Kiwitron
SMART INDUSTRY SOLUTIONS

Edition 25.03.2024

Anticollision

X001330 - X001331

Manual for installation, use and maintenance

Kiwitron
SMART INDUSTRY SOLUTIONS

CE

Declaration of Conformity - (DoC)

We

Manufacturer:	Kiwitron S.R.L.
Address:	Via Vizzano 44, 40037 Sasso Marconi (BO) - Italy

Declare that the DoC is issued under our sole responsibility and belongs to the following product:

Ancora anticollisione X001330, X101330, X001331, X101331;

KiwiCross UWB X201331;

Object of the declaration:

Anti-collision device for industrial motor vehicles

The subject of the above declaration is in accordance with the following rules:

Electromagnetic Compatibility Directive 2014/30/EU

Directive RED 2014/53/EU

and therefore complies with the following norms / standards:

UNI EN 12895:2019 Industrial trucks - Electromagnetic compatibility

and related standards / ETSI standards

Place: Sasso Marconi (BO) - Italy **Valid from:** 02/27/2020

Last update: 08/03/2023

Person authorized to compile the technical file: Daniele Parazza

Legal representative: Andrea Filippini

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UK CA

UKCA Declaration of Conformity - (DoC)

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Statutory Instruments: S.I. 2016:1091

Statutory Instruments: S.I. 2017:1206

and therefore complies with the following norms / standards:

UNI EN 12895:2019 Industrial trucks - Electromagnetic compatibility

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Declare that the DoC is issued under our sole responsibility and belongs to the following product:

TAG Anticollisione X001340;

Object of the declaration:

Wearable anti-collision device

The subject of the above declaration is in accordance with the following rules:

Electromagnetic Compatibility Directive 2014/30/EU

Directive RED 2014/53/EU

and therefore complies with the following norms / standards:

and related standards / ETSI standards

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Wearable anti-collision device

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Statutory Instruments: S.I. 2016:1091

Statutory Instruments: S.I. 2017:1206

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Address:	Via Vizzano 44, 40037 Sasso Marconi (BO) - Italy

Declare that the DoC is issued under our sole responsibility and belongs to the following product:

Wireless charger X001350, X001430;

Object of the declaration:

Wireless charger device for anti-collision tags

The subject of the above declaration is in accordance with the following rules:

Electromagnetic Compatibility Directive 2014/30/EU

Directive RED 2014/53/EU

and therefore complies with the following norms / standards:

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Contents

Reviews

Version	Comments	Amended chapters
00	First release	All
01	Technical data updated	Technical data
02	General update for product rebrand	All
03	General format document update	All

Tab.1 - Document revisions

Purpose and field of use

Users	Installer; Operator of the vehicles on which it is installed; Qualified personnel authorised to maintain the device.
Purpose	Provide information needed for: ● The correct installation of the device; ● The correct awareness of operators to safety issues; ● Using the device under safe conditions.

Tab.2 - Purpose and field of use

Key

	Warning/Caution - Important safety information
	General information and suggestions
	PROHIBITION: Operations or actions NOT permitted.
	Compatible
	Incompatible

Tab.3 - Key

Safety instructions and warnings

The device must be operated by appropriately trained and qualified personnel.

Before installing and operating the device, please read and understand this manual carefully to avoid damaging the product and putting your own safety at risk.

The technical information in this document is provided for information purposes only and does not constitute a contractual commitment.
Kiwitron s.r.l. reserves the right to make any graphic or functional changes to devices and/or software without prior notice.

The Kiwitron device **cannot** replace the safety devices of the vehicle on which it is installed.

The Kiwitron device **must** be installed in compliance with general safety regulations.

Standalone anticollision can only detect the distance between machines and/or operators if they are equipped with a compatible system.

It is forbidden to install the device in order to disable or alter the operation of the safety systems already installed on the vehicle.

It is forbidden to use the system to operate contactors, as opening them while current is passing would cause an electric arc.

Warn the operator of the vehicle before carrying out any remote operation (web cloud or remote connection via PC) to prevent dangerous situations.

Where the device is installed in such a way that a maximum/minimum performance limit can be activated dynamically, the safety of the machine and the operators must be respected. In any case it is forbidden to command the complete stop of the vehicle but only a reduction of its speed. Any change in the operating parameters of the vehicle shall not create potential danger situations. In any case, connection and calibration operations external to the systems provided by Kiwitron are the sole and complete responsibility of the installer, including any risk analysis that may be necessary.

Do not use the device in the presence of flammable gases or fumes, in the vicinity of filling stations, fuel depots, chemical plants or during blasting operations. **Avoid any potentially explosive atmosphere.**

Warnings on the emission of radio waves

The device receives and emits radio waves.

The maximum power radiated by the device is below the thresholds imposed by regulations.

Interference may be generated if used in the vicinity of equipment such as TV sets, radios, computers or any unshielded electrical and/or electronic equipment.

Observe the restrictions imposed on the use of electronic devices if the vehicle on which the device is installed is used:

- In hospitals or other health facilities.
- Near an airport.

In all areas where there are restrictions imposed due to the use of electronic devices.

Intended use

The device is designed for use only on self-propelled forklifts or industrial vehicles with electric, endothermic or hybrid drive that comply with the Machinery Directive 2006/42/EC.

Improper use

Any use of the anticollision device not expressly described in this manual is not permitted.

And in particular:

It is not permitted to install Kiwitron device on vehicles that can travel on public roads.

On forklifts crossing tracks unless a vehicle restraint system is already fitted on the starting consent.

Kiwitron device and its accessories and additional sensors are assistance systems.

Standalone Anticollision device is a drive-assist device.

Kiwitron device and its accessories and additional sensors are not safety devices as they are not covered by Annex IV of Directive 2006/42/EC and therefore cannot be used for residual risk reduction.

Kiwitron device is not an explosion-proof device.

Kiwitron device cannot be installed on two- or more-axle vehicles with electric traction, with an endothermic engine, such as cars, trucks, mopeds, motorcycles and public-service operating machines.

Risk assessment

It is the obligation of the operator (owner of the vehicle) to carry out an environmental risk analysis prior to installation.

During the installation phase, it is mandatory to ensure that any malfunctioning of the device does not compromise either the safety or the productivity of the operators and the plant.

It is essential to assess the situation should the device be malfunctioning.

It is possible that the machine is not activated following a correct login, or that the slowdown is activated without a collision having occurred.

Limitations on liability

Kiwitron s.r.l. is released from any liability for damage caused by:

- Misuse of the device.
- Use by unqualified and/or trained personnel.
- Incorrect installation.
- Power supply defects.
- Improper maintenance.
- Unauthorised changes or interventions.
- Incorrect manoeuvres.
- Use of non-original spare parts.
- Use of accessories not provided for or not authorised in writing.
- Total or partial failure to comply with the instructions.
- Unusual cases.
- Cases not in accordance with the regulations and legislation currently in force in the country of installation.

Kiwitron s.r.l. is not aware of the specific ways in which its buyer will use the sold device and is therefore not able to know whether such use may violate the rights of third parties. In addition, the sold device is not usable in a single mode but can be configured according to customer needs. Therefore, Kiwitron s.r.l. is not liable in any way for any unlawful use of the sold device that violates the rights of third parties resulting from patent rights or other industrial property titles.

Kiwitron s.r.l. is relieved of any responsibility in the case of installation of the device on vehicles also authorised for use on public roads: it is in fact the responsibility of the operator to decide on the installation and use of the device on the vehicle. In this case it is **absolutely mandatory** to disable the blocking function of the vehicle (immobilizer) and slowing down in the event of a collision, to avoid creating situations of hindrance or danger (for example blocking the vehicle while crossing railway tracks).

Technical assistance and manufacturer's warranty

Technical assistance
In the event of faults, please contact Kiwitron technical assistance department.

Kiwitron s.r.l.

Customer service

Tel. +39 051 1889 3470

Mail: support@kiwitron.it

web site: www.kiwitron.it

Warranty

The warranty shall not apply to breakage and/or defects caused by:

- Misuse of the device.
- Use by unqualified and/or trained personnel.
- Incorrect installation.
- Power supply defects.
- Improper maintenance.
- Unauthorised changes or interventions.
- Incorrect manoeuvres
- Use of non-original spare parts.
- Use of accessories not provided for or not authorised in writing
- Total or partial failure to comply with the instructions
- Unusual cases
- Cases not in accordance with the regulations and legislation currently in force in the country of installation.
- The warranty does not extend to parts that wear out as a result of normal use such as cables and electrical connectors.

Please refer to the sales documentation for all contractual warranty terms.

General description

Glossary

Term	Definition
CAN bus	The Controller Area Network, also known as CAN bus, is a multicast fieldbus serial standard (mainly in the automotive environment), introduced in the 1980s by Robert Bosch GmbH, to connect different electronic control units (ECUs). CAN has been expressly designed to operate flawlessly even in highly electromagnetically disturbed environments and can use a balanced potential difference line such as RS-485 as the transmission medium.

Tab.4 - Glossary

Device description

Anticollision (X001330 - X001331)

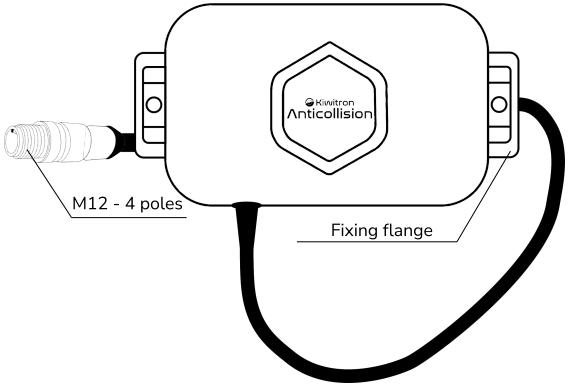

Fig.1 - Overview X001330

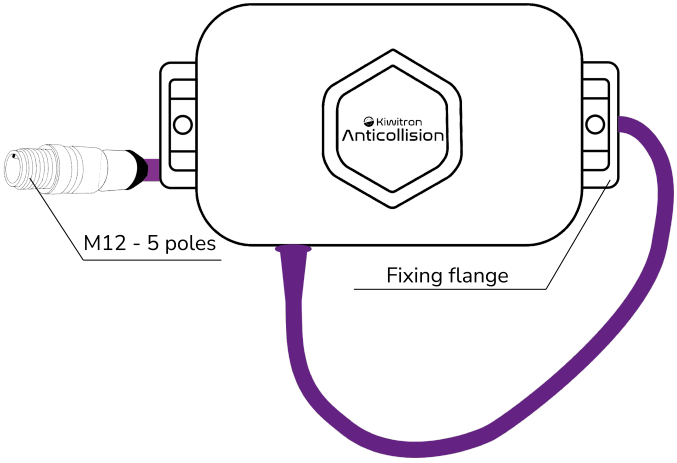

Fig.2 - Overview X001331

Pedestrian tag (X001340)

The device is wearable and can be integrated with Anticollision device products (X001330 and X001331)

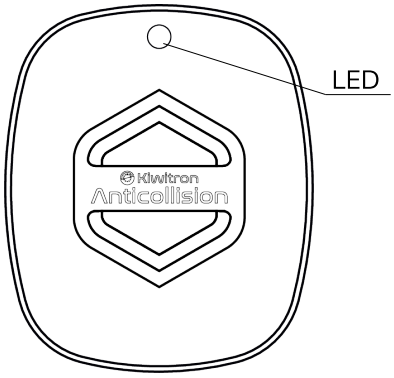

Fig.3 - Overview X001340

Button box (X000650)

The device is typically used with the anticollision device in standalone mode.

It has a built-in buzzer and is intended to signal that there is a driver within the 'blue zone'; the device also has a button that, when pressed, allows the driver to be registered.

The integrated buzzer can also be used to signal a danger.

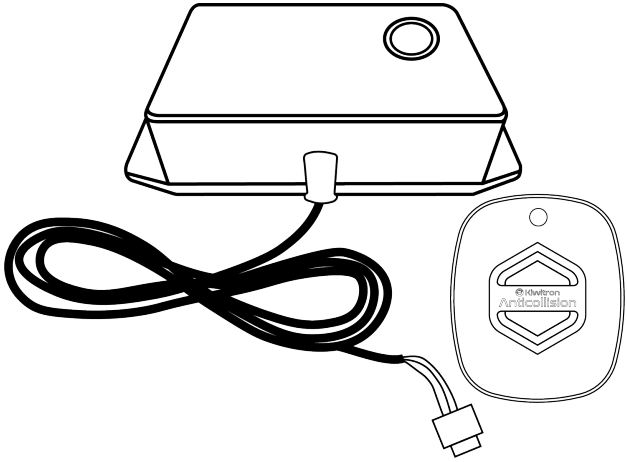

Fig.4 - Overview X000650

Pedestrian tags' charging station - 1 slot (X001430)

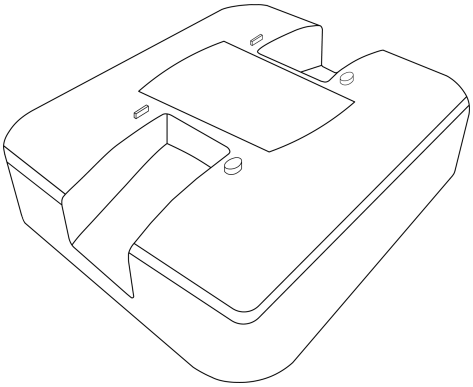

Fig.5 - Overview X001430

Pedestrian tags' charging station - 5 slot (X001350)

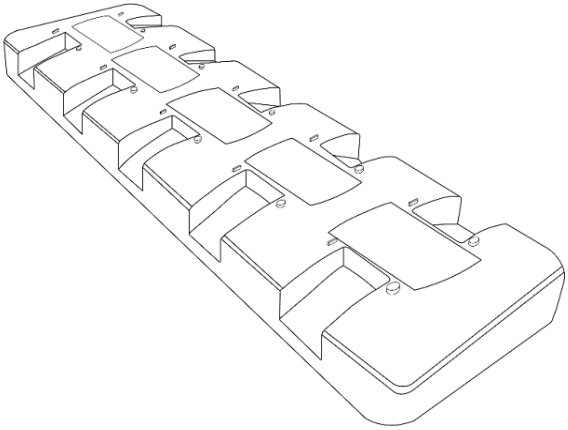

Fig.6 - Overview X001350

Accessories

C002080

It is the cable that allows the connection of the Anticollision device X001330 with Key.

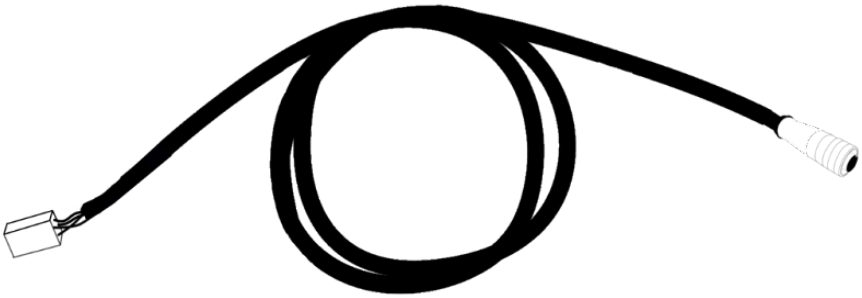

Fig.7 - Cable C002080

C002152

It is the cable that, together with the C002161, allows the connection of the X001331 Anticollision device with Key or KiwiSafe.

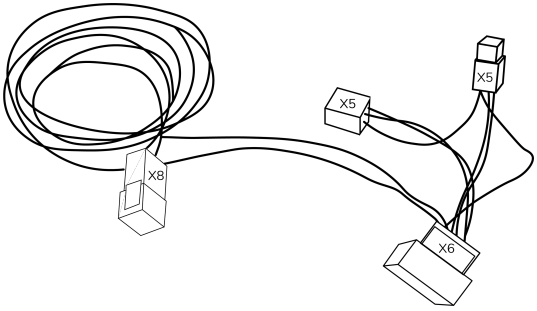

Fig.8 - Cable C002152

C002161

It is the cable that, together with the C002152, allows the connection of the X001331 Anticollision device with Key or KiwiSafe.

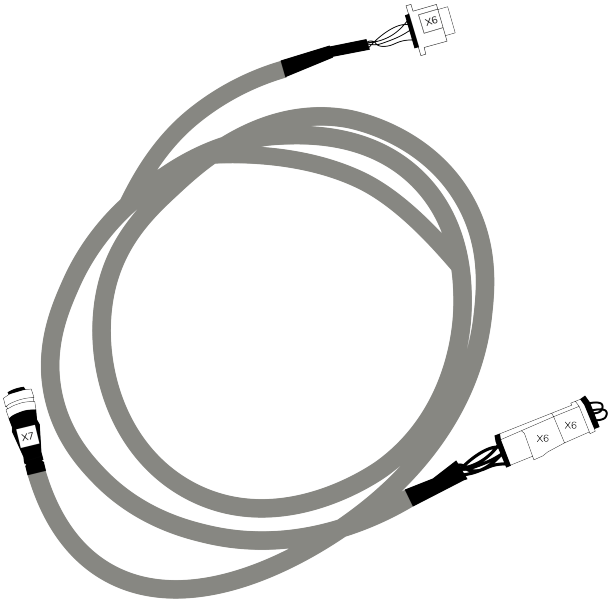

Fig.9 - Cable C002161

C100301

It is the cable that allows the connection of the Standalone Anticollision device to the control unit and to the Button Box.

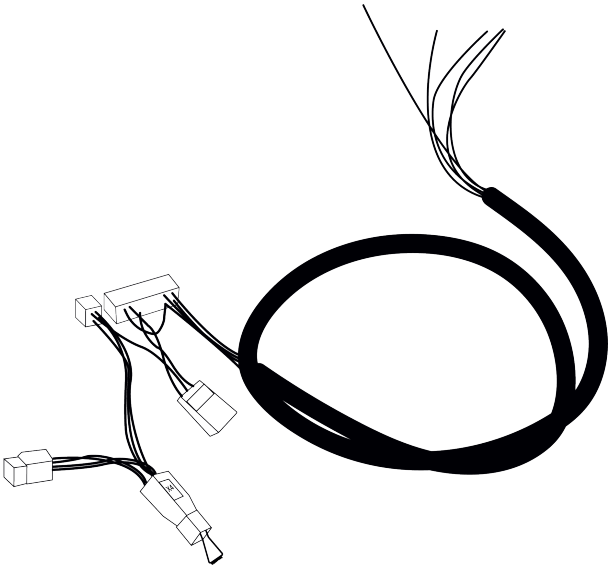

Fig.10 - Cable C100301

Operating principle

Standalone Anticollision is a device that, installed on a vehicle, is able to detect the distance to which other machines with a compatible system are located and the distance to which people with the appropriate tag are located.

The Standalone Anticollision device can be configured to alert the driver to the presence of another machine or operator in the immediate vicinity.

It is possible to interface the device to the machine through contact outputs to activate speed limitation functions of the vehicle (if provided by the manufacturer of the machine).

Device features

Anticollision is a device that can be installed in standalone mode on a vehicle, or can be integrated into a system consisting of:

- vehicle;
- Key o KiwiSafe;
- Anticollision and Pedestrian tags.

In particular, Anticollision performs the following functions:

Function	Description
Distance measurement	Anticollision measures, through the use of radio signals, the distance between itself and other compatible devices such as: other Standalone Anticollision Devices, Anticollision Devices combined with a Kiwitron Key system, Pedestrian tags devices.
Pre-alarm threshold	Anticollision is able to recognise the presence of a compatible system in the immediate vicinity at a distance pre-set during installation. When this situation occurs, the system can activate a warning to the driver via three contact outputs, or via compatible accessories appropriately connected to the system.
Alarm threshold	Anticollision is able to recognise the presence of a compatible system in the immediate vicinity at a distance (other than the pre-alarm threshold) preset during installation. When this situation occurs, the system can activate a warning to the driver via three configurable relays, or via compatible accessories

Function	Description
	appropriately connected to the system.
Driver exclusion	Should the driver of the vehicle be equipped with the Pedestrian tags, the Standalone Anticollision System is prepared to override it at the driver's request via one of the system's digital inputs, or via compatible accessories appropriately connected to the system.

Tab.5 - Device features

Features	Standalone	Integrated with		
		Anticollision + Key	Anticollision + KiwiSafe	Pedestrian tag
Vehicle Distance Measurement	✓	✓	✓	✗
Vehicle pre-alarm threshold	✓	✓	✓	✗
Vehicle alarm threshold	✓	✓	✓	✗
Person distance measurement	✗	✗	✗	✓

Features	Standalone	Integrated with		
		Anticollision + Key	Anticollision + KiwiSafe	Pedestrian tag
Person pre-alarm threshold	✗	✗	✗	✓
Alarm threshold person	✗	✗	✗	✓
Driver exclusion	✗	✗	✗	✓

Tab.6 - Anticollision features compatibility

Anticollision technical data (X001330 - X001331)

Mechanical specifications			
Sizes	100 x 62 x 26 mm 3,9 x 2,4 x 1 in	Material	ABS
Weight	125 g 4,2 oz		

Electrical specifications			
Power supply (Vdc)	**min**	**typ.**	**max**
	4,7	5-24	28

Power consump. X001330 (W)	**typ.**	**max**	Power consump. X001331 (W)	**typ.**	**max**
	1	1,75		1,5	2

UWB module
Transceiver Channel 5 (6.5 GHz) / 6.8 Mbps data rate
Interfaces
CAN bus
USB (Device)

Tab.7 - Anticollision technical data

Pedestrian TAG technical data (X001340)

Mechanical specifications			
Sizes	55 x 46 x 17 mm 2,2 x 1,8 x 0,7 in	Material	ASA (UL 94 HB)
Weight	30 g 1 oz		

Electrical specifications						
Power supply (Vdc)	**min**	**typ.**	**max**	Power consumption (W)	**typ.**	**max**
	3	3,7	4,2		<1	<1

Internal battery			
Rechargeable LiPO	3.7 V	Capacity	400 mAh

Wireless charge with dedicated station	
Charging station - 1 slot (K001430)	Charging station - 5 slot (K001350)

Tab.8 - Pedestrian tag technical data

Charging station - 1 slot technical data (X001430)

Mechanical specifications

Sizes	80x95x35 mm 3,15 x 3,7 x 1,4 in	Material	ABS
Weight	100 g 3,5 oz		

Electrical specifications

Power supply (Vdc)	**min**	**typ.**	**max**	Power consumption (W)	**typ.**	**max**
	10	12	14		0,1	5
Power adapter (supplied)				Input: 100-240 VAC 0,9 A 50-60 Hz Output: 12 Vdc 1 A		

Tab.9 - Charging station - 1 slot technical data

Charging station - 5 slots technical data (X001350)

Mechanical specifications

Sizes	305x95x35 mm 12 x 3,7 x 1,4 in			Material	ABS		
Weight	335 g 11,8 oz						
Power supply (Vdc)	**min**	**typ.**	**max**	Power consumption (W)		**typ.**	**max**
	10	12	14			0,4	15
Power adapter (supplied)				Input: 100-240 VAC 0,9 A 50-60 Hz Output. 12 Vdc 2 A			

Tab.10 - Charging station - 5 slot technical data

Standalone Anticollision: Anticollision technical data (X001330 - X001331)

Mechanical specifications			
Sizes	100 x 62 x 26 mm 3,9 x 2,4 x 1 in	Material	ABS
Weight	125 g 4,2 oz		

Electrical specifications			
Power supply (Vdc)	**min**	**typ.**	**max**
	4,7	5-24	28

Power consump. X001330 (W)	**typ.**	**max**	Power consump. X001331 (W)	**typ.**	**max**
	1	1,75		1,5	2

UWB module
Transceiver Channel 5 (6.5 GHz) / 6.8 Mbps data rate
Interfaces
CAN bus
USB (Device)

Tab.11 - Standalone Anticollision: Anticollision technical data

Standalone Anticollision: Control unit (KeyDN) technical data (X400512)

Mechanical specifications

Dimensions	85/110x56x21 mm 3,3/4,3 x 2,2 x 0,8 in	Material	ABS
Weight	210 g 7,4 oz		

Electrical specifications

Power supply (Vdc)	min	typ.	max	Power consumption (W)	typ.	max
	10	24	160		3	12

MTTFd

Values indicated per device and per system (KeyAdvanced/KeyTouch e KeyDN)

MTTFd Device	26 years	MTTFd System (KeyAdvanced)	15,5 years
		MTTFd System (KeyTouch)	15 years

Standalone Anticollision: Control unit (KeyDN) technical data (X400512)

Input/Output

2 x Positive Inputs (Activation threshold > 1,7 V, Max 150 V)
1 x Positive Input (Range 0 - 5 V)
1 x Positive Input (Range 0 - 10 V)
2 x Negative Inputs (Activation threshold < 0,5 V, Max 150 V)
3 x Relè NO (Max 10 W)

Memory/Processor

Flash	256 KB	RAM	64 KB
Eeprom	128 KB	Processor frequency	from 0,032 to 120 MHz

Tab.12 - Standalone Anticollision: Control unit technical data

Standalone Anticollision: Button Box technical data (X000650)

Mechanical specifications			
Dimensions	60 x 35 x 20 mm 2,4 x 1,4 x 0,8 in	Material	ABS
Weight	25 g 0,9 oz		
Electrical specifications			
Power Supply (Vdc)	from 4,75 to 5 V		

Tab.13 - Standalone Anticollision: Button box technical data

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Installation

Anticollision installation with Kiwitron systems

The following are illustrative diagrams of the Anticollision installation for integration with Kiwitron systems.

Installation with KiwiSafe

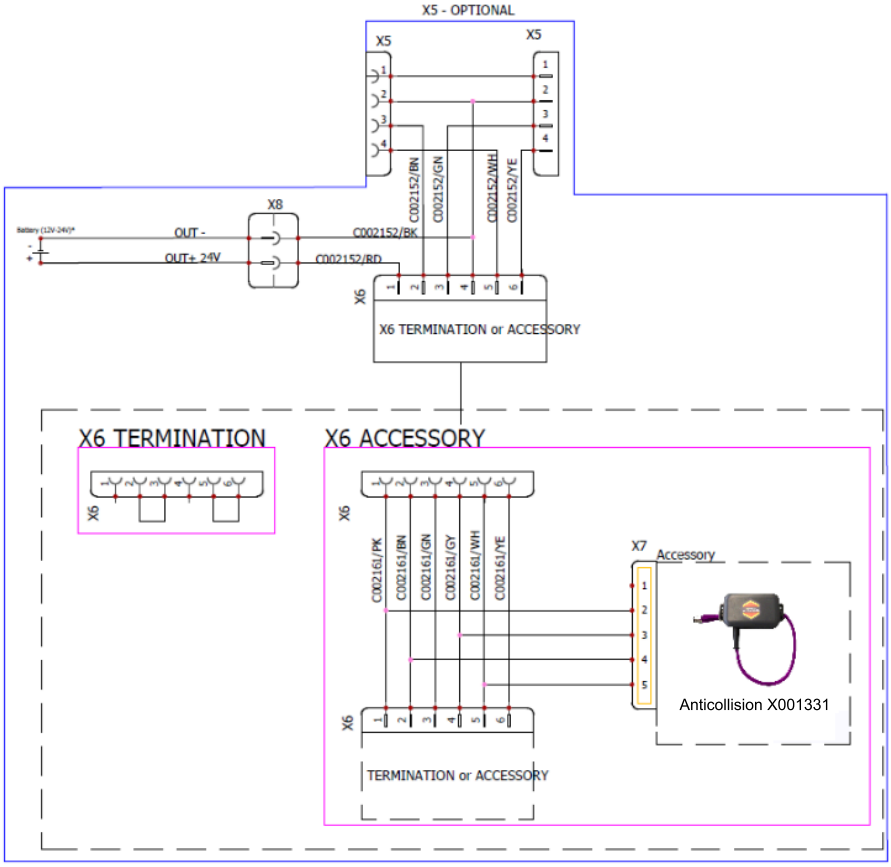


Fig.11 - Anticollision installation with Kiwitron KiwiSafe system

Installation with Key

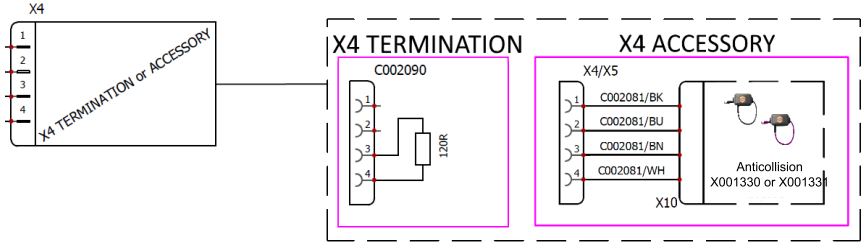


Fig.12 - Anticollision installation with Kiwitron Key

Standalone installation with Button box

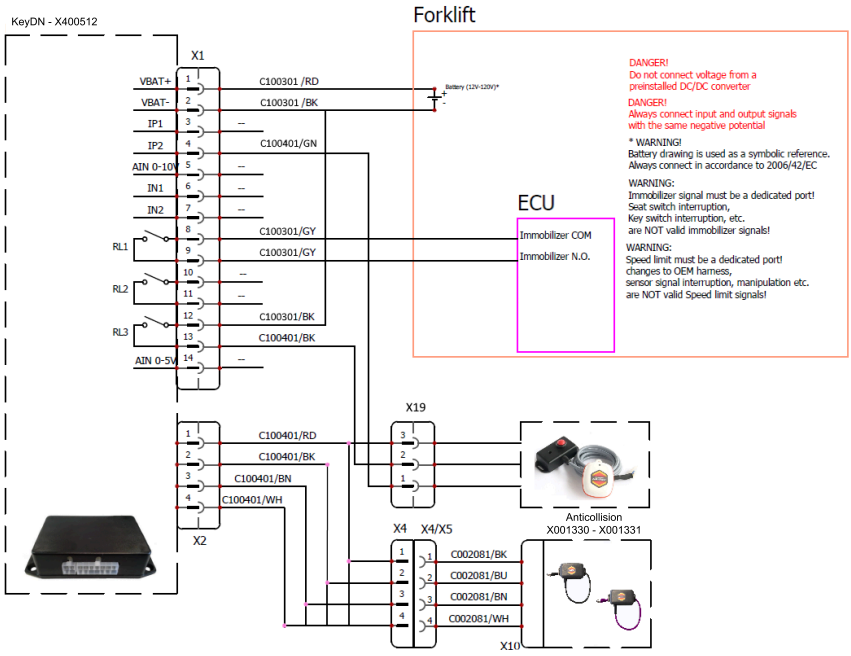


Fig.13 - Standalone Anticollision Installation with Button box

Anticollision connections with Key or KiwiSafe

For more details on the complete installation scheme and the connections to be made, please refer to the manual and the procedure of installation accessories of the system of interest.

Standalone Anticollision Connections

Make sure that there is no electrical voltage before carrying out the assembly steps.

The anticollision system measures the distance between the receiver and the pedestrian tag (or other anticollision device) so it is very important that the distance measured is the distance **to the centre of the carriage**.

Install the anticollision device in the centre (in each direction) of the vehicle.
The ideal installation position is normally at the top of the front window.
If the position interferes with the driver's view, the device can be installed behind the rear-view mirror or in front of the steering wheel.

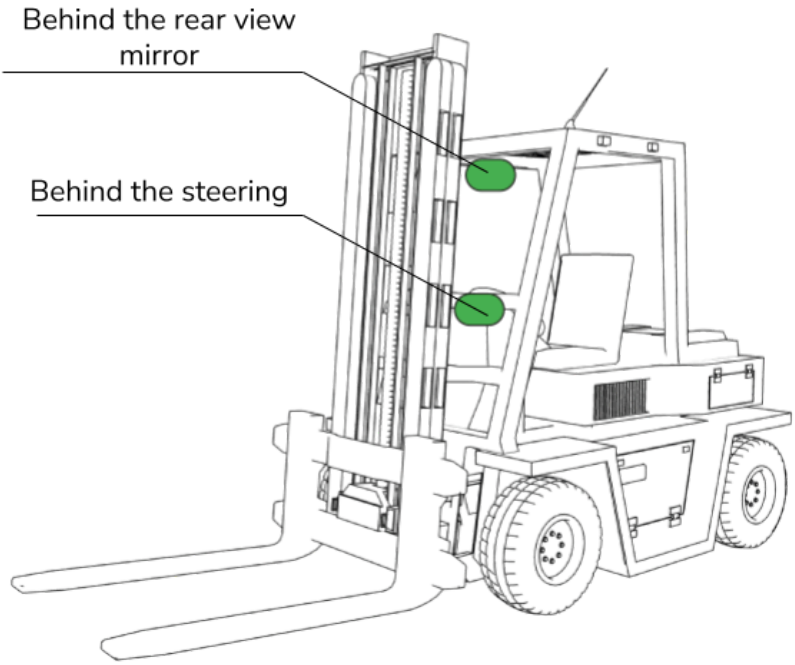


Fig.14 - Anticollision installation

It is forbidden to install anticollision devices in positions that affect or restrict the safety and visibility of the driver.

Do not place the antenna too close to metal parts as this could adversely affect the system.

After mechanically attaching the anticollision device to the vehicle, proceed as follows.

1. Connect the control unit to X1 and X2 connectors of cable C100301:

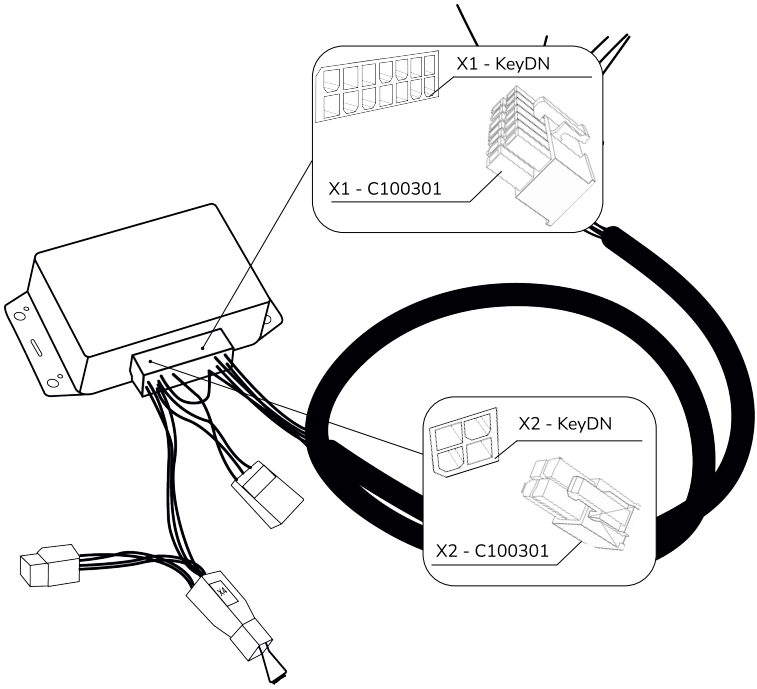


Fig.15 - Control unit connection - C100301

2. Connect, if not present, the X4 connector of the C100301 cable to the closing connector (C002090)

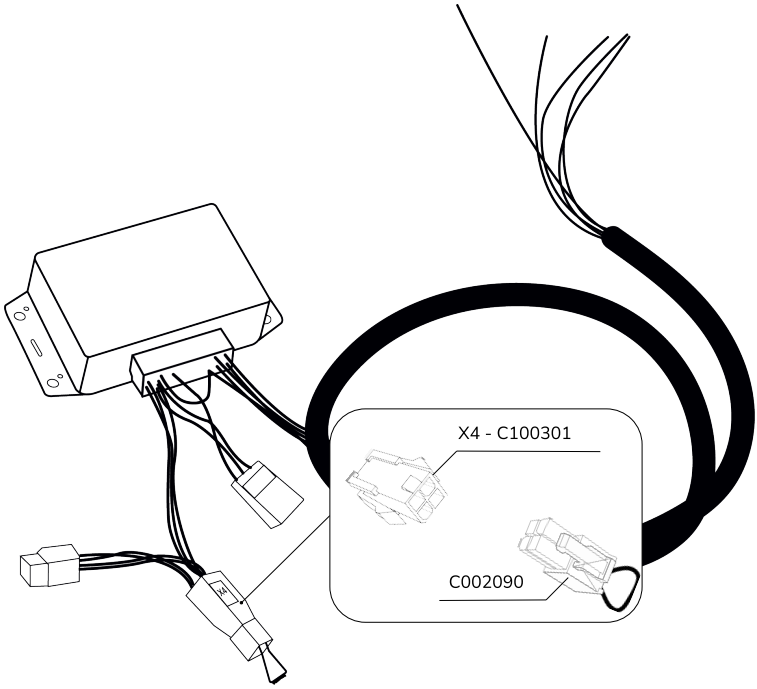


Fig.16 - Closing connector connection

3. Connect the X4/X5 connector of the C002080 cable to the X4 connector of the C100301 cable:

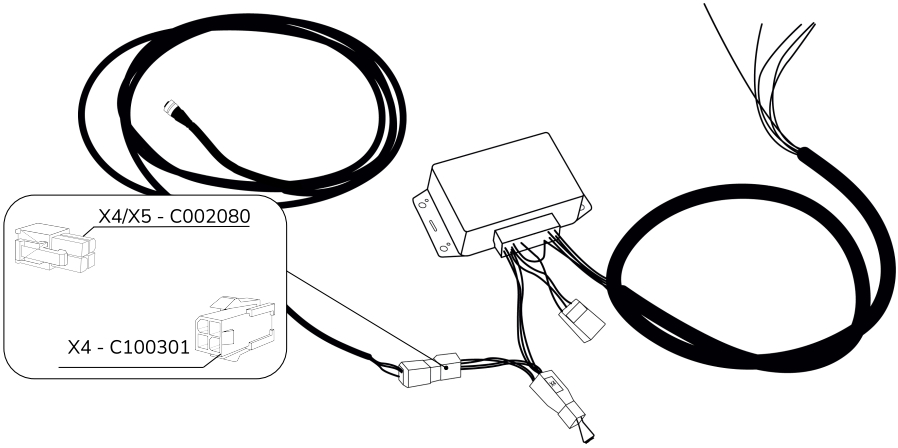


Fig.17 - C002080 connection

4. Connect the Anticollision device to the X10 connector of the C002080 cable:

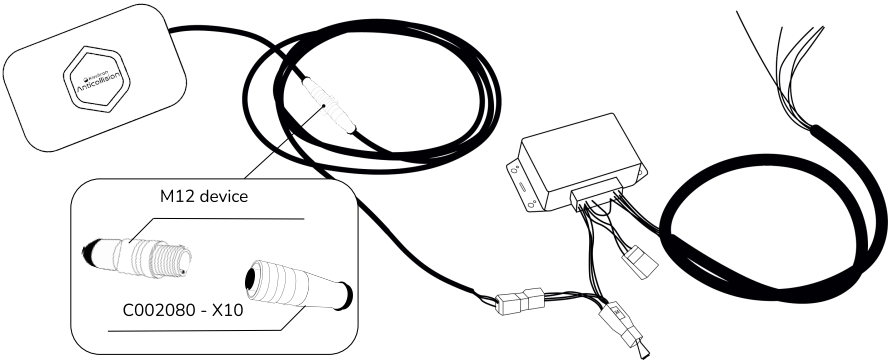


Fig.18 - Anticollision device connection

5. Connect the X3 connector of the Button Box to the three-poles connector of cable C100301:

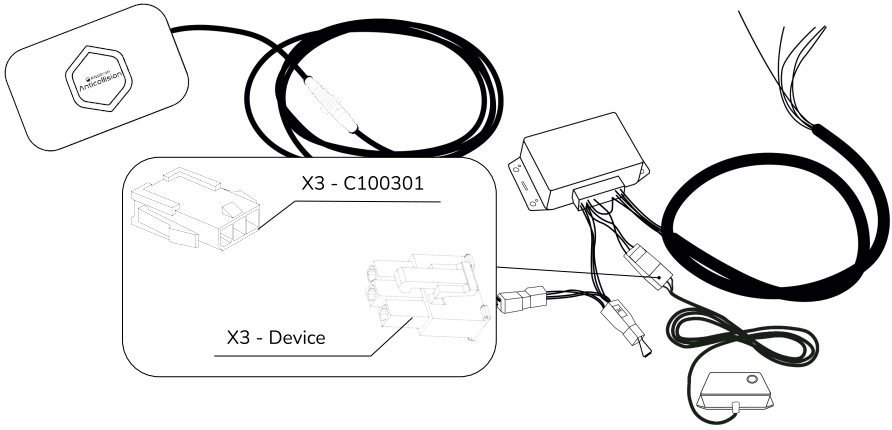


Fig.19 - Button Box connection

Overall you will have the following wiring:

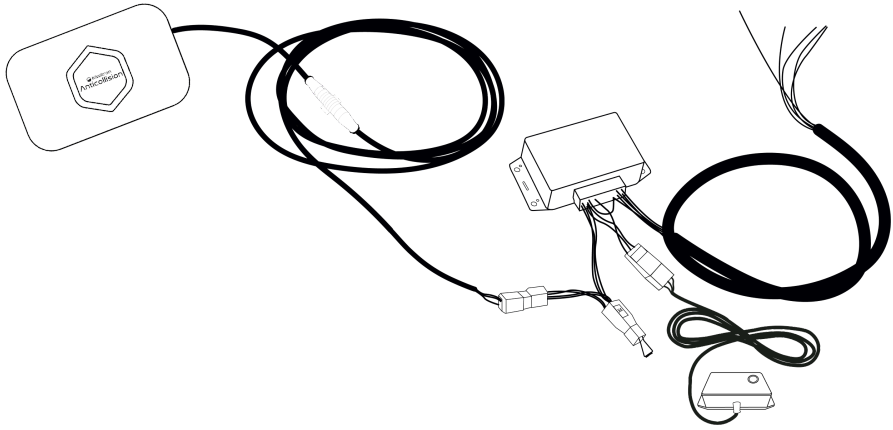


Fig.20 - Full connection Standalone Anticollision

Connect the free cables to the power supply as indicated in the section Standalone installation with Button Box.

Setup

Standalone Anticollision Setup

To set up the Anticollision device in standalone mode, it is necessary:

1. Download the Anticollision Client setup SW from the https://www.kiwitron.it/it/download/Anticollision section
2. Run the executable and follow the steps indicated
3. Start the Anticollision Client program
4. Open the anticollision device by unscrewing the 4 screws at the back
5. Connect the Anticollision device to the PC via USB-Mini B cable
6. Click the 'Connect' button

Configuration of detection thresholds (Distances)

In the 'Distances' Tab:

1. Indicate the desired detection thresholds in metres
2. Tick (if required) 'Pedestrian buzzer' and 'Pedestrian rumble' to activate the sound and vibration of the pedestrian tag when it is detected.

Fig.21 - Anticollision detection threshold configuration example

3. Click the 'Save' button to save the configuration

Button box configuration (General)

In the 'General' tab, a button can be configured to recognise the driver wearing the pedestrian tag device.

If you have Button box Kiwitron (X000650):

1. Tick the 'Standalone mode' box
2. Click the 'Auto setup Button Box' button:

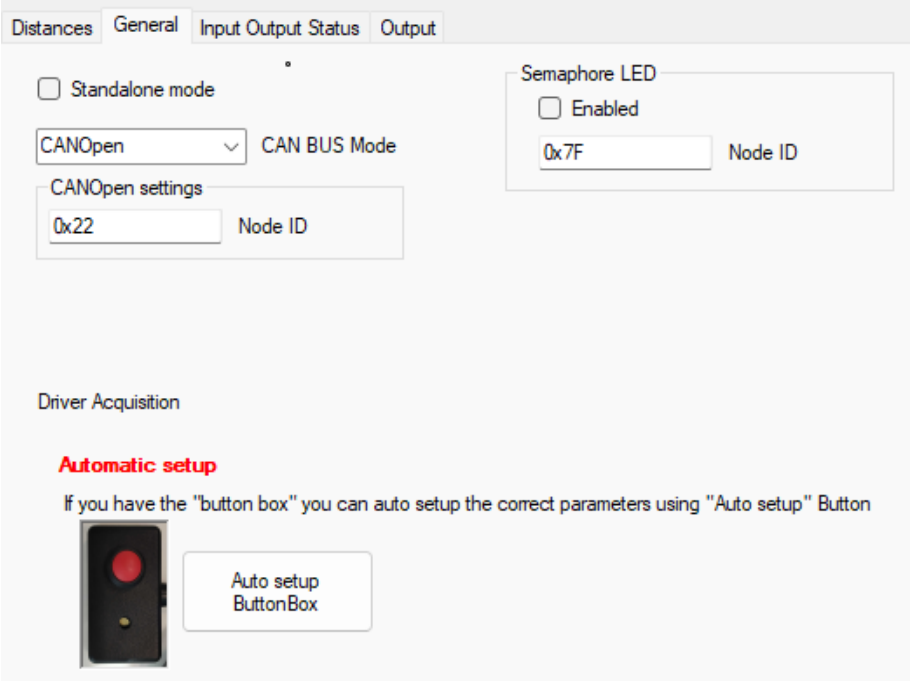


Fig.22 - Button Box configuration

3. Click the 'Save' button to save the configuration

If the button to be configured is external (not the model shown above):

1. Connect the button to one of the input signals (IP1, IP2 or IN1)
2. Press the button for 5 seconds to register the nearest pedestrian tag as 'driver'.
3. Complete the 'Manual setup' section in accordance with the connection made:

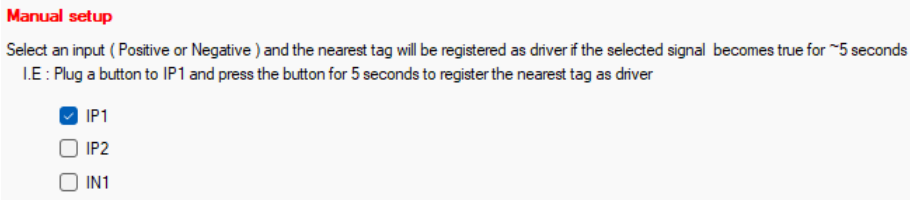


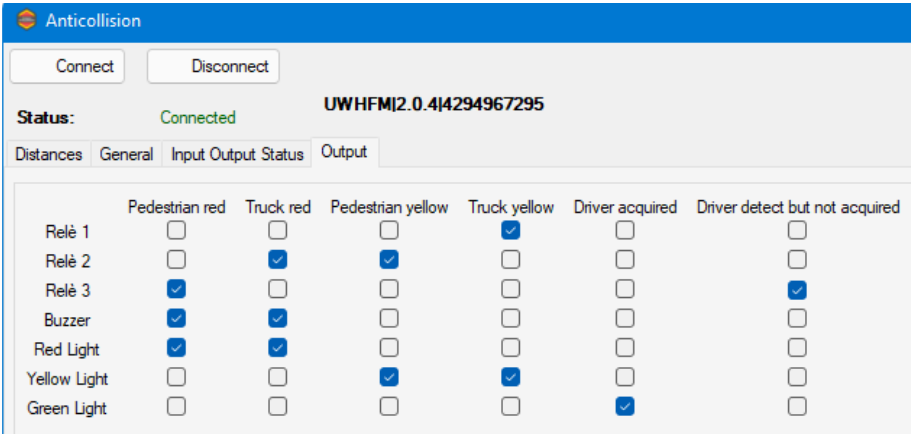
Fig.23 - External button configuration

Click the 'Save' button to save the configuration

Output configuration

In the 'Output' tab, it is possible to configure the activation of relays, lighting and the buzzer of the light tower (if present):

1. Tick the 'Standalone mode' box
2. Flag the desired relay activation condition
3. Flag (if present) the desired column light lighting condition



4. Select for each relay the idle condition ("Normally Open" or "Normally Closed")

5. Click the 'Save' button to save the configuration

Anticollision configuration integrated with Kiwitron systems

Refer to the SW configuration procedures of the reference systems (Key or KiwiSafe) to adjust the anticollision device activation thresholds.

Configurable parameters

Parameter	Description
Driver Exclusion Distance (Blue Zone)	Distance, expressed in metres, between driver and vehicle. The driver must be at a distance less than or equal to this value in order to activate the driver override function.
Alarm distance for other machines (Red zone or Alarm zone)	Distance, expressed in metres, below which if a collision avoidance vehicle is detected, it is identified as a vehicle in the red zone.
Pre-warning distance for other machines (yellow zone or warning zone)	Distance, expressed in metres, below which if an Anticollision vehicle is detected, it is identified as a vehicle in the yellow zone.
Alarm distance for operators (Red zone or Alarm zone)	Distance, expressed in metres, below which if an operator with a pedestrian tag is detected, it is identified as an operator in the red zone.
Pre-warning distance for operators (Yellow Zone or Warning Zone)	Distance, expressed in metres, below which if an operator with a pedestrian tag is detected, it is identified as an operator in the yellow zone.

Parameter	Description
Driver exclusion action	Selects which action the device takes when a driver is detected.
Pre-warning action	Selects which action the device takes when in pre-alarm.
Action in alarm	Selects which action the device takes when in alarm

Tab.14 - Configurable parameters

Verification of correct installation

Once the device has been installed and configured, it must be checked for correct operation:

- start the vehicle
- place a vehicle (with Anticollision installed) or a pedestrian wearing the pedestrian tag) at different distances from the vehicle and verify that the machine has the expected behaviour.

It is forbidden to carry out tests by operating the machine's translation function. Always observe general safety regulations.

Use and maintenance

Visual signals

Anticollision visual warnings vary depending on the system with which they are integrated.

Please refer to the Installation, Use and Maintenance manual for more details.

Acoustic signals

Anticollision is able to emit an acoustic signal (buzzer) when it detects a distant obstacle below a certain threshold.

Maintenance

It is advisable to clean the Anticollision Devices and/or Pedestrian tags periodically, using a soft, lint-free cloth.

It is advisable to periodically check the physical state of the various components such as control units, connecting cables and external sensors.

Do not use abrasive cloths, towels, paper towels or similar.

Do not rub surfaces excessively.

Do not use alcohol, solvents or chemicals.

Do not spray cleaning agents directly onto the product.

Do not allow moisture to penetrate the openings.

Do not wash with water jets or pressurised water jets.

Recharging the pedestrian tag battery

Pedestrian tag is equipped with a non-removable rechargeable battery.
Do not attempt to replace the battery of the pedestrian tag.

Wireless charging must only be carried out using the supplied Kiwitron wireless charging stations

The connection of the charging station to the power supply must be made via the Kiwitron power supply unit supplied with pedestrian tag

Do not place anything between pedestrian tag and the charging station

To charge the battery of pedestrian tag:

1. Connect the charging station to the power supply provided
2. Place the charging station on a flat surface
3. Place a pedestrian tag on the charging station with the indicator light facing upwards.

Make sure you place pedestrian tag in the correct position on the 4 feet

Pedestrian tags should start charging a few seconds after being placed on the wireless charging station.

When pedestrian tag is on the charging station, the lamp lights up red or green depending on the state of charge of the battery.

Pedestrian tag may heat up slightly during charging.

If the battery gets too hot, the software may protect it by preventing further charging.
Pedestrian tag will continue to recharge when the temperature has dropped. Try moving pedestrian tag and the charging station to a cooler place.

Rechargeable batteries have a limited number of charge cycles and may need to be replaced. Replacement may only be carried out by Kiwitron Service.

Do not attempt to replace the battery of pedestrian tag

What to do if

Since these systems are fully customizable (custom), there may be problems currently not reported in this version of the document.

For more details, please contact Kiwitron Technical Support.

Technical assistance
In the event of faults, please contact Kiwitron technical assistance department.

Kiwitron s.r.l.

Customer service

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Mail: support@kiwitron.it

web site: www.kiwitron.it

Problem	What to do
The device does not start	• Check if there is power supply • Check the system connections
The device does not limit the speed of the vehicle	• Check the correct connection of the relay(s) as per pinout.

Tab.15 - Possible faults

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