

# Infant Protection Bracelet

## User Guide

Part Numbers: 5-BTC00433-A, 5-BTC00433-B

*Elpas*

Active RFID/RTLS Solutions

### General Overview

The Elpas Infant Protection Bracelet from Visonic Technologies (VT) is a rechargeable miniature, unified active long-range Radio Frequency (RFID) and Infrared device. The bracelet provides 24/7 infant protection by tracking the real-time location of newborns in maternity wards and by generating mother-baby mismatch alarms.

The Infant Protection Bracelet is comprised of a rechargeable tag and a disposable, anti-tamper, adjustable band made of skin-safe non-latex materials that can be retightened should the baby loose weight. When worn by the newborn, the bracelet automatically transmits removal alert notifications for keeping facility personnel informed of deliberate or accidental tampering and/or removal of the baby from the protected area.



The bracelet's all-in-one, dual technology transmitter continuously emits low power, beacon type radio frequency (RF) supervision messages as well as safe, supplemental infra-red (IR) messages that identifies the exact real-time location of the new born infant. This same RF/IR technologies also continuously broadcasts the operational status of the tag (such as its battery state and the condition of its tamper wire). The bracelet's onboard magnetic low frequency (LF) receiver adds chokepoint area detection so whenever the new born infant nears a prohibited exit/entrance covered by an Elpas LF Exciter a security intervention alarm is raised.

The Infant Protection Bracelet is small in both size and weight and is enclosed in a tough ABS, IP66 water rated outer casing. Powered by an internal rechargeable lithium battery, the badge's 'Hibernation' power management protects the battery from total discharge and greatly extends the life expectancy of the tag. The badge also includes two LEDs for indicating operational status, tamper and low battery condition.



**CAUTION:** It is important that you read, understand, and follow the instructions in this document. If you have questions, call your local Visonic Technologies support representative. This document is intended for trained system integrators, field service or maintenance engineers that need to troubleshoot problems in the EIRIS system, or configurations and processes.

### Tamper Transmissions

**Transmission Rate:** Single burst of 4 IR/RF transmissions (each lasting @ 2ms) and the total burst time not exceeding 1 second.

### Event Transmission Rates in LF Zones

#### Moving Bracelet

**LF Response Time:** Onboard LF receiver activates every 0.6 seconds to check if the tag is in a LF zone.

**Transmission Rate:** Bursts of 4 messages (each lasting @ 2ms), with intervals of 400ms.

**Transmitted Message Type:** IR/RF Data Message includes ID code of LF Exciter.

#### Motionless Bracelet

**LF Response Time:** Onboard LF receiver polls every 15 seconds to check if the tag is in a LF zone.

**Transmission Rate when in LF:** Bursts of 4 messages (each lasting @ 2ms), with intervals of 400ms.

**Transmitted Message Type:** IR/RF Data Message includes ID code of LF Exciter.

### Comments on IR Signaling

Attaining the maximum IR reception range depends mainly on direct line of sight between the transmitter and the receiver. Nevertheless, certain environments allow the signal to reach the receiver in a roundabout path, by reflection or refraction of the infrared radiation. Tiled floors (uncarpeted), walls, smooth ceilings (not too high) can reflect IR signals reasonably well, and allowing them to be received even when the radiating source is pointed away from the receiver. With good indirect reflection path, a range of 5 - 6m (15 - 18ft) is expected (with poor reflection, the range gets even shorter). The user is therefore strongly advised to point the transmitter directly at the nearest receiver or, if the location of the nearest receiver is unknown, to press the transmit button several times while pointing the transmitter in different directions. It is strongly recommended not install IR receiver outdoors, facing direct sunlight, or near fluorescent lamps, to prevent interference to IR reception.

The installer is encouraged to test the reception range in the various zones and to install additional receivers if necessary.

### Comments on Radio Signaling

Some limitations have to be considered.

- A. Receivers may be blocked by radio signals occurring on or near their operating frequencies, regardless of the code selected.
- B. A receiver can only respond to one transmitted signal at a time.
- C. Wireless equipment should be tested regularly (at least once a week) to determine if there are sources of interference and to protect against faults.

### Hibernation Mode

Initiates 12 hours after band is open, 48 hours after low battery, 30 minutes after removal from charger

### Preparing the Bracelet for Usage

1. Hold the **Tag**, **Front Side Up** in one hand and the disposable kit in the other.



2. Place the **Cap** on the tag making sure that the cap's wide edge matches the wide edge of the tag.



### Attaching the Bracelet

1. Place the **Bracelet** around the baby's ankle such that the cap part of the disposable tamper band is always on top.
2. Using the grip key, adjust the **Band Length** as needed to obtain a snug fit around the baby's ankle.
3. Then remove the **Grip Key** by turning it counter-clockwise
4. Finally position the **Bracelet** on the baby's ankle as shown here



### Removing the Bracelet

1. Pull gently on the **Tag** as far as possible from the infant's ankle. Using baby-safe scissors cut either side of the **Ankle Wire** as close to the tag as possible.

**NOTE:** It is highly recommended to perform a match test between the Mother tag and Infant Protection Bracelet before removing the bracelet and releasing the mother with the baby (Refer to the Nurse Station BabyMatch III Users Guide for more information).

### Removing the Disposable Tamper Band

2. Push the tag gently through the **Extractor Tool** until it clicks into place.



3. Press firmly on the **Cap**; then release the Tag from the **Disposable Kit** with your hand.

4. Then safely discard the **Disposable Kit** according to hospital guidelines.



### Cleaning and Disinfection Procedures

1. Clean the Rechargeable Tag (with the snap-on cap attached) by using the appropriate antibacterial solution.

**NOTE:** Do not remove the used snap-on cap prior to cleaning (this allows the contacts to remain free of cleaning solutions, shorts, etc).

2. Remove the used Disposable Tamper Band and with a soft cloth or a wipe, clean the top part of the Rechargeable Tag.

### Tag Recharging

1. Check that the **LEDs** are OFF before inserting tag in Battery Charger's cradle. If the green LED is ON, wait 5 seconds for it to turn OFF.
2. Snap the tag into the **Charger** to lock it into position. If the Rechargeable Tag is placed incorrectly in the Charger, it will not snap into place.
3. Refer to the Charger's **User Guide** for additional Instructions.

Electrical Specifications	
Supervision Transmissions Rates:	<b>IR:</b> 7.5 Seconds - Constant / <b>RF:</b> 15 seconds – Constant <b>While In Charger RF/IR:</b> 120 seconds - constant
RF Transmission Rate upon entry into LF area	Burst of 4 supervision messages (each lasting @ 2ms) with intervals of between 200 and 400ms, and the total burst time not exceeding 1 second
Events: Band Closed (B2 up) Band Opened (B2 down) LF & Tamper	Single burst of 4 messages (each lasting @ 2ms) with intervals of between 200 a 400ms, and the total burst time not exceeding 1 second prior to deactivation
LF and Tamper Check	Polls every 600ms
Power Source	One Lithium Ion rechargeable battery pack
Time Between Charges	Approximately 1 week between recharges
Battery Life	3 years - approximate
Hibernation Mode	Initiates 12 hrs after band is open, 48 hrs after low battery, 30mins after charger removal
Hibernation Supervision	Transmits motionless RF/IR supervision messages every 10 minutes
Hibernation Warning	Transmits a burst of 4 motionless messages prior to hibernation
Green LED Indicator	<b>Operational Mode:</b> Flashes once every 15 seconds <b>Hibernation Mode:</b> Not Lit <b>Disposable Band Removed/Connected:</b> Rapidly flashes 4 times
RED LED Indicator	<b>Low Battery:</b> Flashes once every second
Badge ID code	Unique factory programmed ID
General Specifications	
Construction	Polymer plastic
Physical Dimensions	39.4 X 31.5 X 14.8 mm (1.55 x 1.24 x 0.582 inches)
Weight (assembled)	20 grams (0.75 ounces) approximate
Temperature & Humidity	Temp: -10°C to 70°C (14°F to 158°F), Humidity: 20% to 80% non-condensing
Water Rated Enclosure	<b>Tag:</b> IP-66 / <b>Complete Bracelet:</b> IP-55
Warranty	One year limited warranty (excluding battery)
Compliance Standards	EN301489-1, EN301489-3, EN60601-1-2, CISPR 11, EN60950-1, IEC61000-4-2, IEC61000-4-3, IEC60601-1, EN300 220-1, EN300 220-2, FCC Part 15.231 Level C, FCC ID#: GSA-BTC00433 (433.92 MHz)

## Ordering Details

Part Information	
5-BTC00433-A	Rechargeable Tag, IR/RF/LF. 433MHz, 7.5/15/60
5-BTC00433	10 Rechargeable Tags, IR/RF/LF, 433MHz, 7.5/15/60, incl. 2 extractors
5-BTC00433-B	Rechargeable Tag, RF/LF. 433MHz, 15/15
5-BTC00433-1	10 Rechargeable Tags, RF/LF, 433MHz, 15/15, incl. 2 extractors
5-BTC09433	Dummy Rechargeable Tag
Accessories	
5-CRG90001	Charger, 6 position, European standard
5-CRG90001-1	Charger, 6 position, US standard
5-CRG90001-2	Charger, 6 position, UK standard
5-BTC90001-1	Disposable Tamper Band, Pediatric, 24cm maximum diameter, (25 units)
5-BTC90001	Disposable Tamper Band, Infant, 16cm maximum diameter, (50 units)
5-BTC90003	Extractor, Infant (10 units)
5-BTC90006	Grip key w/lanyard (set of 5)

## Standards Compliance

This device complies with Part 15 of the FCC Rules; and its 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 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

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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