

# Asset Tracking Tag

## User Guide

Part Numbers : 5-ETC00433C, 5-ETC00433C-1, 5-ETC00433C-2, 5-ETC00433C-3  
5-ETC00433C-4 & 5-ETC00433C-5

# Elpas

## Active RFID/RTLS Solutions

### Introduction

The Elpas Asset Tracking Tag from Visonic Technologies (VT) is a miniature, unified active long-range Radio Frequency (RFID) and Infrared device designed for the real-time tracking of mobile assets or people.

The tag's all-in-one, dual technology transmitter continuously emits low power, supervisory beacon type radio frequency (RF) messages as well as safe, supplemental infra-red (IR) messages that identifies the exact real-time location of assets or people with unparalleled reliability and precision. When attached to an asset; the tag automatically transmits alert notifications for keeping personnel informed of deliberate or accidental tampering and/or removal.

The tag's onboard magnetic low frequency (LF) Receiver adds chokepoint area detection so whenever the protected asset or person physically nears an exit/entrance covered by an Elpas LF Exciter an alarm notification is generated.

The Asset Tracking Tag also features an optional one-touch wireless emergency call or duress alert functionality to ensure complete 24/7 personnel safety and supervision

Made of tough ABS thermoplastic, the Asset Tracking Tag withstands severe physical shocks and drops, is water resistant and temperature stable. Small in size and weight, the tag is easily affixed to an asset using the \*Equipment Clip worn as a necklace when attached to the Pendant Clip with Lanyard or belt worn when used with the Belt Clip.

### Specifications

**Transmission Duration:** Approximately 2ms

**IR Supervision (Motion/Stationary):** Every 5 sec/60 sec

**RF Supervision (Motion/Stationary):** Every 10 sec/60 sec

**RF Upon Entry into LF Area:** Burst of 4 RF transmissions 0.5seconds apart.

**LF Sampling (Motion/Stationary):** Every 500ms/15 secs

**RF under LF Rate:** 2 secs; after 10 mins returns to 10 secs

**IR under LF Rate:** 10 seconds

**LF Timeout:** Transmits 2 non-LF messages after not hearing from LF for this amount of time

**Time to Idle:** 10 seconds

#### Events:

**Button Press/Release**

**Tamper & LF**

**Low Voltage**

**Motion/Stationary**

4 IR/RF transmissions (each @ 2ms in duration), 400ms apart.

**Visual Indicators:** Green LED indicates transmission.

Red LED indicates button press.

**Badge ID:** Unique factory programmed ID

**Dimensions:** 34x40x15 mm (1.3 x 1.6 x 0.6 inches)

**Power Source:** One 3V lithium battery, CR 2430

#### Battery Life:

Triple Tech: In motion 8 hrs/day, 6 days/week - 15 Months

Dual Tech: In motion 8 hrs/day, 6 days a week - 3.5 Years

Dual Tech: In motion 1 hr./day 6 days/week - 7 years

**Weight (assembled):** 20 grams (0.75 ounces)

**Operating Temperature:** 10°C to 70°C (14°F to 159°F)

**Construction:** Clear polymer plastic

**Housing:** IP64 water rated enclosure

**Compliance Standards:** EN 300 220-3, EN301 489-03,

EN50130-4:95+A1(98) +A2(03), EN60950-1:01, EN 60601-1/2

FCC Part 15.231 Level C, FCC ID#: GSA-ETC00433 (433.92 MHz)

**Warranty:** One year limited warranty (excluding battery)

### Installation Instructions

1. Remove the protective layer from the double-sided adhesive on the back of the mounting bracket (Figure 1).

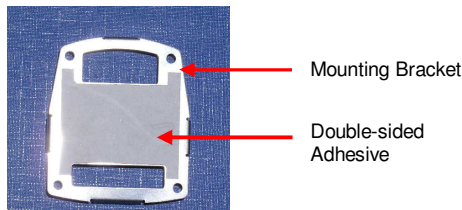


Figure 1: Front View - Mounting Bracket

2. Carefully position the mounting bracket on the asset to be tagged (narrow side on top, wider side at the bottom).

**Note:** It is recommended to place the tag on light colored surfaces. Dark surfaces may require the addition of a white sticker placed between the surface and the tag.

3. Place the tag in the mounting bracket and click it into place such that the wide/narrow sides correspond to the shape of mounting bracket (Figures 2, 3, 4 and 5).

#### Tags on Laptop Computers

The tag should be positioned on the top right corner of the laptop lid. If the tag is attached towards the center of the lid, the RF performance will be significantly degraded, reducing the detection range of the tag.



Figure 2: Front view

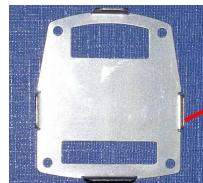


Figure 3: Front View Mounting Bracket

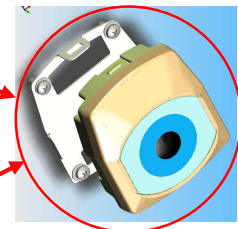


Figure 4: Attaching Tag to Mounting Bracket



Figure 5: Tag (in mounting bracket)

4. To remove the tag from the mounting bracket, use a small flat-head screwdriver to release the clip that holds the tag in place (Figure 5).
5. To reattach the tag, repeat steps 3 and 4.

## Event Transmission

The Asset Tracking Tag has Button Press and Tamper inputs; designated B1 and B2 respectively:

- B1 – Monitors press/ release button activity
- B2 – Monitors tamper functionality

### For Tamper:

The Tracking Tag reports the state of the tamper sensor on B2. When Tamper is detected (detached), B2=1. When attached, B2=0. An EVENT message is transmitted when there is a change from attached to detached or vice versa. When there is a change from attached to detached (i.e. tampering), then there is a transmission of EVENT of 4 messages, 500 ms apart and B2=1. When attached, there is a transmission of EVENT of 4 messages, 500 ms apart and B2=0.

In the steady state, the B2 bit provides the status of the tamper sensor (if the equipment tag stays attached, B2=0, if stays detached, B2=1).

### For Button Press / Release:

After button press, 4 messages are transmitted (each message about 2ms in duration), 500 ms apart, with B1=1. When the button is released, B1=0.

An additional 4 messages (each message about 2ms in duration) are transmitted 400 ms apart. In the steady state (no button press / button release) B1=0.

## Event Transmission in LF Zone

**LF Response Time:** The onboard LF receiver activates every 0.6 sec to check if the tag is in a LF zone. Receiver is activated every 15 seconds when tag is stationary.

**Transmission Rate:** Continuous bursts of 4 IR/RF transmissions (each transmission about 2ms in duration), at 0.4 second intervals. Continues at 2 second interval while in LF field. Additional burst of 4 messages are transmitted when tag exits LF field.

## Battery Replacement

1. Suspend usage of the Tracking Tag using the EIRIS software.
2. Remove the tag from the mounting bracket using a small flat-head screwdriver to release the clip that holds the tag in place (Para 3, Figure 5).
3. Unscrew the 4 screws situated at the back of the tag and remove the back cover from the (Figures 1 and 2).

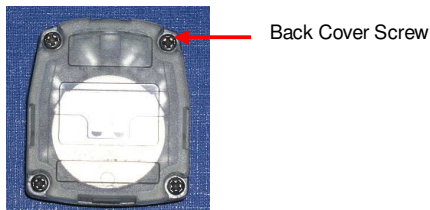


Figure 1: Tag (showing screws)

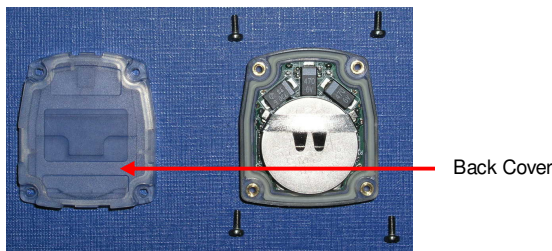


Figure 2: Tag (back cover removed)

4. Carefully slide the battery out from under the battery holder to reveal the battery isolator (Figure 3).

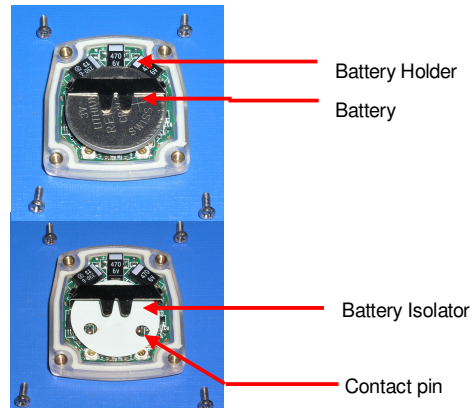


Figure 3: View of Battery Removed

5. Before inserting a new battery into place, position the battery Isolator such that the holes are aligned with the contact pins (Figure 3).
6. Replace the battery ensuring that the positive (+) side of the battery faces the PCB.
7. Close the back cover such that the screw holes are correctly aligned. Tighten the 4 screws snugly into place (torqued between 25-28 cN.m). Do not over-tighten as this may strip the case threads.



**Elpas Tracking Tags require activation before use.**  
**To activate : Press and hold the button for 5 seconds. Upon activation the LED blinks, indicating transmission.**

## Standards Compliance

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

- This device may not cause harmful interference
- This device must accept any interference received, including interference that may cause undesired operation.

For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

**NOTE:** 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. 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 receiver.
- Connect the equipment into 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.

### Warning!

Changes or modifications to this equipment not expressly approved by the party responsible for compliance (Visonic Technologies Ltd.) could void the user's authority to operate the equipment.

## Product Warranty

Visonic Technologies Ltd., and its affiliates, (hereinafter collectively referred to as "the Manufacturer") warrants its products (hereinafter referred to as "the Product") to be free of defects in materials and workmanship under normal operating conditions and use for a period of one year from the date of shipment by the Manufacturer. The Manufacturer's obligations shall be limited within the warranty period, at its option, to repair or to replace the defective Product or any defective component or part thereof. To exercise this warranty, the product must be returned to the manufacturer freight prepaid and insured.

This warranty does not apply to repairs or replacement caused by improper installation, Product misuse, failure to follow installation or operating instructions, alteration, abuse, accident, tampering, repair by anyone other than the Manufacturer, external causes, and failure to perform required preventive maintenance. This warranty also does not apply to any products, accessories, or attachments used in conjunction with the Product, including batteries, which shall be covered solely by their own warranties, if any. The Manufacturer shall not be liable for any damage or loss whatsoever, whether directly, indirectly, incidentally, consequentially or otherwise, resulting from a malfunction of the Product due to products, accessories, or attachments of others, including batteries, used in conjunction with the Product.

THE MANUFACTURER MAKES NO EXPRESS WARRANTIES EXCEPT THOSE STATED IN THIS STATEMENT. THE MANUFACTURER DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE MANUFACTURER'S SOLE RESPONSIBILITY FOR WARRANTY CLAIMS IS LIMITED TO REPAIR OR TO REPLACE AS SET FORTH IN THIS STATEMENT.

The Manufacturer shall have no liability for any death, personal injury, property damage, or other loss whether direct, indirect, incidental, consequential, or otherwise, based on a claim that the Product failed to function. However, if the Manufacturer is held liable, whether directly or indirectly, for any loss or damage arising under this limited warranty or otherwise, regardless of cause or origin, the Manufacturer's maximum liability shall be limited to the purchase price of the Product, which shall be fixed as liquidated damages and not as a penalty, and shall be the complete and exclusive liability of the Manufacturer.

The Manufacturer shall not, under any circumstances whatsoever, be liable for any inaccuracy, error of judgment, default, or negligence of the Manufacturer, its employees, officers, agents, or any other party, or of the purchaser or user, arising from any assistance or communication of any kind regarding the configuration, design, installation, or creation of security system involving the Product, that being the responsibility of the purchaser or user.

If the Manufacturer is unable to make such repair or replacement, the Manufacturer's entire liability shall be limited to the cost of a reasonable substitute product.

The Manufacturer shall not be responsible for any dismantling, installation, reinstallation, purchasing, shipping, insurance, or any similar charges.

The Manufacturer shall have no liability for any damages, including without limitation, any direct, indirect, incidental, special, or consequential damages, expenses, costs, profits, lost savings or earnings, or other damages arising out of the use of the Product or the removal, installation, reinstallation, repair or replacement of the Product or any related events. In the event that there is any liability against the Manufacturer, such liability shall be limited to the purchase price of the Product which amount shall be fixed as liquidated damages.

The purchaser and user understand that this Product may be compromised or circumvented by intentional acts; that the Product will not in all cases prevent death, personal injury, property damage, or other loss resulting from burglary, robbery, fire or other causes; and that the Product will not in all cases provide adequate warning or protection. The purchaser and user also understand that a properly installed and maintained alarm may reduce the risk of events such as burglary, robbery, and fire without warning, but it is not insurance or a guarantee that such events will not occur or that there will be no death, personal injury, property damage, or other loss as a result of such events.

By purchasing the Product, the purchaser and user shall defend, indemnify and hold the Manufacturer, its officers, directors, affiliates, subsidiaries, agents, servants, employees, and authorized representatives harmless from and against any and all claims, suits, costs, damages, and judgments incurred, claimed, or sustained whether for death, personal injury, property damage, or otherwise, because of or in any way related to the configuration, design, installation, or creation of a security system involving the Product, and the use, sale, distribution, and installation of the Product, including payment of any and all attorney's fees, costs, and expenses incurred as a result of any such events.

The purchaser or user should follow the Product installation and operation instructions and test the Product and the entire system at least once each week. For various reasons, including but not limited to changes in environmental conditions, electric, electronic, or electromagnetic disruptions, and tampering, the Product may not perform as expected. The purchaser and user are advised to take all necessary precautions for the protection and safety of persons and property.

This statement provides certain legal rights. Other rights may vary by state or country. Under certain circumstances, some states or countries may not allow exclusion or limitation of incidental or consequential damages or implied warranties, so the above exclusions may not apply under those circumstances and in those states or countries.

The Manufacturer reserves the right to modify this statement at any time, in its sole discretion without notice to any purchaser or user. However, this statement shall not be modified or varied except by the Manufacturer in writing, and the Manufacturer does not authorize any single individual to act on its behalf to modify or vary this statement.

Any questions about this statement should be directed to the Manufacturer.

8/96

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Manufactured in Israel



#### W.E.E.E. Product Recycling Declaration

For information regarding the recycling of this product you must contact the company from which you originally purchased it. If you are discarding this product and not returning it for repair then you must ensure that it is returned as identified by your supplier. This product is not to be thrown away with everyday waste. Directive 2002/96/EC Waste Electrical and Electronic Equipment.