EN1221S-60N Waterproof Senior Living Pendant with Neck Lanyard and EN1221S-60W Waterproof Senior Living Pendant with Wristband

Installation and Operation Manual

1 Overview

The Inovonics senior living pendant provides residents with the comfort that help is just a button press away, while providing the advanced functionality and reliability that caregivers depend on.

Note: For UL 2560 installations, refer to the *EN6080 Area Control Gateway Installation Instructions* or the *EN6040-T Network Coordinator with Transformer Installation Instructions*.

1.1 Inovonics Wireless Contact Information

For product and installation videos visit us at www.inovonics.com/video/en1221s or use the QR code below.

If you have any problems with this procedure, contact Inovonics technical services:

- E-mail: support@inovonics.com.
- Phone: 1.800.782.2709, option 2.

1.2 Maximum Number of Repeaters for a UL 2560 Installation

To achieve the 99.99% alarm message reliability required for UL 2560 compliance, system installations must operate within the following limits for end device and repeater counts.

End Devices	Maximum Repeaters
150	397
250	386
350	375
500	360
1000	313
2000	238
3000	184

1.3 Senior Living Pendant Components

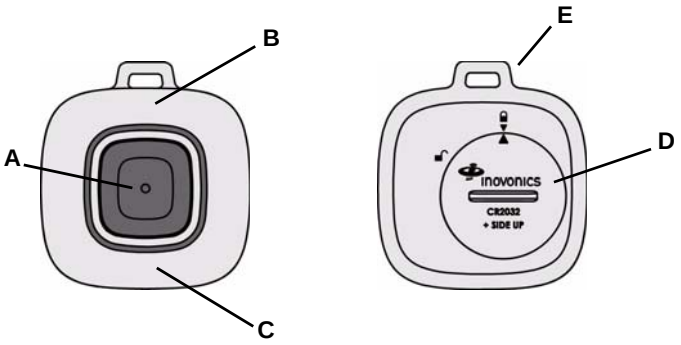

Figure 1 Senior living pendant components (EN1221S-60N shown)

A Activation button **B** Transmit and alarm clear LED **C** Low battery LED

D Battery door **E** Attachment loop

1.4 What's In The Carton

Individually-packaged products include the following items:

- One unattached lanyard for the EN1221S-60N; one attached wristband for the EN1221S-60W
- One CR2032 coin cell battery
- One battery door

Note: Bulk-packaged products are shipped with multiples of the above items.

2 Installation and Startup

2.1 Installation Notes

- These products are designed to be maintained by professional technicians.
- Products are intended for indoor use.
- All products should be manually tested weekly (see section 6, "Test the Transmitter").

2.2 Battery Installation

Caution: If you are installing batteries in multiple devices, keep the batteries from coming into contact with each other to prevent discharge.

1. Place the battery in the battery compartment, ensuring that the positive terminal (+) faces up.
2. Seat the battery door over the battery so that the arrow on the battery door is lined up with the unlocked padlock icon.

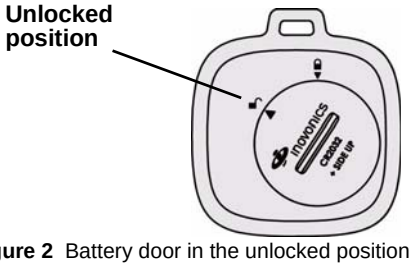

Figure 2 Battery door in the unlocked position

3. Use the ACC680 alarm clearance card or a quarter to turn the battery door to line up the arrow on the battery door with the arrow under the locked padlock icon.

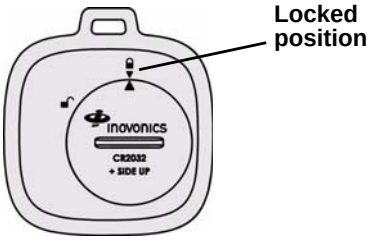

Figure 3 Battery door in the locked position

4. Press the activation button.
   - The green LED will light briefly, and then the red LED will flash and the pendant will vibrate, indicating that an alarm has been sent.
5. Clear the alarm sent when you activated the pendant per section 3.2, “Clear an Alarm”.

2.3 Register the Transmitter

The transmitter sends a check-in message to the receiver or gateway every 60 minutes for the purposes of supervision. The transmitter must be registered and supervised.

Each transmitter has a unique factory-programmed identification number. Refer to the receiver or gateway's installation instructions for details on registering and setting up supervision.

6. When prompted by the receiver or gateway to reset transmitter, press the activation button, and then clear the alarm per section 3.2, “Clear an Alarm”.

Caution: The transmitter should be tested after registration to ensure operation. See section 6, “Test the Transmitter”.

2.4 Wear the Transmitter

The pendant transmitter can be worn in three ways:

- Around the neck with the ACC681 neck lanyard, which is included with the EN1221S-60N waterproof senior living pendant with neck lanyard.

Caution: The neck lanyard included with the senior living pendant is designed with a breakaway feature for user safety. Substitution of a stronger cord or chain may result in injury to the wearer.

- On the arm with the ACC682 wristband, which comes attached on the EN1221S-60W waterproof senior living pendant with wristband.
- On the belt, using the optional ACC683 belt loop attachment kit.

ACC681 Neck Lanyard

To attach the ACC681 neck lanyard:

7. Secure the lanyard to the pendant’s attachment loop with a simple girth hitch knot.

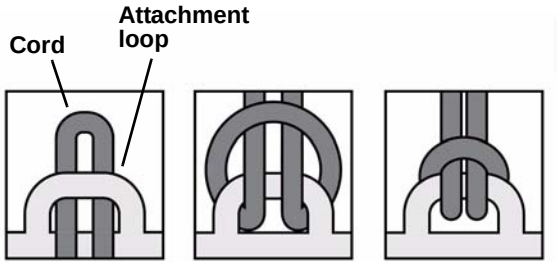

Figure 4 A simple girth hitch knot

8. Adjust the neck lanyard to the wearer’s neck size.
   - Pull both slide adustment tabs on the lanyard to reduce the length of the cord.
   - Pull both sides of the lanyard cord to increase the length of the cord.

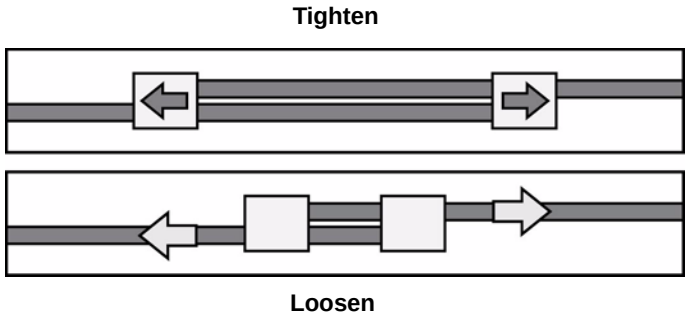

Figure 5 Adjust the neck lanyard

ACC682 Wristband

The ACC682 wristband comes attached to the EN1221S-60W waterproof senior living pendant with wristband. The wristband is a standard 16mm width, allowing for easy replacement with the wristband of the user’s choice.

Note: Replacement wristbands must be of a similar thickness to the provided 16mm wristband. Metal expansion bands will not attach reliably to the device.

3 Operate the Transmitter

3.1 Send an Alarm

To send an alarm:

1. Press the activation button for at least one second.
   - When activated, the pendant will vibrate briefly and the red transmission LED will blink rapidly for the first five seconds, and then slowly until the alarm is cleared.

3.2 Clear an Alarm

There are two ways to clear an alarm:

Using the Alarm Clearance Card

Note: The ACC680 alarm clearance card is an optional accessory sold separately.

1. Place the dot on the ACC680 alarm clearance card over the activation button.
   - The red transmission LED will cease flashing and the blue alarm clear LED will flash quickly six times to indicate the alarm has cleared.

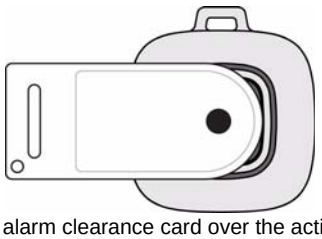

Figure 6 Place the alarm clearance card over the activation button

Using a Button Pattern

1. Press the activation button three times, quickly.
2. When the blue LED flashes twice, press the activation button three more times, quickly.
   - The blue alarm clear LED will flash quickly six times to indicate the alarm has cleared.

3.3 Low Battery Alert

When a low battery is detected, the transmitter will send a low battery alert, and start a seven day countdown. If the battery has not been replaced within two days from when the low battery alert message was sent, the yellow low battery LED on the bottom of the pendant will begin to blink, and will not stop until the battery is replaced, or the seven day countdown expires.

If the seven day countdown expires without the battery being changed, the pendant will go into storage mode. For more about storage mode, see section 5, “Storage Mode”.

4 Battery Replacement

The senior living pendant uses one standard CR2032 coin cell battery. To change the battery:

1. Use the ACC680 alarm clearance card or a quarter to turn the battery door to the unlocked padlock icon.
2. Remove the battery door.
3. Remove the old battery from the battery compartment.
4. Place the new battery in the battery compartment, ensuring that the positive terminal (+) faces up.
5. Seat the battery door over the battery so that the arrow on the battery door is lined up with the unlocked padlock icon.
6. Use the ACC680 alarm clearance card or a quarter to turn the battery door to line up the arrow on the battery door with the arrow under the locked padlock icon.
7. Press the activation button to initalize the transmitter.
8. Clear the resulting alarm per section 3.2, “Clear an Alarm”.

Note: If the pendant is not activated after replacing the battery, the low battery indication will not clear until the next check-in interval.

5 Storage Mode

Storage mode is an ultra low battery state designed to protect the life of the internal backup battery. The pendant is shipped from Inovonics in storage mode. If the senior living pendant transmitter will go unused for any significant period, it should be put in storage mode. The device will also go into storage mode at the next check-in transmission time if the coin cell battery has been removed.

Note: When the pendant is in storage mode, it will not transmit alarms or check-in messages.

5.1 Put the Device in Storage Mode

Note: The device should not be left in storage mode for more than 18 months. Devices should be stored in ambient conditions (69 to 73 degrees Fahrenheit).

To put the device in storage mode:

1. Use the ACC680 alarm clearance card or a quarter to turn the battery door to the unlocked position.
2. Remove the battery from the battery compartment.
3. Press the activation button.
   - The red LED will flash and the pendant will vibrate to indicate it has entered storage mode.
4. Seat the battery door over the empty battery chamber, and use the ACC680 alarm clearance card or a quarter to turn the battery door to line up the arrow on the battery door with the arrow under the locked padlock icon.

5.2 Take the Device out of Storage Mode

To remove the device from storage mode:

1. Use the ACC680 alarm clearance card or a quarter to turn the battery door to the unlocked padlock icon.
2. Remove the battery door.
3. Place a battery in the battery compartment, ensuring that the positive terminal (+) faces up.
4. Seat the battery door over the battery so that the arrow on the battery door is lined up with the unlocked padlock icon.
5. Use the ACC680 alarm clearance card or a quarter to turn the battery door to line up the arrow on the battery door with the arrow under the locked padlock icon.
6. Press the activation button.
   - The green LED will light briefly, and then the red LED will flash and the pendant will vibrate, indicating that an alarm has been sent.
7. Clear the alarm sent when you activated the pendant per section 3.2, “Clear an Alarm”.

6 Test the Transmitter

The transmitter should be tested after registration and then weekly to ensure operation.

To test the transmitter:

1. Press the activation button for at least one second and ensure the red transmit LED lights, the vibration activates, and the alarm is received by the receiver or gateway.
2. Clear the alarm and ensure the red alarm transmission LED stops flashing, and the blue alarm clear LED flashes.

7 Cleaning and Care

7.1 Cleaning

Caution: Cleaning should only be performed with the battery door in place and in the locked position.

Cleaning should be performed by hand using a damp cloth and mild soap, or alcohol-free disinfectant wipes designed for household use.

Do Not Use

The following products should never be used to clean the senior living pendant:

- Strong cleaning agents such as ammonia, bleach or alcohol.
- Abrasive or powder cleansers.
- Alcohol-based hand sanitizers.

The following equipment and processes must never be used:

- Steam autoclave or commercial sterilization procedures using heat, chemical, gas or radiation techniques.
- Dishwasher or washing machine.
- Soaking or suspending the pendant in water or other liquids.

Using any of these products or processes will damage the pendant.

7.2 Care

The plastic used for the pendant is durable and designed to withstand exposure to most common substances including soaps and skin lotions. However, there are some types of creams, lotions or sprays which contain chemicals that may dull the finish of the housing. These include insect repellents containing DEET, sunscreen and topical analgesics. If a resident is using these types of products, they should avoid having the pendant come into direct contact with them.

8 Device Indicators

	Alarm Activation	**Alarm Clearance**	**Low Battery**
LED Color	Red	Blue	Yellow
LED Pattern	Rapid blink for five seconds, and then slow blink until alarm is cleared	Using alarm clearance card: six quick flashes Using button pattern: two quick flashes after first three button presses, and then six quick flashes after the next three button presses	Blinks every five seconds until battery is replaced or until seven-day countdown expires
Vibration Patterns	Vibrates for one second	N/A	N/A
More Information	Section 3.1	Section 3.2	Section 3.3

9 Water Exposure

UL has evaluated the EN1221S-60 senior living pendants to meet the water spray and submersion tests required under UL 2560, section 38.

In addition, these pendants meet IP57 certification standards for dust and water ingress protection, ensuring that:

- Ingress of dust particles does not interfere with the satisfactory operation of the device.
- There is no harmful effect to the device caused by:
  - Vertically dripping water when device is tilted up to 15° from normal position.
  - Spraying water falling at angles up to 60° from vertical.
  - Splashing water from any direction.
  - Water jets less than 20 gallons (75 liters) per minute from a distance of 10 feet (three meters).
  - Submersion up to three feet (one meter) for less than or equal to 30 minutes.

Note: IP57 certification was performed by an independent laboratory not affiliated with UL.

10 End User Recommendations

The pendant transmitter housing is waterproof up to the IP57 standard when the battery door is properly seated and in the locked position. The product is designed for incidental/temporary submersion in water, but not for extended submersion. As such, we offer the following recommendations to the end user:

Usage Situation	OK to Use?	Cautions
Shower	Yes*	Do not spray water directly on the device at distances of less than 12 inches; avoid spraying water at extremely high pressure.
Bath	Yes*	Temporary submersion is permissible. Extended submersion of the device is not recommended.
Rain	Yes	Avoid extended exposure; wear the device under a sleeve, shirt, or jacket
Water Exercise	No	Do not use the device during these activities. Please note that the IP57 rating does not include liquids with a chemical content such as chlorine or salt water.

** The pendant is able to successfully transmit an alarm or check-in message when exposed intermittently to water in a shower setting. However, when the pendant is fully submerged, the water absorbs the radio signal such that messages may not be reliably detected by the receiver.*

11 Specifications

Dimensions: 1.6" x 1.6" x 0.5" (4 x 4 x 1.25 cm).

Weight: 0.8 oz (23 g) with battery inserted.

Operating temperature: 32 to 140°F (0 to 60°C).

Operating environment: Waterproof.

Estimated battery life: One year (assuming five alarm activations per day and alarm clearance within ten minutes of alarm activation).

Battery type: Panasonic CR2032.

Power requirement: 3 VDC, 60 mA.

Storage requirement: Ambient conditions of 69 to 73°F (20.5 to 22.8°C).

UL certification for EN1221S-60: UL 2560 (see conditions below).

Note: For UL 2560 installations, Inovonics repeaters must have 20 minute check-in times. Inovonics transmitters must have a minimum of 60 minute check-in times.

Note: In a UL 2560 installation, the EN1221S-60 senior living pendant may be used with completed emergency call systems for assisted living and independent living facilities.

For UL 2560 certified system installations, the following Inovonics EchoStream devices are approved for installation within maximum system configuration limits defined in section 1.2 of this document:

- EN6080 area control gateway or EN6040-T network coordinator with transformer.
- EN5040-20T high power repeater.
- End devices (transmitters) with a minimum 60-minute check-in interval, as follows:
  - Fundamental devices which are subject to UL 2560 certification (pendant transmitters and OEM products using the Inovonics RF module).
  - Supplemental devices which are not subject to UL 2560 system certification but which may be used within a UL 2560 certified system (e.g. universal transmitters and activity sensors).

Note: Users that have achieved certification and will install UL 2560 certified systems are responsible for labeling all fundamental devices with the UL 2560 system certification mark.

Compatible receiver for UL 2560 installations with the EN1221S-60: EN6080

Compatible repeater for UL 2560 installations with the EN1221S-60: EN5040-20T

Note: Specifications and data are subject to change without notice.

12 Television and Radio Interference

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.

13 FCC RF Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with FCC multi-transmitter product procedures.

14 FCC Part 15 and Industry Canada Compliance

This device complies with part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Note: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

15 Medical Device Interference

Under FDA and FCC guidelines, the responsibility for verifying continuous and safe operation of medical devices such as pacemakers and implanted defibrillators in the presence of electromagnetic interference (EMI) rests with the manufacturer of the medical device. As such, Inovonics does not have the authority or specific device knowledge to conduct or interpret formal tests on their behalf.

Inovonics transmitter devices comply with Part 15 of the FCC Rules and Industry Canada license-exempt RSS standards.

If you have any concerns about the use of Inovonics transmitter devices in the presence of medical devices used by a particular resident or patient, we recommend that you consult with their physician. Another potential source for answers is the medical device manufacturer, who can provide more information as to their compliance with federal guidelines and how they have addressed EMI risk.

16 US Patent Numbers

- 7,154,866.
- 7,554,932.
- 7,746,804.
- Other patents pending.