TAIZHOU ZEBRA TRAFFIC TECHNOLOGY CO., LTD

Smart Pedestrian Crossing System: Let the Lifeline Light Up

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Traditional traffic equipment relies heavily on the very basic and limited warning capabilities that have not kept pace with our busier, more congested road networks, this technology has simply not evolved with the time. A consequence of this is that incident rates remain relatively high whilst the impact of traditional traffic equipment is relatively low.

**Ellumin has developed a series of intelligent pedestrian systems designed for today’s congested roads.**

**Targeted Early Warning**
- Provide traffic information in advance and regulate traffic behaviors, targeting at:
  - Drivers approaching pedestrian crossings
  - Pedestrians approaching pedestrian crossings
  - Combinations of both driver and pedestrian

**ELLUMIN Cloud Technology**
- With the ability to connect to the Ellumin Cloud that supports real-time collection and analysis of data, remote monitoring and controlling of devices. The Ellumin Cloud can help work out useful traffic management solutions.
Non-Light control area-intelligent pedestrian systems comprehensively monitor the pedestrians are crossing or will cross crosswalks for alerting drivers there ahead will be pedestrians, please slow down and give way; alerting pedestrians you will pass crosswalks, please be careful, ensuring the safety of both driver and pedestrian.

### Varieties Activation Modes

<table>
<thead>
<tr>
<th>Mode</th>
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<tbody>
<tr>
<td>① Touch button – pedestrians activate the system.</td>
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<tr>
<td>② Pedestrian Automatic Activation Bollards - As pedestrians cross between bollards, the system automatically activates.</td>
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<tr>
<td>③ Detector – As pedestrians move into the detecting zone the system automatically activates.</td>
</tr>
</tbody>
</table>

After activating the system:

- The warning device (luminous sign + road stud/luminous sign) facing drivers start flashing to warn drivers.
- The voice alarm sounds to warn pedestrians.

### Objective Dual-Aspect Early Warning

- Effective early warning both in day and night:
  - Luminous sign and road stud both adopt daytime visible light design.
  - Pedestrian fill light system automatically operates at night to illuminate pedestrian waiting area.

- 360° dynamic early warning:
  Flash warning sign, road stud and voice alarm module effectively warn pedestrians and drivers from vision and hearing points.

### Enhance Safety Consciousness and Regulate Behaviors

- The drivers receive the warning signal and pay attention to the road status, and slow down.
- The pedestrians receive the warning signal to enhance safety awareness and be careful to cross the road.
Multiple Activation Modes for Great Warning

① Three activation modes for satisfying complex traffic condition in urban area.
② Use dual warning road stud for both the safety of driver and pedestrian.
③ Use fully lit & edge lit traffic sign and pedestrian fill light system (Operate all night, stop at the day) for effective warning in both day and night.

No Need of Power Supply for Convenient Warning

① Use solar module and solar road stud for installing without wiring.
② Use edge lit traffic sign, one-way warning road stud, and conditional pedestrian fill light system (The pedestrian fill light system only operates when the intelligent pedestrian system is activated) for ensuring effective warning and energy saving.
### Crossroads Intelligent Pre-warning System

#### Regional Monitoring for Accurate Warning

① Use two activation modes, touch button and microwave radar detector (Help expand detecting zone) for accurately capturing every pedestrian will cross the fork to activate system and ensuring their safety.

② Use edge lit traffic sign and conditional pedestrian fill light system (The pedestrian fill light system only operates when the intelligent pedestrian system is activated) for effectively warning drivers in advance and leaving them enough emergency processing time.

#### Table: Power Supply, Activation Method, and Warning System

<table>
<thead>
<tr>
<th></th>
<th>Urban Type</th>
<th>Suburban Type</th>
<th>Crossroads Type</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Power Supply</strong></td>
<td>city power</td>
<td>solar power</td>
<td>solar power</td>
</tr>
<tr>
<td><strong>Activation Method</strong></td>
<td>touch button</td>
<td>automatically detecting device</td>
<td>automatically detecting device</td>
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<td></td>
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<td></td>
<td></td>
<td>artificial intelligence detector</td>
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<td></td>
<td></td>
<td></td>
<td>microwave radar detector</td>
</tr>
<tr>
<td><strong>Warning System</strong></td>
<td></td>
<td>edge lit traffic sign</td>
<td>edge lit traffic sign</td>
</tr>
<tr>
<td></td>
<td>fully lit &amp; edge lit traffic sign</td>
<td></td>
<td>edge lit traffic sign</td>
</tr>
<tr>
<td></td>
<td></td>
<td>road stud(BL-004CA-P)</td>
<td>road stud(BL-004SU)</td>
</tr>
<tr>
<td></td>
<td>pedestrian fill light system-always bright</td>
<td>pedestrian fill light system-bright with system activated</td>
<td>pedestrian fill light system-bright with system activated</td>
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<tr>
<td></td>
<td></td>
<td>voice alert module</td>
<td></td>
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</tbody>
</table>
Traffic lights are often placed in areas where traffic is large to regulate the traffic behavior of the drivers and the pedestrians. However, the actual binding force of traffic lights on the pedestrians is poor, and the behavior of pedestrians smashing red lights always happens. This not only violates the traffic rules, increases the road burden, but also has serious traffic safety hazards. The Light Control Area-Intelligent pedestrian systems aim to urge the pedestrians to abide by traffic rules, regulate the pedestrians’ traffic behaviors, enhance pedestrians’ traffic safety awareness, and ensure the pedestrians safety.

<table>
<thead>
<tr>
<th>Signal Light Status</th>
<th>Green Light</th>
<th>Yellow Light</th>
<th>Red Light</th>
</tr>
</thead>
<tbody>
<tr>
<td>The front, back LED signals show green &quot;PASS&quot; and &quot;↑&quot; sign, and the voice alert module sounds for prompting the pedestrians can pass.</td>
<td>The front, back LED signals flash means the signal light will soon be changed to the red light, alerting the people who is in the crosswalk should return to the waiting area or speed up through the zebra crossing, the people who does not enter the zebra crossing are prohibited from moving forward.</td>
<td>The front, back LED signals show red &quot;STOP&quot; and &quot;×&quot; sign; and the voice alert module sounds if someone smashes the red light for alerting the pedestrians obey the traffic rules.</td>
<td></td>
</tr>
<tr>
<td>Regulate Traffic Behaviors and Ensure Traffic Safety</td>
<td>The pedestrians pass.</td>
<td>The pedestrians speed up through zebra crossing or return back to pedestrian waiting area.</td>
<td>The pedestrians speed up through zebra crossing or return back to pedestrian waiting area.</td>
</tr>
</tbody>
</table>

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**Advantage:**

1. Light control area can be used with red and green signal light; non-light control area can be used alone, or it can be used with our company’s road studs to achieve the two-aspect warning effect. (Note: When used alone, the front, back LED signals show yellow “SLOW” and “●” warning sign; When the pedestrians cross between the bollards, the voice alert module sounds).

2. The front side adopts the patch type LED display, which has a larger angle compared to the traditional plug-in display. The pedestrians can clearly see the content on the display at the front and the side, and the warning effect is better.

3. Voice and text content can be customized and used more flexibly.

4. Openable maintenance door makes maintenance more convenient.
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.

1. Data Reporting

① It can generate professional data reports by capturing, filtering, summarizing, analyzing and summarizing the data of the day.
② Provide strong data support by historical data exported to EXCEL in chronological order.
2. Monitoring Device

Monitoring device’s operation and display in map pattern, and support to filter the dedicated device.
3. Online Control Device

Remotely change the operating status of the device online.
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).
5. Emergency Notification

When a traffic emergency occurs or there is something wrong with the device, workers will immediately receive the notifications through E-mail and web page.
TAIZHOU ZEBRA TRAFFIC TECHNOLOGY CO., LTD focuses on developing the intelligent traffic products for traffic safety. It is also a innovative, professional and technological corporation.

We aim to use our early warning signals to reduce traffic accidents, and make every warning signal worthwhile.

POLICE VISIT PROJECT — INTELLIGENT PEDESTRIAN SYSTEM:
MAKE EVERY WARNING SIGNAL VALUABLE