



ForsiteTM
Connected Safety

Training Booklet - Tripod System
V1.3

A connected safety network that predicts danger, alerts workers and prevents harm before impact

Version Control

Version Number	Description	Date
1.0	First Release	1 Nov. 25
1.1	Update to include December 25 firmware release	3 Dec. 25
1.2	Update to include Home and Alert Setup page changes	6 Jan. 26
1.3	Update to include activation sequence for wearables	23 Feb. 26

Forsite continuously analyses traffic behaviour up to 240m using radar, vision and trajectory modelling

How Forsite Protects Every Worker



Predictive Threat Alerts

Detects unsafe driver behaviour and approaching hazards up to 240m away, giving crews critical seconds to act



Multi-Mode Alerts

Vibrations, light and sound cut through noisy worksites to reach every worker instantly



Worker-Specific Warnings

Geofencing ensures only those in danger are alerted, reducing alert fatigue and false alarms



Cloud Analytics

Captures every alert, near-miss and vehicle incursion to reveal patterns and prevent future incidents



360° Protection

Tracks external traffic and internal plant movement to prevent vehicle-worker collisions



Lightweight & Rugged

Designed for heat, dust, rain and impact with full-shift durability tested in the field



Wearable



- Strong haptic/vibration feedback
- High intensity LED warning light
- Audible alarm
- Manual emergency activation (duress function)
- Approx. 14 hour battery life (*depending upon alert frequency*)
- Water and dust resistant
- Lightweight and durable

SET UP GUIDE



Base Station



- Radar with up to 240m range across 6 lanes of traffic
- Water and dust resistant
- Equipped with computer for high-end processing
- Convenient carry bag
- GPS to ensure location accuracy and reliability
- 5G internet connection for cloud services
- High-definition video recording

SET UP GUIDE



Charger Case



- Charges up to 16 wearable devices simultaneously
- Supports firmware updates for wearable devices as new versions become available
- Dedicated charging port and compartment for the system's tablet
- Spacious storage for armbands and power adapters
- Durable hard case with a convenient carry handle

SET UP GUIDE



Charger Pouch



- Charges 3 wearable devices simultaneously
- Supports firmware updates for wearable devices as new versions become available
- Lightweight and portable pouch
- Feedback LED for status indications

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Base Station
and Wearable



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Pack
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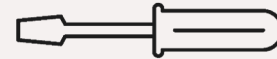
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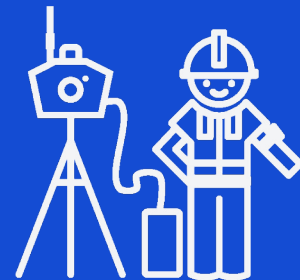
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Creating
Alerts










Base Station and Wearable





What To Bring

-  Base Station Power Bank
 - Fully Charged Base Station Battery
-  Base Station & Carry Bag
 - Base Station
 - Antenna
 - Spiral Battery Cable
-  Charger Case / Charger Pouch
 - Wearable Devices
 - Wearable Holsters
-  Tablet
 - Forsite Safety Application
-  Tripod

Set Up Base Station



Ensure base station is parallel to ground and faced towards traffic.

Unfold tripod in a secure, unobstructed area where it can be pointed at oncoming traffic.



Adjust the tripod height by releasing the clip on each leg and pulling it to the maximum length. Then fasten the black clip.



Place base station on top of tripod and hold in place while tightening the screw on the top of tripod into the base station.



Place battery by tripod and plug power cable from battery into base station. Note: *the power cable has different ports for the battery and base station.*



Screw the **antenna onto the top** of the base station.

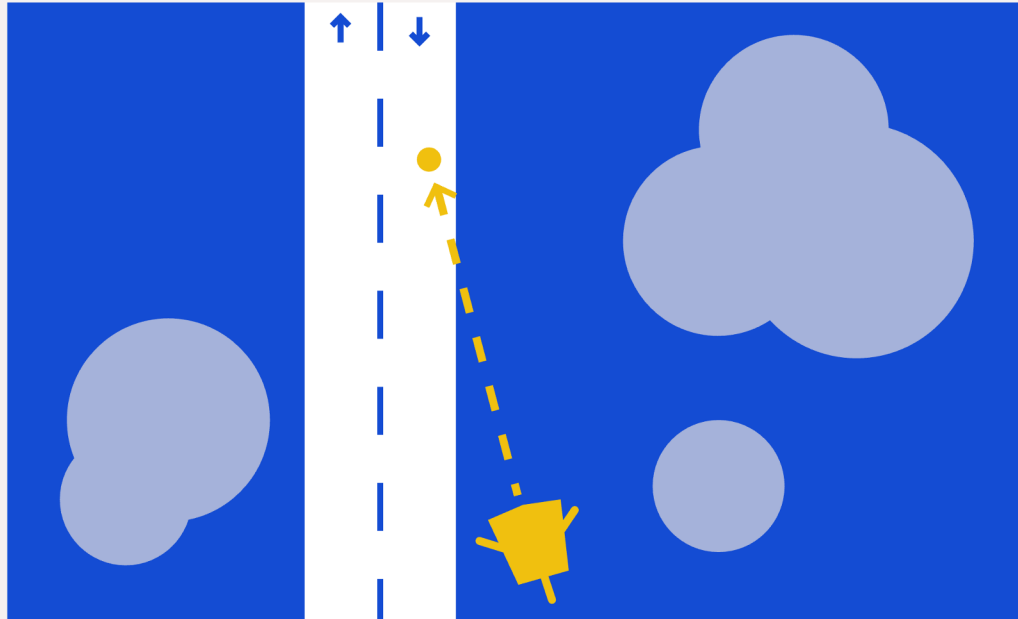


Press power button at back of base station so that the green light turns on. **The Wi-Fi takes 1-2 minutes to connect.** You can check this connection via the settings app on the tablet.





Set Up Base Station



Align the base station facing the incoming traffic targeting the point where you want to start detecting vehicles.

The Radar inside has a maximum range of about 240m depending on the conditions.

The radar can be placed anywhere on site, however, **please provide clear line of visibility and sight.**

Set Up Base Station



The Base Station should face the oncoming vehicles, intercepting the road.



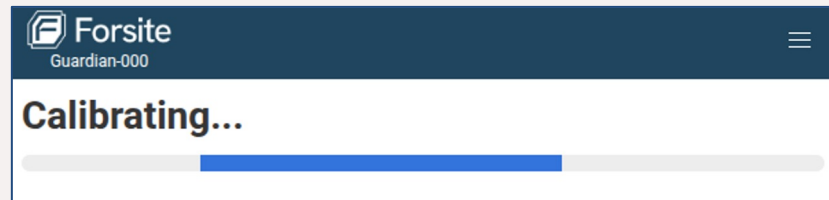
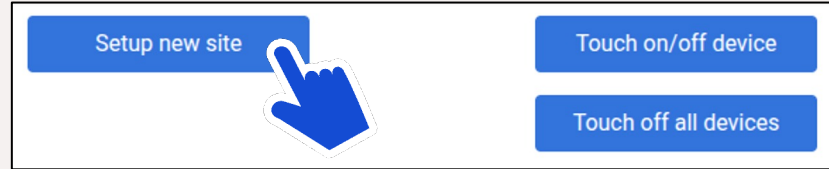
Site and Radar



Automatic Setup



- Open up Forsite Link App/Guardian Touch On App
- When starting a new deployment, select **'Set Up New Site'** to automatically calibrate the device for the current location.
- You'll then be prompted to complete the **Site Details** form (see next slide).



Automatic Setup



- You will be directed to populate the Site Settings to enter details about your worksite, including the **site code**.
- The site code acts as a unique identifier for each site, allowing you to **easily retrieve and manage data** associated with that job.
- You can use an internal job number or your own custom naming scheme as the site code.
- Pressing **Next** will start the deployment and take you to Alert Setup (discussed in the 'Creating Alerts' section).

Setup - Site Details Next

Accurate site information is key to analysing the effectiveness of safety measures for the current environment. Please provide as much information about the site as you have available.

Posted Speed
60 km/h

Reduced Speed
0 km/h

Chainage

Division Code

Suburb
Albert Park

Street
Kerferd Rd

Site Code
Albert Park-Kerferd Rd

Road Type
Select Road Type... ▾

Road Closure Type
Select Road Closure Type... ▾

Road Condition Type
Select Road Condition Type... ▾

Management Systems
TMA
Cones
Barriers
Stop/Start

Next



Automatic Setup



Deployed

- Once a deployment begins, the status indicator on the homepage will display **'Deployed' in green.**
- The current site setup can be viewed and adjusted via **'Validate site setup'** during deployment.
- Press **'Stop deployment'** to end the deployment.
- For major changes, such as physically moving the device, it's recommended to stop the deployment and use **'Set Up New Site'** to re-calibrate the system.

Validate site setup	Touch on/off device
Stop deployment	Touch off all devices

Deployed: Albert Park-Kerferd Rd

Orientation NE

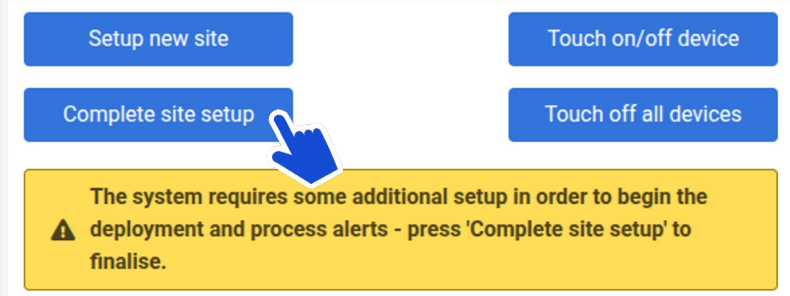
Posted Speed 60 km/h

Deployment Started

Incomplete Setup



- Occasionally, parts of the automated setup may fail and require manual setup, which will be prompted before or after the Site Details page.
- If you navigate back to the homepage with incomplete setup, select **Complete Site Setup** to return to where you left off setting up the site.
- The manual steps you may be required to take include:
 - **Setting the device location**
 - **Confirming the road heading**
 - **Aligning the radar**



Manual Setup

Radar Location

- Navigate to Setup System. This will take you to the Radar Location page.
- Choose either **'Current Location'** or move radar (red pin) to set location. To use the current location, press the current location button.
Note: This may not work if the GPS signal is not strong enough.
- To get the instructions, press the show instructions button. To move the pin, touch it and use your finger to drag it. To zoom in or out, use the + or - button. Press Next to continue.



Manual Setup

Road Heading

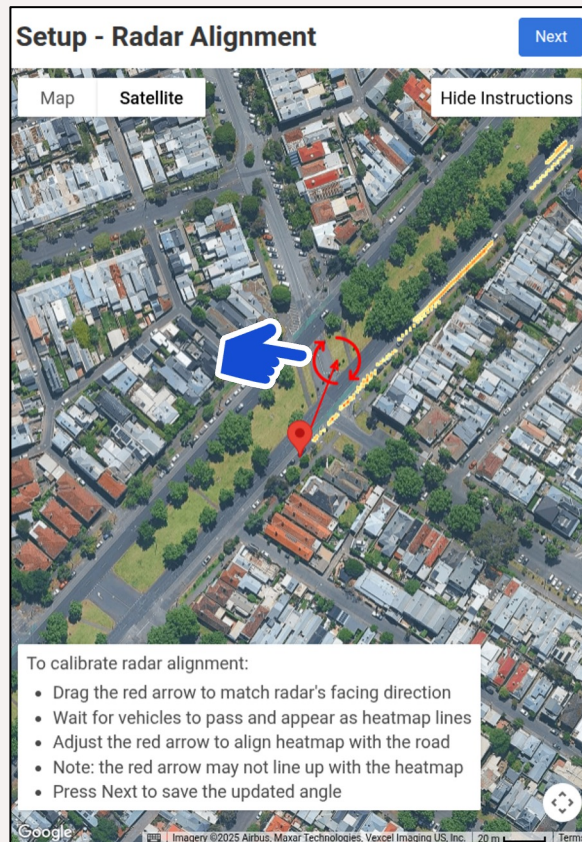
- You are now on the **Road Heading Page**.
- Move the **red arrow** to point towards **oncoming traffic, parallel to the road** and press Next.



Manual Setup

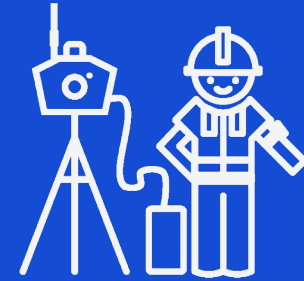
Radar Alignment

- Point the red arrow to **match the radar's physical facing direction**.
- As vehicles pass the radar, a **traffic heat-map** should appear.
- Move the **red arrow** to line up the **traffic heat-map** (the red and yellow marks on the map) with the road.
- The radar can be calibrated without traffic, however, please **ensure the radar's physical facing direction is correct**.





Set Up Wearable



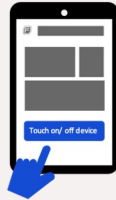
Set Up Wearable



Power on tablet and **tap the Forsite companion app.**



If not already linked, tap Touch on/off device.



Select your user profile, or create another user profile.

For existing user profiles, if any worker group has been assigned, it is presented in brackets.

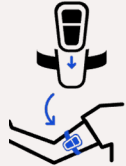
This is important because **alerts are provided to all users or can be aligned to specific worker groups.**

Selecting a worker group for a profile is **optional** (e.g. Traffic controller).

Place your wearable **face down** with the **bottom end flat against the tablet NFC** to touch on.



Insert wearable into the holster and place onto arm.



Note: Be cautious of applying pressure to duress button.

Set Up Wearable



If the wearable LED is flashing **Purple**, it needs to be paired to the base station and then activated:

- 1. Pair the wearable** - Take the wearable out of the charger and touch on the device by tapping the bottom of the wearable onto the tablet as per the previous slide. Once the wearable is touched on, the LED will now flash **White** and will need to be activated. *The wearable will conserve battery and not provide alerts until you activate it.*
- 2. Activate the wearable** - Press the duress button on the front of the wearable for 2 seconds, there will be an audible activation sound along with a green flashing light. The light will then periodically flash **blue** showing the wearable is connected.



If the wearable LED is flashing **White**, it is already paired to the base station however, it will need to be activated:

- 1. Identify your wearable** - On the tablet, head to 'Touched On Users' page find your device and click 'Identify'. The wearable will present light and haptic feedback whilst in the charger for you to extract. *The wearable will conserve battery and not provide alerts until you activate it.*
- 2. Activate the wearable** - Press the duress button on the front of the wearable for 2 seconds, there will be an audible activation sound along with a green flashing light. The light will then periodically flash **blue** showing the wearable is connected.



Set Up Wearable

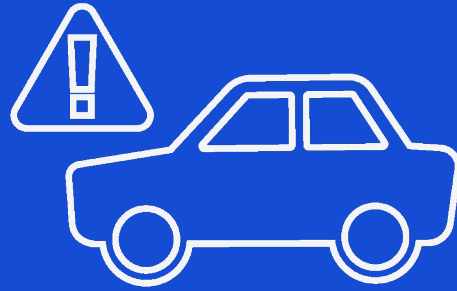


✓ Recommended Placement

SET UP GUIDE



Creating Alerts




The Forsite System supports configurable alerts, **customisable** to meet specific requirements


Haptic Vibration

Visual Indicators


Audio Signals


1 - Notice

 User is to be **aware of a potential** risk via a gentle 'tap on the shoulder'


 A subtle vibration pulse


2 - Warning

 User to **assess risk** and consider appropriate responsive action

 A strong vibration pulse with sound & light signals

3 - Alarm

 User to **take immediate action** by moving to a designated safety area

 Rapid, strong vibration pulses, intensified sound & light signals

Timely, Risk-Informed Alerts


Alerts are provided when vehicles are predicted to be a **maximum** of eight seconds away.


This accounts for conforming driver behaviour on approach and ensures the alert remains actionable whilst aligned with the actual risk profile.

6 x Worker Groups

1. All Users
2. Traffic Controllers
3. Construction Crew
4. Plant Operators
5. Supervisors
6. TMA Operators

4 - Duress

 User to **take immediate action** and acknowledge duress call.

 Distinct vibration pulses, intensified sound & light signals.

User Configurable Risk Thresholds - Case Studies

The user sets the risk thresholds at the start of the shift through the Forsite Link Tablet - the user is encouraged to present the alert thresholds along with a demo of each alert type at the toolbox talk. **The user can change the alert thresholds** throughout the shift via the tablet in response to the behaviours observed at site.

SPEED

Notice

10 km/h over reduced limit

Warning

15 km/h over reduced limit

Alarm

30 km/h over reduced limit

ACCELERATION

Notice

If a vehicle accelerates and is predicted to exceed an alert threshold.

Warning

This is identified as an at-risk behaviour and triggers an early alert.

Alarm

EXCLUSION /DETECTION ZONE

Notice

User will define km/h threshold for each detection/exclusion zone.

Warning

Upon a vehicle entering above the speed threshold, an immediate alert will be provided.

Alarm

Case Study - Reduced Speed Limit: 40 km/h

A vehicle is travelling at 51 km/h = **NOTICE**.

A vehicle is travelling at 76 km/h = **ALARM**.

If a vehicle moves through all 3 speed thresholds, all 3 alerts will be provided to present escalating risk.

Case Study - Reduced Speed Limit: 40 km/h

A vehicle travelling 48 km/h accelerates and is predicted to exceed the 55 km/h alert threshold = **WARNING**.

This logic corresponds with each speed threshold.

Case Study - Reduced Speed Limit: 40 km/h

A detection zone is to cover the buffer zone, to the rear of the TMA, ahead of works.

The detection zone thresholds are set-up:
15 km/h to allow entry of plant = **NOTICE**
35 km/h to alert to any unsafe entries = **ALARM**




Set Up New Alerts

Navigate to **Alert Setup**. Here you can:

- Create a **Traffic Speed** Alert
- Create a **Traffic Breach** Alert
- Review, modify and delete Alerts
- Arm or disarm configured alerts (if deployed).

Alert Setup



Finish

 Alerts disarmed - wearables will not receive alerts Arm Alerts

Configured Alerts

No alerts set up

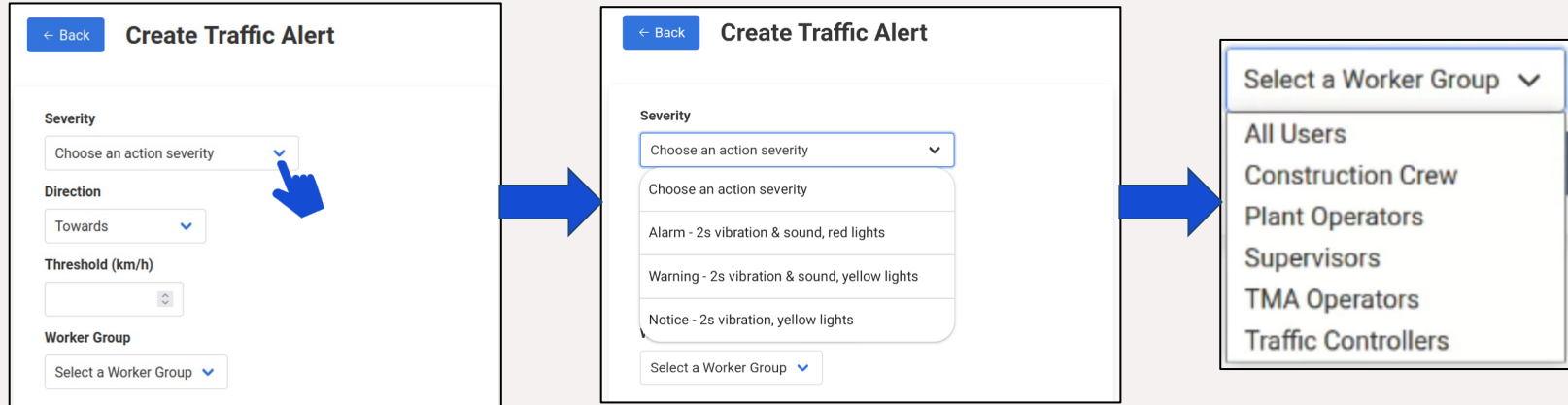
Create Alert

Traffic Speed  Traffic Breach 



Set Up A Traffic Speed Alert

- Choose **alert severity** from the drop down menu.



- User is to select the worker group - only wearables that are assigned this **worker group will receive the associated alerts.**
- If this alert is intended for all users, please select '**All Users**'



Detection Zone

← Back **Create Traffic Alert**

Severity
Warning - 2s vibration & sound, red lights

Direction
Towards

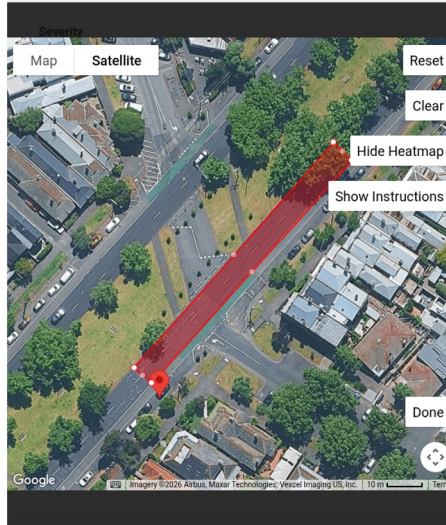
Threshold
50 km/h

Worker Group
All Users

Applies only to designated area
 Update on map

Speed limits differ from site
Posted Speed 60 km/h **Reduced Speed** 30 km/h

Save



- You can draw a detection zone to set boundaries to the the area being monitored, this may be used where you have different areas that require different speed controls.
- Once you progress to draw on the map - you will be asked to draw a manual zone for this alert, in the same way you setup the previous radar pages, or you can overwrite the posted speed value.
- The red polygon is the area where vehicles will be tracked. Any vehicle in this area travelling above the speed threshold you entered will trigger the alert.
- Drag the square boundaries (the little white dots on the square frame) to cover the desired area. You can also drag the whole square.
- Push save when complete.

Set Up A Traffic Breach Alert



← Back **Create Traffic Breach Alert**

Severity
Choose an Action Severity ▾

Threshold
10 km/h

Worker Group
All Users ▾

Alert Boundary













- You can set a traffic breach zone, this will create an alert as soon as a vehicle travelling above a speed threshold is captured within the defined zone.
- If the speed is set to 0 km/h this is effectively an exclusion zone. You may set it to 20 km/h to account for work vehicles or plant/machinery.
- The red polygon is the area where vehicles will be tracked.
- Drag the square boundaries (the little white dots on the square frame) to cover the desired area. You can also drag the whole square.

To maximise accuracy, you must 'Review Site Setup' (accessed via the homepage) and validate that the GPS location is correct and the radar calibration, presenting the heat map of the passing vehicles, is correctly set.













Alert Configuration



	Wearable Status	Light	Sound	Vibration
Alert Level Status	Notice Alert lowest severity	 4 green flashes	N/A	 2 short buzzes
	Warning Alert medium severity	 4 yellow flashes	 2 short beeps	 2 long buzzes
	Alarm Alert highest severity	 5 red flashes	 4 long beeps	 4 rapid buzzes
	Duress Alert user-activated high alert	 5 purple flashes	 5 long beeps	 5 rapid buzzes

Alerts - Charging and Connection Status

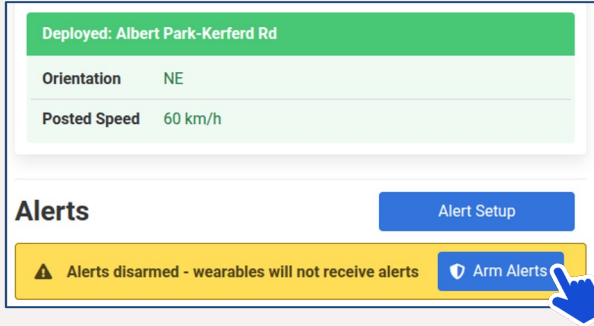


	Wearable Status	Light	Sound	Vibration
Charging Status	Low Battery	 red flashes	N/A	N/A
	Charging when placed in Charger	 green flashes	N/A	N/A
	Fully Charged when placed in Charger	 solid green light	N/A	N/A
	Updating with firmware (via USB)	 alternate blue, yellow, white flashes	N/A	N/A
Connection Status	Waiting to Pair tap onto Tablet duress button to activate	  not tapped: purple flashes not activated: white	N/A	N/A
	Touched On/Off paired to Base Station	  on: 2 green flashes off: 2 red flashes	N/A	N/A
	Activated by pressing the duress button	 1 green flash	 1 short beep	N/A
	Connected in-range and paired to Base Station	 blue flashes	N/A	N/A
	Out of Range paired but too far from Base Station	 yellow flashes	N/A	N/A

Arming Alerts

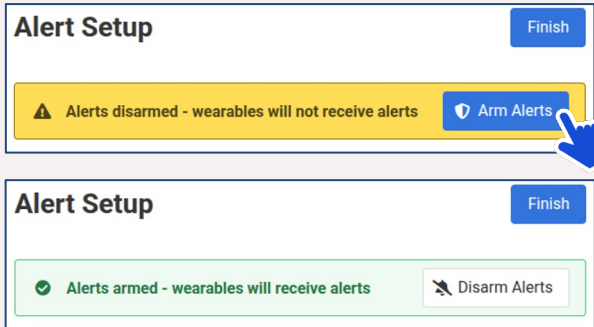
- Alerts are disarmed on starting a deployment, ensuring that wearables will not receive alerts while alerts are being reviewed or modified.
- Alerts can be armed via the **Arm Alerts** button on the Home page or the Alert Setup page, which will begin sending alerts to wearables.
- Alerts can be disarmed again via the Disarm Alerts button on the Alert Setup page.

Home Page



The screenshot shows the Home Page interface. At the top, there is a green header bar with the text "Deployed: Albert Park-Kerferd Rd". Below this, there are two rows of information: "Orientation NE" and "Posted Speed 60 km/h". Underneath, there is a section titled "Alerts" with a blue "Alert Setup" button to its right. A yellow banner at the bottom of the Alerts section contains a warning icon, the text "Alerts disarmed - wearables will not receive alerts", and a blue "Arm Alerts" button with a shield icon. A blue hand cursor is pointing at the "Arm Alerts" button.

Alert Setup Page



The first screenshot shows the Alert Setup page with a yellow banner at the bottom containing a warning icon, the text "Alerts disarmed - wearables will not receive alerts", and a blue "Arm Alerts" button with a shield icon. A blue hand cursor is pointing at the "Arm Alerts" button. A "Finish" button is visible in the top right corner.

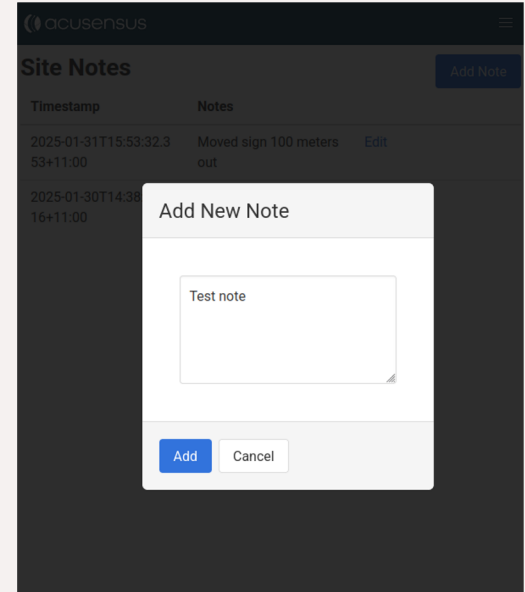
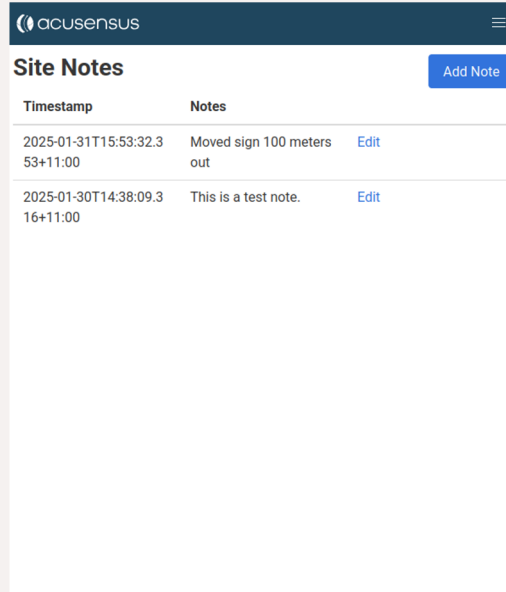
The second screenshot shows the Alert Setup page after the "Arm Alerts" button has been clicked. The banner is now green and contains a checkmark icon, the text "Alerts armed - wearables will receive alerts", and a "Disarm Alerts" button with a shield and slash icon. The "Finish" button remains in the top right corner.





Site Notes

- Adding site notes is a great way to determine if changes to your management plan are having a real-world impact on traffic and safety.







Pack Up

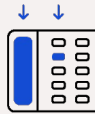
If the same wearables are to be used the following shift, there is no requirement to tap them off.
If needed, you can 'Touch off all devices' via the homepage.



Carefully remove wearable from the holster and **place back into the wearables box.**



Place armband back into its compartment.



Press the power button on the base station and wait for the green light to disappear.



Unscrew antenna and place into pocket of base station bag.



Disconnect the battery from base station by unscrewing.



Remove base station from tripod by unscrewing.



Retract tripod.



Place armband back into its compartment.



Charge equipment.



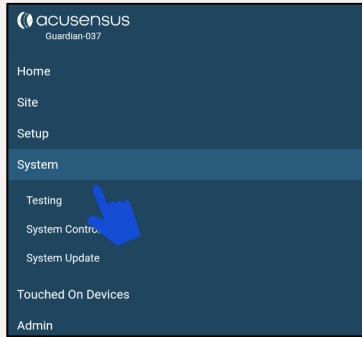


Troubleshooting

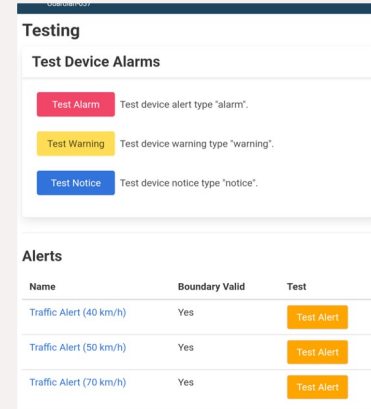




Testing Alarms



There is a useful testing function built into the app. Select the *Testing* option in the dropdown. This will allow you to verify the basic functionality of each of your alarms.



To test the three different alarm severities, you can press the test notice/warning/alarm buttons and all touched on devices should get the alert.

To test the alert is configured and vehicles are being detected, you can press the test alert button next to the alert in the list.



Wi-Fi Issues

1. On your tablet, outside of the Forsite Link App go to Settings → Connections → Wi-Fi
2. Here you should see **Guardian-XXX** (where "XXX" is your system's model number).
3. If it is not connected, attempt to connect to the network by selecting it from the networks list. If you have just turned the base station on- wait a couple of minutes for the services to start before attempting to connect to the Wi-Fi.
4. If you still cannot connect or the network is not found, turn the system off, **wait 30 seconds** and switch it back on.
5. If the above steps did not fix the issue, **please escalate to the Forsite Safety Help-Desk**

Note: The tablet should always be within 10m of base station.



Wearable Alert Issues

If you're not receiving alerts or suspect that your wearable device hasn't **connected properly (touched on)**, follow these steps to check and resolve the issue.

Start by noting the **light on your wearable device**:

No light: The battery may be **flat**. Please swap your wearable for a charged one.

Blue flashing light: The device is **connected** and has successfully **touched on**.

Yellow flashing light: The device is out of **out of range**

Magenta flashing light: The device is **not touched on**

White flashing light: The device is **touched on but not active** - Hold down the duress button for 1 second to wake up - this will present a green light and sound.

Confirm the Device is Touched On:

Go back to the **site setup**.

Select **Touched On Devices** from menu.

Look for your **device** in the list.

Not listed? **Touch on again**. A '**touch-on successful**' message will appear on the screen, and the tablet will provide feedback via a message confirming that the wearable is 'successfully touched on'

If the device receives an alert: It is connected and set up properly. Next, ensure the user is assigned to the correct group, or this may cause incorrect alerts.

If the device does not receive an alert:

1. Confirm the device is fully charged.
2. Retry the touch-on process.
3. Try swapping out the wearable.
4. Escalate to Help-Desk support.

TROUBLESHOOTING

Help Desk



Contact

Forsite Safety Help Desk

Phone: (+61) 03 4150 9928

Portal: <https://forsite.freshdesk.com/>

Email: support@forsitesafety.com

TROUBLESHOOTING



ForsiteTM
Connected Safety