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WANDERGUARD BLUE WANDER MANAGEMENT SOLUTION

USER AND DEPLOYMENT GUIDE

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Introduction

The WanderGuard BLUE Wander Management Solution is STANLEY Healthcare's new, standalone solution for monitoring and preventing at-risk-resident wandering.

This Deployment and User Guide describes the processes for successful deployment of the system and the procedures for its proper operation.

This guide contains the following chapters:

Document Conventions

The following conventions are used in this guide.

✓	**Best Practice**: A best practice is a recommended activity based on STANLEY Healthcare's accumulated professional knowledge and experience with the product.
Note	Notes contain additional information that supplements the material in the main body of the document.

Reference Documents

The following relevant documents are accessible in STANLEY Healthcare's Support Community site at the following URL: www.stanleyhealthcare.com/support.

WanderGuard BLUE Documents

Document Name	KB Article No.
Quick Reference Guide	10154
WanderGuard BLUE Wander Management Solution Release Notes	10155
WanderGuard BLUE Tag Data Sheet	10158
WanderGuard BLUE Manager Data Sheet	10161
WanderGuard BLUE Detector Data Sheet	10164
WanderGuard BLUE EX5700 Controller Data Sheet	10167
WanderGuard BLUE Indoor Keypad Data Sheet	10170

Accessory Documents

Document Name	KB Article No.
AeroScout Exciter EX3210 Installation and Configuration Guide	1269
External LF Antenna Installation Guide	8380
Exciter EX5200 Installation and Configuration Guide	7814

Terminology, Abbreviations and Acronyms

The following terms, abbreviations and acronyms are used in this User Guide and have the meaning and significance as described in the following table. These terms and data definitions may have slightly different meanings from their usage in the healthcare industry in general or by other healthcare companies and providers in particular.

Term	Definition
BD	Bidirectional
BLE	Bluetooth Low Energy
Door Ajar	A situation where a door remains opened for more than a preconfigured duration
DST	Daylight Savings Time
ID	Identification
LF	Low Frequency
Loitering	A situation where a Tag stays in the Door Controller exciter field for more than a preconfigured duration
MAC	Media Access Control
NC	Normally Closed (electrical)
NO	Normally Open (electrical)
PoE	Power over Ethernet
REX	Request for Exit

Term	Definition
RSSI	Received Signal Strength Indicator. RSSI is a common name for the signal strength in a wireless network environment. It is a measure of the power level that an RF client device is receiving from an access point, for example.
TIF	Tag In Field or exit alarm. Applies to a Tag that is located within the exciter field and is communicating with the host device (Controller)
TNIF	Tag Not In Field. A TNIF message is sent by a Tag to the Controller when it leaves the exciter field.
UD	Unidirectional
UI	User Interface
Unsupervised Tag	A Tag that transmits only within the Controller's range. The Tag does NOT transmit periodically (NOT every x seconds)
Wi-Fi	Technology for wireless local area networking with devices based on the IEEE 802.11 standards.

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System Overview and Architecture

The WanderGuard BLUE Wander Management Solution consists of the following components:

- **WanderGuard BLUE EX5700 Controller** – is the WanderGuard BLUE door control center. The EX5700 is the repository for all system data related to controlling the door that it supervises.
- **WanderGuard BLUE Tag** – transmits a signal to the EX5700 Controller when a monitored resident is in proximity to a controlled door. The EX5700 Controller can lock the door or sound an audible alarm if the door is opened.
- **WanderGuard BLUE Indoor Keypad** – located inside the controlled area, the Indoor Keypad enables staff (or visitors) to exit through the door (unique codes enable cancelling any existing system alarms).
- **Outdoor Keypad** – located outside the controlled door, the Outdoor Keypad enables entry through the door using unique codes.
- **WanderGuard BLUE Detector** – activates the WanderGuard BLUE Tag, displays Tag battery indications and assists during WanderGuard BLUE Manager scanning for Tags.
- **WanderGuard BLUE Manager** – is the STANLEY Healthcare dedicated mobile application for configuration and maintenance of the WanderGuard BLUE Wander Management Solution. The application is installed on an off-the-shelf Asus Tablet (ZenPad 8 Z380M).

Note

Mag locks for added door protection can be purchased separately.

How It Works

Each at-risk resident wears a WanderGuard BLUE radio frequency Tag that contains a unique ID. The Tag is usually worn on the resident's wrist but can also be worn on the ankle. STANLEY Healthcare provides a standard strap with its basic kit but offers an optional waterproof and hypoallergenic tear-proof strap to prevent unsupervised removal.

Door Controllers monitor the facility doors. Typically, one Controller monitors one door and generates a low frequency (LF) field that defines a coverage area. When a Tag enters this field, the Tag is identified. An alarm is issued and the door can be automatically locked. A Loiter Alarm can also be issued if the resident does not move away from the door within a configurable period of time.

An Indoor Keypad allows staff to open or close the door or cancel an existing alarm. The Indoor Keypad screen shows alarms (e.g., resident in area) and system status messages. The Outdoor Keypad has the same functionality as the Indoor Keypad, but does not have a screen. Alarms can be cleared at either Keypad.

In addition, the system supports non-staff visits such as visits by relatives.

Architecture and Workflow

The basic system concept is that an alarm is issued and the door can be locked when a resident Tag is within the Controller field. A Controller is typically installed above a door and constantly transmits a signal in a certain frequency; a resident Tag listens in that same frequency. When the Tag is "excited" by the Controller signal (the Tag entered the Controller field), it sends a signal back to the Controller in a different frequency. When the Controller receives the message from the Tag, it can lock the door. The Controller can also be setup not to lock/unlock the door when the Tag is in field. The Tag is non-supervised, which means it transmits only when in range of the EX5700 Controller.

The WanderGuard BLUE Tag has a small form factor. Tags are available with either a 90-day or 3-year battery life.

The EX5700 Controller controls the door lock via dedicated relay output. It has additional relay output that is dedicated for siren control. It can be connected to a Door Sensor from which it receives input on door status (open/closed). The EX5700 has the following features:

- Configurable via the WanderGuard BLUE Manager
- Holds users credential information
- Switches between night and day modes per configured schedule
- Supports Indoor and Outdoor Keypads

If it is necessary to extend the EX5700 Controller LF range, for example, to control two proximate doors by the same Controller, an additional EX5200 Exciter can be chained to the Controller using dedicated ports and a special cable.

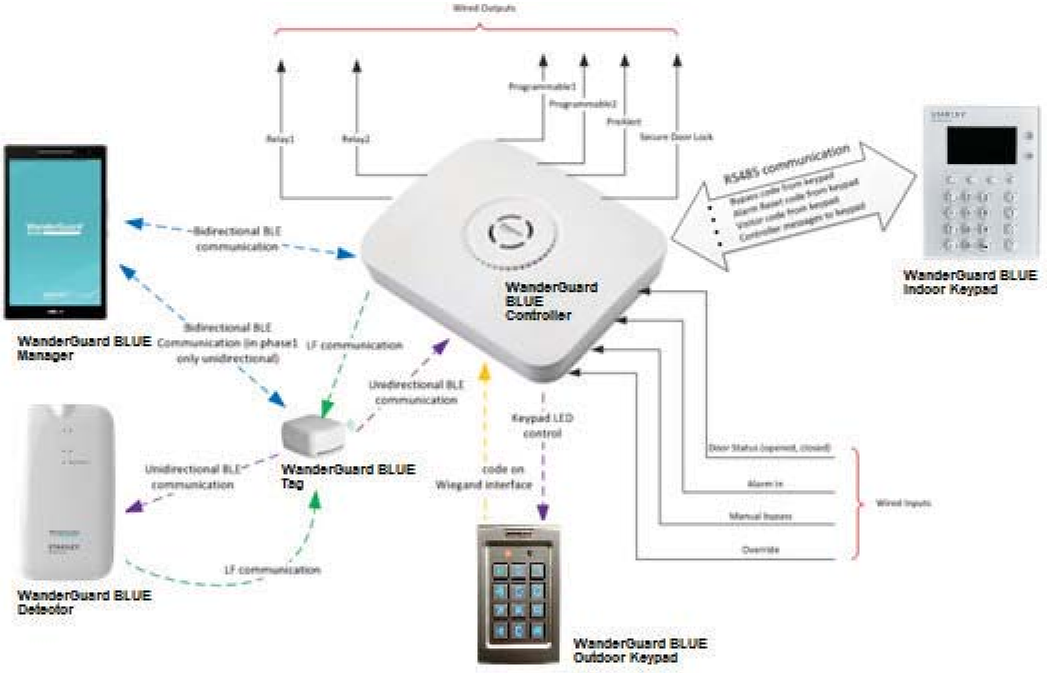
The WanderGuard BLUE Indoor Keypad receives power from the Controller. Communication between the Controller and Indoor Keypad is by RS485. It has a display that shows the mode of operation of the system and also reports events.

The Outdoor Keypad also receives its power from the Controller. It communicates with the Controller via Wiegand output.

The WanderGuard BLUE Manager application is installed on an Asus tablet (ZenPad 8 Z380M). The application can establish bi-directional BLE communication with the Controller. The communication is used to configure the Controller's settings, day/night mode schedule, users' credentials, and other system properties.

The WanderGuard BLUE Detector is used for several activities:

- Tag activation
- Checking Tag battery level
- Supporting scanning for Tags by WanderGuard BLUE Manager


Wired Outputs
Relay1
Relay2
Programmable1
Programmable2
PreAlert
Secure Door Lock
RS485 communication
Bypass code from keypad
Alarm Reset code from keypad
Visitor code from keypad
Controller messages to keypad
WanderGuard BLUE Indoor Keypad
Bidirectional BLE communication
WanderGuard BLUE Manager
Bidirectional BLE Communication (in phase1 only unidirectional)
LF communication
WanderGuard BLUE Controller
Unidirectional BLE communication
Keypad LED control
code on Wiegand interface
WanderGuard BLUE Tag
Unidirectional BLE communication
LF communication
WanderGuard BLUE Detector
Door Status (opened, closed)
Alarm In
Manual Bypass
Override
Wired Inputs
WanderGuard BLUE Outdoor Keypad

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WanderGuard BLUE Tag

The WanderGuard BLUE Tag's function is to transmit messages to the Controller. The Tag is triggered by signals from the Controller when it is in proximity to the door. When the Tag message is received by the Controller, the Controller can lock the door, preventing the resident from exiting the protected area. If the door is open and the Tag is in proximity to the door, the system generates an alarm.

The WanderGuard BLUE Tag is provided with a standard strap that can be worn on an individual’s wrist or ankle. An optional cut-resistant WanderGuard BLUE strap (Securaband™) is also available to provide a robust physical barrier to unauthorized Tag removal.

Each WanderGuard BLUE Tag is identified by its own unique ID. The ID is can be located on the side of the Tag.

The WanderGuard BLUE Tag has a 125 kHz Low Frequency (LF) receiver. When the Tag is within the Controller range, it receives LF signals transmitted by the Controller's transmitter. The Tag then transmits 2.4 GHz BLE messages. The messages are received by the Controller BLE receiver. Using LF ensures that the adverse impact on Tag battery life is negligible.

WanderGuard BLUE Tag Battery Life

Two types of WanderGuard BLUE Tags are available:

- Ninety-day battery life
- Three-year battery life

Tag battery life can be tested by the WanderGuard BLUE Detector. It is recommended to use the WanderGuard BLUE Detector to check the Tag battery at least once a week.

Ninety-day Tag

The ninety-day Tag begins sending a Low battery message to the Detector two weeks prior to the 90-day expiration date.

Three-year Tag

The three-year Tag indicates the low battery two months prior to the three-year term.

Battery lifetime is guaranteed only if the Tag was activated prior to the 'Activated By' date listed on the back label.

WanderGuard BLUE Tag Communication

The WanderGuard BLUE Tag is initially activated by the WanderGuard BLUE Detector (for activation instructions, see here in this User Guide).

✓ **Best Practice**: It is recommended to perform Tag activation when the Tag is out-of-range of the Controller and other Tags. It is OK for the Tag to be in range of the WanderGuard BLUE Manager.

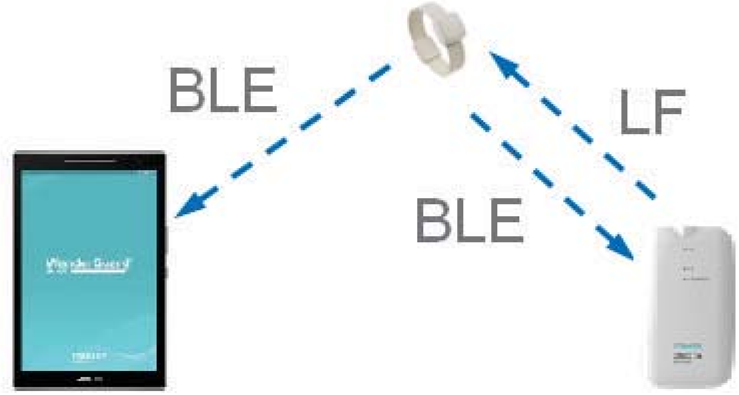
Tag Communication with the Detector

The WanderGuard BLUE Tag sends a BLE message with the following data when it receives an LF message from the Detector:

- MAC ID
- Status – Dormant/Activated
- Firmware version
- Battery – Good/Low
- Battery Type – 90 days / 3 years
- Activation date
- Manufacturing Date

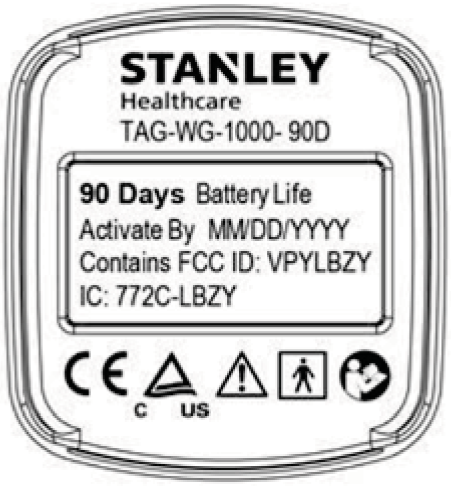
These Tag messages are received by both the Detector and the WanderGuard BLUE Manager:

- The Tag information is displayed on the WanderGuard BLUE Manager when running a "Scan" for Tags and Controllers.
- A Detector LED shows the battery status of the Tag.



Tag Back Label and Certifications

The label includes the Tag SKU, Type, and Activated By date. Tag compliance and certification are also displayed.



STANLEY
Healthcare
TAG-WG-1000- 90D

90 Days Battery Life
Activate By MM/DD/YYYY
Contains FCC ID: VPYLBZY
IC: 772C-LBZY

Tag Delivery

The Tag is delivered with one (1) standard strap and the Tag User Guide. If a heavy duty band is needed, Securaband straps can be used.

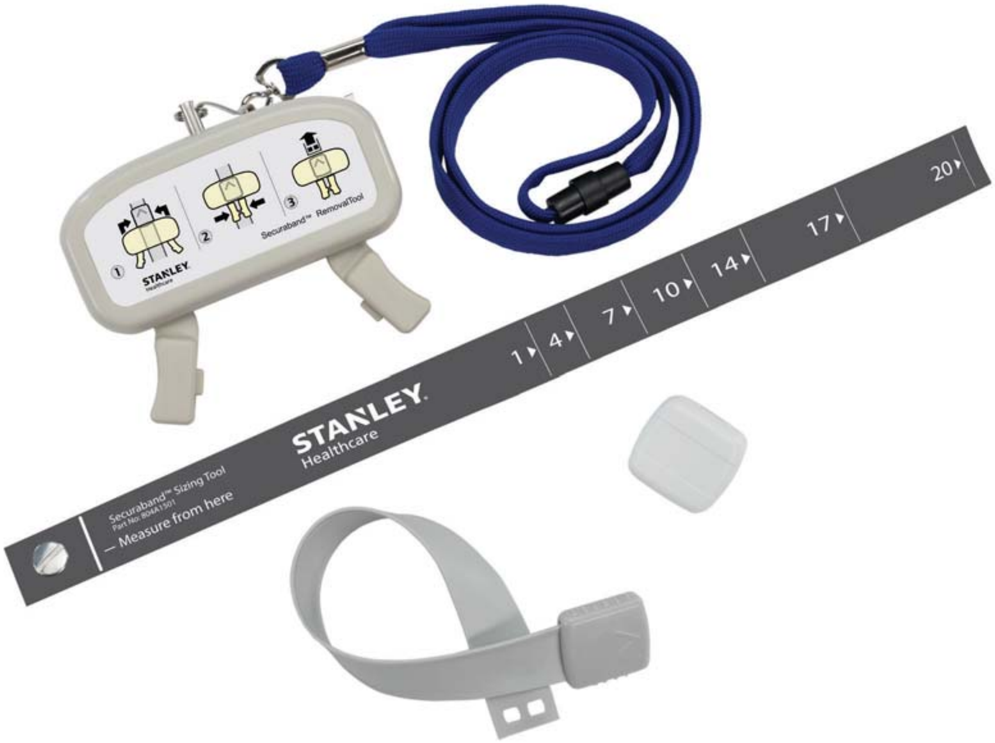
WanderGuard BLUE Securaband Starter Kit

A WanderGuard BLUE Securaband Starter Kit with a ruggedized cut-resistant strap contains the following:

- WanderGuard BLUE Tag
- Sizing tool
- Removal tool
- WanderGuard BLUE Securaband strap – one (1) of each size
- Pocket Guide
- User Guide

Note

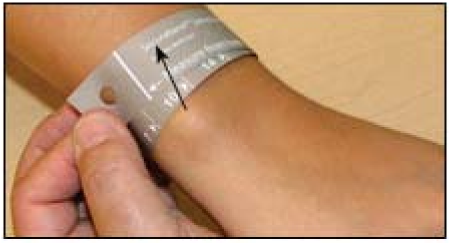
The following attachment, removal, cleaning and storing procedures are applicable for the ruggedized cut-resistant Securaband strap for WanderGuard BLUE Tags.



Attaching Tags

To attach the Tag:

1. To determine the strap size, wrap the sizing tool around the resident's wrist or ankle, making sure that the logo is facing you. The strap size is the first number to the right of the measuring bar (in this example, size 10).

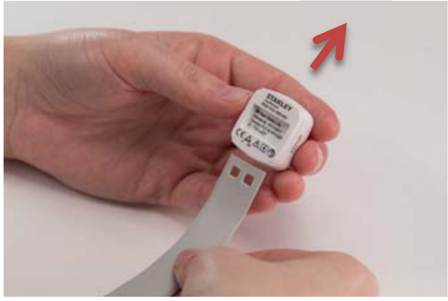


2. Select the appropriate WanderGuard BLUE strap from storage (the size is printed on the box as well as on the inside of the strap).

Note

Measure carefully to ensure that the appropriate strap size is selected. Once the strap has been attached, it cannot be used again.

3. Slide a WanderGuard BLUE Tag onto the strap, making sure that both the serial number on the Tag and the size stamp on the strap are facing you.



4. Position the strap around the resident's wrist or ankle and insert the free end of the strap into the clasp until it clicks into place.

5. Discard the sizing tool (it may be recycled but not used again).

Removing Tags

To remove the Tag:

1. Place the removal tool over the clasp, making sure that the chevron on the clasp and the lanyard ring on the tool are facing in the same direction.
2. Squeeze the tool handles together to unlock the clasp.
3. While holding the tool handles together, pull the strap end out of the clasp.

4. Slide the Tag off the strap, clean and store the Tag, and discard the strap.

Cleaning Tags

Follow these recommendations for cleaning the Tag. WanderGuard BLUE straps are single-use and cannot be re-attached.

- Use a mild soap and water to remove any apparent debris.
- Disinfect Tags by wiping with an alcohol sanitizer or germicidal cleaner for 60 seconds. Use only cleaners marked as safe for plastics. Tags are incompatible with disinfectants containing Glycol Ether.
- Dry with a soft, clean cloth.
- Do not use an autoclave to clean Tags or serious damage may result.

WanderGuard BLUE Tag Specifications

Product Specification	
Part Number	SKU for Ninety-day Tag: WGB-TAG-1000-90D SKU for Three-year Tag: WGB-TAG-1000-3Y
Model	WGB-TAG-1000-90D WGB-TAG-1000-3Y
LF Frequency	125 kHz
BLE Frequency	2400-2483.5 MHz
Battery Life Options	Ninety days Three years
Temperature	32° to 122°F (0 to 50°C)
Humidity	0-95% RH @ 70°F (21°C), non-condensing
Dimensions	Approx. 1.08 x 1.16 x 0.6” (2.74 x 2.95 x 1.5 cm)
Weight	Approximately 0.26 oz. (7.5 g)

WanderGuard BLUE Tag Disposal

At the end of its life, contact STANLEY Healthcare for instructions regarding Tag disposal in accordance with Federal and other regulations governing this type of device.

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EX5700 Controller

The WanderGuard BLUE EX5700 Door Controller is a main component of STANLEY Healthcare's WanderGuard BLUE Wander Management Solution for monitoring and securing facility doors against resident wandering. The WanderGuard BLUE Door Controller controls the WanderGuard BLUE system by receiving messages from Tags, Keypads, and the WanderGuard BLUE Manager and can lock the door, as necessary. It also stores all system configuration parameters.

The Controller is typically installed above or in proximity to the monitored door.

The Controller does the following:

- Controls the door lock
- Configured via WanderGuard BLUE Manager
- Holds user credentials data (up to 45 users)
- Switches between night and day mode per configured schedule
- Supports Indoor and Outdoor Keypads

Controller's Hardware Components

- One (1) LF (125 kHz) Transmitter
- One (1) BLE Receiver to receive messages from Tags
- One (1) BLE Transceiver for BLE communication with the WanderGuard BLUE Manager
- Reset button
- Two (2) 2 A output relays
  - Relay 1 – lock/unlock door
  - Relay 2 – alarm annunciation
- 12 VDC power for Indoor/Outdoor Keypads
- External LF for additional Exciter/Antenna
- RS485 for Indoor Keypad
- Wiegand Input for Outdoor Keypad
- Real-time clock and battery
- Three (3) Grounds
- Four (4) 100mA output relays
  - 1 - Secure Door Lock (Lock)
  - 2 - Tag In Field (TIF) (preAlert)
  - 3 - Programmable
  - 4 - Programmable
- Four (4) inputs
  - Door status
  - Manual bypass (REX – request for exit)
  - Override
  - Alarm in

BLE Transceiver

- Sends BLE message every 3 seconds
- Used as a test mechanism for the BLE receiver:
    - If the BLE receiver does not receive the message, it means that the Receiver is not operating properly.
    - This feature enables the Controller to monitor the Receiver that communicates with the Tag. This test functionality prevents a situation in which a resident could be without Tag protection due to a technical problem without the staff knowing.

Clock

- Maximum drift of 400 msec a day
- Maximum drift of 1 minute in ~5 months period
- The clock has a battery that is used only when the Controller is not powered up.

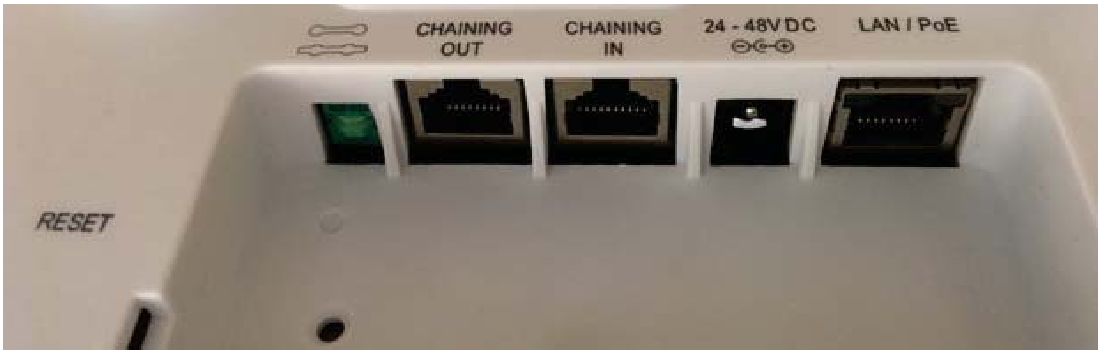
☑ **Best Practice**: It is recommended to synchronize the Clock using the WanderGuard BLUE Manager once every 6 months because of the Clock drift.

Rear Recessed Connection Panel

The back of the Controller contains a recessed connection panel for all EX5700 Controller connections including power and peripheral equipment (e.g., Indoor Keypad, Outdoor Keypad, etc.) including:

- Cable Ports
- Reset Hole
- Wire Terminal Block

Cable Ports



LAN / PoE: RJ-45 connector. In a configuration with a physical Ethernet cable connection to the LAN, the network cable is attached here.

Permanent connection to a wired network is not mandatory.

Note

PoE is currently not supported.

The EX5700 supports 100 Mb full-duplex communications. The Network Switch must be configured to Auto Negotiation mode when connecting the Controller to the Network Switch, in order to use the 100 Mb communications.

Note

When an Ethernet device is set to 100Mb/Full Duplex fixed, as in the EX5700, and the switch port is set to auto-negotiate, then according to the 802.3 standard, the communication from the switch side will be set to 100Mb/Half duplex.

24-48 VDC: Accepts an input voltage of 24-48 VDC. This is a standard 5 mm (outer) 2.5 mm (internal) jack connector for direct power supply. The power adapter is not supplied with the Controller and can be purchased separately.

(#3) CHAINING IN: Not supported.

CHAINING OUT: RJ-45 connector. This connector is used for distributing power and data to chained Exciters or to connect an External LF Antenna. The output voltage is 12 VDC (0.5 A maximum).

Termination Switch: Defining the termination settings in a chained Exciters installation:

In regular chaining, the termination of the first and last Exciter in the chain must be set to **On** (o-o) and the other Exciters set to **Off** (-o-o-).

The EX5700 Controller supports only being the first in a chain. The EX5700 cannot serve as a slave, e.g., the EX5700 cannot be chained to another EX5700. Hence, the termination must be set to **On** (o-o).

Power Supply

The EX5700 Controller supports 24 V – 48 V power supply.

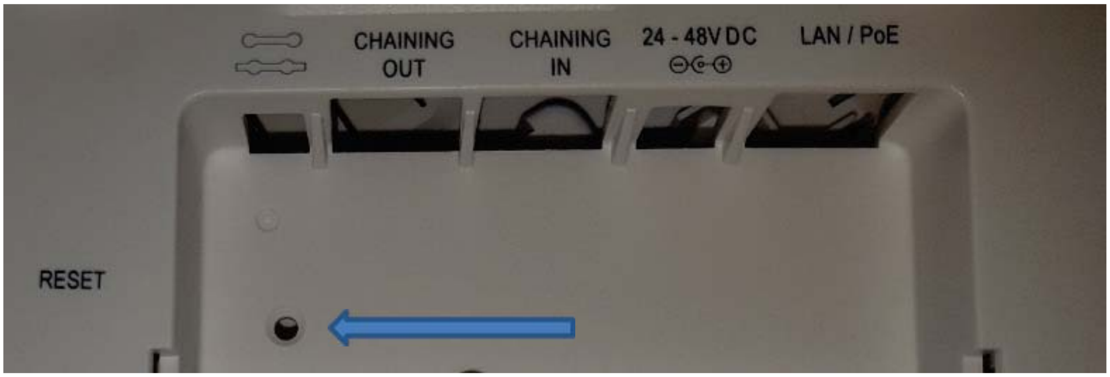
Product	SKU
Power Supply 24 V US	WGB-ADP-047-U
Power Supply 48 V US	WGB-ADP-047-U
Power Supply 48 V Europe	WGB-ADP-047-E
Power Supply 48 V UK	WGB-ADP-047-UK
Altronix AL600ULM (UL294 central power supply)	80602001
Altronix AL175UL (UL294 central power supply)	15560
Altronix AL1024ULACMCB (UL294 central power supply)	AGECP02-024

Note

It is prohibited to connect cables greater than 98.5 ft (30 m) long.

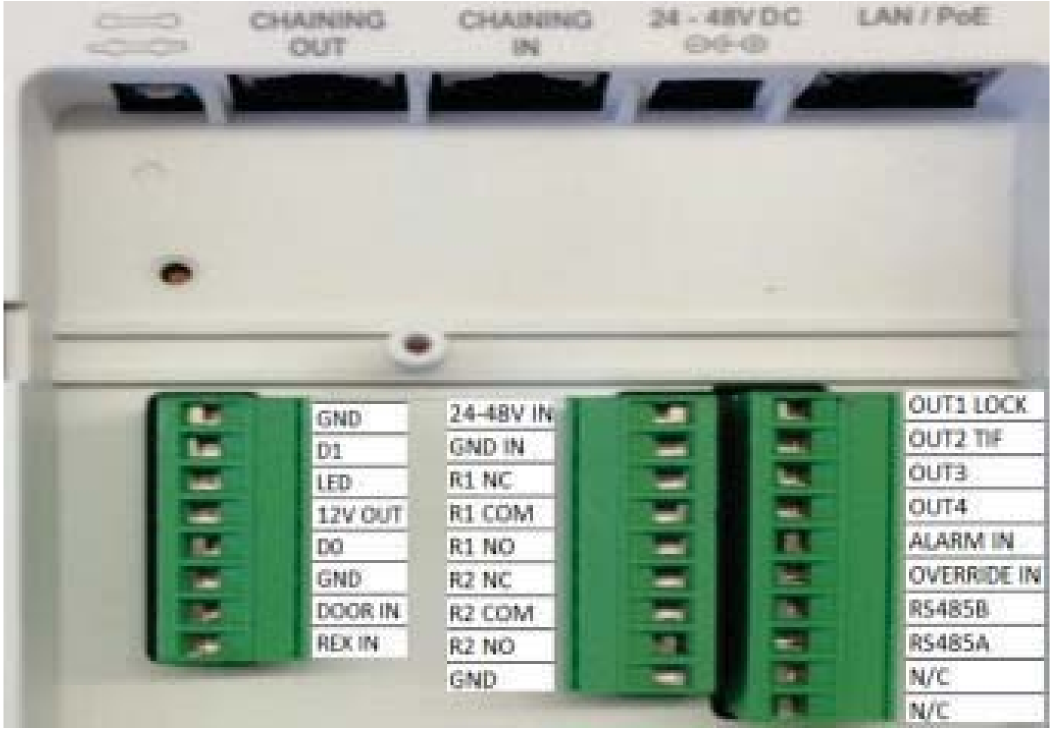
Reset Button

- Located in the back of the Controller, the label near the button is labeled "Reset."
- Long press on the button (longer than 10 seconds) to restart and reset the Controller with its default configuration.
- Short press on the button (shorter than 10 seconds) to restart the Controller; the Controller keeps its current configuration.



Wire Terminal Block Description

The EX5700 Wire Terminal Block is accessed from the back of the Controller.



Connector	Purpose	Comment
OUT1 LOCK	Follows Relay 1	Secure door lock. Follows relay 1 (if relay 1 is activated, the output is activated)
OUT2 TIF	Tag In Field	Activated when there is Tag In Field.
OUT3	Programmable Output 3	Activated based on configuration
OUT4	Programmable Output 4	Activated based on configuration
ALARM IN	Controller moves to Alarm mode	Door is in Alarm mode
OVERRIDE IN	Controller moves to Override Mode	Door is in override
RS485B	RS485 communication with Indoor Keypad	
RS485A	RS485 communication with Indoor Keypad	
N/C	Not connected	For future use.
N/C	Not connected	For future use.
24-48 V IN	Power IN. Accepts 24-48 V Direct Current	Used if the 24-48 VDC connector is not connected. Connected to external power supply.
GND IN	Ground/Earth	Used if the 24-48 VDC connector is not connected. Connected to external power supply.
R1 NC	Relay 1 normally closed connection	

Connector	Purpose	Comment
R1 COM	Relay 1 common connection, always connect	Dedicated to Maglock control. With internal feedback control.
R1 NO	Relay 1 normally open connection	Dedicated to Maglock control. With internal feedback control.
R2 NC	Relay 2 normally closed connection	
R2 COM	Relay 2 common connection, always connect	Dedicated to siren control. With internal feedback control.
R2 NO	Relay 2 normally open connection	Dedicated to siren control. With internal feedback control.
GND	Ground/Earth	
GND	Ground/Earth	
D1	Wiegand Data 1	For Wiegand communication with the Outdoor Keypad
LED	Indication of Wiegand interface	For Outdoor Keypad
12 V OUT	Power	Used for powering Indoor and Outdoor Keypads
D0	Wiegand Data 0	For Wiegand communication with the Outdoor Keypad
GND	Ground/Earth	
DOOR IN	Door status	Status on the door (open/closed)
REX IN	Request for exit	Controller moves to Bypass mode

Note

Connect to COM and NO if you want the switched circuit to be on when the relay is on.

Connect to COM and NC if you want the switched circuit to be on when the relay is off.

Connecting Programmable Outputs 3 and 4

The Controller has two programmable outputs. The outputs can be programmed by the WanderGuard BLUE Manager to be activated when the Controller enters a specific status/mode.

The outputs are automatically deactivated when the Controller is no longer in that status/mode.

On the Controller's Terminal Block, the programmable outputs are designated as follows:

- OUT3 on the Terminal Block – refers to programmable Output 3
- OUT4 on the Terminal Block – refers to programmable Output 4

Controller Modes and Relays

DAY MODE
• Relay 1 is activated upon TIF in order to lock the door
• Relay 1 returns to default upon TNIF
• After Bypass/Visitor code, Relay 1 gets deactivated
NIGHT MODE
• Relay 1 remains active during Night Mode
• Relay 2 gets activated when the door is opened. TIF is not necessary.
• Relay 2 returns to default when the Controller receives the reset code
• If Bypass/Visitor code is entered, Relay 2 remains in default for the duration of the Bypass/Visitor Mode
• If Bypass/Visitor code is entered, Relay 1 is deactivated for the duration of the Bypass/Visitor Mode

BYPASS MODE
• When the Bypass code is entered in the Keypad, Relay 1 is set to deactivated state.
• When the Bypass code entered in the Keypad, Relay 2 is set to deactivated state.
• During the Bypass period, multiple people (with or without Tags) are allowed to walk through the door without any restriction.
• Bypass resets the alarm mode.
• Bypass is terminated if the door is not opened 5 seconds after the Bypass code was entered.
• Within the Bypass time out period, Bypass is terminated after door is closed.
• After Bypass time out:
• In night mode, if the door is opened, the Controller switches to Alarm mode.
• In day mode, if the door is opened and there is TIF, the Controller switches to Alarm mode.

VISITOR MODE
• When the Visitor code is entered in the Keypad, relay 1 is set to deactivated state.
• When the Visitor code is entered in the Keypad, relay 2 is set to deactivated state.
• Visitor mode uses the Bypass time out period.
• During the Bypass timeout period, multiple people without Tags are allowed to walk through the door
• If there is TIF during Visitor mode and door is open, relay 2 is activated.
• Visitor is terminated if the door is not opened 5 seconds after the visitor code is entered.
• Within the Bypass time out period, Visitor mode is terminated after the door is closed.
• After Bypass timeout:
• In Night Mode, if the door is opened, the Controller switches to Alarm Mode
• In Day Mode, if the door is opened and there is TIF, the Controller switches to Alarm Mode
• Visitor code does not reset the alarm.
• If 'alarm in' or TIF, the Controller switches to Visitor Mode when the Visitor code is entered and relay 1 gets deactivated.

ALARM MODE

- When not in Night Mode, Relay 2 gets activated when the door is opened and there is TIF.
- When in Night Mode, Relay 2 gets activated when the door is opened.
- Relay 2 returns to default when the Controller receives Reset or Bypass code from the Keypad.
- After Reset:
    - In Night Mode, if the door is opened, the Controller switches back to Alarm Mode.
    - In Day Mode, if the door is opened and there is TIF, the Controller switches to Alarm mode.

ALARM RESET

- Reset code returns Relay 2 to its default setting (pending door status).
- Reset code returns Relay 1 to its default setting (pending door status).
- If there is an alarm condition (e.g., Night Mode with open door, open door and TIF), the alarm reset does not reset the alarm.
- If there is "Alarm In", the alarm Reset resets it.

OVERRIDE MODE

- Relays 1 and 2 are deactivated.
- LF transmission is disabled.
- Any person with or without Tags can go through the door during the Override period.

Controller LED Status Indicators

The Controller LEDs show Controller status as follows:

Color	Status
Solid Green	Ready – Day Mode
Solid Red	Ready – Night Mode
Blinking Green	Override
Blinking Red	Alarm
Solid Amber	Error
Blinking Amber (3 sec)	Blink command

LEDs are displayed according to the following priorities:

- Error supersedes Alarm.
- Override supersedes Alarm and/or Error.
- Blink supersedes Override, Alarm, and/or Error.

External LF Antenna (ANT4200)

An External LF Antenna connection is supported for the EX5700 Controller to extend LF range.

The External Antenna Unit (ANT4200) supports one Mode:

- Same ID as the Controller – the External Antenna's function is a range extender.

If an External LF Antenna (ANT4200) is connected to the Door Controller as a range extender, the internal LF and External LF Antennae transmit simultaneously.

The External LF range can be configured via the WanderGuard BLUE Manager between 0.25 m to 3 m in steps of 0.25 m (default 3 m). External LF can be configured even when Internal LF is disabled.

For External LF Antenna mounting instructions, see the *External LF Antenna Installation Guide* (KB Article 8380).

Slave Exciter

A Slave Exciter can be connected to the EX5700 Controller. The Slave Exciter allows extension of the LF range in the case of double doors or proximate door that is controlled by the same EX5700 Controller as follows:

Exciter EX3210

- LF Exciter with 3 meters range
- Connected to the Controller via Cat5 cable
- Up to 3 Exciters can be chained with a single Controller power supply

EX5200 Exciter

- LF Exciter with 6.5 meters range
- Connected to the Controller via Cat5 cable
- Up to 2 Exciters can be chained with a single Controller power supply

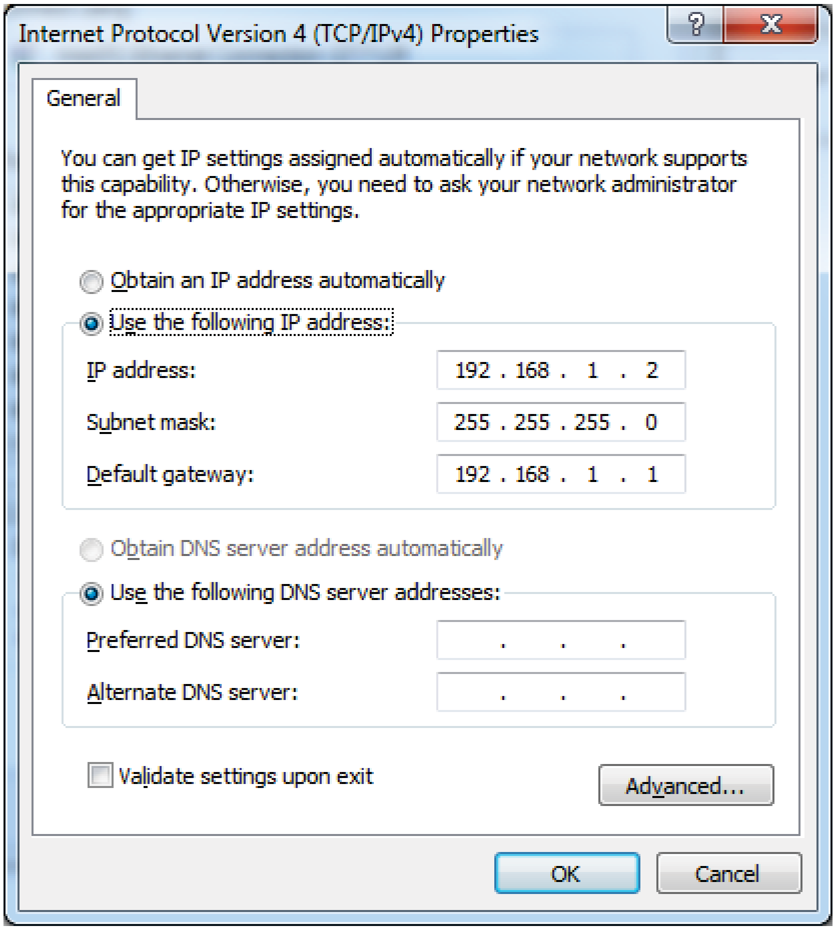
Configuring the Slave Exciter

The Slave Exciter cannot be configured by the WanderGuard BLUE Manager. It needs to be configured by the Local Engine. The configuration includes:

- Setting the LF range of the Exciter.
- Setting the Exciter to the Slave Exciter.

Do the following to configure the Slave Exciter:

1. Set the PC with AeroScout Location Engine:
    - Install Engine 5.0 SP4 Manager and Server (Non-Cisco Platform).
    - Connect the PC to the 'LAN' Connection of the Exciter.
    - Set the PC to have static IP of the same subnet as the Exciter.
    - The Exciter default IP address is 192.168.1.178.



Internet Protocol Version 4 (TCP/IPv4) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

○ Obtain an IP address automatically
● Use the following IP address:

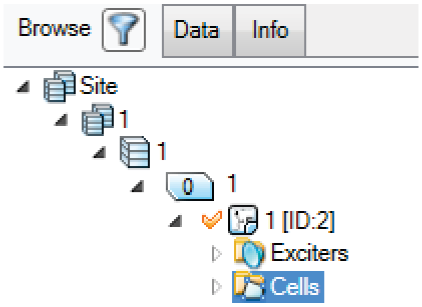
IP address: 192 . 168 . 1 . 2
Subnet mask: 255 . 255 . 255 . 0
Default gateway: 192 . 168 . 1 . 1

○ Obtain DNS server address automatically
● Use the following DNS server addresses:

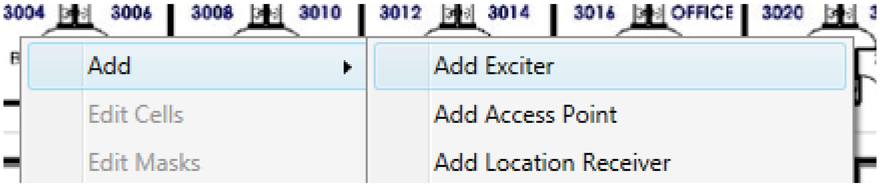
Preferred DNS server: . . .
Alternate DNS server: . . .

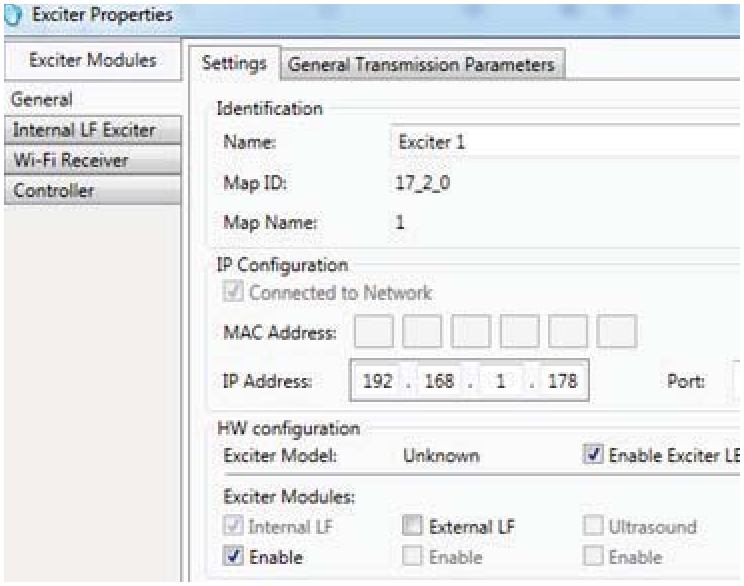
□ Validate settings upon exit

2. Configure the Engine:
   - Launch Engine Manager, and connect to the Engine server.
   - Configure basic settings (add Campus, Building, Floor and Map).



3. Add the LF Exciter to the Engine:
   - Add the Exciter to the Engine configuration.
   - Set the Exciter's IP to 192.168.1.178.
   - The Controller should appear online in ~1 minute.





Exciter Properties

Exciter Modules

General

Internal LF Exciter

Wi-Fi Receiver

Controller

Settings | General Transmission Parameters

Identification

Name: Exciter 1

Map ID: 17_2_0

Map Name: 1

IP Configuration

☑ Connected to Network

MAC Address: □ □ □ □ □ □

IP Address: 192 . 168 . 1 . 178 Port:

HW configuration

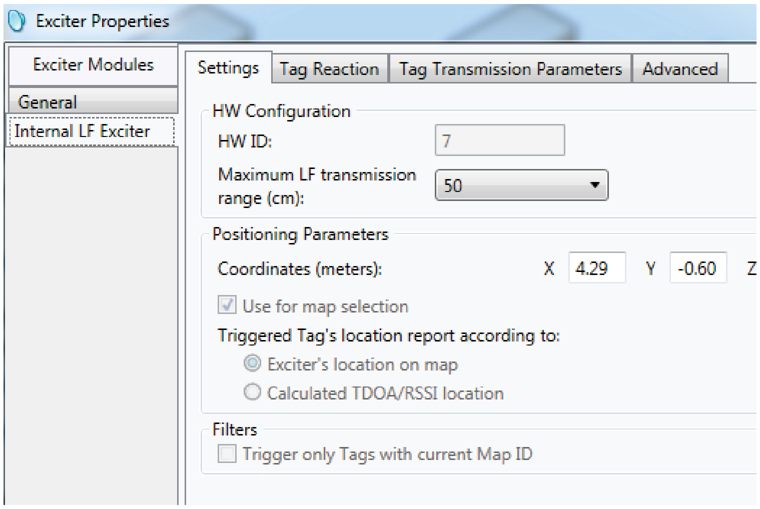
Exciter Model: Unknown ☑ Enable Exciter LE

Exciter Modules:

☑ Internal LF ☐ External LF ☐ Ultrasound

☑ Enable ☐ Enable ☐ Enable

4. Set the Exciter's Properties:
   - Open the Exciter Properties.
   - Set the LF transmission Range.
   - Set the Exciter as slave Exciter.
   - Click OK.



Exciter Properties

Exciter Modules: General | Internal LF Exciter

Settings | Tag Reaction | Tag Transmission Parameters | Advanced

HW Configuration

HW ID: 7

Maximum LF transmission range (cm): 50

Positioning Parameters

Coordinates (meters): X 4.29 Y -0.60 Z

☑ Use for map selection

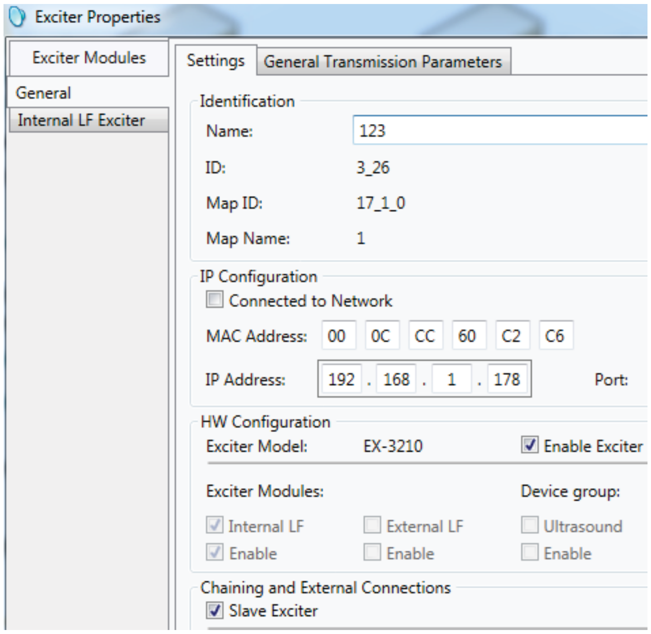
Triggered Tag's location report according to:

● Exciter's location on map

○ Calculated TDOA/RSSI location

Filters

□ Trigger only Tags with current Map ID



Exciter Properties

Exciter Modules: General | Internal LF Exciter

Settings | General Transmission Parameters

Identification

Name: 123

ID: 3_26

Map ID: 17_1_0

Map Name: 1

IP Configuration

□ Connected to Network

MAC Address: 00 0C CC 60 C2 C6

IP Address: 192 . 168 . 1 . 178 Port:

HW Configuration

Exciter Model: EX-3210 ☑ Enable Exciter

Exciter Modules: Device group:

☑ Internal LF ☑ Enable

□ External LF □ Enable

□ Ultrasound □ Enable

Chaining and External Connections

☑ Slave Exciter

Configuration of the Slave Exciter:

1. The EX5700 is defined as the "Master." Other Exciters are designated "Slave."
2. The Master Controller is connected to the first Slave Exciter as follows: Master Chain OUT to Slave Chain IN.
3. Slave Exciters are then connected as follows: Slave OUT to Slave IN.
4. The Termination Switch of the Master and the last Slave Exciter in the chain must be set to On (o-o).

On the other Slave Exciters, it must be set to OFF (-o o-).

For more information on Slave Exciter configuration and mounting, see the EX3210 and EX5200 deployment guides here.

Mounting the EX5700 Controller

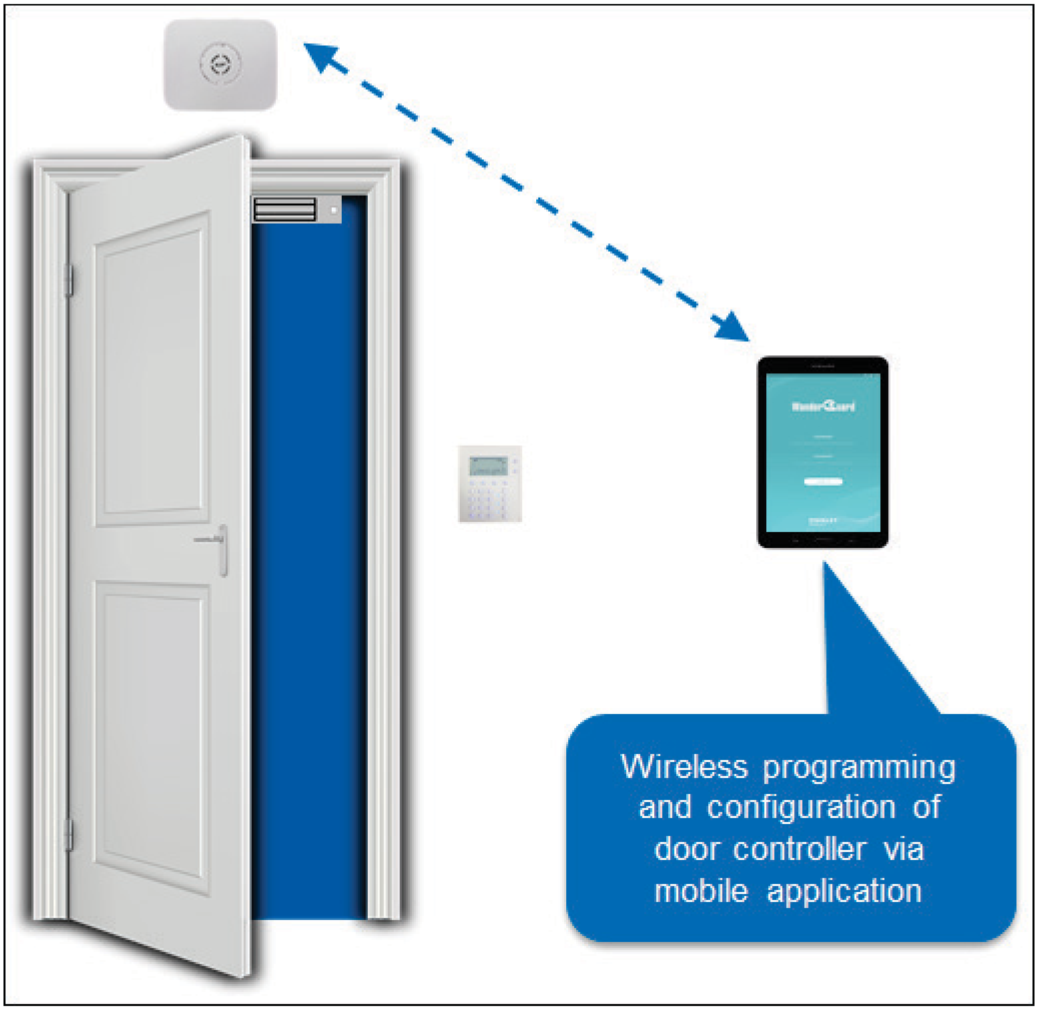
For standard mounting with standard mounting and heavy-duty mounting kits, see Appendix A.

For mounting using the Controller Wall-mount Bracket, see Appendix B.

WanderGuard BLUE Manager

Bi-directional BLE communication between the WanderGuard BLUE Manager and the Door Controller can be established from the mobile application. After establishing communication, the EX5700 Controller configuration can be set using the WanderGuard BLUE Manager.

To configure the Controller via WanderGuard BLUE Manager see Controller Configuration in this User Guide.


Wireless programming and configuration of door controller via mobile application

Integration with Arial

Integration with Arial is supported in WanderGuard BLUE v1.0 by connecting Inovonics transmitter(s) to the Controller's relays or outputs.

Integration via Inovonics 54350:

- Can be connected to dry contact (Relay 1 or Relay 2 – for example to NO and COM)
- Transmits an Alarm when 12 VDC is sent
- Sends a clear message when the 12 VDC is removed
- 54350 can also be used for output activation:
  - Transmits an Alarm when the 100 mA output is activated
  - Sends a clear message when the 100 mA output is deactivated

Integration via Inovonics 14390:

- Can be connected to 12 V relay and to 100 mA output (the 12 V can come from the Controller)
- Transmits an Alarm when the 100 mA output is activated
- Sends a clear message when the 100 mA output is deactivated

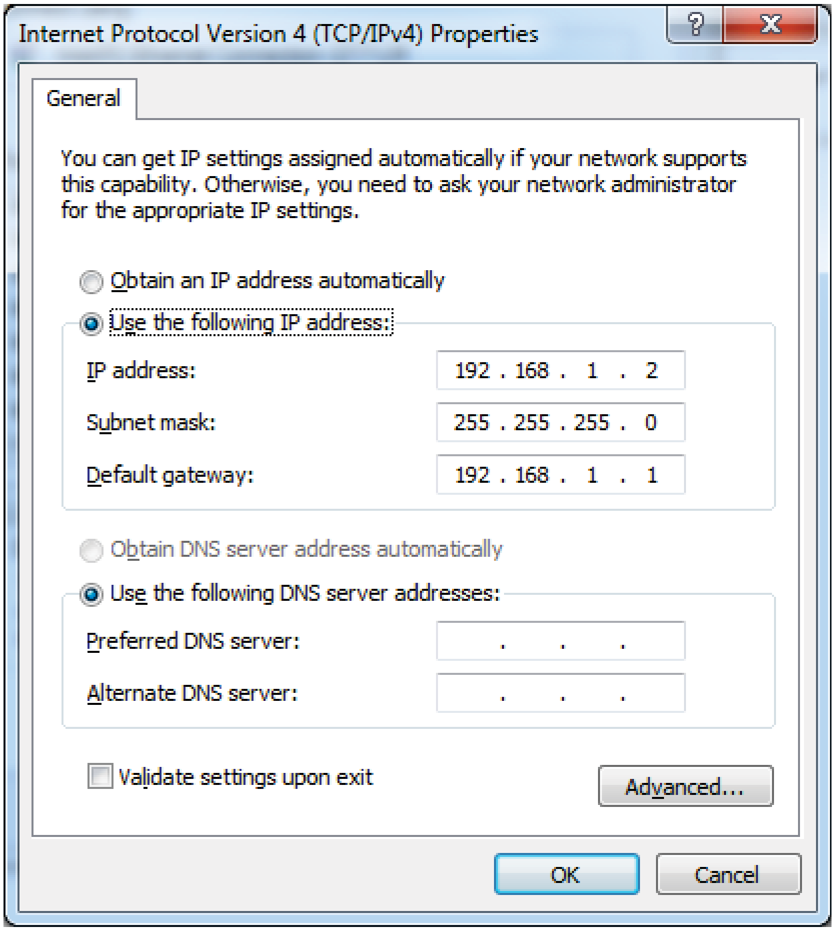
EX5700 Controller Firmware Upgrade

Controller firmware upgrade involves the following steps:

- Setting up the PC from which the Controller firmware upgrade is performed and installing the AeroScout Location Engine (ALE)
- Configuring the AeroScout Location Engine
- Adding the Controller to the Engine configuration
- Performing the upgrade

Setting up the PC

1. Install Engine 5.0 SP4 Manager and Server (non-Cisco platform).
2. Connect the PC-to-LAN connector of the Controller.
3. Set the PC to static IP in the same subnet as the Controller. The Controller default IP address is: 192.168.1.178.



Internet Protocol Version 4 (TCP/IPv4) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

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● Use the following IP address:

IP address: 192 . 168 . 1 . 2
Subnet mask: 255 . 255 . 255 . 0
Default gateway: 192 . 168 . 1 . 1

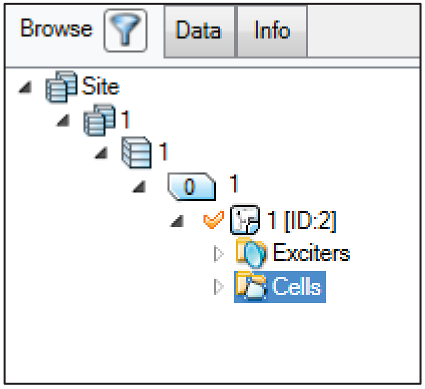
○ Obtain DNS server address automatically
● Use the following DNS server addresses:

Preferred DNS server: . . .
Alternate DNS server: . . .

□ Validate settings upon exit

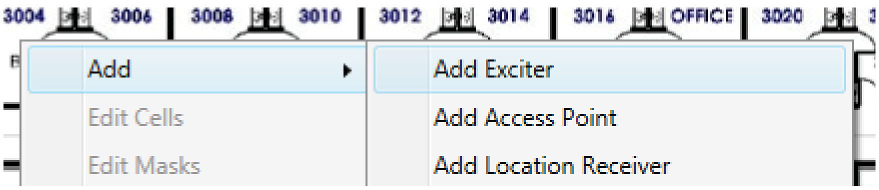
Configuring the Engine

1. Launch Engine Manager, and connect to the Engine Server.
2. Configure the basic settings (add Campus, Building, Floor and Map).

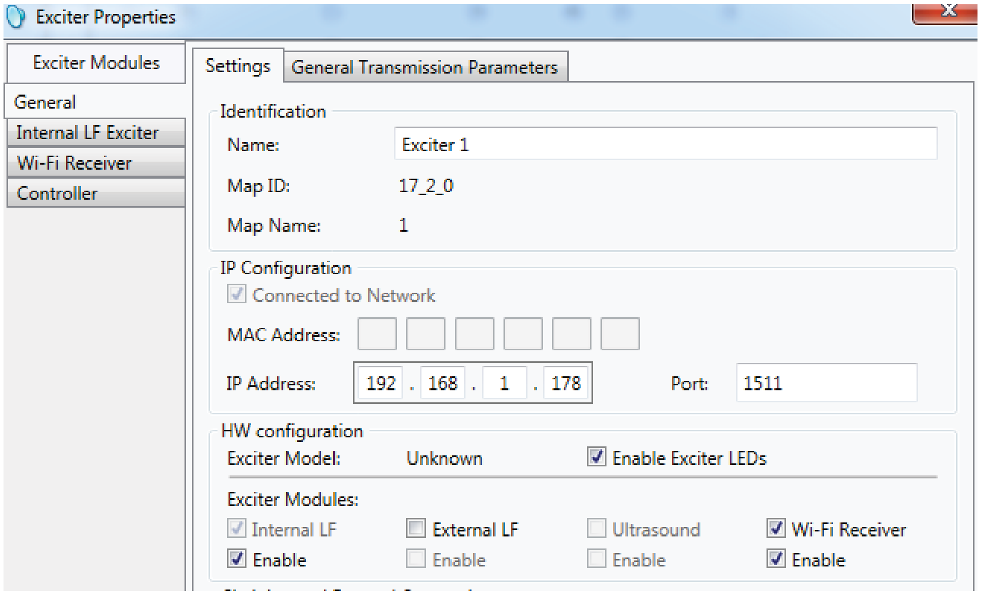


Adding the Controller

1. Add the Exciter to the Engine configuration.



2. Set the Exciter with Wi-Fi Receiver enabled.
3. Set the Controller's IP to 192.168.1.178.
4. The Controller appears online after approximately one minute.



Identification

Name: Exciter 1

Map ID: 17_2_0

Map Name: 1

IP Configuration

☑ Connected to Network

MAC Address:

IP Address: 192 . 168 . 1 . 178 Port: 1511

HW configuration

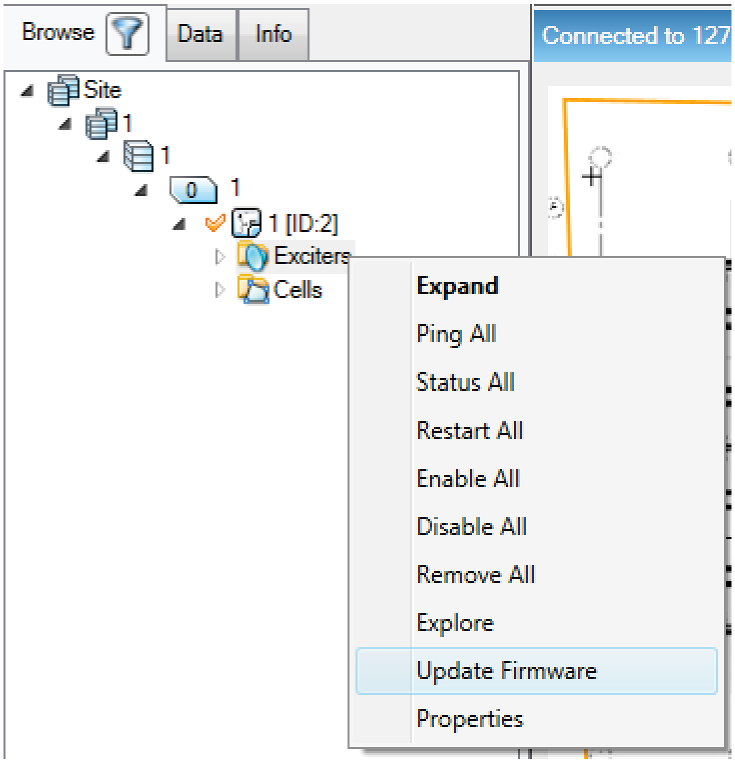
Exciter Model: Unknown ☑ Enable Exciter LEDs

Exciter Modules:

☑ Internal LF	☐ External LF	☐ Ultrasound	☑ Wi-Fi Receiver
☑ Enable	☐ Enable	☐ Enable	☑ Enable

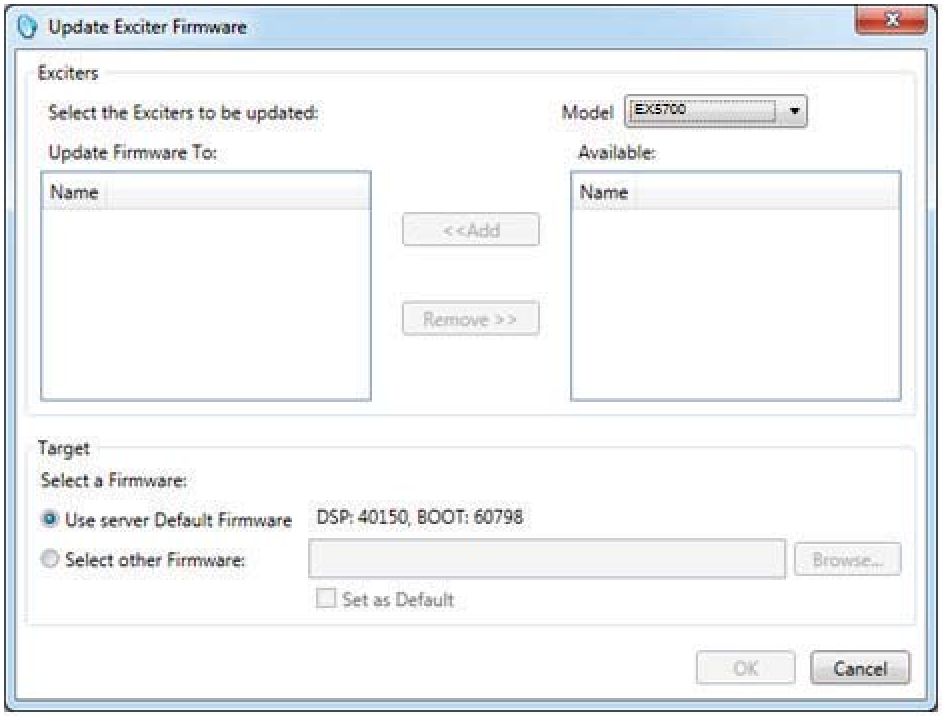
Upgrading the Firmware

1. Open the Upload Firmware dialog from the Exciter by right-clicking the Exciter folder.



2. Select "EX5700" in the Model drop-down window.
3. Browse to the firmware file of the EX5700.

4. Add the Controller to "Update Firmware To."



5. Click **OK** to begin the upgrade.
6. The upgrade takes approximately four minutes.

EX5700 Controller Specifications

Product Specifications	
Part Number	SKU: EX-5700-NA, EX-5700-E
Dimensions	245 mm X 200 mm X 60 mm (9.6in x 7.9in x 2.4in)
Weight	865g (31oz)
Housing	Polycarbonate and ABS
Range	Adjustable from 0.5m (20in) up to 6.5m (21.3ft) in intervals of 0.5m (20in)
LF channels	125 kHz Field intensity limits: 37.3dBµA/m at 10m (ETSI) Propagation limits: 21.8 dBµV/m at 300m (FCC) Modulation: ASK
Power	Input voltage 24-48 VDC 48 VDC Maximum power consumption: 8 W Maximum power consumption of External LF Antenna: 5 W
Environmental	Operating temperature: 0 to 50°C (32°F to 122°F) Humidity: 0 to 95%, non-condensing
Certification	FCC Part 15, sub-part C class B, sub-part B EN 300-330 EN 301.489 RSS210 (Canada) EMC IEC60601-1-2 (Europe) Safety: CE, cTUVus (EN60950)
Relays	Two: max. switching voltage 220 VDC/250 ACD, max. switching power 30 W/62.5 VA, max. switching current 1A, NO (Normally Open) or NC (Normally Closed)

Operational Notes:

- The Controller needs to be used as described in this section.
- The Controller should not be maintained and/or serviced while in use
- The Controller should be installed and mounted as explained in this document
- Power supply should be used per the power requirement of the Controller
- If not installed and mounted, the Controller should be stored in the designated box it is shipped with.
- Cleaning the Controller should be done only when it is not connected to power.

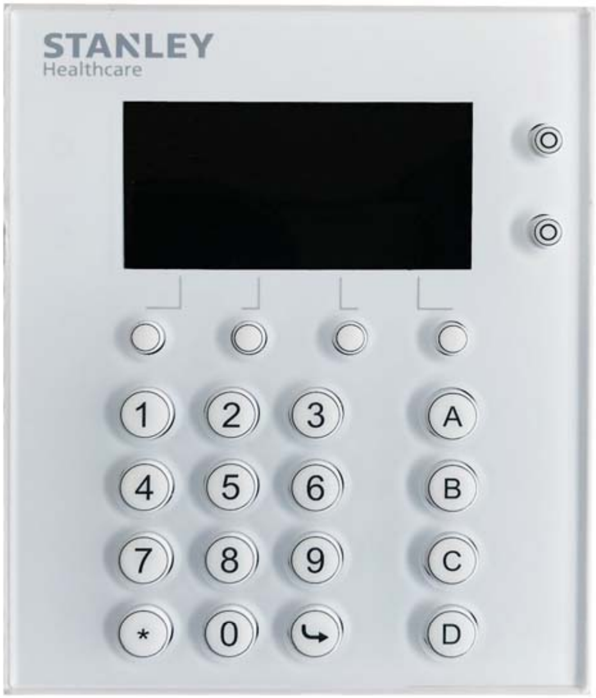
Symbols in the Back label:

- Safety 60950 c US
- Safety 60601
- Compliance with the WEEE (Waste Electrical and Electronic Equipment) Directive
- Approved by FCC FC
- Approved for sale in Europe CE
- Double insulated electrical appliance ⧈

5

Indoor Keypad

The Indoor Keypad is used to control the door by entering commands on the keypad. The Indoor Keypad displays Controller Status – Alarm, Bypass, Day mode, Override, Error, etc. It also displays system events such as Alarm, Door Ajar, and Loitering. A PIN code can be entered to unlock the door or reset an alarm.



Overview

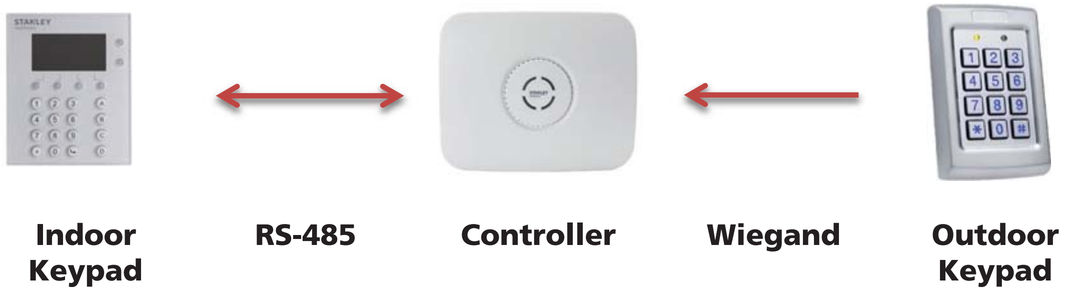
The Indoor Keypad does the following:

- Connects to EX5700 via RS485
- Powered (12 V) by the Controller
- Displays the Controller's status/mode on its screen
- Displays Controller Error(s) on its screen
- Uses LEDs to indicate Controller status
- Can use its built-in buzzer to indicate alarms and events
- Sends the entered key to the Controller for verification

Wired Connections

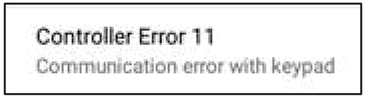
The Indoor Keypad is physically connected to the Controller via RS485. The Outdoor Keypad can be simultaneously connected to the Controller via Wiegand.

Both Keypads are powered by the Controller (12 V).



Note

If only an Outdoor Keypad is connected to the Controller (an Indoor Keypad is NOT connected), then an error is issued by the Controller. The Controller's LED color changes to **Amber**, and an error message is displayed in the WanderGuard BLUE Manager mobile application:



Controller Error 11
Communication error with keypad

Communication

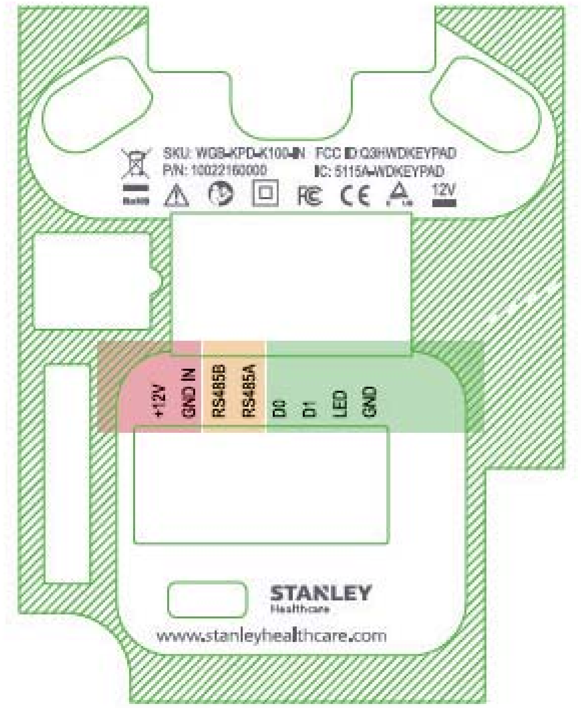
Power

- 12 V from the Controller to +12 V
- GND from the Controller to GND IN

RS485

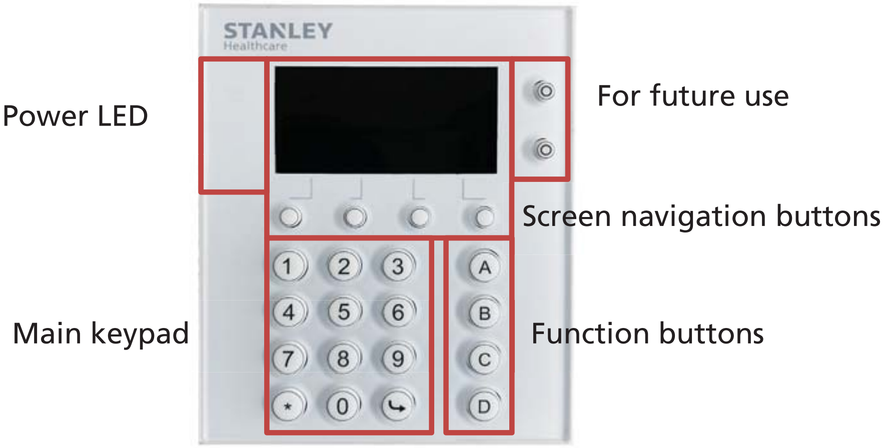
- RS485A from the Controller to RS485A
- RS485B from the Controller to RS485B

Wiegand input from a reader (D0, D1, LED, GND) is intended for future use of a reader that can be connected to the Keypad.



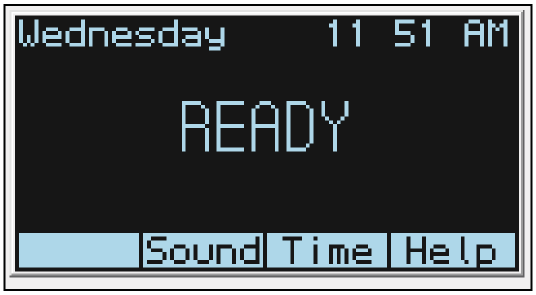
Buttons and LED Display

The buttons below the screen are used to enter a code or activate a menu item displayed on the Keypad screen (the two buttons to the right of the LED screen are intended for future use).



- The main Keypad consists of 3X4 keys: the numbers 1 – 9 and a bottom row: *, 0, #.
- A vertical column on the right side contains the Function Keys: A – D.
- Below the LED screen are buttons that activate the displayed LED screen menu item.
- To the right of the LED screen are two buttons. These buttons are intended for future use.
- On the left side of the LED screen is the power LED. The LED is Green when power is ON and blinks RED when there is an alarm. Another LED below it is reserved for future use.

The following is the typical main screen of the Indoor Keypad:

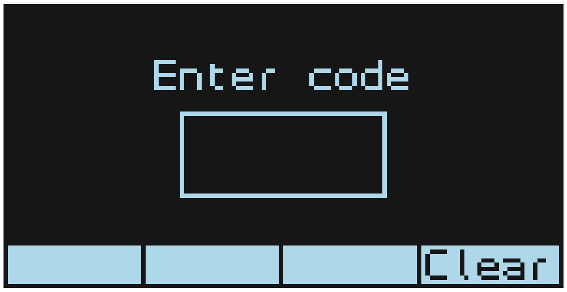


Mute/Unmute Indoor Keypad Sounds

The Indoor Keypad is used to toggle the door buzzer on/off.

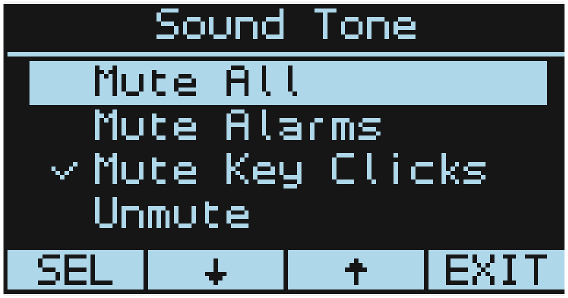
To Mute/Unmute Indoor Keypad sounds:

1. Press the Keypad button below Sound on the screen. The following screen opens.



2. Code (2020*) is required to be entered to modify Sound settings
The following options are displayed:

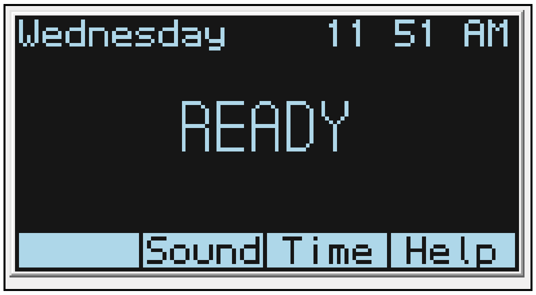
- Mute All – mute Key clicks and events sound
- Mute Alarms – mute Alarm, Door Ajar, and Loitering events sound.
- Mute Key Clicks – mute Key Click only
- Unmute



3. Click SEL to select your choice. Verify that your choice is "checked."
4. Click EXIT to return to the main screen.

Time

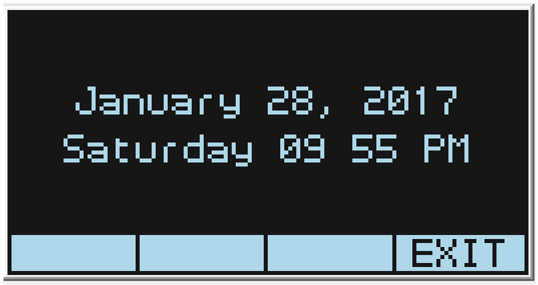
To view the current time, press Time on the main screen.



Wednesday 11 51 AM

READY

The following screen opens:

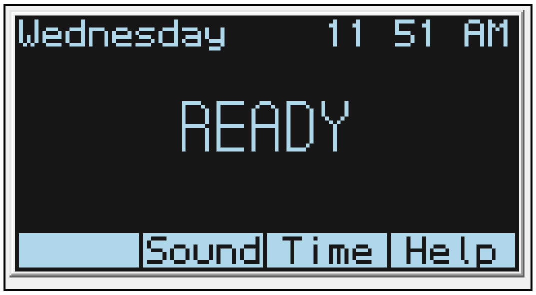


January 28, 2017
Saturday 09 55 PM

✓ **Best Practice**: When the system is initially installed at the customer site, the Indoor Keypad shows a default date of January 3, 2017. When the Indoor Keypad downloads its time settings from the Controller, it begins showing the same time settings as the Controller. The Input Keypad date and time are changed by modifying the appropriate Controller fields within the WanderGuard BLUE Manager mobile application. See the Clock Settings page of the WanderGuard BLUE Manager.

Help

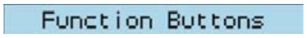
The Help screen displays the Keypad Software Version and provides access to the Function Buttons menu.



Wednesday 11 51 AM

READY

To access the Function Buttons menu:

1. Click **Help**.
2. In the screen that opens, click Function Buttons:
   

3. Click **SEL** to select (it's the only option).

4. The Function Buttons selection screens opens. See Function Button Options.

Function Button Options

Note

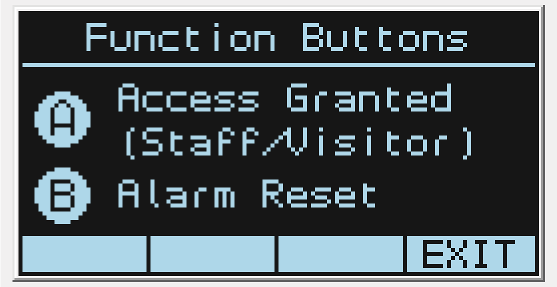
The Visitor and Bypass codes and the time period that the door is open can be changed in the WanderGuard BLUE Manager. The Alarm Reset code can also be changed in the WanderGuard BLUE Manager. See Settings in the Controller Configuration chapter of this User Guide.

Function buttons activate the designated function (Access Granted, Alarm Reset) after the preset PIN code is entered by a staff member on the Indoor Keypad.

These functions are accessed by keying in the numerical code and then pressing the designated Letter button (A or B) on the Keypad.

Note

The C and D buttons are reserved for future use.



Function Button A – Access Granted

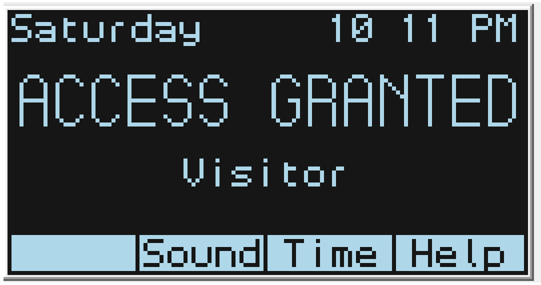
This function is used together with the Visitor Code or Bypass Code to open the door. The following are the default codes:

Bypass code – 0000A

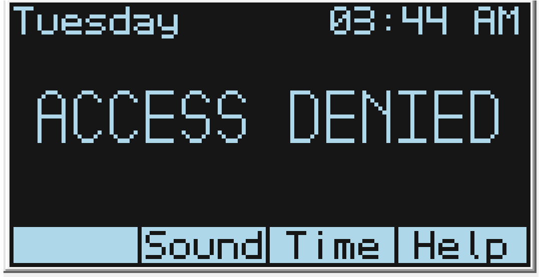
Visitor code – 0001A

Entering one of these codes opens the door, and the Indoor Keypad simultaneously displays an Access Granted message. The Access Granted function stays active for the designated time period (the default time period is five seconds).

- Access Granted (Visitor)



- An "Access Denied" message is issued when the code is invalid

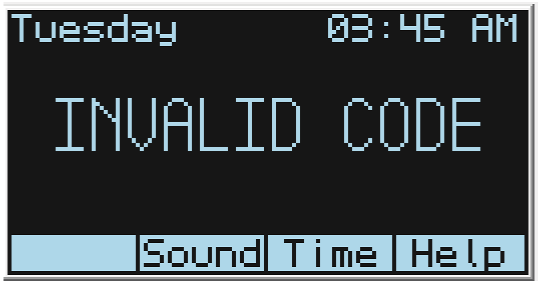


```
Tuesday      03:44 AM
ACCESS DENIED
```

Function Button B – Alarm Reset

This function is used to turn off the alarm (9999 + function Button "B") and return the Indoor Keypad to its READY state. An alarm is issued, for example, if the door was opened without proper authority.

If a wrong code is entered, an Invalid Code message is displayed:



```
Tuesday      03:45 AM
INVALID CODE
```

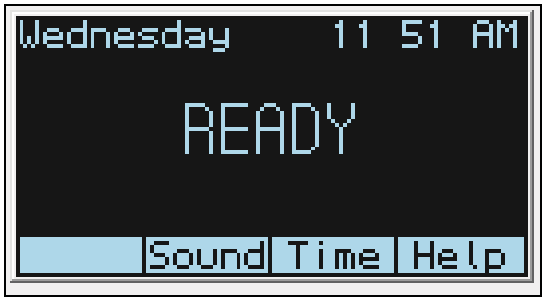
Function Button C

For future use.

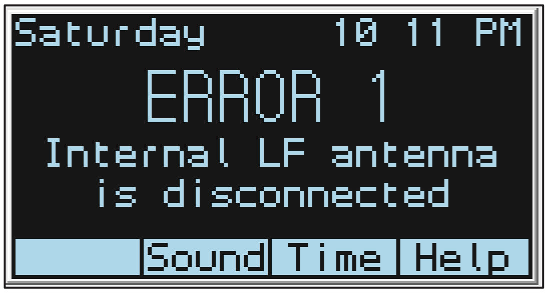
Function Button D

For future use.

Keypad Display


Wednesday 11 51 AM

READY

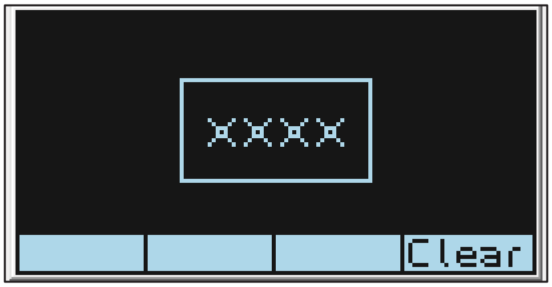

Saturday 10 11 PM

ERROR 1

Internal LF antenna is disconnected

Time and Day of the Week are displayed on the upper row of the LED display. The display shows the mode/status of the Controller and indicates any Controller error such as a communication failure with the Controller.

If you make a mistake during code entry, press **Clear** to start over.


XXXX

Indoor Keypad statuses:

- Ready
- Ready – Night Mode
- Door Ajar
- Loitering
- Override
- Access Granted (Visitor)
- Access Granted (Staff)
- Access Denied
- Invalid Code
- Alarm
- Controller Error
- Communication Failure

Keypad LEDs

The Indoor Keypad has two left-side LEDs (looking at the Keypad): a lower LED and an upper LED.

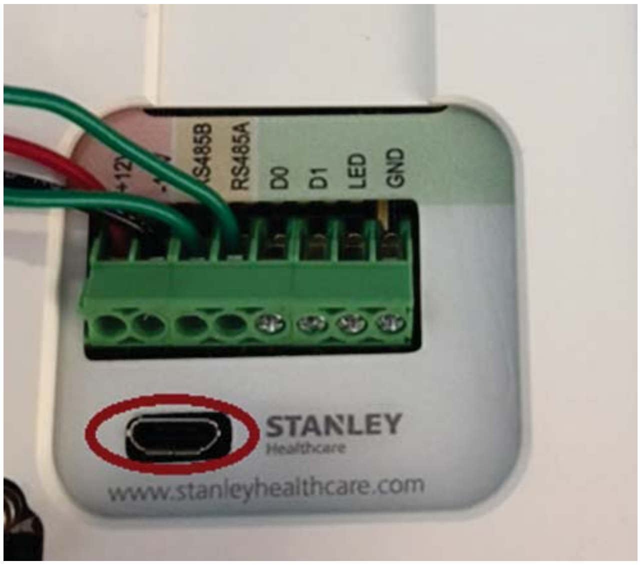
The lower shows errors and loss of communication. The upper shows Status and Mode. The following are the color codes:

Display	Upper LED (Ready / Alarm)
Ready	Solid Green
Ready – Night Move	Solid Red
Override	Blinking Green
Bypass	Solid Green
Visitor	Solid Green
Alarm Mode	Blinking Red
Loitering	Solid Green
Door Ajar	Solid Green
Access Denied	Solid Green
Invalid Code	Solid Green
Error	Off

Indoor Keypad Firmware Upgrade

A PC application is used to upgrade the Indoor Keypad firmware.

The following are firmware upgrade preliminary steps:



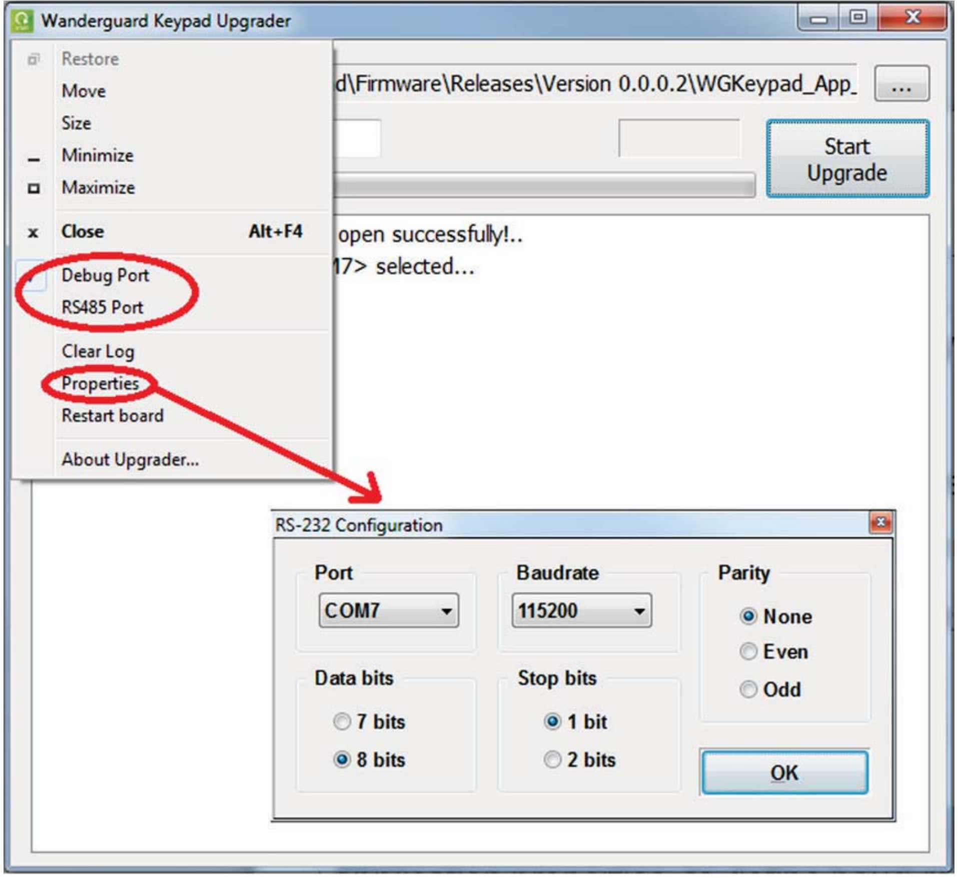
- Install the application on the PC
- Install the driver for the micro-USB

Connect the PC to the Indoor Keypad by the micro-USB connector at the back panel of the Keypad using the dedicated cable. The cable SKU is: WGB-UPCAB-KPD-1000.

Do the following to upgrade the Indoor Keypad firmware:

1. Open the application and from the main menu, select the following type of connection: Debug port
2. From the Properties menu, select virtual Com port (the adapter creates virtual COM-port on the PC). The following communication needs to be defined:
    - Baud-rate 115200
    - 8 data bits
    - 1 stop bit

- No parity



d\Firmware\Releases\Version 0.0.0.2\WGKeypad_App_

open successfully!..
7> selected...

Port: COM7

Baudrate: 115200

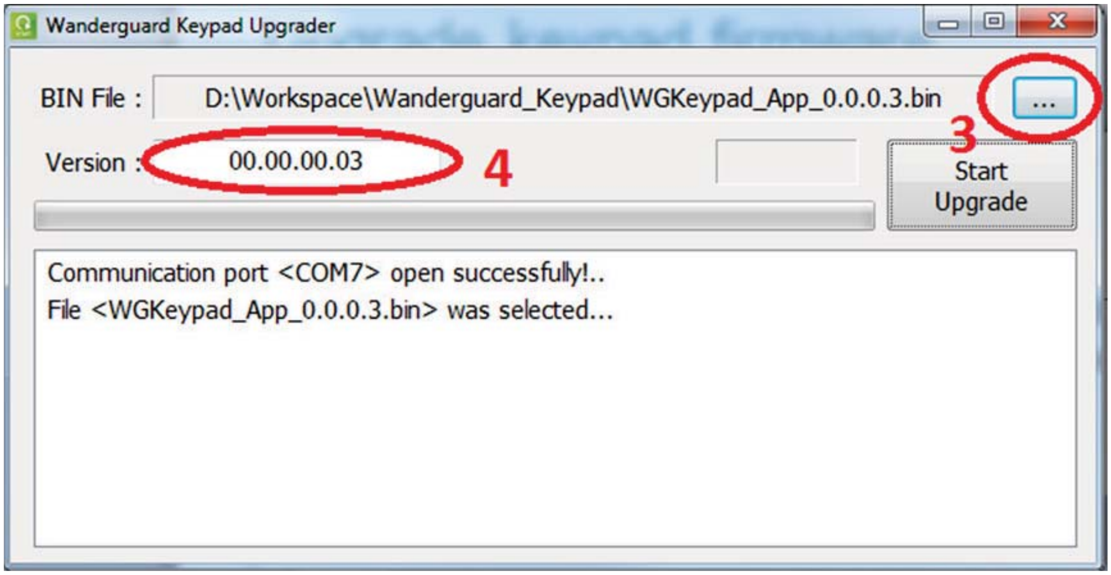
Parity: ● None ○ Even ○ Odd

Data bits: ○ 7 bits ● 8 bits

Stop bits: ● 1 bit ○ 2 bits

3. Select the binary file for upgrade.

4. If the file name is defined in correct format, the version number is automatically detected; if not, you need to define new version number.

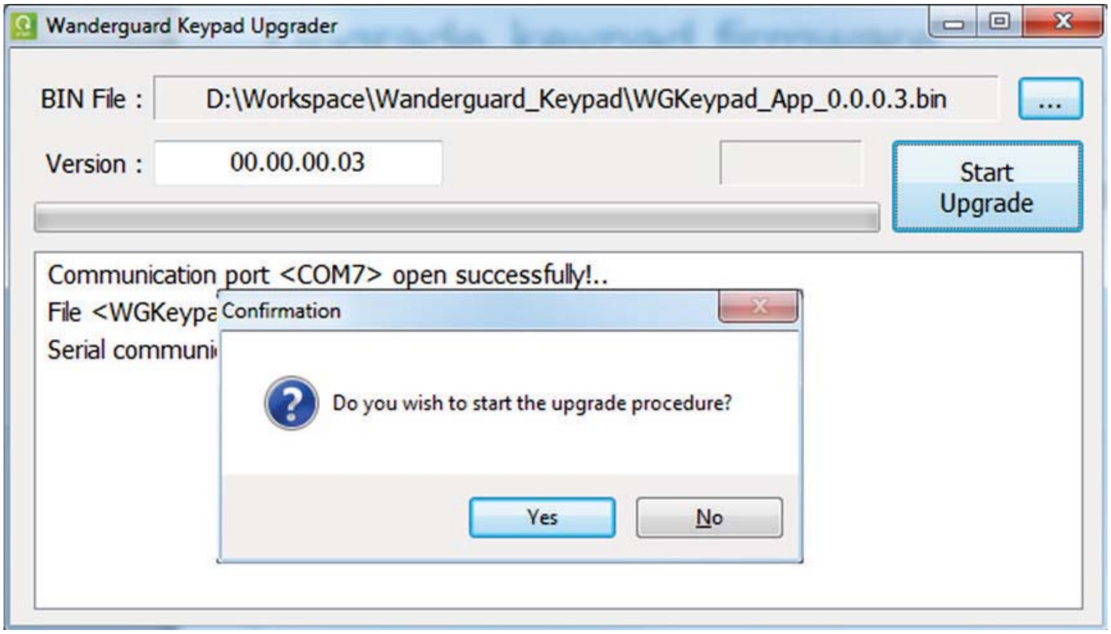


BIN File : D:\Workspace\Wanderguard_Keypad\WGKeypad_App_0.0.0.3.bin

Version : 00.00.00.03

```
Communication port <COM7> open successfully!..
File <WGKeypad_App_0.0.0.3.bin> was selected...
```

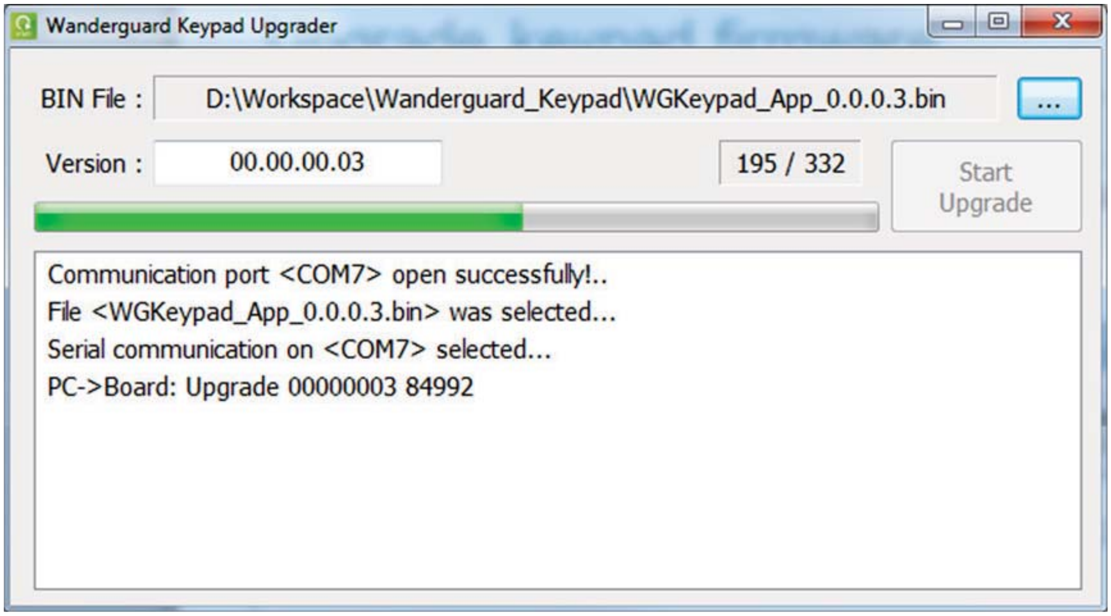
5. Press the **Start Upgrade** button and **Yes** to start the upgrade.


Wanderguard Keypad Upgrader
BIN File :
D:\Workspace\Wanderguard_Keypad\WGKeypad_App_0.0.0.3.bin
...
Version :
00.00.00.03
Start Upgrade
Confirmation
Yes
No

Communication port <COM7> open successfully!..
File <WGKeypa
Serial communi

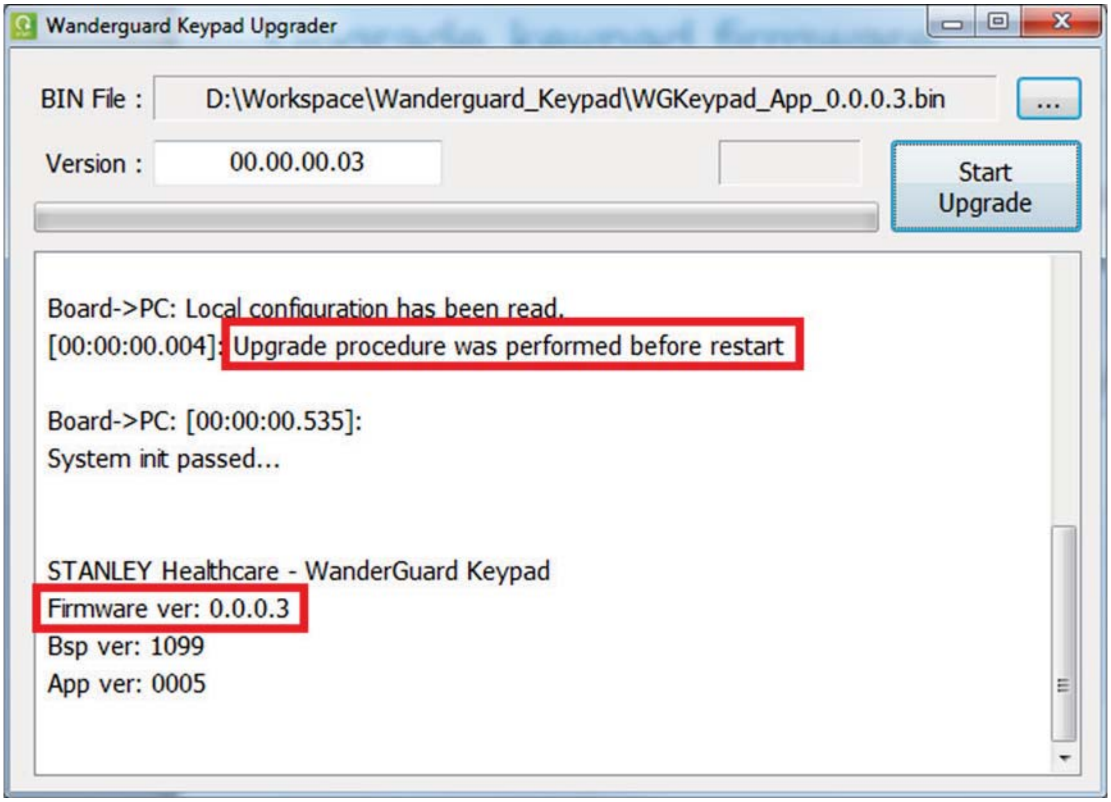
Do you wish to start the upgrade procedure?

6. A progress bar and counter appear showing the status of the upgrade.


Wanderguard Keypad Upgrader
BIN File :
D:\Workspace\Wanderguard_Keypad\WGKeypad_App_0.0.0.3.bin
...
Version :
00.00.00.03
195 / 332
Start Upgrade

```
Communication port <COM7> open successfully!..
File <WGKeypad_App_0.0.0.3.bin> was selected...
Serial communication on <COM7> selected...
PC->Board: Upgrade 00000003 84992
```

7. After the upgrade is completed, information regarding the upgrade and new firmware version number is displayed in the log window.



BIN File : D:\Workspace\Wanderguard_Keypad\WGKeypad_App_0.0.0.3.bin

Version : 00.00.00.03

```
Board->PC: Local configuration has been read.
[00:00:00.004]: Upgrade procedure was performed before restart

Board->PC: [00:00:00.535]:
System init passed...


STANLEY Healthcare - WanderGuard Keypad
Firmware ver: 0.0.0.3
Bsp ver: 1099
App ver: 0005
```

Indoor Keypad Specifications

Specifications	
Part Number	SKU: WGB-KPD-K100-IN
Operating Voltage Range	11.5 to 15 VDC from a standard Controller
Input Current	Standby: 50 mA at 12 VDC Maximum: 200 mA at 12 VDC
Communication with Controller	RS485
Keypad	3x4 keys standard arrangement; 4-digit PIN codes entry Backlight blue keys

Specifications	
Design	Enclosure suitable for indoor use
Audio/Visual	Graphical LCD: 128x64 + white backlight Buzzer for audio indication/alert ~90dB@10cm Tri-color indication LEDs: red, green, yellow
Pin Code Format	Numerical 4-digit length PIN codes
Environment	Operating temperature: 0°C to 50°C (32°F to 122°F) Storage temperature: -20°C to 50°C (-4°F to 122°F) Operating Humidity: 0 to 95%, non-condensing
Physical	Dimensions: L104 mm x W22.5 mm x H125 mm (L 4.1 in. x W 0.89 in. x L 4.92 in.) Weight: 206 g (0.54 lbs.)

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Outdoor Keypad

The Outdoor Keypad is Rosslare Security's AYC-Q54B. It sends Wiegand output to the Controller after a code is entered. The 4 digit code does not need any other keys to be entered. Verification of the code is done by the Controller. These codes include:

- Bypass code
- Visitor code
- Alarm Reset code

The Outdoor Keypad:

- Receives 12 V power from the EX5700 Controller
- Communicates WITH the EX5700 Controller via Wiegand
- UL294-certified

Door Opening Using the Outdoor Keypad

The same numerical codes apply to both the Outdoor Keypad and Indoor Keypad, except that there are no Function Buttons (A, B) when using the Outdoor Keypad.

Since there is no A or B key in the Outdoor Keypad, it is sufficient to enter only the numerical code.

To open the door using the Outdoor Keypad:

1. Enter the appropriate code at the Outdoor Keypad.
2. As you key in the numbers, the LED blinks from red to green.
3. After the fourth digit is entered, the LED changes to green, and the door is unlocked.
4. After the door is relocked (when the door closes), the LED changes color from green back to red.

Outdoor Keypad Specifications

ELECTRICAL SPECIFICATIONS
Reader mode: 5 to 16 VDC from a standard Controller Controller mode: PS-x25T series intelligent power supplies
Standby: 65 mA at 12 VDC
Maximum: 110 mA at 16 VDC
Tamper: Optical back tamper sensor, O.C. active low, 32 mA max. sink current
Operational Specifications
Keypad: 3x4 keys for local programming and 4- to 8-digit PIN codes entry
Design: Epoxy potted, fully-sealed in a rugged metal enclosure; blue backlit metal keys, highly strong construction. Suitable for extremely harsh environments.
Audio/Visual: Two tri-color LED indicators, built-in buzzer
Environmental Specifications
Operating Environment: All weather, indoor and outdoor use, meets IP65
Operating Temperature: -35°C to 66°C (-31°F to 151°F)
Operating Humidity: 0 to 95% (non-condensing)
Physical Specifications
Dimensions: 120 x 76 x 21 mm (4.72 x 3 x 0.83 in.)
Weight: 480 g (1.05 lbs.)

Standalone Outdoor Keypad

A standalone Outdoor Keypad is not part of the WanderGuard BLUE solution but can be used with it. Unlike the Outdoor Keypad, this Keypad does not have Wiegand output.

- International Electronics Inc. (IEI) 0232142- REV 3
- SKU: 15615
- Same output Keypad as used with RoamAlert (for maglocked doors).
- Can be connected to the Controller via the REX input.
- PIN codes can be entered into the Keypad to open the door.
- PIN codes need to be programmed in the Keypad.
- The Standalone Outdoor Keypad is usually connected directly to the door (the door is unlocked when PIN code is verified by the Keypad).

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WanderGuard BLUE Detector

The WanderGuard BLUE Detector is a component of STANLEY Healthcare’s WanderGuard BLUE Wander Management Solution.

This portable hand-held device is used to perform the following activities:

- Tag activation
- Checking Tag battery level
- Support WanderGuard BLUE Manager's scanning for Tags

Physical Characteristics

The WanderGuard BLUE Detector is equipped with the following:

- 3 LEDs
- Side button (ON/OFF)
- Micro-USB connector
- Power charger
- Lanyard

Turning a WanderGuard BLUE Detector ON and OFF

To turn ON a WanderGuard BLUE Detector:

1. Short-click the power button.
2. The Power LED turns ON (Ivory color).

To turn OFF a WanderGuard BLUE Detector:

1. Press the power button for 1 second.
2. The Power LED turns OFF.

The WanderGuard BLUE Detector goes into Sleep Mode 10 minutes after startup if not in use (to save its battery life). When in Sleep mode, the Detector needs to be powered up in order to work.

LEDs

Power Indicators	
On	**Ivory**
Off	Power LED is OFF
Low battery	**Ivory** (blinking)
Charging	**Red**
Fully charged	**Green**
Battery Indicators	
Tag with ‘Good’ battery level	**Green** for two seconds
Tag with ‘Low’ battery level	**Red** for two seconds
Receiving BLE messages from more than one Tag	**Ivory** for two seconds
LF Indicators	
When LF is transmitted	**Ivory** color blinking for 0.25 second
When receiving a BLE message from an activated Tag	**Green** for two seconds
When receiving BLE messages from more than one Tag	**Ivory** for two seconds

USB Connector

The USB Connector with power adaptor is used to connect the WanderGuard BLUE Detector to a power outlet. Alternatively, the cable can be connected to a PC -USB port.

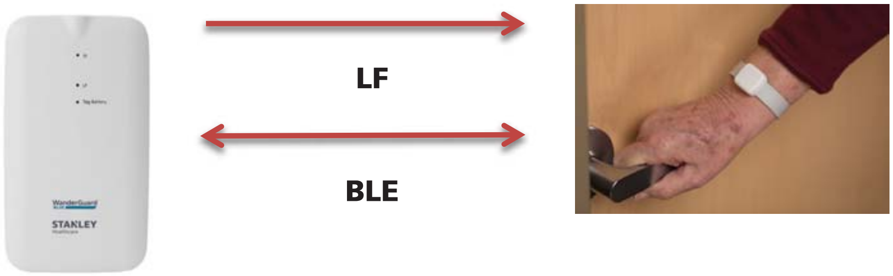
Communication

The Detector communicates only with the Tag. The Detector transmits LF messages to the Tag every two seconds within a range of 0.3 - 0.5 m. It also receives BLE messages from the WanderGuard BLUE Tag (see the WanderGuard BLUE Tag chapter).

Note

The Detector does not transmit/receive when it is charging.

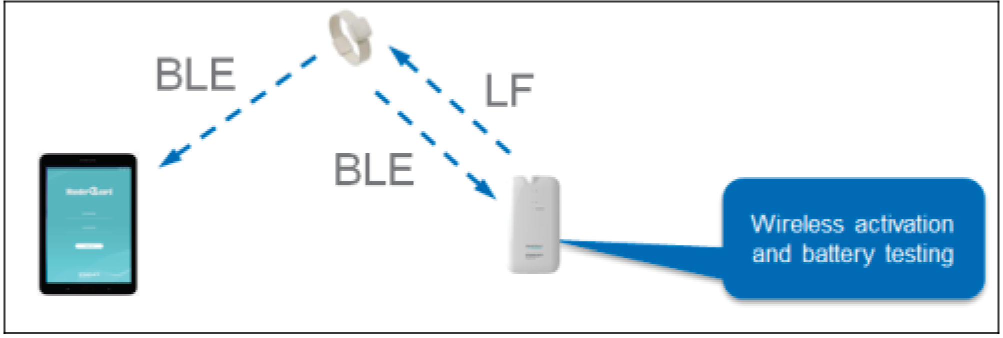
The Detector does not directly connect to WanderGuard BLUE Manager.



Activating a WanderGuard BLUE Tag with the Detector

To activate a WanderGuard BLUE Tag with your Detector:

1. Turn on WanderGuard BLUE Detector by short-clicking the power button.
2. Place a WanderGuard BLUE Tag within the Detector's LF range (less than 0.5 meter).
3. Activate the Tag – press the power button for 1.5 seconds.
   - Detector sends activation message via LF.
   - Detector beeps to indicate sending activation message.
4. Upon receiving BLE message from the Tag.
   - LF LED lights green for two seconds.
   - If more than one Tag sends a BLE message, the LF LED lights Ivory for two seconds.
5. If the WanderGuard BLUE Manager is in range of the Tag(s), the Scan feature can display the Tags and their properties in the application.



Checking the WanderGuard BLUE Tag Battery Level

To check WanderGuard BLUE Tag Battery Level:

1. Turn on WanderGuard BLUE Detector by short-clicking the power button.
2. Place the Tag within the LF range of the Detector (less than 0.5 meter). The Detector constantly sends LF messages.
3. The Detector displays the Tag Battery level by flashing the Tag Battery LED for one second after receiving the BLE message from the Tag.
4. When the Detector is in proximity to an activated Tag that has a good battery, the LF and Battery LED flash Green every 2 seconds.

Note

If multiple Tags send BLE messages, the Battery LED will be **Ivory** color.

✓ **Best Practice**: It is recommended to have the Tag battery checked at least once a week.

Tag Scan Using the Detector

To run a scan for Tags using the Detector:

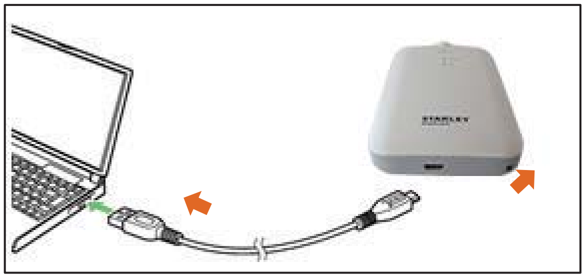
1. Turn on WanderGuard BLUE Detector by short clicking the power button.
2. Place the Detector close to the Tag (less than 0.5m).
3. The Detector constantly sends LF messages so Tags in the vicinity will be transmitting BLE messages.
4. Run Scan in the Mobile Application.
5. View Tag properties in the WanderGuard BLUE Manager's Scan results page.

WanderGuard BLUE Detector Firmware Upgrade

The TED Device Manager is a component of STANLEY Healthcare's Hardware Manager application and is used to upgrade WanderGuard BLUE Detector firmware.

Connecting the Detector to a PC

1. Turn ON the PC or laptop.
2. Turn ON the WanderGuard BLUE Detector by short-clicking the power button.
3. Connect the Detector to your computer using the supplied micro-USB cable by inserting the USB end of the cable into an available USB port.
4. Insert the micro-USB connector into the port located in the bottom-end of the Detector.



5. The Detector power LED turns on. See LEDs.

6. Device drivers are automatically installed the first time the Detector is connected to a PC.

Using the TED Device Manager

The TED Device Manager component of the STANLEY Healthcare's Hardware Manager application is used to:

- Connect to the Detector to view the Detector’s battery status
- Upgrade the Detector firmware