

b.Alert manual



## 1. INTRODUCTION

Thank you for purchasing a b.Alert system.

You now possess a superior unit not only to trace your fleet, but especially a system that will protect your trailers and your goods in the trailers against theft, protect against fuel theft, follow the tires, .... This manual explains the installation possibilities and the usage of the b.Alert products and services.

The communication with the units goes through a website. This manual explains the functionality of the site and the units. We aimed at creating a site that is as user friendly and as self explaining as possible.

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### 3. FUNCTIONALITIES AND CHARACTERISTICS

#### 3.1. B.ALERT TPMS V2

- Tracking of trailers, vehicles and assets
  - Driving position every 3 minutes. Driving detected for speeds higher than 25 km/h
  - Parking position after 7 minutes (dependant on settings by producer)
  - Parking position every hour.
- Internal LiPo battery
  - Needs to be connected to a DC power source 10-30V
  - Autonomy 2 to 8 weeks depending on the activity detected and the transmission rates
- User interface through web TPMS.balert.net. For the different setup and functions see the relevant paragraphs in the manual

## 4. USE OF BATTERIES

For the b.Alert units with a rechargeable battery, it is advised that the battery is always kept fully charged.

The unit has an internal trickle charging circuit to charge.

Never leave a unit with an uncharged battery for more than 2 weeks. If this happens, the capacity of the battery (hence the autonomy) can be reduced.

## 5. B.ALERT TPMS V2

### 5.1. INSTALLATION OF THE UNIT



Figure 1 TPMS unit with sensors

The external antenna needs to be placed on the chassis of the truck or trailer where the unit is mounted. It needs to hang in the middle of the vehicle, freely under the chassis.

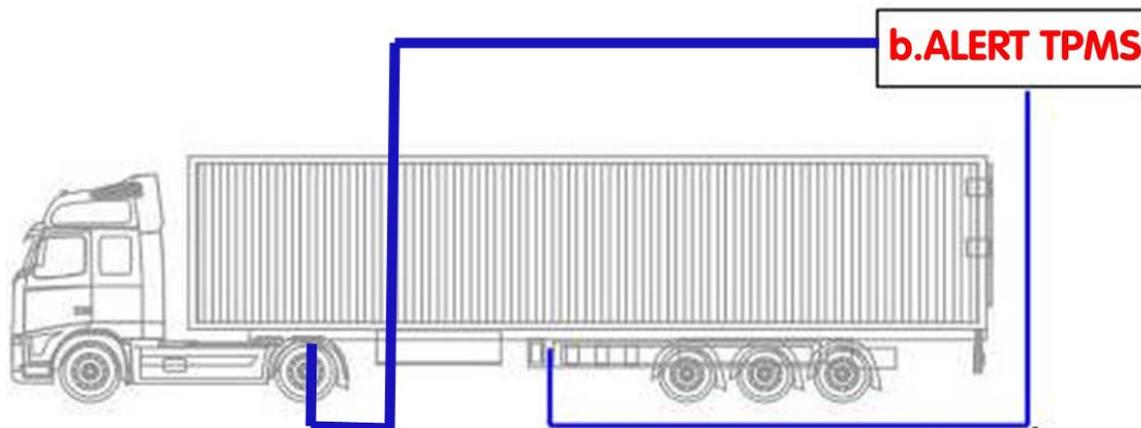


Figure 2 TPMS optimal position

An optimal position of the b.Alert TPMS unit on a trailer is on the inside of the chassis positioned as shown on the figure.

## 5.2. ELECTRICAL CONNECTIONS

The electrical power connection is done with the wire. The red wire is connected to the positive power and the black to the negative or the mass. The connection needs to be powered as long as the trailer is connected to the tractor, also when the engine of the tractor is not running. The specification is 12 or 24 V DC.

With a fully charged internal battery, the unit consumes a maximum of 70 mA. the maximum current consumption with an empty internal battery at 24V is 150 mA.

If wanted, the unit is foreseen with a local alarm to a LED or whatever through an opto-relay.

- **WARNINGS**
  - **Do not connect heavy loads directly, respect the max current limit: Recommended automotive setup : use the OptoMos relay output to control an appropriate automotive relay coil.**
  - **Do not connect GND to one pin and VCC to the other pin of the output : the moment the relay closes you have short circuit.**

### 5.3. INSTALLATION OF THE SENSORS

#### Transmitter

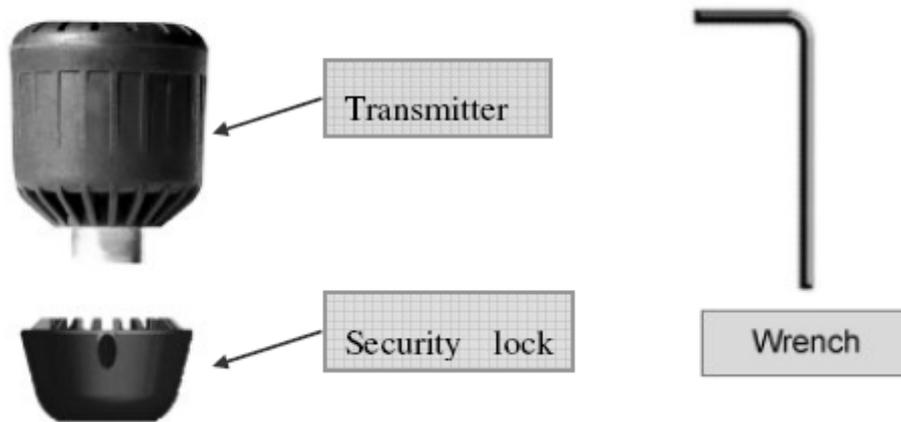


Figure 3 TPMS sensor

Before install the transmitter, make sure the transmitter has been programmed into the unit. When the transmitter is screwed onto the valve according to the programmed position, the receiver can receive the signals.



Figure 4 position of tyre sensor

The sensors are screwed on the valves of the wheels as is shown on Figure 4. Check the connection of Transmitter and valve with the soap solution to confirm whether the transmitter is firmly screwed onto the valve or not, check whether there is air leakage caused by the installation or the seal of the Transmitters or not. The sensor need to stick out of the wheel and cannot be within the metal structure of the wheel.

Each transmitter has a lock to prevent it becomes loose or falls off. Install the lock or not will not influence the functions of the Transmitter. Each transmitter has a security lock and wrench to prevent it becoming loose or falling off. First connect the meshing parts of the Lock and the Transmitter to make them an integrated part, and then screw the Transmitter together with the Lock firmly onto the valve, as shown in Figure 3. Use the provided wrench to fasten the three bolts inside the sockets on the Lock to make sure the Transmitter together with the Lock firmly onto the valve. Then the Transmitter cannot be screwed off unless the three bolts are screwed off by using the wrench.

#### 5.4. USE OF B.ALERT TPMSV2

b.Alert TPMS works fully automated. All data and every setup are done through the web interface. The transmission of the data starts the moment the main unit is powered. Remark that, when the unit starts, it will take some time before all measurements are transmitted from the sensors to the main unit and from the main unit to the platform. Only alarms are sent instantaneously.

b.Alert TPMS has 3 functions:

- Information about the current and the historical pressures and temperatures of the tyres
- A maintenance program to indicate which tyres need to be inflated. To define these tyres, we use the values of the pressures at low temperatures and not at high temperatures during driving
- Alarms by email, SMS, on screen and to onboard computer in the tractor for
  - High pressure
  - Low pressure
  - Pressure change too fast
  - Temperature difference between wheels too high
  - Tyre deflated
  - Tyre explosion

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## 6. FIGURES AND TABLES

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## REGULATIONS



All hardware complies with CE, EMC and low voltage directives of the EU. It needs to be correctly installed on a compatible host system.

The modules have been assessed in order to satisfy the essential requirements of the R&TTE Directive 1999/05/EC (Radio Equipment & Telecommunications Terminal Equipments) to demonstrate the conformity against the harmonized standards with the final involvement of a Notified Body.

The modules are in compliance with the essential requirements and other relevant provisions of the directives 2006/95/EC (LVD), 2011/65/EU (RoHS) and 2004/104/EC (EMC).

## BATTERY DISPOSAL

Risk of explosion if the battery is replaced with an incorrect type. Batteries should be recycled where possible. Disposal of used batteries must be in accordance with local environmental regulations.

## HIGH RISK MATERIALS

Components, units, or third-party products used in the product described herein are NOT fault-tolerant and are NOT designed, manufactured, or intended for use as on-line control equipment in the following non limited list of hazardous environments requiring fail-safe controls: the operation of Nuclear Facilities, Aircraft Navigation or Aircraft Communication Systems, Air Traffic Control, Life Support, or Weapons Systems (High Risk Activities”). B.Alert and its supplier(s) specifically disclaim any expressed or implied warranty of fitness for such High Risk Activities.

## ENVIRONMENTAL INFORMATION FOR CUSTOMERS IN THE EUROPEAN UNION



European Directive 2002/96/EC requires that the equipment bearing this symbol on the product and/or its packaging must not be disposed of with unsorted municipal waste. The symbol indicates that this product should be disposed of separately from regular household waste streams. It is your responsibility to dispose of this and other electric and electronic equipment via designated collection facilities appointed by the government or local authorities. Correct disposal and recycling will help prevent potential negative consequences to the environment and human health. For more detailed information

about the disposal of your old equipment, please contact your local authorities, waste disposal service, or the shop where you purchased the product.



Recupel membership 491611.



## LIMITED PRODUCT WARRANTY

### GENERAL TERMS

This Limited Product Warranty applies to B.ALERT branded products (collectively referred to as "B.ALERT Products") sold by Cassandra NV., its European subsidiaries, affiliates, authorized resellers, or country distributors (collectively referred to as "B.ALERT Resellers") with this Limited Product Warranty. The term "B.ALERT Product" is limited to the hardware components and all its internal components including firmware and the balert.net platform. The term "B.ALERT Product" DOES NOT include any other software applications or programs. This Limited Product Warranty is only effective upon presentation of the proof of purchase. Upon further request by B.ALERT, this warranty card has to be presented, too.

Except as expressly set forth in this limited warranty, b.Alert makes no other warranties, express or implied, including any implied warranties of merchantability and fitness for a particular purpose. B.Alert expressly disclaims all warranties not stated in this limited warranty any implied warranties that may be imposed by law are limited in duration to the limited warranty period.

To the extent allowed by local law, the remedies in this warranty statement are client's sole and exclusive remedies against b.Alert. In no event will b.Alert be liable for loss of data or for indirect, special, incidental, consequential (including lost profit or data), or other damage, whether based in contract, tort, or otherwise.

### COUNTRIES IN WHICH THIS B.ALERT LIMITED PRODUCT WARRANTY APPLIES

This Limited Product Warranty is applicable to Hardware Products sold by B.Alert Resellers in all countries listed under the heading "Countries in which this B.ALERT Limited Product Warranty applies". The Limited Product Warranty will be honored in any country where B.ALERT or its authorized service providers offer warranty service subject to the terms and conditions set forth in this Limited Product Warranty. However, warranty service availability and response times may vary from country to country and may also be subject to registration requirements.

### LIMITATION OF PRODUCT WARRANTY

B.ALERT warrants that the products described below under normal use are free from material defects in materials and workmanship during the Limited Product Warranty Period set forth below ("Limited Product Warranty Period"), if the product is used and serviced in accordance with the user manual and other documentation provided to the purchaser at the time of purchase (or as amended from time to time).

B.ALERT does not warrant that the products will operate uninterrupted or error-free or that all deficiencies, errors, defects or non-conformities will be corrected.

This warranty shall not apply to problems resulting from: (a) unauthorized alterations or attachments; (b) negligence, abuse or misuse, including failure to operate the product in accordance with specifications or interface requirements; (c) improper handling; (d) failure of goods or services not obtained from B.ALERT or not subject to a then-effective B.ALERT warranty or maintenance agreement, (e) improper use or storage, (f) opening or removing Covers or (g) fire, water, acts of God or other catastrophic events. This

warranty shall also not apply to any particular product where the B.ALERT serial number has been removed or defaced in any way b.Alert is not responsible for damage that occurs as a result of your failure to follow the instructions for b.Alert

### LIMITED PRODUCT WARRANTY PERIOD

The Limited Product Warranty Period starts on the date of purchase from B.ALERT. Your dated sales or delivery receipt, showing the date of purchase of the product, is your proof of the purchase date. You may be required to provide proof of purchase as a condition of receiving warranty service. You are entitled to warranty service according to the terms and conditions of this document if a repair to your B.ALERT branded hardware is required within the Limited Product Warranty Period.

This Limited Product Warranty extends only to the original end user purchaser of this B.ALERT Product and is not transferable to anyone who obtains ownership of the B.ALERT Hardware Product from the original end-user purchaser.

Warranty Period: Two (2) years.

### LIMITED PRODUCT WARRANTY PERIOD

If a product defect occurs, B.ALERT 's sole obligation shall be to repair or replace any defective B.Alert Product free of charge provided it is returned to an Authorized B.ALERT Service Centre during the Limited Warranty Period. Such repair or replacement will be rendered by B.ALERT at an Authorized B.ALERT Service Centre. All component parts or hardware products that are replaced under this Limited Product Warranty become the property of B.ALERT. The replacement part or product takes on the remaining Limited Warranty Period of the replaced part or product. The replacement product need not be new or of an identical make, model or part; B.ALERT may in its discretion replace the defective product (or any part thereof) with any reconditioned equivalent (or superior) product in all material respects to the defective product.

### WARRANTOR

Kassandra NV.

Telephone +32 (0)50 47 20 23

Spanjaardstraat 4

8000 Brugge

Belgium

## SAFETY INSTRUCTIONS

Please adhere to the following safety guidelines to help ensure your own personal safety and protect your system from potential damage. Any acts taken that are inconsistent with ordinary use of the product, including improper testing, etc, and those not expressly approved by B.Alert may result in the loss of product warranty.

Unless expressly approved by an authorized representative of B.Alert in writing, you may not and may not permit others to,

- Disassemble or reverse engineer the device or attempt to derive source code (underlying ideas, algorithms, or structure) from the device or from any other information provided by b.Alert. except to the extent that this restriction is expressly prohibited by local law.
- Modify or alter the device.
- Remove from the device any product identification or other notices, including copyright notices and patent markings, if any.

To reduce the risk of bodily injury, electrical shock, fire, and damage to the device and other equipment, observe the following precautions:

## POWER SOURCES

- Observe and follow service markings.
- Do not push any objects into the openings of your device unless consistent with the authorized operation of the device. Doing so can cause a fire or an electrical shock by shorting out interior components.
- The powering of this device must adhere to the power specifications indicated for this product.
- Do not overload extension cords as this will increase the risk of fire or electrical shock.
- Do not rest anything on the power cord or on the device (unless the device is made and expressly approved as suitable for stacking).
- Position system cables and power cables carefully; route cables so that they cannot be stepped on or tripped over. Be sure that nothing rests on any cables
- Operate the device only from the type of external power source indicated on the electrical ratings label.
- Use only approved power cable(s). If you have not been provided a power cable for your device or for any AC-powered option intended for your device, purchase a power cable that is approved for use in your country and is suitable for use with your device. The power cable must be rated for the device and for the voltage and current marked on the device's electrical ratings label. The voltage and current rating of the cable should be greater than the ratings marked on the device.
- When connecting or disconnecting power to pluggable power supplies, if offered with your device, observe the following guidelines
  - Install the power supply before connecting the power cable to the power supply.

- Unplug the power Cable before removing the power supply,
- If the system has multiple sources of power, disconnect power from the device by unplugging all power cables from the power supplies.

## BATTERY

This product uses a LiPo battery. Please charge the battery fully before first use. Refer to operational temperature ranges in the specification appendix. Operation in low (below -20°C) or high (over 45°C) temperatures will affect power supply efficiency and the ability to charge the battery. All Lithium-Ion batteries will experience power supply efficiency deterioration over time, even if not used, and have a limited life expectancy. Do not pierce, open or disassemble the battery Do not swallow the battery. If the battery leaks and you come into contact with the leaked fluids, rinse thoroughly with water and seek medical attention immediately.

Do not put, store or leave your product in or near a heat source; in a high temperature location; in strong direct sunlight; in a microwave oven; in a pressurized container, and do not expose it to temperatures over 80°C. Failure to follow these guidelines may cause the Lithium-Ion battery to leak acid; become hot explode; or ignite and cause injury and/or damage.

The lithium-ion battery contained in the product must be recycled or disposed of properly. Use only with supplied charger(s) and supplied ac adaptor for battery charging.

## SERVICING AND DISASSEMBLING

- Do not service any product except as expressly set forth in your system documentation.
- Opening or removing Covers that are marked with the triangular symbol with a lightning bolt may expose you to an electrical shock. Only a trained service technician should service components inside these compartments.
- To reduce the risk of electrical shock, never disassemble this device. None of its internal parts are user-replaceable; therefore, there is no reason to access the interior.
- Do not spill food or liquids on your system components, and never operate the device in a wet environment. If the device gets wet, see the appropriate section in your troubleshooting guide or contact your trained service provider.
- Use the device only with approved equipment

## ENVIRONMENT

- Do not immerse the product under water
- Keep your device away from radiators and heat sources. Also, do not block cooling vents.

## CLEANING

- Do not use liquid or aerosol cleaners of any kind. Use only compressed air that is recommended for electronic devices.