

AWR-03A UWB READER

User manual



**Important! Read carefully before use.
Keep for future need.**

Default user manual.

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This manual is to be considered a part of the device.





Carefully read manual before first use. Attend to all HSE requirements, all work safety related requirements and all HSE requirements related to the specific workplace. Caution is the best way to avoid any safety risk.

EU DECLARATION OF CONFORMITY

Manufacturer: ALIS Tech s.r.o., Tuřanka 1222/115, Slatina, 627 00 Brno, the Czech Republic
Company registration number: 06728103

Issues the following statement at its own risk:

Product name: **UWB reader**
Type label: **AWR-03A**

Application: The device is used to transmit signals, based on which the position and distance from the reading devices is determined. In the event of a threat, it triggers an alert or other defined actions..

We declare that the subject of the declaration described above is in accordance with harmonization regulations of European Union: Directive of the European Parliament and Council 2014/30/EU on the harmonization of legislation of the Member States regarding electromagnetic compatibility, as amended by European Parliament and Council (EU) 2018/1139; Directive of European Parliament and Council 2014/53/EU on harmonization of legislation regarding of Member States regarding supply of radio equipment on the market and repealing directive 1999/5/ES, as amended by Regulation of European parliament and Council (EU) 2018/1139; Directive of European Parliament and Council 2011/65/EU regarding restriction of the use of certain hazardous substances in electrical and electronic equipment, as amended; Regulation (EC) No 1272/2008 of the European Parliament and Council regarding classification, labeling and packaging of substances and mixtures, as amended; Regulation (EC) NO 1907/2006 of European Parliament and Council regarding registration, evaluation, authorization and restriction of chemicals, as amended.

We declare that the subject of the declaration described above is in accordance with the relevant provisions of legal and other regulations of the Czech Republic: Government decree No. 117/2016 Coll. Regarding the assessment of conformity of products with regard to electromagnetic compatibility when placed on the market; Government decree No. 426/2016 Coll. Regarding conformity assessment of radio equipment when placed on market; Government decree No. 481/2012 Coll. Regarding restriction of use of certain hazardous substances in electrical and electronic equipment, as amended by Government Decree No. 391/2016 Coll., Government Decree No. 101/2018 Coll. and Government decree No. 146/2019 Coll., Government decree No. 121/2020 Coll. and Government decree No. 344/2020 Coll. ; EN 62368-1 / AC: 2015 as stated in ĀSN EN 62368-1: 2015 / All: 2017 / Opr. 2: 2018 / ZI: 2020; EN 62311: 2008 as stated in ĀSN EN 62311: 2009 / ZI: 2020; EN 55032: 2015 as stated in ĀSN EN 55032 ed. 2: 2017 / Opr. 1: 2018 / All: 2020; ETSI EN 301489-1 V1.2.1: 2000 as stated in ĀSN ETSI EN 301489-1 V2.1.1: 2001; ETSI EN 301489-33 V1.1.1: 2009 as stated in ĀSN ETSI EN 301489-33 V1.1.1: 2009; ETSI EN 301489-33 V2.1.1: 2017 as stated in ĀSN ETSI EN 301489-33 V2.1.1: 2017; ETSI EN 302 065-1 V2.1.1: 2016 as stated in ĀSN ETSI EN 302 065-1 V2.1.1: 2017; ETSI EN 302 065-2 V2.1.1: 2016 as stated in ĀSN ETSI EN 302 065-2 V2.1.1: 2017; EN 60950-1: 2006 as stated in ĀSN EN 60950-1 ed. 2: 2006 / All: 2009 / AI: 2010 / A12: 2011 / Opr. 1: 2012 / A2: 2014 / Z2: 2018.



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In Brno, 1.6.2021

Ing. Jakub Snížek
(Executive)

FOREWORD

Safe manipulation



Using systems connected to AWR-03A is advised to be done according to their respective user manuals. This user manual describes correct way to use AWR-03A. Check the product condition before use.

To avoid any damage done and losing warranty rights due to unqualified assembly or use:

- use the product only based on this manual;
- tend to all the information regarding safety and maintenance;

You should only let qualified and experienced people use this product and its accessories.

- keep the manual at a place accessible for the user;
- comply with the up-to-date standards.

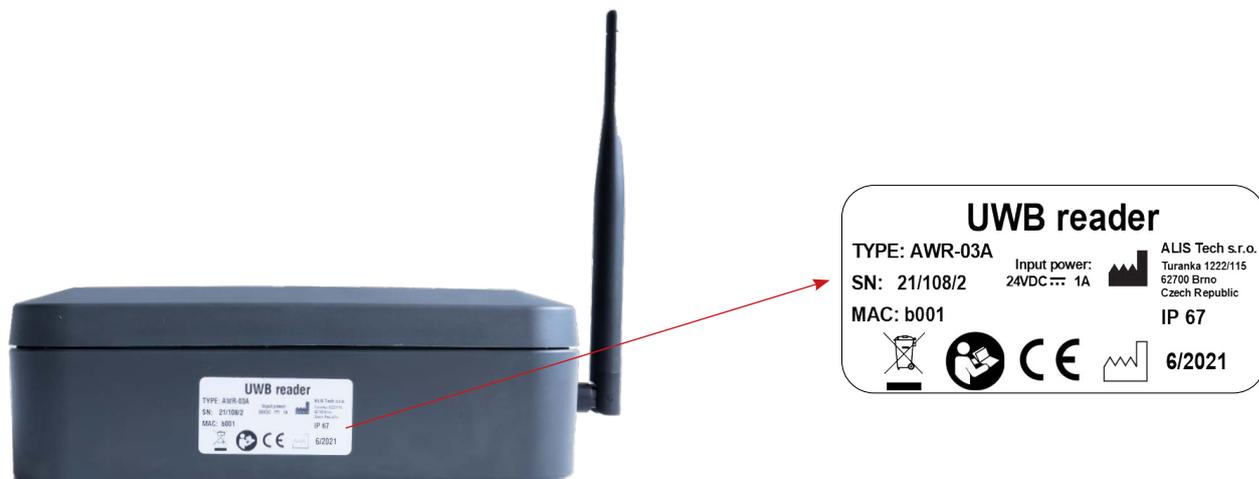
Never install this product in places:

- with high oxygen concentration;
- with oxidizing agents (for instance nitrous oxide (N₂O));
- with flammable fluid;
- with excessive humidity;
- with metallic and conductive materials;

User's Qualification

Person using this device should be able to use common electronic devices and should be trained to use AWR-03A in accordance with this user manual.

PLACEMENT OF PRODUCTION LABEL



Information contained in this document can be changed without prior notice. ALIS Tech s.r.o. (further mentioned only as “ALIS Tech”) does not take any responsibility for inaccuracies, missing information, loss, personal or other risk due to wrong use of the device not in accordance with content of this document.

WARRANTY CONDITIONS

Warranty period for this device is 12 months from the date of purchase. Using this device in violation with contents of this documents denies any warranty rights.

CUSTOMER SUPPORT

ALIS Tech reserves the right to perform any maintenance on this device.

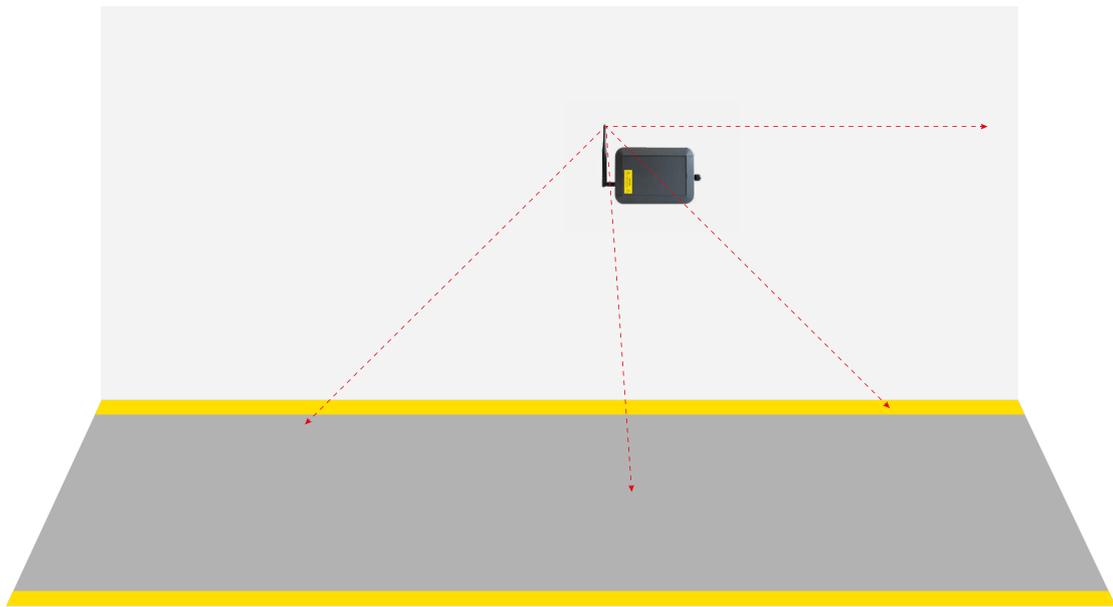
ASSUMED USE AND BRIEF DESCRIPTION

The device is used to transmit signals, based on which the position and distance from the reading devices is determined. In the event of a threat, it triggers an alert or other defined actions.

Functionality

The device is used to transmit and receive signals, based on which the position and distance of other personal and vehicle tags in its surrounding is determined. In case of danger (violation of the zone at a predefined distance by another tag) AWR-03A triggers predefined actions. Predefined actions can be: activation of LED projectors, opening of industrial doors, locking of gates. One reading device - AWR-03A can simultaneously operate with up to 4 LED projectors at a time in combination with up to 3 Hotrons, or up to 6 sensors.

Activation distances for defining the action are adjustable in the parameter settings using a web browser without the need to install any additional software.



PREPARATION AND INSTALLATION

If the following regulations are not observed, the manufacturer takes no responsibility for any damage.

When assembling and using this product please tend to:

- National installation and operating regulations.
- National regulations on fire and explosion protection.



For user safety, it is necessary to make sure that the network cable is intact. In many cases, a faulty connection or an unconnected wire will not be recognized right away.

Installation

Installation of this device can only be done by manufacturer, technician trained by manufacturer or a technician under manufacturer's supervision.



- slot A for connection with LED projector 1 (A);
- slot B for connection with LED projector 2 (B);



- slot C for connection with sensor (C);
- * Connect up to 3 ASS-01 or 6 sensors to slot type C.**

1. Connect the connectors from the LED projector (1-4);
2. Connect the connectors from the sensors (3-6);
3. Connect the adapter from the AWR-03A;
4. Connect the adapter to 230 VAC;

Correct position and placement of AWR-03A

The antenna of the reading device must always be pointed in a vertical position. Do not tilt the antenna in any way. Install the AWR-03A so that there is no electronic device under or above the antenna. If the functionality of the reading device is connected to the vehicle tag, the antennas of the units must always point in the same direction = they have the same polarization. Install the reading device at the height of the roof of the handling equipment, which is equipped with a vehicle tag. Significantly higher positioning of the reading device antenna from the placed vehicle tag can lead to incorrect system functionality.

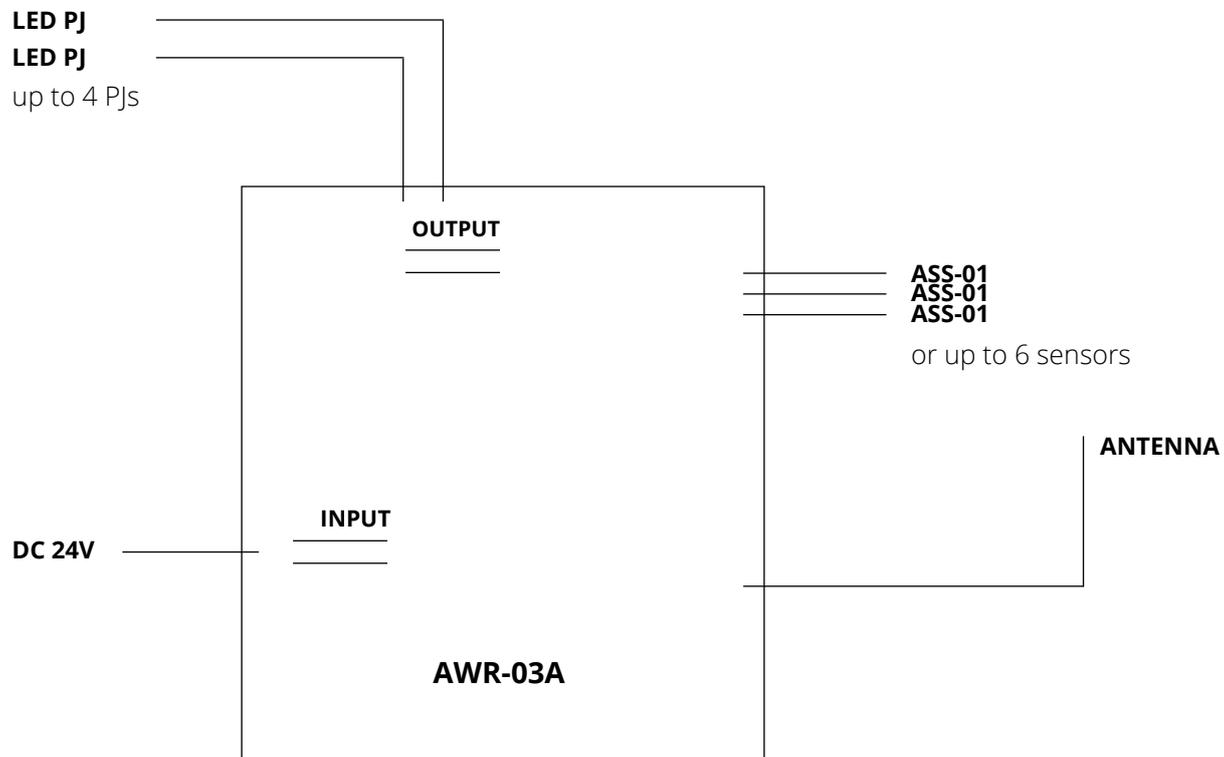
To ensure proper system functionality, do not place the antenna near metal or conductive materials that reflect the signal, at a distance of 7.5 cm and a multiple of 7.5 cm.



Right vertical position of the antenna.

Schematic connection

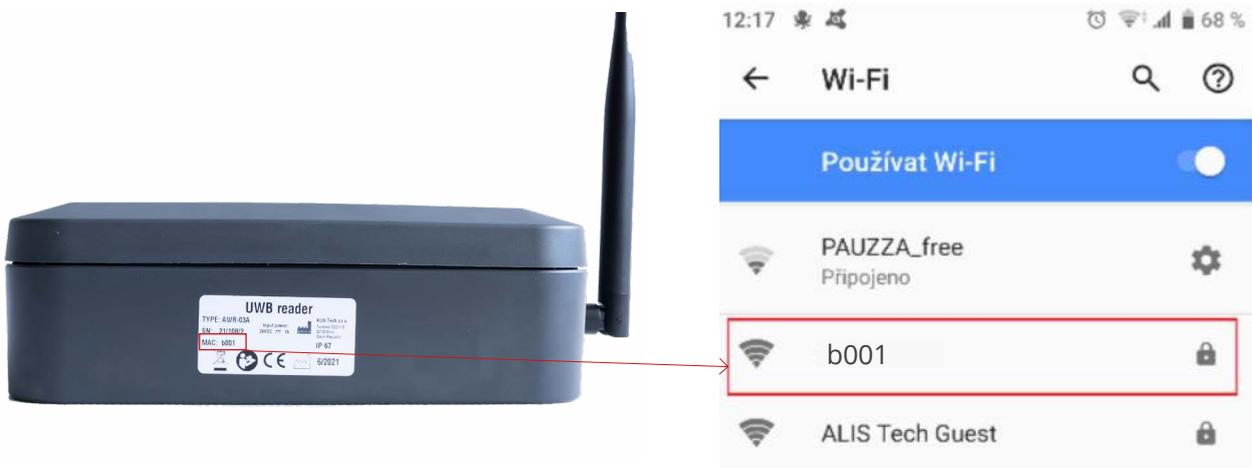
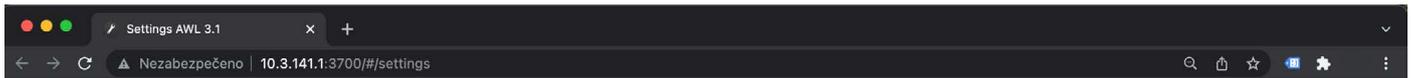
DC/DC converter



Settings and configuration

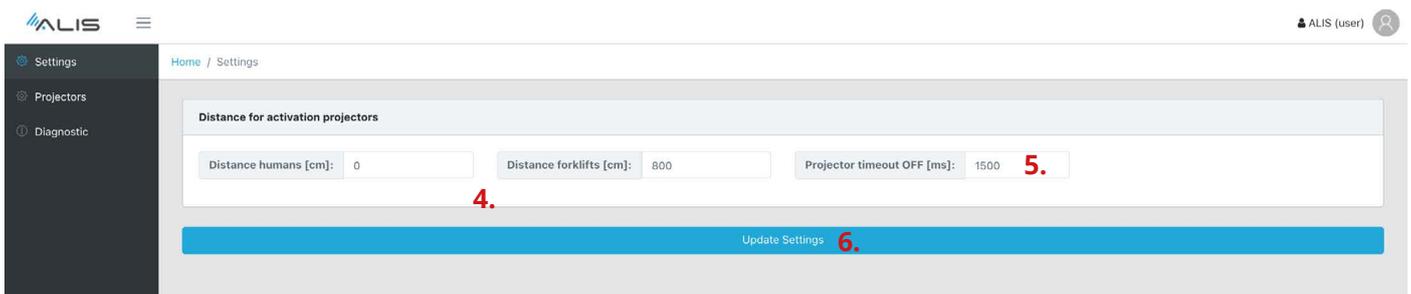
HOW TO GET INTO THE WEB APP

1. Switch the AWR-03A vehicle tag on and stay within its reach. Wait 1–3 minutes for the device to switch on.
2. Use any device for Wi-fi connection (mobile phone, personal computer etc.). Connect to Wi-fi using MAC address stated on the unique label of the UWB reader - password is **11111111**.
3. When connected to Wi-fi, open the web browser. Enter **10.3.141.1:3700** into the search field. You will be forwarded to the log-in page. Enter **ALIS** into the EMAIL field and **1111** into the PASSWORD field.



SETTINGS OF THE PROJECTOR PARAMETERS

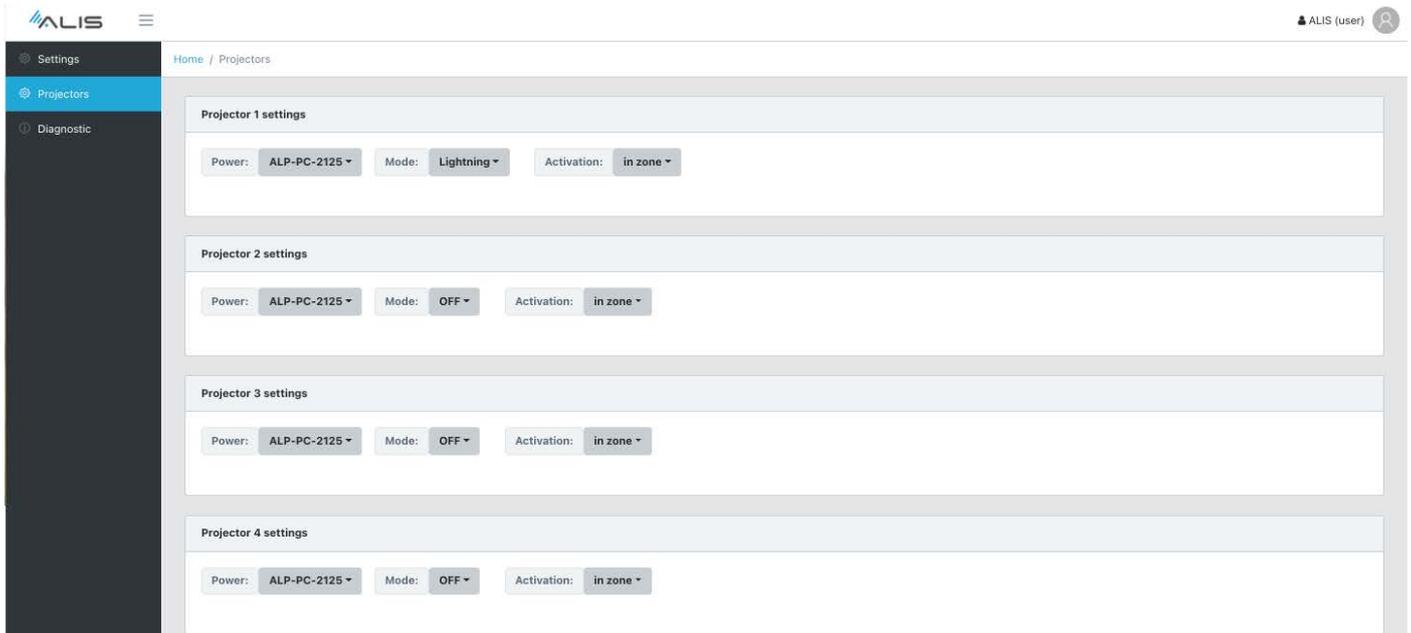
4. In the SETTINGS tab, set the projector activation distance based on distance for activation of personal tag of a pedestrian (DISTANCE HUMANS) or vehicle tag (DISTANCE FORKLIFTS). It activates vehicle tags AWL-V-1 and AWL-V-3. If the projector should not be activated, leave 0.
5. PROJECTOR TIMEOUT OFF – if required, change the settings.
6. Save changes with tapping on UPDATE SETTINGS.



* **Distance [cm]** - in predefined distance the AWR-03A activates the projector according to the vehicle tag position.

* **Projector timeout OFF [ms]** - when the vehicle tag crosses the deactivation distance, the projector switches off after the selected timeoff value.

SETTING THE PROJECTOR FUNCTIONS



7. In the PROJECTORS tab, select a corresponding projector according to indication on the label. Select projector power according to the label.
8. In the MODE tab, select LIGHTING, BLINKING or PULSING.
9. In the ACTIVATION tab – whether activation in the zone or out of zones.



OUT OF ZONE

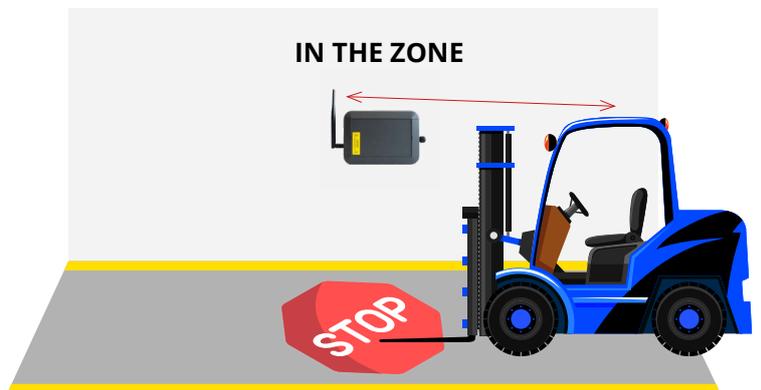
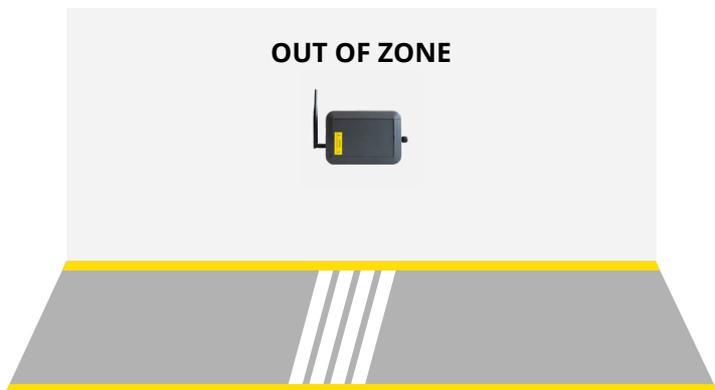
Projector is lighting for example a pedestrian crossing. The lighting is permanent. OUT OF ZONE is activated, if nobody is present in the zone. In case of permanent lighting of the pedestrian crossing, OUT OF ZONE is always activated.

IN THE ZONE

If a forklift truck approaches, the projector is switched over to shining a warning symbol. The symbol of pedestrian crossing is turned off. The IN THE ZONE setting will be used if a forklift truck or a pedestrian approach. The projector starts shining the required symbol.

EXPLANATION TO THE EXAMPLE PICTURE – PEDESTRIAN CROSSING VERSUS SYMBOL STOP

10. Select a projector according to indication on the label and projector power.
11. Unless a pedestrian crossing is only illuminated, select IN THE ZONE.
12. If a forklift truck approaches, the projector starts shining the STOP symbol (danger).
13. You will save changes with tapping on UPDATE SETTINGS.



SAFETY

General safety requirements

- The degree of protection of electrical equipment provided by the cover preventing foreign objects and water from entering the device given by IP code (ČSN EN 60529:1993) must correspond to the specific installation of the electrical device, must be stated in the user manual and on the nameplate of electrical device. The IP code of the device (IP 67) can be found in the operating instructions in the technical data and on the production label.
- Conditions for operation of devices relating to the use of radio frequencies and operation of short-range radio transmitting devices by natural or legal persons are laid down in Act. No. 127/2005 Coll., As amended, and General Authorization No. VO-R / 10 / 05.2014-3 for the use of radio frequencies and for the operation of short-range devices pursuant to Section 10, Paragraph 1 of Act No. 127/2005 Coll.
- Technical requirements for radio equipment are set by NV No. 426/2016 Coll.
- Technical requirements for protection in terms of electromagnetic compatibility are set by NV No. 117/2016 Coll.

Safety instructions

- Keep the device dry and clean.
- Do not place the device on excessively hot or cold surface.
- Clean the device with damp and clean cloth.
- Do not paint the device.
- Do not disassemble or repair the device.
- Do not use the device in places where it could interfere with the operation of other devices, such as air traffic, integrated rescue system, etc.
- Only use accessories supplied by the manufacturer.

REPAIR AND MODIFICATION

The device and its accessories do not contain any parts repairable by the user.



Do not disassemble, modify or repair the device as this can result in harming user, damaging device and its functionality and compromising warranty rights.

This device can only be repaired by manufacturer's or supplier's technician. Manufacturer is not responsible for any injury or damage caused by repair done by anybody else than mentioned above.

MAINTENANCE

Cleaning

Clean the product only by manual rubbing of its surface.

Never submerge the product in liquid also do not rinse with pressurized water.



Risk of electric shock and fire!
Risk of damage or destruction of the product during machine cleaning.
Do not use any flammable or explosive cleaning or disinfecting agents.

Control

Each control unit is tested by the manufacturer for its functionality. After installation of the device, the manufacturer's technician, supplier's technician or technician under the supervision of the manufacturer tests it. The customer confirms the correct functionality by signing the handover protocol.

The manufacturer reserves the right to change the inspection method.

TECHNICAL SERVICE

For service and repair inquiries, contact your supplier or the manufacturer directly.

SPECIFICATIONS

Product specifications

Product name	Zone reader
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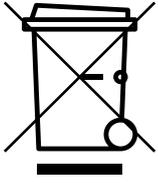
Technical specifications

Dimensions (mm)	210x150x55
Weight (g)	840
Standard	802.15.4a, 802.1.4a
Power voltage	DC 24 V
Power rating	26,4 W
Frequency range	3.25 GHz – 6.75 GHz
Output power	-21 dBm/MHz
Effective range	150 m
Accuracy	10 cm
Operating mode	TDoA, TWR
Antenna gain	1.5 dBi

External conditions

Operating temperature(°C)	-10 - +50
Humidity (RH %)	0 – 90 (without condensation)
Degree of protection	IP 67
RoHS	yes

PROPER DISPOSAL OF THE PRODUCT



Disposal of electrical and electronic equipment. This symbol on the product or in its documentation indicates that this product shall not be treated as household waste at the end of its working life. To avoid possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle them with respect to the sustainable reuse of material resources. Home users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can safely recycle this item. This product must not be mixed with other industrial products.

SAFETY MARKING



Meaning:	CAUTION! Clean the transmitter elements before use.
Type:	Marking with safety instruction.
Regulations/ standards:	NV No. 176/2008 Coll. and NV No. 378/2001 Coll.
Dimensions [mm]:	60 x 20 mm
Location:	On device.
Amount:	1

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