



Evolv Edge User Guide

Version 1.1

Document Version 1.1



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Notes

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes/modifications to this equipment not approved by (insert grantee name) could void the user's authority to operate the equipment

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

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



Warnings

For safety of operating personnel:

- Make sure that the equipment is properly grounded. Do not operate if it is not properly grounded.
- The unit is equipped with a power plug appropriate for the destination country. Do not, under any circumstances, remove the grounding prong from the power cord.
- Do not attempt to operate the equipment without the air being bled from the transport system and the unit having been leveled.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

To prevent damage to the equipment, do not operate the Evolv Edge in a wet environment. The instrument is designed to operate in ambient conditions e.g., 0 to 40°C (32 to 140°F).

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1 THE EVOLV EDGE

The Evolv Edge™ is a mass-casualty screening system designed for use in temporary or traditional security checkpoints. It combines flat-panel, millimeter wave technology with HF sensors to screen visitors for concealed metallic and non-metallic weapons, contraband and other items.

Depending on the application, the visitor may be required to remove items, such as laptop bags, large backpacks and handbags for inspection. When instructed, the visitor proceeds through the Evolv Edge.

The Evolv Edge scans the visitor during the entry zone, threshold, and exit zone. After the visitor has passed through all three areas, the Evolv Edge displays the scan results to the operator via indicators on the rear side of each tower. Alternatively, the tablet may be configured to display the results and photos from the scan.



2 SETTING UP OR RELOCATING THE EVOLV EDGE

This chapter covers:

- Setting up the Evolv Edge
- Moving the Evolv Edge tablet
- Relocating the Evolv Edge

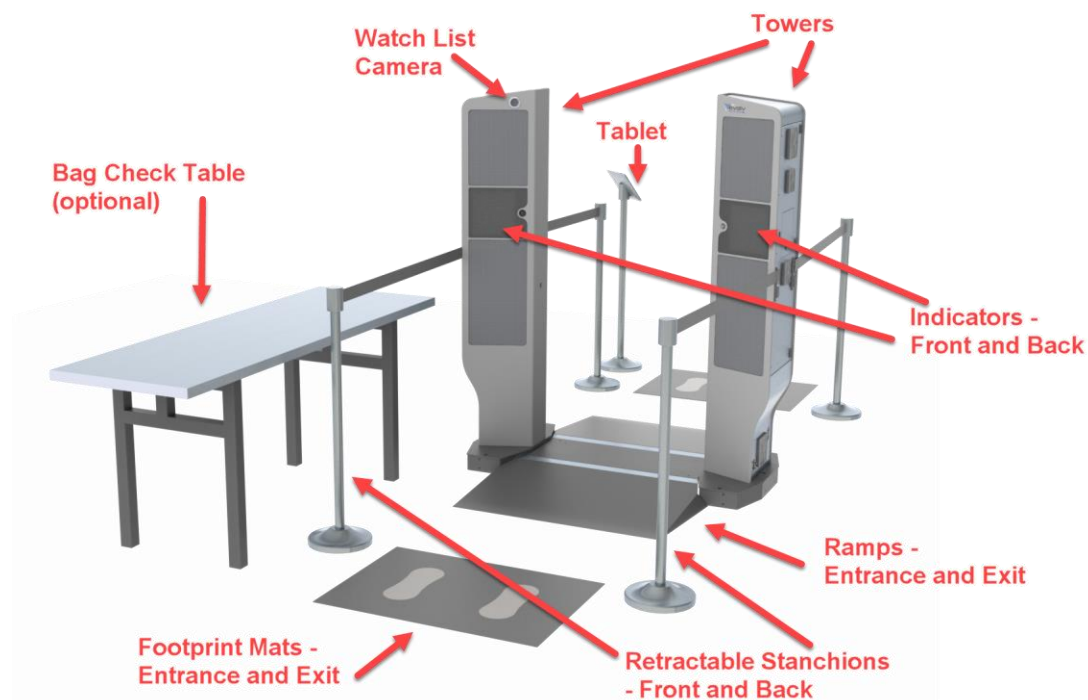
SETTING UP THE EVOLV EDGE

The Evolv Edge consists of the following components:

- Towers
- Tablet
- Free-standing tablet pedestal
- Entrance and exit ramps
- Footprint floor mats
- Retractable stanchions
- Visitor instructional signage
- Ethernet cable
- Power cable

Optional accessory:

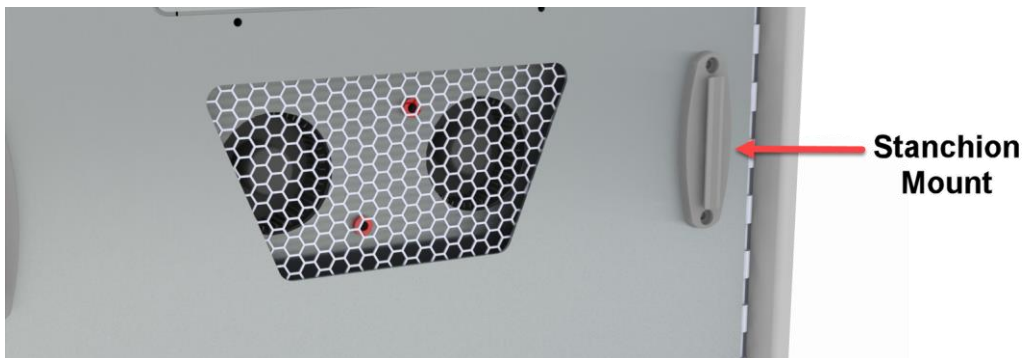
- Divestment/Inspection table



An Evolv Technology field service representative will perform the initial installation and configuration of the Evolv Edge system. Use the instructions below if you need to reconfigure the system after moving it.

NOTE: Normal precautions and reasonable care should be exercised to avoid possible damage to the system.

1. Ensure the Evolv Edge towers are stable and spaced 32 inches apart, $\pm 1/8$ inch.
2. Connect the entrance and exit ramps to the floor base of the Evolv Edge.
3. Place the footprint mats 175 cm (69 in) from the center of the floor base.
4. Place the stanchions on the sides of the footprint mats to ensure straight passage through the entire Edge system. The retractable straps pull out from the sides of the stanchion and slide into the mounts on the outside of the tower. This should be done for all four stanchions.

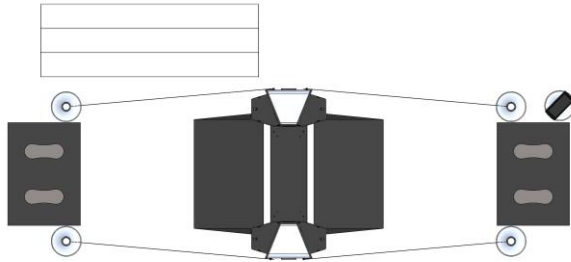


5. Position the Evolv Edge tablet with stand connected via Ethernet cable in the alarm resolution area.



6. Position the divestment/inspection table(s). (optional)

7. Review the equipment layout and ensure no trip hazards have been introduced.

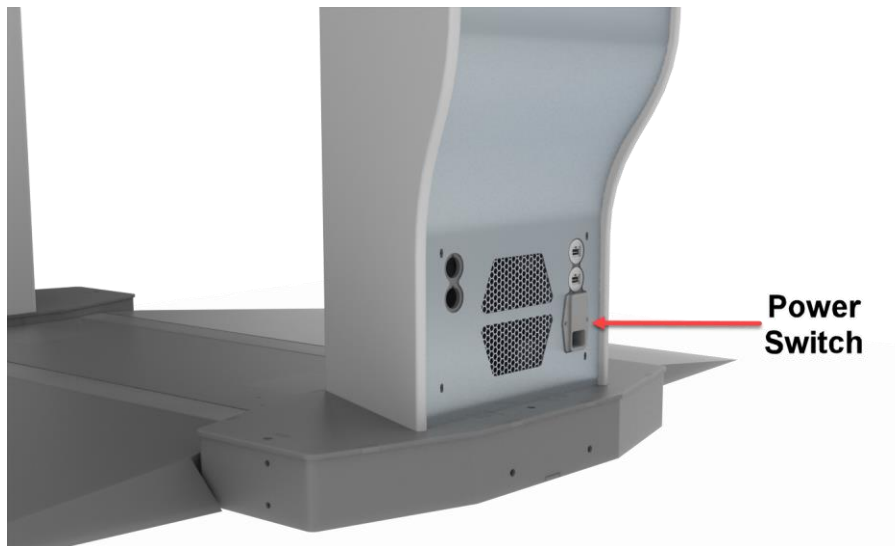


8. Connect the power cord to the facility's power source.

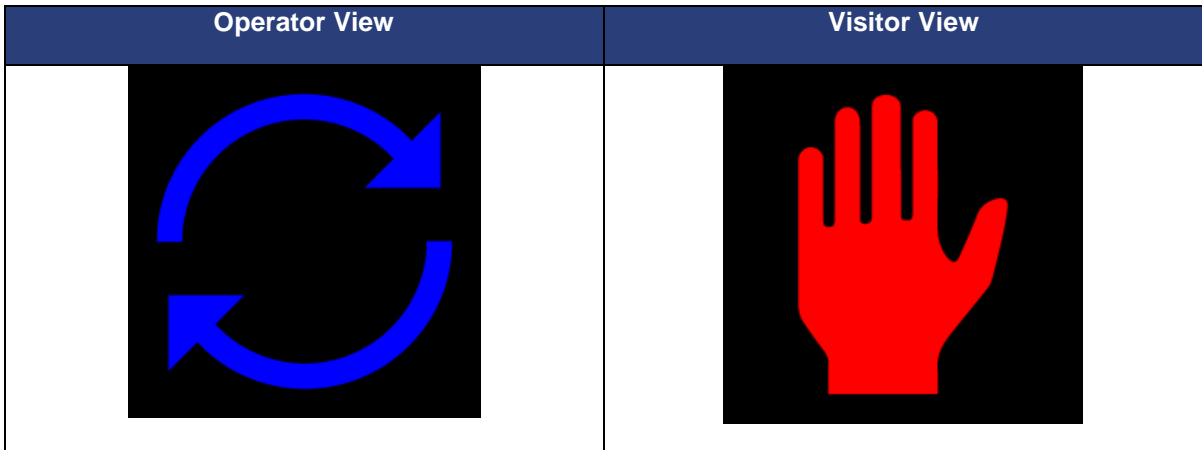
NOTE: In case of a power interruption, the Evolv Edge will halt. If this occurs the system will then need to be restarted. The use of an Uninterrupted Power Supply (UPS) is recommended if your site has frequent power surges or loss of power.

Fans maintain a safe operating temperature in the Evolv Edge by circulating air over the internal components. Place the system so that there is a minimum of 20 cm (8 in) between the side panels and any wall or obstruction for airflow.

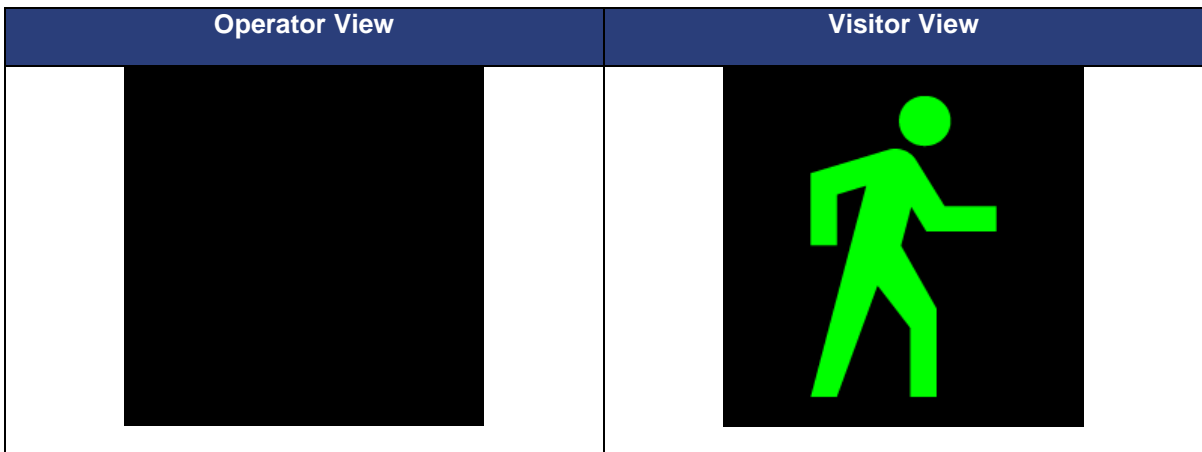
9. Toggle the power switch, located on the lower side of the right tower, to the 'I' position.



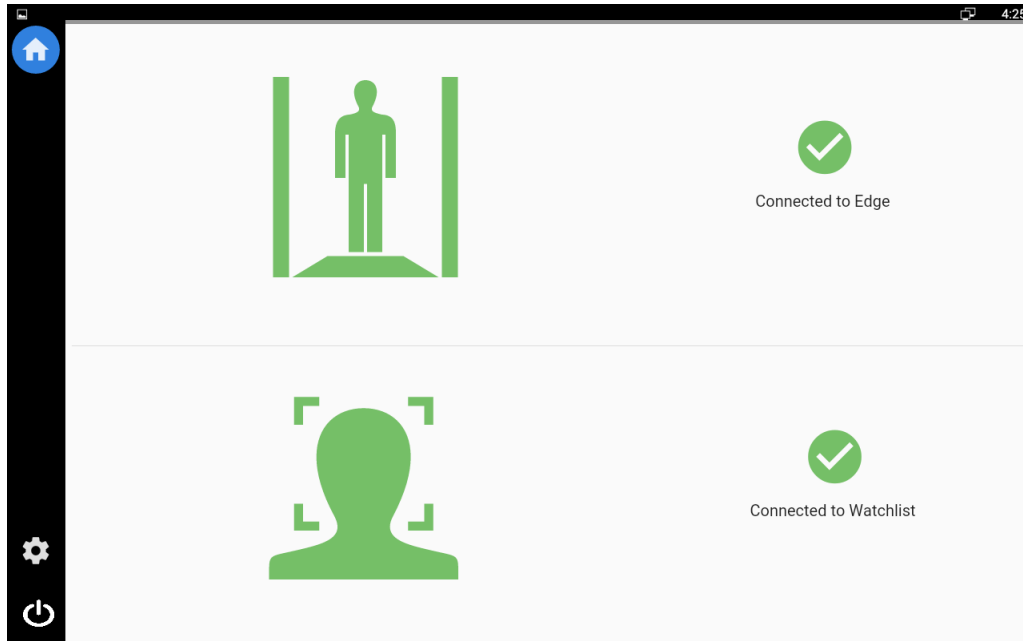
10. The Evolv Edge will start to initialize; the following indicators will display on the front and back of the towers:



After initialization is complete, the indicators on the front of the towers show the Enter indicator, while the indicators on the back of the towers are blank.



11. The tablet will start automatically. Once the tablet has initialized, the Evolv Edge app displays.



MOVING THE EVOLV EDGE TABLET

There may be a need to move the tablet stand from one side of the Evolv Edge to the other due to space constraints. To do this:

1. Unplug the Ethernet cable from the tower. The power to the tablet will be disconnected, and the tablet will turn off.
2. Reposition the tablet stand.
3. Plug the Ethernet cable into the nearest tower. The power to the tablet will be restored, and the tablet will start automatically.
4. After the tablet has initialized, the Evolv Edge app will display.



RELOCATING THE EVOLV EDGE

To relocate the Evolv Edge:

1. Toggle the power switch, located on the lower side of the tower power, to the 'O' position.
2. Disconnect the power cord from the tower and its power supply.
3. Disconnect the Ethernet cable from the tower.
4. Disconnect the stanchions from the towers.
5. Remove both sections of the floor base, and the two floor base stabilizers.
6. Unhook the entry and exit ramps.
7. Retrieve the entry and exit mats.
8. Connect the air pump to valve stem on the air tower. Inflate the pneumatic system to 20psi to lower the system's wheels and raise the Evolv Edge.
9. Hand-loosen the stabilizer knobs to ensure they don't contact the ground during transport
10. Organize all components of the Evolv Edge for transport. This includes floor base, ramps, mats, stanchions, the tablet stand and signage frame, and the Ethernet and power cables.
11. Transport the Evolv Edge to its next location.

NOTES:

- Only trained personnel should relocate the Evolv Edge.
- Proceed with caution over raised or open obstructions such as doorway sills or elevator doorways.
- Keep the air pump with the Evolv Edge during transport as it may be necessary to add air to the pneumatic system if the system is moved over long distances or across multiple obstructions.

3 USING THE EVOLV EDGE TABLET APP

This chapter covers:

- User Roles
- Tablet Overview
- Settings

USER ROLES

The Evolv Edge tablet comes preconfigured with one Admin user, and three pre-defined roles: Operator, Maintenance and Administrator. Each role is allowed access to specific settings:

	Notifications	Connection	Force Confirm	Settings	Statistics	Status	Users	Simulation
Operator	X	X	X					
Maintenance	X	X	X	X	X	X		X
Administrator	X	X	X	X	X	X	X	X

See *Settings* for an explanation of each setting in the table.

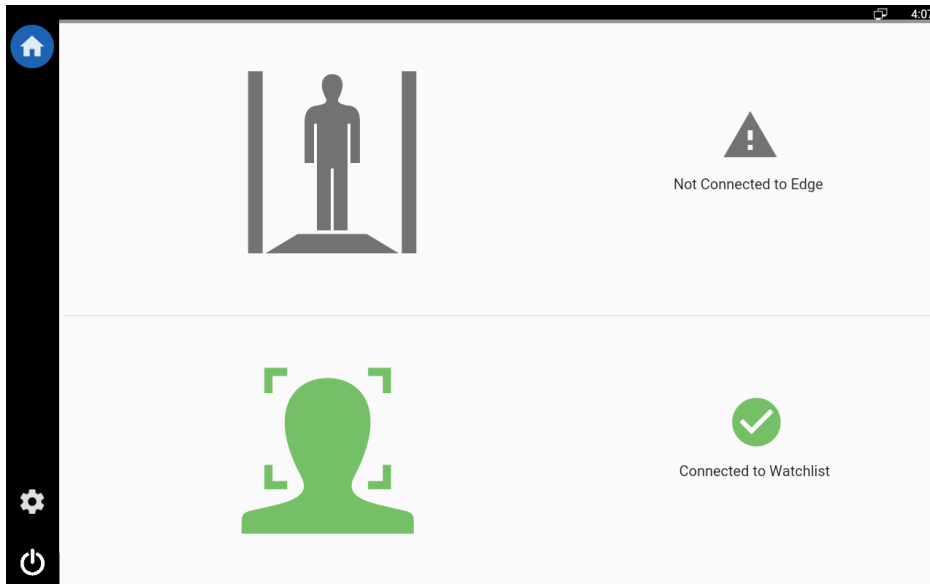
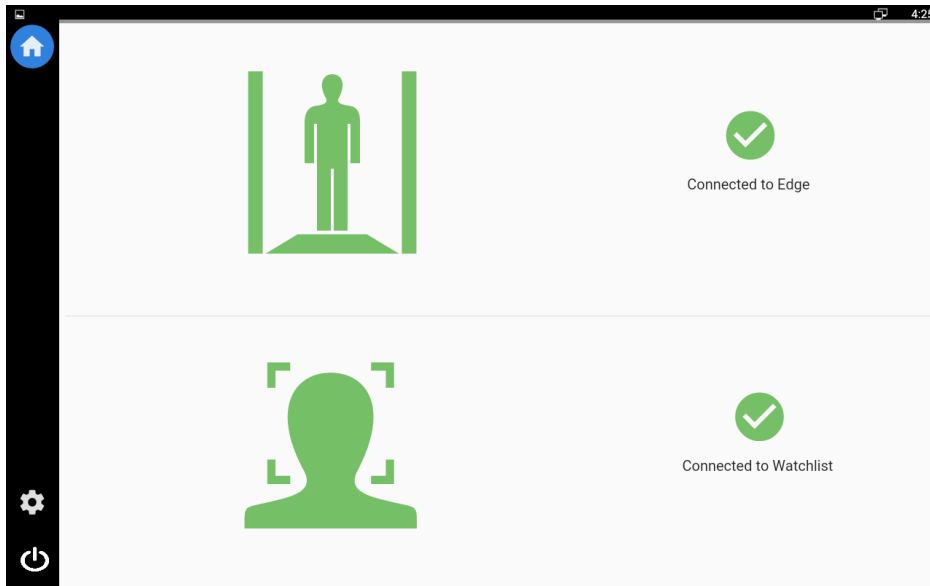
See *Users* for information on creating new users.

TABLET OVERVIEW

HOME

The Home screen is the primary navigation screen for the Evolv Edge app. It automatically displays when the tablet is first started.

The center of the screen displays the connection status of the Evolv Edge and the watch list.

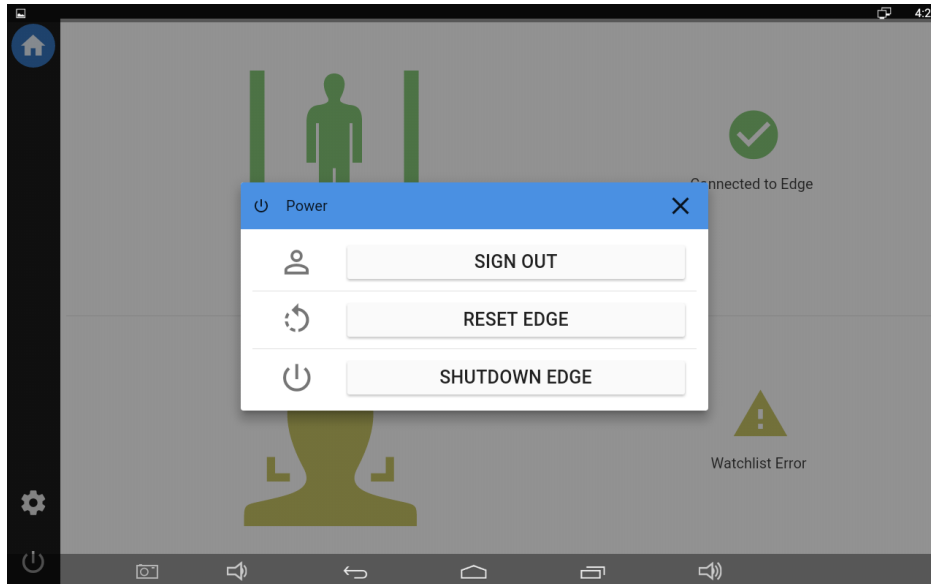


In the left-hand margin are the following icons:

- **Home** – Allows a user to return to the Home screen from any other screen in the app by tapping the Home icon.
- **Settings** – Allows a user access to the Control panel.
- **Power** - Allows a user to sign out of the Evolv Edge app, reset or shut down the Evolv Edge.

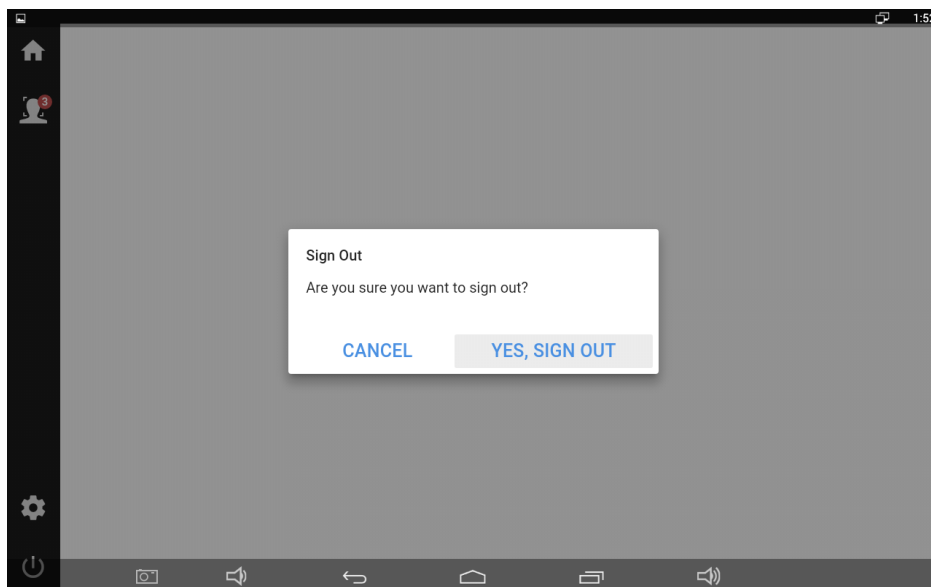
POWER

This icon allows you to sign out of the Evolv Edge application as a specific user, restart the system or disconnect the tablet from the system.



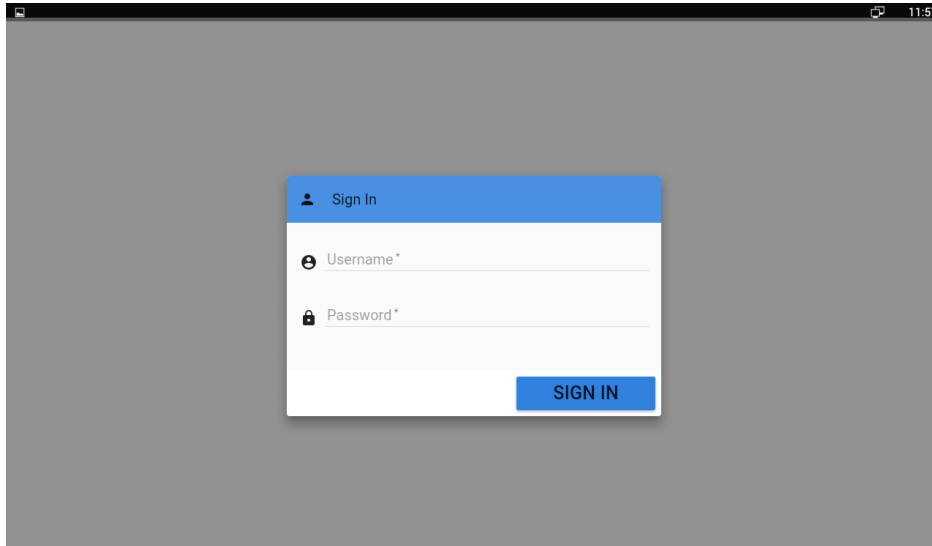
To sign out of the application:

1. Tap the **Power** icon.
2. Tap **Sign Out**.
3. Confirm that you want to sign out.



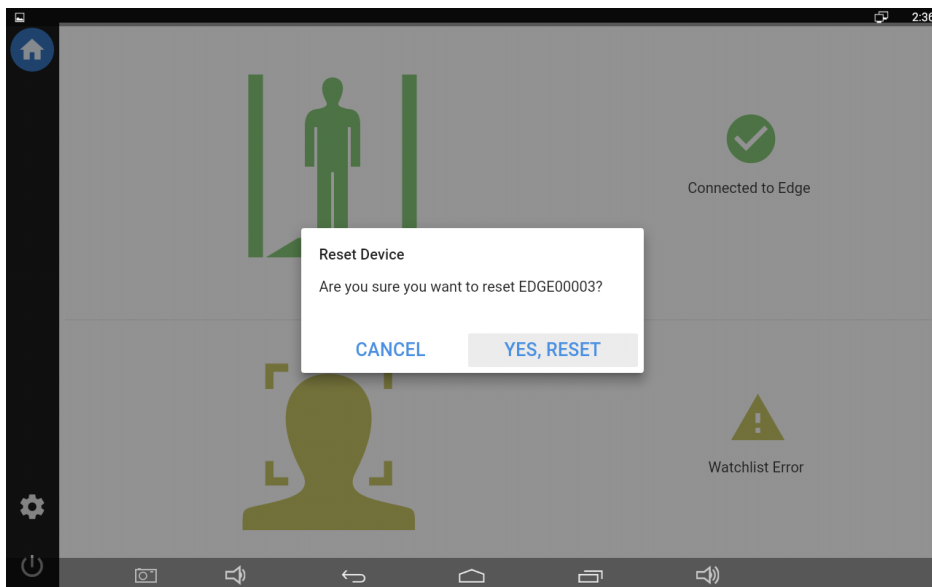
When a user signs out of the Evolv Edge app, the Sign In screen automatically display:

1. Enter the username and password.
2. Tap **Sign In**.



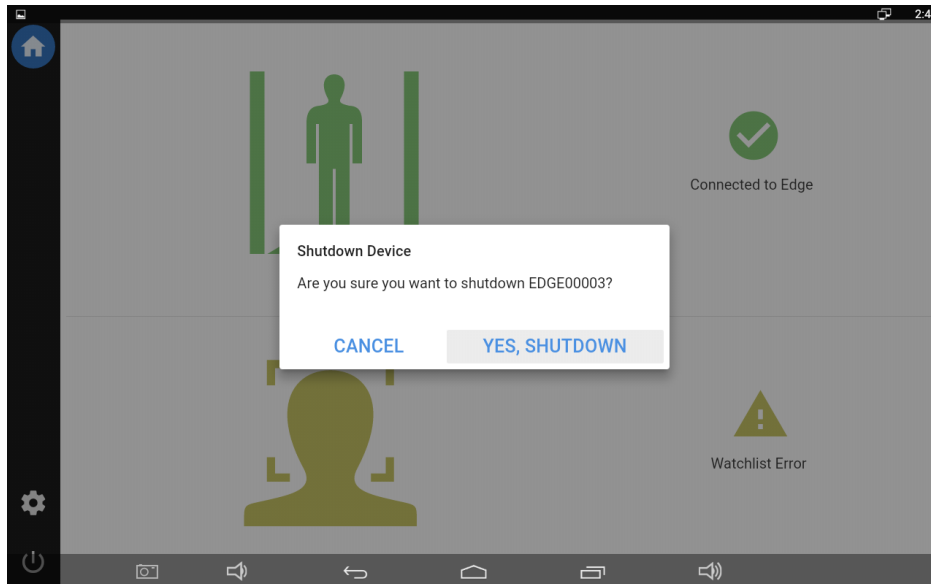
To restart the Evolv Edge:

1. Tap the **Power** icon.
2. Tap **Reset Edge**.
3. Confirm the reset.



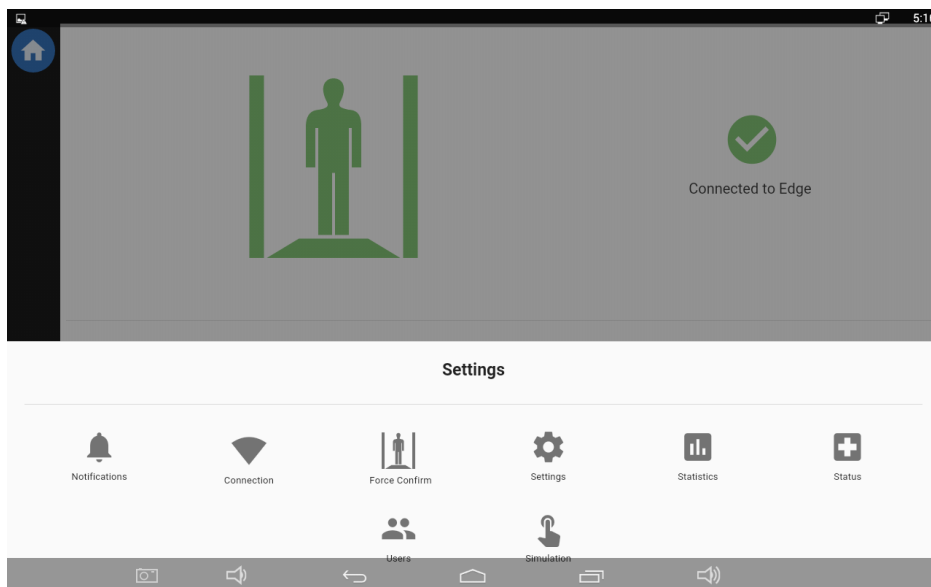
To disconnect the tablet from the Evolv Edge:

1. Tap the **Power** icon.
2. Tap **Shutdown Edge**.
3. Confirm the shutdown.



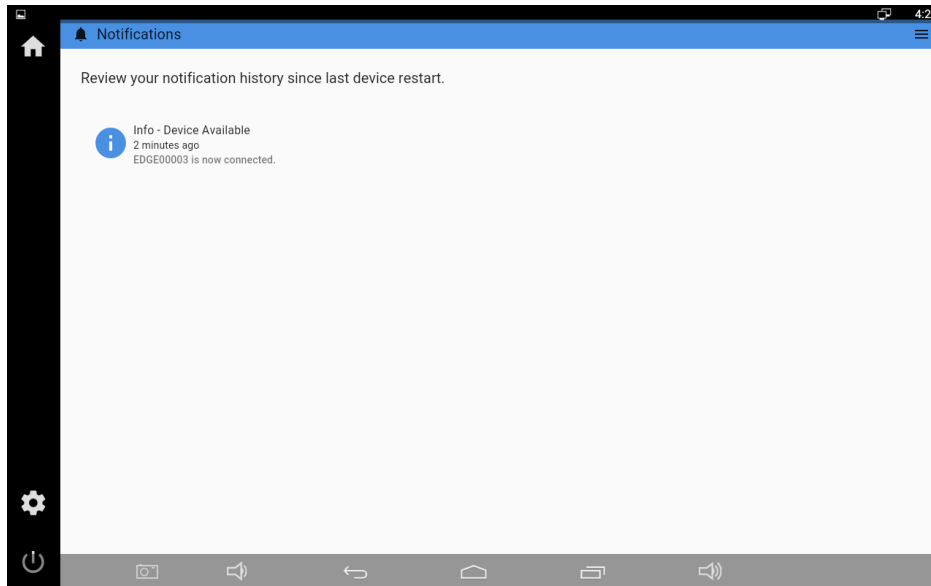
SETTINGS

The **Settings** icon brings up the Settings panel. The description of each setting is listed below.



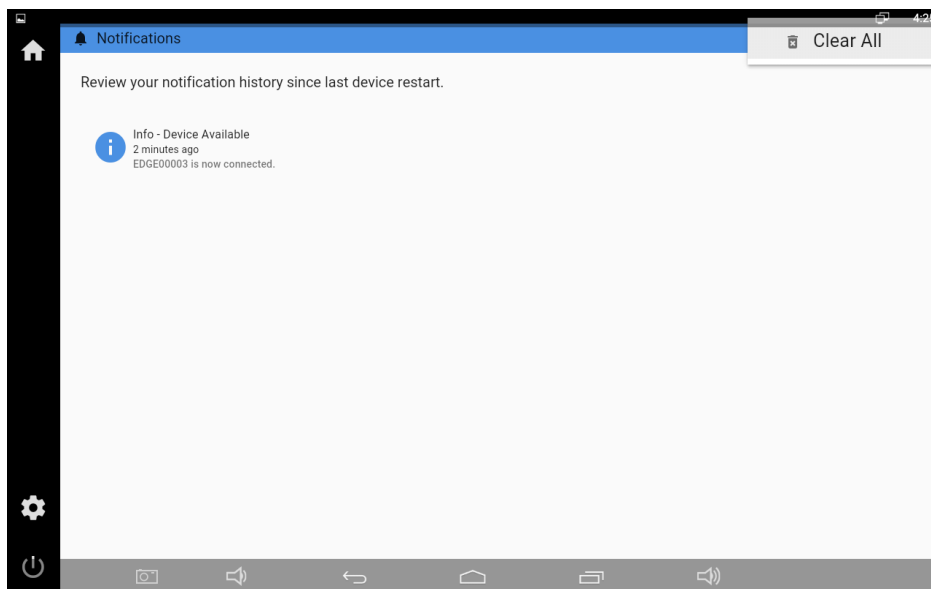
NOTIFICATIONS

The Notifications page displays the history of all notifications since the last restart of the Evolv Edge.



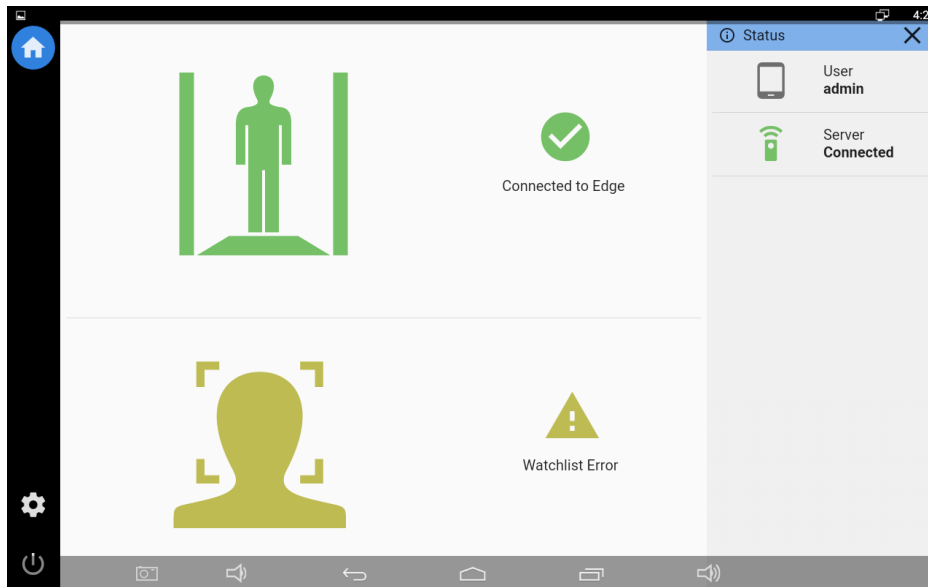
To clear the notifications:

1. Tap the **Menu** icon.
2. Tap **Clear All**.



CONNECTION

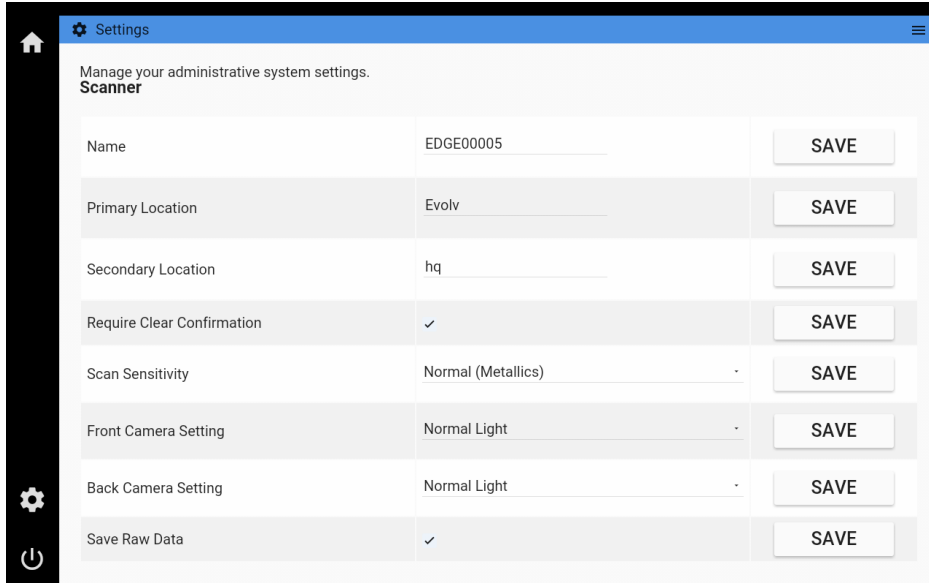
The Connection page shows the name of the user logged into the Evolv Edge tablet, and the status of the server.



SETTINGS

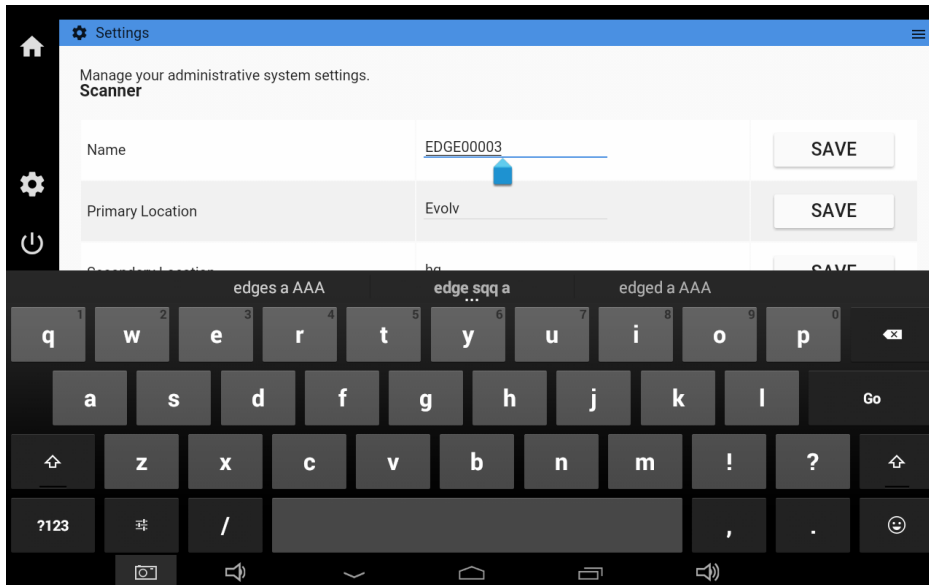
The Settings page allows you to view or change the following information:

- **Name** – The name of the system entered during the manufacturing process. This field should be changed upon first use of the tablet to a name logical for your organization.
- **Primary Location** – The primary place the system will be located.
- **Secondary Location** – Any additional place the system will be located.
- **Require Clear Confirmation** – Sends Clear scans to the tablet with a Confirm button the operator must click for each scan performed.
- **Scan Sensitivity** – Allows you to adjust the sensitivity of the system. Normal (Metallic) eliminates the need for the visitor to remove items such as keys or watches before walking through the system. High (Metallic) will require the visitor to remove metal items before walking through the system. The default setting is Normal (Metallic).
- **Front Camera Setting** – Allows you to adjust the front camera for Low, Normal or Bright lighting, with the default set to Normal lighting. Allows you to have a separate light sensitivity to the back camera.
- **Back Camera Setting** – Allows you to adjust the front camera for Low, Normal or Bright lighting, with the default set to Normal lighting. Allows you to have a separate light sensitivity to the front camera.
- **Save Raw Data** – Used mainly for troubleshooting, in conjunction with an Evolv Technology Field Services Technician. Allows you to enable or disable the saving of raw data files for each scan automatically. The default setting is disabled.



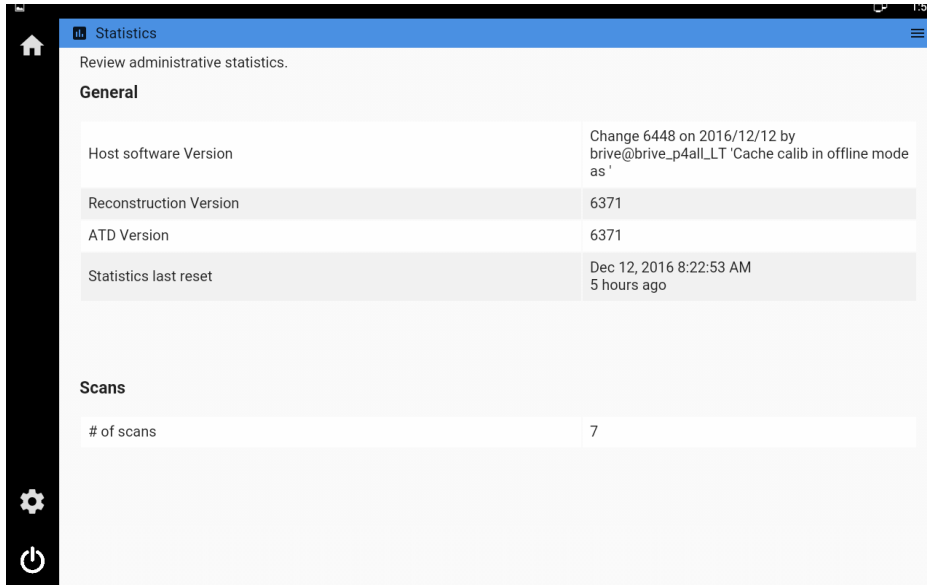
To change the Name, Primary Location and Secondary Location fields:

1. Tap on the field you want to change.
2. Enter the new information.
3. Tap **Save**.



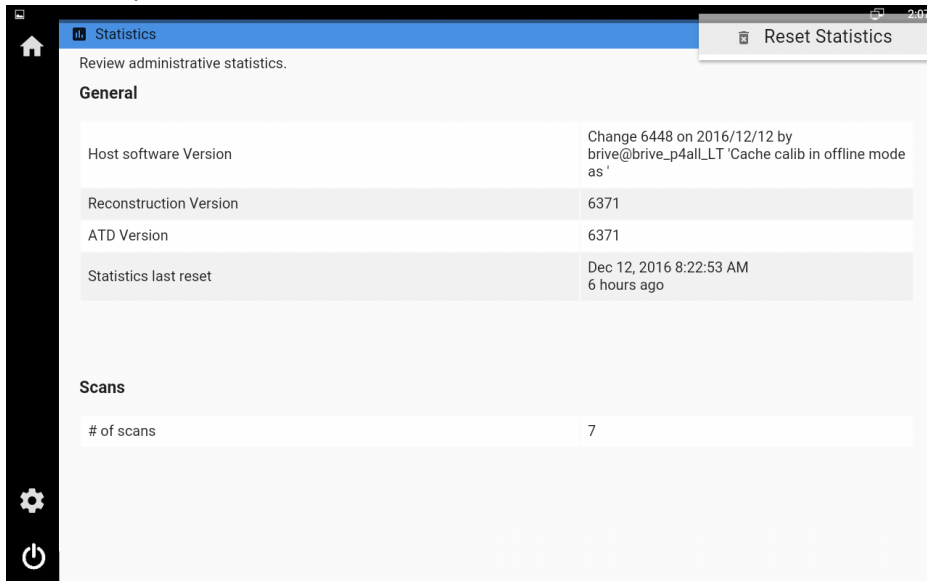
STATISTICS

The Statistics page displays the hardware and software versions of the Evolv Edge, as well as scan report information.



To reset the statistics:

- Tap the **Menu** icon.
- Tap **Reset Statistics**.

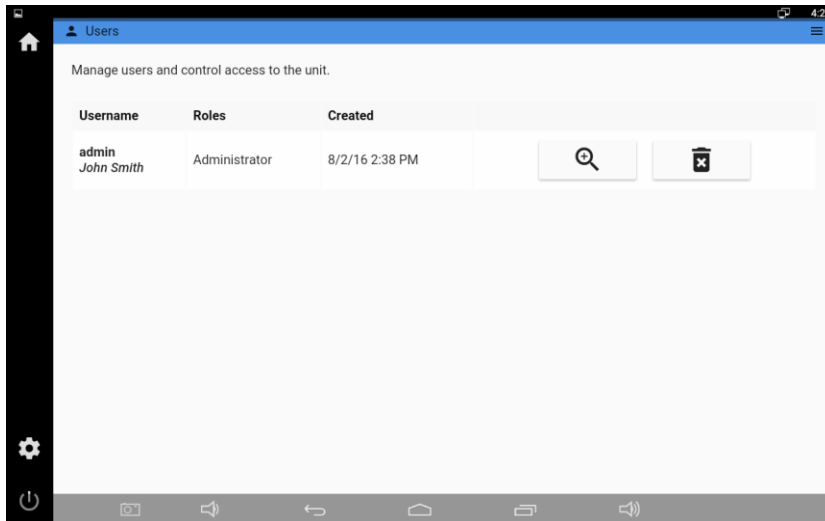


STATUS

The Status screen is used by the Evolv Technology field service technicians to perform trouble-shooting actions.

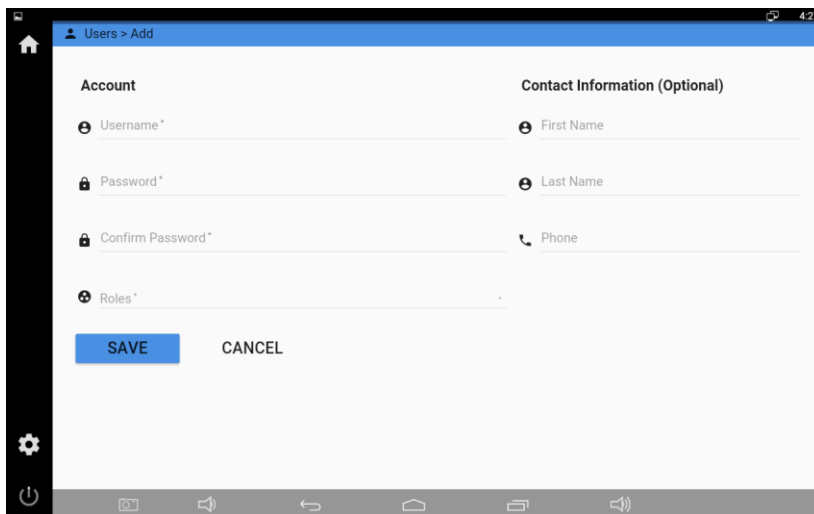
USERS

The Users page allows you to add, delete, and view users.



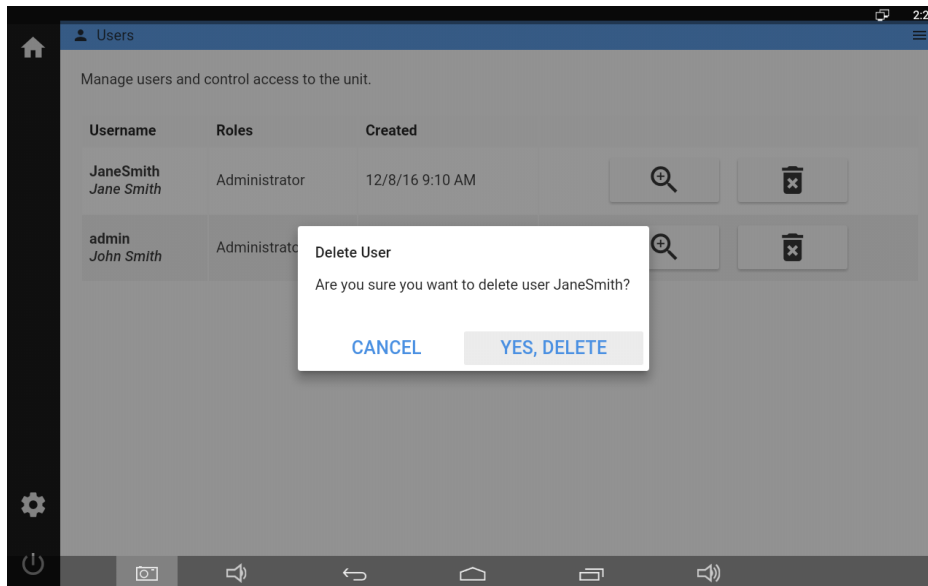
To add a user:

- Tap the **Menu** icon.
- Tap **Add User**.
- Fill in the **Account and Contact Information**.
NOTE: User names cannot contain a space.
- Tap **Save**.



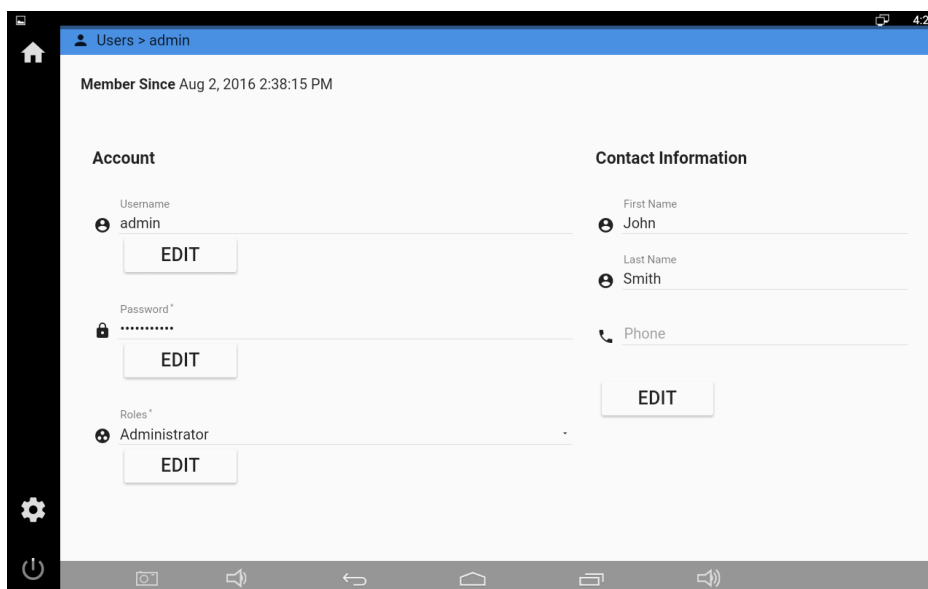
To delete a user:

- Tap the **Garbage Can** icon.
- Confirm the delete.



To view or change information for a specific a user:

1. Tap the **Magnifying Glass** that corresponds to the users' name.
2. The user record displays.
3. To make changes to the user record, tap **Edit**.
4. Make the necessary changes.
5. Tap **Save**.





SIMULATION

The Simulation screen is used by the Evolv Technology field service technicians to perform troubleshooting actions.

4 CONDUCTING A VISITOR SCAN

This chapter covers:



- Visitor Scan Workflow – With Tablet
- Visitor Scan Workflow – Without Tablet

The Evolv Edge scans visitors automatically and detects the presence of mass-casualty threats (explosives or firearms, concealed or unconcealed), returning a result to the operator.

VISITOR SCAN WORKFLOW – WITH TABLET

To conduct a visitor scan using the tablet:






1. Ask the visitor to remove any bag/backpack they are carrying, and wait on the floor mat at the entrance to the system.
2. The visitor will see one of the following indicators on the towers:

Indicators	Definition
	Indicates that it is OK for the visitor to enter the scanning zone.
	Indicates the visitor should not enter the scanning zone.

- When directed, the visitor walks through the Evolv Edge with their head up, eyes forward, and arms down or swinging at their side. The system automatically detects the presence of the visitor and starts the scanning process.

NOTE: A clear line of sight is required for proper front and back scanning of a visitor. If a visitor walks with objects in their hands, or with their arms in front of their torso, it may produce an alarm.

- The visitor exits the Evolv Edge. One of the following indicators will display:

Indicators	Definition
	Clear scan.
	Metallic threat detected.
	Non-metallic threat detected.
	Combined metallic and non-metallic threat detected.
	Invalid scan.

- You will also see the images of the visitor at the entrance and exit of the system display on the tablet. If a threat is detected, a bounding box provides a visual indicator to assist in secondary inspection of the visitor.

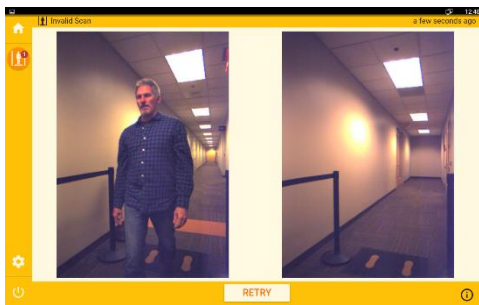
Clear Scan



Non-Metallic Object Detected



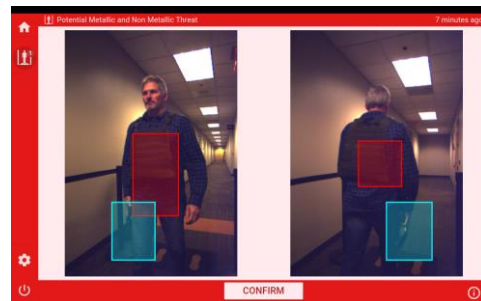
Invalid Scan



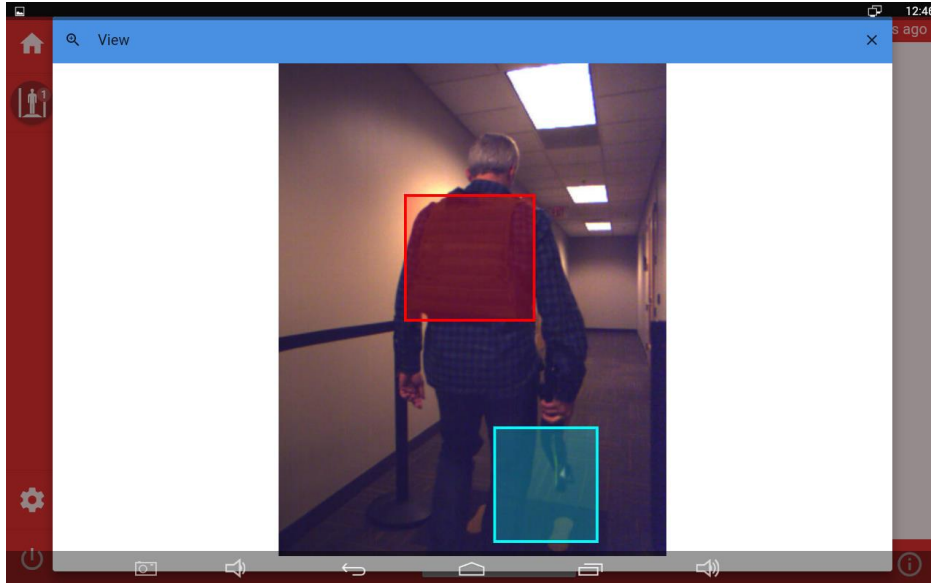
Metallic Object Detected



Combined Metallic and Non-Metallic Object Detected



To view a larger view of either the front or back image of the scan, tap on the image to increase the size.





6. Confirm that you have reviewed the scan by tapping the **Confirm** button.
7. Depending on the outcome of the scan:
 - a. If no threat has been detected the visitor will continue to their destination.
 - b. If a threat has been detected, follow the operational procedures of your organization to deal with a threat.

VISITOR SCAN WORKFLOW – WITHOUT TABLET

To conduct a visitor scan without using the tablet:






1. Unplug the tablet from the tower.
2. Ask the visitor to remove any bag/backpack they are carrying, and wait on the floor mat at the entrance to the system.
3. The visitor will see one of the following indicators:

Indicators	Definition
	Indicates that it is OK for the visitor to enter the scanning zone.
	Indicates the visitor should not enter the scanning zone.

4. When directed, the visitor walks through the Evolv Edge with their head up, eyes forward, and arms down or swinging at their side. The system automatically detects the presence of the visitor and starts the scanning process.

NOTE: A clear line of sight is required for proper front and back scanning of a visitor. If a visitor walks with objects in their hands, or with their arms in front of their torso, it may produce an alarm.

5. The visitor exits the system. One of the following indicators will display:

Indicators	Definition
	Clear scan.
	Metallic threat detected.
	Non-metallic threat detected.
	Combined metallic and non-metallic threat detected.
	Invalid scan.

6. Depending on the outcome of the scan:
 - a. If no threat has been detected the visitor will continue to their destination.
 - b. If a threat has been detected, follow the operational procedures of your organization to deal with a threat.

5 USING THE WATCHLIST

The Watchlist is an optional feature of the Evolv Edge that uses facial recognition technology to determine if a visitor is a person of special interest or concern.

The camera at the top of the Evolv Edge tower is used to capture an image of the visitor as they walk through the system. This image is compared to the images in the existing Watchlist database, and the results of the match are displayed on the Evolv Edge tablet. This process takes one second.

GENERATING IMAGES FOR THE WATCHLIST DATABASE:

When creating a Watchlist database for your organization, the more images you have for each person, and the higher-quality the image, the better the detection and the higher confidence level of a match.

It is ideal to capture up to nine images of each person you want to add to the database, with each image captured from a different angle.



When taking photos of the person you want to add to the database:

- Have the person stand against a neutral background that is free of shadows
- Eyes must be clearly visible
- The entire face of the person must be visible
- Have a neutral expression
- Glasses may be worn as long as the eyes are visible and there is no glare
- Do not wear a hat or head covering, unless worn for religious purposes

TO ADD A PERSON TO THE WATCHLIST DATABASE:

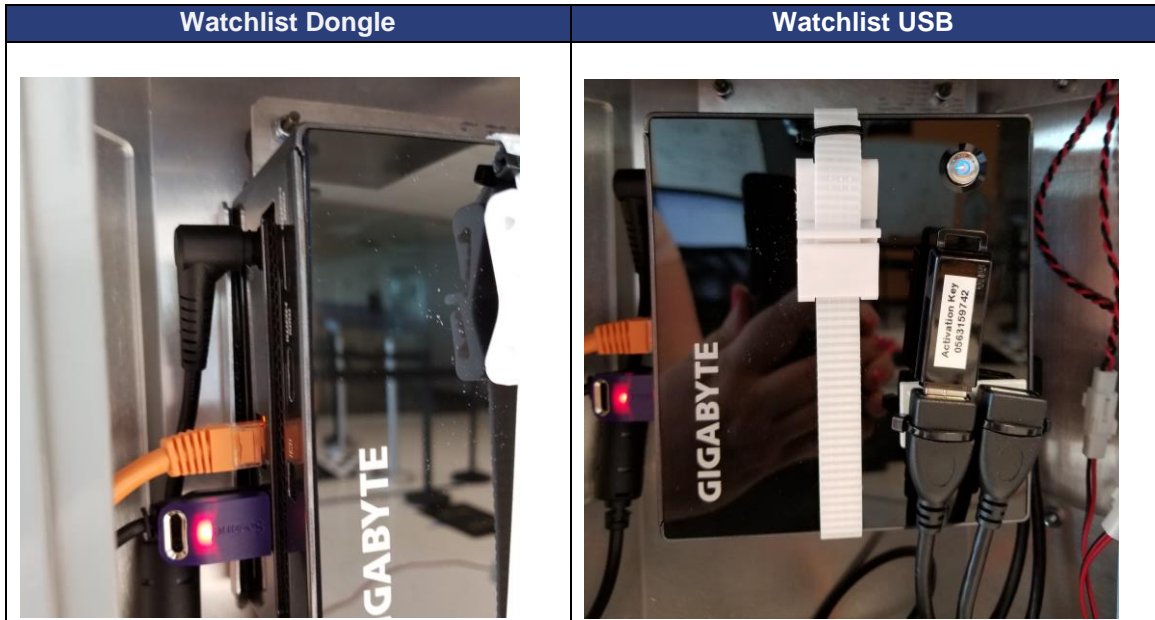
1. Generate images using the information above.
2. Connect the Watchlist USB to your PC and double-click on the watchlist directory.
3. Determine which directory you want to add your Watchlist images to, and create a folder for the images in that directory. For example:

watchlist\VIP\John_Smith.

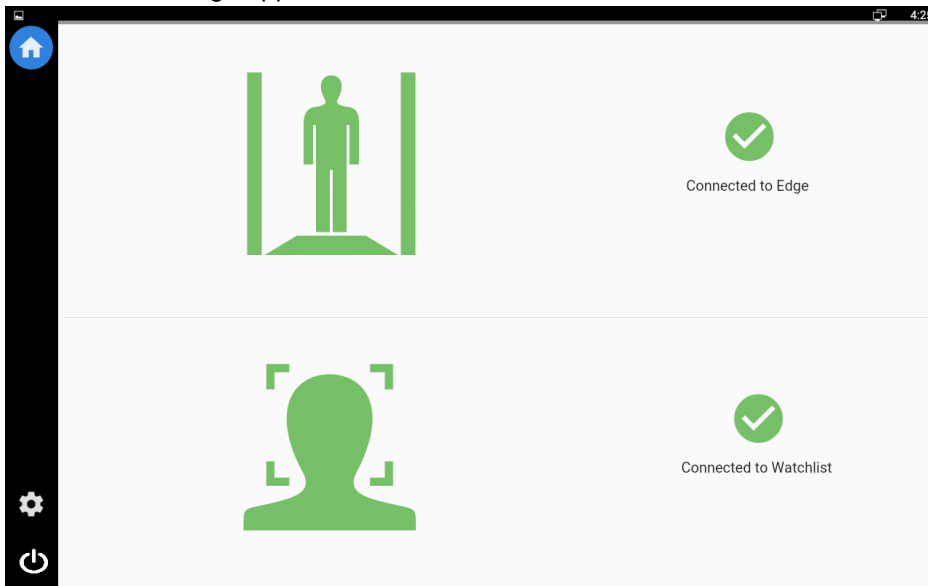
4. Add the images to the folder.
5. Use the keys that are provided as part of the Evolv Edge to open the computer access door on the power tower.



6. Insert the Watchlist USB drive, and Watchlist dongle into the power tower of the Evolv Edge as shown.

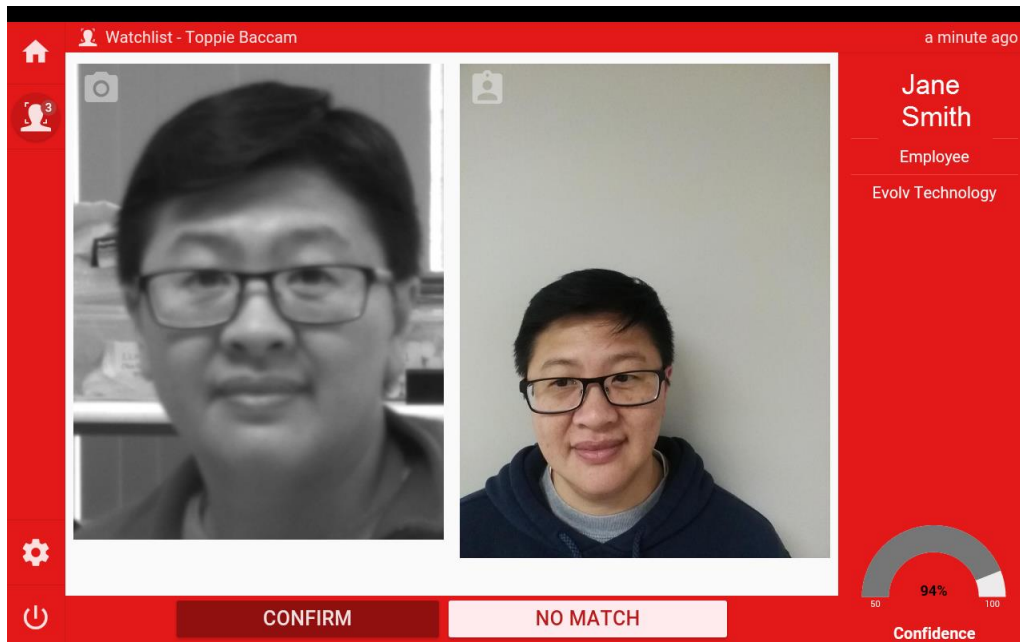


7. Restart the Evolv Edge by toggling the power switch off on the power tower, waiting 10 seconds, then toggling the power switch back on.
8. Use the Evolv Edge app to confirm that the watch list is connected.



TO USE THE WATCHLIST:

1. The visitor walks through the Evolv Edge. Their image is captured by the camera on the tower, and compared to the images in the Watchlist database. If there is a match, the results are displayed to the Evolv Edge tablet.

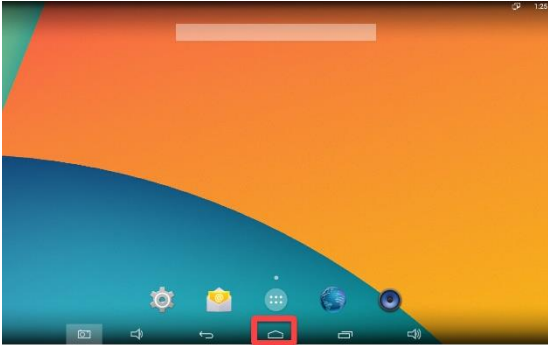
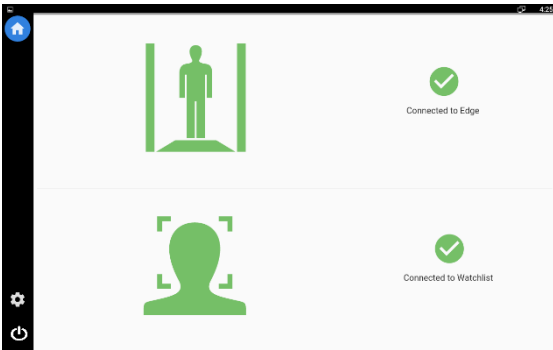







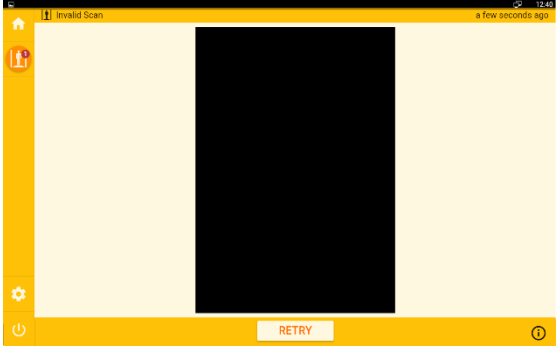

2. The Confidence Meter in the lower right-hand corner displays the probability of a match between the visitor and the image in the Watchlist database.
3. Click **Confirm** to confirm that the visitor is a match with the image found in the watch list database. Click **No Match** if there isn't a match between the visitor and the image.

6 TROUBLESHOOTING

Use the table below to resolve potential issues with the Evolv Edge™ system. Most issues can be resolved by restarting the system. Typically, it takes fewer than five minutes for initialization of the system to complete, but can take up to 10 minutes.

If you're unable to resolve your problem, please contact an Evolv Technology field services technician.

Problem	Resolution
The tablet isn't on.	Ensure the Ethernet cable is fully plugged into both the tower and the tablet.
The tablet UI freezes.	Cycle the power to the tablet by unplugging the Ethernet cable from the tower, then plugging it back in.
You have navigated out of the Evolv Edge app and are unable to return to the app.	<p>Tap the soft Home button on the menu that displays on the bottom of the screen, and you will be returned to the Evolv Edge app.</p> 
Photos from the scan aren't displayed on the tablet.	<p>Confirm that the Evolv Edge is connected.</p>  <p>If the system shows as connected and the problem persists, please restart the system.</p>

<p>One of the following symbols is displayed on the indicator panel of the Evolv Edge:</p>    	<p>Indicates the system is unavailable. Please restart the system. NOTE: The blue shield will appear very briefly at the start of system initialization.</p> <p>Indicates the system is initializing. Wait for the system to finish the initialization process.</p> <p>Indicates that the system is initialized and is waiting for the Evolv Edge app (tablet). Please ensure the tablet is on and fully plugged in.</p> <p>Indicates the system encountered an error. Please restart the system.</p>
<p>The Enter indicator does not disappear when a visitor walks through the Evolv Edge.</p> 	<p>Ensure the visitor walked through the Evolv Edge correctly. If the problem persists, please restart the system.</p>
<p>The camera doesn't work on the front or back of the Evolv Edge, indicated by a black image on the tablet.</p> 	<p>Ensure the visitor walked through the Evolv Edge correctly. If the problem persists, please restart the system.</p>
<p>You are repeatedly getting an invalid scan.</p> 	<p>First, ensure the visitor walked through the Evolv Edge correctly. If they did, confirm that the towers are stabilized.</p> <p>If the problem persists, please restart the system.</p>
<p>Visitors on the Watchlist are not being detected.</p>	<p>Please restart the Evolv Edge.</p>



The Evolv Edge will not power on.	Ensure that the power cord is plugged into both the tower and the power source.
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Appendix: System Specifications

System	Evolv Edge threat detections scanning system, ADA wheel chair ramp
Dimensions	Depth: 141.5 cm (55.7 in) Width: 142.4 cm (56.1 in) Height: 168.9 cm (66.5 in)
Weight	113.4 kg (250.0 lbs)
Ambient temp range	0 to 40°C
Power Requirements	100-240 V(±10%), ~ 50-60 Hz, 500 VAC
Regulatory marking	CE, ETL, FCC, Rohs, WEEE
Safety	Meets Low Voltage Directive 2006/95/EC. Tested to EN/UL/CSA 61010-1:2004 "Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use, Part 1: General Requirements"
EMC	Meets EMC Directive 2004/108/EC. Tested to EMI emissions requirements for Industrial Scientific or Medical (ISM) equipment EN55011:1998 + A2:2002 Class A Group1 and EMC requirements - Electrical Equipment for Measurement, Control, and Laboratory Use EN 61326-1:2005 Table 2, EN 61000-3-2:2004 and EN 61000-3-3:1995 +A1:2001. Wireless
Computer	Brix Windows System Brix Linux System Android Tablet
Replacement Fuse	250v 10Amp Cartridge type, Time delay