diagonal Arrow (FYG)

7 LED Pedestrian Sign(optional)

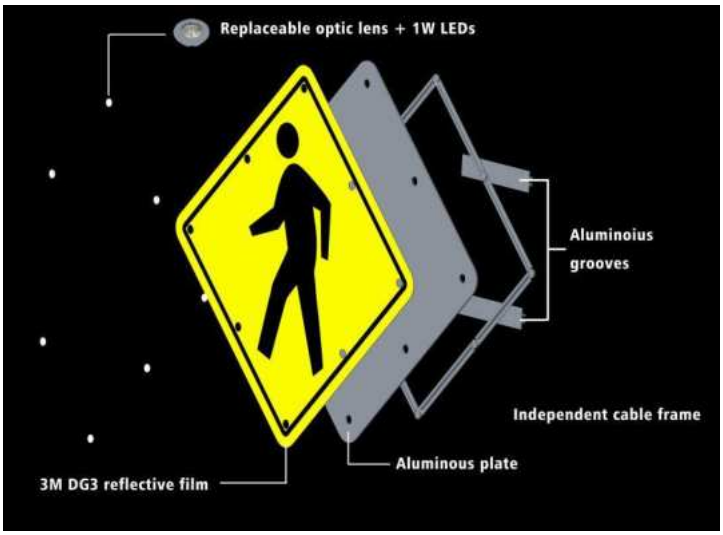
7.1 Specification

7.1.1 30'' MUTCD DIAMOND LED SIGN (FYG)

7.1.2 8pcs of 1W led around the edge

7.1.3 3MM thickness aluminum plate + 3M DG3 reflective film

7.2 Structure Diagram



8 Stop Bar Light(optional)

8.1 Specification

Once the pre-warning system starts, stop bar for vehicles when sense the pedestrians.

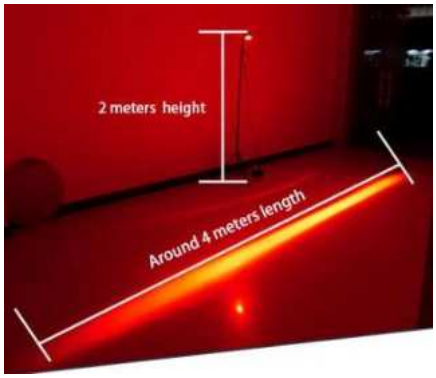
8.1.1 Dimension:9.7x7x7.3CM

8.1.2 Led: 6pcs super bright

8.1.3 Lighting effective: Red bar lighting

8.1.4 Power: 30W

8.1.5 Installation 2 meters height, bar lighting length around 4 meters



9 Solar Set Option 1

9.1 Specification

9.1.1 Material: Aluminum alloy

9.1.2 Operating Temperature: -4℉ to +158℉(-20°C to +70°C)

9.1.3 Protection Level: IP65

9.1.4 Control Box(Double RRFB in one pole)
MUTCD Standard Flash pattern+Brightness
40W Solar Panel

9.1.5 24Ah lithium-ion batteries

9.2 Wiring Pattern

10 Solar Set Option 2

10.1 Specification

10.1.1 Material: Aluminum alloy

10.1.2 Operating Temperature: -4℉ to +158℉(-20°C to +70°C)

10.1.3 Protection Level: IP65

10.1.4 MUTCD Standard Flash pattern+Brightness
2 Sides synchronized flash(set version)

10.1.5 Built-in Solar power set

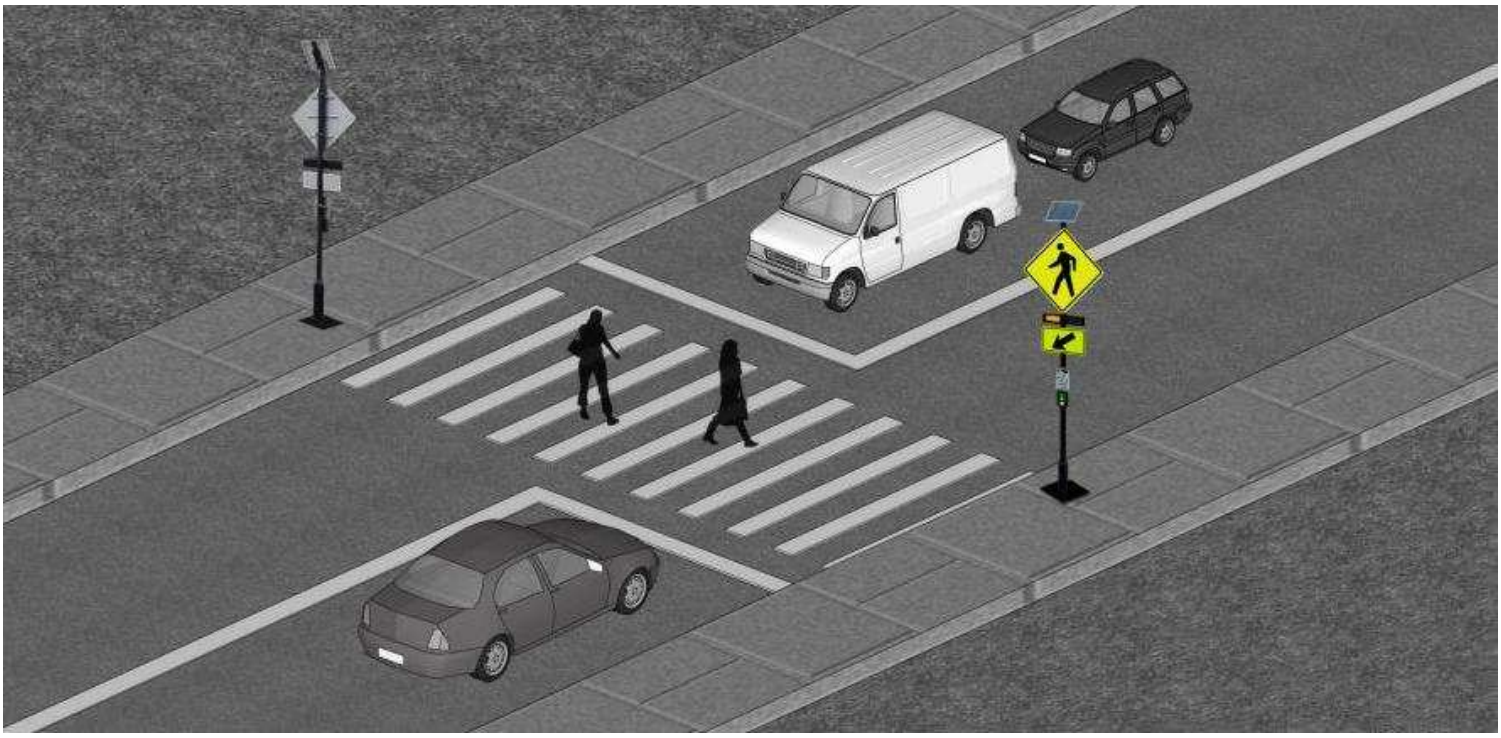
10.1.6 9Ah lithium-ion batteries

10.1.7 20W Solar Panel

10.2 Wiring Pattern

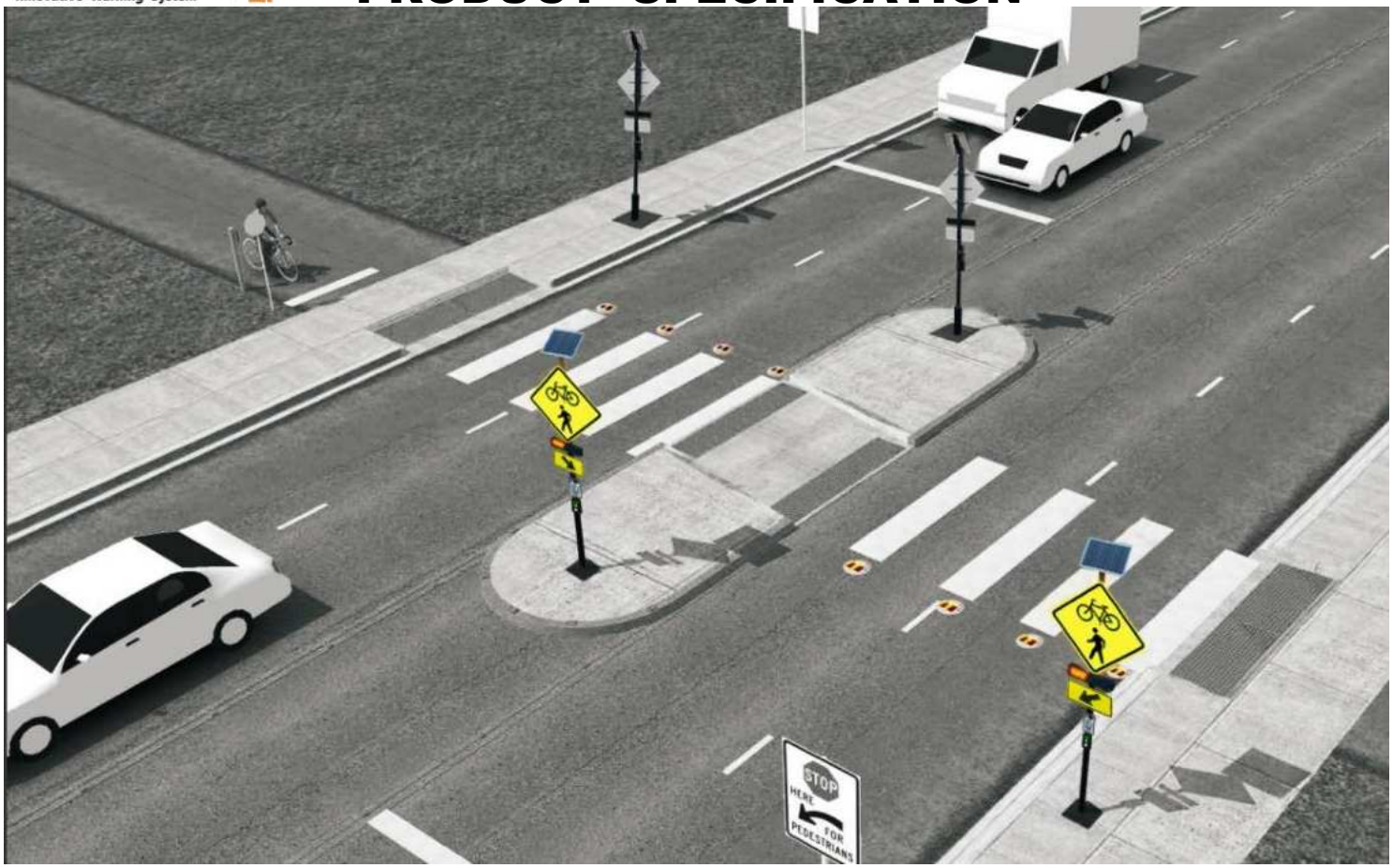
11 Application

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

12 Auxiliary System - ELLUMIN Cloud(optional)

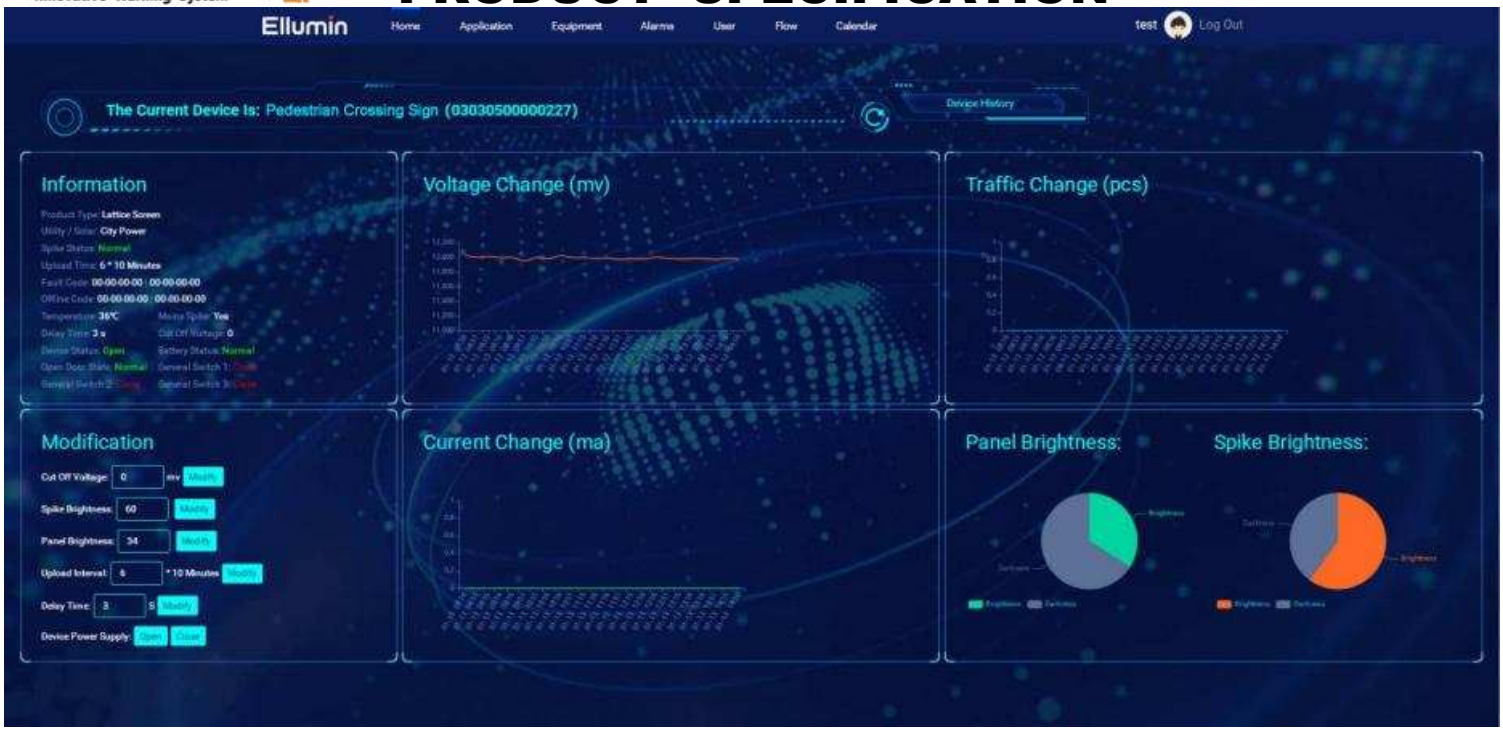
12.1 Description of ELLUMIN Cloud

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.

12.2 Function

12.2.1 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.

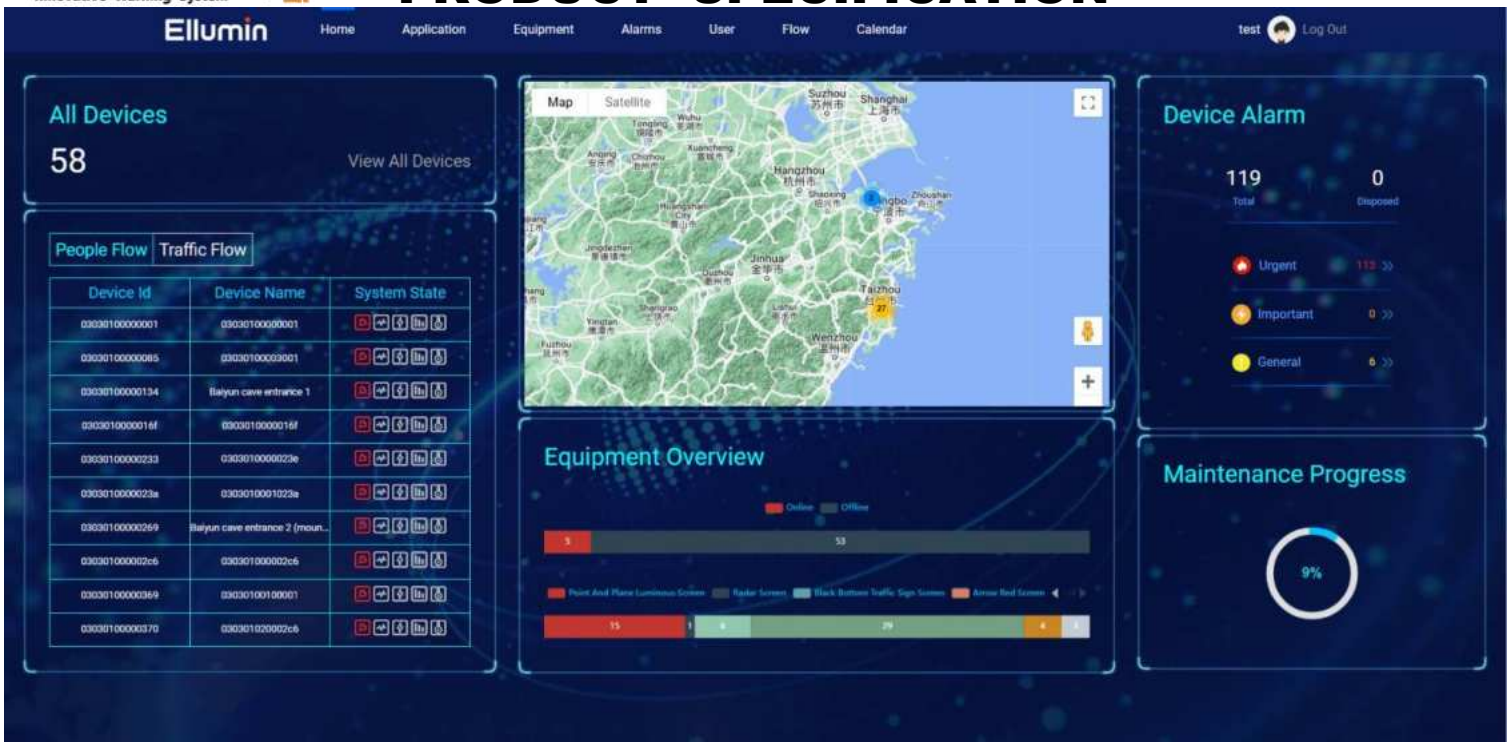


12.2.2 Monitoring Device

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

12.2.3 Online Control Device

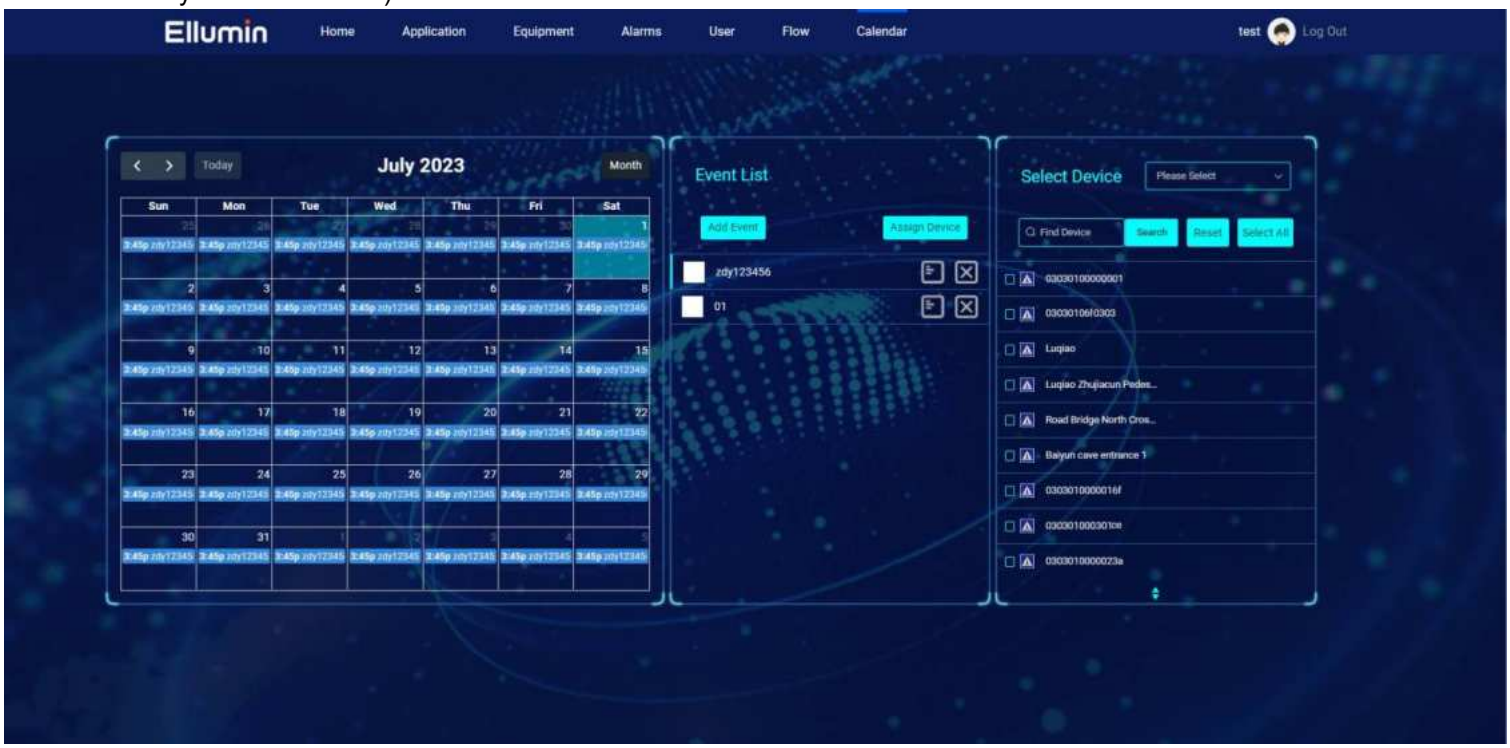
Remotely change the operating status of the device online.



12.2.4 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)



12.2.5 Emergency Notification

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

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