ESII SAFETY NOTIFIER

A Comprehensive Traffic Safety Solution for Vulnerable Road Users





ETOOS SATETY INFORMATION INTEGRATION

ESII SAFETY NOTIFIER

Right-turn Accident Prevention

Alerts both pedestrians entering the crosswalk and vehicles turning right preventing accidents.

School Zone Accident Prevention

Provides alerts to both vehicles entering the school zone crosswalk and children crossing the street preventing accidents.

Shared Road Accident Prevention

Alerts vehicles and pedestrians on shared roads (where cars and pedestrians are mixed) preventing accidents.



Alleyway Accident Prevention

Alerts vehicles entering narrow alleyway intersections preventing accidents with pedestrians or bicycles in the blindspots.



PRODUCT INTRODUCTION COMPONENTS AND FEATURES

01 **Sensor Speed Bump**





Sensor Speed Bump Body





Resistant to road temperatures (approx. -34°C ~ 74°C),dust,

Consists of 5 sensor speed bump bodies, 1 wing, and 1 communication module (for 3m road width)

Sensor Speed	Bump Body Specifications		
Size (mm)	506(W) x 750(L) x 50(H)		
Maximum Load	5,000 kg		
Sensing Load	50 ~ 5,000 kg		
Sensing Element	Piezoelectric Sensor		
Main Material	Synthetic Rubber		
Dust/Water Resistance	IP67		
Sensor Speed Bump Wing (with built-in communication module) Specifications			
Size (mm)	190(W) x 750(L) x 50(H)		
Maximum Load	5,000 kg		
Communication Method	LoRa		
Operating Power	Primary Battery (No wiring required)		
Battery Life	3 years (based on 3,000 vehicles per day)		
Dust/Water Resistance	IP67		

02 Safety Block





Safety Block Module

Fluorescent Safety Block Module (Optional)

Excellent durability that withstands 5 tons of vehicle axle load.



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Resistant to road temperatures (approx. $-34^{\circ}C \sim 74^{\circ}C$), dust, and water (IP67)

Modular design allows for flexible installation to suit various on-site conditions. Installation can be tailored to different on-site situations

Safety Block Details			
Size (mm)	300(W) × 300(L) × 60(H)		
Maximum Load	5,000 kg		
Sensing Load	20 ~ 5,000 kg		
Sensing Element	Piezoelectric Sensor		
Main Material	Synthetic Rubber/Plastic		
Dust/Water Resistance	IP67		
Communication Method	LoRa method		

03 **Alert Device**





Alert Device linkage part



Alert Device Installation Example

Alert Device Module

04 Monitoring System



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ESII Safety Notifier System



Remote Control (Volume Adjustment, Operation Time Setting)



Alerts vehicle entry through visual and audible signals



Scheduling (Operation time can be set)



Consists of a main alert device and sub-alert devices

Alert Device Specifications			
Size (mm)	133(W)x363(L)x107(H)		
Visual Alert	Red and Green		
Alert Method	Voice and LED Light (Volume and sound operation time adjustable)		
Communication Method	• Sensor Speed Bump : LoRa • Control Center : WiFi • Portable Management Device : Bluetooth		
Dust/Water Resistance	IP53		
Alert Sound Types	8 selectable alert sounds		
Power Supply	220V ac		



System Control Management Web and App (Web & App)



Installation Location History Management (Registration of product's unique ID)



Traffic Volume Statistics Management



Malfunction Management

SYSTEM INTRODUCTION COMPONENTS AND KEY FEATURES

ESII Safety Notifier System Configuration Diagram

This is the configuration diagram of the ESII Safety Notifier system optimized for pedestrian safety.





02

Key Features of the ESII Safety Notifier System

Eliminate School Zone Accidents by Alerting Childrenof approaching vehicles at children's eye level.



Advance Right-turn Vehicle Detection

Prevents right-turn accidents, noticing approaching cars can be difficult for children.



Capable of Responding to Severe Weather and Physical Blind Spots

Can respond to potential function loss from severe weather and cognitive impairment from physical blind spots.



Easy Installation and Maintenance

Easy to install and maintain with implant method, no electrical or communication work required.



Compatible and Interoperable with Other Systems

Compatible with existing and newly installed safety facilities such as traffic lights, speedometers, CCTVs, and LED signboards.



Utilization of Vehicle Traffic Information

Utilizes lane-specific traffic volume information and malfunction notification system within the school zone.

Quick Response to Noise Complaints

Quickly responds to noise complaints by adjusting the audible warning volume and setting operation times for school arrival and dismissal times.

03 Comparison with Other Systems

Category	Our Product	CCTV usage	Radar usage	Loop Coil usage	
Detection Sensor	Piezoelectric element	CCTV + S/W	Radar	Loop Coil	
Detection Method	Vehicle weight	Vehicle image	Vehicle movement	Impedance detection	
Detection Range	Over 100m radius	Under 100m visible distance	Under 100m visible distance	Within tens of meters radius (wired)	
Sensor Power	Not required	Required	Required	Required	
Right-turn Vehicle Detection	Possible	Impossible	Impossible	Possible	
Detection in Severe Weather and Physical Blind Spots	Possible	Impossible	Impossible	Possible	
System Components and Required Construction	ESII Safety Notifier • Sensor Speed Bump • Safety Block • Alert Device No cable work required	CCTV + Pole and cable work required, Controller, Light (Electronic Display Board)	Radar + Pole and cable work required, Controller, Light (Electronic Display Board)	Loop Coil (Road surface cutting required), Cable installation, Controller Light (Electronic Display Board)	
System Installation Cost	Low	Medium	Medium	High	
System Construction Cost	Low	High	High	Medium	
Right-turn Vehicle Detection Cost	Low	High	High	Medium	
Interoperability with Other Systems	Easy (Wireless)	Complex (Wired)	Complex (Wired)	Complex (Wired)	
Traffic Monitoring	Least Expensive	All possible, but our product is the most cost-effective for traffic monitoring			

Expansion Applications ()4

1. Traffic Safety

	Application Examples	Sensor Speed Bump	Safety Block	Alert Device
杰	Intersections and crosswalks within school zones	O	O	O
İİ	Intersections and crosswalks within senior protection zones	O	O	O
	Underground parking lot intersections and blind spots	O		\bigcirc
F	Vehicle entrances and exits for apartment complexes/ commercial buildings	Ô	Ô	Ô
9	Unsignalized crosswalk on a rural road		O	O
<u></u>	Intersections and access points on campus	Ô	Ô	O
L	Blind spots in back alleys		O	O
Ü	Expressway/national highway rest area entry and exit section notification	O		O

2. Industrial/Living Safety Areas

Application Examples	Sensor Speed Bump	Safety Block	Alert Device
Factory intersections and access roads	O	O	O
Intersections and access roads within the logistics center	O	O	O
Intersections and access points within the construction site	O	O	O
High-rise building rooftop fall prevention notice		O	O

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ESII Safety Notifier System

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PATENTS/CERTIFICATIONS

특허증 제 10-2513714 호 특허 BBEZ Application Hamples BBE Villey Sales BBE Reproduction Data A 10-202 2021년 09월 09일 2023년 03월 21일 발생의 영향 This of the Insertion 과학 향지력을 이용한 안전 시스템 비시코다 names 주석해사 이루스(19015-*****) 정상님도 친구시 스프로 109, 204호(홍무공동, 세라티십운용복합센터 9년지 ------역영문(710110------) 경기도 같도시 유원로 200, 115를 1101호(풍무름, 풍무 푸르지요) 위의 발명은 「특허법」에 따라 특허원부에 등록되었음을 증명합니다. This is to certify that, in accordance with the Patent Act, a patent for the investion has been resistent and the set of the se 2023년 03월 21일 특허청장 G 특허청장 COMMISSIONER ALECTURAL PROPERTY OFF 0) 특허청

Patent Registration Safety System Using Speed Bumps (10-2513714)



Patent Application Piezoelectric Energy Harvesting Safety Block (10-2024-0022658)



Copyright Registration (Notifier Speed Measurement SW)



Trademark Registration ESII Notifier Class 09

(40-2166321)



Design Application Speed Bump

(30-2024-0005678)



Venture Enterprise Certification



Trademark Registration ESIL Notifier Class 19 (40-2193373)

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International Patent Application

Piezoelectric Energy Harvesting Safety Block and Traffic Alert and Warning System Using It (PCT/KR2024/007613)



Corporate Research Institute Recognition



ESII Safety Notifier System

Patent Application

Traffic Alert and Warning System at Intersections (10-2023-0079400)



Copyright Registration

(Notifier Monitoring System)



Factory Registration

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