

**GENERAL DESCRIPTION**

The TS300 is portable, water-resistant, ultrasonic transmitter, compatible with the RS900 receiver and all the Securalert™ Generation II series. The TS300 is lightweight. Upon activation of the alarm switch, it generates an ultrasonic, modulated signal AND a two-way radio signal. The radio signal is compatible with the M900 central system. It is provided with a key ring and a clip. It can be worn easily at the belt, or attached on any cloth.

**USE**

Contrary to radio waves, ultrasonic signals are stopped by walls, floors, ceilings, and bounce off them. Therefore a transmitter will only activate the one receiver located in the same room, no matter the size of the room.

The use of ultrasound is most recommended when an emergency happens and one quickly needs to find the exact location of the person in distress within a building that has many different closed rooms.

**HOW IT WORKS:**

**NORMAL:** The TS300 has a multicolor LED that provides instant information on battery status as well as general status of the transmitter: (colors green, yellow or red = battery good, average, low) (light ON or FLASH = system OK or in trouble). A test button gives the user an instant report of the transmitter state.

**ALARM:** An alarm notification is initiated when the main alarm switch is depressed for a programmable period of time.

If activated, the internal vibrator and the LED, will indicate to the user that the alarm has been triggered.

The transmitter will start sending both ultrasonic and radio signals, until a positive acknowledgement is received from the central M900.

**SUPERVISION**

A microprocessor constantly monitors the proper operation of critical parts and battery status. A check-in signal is sent automatically and periodically to the M900 central. Any problem is reported immediately. Also, the user can force system verification at any time by pressing and holding the test switch. If localization beacon is in use, the M900 will note the position of the transmitter at every transmission so that a lost unit can be found.

**ADDITIONAL FEATURES:**

Other options can be activated or added to the basic operations:

- 1-Forbidden Zone Beacon option, works with X900 beacon in order to create radio zone where the TS300 should not be (to avoid staff leaving the facility with the unit) and make the transmitter vibrate to alert the staff.
- 2-Tracking option enables the TS300 to be located from the M900 system (to find a lost or stolen unit).
- 3-The TS300 has a built-in mobility sensor. The unit can detect if the unit is not moving at all for a period of time and can either go in battery saving mode, or report to the central a suspicious situation (main down or stolen unit)

**APPLICATIONS:**

The TS200 is commonly used for personnel localization (through the use of the panic button) in hospital psychiatric ward or emergency room, youth detention center, court house, penitentiary or laboratory.

**BI-DIRECTIONAL, MULTI-CHANNEL RADIO COMMUNICATION :**

The TS300 communicates with the M900 central thru a standard IEEE 802.15.4 protocol. Over the basic protocol features, Nordicom has increased the functionality by adding an additional communication layer, managing the frequency and power of the radio signal in order to detect and correct radio interferences. Frequency sweeping and changing are features unique to Nordicom's Securalert™ Generation II series. Nordicom uses the maximum radio power permitted (60mW), compared to 1mW used by other companies). The results are a foolproof and complete 100% communication in a radius of 30 meters (100 feet), in any condition. This system will work perfectly in today's environment as well as future radio saturated environments. With the bi-directional communication, no message is lost. Acknowledgement are always sent back to confirm reception of signal (in addition to the built-in acknowledgement inherent of IEEE 802.15.4 protocol), thus avoiding old system approaches of sending multiple messages and saturating the radio channel.

**BATTERY OPERATION:**

The TS200 transmitter is powered by a miniature lithium-polymer rechargeable battery. Life time for 1 charge varies, depending on the options activated. It can be more than a month. Recharging the unit takes 2 hours or less.

**CASE:**

The case is very ergonomic and provides a safe and solid grip in case of panic. The reaction time required to trigger an alarm is adjustable to avoid a false alarm. Also, a unique feature of the TS300 is its tactile feedback. When a alarm is triggered, the TS300 vibrates giving a clear feedback to the user, keeping the use quiet and discrete. The waterproof case can be cleaned and disinfected easily.

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**REV 3**
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**TECHNICAL SPECIFICATIONS**

- Ultrasonic Operational frequency : 40.6KHz +/- 100Hz Modulated
- Omni directional ultrasonic range : Adjustable (at the receiver) from 1m<sup>2</sup> to 50m<sup>2</sup> minimum
- Decoder : RISC Microprocessor controlled
- Visual indicator : Multicolor LED ( green, yellow and red)
- Tactile indicator : Vibrator
- Switch : 2 (alarm and test)
- Time required to trigger alarm: Programmable between .2 and 25 seconds (by increment of .1 second)
- Supervision cycle: Programmable between 1 and 255 minutes
- Economy battery mode: After 4 minutes without any movement

**RADIO**

- Operational frequency : BANDE ISM 2400 to 2483.5 MHz  
12 channels, auto-scan
- Type of modulation: FM, spread spectrum
- Maximum Power: 60mW. (+20dBm)
- Minimum garanty range: 30 meters (100 feet)
- Radio baud rate: 250Kbps.
- Radio protocol: IEEE 802.15.4
- Homologation: FCC part 15 & ETS 300-32
- Globale free licence : International (USA,EUROPE,ASIA)

**ELECTRICAL AND PHYSICAL SPECIFICATIONS**

- Battery: Rechargeable Lithium/polymer, 3.7 Volts DC, 210mA
- Operating temperature : 0°C to 65°C
- Recharge temperature : 0°C to 40°C
- Water resistance: Splash and immersion (the TS300 alone floats)
- Material / color : ABS plastic, 3 colors available (black, grey or almond)
- Weight (with battery): 1.5 oz ( 43 g )
- Dimensions :
 

width	2" (48mm)
length	3.5"(87mm)
height	5,2" (132mm)