

EN1221S-60 SENIOR LIVING PENDANT PARTNER TRAINING MATERIALS

Launch Update: September 2015
Inovonics Product Management



EN1221S-60 Pendant



60%
Smaller and
lighter than our
previous pendant



Available in dedicated neck
and wrist versions

*Optional belt loop
attachment accessory for
neck version*

Table of Contents



Topic	Starts on Page
Marketing Details	4
Device Operation	7
Backwards Compatibility	17
Application Software Programming Changes	19
Operational Testing	24
Back Office Operations and Other Information	28
Comparisons: EN1221S-60 to EN1223S	34

EN1221S-60

MARKETING DETAILS

Positioning
Features and benefits

Positioning



To Whom	Market: Senior Living communities Primary user: Assisted Living and Independent Living Residents Secondary user: Caregiver/Staff
For What	Emergency Call Systems
Why Ours	Designed to ensure strong resident and staff acceptance for increased compliance <ul style="list-style-type: none">• Small, light and waterproof• Bright lights signal alarm activation, alarm clearance and low battery• Vibration feature confirms alarm activation• One year battery life• Leverages the reliable Inovonics EchoStream® network

EN1221S-60 Features and Benefits

Features		Benefits
Size	60% smaller and lighter than current	Easy to conceal under clothing Comfortable for 24/7 use Conducive to active lifestyle
Appearance	Clean and modern	Residents <u>want</u> to wear it
Activation Button	High contrast color Dimpled surface Recessed	Improved visualization and target Easy to locate by touch Reduced incidence of false alarms
Alarm Activation Indicators	Vibration feature confirms activation Large, bright, continuous light	Instills confidence ('it's working') Greater peace of mind for resident
Device Status Indicators	Low battery light (5 day warning)	Greater awareness of low battery condition Instills confidence
Alarm Clearance	Magnetic alarm clearance card <u>or</u> button press pattern Lights confirm successful clearance	Fast, easy and convenient Instills confidence
Water Protection Rating	Waterproof to IP67 standard	Safe for use in shower and bath
Battery Life	One year at 5 activations/day and 10 minute alarm clearance time	Robust performance minimizes battery changes
Battery Replacement	Simple twist-lock access Off-the-shelf CR2032 battery	Faster battery changes = improved staff productivity
Attachment Methods Neck Wrist Belt	Soft, adjustable nylon cord with breakaway feature Adjustable silicone watch band Carabiner/hook to belt loop	Tailored for comfort Attractive and easy to use
UL Certification	UL 2560	Assurance of reliability
Warranty	3 years (Inovonics)	Offers protection from materials and workmanship defects under normal use

EN1221S-60

DEVICE OPERATION

Device features
Basic device operation
Device indicators
Set up and registration
Power management and storage mode
Key performance information

EN1221S-60 Features



Basic Device Operation



Operation (Installation Manual Section)	EN1221S-60
Alarm Activation (EN1221S-60 Section 3.1)	<ul style="list-style-type: none">• Press and hold activation button for at least one second• Multiple alarm rounds transmitted, then transmission stops• Red light blinks rapidly, then blinks slowly until alarm is cleared• <u>No</u> restoral message sent on button release• Pendant vibrates to confirm alarm activation• Note: an end user can send a subsequent alarm after 10 seconds, triggering the above sequence of events, even if the initial alarm has not been cleared.
Alarm Clearance (EN1221S-60 Section 3.2)	<ul style="list-style-type: none">• <u>No</u> reset button on device• Choice of two alarm clearance options<ul style="list-style-type: none">• Magnetic alarm clearance card (sold separately)• Button press pattern using activation button on front of device (see installation manual)• Blue light flashes to indicate alarm clearance• Alarm clearance message sent• Secondary message sent to indicate which alarm clearance option was used
Low Battery Alert (EN1221S-60 Section 3.3)	<ul style="list-style-type: none">• Detected by firmware• Low battery message sent for up to 7 days• If battery not changed within first 2 days, yellow low battery light flashes for up to 5 more days• If battery not changed in 7 days, device enters 'storage mode'

Device Indicators



Alarm Activation

When activated, pendant vibrates briefly and light flashes red until alarm is cleared.



Alarm Clearance

Light flashes blue when magnetic card is used or button pattern is pressed.



Low Battery

Light blinks yellow to notify residents and staff.

- Vibration duration \approx 1 second
- Alarm message sent concurrently with vibration and initiation of red LED
- Alarm message transmitted upon activation only (*not continuously*)
- Red LED blinks rapidly for 5 seconds, then slows to every 3 seconds until alarm is cleared
- If using magnetic alarm clearance card:
 - Red LED ceases to blink
 - Caregiver sees 6 quick blue LED flashes, indicating successful alarm clearance
- If using button press pattern:
 - Caregiver presses button 3 times
 - Red LED ceases to blink
 - Caregiver sees 2 quick blue LED flashes
 - Caregiver presses button 3 more times
 - Caregiver will see 6 quick blue LED flashes, indicating successful alarm clearance
- After clearing alarm, LED will cease to flash or blink (in any color) until next alarm activation is initiated
- Low battery condition message transmitted for up to 7 days (*if battery not replaced, device enters storage mode at end of 7 day period*)
- Low battery LED programmed to begin flashing 2 days after low battery condition detected
- Yellow LED flashes every 5 seconds until battery is replaced
- When battery replaced per instructions, low battery condition will be cleared and yellow LED will cease to flash
- Yellow LED will glow for 5 seconds (and then stop) if activation button pressed when device is in storage mode to indicate missing battery condition to user

Set Up and Registration




Action (Installation Manual Section)	EN1221S-60
Record Transmitter ID (TXID) Number	<ul style="list-style-type: none">• Use human readable TXID number <u>or</u>• Scan 2D barcode symbol*• Both are permanently laser etched on rear housing
Battery Installation (EN1221S-60 Section 2.2)	<ul style="list-style-type: none">• Remove twist-lock battery door• Place CR2032 battery in battery compartment (+ side up)• Replace battery door and turn until locked to achieve IP67 waterproof seal
Device Registration (EN1221S-60 Section 2.3)	<ul style="list-style-type: none">• When prompted by gateway or receiver to reset transmitter, press activation button on front of device, then clear alarm per instructions (see Section 3.2 of installation manual) to generate reset message

*Inovonics has tested readability of this 2D barcode on the pendant housing with the Motorola DS4208-SR00007WR scanner. Barcode scanners are generally available for ≈\$300.

Not designed for use with smart phone barcode reader apps

Power Management

To provide continuous power and achieve a one-year battery life, the EN1221S-60 employs a proprietary power management system that consists of two power sources:

Battery Classification	Description	User Accessibility	Role in Power Management
Primary	CR2032 lithium-metal coin cell battery 	User replaceable	<ul style="list-style-type: none">• Works in concert with secondary battery to meet power needs• Energy source for recharging secondary battery <p><i>Note: design of battery holder and contacts prevents reverse polarity</i></p>
Secondary	Rechargeable lithium-ion polymer battery	Non-accessible and non-replaceable	<ul style="list-style-type: none">• Provides peak power capacity for alarm transmissions and vibration motor operation

Storage Mode



The new EN1221S-60 pendant has a storage mode operation that creates an ultra-low battery state designed to preserve the life of the rechargeable secondary battery when the device is out of service. Use cases are described below.

Stakeholder	Storage Mode Use Cases	Action Taken to Initiate Storage Mode
Inovonics	<ul style="list-style-type: none">• All finished goods inventory is warehoused in storage mode• All new pendants are shipped to customers in storage mode	<ul style="list-style-type: none">• No additional actions
VAR Partner	<ul style="list-style-type: none">• Unanticipated excess inventory• Product returned from installation sites, not needed immediately	<ul style="list-style-type: none">• No additional actions, device remains in storage mode• Remove primary battery and press activation button to initiate storage mode (See Installation Manual Sec 5.1)
End Customer	<ul style="list-style-type: none">• ‘Spare’ pendants• Pendants taken out of service when resident moves out• Pendants with primary battery removed	<ul style="list-style-type: none">• See Installation Manual Sec 5.1• See Installation Manual Sec 5.1• ‘Primary battery missing’ condition is detected by firmware at next transmission (alarm or check-in) and storage mode will be automatically initiated

Managing the Storage Mode



- To avoid excessive discharge of the rechargeable secondary battery, the device should not be left in storage mode for more than 12 months. Store in ambient conditions (69° F to 73°F).
- If a device remains in storage mode for >12 months, it will cease to operate if discharged to a critical level.
- At anytime within the 12 month storage period, the pendant will be fully functional immediately upon installation of the primary battery. *Refer to Section 5.2 of the EN1221S-60 Installation and Operation Manual for taking the device out of storage mode to ensure continued operation.*

Recommendations	Notes	
Minimize Inventory Levels	Inovonics typically turns inventory in ≤ 4 weeks	
First In, First Out (FIFO) Inventory Management	Inovonics uses FIFO, we advise our partners to do the same	
Leverage 'Install Primary Battery By' Date printed on Carton Label	Refer to this date, which is clearly marked on the <u>carton</u> label.	The 'Install Primary Battery By' date is exactly 12 months from the product's date of manufacture
Install the Primary Battery as soon as possible	If long storage periods are expected, install primary battery <u>upon receipt of product</u> to allow secondary battery to be recharged while pendant is not in use	If it's <u>not feasible</u> to install the primary battery upon receipt of product, do so <u>before the 'Install Primary By' date</u> .

‘Install Primary Battery By’ Label



Manufacturing Date
Code (YYDDD)

Key Performance Information



Features	Performance Information	Comments
Check-In Interval	60 minutes	<ul style="list-style-type: none"> Achieves UL 2560 standard of 99.99% alarm message delivery. <ul style="list-style-type: none"> Note: UL 2560 allows for supervision window of ≤ 24 hours. Allows attainment of 1 year battery life.
Battery Life	1 year	<ul style="list-style-type: none"> Battery life estimate based on 5 alarm activations per day and 10 minute response time*. <ul style="list-style-type: none"> Covers 90% of known pendant alarm frequency use cases. Average response times in customer research were reported to be <10 minutes. <p>*red alarm LED flashes until cleared; alarm message is transmitted only once upon activation (see page 10 for details)</p>
EchoStream Network Compatibility	Uses current EchoStream network protocol.	<ul style="list-style-type: none"> Can be used in existing installations, with some modifications due to impact of reduced output power and range (see below).
Output Power and Range	<ul style="list-style-type: none"> EN1221S-60 output power is <u>lower</u> than EN1223S pendants. As a result, EN1221S-60 transmitter range will be approximately <u>10 to 15% less</u> than the EN1223S. 	<ul style="list-style-type: none"> Reductions in output power and range are due to reduction in device size. <p><i>See Backwards Compatibility section (page 18) for guidance on recommended actions under various use cases</i></p>

EN1221S-60 BACKWARDS COMPATIBILITY

Backwards Compatibility Guidance



The chart below provides guidance for addressing the expected impact of reduced pendant output power and range to ensure adequate repeater coverage and acceptable location results under various use cases.

Use Case			Recommended Action(s)	Comments
Location Capability (With or Without)	Site Type (New, Existing or Either)	Pendant Mix (EN1221S-60 or EN1223S)		
Without	Either	Any mix	<ul style="list-style-type: none"> Survey site with EN7016 Survey Kit Use EN1223SK pendant Target signal margins of $\geq 10\text{dB}$ Reposition/add repeaters as needed 	<ul style="list-style-type: none"> Current installation literature recommends a signal margin of $>4\text{dB}$ for the EN1223SK pendant. New target of $>10\text{dB}$ compensates for reduced output power on the EN1221S-60 pendant
With	New	Any mix	<ul style="list-style-type: none"> We strongly advise that you <u>avoid this option</u>. 	Testing indicates that location results for one or both pendant types will be inaccurate in this situation.
With	New	100% EN1221S-60	<ul style="list-style-type: none"> Fingerprint with EN1221S-60 Follow your standard guidelines to ensure acceptable location accuracy (e.g. # of repeaters hearing an alarm, minimum RSSI levels) 	Depending on your current practices, you may need to adjust your quotes to allow for more repeaters
With	Existing	100% EN1221S-60	<ul style="list-style-type: none"> Test location results for new EN1221S-60 pendants. If unacceptable: <ul style="list-style-type: none"> Re-fingerprint with EN1221S-60 Follow your standard guidelines to ensure acceptable location accuracy (e.g. # of repeaters hearing an alarm, minimum RSSI levels) 	<ul style="list-style-type: none"> EN1221S-60 location results are likely to be inaccurate at sites fingerprinted with EN1223S Reposition/add repeaters as needed. Note: After re-fingerprinting with the EN1221S-60 pendant, you should expect some location inaccuracy on any remaining EN1223S pendants while they are being phased out during the conversion period.

EN1221S-60

APPLICATION SOFTWARE

PROGRAMMING CHANGES

EchoStream message prioritization

Messaging information

Messaging information examples

EchoStream Message Prioritization



The EchoStream network achieves high message delivery reliability by assigning three levels of priority to RF messages sent by the transmitters

Priority	Message Types	What's Sent
High	<ul style="list-style-type: none">• Alarm	Multiple rounds, sent multiple times
Medium	<ul style="list-style-type: none">• Alarm Clearance• Clear by Magnet• Clear by Button Press• Low Battery• Primary Battery Missing	Single round, sent multiple times
Low	<ul style="list-style-type: none">• Supervision• Sequence Bits	Single round, sent multiple times* (*but fewer times than high or medium priority messages)

Message Information

Inovonics EN1221S-60 Senior Living Pendant
Message Information Comparison Chart

Product Code		EN1223S	EN1221S-60	Message Priority	Note for EN6080 developers: v1.2.80 firmware release updates PTI value table to include EN1221S-60	
MID (Market ID)		0xB2	0xB2			
PTI (Product Type Identifier)		0x18	0x1D			
Check-in Interval		3 minutes (nominal)	60 minutes (nominal)			
Status	Bit	Field Contents	Field Contents		Notes	Benefit
[STAT1] Application Flags	7	Unused	Unused	na	No change	n/a
	6	Unused	Unused	na	No change	n/a
	5	Unused	Alarm clear by magnet	Med	Note: both bits are set to <u>1</u> on first power-up, both bits are set to <u>0</u> during alarm	Allows for: 1) Reporting of activity for each clear method 2) Global enable/disable of either option in application software
	4	Unused	Alarm clear by button press pattern	Med		
	3	Unused	Unused	na	No change	n/a
	2	Unused	Unused	na	No change	n/a
	1	Unused	Unused	na	No change	n/a
	0	Alarm0	Alarm0	High	Bit remains set to <u>1</u> until cleared (note: no restoral message in EN1221S-60)	Elimination of restoral message extends battery life
[STAT0] Primary Status Flags	7	Unused	Low battery (internal secondary LiPo battery)	Med	Pendant will enter storage mode immediately after message is sent	Prevents errant RF frequency transmissions when power is too low
	6	Low battery (primary coin cell)	Low battery (primary coin cell)	Med	No change. Sent at next transmission.	n/a
	5	Unused	Unused	na	No change	n/a
	4	Supervision	Supervision	Low	No change	n/a
	3	Reset	Reset or alarm clear	Med	Same status/bit location Note: On EN1221S, this bit is most often sent with alarm clearance operation. Exception: Sent upon exit from storage mode	Retaining same status/bit location allows for backwards compatibility
	2	Unused	Primary (coin cell) battery missing	Med	Pendant automatically placed into storage mode after message is sent	Preserves secondary battery life
	1	Unused	sequence bit 1	na	2-bit sequence increments at each alarm message. Accompanies all messages	Can be used to detect messages arriving out of order
	0	Unused	sequence bit 0	na		

Message Information Examples

Inovonics EN1221S-60 Senior Living Pendant

Message Information Examples for Basic Device Information

EN1223S (Current Pendant)

Activity/ State Change	User Interaction	What's Transmitted	Result of Transmission
Alarm Activation	Press and Hold Alarm Activation Button	Status 1, Bit 0 = 1	Alarm sent
Restoral	Release Alarm Activation Button	Status 1, Bit 0 = 0 and Status 0, Bit 4 = 0	Restoral sent
Alarm Clearance	Press Reset Button on back of device	Status 0, Bit 3 = 1 (aka 'reset bit') Note: transmits once. <i>On next check-in message:</i> Status 0, Bit 3 = 0	Reset bit sent

EN1221S-60 (New Pendant)

Activity/ State Change	User Interaction	What's Transmitted	Result of Transmission
Alarm Activation	Press and Hold Alarm Activation Button	Status 1, Bit 0 = 1	Alarm sent
Restoral	Release Alarm Activation Button	No message sent	No message sent
Alarm Clearance	Alarm Clearance Card magnet placed over Alarm Activation Button	<u>Alarm Clear Bits</u> Status 1, Bit 5 = 1 and Status 1, Bit 4 = 0 and <u>Reset Bit:</u> Status 0, Bit 3 = 1 <u>Alarm Bit:</u> Status 1, Bit 0 = 0	Alarm Clear method sent Reset bit sent Alarm bit cleared
	Alarm Clearance Button Press Sequence	<u>Alarm Clear Bits</u> Status 1, Bit 5 = 0 and Status 1, Bit 4 = 1 and <u>Reset Bit:</u> Status 0, Bit 3 = 1 <u>Alarm Bit:</u> Status 1, Bit 0 = 0	Alarm Clear method sent Reset bit sent Alarm bit cleared
	Alarm Clearance Notes <ul style="list-style-type: none"> • Alarm clear bits stay in this state until next alarm or other event occurs • Reset bit is only transmitted once • On next check-in message: Status 0, Bit 3 = 0 		

Message Information Examples



Inovonics EN1221S-60 Senior Living Pendant

Message Information Examples for Basic Device Information *(continued)*

Activity/ State Change	User Interaction	What's Transmitted	Result of Transmission
Put Device <u>Into</u> Storage Mode	Remove primary battery Press and hold Alarm Activation Button	Status 1, Bit 0 = 1 Status 0, Bit 2 = 1	Alarm sent Primary battery missing message sent Device enters storage mode
Take the Device <u>Out of</u> Storage Mode	Replace primary battery Press and hold Alarm Activation Button	Status 1, Bit 0 = 1 Status 0, Bit 3 = 1	Alarm sent Reset bit sent simultaneously
	Manually Clear Alarm (to clear red LED)		
	Alarm Clearance Card magnet placed over Alarm Activation Button or Alarm Clearance Button Press Sequence	<u>Alarm Clear Bits</u> Status 1, Bit 5 = 1 and Status 1, Bit 4 = 0 and <u>Reset Bit:</u> Status 0, Bit 3 = 1 <u>Alarm Bit:</u> Status 1, Bit 0 = 0 <u>Alarm Clear Bits</u> Status 1, Bit 5 = 0 and Status 1, Bit 4 = 1 and <u>Reset Bit:</u> Status 0, Bit 3 = 1 <u>Alarm Bit:</u> Status 1, Bit 0 = 0	Alarm Clear method sent Reset bit sent Alarm bit cleared Alarm Clear method sent Reset bit sent Alarm bit cleared

EN1221S-60
OPERATIONAL TESTING
Low Battery Conditions

Low Battery Condition Definitions



Battery Type	Low Battery Condition Definition
Primary CR2032 Lithium Metal Coin Cell Battery	Primary battery is <2.0 volts AND secondary battery is <3.8 volts <u>but</u> >3.5 volts*
Secondary Lithium Ion Polymer Battery	Secondary battery is <3.5 volts

*Please note that the primary battery low battery measurement method measures both the primary and secondary batteries due to battery chemistry and power balancing between these two energy sources in the power system.

The primary and secondary low battery condition messages are sent at the next transmission after detection. This could be either an alarm or a supervision/check-in message.

Low Battery Condition Testing



Primary Battery Low Battery Condition Test Steps

- Set the power supply substituting for the primary battery to 1.00 volts.
- Send multiple alarms to bring the secondary battery down to 3.80 volts.

Note: The number of alarms required to deplete the secondary battery will depend on whether the starting secondary battery voltage is closer to 4.1 volts or 3.9 volts.

At the first message with the low primary battery condition status bit set, stop pressing the button.

Low Battery Condition Testing



Secondary Battery Low Battery Test Steps

- Remove the primary battery
- Deplete the voltage for the secondary battery to less than 3.5 volts by sending multiple alarms.

Caution: Please note that this is a ‘destructive’ test, in that the pendant will enter into storage mode when this condition is detected, and the device will not be recoverable.

Low battery messages on the secondary battery in actual field use are expected to be an extremely rare occurrence. As noted on page 14 of this training document, if you install a primary coin cell battery in the device before the end of the first 12 months after the date of manufacture, and if you replace the primary coin cell within 7 days of a low primary battery condition being detected, the secondary battery will remain charged and operational for the life of the device.

Please note that if you operate the device without a primary coin cell battery in the device, the secondary battery will eventually deplete below the threshold level of 3.5 volts. For that reason, the device will send a ‘primary battery missing message’ to alert you of that condition and allow you to remedy the situation before the secondary battery is affected.

EN1221S-60

BACK OFFICE OPERATIONS AND OTHER INFORMATION

Ordering information
Device labeling
Cleaning and care
Attaching the Lanyard

Ordering Information - Pendants



Pendants

Part Number <i>Dimensions/Weight (Pendant Only)</i>	Description	What's in the Carton
EN1221S-60N <i>1.6"x1.6"x0.5"</i> <i>0.6 oz.</i>	Waterproof Pendant with Neck Lanyard	<ul style="list-style-type: none">• 1 pendant• 1 lanyard (<i>not attached</i>)• 1 CR2032 coin cell battery• 1 battery door
EN1221S-60NBU <i>Same as above</i>	Waterproof Pendant with Neck Lanyard (50 count bulk configuration)	<ul style="list-style-type: none">• 50 pendants• 50 individually bagged lanyards (<i>not attached</i>)• 50 batteries• 50 battery door
EN1221S-60W <i>1.6"x1.6"x0.5"</i> <i>0.6 oz.</i>	Waterproof Pendant with Wristband	<ul style="list-style-type: none">• 1 pendant• 1 wristband (<i>attached</i>)• 1 CR2032 coin cell battery• 1 battery door
EN1221S-60WBU <i>Same as above</i>	Waterproof Pendant with Wristband (10 count bulk configuration)	<ul style="list-style-type: none">• 10 pendants (<i>wristband attached</i>)• 10 batteries and 10 battery doors

Notes

- The EN1221S-60 Installation and Operations Manual is available at www.inovonics.com, and will not be included in the carton
- Bulk items will not be sold individually

Ordering Information - Accessories



Accessories *(10 eaches per carton)*

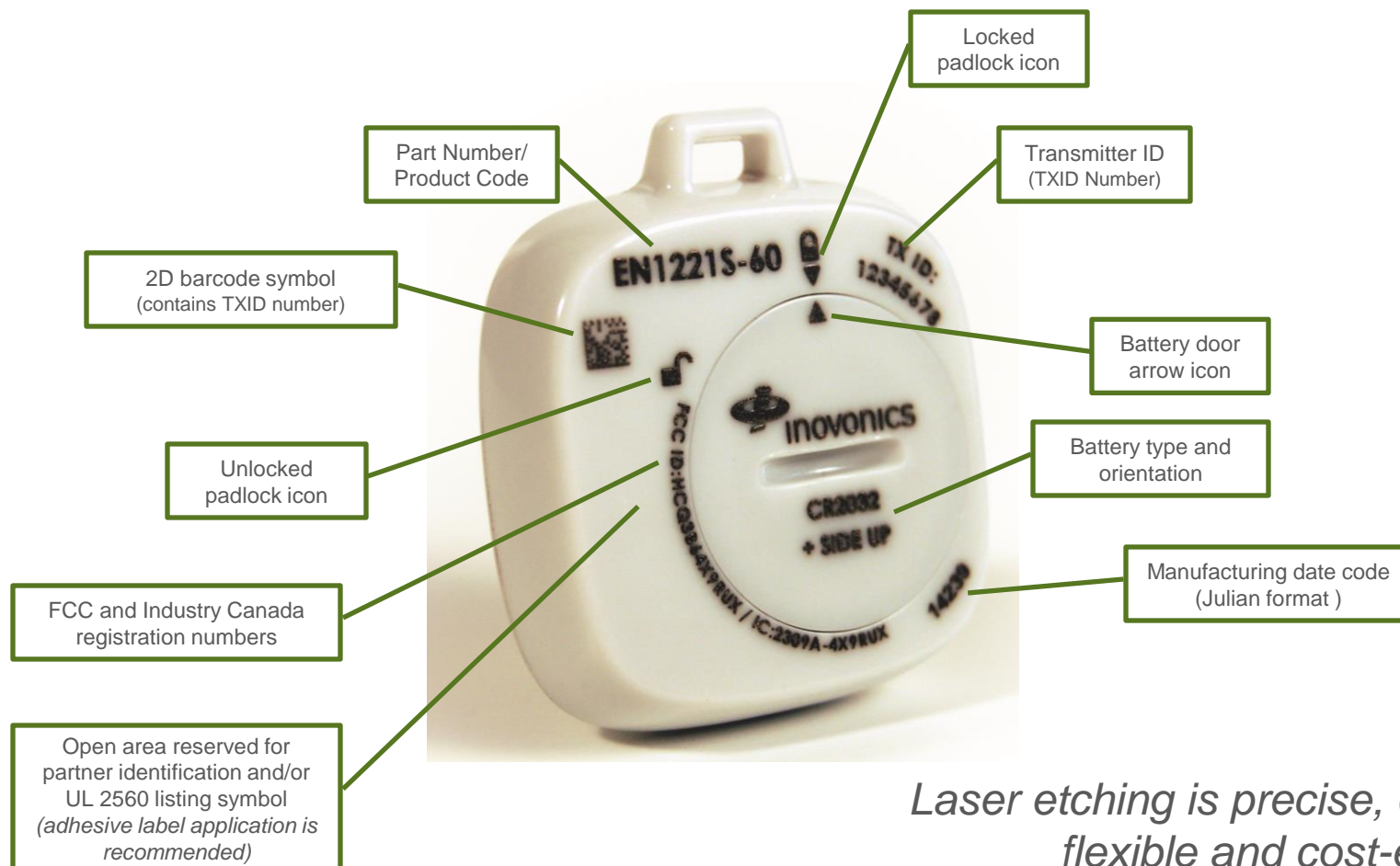
Part Number	Description	Used With	What's in the Carton
ACC680-BU	Magnetic Alarm Clearance Cards*	All pendants	<ul style="list-style-type: none">• 10 alarm clearance cards• 1 instruction manual
ACC681-BU	Replacement Neck Lanyards	EN1221S-60N	<ul style="list-style-type: none">• 10 individually bagged lanyards
ACC682-BU	Replacement Wristbands	EN1221S-60W	<ul style="list-style-type: none">• 10 individually bagged wristbands• 30 pack spring pins
ACC683-BU	Optional Belt Loop Attachment Kits	EN1221S-60N	<ul style="list-style-type: none">• 10 individually bagged carabiners with attached j-hook
ACC684-BU	Replacement Battery Doors	All pendants	<ul style="list-style-type: none">• 10 battery doors

Notes

- *IATA Dangerous Goods Regulations prevent us from shipping more than 20 boxes of alarm clearance cards in a single shipment by air
- Bulk items will not be sold individually
- Inovonics will not offer replacement CR2032 coin cell batteries

Confidential to Inovonics – distribution without notice is prohibited

Device Labeling – Laser Etch



*Laser etching is precise, durable,
flexible and cost-effective*

Cleaning and Care



Activity	Do This	Don't Ever Do This
Cleaning	<ul style="list-style-type: none">• Clean with battery door in place and in locked position• Clean by hand using damp cloth and mild soap or disinfectant wipes designed for household use	<ul style="list-style-type: none">• Clean with battery door removed or in an unlocked position• Use strong cleaning agents such as ammonia, bleach or quaternary disinfectant• Use abrasive or powdered cleansers• Use alcohol-based hand sanitizers• Use steam autoclave or commercial sterilization procedures using heat, chemical, gas or radiation techniques• Use dishwasher or washing machine• Soak or suspend pendant in water or other liquids

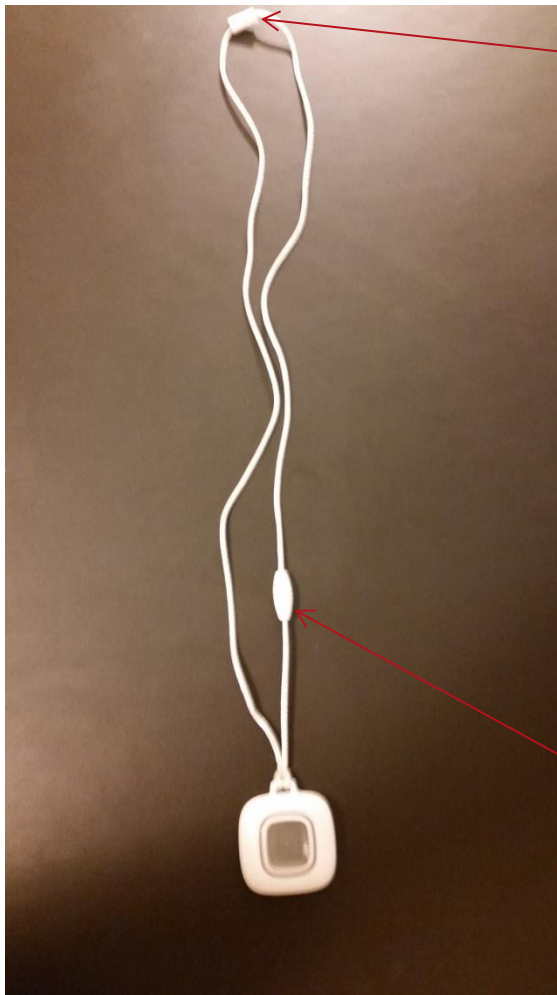
Care

The plastic used for this pendant is durable and designed to withstand exposure to most common substances including soaps and skin lotions.

However, some creams, lotions or sprays may contain chemicals that may dull the housing finish.

- Avoid direct contact of the pendant with the following products: insect repellents containing DEET, sunscreen or topical analgesics.

Attaching the Lanyard



Adjustment
slide parts

Attach the lanyard to the pendant such that:

- 1) The adjustment slide parts are centered exactly opposite the pendant
- 2) The center of the breakaway 'bead' feature is approximately 3.5 inches above the attachment loop of the pendant.

Breakaway
'bead'

COMPARISONS: EN1221S-60 TO EN1223S

Features and benefits
Basic device operation
Set up and registration

Comparison of EN1221S-60 to EN1223S Series Pendants			
Features	EN1223S	New EN1221S-60	Advantages of EN1221S-60
Size	Big and heavy	60% smaller and lighter than current	Easy to conceal under clothing Comfortable for 24/7 use Conducive to active lifestyle
Appearance	Outdated, ‘medical’	Clean and modern	Residents <u>want</u> to wear it
Activation Button	Low contrast Slight recess Prone to false alarms	High contrast color Dimpled surface Deeper recess	Improved visualization and target Easy to locate by touch Reduced incidence of false alarms
Alarm Confirmation Indicators	Small, dim short duration light <i>(Blink and you'll miss it)</i>	Vibrates upon activation Large, bright, continuous light	Instills confidence (it’s working) Greater peace of mind for resident
Device Status Indicators	None visible to resident	Low battery light (5 day warning)	Greater awareness of low battery Instills confidence
Alarm Clearance	Hard-to-access button Prone to wear and tear	Magnetic alarm clearance card <u>or</u> button press pattern	Faster, easier and more convenient
Water Protection Rating	Water-resistant (IP 54) <i>(if assembled correctly)</i>	Waterproof (IP 67) sealed housing	Safer for use in shower and bath
Battery Life	One to two years	One year <i>(5 activations/day and 10 minute alarm clearance time)</i>	Robust performance minimizes battery changes for a more fully-featured device
Battery Replacement	Time-consuming disassembly Hard to find CR2450 battery	Simple twist-lock access Off-the-shelf CR2032 battery	Faster battery changes = improved staff productivity
Attachment Methods Neck Wrist Belt	Beaded, abrasive plastic chain Cloth, abrasive hook and loop Plastic clip	Soft, adjustable cord with breakaway feature Adjustable silicone watch band Carabiner/hook to belt loop	More comfortable, attractive and easy to use Addresses skin contact issues
UL Certification	UL 2560 <i>(recent, -60 model only)</i>	UL 2560	Assurance of reliability
Warranty	3 years (Inovonics)	3 years (Inovonics)	

Basic Device Operation



Operation (Installation Manual Section)	EN1223S	EN1221S-60
Alarm Activation (EN1221S-60 Section 3.1)	<ul style="list-style-type: none"> Press and hold activation button for at least one second Multiple alarm rounds transmitted, then stops Red light flashes briefly, then stops Restoral message sent on button release 	<ul style="list-style-type: none"> Same as EN1223S Same as EN1223S Red light blinks rapidly, then blinks slowly until alarm is cleared <u>No</u> restoral message sent on button release Pendant vibrates to confirm alarm activation Note: an end user can send a subsequent alarm after 10 seconds, triggering the above sequence of events, even if the initial alarm has not been cleared.
Alarm Clearance (EN1221S-60 Section 3.2)	<ul style="list-style-type: none"> Press reset button on back of device Reset message sent 	<ul style="list-style-type: none"> <u>No</u> reset button on device Choice of two alarm clearance options <ul style="list-style-type: none"> Magnetic alarm clearance card (sold separately) Button press pattern using activation button on front of device (see installation manual) Blue light flashes to indicate alarm clearance Alarm clearance message sent Secondary message sent to indicate which clearance option was used
Low Battery Alert (EN1221S-60 Section 3.3)	<ul style="list-style-type: none"> Detected by firmware Low battery message sent for <u>up to 14 days</u> If battery not changed at end of 14 days, device shuts down 	<ul style="list-style-type: none"> Same as EN1223S Low battery message sent for up to 7 days If battery not changed within first 2 days, yellow low battery light flashes for up to 5 more days If battery not changed in 7 days, device enters 'storage mode'

Basic Device Operation (continued)



Operation (Installation Manual Section)	EN1223S	EN1221S-60
Check-In/Device Supervision	<ul style="list-style-type: none">• EN1223S checks in every 3 minutes• EN1223S-3600 and EN1223S-60 check in every 60 minutes• Red LED flashes briefly at each check-in interval	<ul style="list-style-type: none">• EN1221S-60 checks in every 60 minutes• No LED flashes at check-in<ul style="list-style-type: none">– Voice of customer research indicated that flashing LED was not necessary and created confusion among staff and residents (i.e. did I accidentally push the button? Is something wrong with the pendant? Why is it flashing?)

Set Up and Registration



Action (Installation Manual Section)	EN1223S	EN1221S-60
Record Transmitter ID (TXID) Number	<ul style="list-style-type: none">• Use human readable TXID number• Scan UPC bar code• Both appear on printed label sticker on rear housing	<ul style="list-style-type: none">• Use human readable TXID number• Scan 2D barcode symbol• Both are permanently laser etched on rear housing
Battery Installation (EN1221S-60 Section 2.2)	<ul style="list-style-type: none">• Remove 3 screws on rear housing• Remove rear housing• Place CR2450 battery under shield can cover• Replace rear housing• Replace screws and tighten to defined torque specs to achieve IP54 water-resistant seal	<ul style="list-style-type: none">• Remove twist-lock battery door• Place CR2032 battery in battery compartment• Replace battery door and turn until locked to achieve IP67 waterproof seal
Device Registration (EN1221S-60 Section 2.3)	<ul style="list-style-type: none">• When prompted by the gateway or receiver to reset transmitter, press reset button on back of device to generate reset message	<ul style="list-style-type: none">• When prompted by the gateway or receiver to reset transmitter, press activation button on front of device, then clear alarm per instructions (see Section 3.2 of installation manual) to generate alarm clearance message