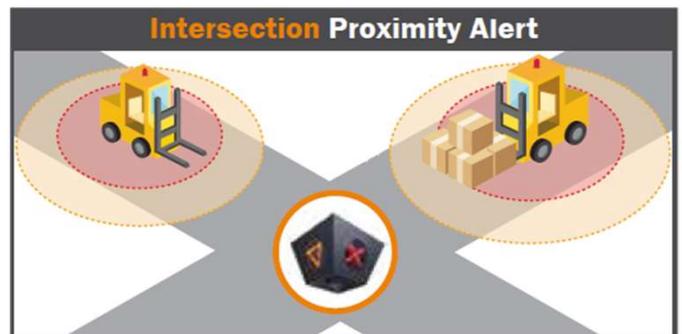
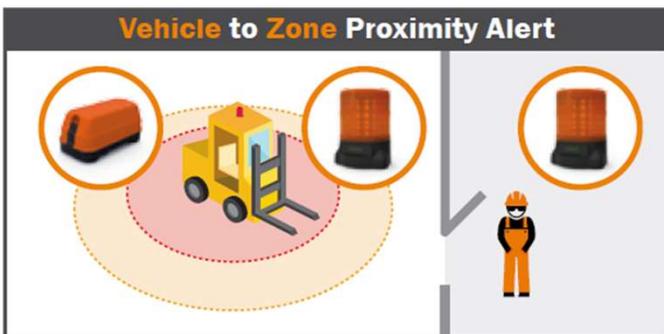


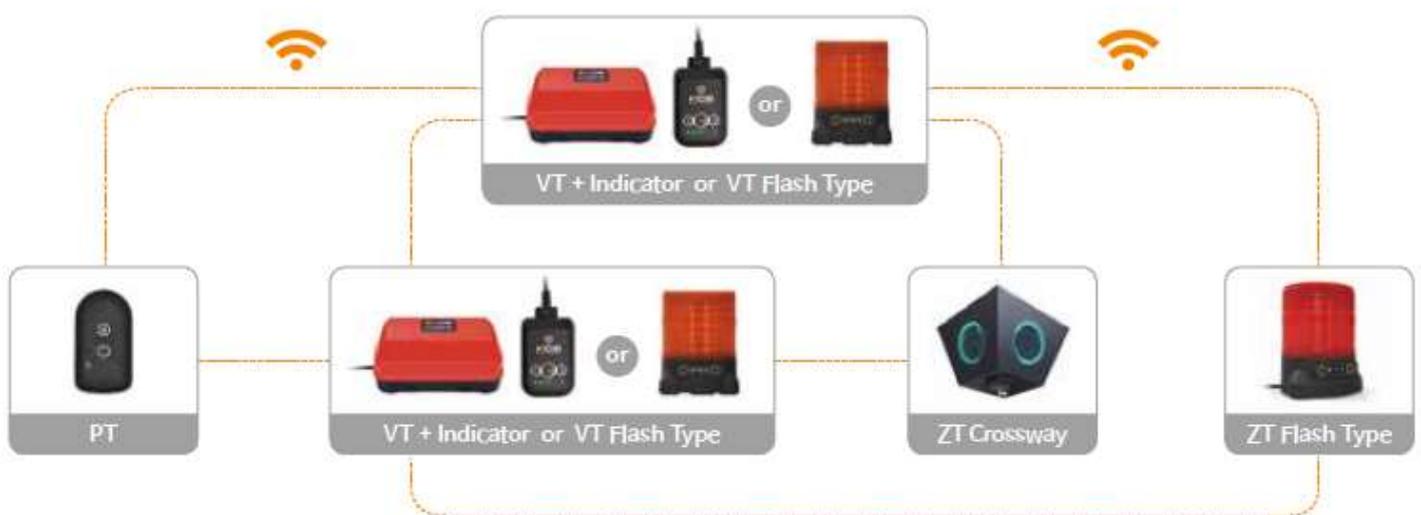
IPAS(Intelligent Proximity Alert System)

IPAS is designed to reduce the risk of collision between pedestrians and moving vehicles in your workplace. The system uses the cutting-edge RF technology to precisely measure the distance between the vehicles and pedestrians providing highly reliable collision warning.

● Functionality



● Key Map for Operating and Sensing



Datasheet

Ultra wideband technology based tag detecting approaching pedestrians or vehicles.



- Ultra Wideband based intelligent proximity alert system
- Standard deviation of distance measurement 10cm
- CAN bus interface with 12/24V external power
- Easy use without a setup
- Simple installation and detachment using magnetic pad or bracket.
- Detecting functions are unaffected by wind, falling rain or snow, fog, humidity, air temperature, or light
- Tag operates in warehouse, factory, port and construction/mining site as a safety device
- IP65 enclosure withstands harsh environments

● Technical Data

General Specifications

Communication Method	Interface	Max. Detectable Distance	Standard Deviation of Detecting Distance	Weight
UWB	CAN Bus 2.0	30m	2.9cm (400ms, 30m)	483.5g

Ultra Wideband RF Parameter

Method	Frequency	Bandwidth	Conducted Rx Sensitivity	Conducted Tx Power Density	Data Rate
UWB compliant IEEE802.15.4- 2011 STD	3993.6MHz	499.2MHz	-93dBm /500MHz (6.8Mbps, PER 1%)	Max -41.3dBm/MHz	6.8Mbps

Electrical Characteristic

Power	Operating Voltage	Power Consumption
DC 12V / 24V	DC 9~32V	Below 4W

Operating Specifications

Operating Temperature	Storage Temperature	Ingress Protection Rating	Connector
-30~85°C	-40~85°C	IP65	I.P Connector PLUG 6P (M10xP0.5)

● Overview

IPAS Flashlight Tag is a safety-assisting device which prevents collisions between vehicles by signaling dangers in 2 way communication to people in industrial working site. Signal processing tag determines the distance from Zone tag to Vehicle Tag based on the time delay of the return signal. The tag are configured to a caution and a danger areas. When a vehicle enters into the caution and danger area of the zone tag, the light flashes from the tag. The two areas are factory pre-set to default distances; they can be reconfigured for different distances using setting buttons. The sensitivity was pre-calibrated at the factory, assuming that the detecting field will be clear of obstacles. The sensitivity cannot be adjusted by user's handling.

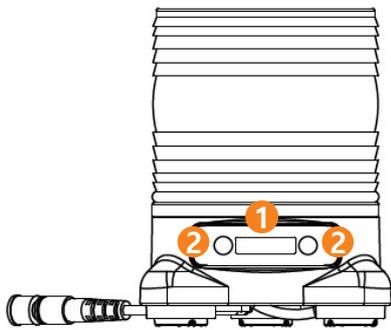


Figure 1. IPAS Flash Light Tag Features

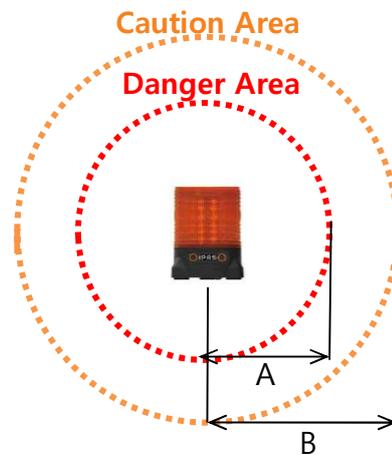


Figure 2. IPAS Flash Light Tag Detecting Distances

- ① LED Screen : Power ON → IPAS, Configuration
- ② Configuration Buttons (Down, Up)

Tag	Area	Minimum Distance	Maximum Distance
Zone Tag	A	5m	30m
	B	5m	30m

※ A must be set-up lower than B ($A < B$)

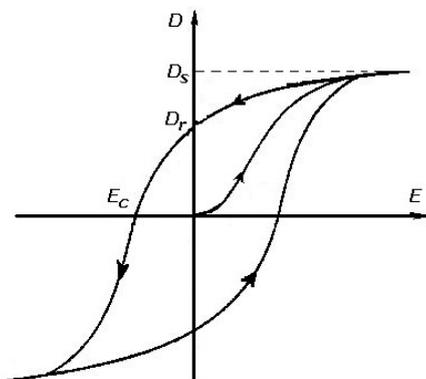


Figure 3. Hysteresis

Hysteresis, applies to IPAS, is a dynamic lag between an input and an output that disappears if the input is varied more slowly; this is known as rate-dependent hysteresis. However, phenomena such as the magnetic hysteresis loops are mainly rate-independent, which makes a durable memory possible.

Systems with hysteresis are nonlinear, and can be mathematically challenging to model. Some models such as the Preisach model (originally applied to ferromagnetism) and the Bouc-Wen model attempt to capture general features of hysteresis; and there are also phenomenological models for particular phenomena such as the Jiles-Atherton model for ferromagnetism.

Configuration

The alarm type and volume level configuration can be selected via the menu button on the pedestrian tag.

Button	Functions
Left	Change the menu, Change the setting values
Right	Enter the menu, Change the setting values

Specifications

Dimension

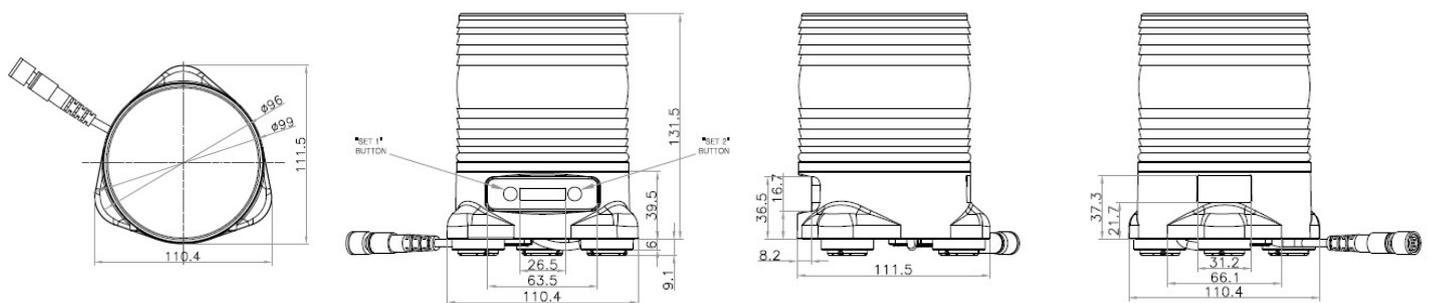
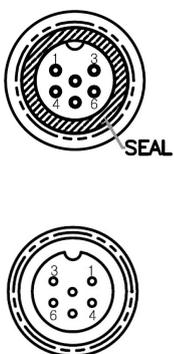


Figure 4. IPAS Flash Light Tag Dimension

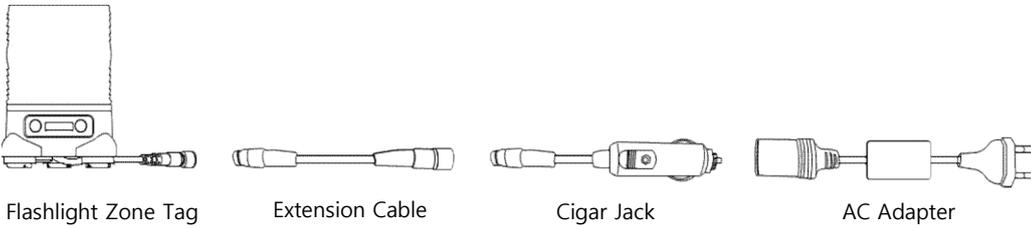
Connector Specifications



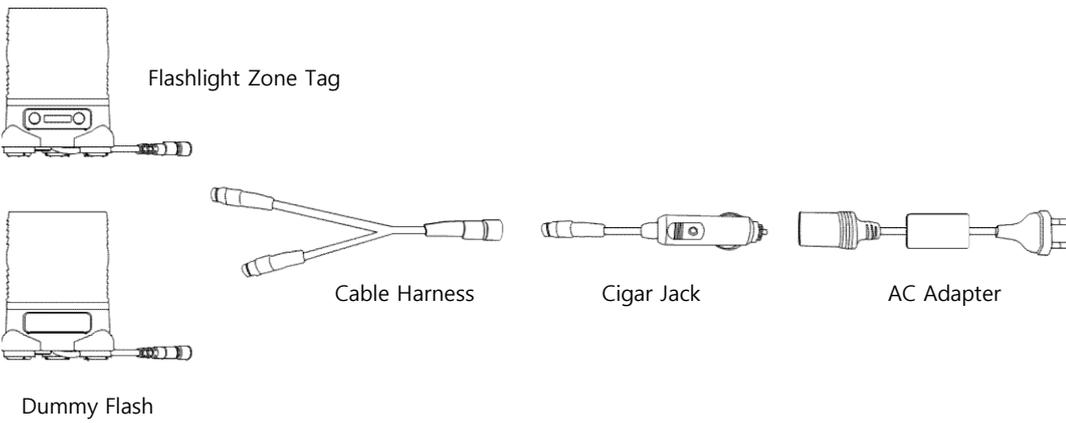
Pin No.	Function	Wire Description	
		Size	Color
P01	+12V	AWG #26	Red
P02	CAN_L		Yellow
P03	CAN_H		Blue
P04	RS232_TX		White
P05	RS232_RX		Green
P06	GND		Black

● Products Assembly

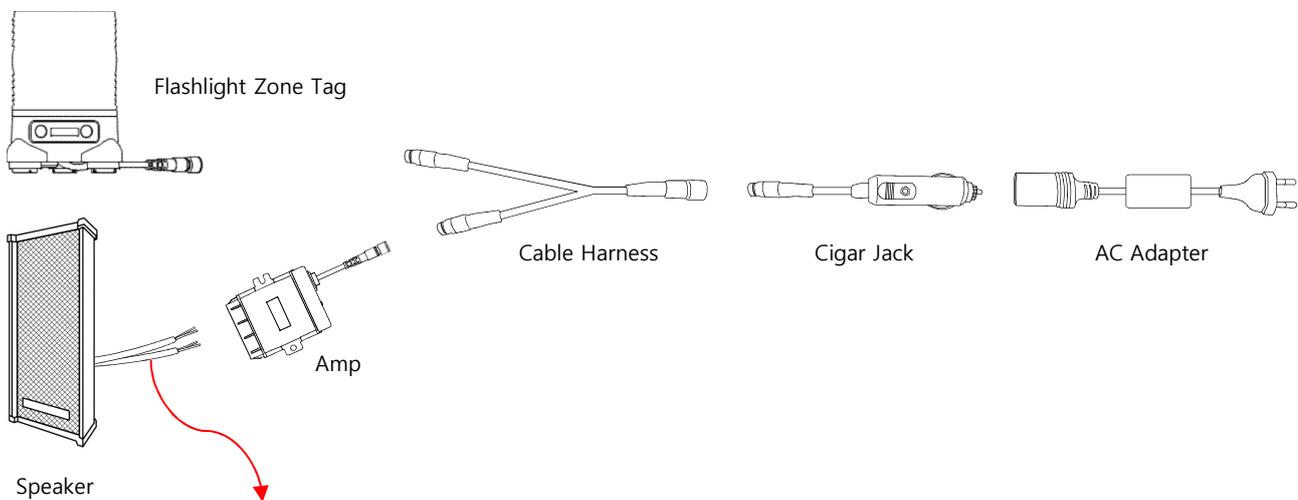
Standard



Multiple



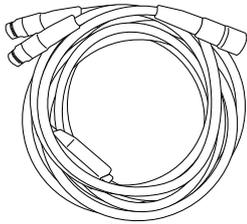
Speaker + Amp



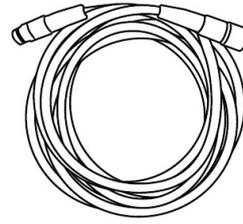
※ Purchase 'Speaker Wire' if needed to extend the cable.

● Accessory

Products



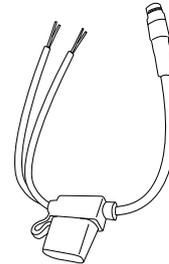
IPAS Cable Harness(6M)



IPAS Extension Cable(6M)

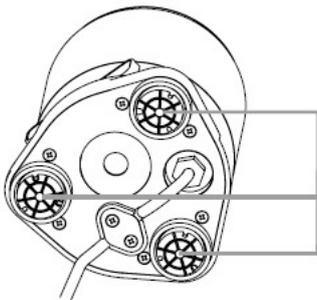


IPAS Cable / Cigar Jack Adapter
(250V 5A Fuse Included)



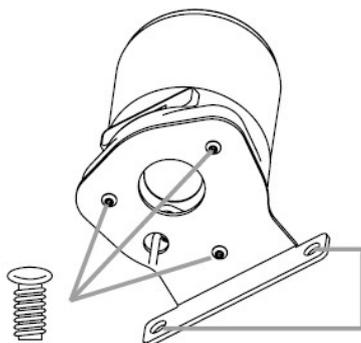
IPAS Cable / Open Wire Adapter
(250V 5A Fuse Included)

Mounting Tools



Magnet Pads

The powerful magnet can be attached easily on VT floor, doors or corners



Bracket

It can be also easily installed by using cable ties in case of no magnet in vehicles, doors or corners.

Packing

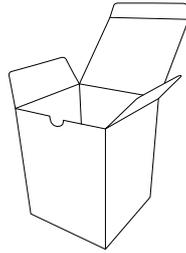


Figure 5. Inner Box

● Certifications



CE ETSI EN 302 065-1 V2.1.1 (2016-11)
KC : MSIP-CRM-KWO-PAS-K01-40

HS Code : 8531-10.9000
Country of Origin : Republic of Korea

Model No : PAS-K01-40
FCC ID : ZE8-PAS-K01-40
Manufacturer : KYUNGWOO SYSTECH, Inc. / KOREA

FCC notice to users

The following statement applies to all products that bear the FCC logo on the product label. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. See 47 CFR Sec. 15.105(b). These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
- This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. See 47 CFR Sec. 15.19(a)(3).
- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.



CAUTION : Make No Modification to this Product

Any modifications to this product not expressly approved by Kyungwoo Systech could void the user's authority to operate the product. Contact Kyungwoo Systech for more information.

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