

Infant Protection Bracelet

User Guide

Part Numbers: 5-BTD00433, 5-BTD00433-1

Elpas

Active RFID/RTLS Solutions

General Overview

Elpas Infant Protection Bracelet is a unified active long-range Radio Frequency and Infrared device that provides effective security and abduction deterrence for newborns and infants in high-traffic maternity units and neonatal care departments.

The bracelet is comprised of an Elpas reusable tag and a disposable baby friendly anklet band made of skin-safe non-latex materials that is attached to the infant at birth and may be retightened if subsequent weight loss occurs.

The tag's dual technology transmitter emits low power, UHF (433.92MHz) beacon type radio frequency messages plus supplemental infra-red (800nm) messages that can be used to determine the real-time location of the tag to sub-room level precision. The tag also transmits device supervision messages for keeping facility personnel informed of deliberate or accidental tampering and/or removal of the infant from the protected area. Additionally the tag features a magnetic low frequency receiver (125KHz) that adds chokepoint area detection so that whenever a protected infant is physically near a prohibited exit/entrance covered by an Elpas LF Exciter security intervention alerts may be triggered.

The Elpas Infant Protection Bracelet is bath/shower proof, simple to use and easy to clean. Powered by single internal lithium battery, the tag's new low power design delivers three years average battery life



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: 3 IR/RF transmissions (each transmission @ 2ms in duration), 400ms apart 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 2 seconds to check if the tag is in a LF zone.

Transmission Rate: Bursts of 3 RF transmissions (each lasting @ 2ms), 0.5 seconds apart.

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

Motionless Bracelet

LF Response Time: Onboard LF receiver polls every 60 seconds to check if the tag is in a LF zone.

Transmission Rate when in LF: Bursts of 3 RF transmissions (each lasting @ 2ms), 0.5 seconds apart.

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.

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

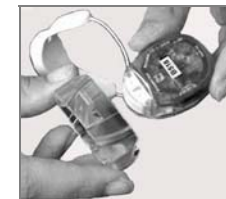
Removing the Bracelet

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 Reusable 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 Reusable Tag.

Battery Replacement

Do not attempt to replace the tag's battery yourself. Opening the unit will void the tag's warranty. Return to VT Service Center for all repairs and service

Warning: Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to manufacturer's instructions.

Electrical Specifications	
Signaling Technologies	RF (433.92 MHz).... IR (880nm)....LF (125KHz)
RF: (Motion/Stationary)	Supervision messages every 10 seconds/ 60 seconds
IR: (Motion/Stationary)	Supervision messages every 19 seconds/ 300 seconds
RF Upon Entry into LF Zone	Burst of 3 RF transmissions (each transmission @ 2ms in duration), 0.5 seconds apart
RF under LF	2 seconds; after 10 minutes returns to 10 secs when in motion or 60 secs when stationary
LF Timeout	Transmits 3 non-LF messages after not hearing from LF for this amount of time
Time to Idle	10 seconds
Events: Band Closed (B2 up) Band Opened/Tamper (B2 down) Low Battery	3 IR/RF transmissions (each transmission @ 2ms in duration), 400ms apart
Power Source	Internal 3V/600mAh Lithium battery
Average Battery Life (Assuming tag motion 7 Hrs per day, 7 days/week)	Dual RF/LF: 3 years Triple RF/IR/LF: 1.5 years
Low Battery Voltage	2.3 Vdc
Red LED Indicator	Low Battery: Flashes once every 10 seconds Upon Entry into LF Area or Exit out of LF Area: Flashes twice Band Closed/Band Opened: Flashes twice
Badge ID code	Unique factory programmed ID
General Specifications	
Construction	Grilamid nylon
Dimensions (H x W x D)	39.4 X 31.5 X 14.8 mm (1.55 x 1.24 x 0.582 inches)
Tag Weight	15 grams (0.5 ounces) approximate
Operating Environment	Temp: -10°C to 70°C (14°F to 158°F), Humidity: 20% to 80% non-condensing
Water Rated Enclosure	Tag: IP-66 / Complete Bracelet: IP-55
Warranty	One year limited warranty (excluding battery)
International Standards	EN300 2220-1 & 2 EN 301 489-1&3, EN60601-1-2, CISPR 11:2004, Class B, IEC 61000-4-2 & 4-3 FCC Part 15.231 Level C, FCC ID: 04X5-BTD0043, IC ID: 1467G-BTD00433

Ordering Details

Part Information	
5-BTD00433	Reusable Tag, WR IR/RF/LF, 433MHz, 7.5/15/60
5-BTD90433	Package of 10 Reusable Tags, WR IR/RF/LF, 433MHz, 7.5/15/60 - includes 2 extractors
5-BTD00433-1	Reusable Tag, WR RF/LF, 433MHz, 15/15
5-BTD90433-1	Package of 10 Reusable Tags, WR RF/LF, 433MHz, 15/15 - includes 2 extractors
Accessories	
5-BTC90001	Disposable Tamper Band, Infant, 16cm maximum diameter, (50 units)
5-BTC90001-1	Disposable Tamper Band, Pediatric, 24cm maximum diameter, (25 units)
5-BTC90003	Extractor Tool (10 units)
5-BTC90006	Grip key w/lanyard (set of 5)
5-BTC09433	Dummy Rechargeable Tag

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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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