KIGIS
SAFETY TECHNOLOGY

IPAS 2.0

Based on Ultra Wideband Technology

Intelligent Proximity Alert System





IPAS 2.0 Intelligent Proximity Alert System

IPAS 2.0 is a cutting-edge safety assistance system designed to enhance workplace safety.
Powered by UWB technology, IPAS 2.0 measures the precise distance between tags and offers highly dependable warnings to both pedestrians and drivers, effectively averting potential collisions and workplace hazards.
You can create efficient and safe working environments by customizing danger and caution zones based on multiple factors such as the vehicle's direction, speed, and other dynamic conditions.

High Accuracy
Precise distance measurement powered by UWB technology

Optimized Caution/Danger Range
Fine range settings and extensive configurable options

Static & Dynamic Shaping
Optimized alert shapes for vehicle directions and various risk factors

Two-way Alert
Complete visual, sound, and vibration alerts for pedestrians and drivers

Easy Installation & Operation
No registration or calibration required, thanks to our user-centric design

PC & Smartphone Support
Effortless configuration via PC and smartphone app with an intuitive UI

▶ Warehouses

▶ Factories

▶ Construction Sites

▶ Mining Sites

▶ Ports

Controller (CON)

- Alert and control device installed within the vehicle's cabin
- Caution/Danger alerts when Pedestrian Tags or Vehicle Tags are detected
- Alert Types : LCD, LED(Left/Right), Voice Alerts
- 3.5" LCD Touch Screen with Intuitive UI

Pedestrian Tag (PT)

- UWB tag device carried by worker
- Sound and vibration alert when Vehicle Tag is detected
- Extended battery life (Approx. 54 hours)
- Convenient charging through a contact-type charging port
- Battery level monitoring with LED indicator
- Waterproof design with various mounting options

Vehicle Tag (VT)

- UWB tag device installed on the vehicle
- Utilizes Symmetric Double-Sided Two-Way Ranging (SDS-TWR) for precise distance measurements between tags
- [Multi VTs Mode] Each VT operates as a separate setting parameter for more precise configurations

E-Mode Tag (EMT)

- Subsidiary UWB tag device installed on the vehicle for Extended Mode
- Utilizes Symmetric Double-Sided Two-Way Ranging (SDS-TWR) for precise distance measurements between tags
- [E-Mode] Enables shaping settings for the alert range by measuring the angles between 1 Vehicle Tag and 2 E-Mode Tags

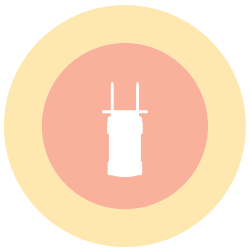
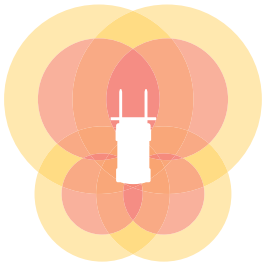
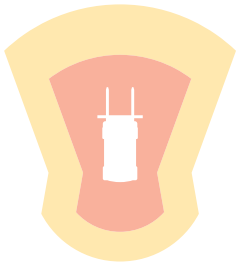
Flash Zone Tag (FZT)

- UWB tag device for Infrastructure
- Installed blind spots to provide audio and visual alerts (e.g., field offices, warehouses, corner areas, etc.)
- Ensuring that even workers without PT can receive audio and visual alarms.
- Compatible with external devices

Zone Tag (ZT)

- UWB tag device for Infrastructure
- Receiving approach signal from Vehicle Tag
- Installed safety areas where proximity alerts are not required (e.g., rest areas, garage, etc.)
- Compatible with external devices

Operation Mode

Standard Mode (S-Mode)		Extended Mode (E-Mode)	
Single VT	Multi VTs	Static Shaping	Dynamic Shaping
			
Caution/Danger Range settings based on the distance between UWB tag devices. (Supporting up to 4 VTs in Multi VTs Mode)		Advanced Caution/Danger Ranges customization utilizing UWB tag devices distance and angles. Highly customizable Shaping guarantees enhanced, condition-specific alert optimization.	

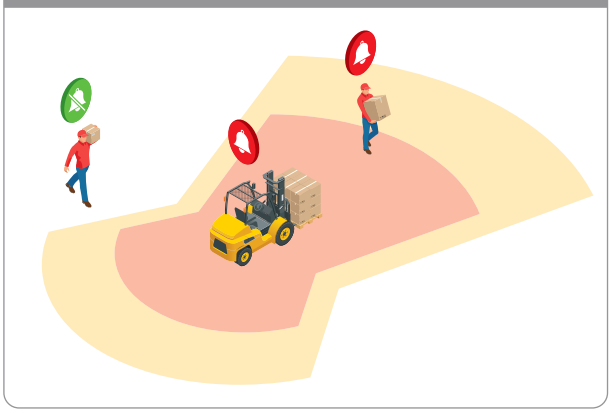
* 1×Vehicle Tag and 2×E-Mode Tags are required for Extended Mode.

PC & Smartphone Support

IPAS 2.0 Toolkit supports easy installation and configuration via PC or smartphone.

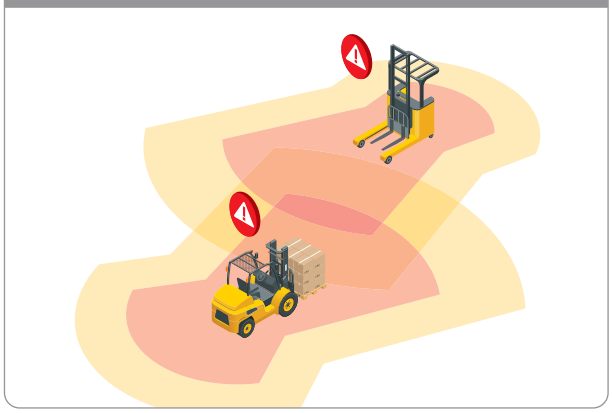
IPAS 2.0 | Collision Avoidance System

Vehicle ↔ Pedestrian Proximity Alert



IPAS 2.0 is an advanced collision avoidance system that delivers bidirectional alerts to both pedestrians and drivers in your workplace. You can easily customize caution and danger areas within a 30m distance, and configure visual and audible alerts for each area.

Vehicle ↔ Vehicle Proximity Alert



IPAS is designed to prevent vehicle collisions through a distance-based proximity alert system. If other vehicles enter a caution or danger range, the controller issues an audible warning with LCD/LED alerts.

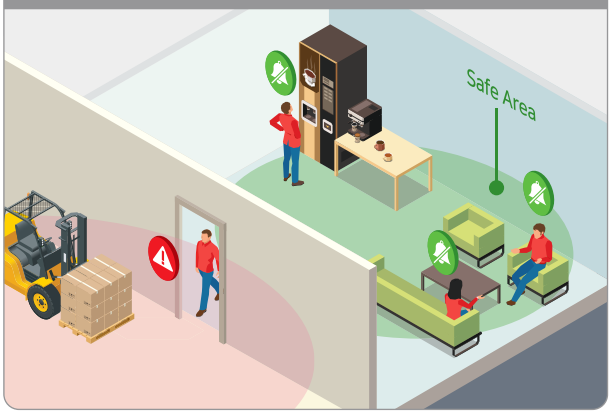
Blind Zone Alert (Vehicle → Zone)

In addition to basic vehicle-to-vehicle or vehicle-to-pedestrian proximity alerts, IPAS provides a stationary type of tag device for workers who do not carry tags. Users can install the stational tags in blind areas with limited visibility such as corners or around entrances and exits to notify of the approach of a vehicle through a flashlight.

Crossway Collision Avoidance Alert (Zone ↔ Vehicle)

IPAS enhances safety at intersections by managing traffic sequence on a first-come, first-served basis, prioritizing vehicles that reach the intersection first. Equipped with stationary tags at crossways, vehicles receive clear signals to either proceed or pause, ensuring orderly and safe navigation.

Safety Zone Configuration



IPAS can establish a silent environment in places like rest areas, and garages, where proximity alerts are not necessary. When vehicles are detected within a designated safety zone or white zone, caution and danger alert will be deactivated. If workers exit the safety zone, the alarm can automatically reactivate, ensuring continuous workplace safety.

Scalability and Compatibility with External Devices

IPAS can serve as a trigger for automated scenarios with external devices. When a vehicle enters the preset area, it can activate or deactivate external devices such as parking gate barriers, relays, lamps, and more. With IPAS's remarkable scalability, you can create an optimized workplace safety environment.

Product	Controller (CON)	Vehicle Tag (VT)	E-Mode Tag (EMT)	Pedestrian Tag (PT)	Zone Tag (ZT)	Flash Zone Tag (FZT)
Power Source	12 ~ 48Vdc	12 ~ 48Vdc (from CON)	12 ~ 48Vdc (from CON)	Li-Po 250mAH (Typ. 3.7V)	12/24Vdc	12/24Vdc
Operating Time	-	-	-	Up to 54 Hours	-	-
Consumption	Max. 500mA(@12V)	Avg. 100mA(@12V) Max. 500mA(@12V)	-	Avg. 2.2mA	300mA(@12V)	Max. 500mA(@12V)
UWB	-	6.5GHz / 500MHz BW	6.5GHz / 500MHz BW	6.5GHz / 500MHz BW	6.5GHz / 500MHz BW	6.5GHz / 500MHz BW
Display	3.5" Touch LCD	N/A	N/A	N/A	OLED (128×32)	OLED (128×32)
Indicator	LED×2EA	LED×1 set	N/A	LED×4EA, Buzzer, Vibrator	N/A	LED
Interface	-	CAN 2.0B	CAN 2.0B	UART TTL	RS-232	RS-232
	CAN 2.0B×2EA	Bluetooth 5.0	-	Bluetooth 5.2	CAN 2.0B	CAN 2.0B
	USB 2.0 Host	-	-	-	Bluetooth 5.0	Bluetooth 5.0
	Bluetooth 5.0	-	-	-	-	-
Detection Distance	Max. 30m	Max. 30m	Max. 30m	Max. 30m	Max. 30m	Max. 30m
Dimension	110×110×35.2mm	128×115×64.5mm	92.3×83×60.75mm	44×44×13.6mm	110.4×91.6×111.5mm	110.4×140.6×111.5mm
Mounting	VESA Mount	3×Magnetic Foot Mount	3×Magnetic Foot Mount	Through Holder	3×Magnetic Foot Mount	3×Magnetic Foot Mount
Operating Temperature	-20 ~ 70°C	-30 ~ 85°C	-30 ~ 85°C	-20 ~ 60°C	-30 ~ 70°C	-30 ~ 70°C
Storage Temperature	-30 ~ 85°C	-30 ~ 85°C	-30 ~ 85°C	-20 ~ 45°C	-30 ~ 85°C	-30 ~ 85°C
Enclosure	IP65	IP67	IP65	IP65	IP65	IP65

※ Specifications are subject to change without prior notice for product improvement or future release.

KYUNGWOO SYSTECH

KYUNGWOO SYSTECH, INC.
4F, Daeryung Post Tower 5, 68, Digital-ro 9-gil, Geumcheon-gu, Seoul, 08512, Republic of Korea
Tel. +82-2-985-8085 **Fax.** +82-2-985-8087 **Email.** info@kigistec.com
Web. www.kyungwoo.com / www.kigistec.com