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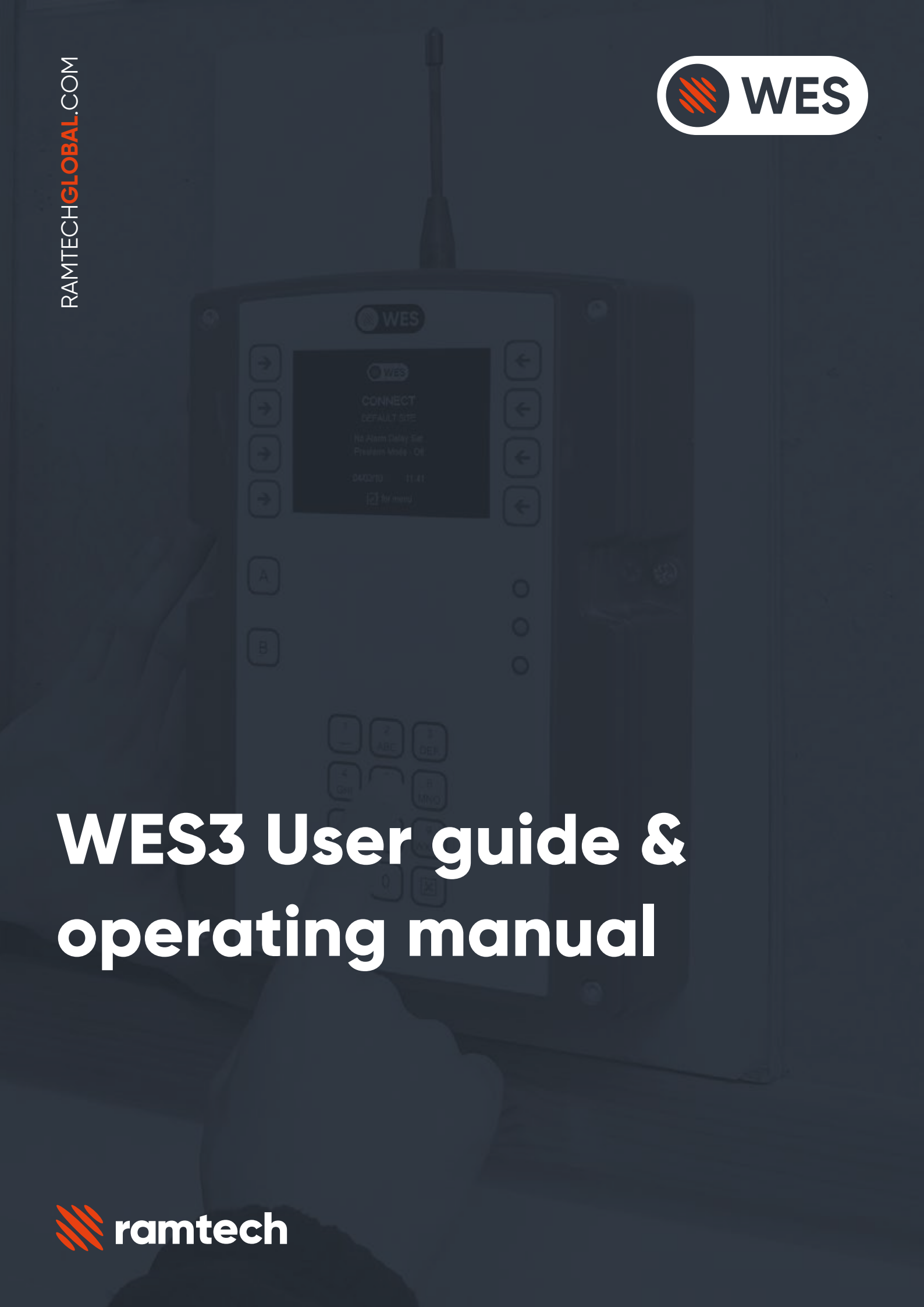
WES



WES3 User guide & operating manual

ramtech

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System Units

Guide to all WES3 system units available

Connect

Base Station

Call Point

Smoke Sensor

Heat Sensor

Interface

Link

WES3 System Units

System Overview

All WES3 units have three indicator LEDs, plus two push buttons, labelled A and B. Some units have additional buttons and features.

At least one Connect unit or Base Station needs to be included in a WES3 network as they configure the WES3 network.

Units should be securely fixed using the two integrated mounting points. We recommend that you use M4 x 50mm pan head screws and wall plugs or other fixings suitable for the particular wall/ceiling material.

The tamper switch on the rear of each unit must be in contact with the wall or ceiling for the unit to function correctly.

All WES3 units relay all WES3 radio messages for the relevant site.

Connect

WES Connect includes a alphanumeric key pad, colour LCD display and a 4G GSM module to include a 4G-enabled sim card.

Connect units can be used as mobile units (see Mobile Base section).

Emergency Control Panel

WES3 Emergency Control Units include a buzzer, an LCD display, a navigation pad.

Emergency Control Units can be used as mobile units (see Mobile Base section).

Call Point

WES3 Call point units include a manual call point used to raise the fire alarm when necessary, a first aid button to raise an alert for medical assistance, and a loud alarm sounder with strobe light.

Call Points should be securely mounted in accordance with NFPA72 2019:17.15.6, that states that the operable part of a manually actuated alarm-initiating device shall be not less than 42 in. (1.07 m) and not more than 48 in. (1.22 m) from the finished floor.

Heat Sensors

WES3 Heat Sensors automatically raise the alarm if the temperature rises above a safe level. Heat Sensors are silent, but communicate with Call Points and Emergency Control Units to raise an audible alarm. If a Sensor has raised the alarm, its red LED indicator will flash for 30 minutes or until the alarm is reset.

Heat Sensors should be securely mounted to the ceiling and regularly maintained (see Heat Sensor Maintenance section) and installed in line with current local legislation. If proper maintenance is not carried out, there is a likelihood of malfunction, including false alarms, which could disrupt operation on site.
Heat Sensors are intended for internal use in enclosed spaces. Sensors will not function correctly if installed in open spaces without ceilings, walls etc.

Smoke Sensors

WES3 Smoke Sensors are silent but communicate with sounding units automatically to raise the alarm if smoke is detected.

All Smoke Sensors are sensitive to dust and steam - use the WES3 Smoke Sensor in dusty areas, or a WES3 Heat Sensor in areas exposed to excessive levels of dust or steam. If a Sensor has raised the alarm, its red LED indicator will flash for 30 minutes or until the alarm is reset.

WES3 Smoke Sensors should be securely mounted to the ceiling and should be regularly maintained (see Smoke Sensor Maintenance section) and installed in line with current local legislation. If proper maintenance is not carried out, there is a likelihood of malfunction, including false alarms, which could disrupt operation on site. Smoke Sensors are intended for internal use in enclosed spaces. Sensors will not function correctly if installed in open spaces without ceilings, walls
etc.

Link

WES3 Link units are used solely to relay WES3 radio messages on large or complex sites if there is no need for additional Call points. Link units should be securely wall mounted.

Interface

WES3 Interface units allow input or output devices to be Connected to or via the WES3 network. They can also take an input from an external trigger and set off the alarm on the WES3 system.

Basic System Setup

A basic system is made up of a minimum of three WES3 units, at least one being a WES3 Connect or Base Station (depending on what you have ordered). Call Points are essential to all systems if an audible evacuation alarm is required on site.

Health and Safety

As with all site practices, working safely must be a priority when installing the WES3 system. It is important to observe appropriate health and safety legislation on site, including national regulatory obligations, as well as any local site- or client-specific requirements. Prior to installation of WES3 equipment, an appropriate risk assessment must be carried out and all reasonable efforts to remove risk put in place. The following notes are intended as general guidance only. Consideration must be given to design criteria, site conditions and other trades operating in the area during installation.

Prolonged or repeated exposure to loud noise such as fire alarm sirens may potentially lead to hearing damage. Ensure that protective measures are taken that are appropriate to the exposure levels expected on site.

WES3 units are not ATEX rated and have not been tested for use in explosive atmospheres. WES3 is not recommended for use in ATEX applications.

Manual Handling, Storage and Transportation

Whilst WES3 units are lightweight and designed to be easily handled on-site, it is important that appropriate manual handling practices are followed. Particular care should be taken when carrying units at height or when ascending/descending elevated platforms, scaffolding or ladders.

Units are normally stored and transported in boxes of 8. Refer to Product Data sheets for full details of unit weights. Unopened boxes should be stacked no more than 10 high, on a solid, stable surface. Individual unboxed units should not be stacked on top of one another.

To avoid damage or injury during transit, ensure units are packaged securely and restricted from moving around.

Service and Maintenance

Under normal conditions, WES3 units will function for up to three years without the need for routine maintenance. A full range of servicing options are available for aged units. Contact WES Customer Support for details. WES3 units are classed as a 'Service Access Area' under EN 60950-1. It is essential that testing, repairs and servicing are carried out by WES3 Engineers or approved, qualified partners. Modifying any part of the unit can prevent correct functionality, even if the unit appears to be working.

Note: This will effect your warranty.

Battery Replacement

The battery pack within WES is not intended to be user replaced. When your device signals low battery condition (see page 14, LED indication), please contact Ramtech or your Distributor to discuss battery replacement.

Damaged Units

Should a unit be dropped or impacted during installation, operation or decommissioning, it should be inspected for signs of damage. Even if no external damage is visible, the internal components may have been affected. Test the unit for operation and if in doubt, remove the unit from the network and contact WES Customer Support.

Installation Procedure

Installing WES3 on your site is easy. You will need to activate each unit and add the units to the group so that they can communicate with each other.

1.

Initial Connect Setup

To activate the WES3 Connect, hold down 'A' and press 'B' three times in quick succession. All three LEDs will briefly illuminate and then the amber LED will flash.

Initial setup of the Connect is through a series of on-screen options such as Language, Inspection Delay and Pre-Alarm mode options.

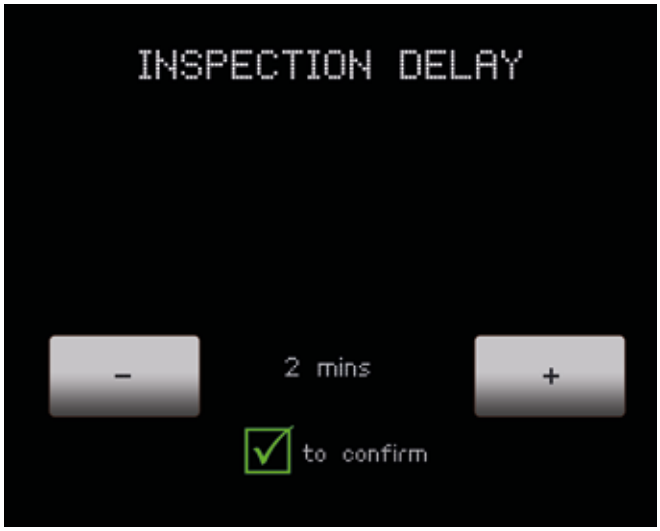
Language Selection

Select language, available options are English, French, Spanish, Italian, German, Swedish, Dutch, Danish and Norwegian and Polish. Select using the arrows to the side of the
screen - the selected language will be highlighted. Confirm using the 'tick' button. Language settings can be changed at any time via the menus within the Connect unit.

Inspection Delay

The Inspection Delay setting allows an optional delay period between triggering a call point and the site wide alarm being raised. This can allow time for the incident to be validated on site, and a decision to be made to either

i) confirm alarm is genuine, raise site wide alarm and evacuate site, or
ii) confirm false activation, cancel the alarm and return to normal (non-alarm) state.



Default setting is 0 minutes (ie no delay), but can be set in 1 minute increments up to a maximum 10 minutes. A confirmation screen will be displayed to validate the setting and prevent accidental activation. Select using the arrows to the side of the screen.

A final screen will then appear confirming your selection, then use the 'tick' button to confirm.

Note that Inspection Delay can only be set during the initial network setup process. Once set, the Inspection Delay can only be set or changed by turning off all networked units, which resets the network. This will clear any existing unit numbering and other network settings from the network.

Basic System Operation

Pre Alarm Mode

The Pre-Alarm function defines site-wide behaviour of the network during an Inspection Delay period.

With Pre-Alarm mode enabled, the entire network will emit a site-wide, intermittent sound and (on strobe-equipped call points) an intermittent flash, to alert site personnel that a potential evacuation may be imminent.

With Pre-Alarm mode disabled, the local call point which has been triggered will sound in addition to the Connect unit. All other call points around site will remain in the normal state of non-alarm.

Select your preferred option by using the arrows to the side of the screen.

Note that Pre-Alarm can only be set during the initial activation process. Once set, the Pre-Alarm setting can only be set or changed by turning off all networked units and resetting up a network. This will clear any existing unit numbering and other network settings from the network.

On completion of initial set up, settings for Inspection Delay and Pre-Alarm mode are displayed on the Connect home screen. Check the settings displayed on screen are the desired settings, and if not, repeat the Initial Connect Setup process before proceeding.

Creating a network

A network can be made up of a variety of WES3 units such as Call Points, Base Stations and Interfaces. All WES3 units are delivered to site with batteries installed and ready for site activation. To activate any unit, hold down 'A' and press 'B' three times in quick succession. All three LEDs will briefly illuminate and then the amber LED will flash.

This operation activates the unit – no radio Connection is established at this point. The system must include a least one Call Point in order to generate an audible alarm. Where a system comprises Detectors only, no audible alert will be transmitted on site.

Allocate unit numbers

Activated Call Points, Detectors, and other WES3 units can be added to create a WES3 network using the Unit Numbering process. During Unit numbering, WES3 devices receive details of network configuration from the Connect unit, including Inspection Delay and Pre Alarm settings. Note this is the only way of creating and adding to a WES3 network.

Access the Unit Numbering option on the Connect main menu screen. This can be accessed by selecting Unit Numbering with the appropriate arrow next to the screen.

Basic System Operation

Ensure that any WES3 device to be paired is turned on and has an amber flashing LED. This indicates the unit is ready to pair. Units can be numbered any four digit number from 0001 to 9999 in accordance with your site plan. Numbering allows messages and alerts during operation to be referenced to a specific unit location on site, using the project site plan.

From the Unit Numbering screen, use the numeric keypad and/or the + and - buttons to select the desired number for your first unit (example below shows that we've selected the number 3).

Press and hold 'A' on both units. The amber LEDs will illuminate followed by the green LEDs on both units to indicate that the units have been successfully paired and a site group created. Release the 'A' buttons.

After successfully numbering a unit, change the number displayed on the Connect unit and repeat the process above for all required units. Note that the Polling feature of WES3 can perform an automatic integrity test of the first 128 WES3 units added to a network. Additional units can be added to the network, but will be excluded in the integrity test.

If the red LED illuminates, pairing has failed. Ensure the unit to be numbered is turned on, and repeat the Unit Numbering process, ensuring you haven't used the same number twice.

Add units to an existing group

Repeat steps 2 and 3 above.

Position units on site

Once activated and paired, WES3 units can be installed on site. Ensure any applicable local legislation or Standards regarding locating units on site are adhered to, such as BS 5839-1 in the UK. Wherever possible, avoid positioning the unit directly adjacent to metal frames, metal surfaces, electric cables and similar equipment that may interfere with the signal strength. WES units should only be installed indoors.

Securely fix the units in place

Each WES3 unit must be securely fixed in place to ensure correct operation. The tamper switch on the rear of the unit must be in contact with the wall or ceiling.

Detector units are ceiling mounted and intended for indoor use only. Installation of detectors may involve working at height or on elevated platforms. Ensure a risk assessment has been carried out and all reasonable safety precautions are in place before commencing work.

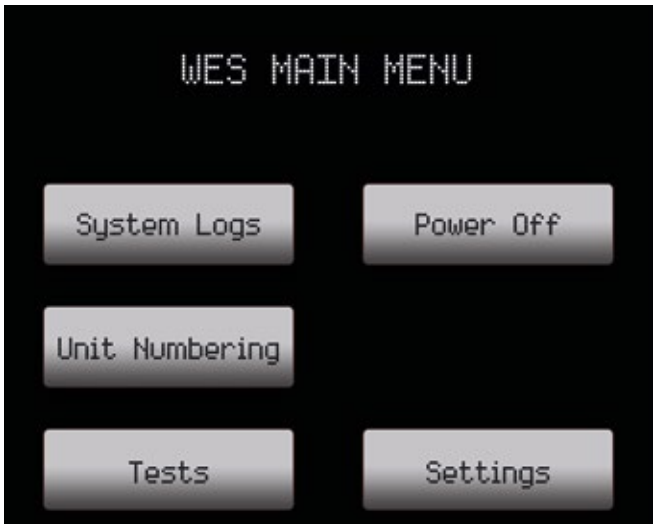
Call points must be securely fixed, with the antenna upright, to a robust vertical surface such as a wall or trolley. Where the existing surface is unsuitable for direct fixing, the Call Point can be mounted to backing board or pattressing such as plywood or similar sheet material.

Each unit should be securely mounted using its two integrated mounting points with M4 x 50mm pan head screws and wall plugs or other fixings selected for the particular wall or ceiling type. Ensure that all fixing points are secure and that the back tamper is fully depressed.

Test the system

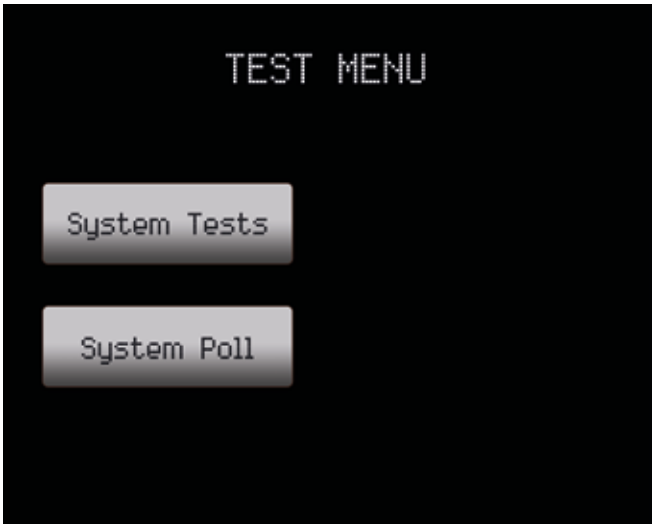
After installation of the units, it is essential to perform a system alarm test to confirm proper operation of the system. It is also best practice to conduct a full system test on a weekly basis. This test should also be performed following any significant change to the site environment (new structure, wall or construction equipment installed) that may affect the network signal.

The System Test is started from the Tests selection via the Connect Main Menu:

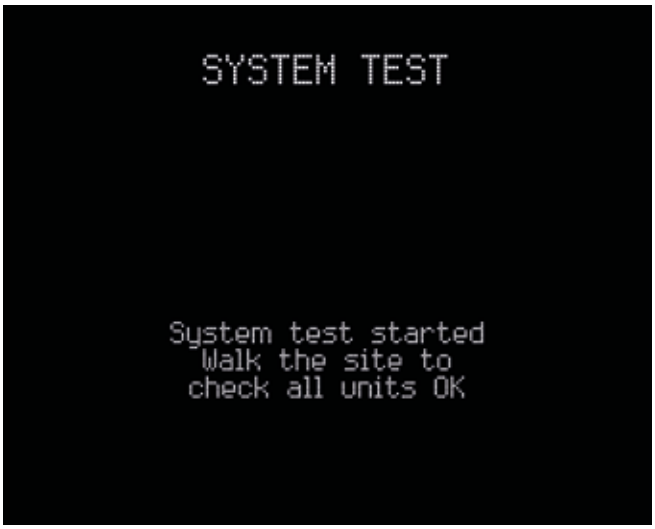


Basic System Operation

From the Test Menu, select System Tests to start test mode:



The Connect unit will display a confirmation message that the test has started. Walk the site to check all units in the network.



During System Test mode, the WES3 network isolates all devices in the network, allowing full physical test of each unit, without activating the site-wide alarm. Call Points can be triggered manually, and Detectors can be triggered using standard test equipment such as smoke spray or heat probe.

Once the System Test is complete, return to the Connect unit and press either ☑ or ☒ button to complete the test and exit System Test mode.

It is important to be aware that, whilst in System Test mode, the WES3 network is inactive and a site-wide alarm cannot be triggered from any unit. System Test mode must be exited from the Connect in order to reactivate the network.

For further information, see 'System Tests' section later in this chapter.

Note: Following initial installation, wait for a minimum of 60 minutes before starting the first system test. During this time, the WES3 units will self-calibrate to adjust for background radio noise which may impact the accuracy of the system test. Raising the Alarm

Raising the Alarm

Manual activation

To raise the alarm, press any call point in the system. The call point will latch into the pressed position and a mechanical yellow and black striped flag will be displayed in the call point window as below.

Automatic activation

Smoke detection units will automatically raise the alarm if sufficient smoke is detected. Heat detection units will automatically raise the alarm if the temperature rises above the threshold. The red 'Alarm' LED will only flash on the unit(s) which raised the alarm.

Silencing the Alarm

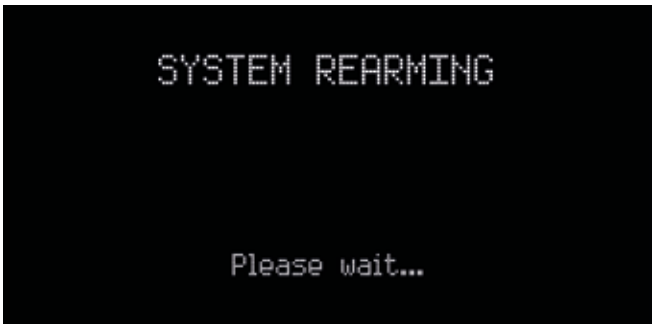
Note: it is vital to confirm that there is no fire hazard before silencing the alarm. Do not attempt to open the unit or deactivate by removing the battery. The alarm must be silenced either by using the reset key or at the Base Station/Connect.

The emergency evacuation alarm will automatically silence 30 minutes after activation.

The emergency evacuation alarm can be manually cancelled from a call point that has been pressed using the reset key provided. If necessary, a call point on a nearer call point can be pressed and then reset to cancel the alarm. Please wait for 5 seconds between pressing and resetting a call point.

After the alarm has cleared the system has a short (2 minute) re-arm period during which the sirens will sound intermittently, and the amber warning LEDs flash in groups of 5, following which the system is re-armed and ready for use.

Basic System Operation



During the re-arm period, the alarm cannot be reactivated. It is therefore vital to confirm that there is no fire hazard before silencing the alarm.

Resetting a Call Point

Any call point units with activated call points will periodically beep after the re-arm period has ended as a reminder that the call points need to be mechanically reset using the key before they can be used to raise a evacuation alarm.

The Latched call point alert displayed on the Connect will show which individual call point (or call points) need to be reset:

1) Insert reset key with tab to the right as shown below.

2) Push key in as far as possible (take care not to use excessive force as this could damage the unit)

3) Turn key anti-clockwise until a loud mechanical click is heard.

4) Remove the key

Ensure the call point is fully reset before removing the key. Partially resetting a latched call point after the alarm has been cancelled can re trigger the evacuation alarm.

Raising a Medical Alert

The medical alert can be raised from any call point by pressing and holding the B button for 2 seconds, until the alternating amber-green LEDs flash repeatedly.

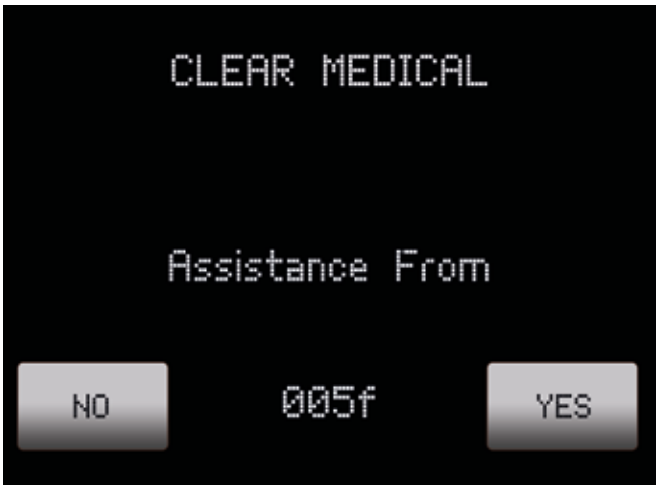
Raising a medical alert sends a message to the Connect unit. It does not trigger any alert on other units.

Cancelling a Medical Alert

The medical alert can be cancelled either from the call point used to create it, or from the Connect unit.

To cancel from the call point, press and hold the B button for 5 seconds, until the alternating LEDs turn off. To cancel from the Connect unit, select the alert on the Warnings screen and press the ☑, then press the arrow next to Yes to confirm. The access code is required to cancel a medical alert. The default PIN number is 1234.

System Operation



WES3 can receive and display multiple Medical Alerts on the Connect unit and these can be managed and cancelled individually. Multiple medical alerts are displayed in chronological order, and prioritised over other system messages except emergency evacuation alarm.

In the event of an emergency evacuation alarm being raised while a Medical Alert is active, the system will give priority to the emergency evacuation Alarm. Any Medical Alert that was active prior to the emergency evacuation alarm, will remain in the WES3 system and be displayed once the emergency evacuation alarm has been resolved.

LED Indications

Unit Alive Indication

Active units with no faults will flash their green LED once every 4 seconds to indicate that the unit is operational.

Amber LED Indication

Each WES3 unit monitors itself for a number of faults. These are indicated via the amber LED, which will flash in grouped patterns with longer than usual gaps in between them.

Units displaying one of these patterns require further investigation and should not be relied upon as part of the emergency evacuation alarm and detection system until the fault has been corrected. Use the chart below to determine the nature of the issue:

Group Flash 1 - Low Battery	☀	☀
Group Flash 2 - Low signal	☀ ☀	☀ ☀
Group Flash 3 - Unpaired	☀ ☀ ☀	☀ ☀ ☀
Group Flash 4 - Tamper	☀ ☀ ☀ ☀	☀ ☀ ☀ ☀
Group Flash 5 - Re-arm or Unit latched (potentially input latched on Interface unit only)	☀ ☀ ☀ ☀ ☀	☀ ☀ ☀ ☀ ☀

Red LED Indication

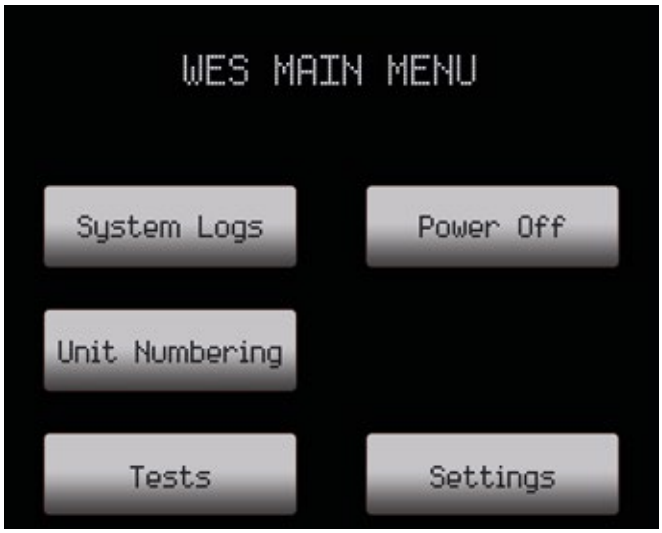
If a detector has raised the alarm, its red LED indicator will flash during a emergency evacuation alarm.

It is recommended that the fire system is tested weekly or whenever a significant change has been made to the installation or the building under construction. WES3 is equipped with a system test function that allows you to test the radio link between units without activating an audible emergency evacuation alarm. You can therefore ensure each unit in the system has a robust radio link with sufficient capacity to allow for environmental fluctuations without disturbing the site.

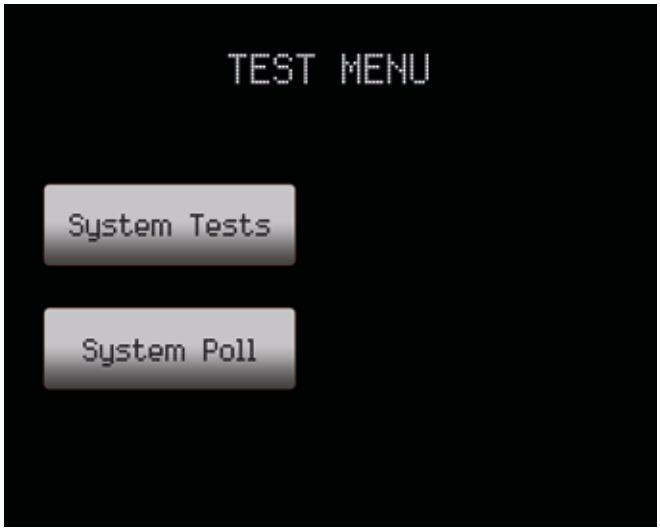
System Tests

Initiating a System Test

The System Test is started from the Connect Test Menu, via the Main Menu:



From the Test Menu, select System Test to start test mode.



The Connect unit will display a confirmation message that the test has started. Walk the site to check all units in the network.

System Tests

During the System Test mode, the WES3 network isolates all devices in the network, allowing a full physical test of each unit, without activating the site-wide alarm. Call Points can be triggered manually, and Detectors can be triggered using standard test equipment such as smoke spray or a heat probe.

Cancelling a System Test

Once the System Test is complete, return to the Connect unit and press either the ☑ or ☒ button to complete the test. It is important to be aware that, whilst in System Test mode, the WES3 network is inactive and a site wide alarm cannot be triggered from any unit. System Test mode must be exited from the Connect unit in order to reactivate the network.

Note : Following initial installation, wait for a minimum of 60 minutes before starting the first system test. During this time, the WES3 units will self-calibrate to adjust for background radio noise which may impact the accuracy of the system test.

The test result is indicated as follows:

Pass	Green LED solid illumination
Radio OK, other fault detected	Red LED flashes followed by Amber LED group flashes to indicate fault (see 'Amber LED Indication').
No Radio Signal	Amber LED group flashes to indicate fault (see 'Amber LED indication').

System Integrity Test (Polling)

PLEASE REFER TO MODIFIED SECTION INCLUDED IN APPENDIX 1 AT THE END OF THIS DOCUMENT FOR THE UPDATED SYSTEM INTEGRITY TEST (POLLING) PROCEDURE

After moving a unit, we recommend that you conduct a system test to check that the movement has not adversely affected radio communication. Ensure any site fire plans are updated with any revisions to WES3 unit numbering and location.

Before shipping a unit or moving it to another site it must first be deactivated, in order to:

- Prevent accidental triggering
- Preserve battery unit life
- Clear site information which would prevent it forming or joining another site

First, remove the unit to be deactivated from the wall/ ceiling and ensure the back tamper button is not pressed in.

Hold down 'A' and then press 'B' three times in quick succession. All three LEDs will briefly illuminate and then switch off.

Note: units cannot be deactivated while a fire alarm is active.

Connect Operation

One or more WES3 Connect units can be added to a basic system to provide additional system monitoring information. Connect units can display details about which units have raised fire alarms, any units with current fault warnings, and historical event logs. The WES3 Connect also allows an authorized user to cancel active medical alerts and silence a fire alarm using the access code.

GSM functionality allows up to six users to receive text messages in the event of a fire or other system warnings occurring, and can also Connect the WES3 network to a live REACT account.

To conserve battery power, the LCD display and backlight turn off after a short period of inactivity. Pressing any of the navigation buttons will activate the display. If there are no current warnings or fire alarms across the system, the Connect unit will display the home screen which shows the site name and the date and time.

Pressing the 'tick' button goes to the Main Menu to allow settings to be changed or logs to be viewed.

Menu Overview

Main Menu

System Logs
Unit Numbering
Tests
Power Off
Settings

System Log Menu

Alarms
Cancelled in Delay
System Tests
Medical Assist
External Tampers
Internal Tampers
DT Head Tampers
Low Signals
Low Batteries
Flat Batteries
Unit Removed
Unit Missing
Unexpected Unit
Clear All Logs

Settings Menu

Communications
Date and Time
Change Access Code
Backlight
Mobile Base
Change Language

Change Language

English
Deutsche
Français
Español
Italiano
Svenska

Test Menu

System Test
System Poll

Communications

User Phone Details
GSM Status
SIM Card Info
Network Scan
Phone Test
Change Site Name

User Phone Details

Edit User Name
Edit Phone No
SMS Notifications
Test Phone No
Delete User

Connect Operation

When an alarm has been raised by a Call Point or Detector, the Connect unit will flash the LCD display, beep and display "ALARM ALARM ALARM" together with which units raised the alarm. The newest event will be at the top of the list.

Units are identified by unit number and unit type. F indicates a Call Point, I an Interface and D a Detector. For example, the above shows that a Call Point with the number 005 was activated at 08:38 on the 5th August.

An alarm can be silenced in three ways:

i) Resetting a Call Point

ii) Waiting 30 minutes after the last activation

iii) Using your access code to silence the alarm from the Connect unit

iv) A Sensor no longer detects smoke / heat and will stop the alarm

To silence the alarm from the Connect unit, press 'tick' button during the alarm. This will take you to the Silence Alarm screen.

Select 'Yes', and enter your access code when requested. During the re-arming period the following message will be displayed for two minutes.

At the end of the re-arming period the Connect unit will return to the home screen unless any system warnings have been received during the fire alarm or re-arm period.

System Warnings

The WES3 Connect will indicate warnings from itself or any other system unit. When a warning is received the screen will be illuminated and the unit will beep periodically.

Some warnings, for example EXT, will self-clear if the fault is resolved.

Unconfirmed Alarms

In instances where an alarm is activated and subsequently left unattended for 30 minutes, the WES3 Connect will display "UNCONFIRMED ALARMS" once the alarm times out.

WES Warning Code Guide

Warning Code	Warning	Description	Self-Clearing
'MED' or 'MD'	Medical Assist	Medical assistance required at Unit NNN	No
'BAT' or 'BT'	Low Battery	Unit NNN has a low battery	No
'DET' or 'DT'	Detector Tamper	Unit NNN has had detector head removed	Yes
'EXT' or 'EX'	External Tamper	Unit NNN has been removed from wall/ceiling	Yes
'FLT' or 'BF'	Flat Battery	Unit NNN has turned off, its battery is flat	No
'INT' or 'IN'	Internal Tamper	Unit NNN has been opened	No
'LAT' or 'LT'	Latched	Call point button on unit NNN is still depressed	Yes
'REM' or 'RM'	Removed	Unit NNN has been deacti-vated and removed	No
'SIG' or 'SG'	Low Signal	Unit NNN has a low radio signal	Yes
'TST' or 'ST'	System test	Unit NNN initiated a System test	Yes
'NEW' or 'NW'	Unexpected unit	Unit NNN added since last system poll	No
'GON' or 'GN'	Unit missing	Unit NNN removed since last system poll	No
'WTR'	Water Detected	Water leak detected on unit NNN	No

Note: Alerts will appear as either a 2-character or 3-character code, depending on firmware version.

Connect Pad Controls

The ☑ key is used to enter the Main Menu from the Main Screen. It is also used to confirm a selection/data entry.

The ☒ key is used to exit from menus. It is also used to cancel a selection/data entry.

The numeric keys are used to enter data.

Soft Keys

The function of each key is displayed on screen and varies depending on the screen displayed.

Home Screen

Pressing ☑ on the home screen opens the Main Menu, giving access to the System Log Menu, Unit Numbering Screen, Test Menu, Power Off screen and the Settings Menu. The settings are only available to authorised users with an access code.

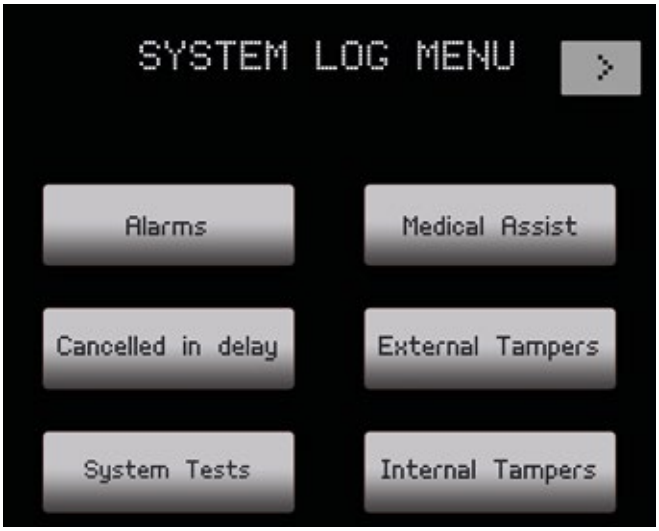
If the Connect unit has not yet been paired, it will display 'Unpaired' instead of the site name.

Connect Operation

Once a unit has been added to a site group, the site name will be displayed. Note: by default, this is 'DEFAULT SITE'. Please ensure you change it to reflect the location of your site, as this will be used in text message alerts to identify the site where an alarm has been activated.

System Logs

The following logs are accessible from the System Log menu:



- Emergency Evacuation Alarm
- Cancelled in delay
- System Tests
- Medical Assist
- External Tampers
- Internal Tampers
- DT Head Tampers
- Low Signals
- Low Batteries
- Flat Batteries
- Latched Units
- Unit Removed
- Unit Missing
- Water Detected

Unexpected unit all logs are in the same format and are listed in chronological order with the newest at the top of the list.

Each log entry has the date and time the event was logged, followed by the unit number and type and then a + or – symbol to indicate the raising (+) or clearing (-) of an event. If there are too many log entries to fit on the screen, a scroll bar is displayed on the right of the screen. The soft keys can be used to scroll through the log records (top/bottom keys = page up/down, middle keys = line up/down).

Exit the log display using the ☒ key.

Logs can be cleared by either deactivating the unit (see 'Removing a unit from the site') or using the Clear All Logs option at the end of the System Log Menu. This can only be performed by an authorised user as it requires the access code.

Settings

The Settings menu can be accessed from the Main Menu:

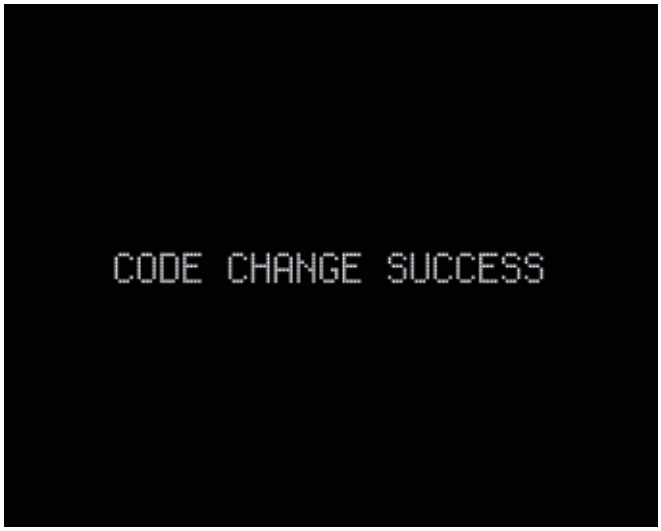
Change Access Code

We recommend that you change the default 1234 access code to a secure code specific to site.

The existing Access Code will then be requested:

The new Access Code then needs to be entered twice.

Confirmation of the Access Code change will be displayed.



Unit Numbering

Unit Numbering can be accessed from the Connect's WES Main Menu. Every WES3 unit needs to be numbered when first paired to the WES network. This unit number can be changed using the Unit Numbering feature, and any number between 0001 and 9999 may be used - avoid duplicating numbers.

Units must be either freshly activated or already paired to a unit on the same site as the Connect unit before renumbering.

To number a unit from a different site network, you will first need to turn it off and back on to remove the information specific to the original site.

Select the number you wish to assign to a particular WES3 unit using the appropriate arrows on the Soft Keys. Once the correct number is displayed, press and hold the A buttons on both the Connect and the unit you are numbering. The amber LEDs on both units will illuminate and then the green LEDs will flash to confirm successful renumbering. Stop pressing the 'A' button when both units go solid green.

To exit the Unit Numbering screen, press the ☒ key.

Unit Numbering LED indications

When the A button is held down on two units, both will begin by illuminating the amber LED followed by a confirmation LED pattern. The following table indicates the meaning of the various LED patterns. One of the units needs to be the Connect unit.

LED pattern	Description
○ Red ● Amber ○ Green	Pairing started
○ Red ○ Amber ● Green	Pairing success. The two units are on the same site and have the same unit number. Both units must display a green LED.
● Red ○ Amber ○ Green	Pairing failed. The units are already part of two different existing sites. The units need to be deactivated and reactivated to allow pairing to succeed.
○ Red ○ Amber ● Green	Unit numbering success. The unit has successfully joined the same site as the Connect Unit and has the unit number selected in the Unit Numbering Screen.

A unit whose amber LED fails to illuminate will not pair. This may be due to an internal tamper.

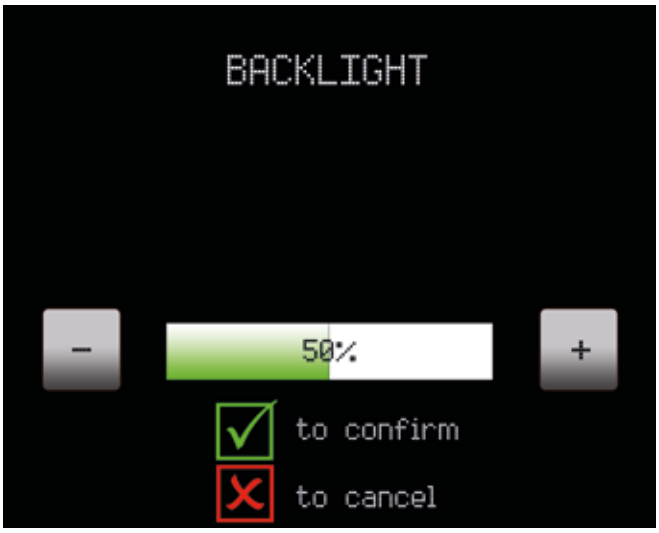
Settings

Date and Time

The date and time can be updated in the Date and Time screen using the Soft Keys and Pad Control Keys, pressing R to save. The date and time must be set manually and will not automatically adjust for international time zones, British Summer Time etc. The format is DD/MM/YYYY and HH:MM. Time is displayed as a 24hr clock.

Back Light

The screen back light brightness can be changed using the + and - Soft Keys.



Mobile Base

It may be desirable for the Connect unit to be used without being fixed to a wall, for example, if you need to keep it in the site office during the day but move it to a security hut at night.

This feature deactivates the rear tamper so the unit is Mobile.

The Connect unit can be made mobile by pressing the relevant Soft
Key on the Mobile base option. A highlighted button indicates that the Mobile Base option has been enabled.

Communications

The Communications menu has six options as shown below:

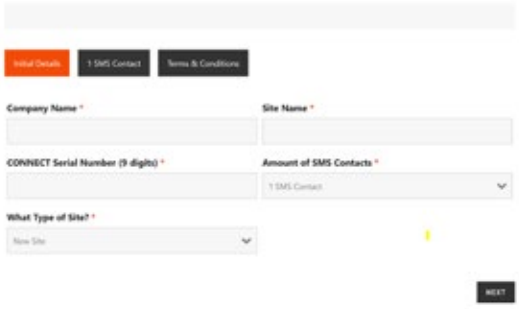
User Phone Details

WES CONNECT can send SMS text messages to up to 6 users, by registering the CONNECT device online at **https://wessafety.net/** and entering details for users, mobile numbers and required notification types to be received.

Prior to registering the CONNECT device online, ensure the SIM card has been activated and that the device has an active subscription for the SMS feature. Contact your WES partner to arrange this.

All fields on the online registration form must be completed. You will also need to check the data within this form is accurate and complete the disclaimer.

On page 1 of the form, enter the following details



The Company Name and Site Name are used to identify the location and will need to match the details provided on the associated purchase order.

The CONNECT serial number is the 9-digit alphanumeric beneath the barcode on the back of the WES unit, circled below:

Enter the name of the user using the Connect Pad Controls. Once edited, USER X is replaced by the name of the user entered. The telephone number must be in international format with the country

Settings

The amount of SMS contacts is the number of required users / mobile devices to be selected, between 1 and 6.

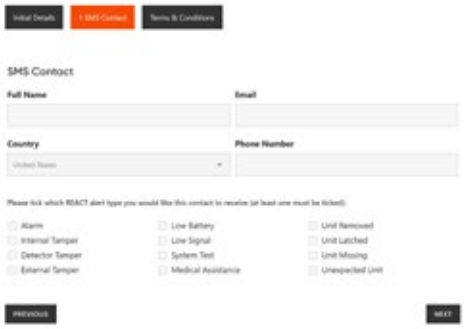
The site type indicates whether the details refer to a new site and new subscription, or are amended details for an existing site.

SMS contact details can be updated as many times as required during the subscription period.

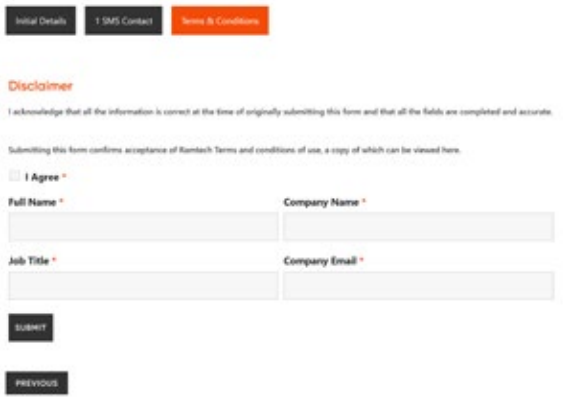
Click 'Next' once details have been completed.

On page 2 of the form, enter contact details and notification type for each individual user. All details are required to be completed. The page also includes tick boxes to confirm, for the specific user, which notifications are required. Each individual user will receive alerts for each of the ticked boxes.

Click 'Next' once details have been completed.



Click 'Next' once details have been completed.



On the final page, confirm accuracy of the information provided and acceptance of the terms and conditions of the SMS service.

Test Phone Number

Pressing the arrow Soft Key nearest the 'Press to Start' icon will initiate an SMS message to the user's telephone. A further screen will appear
to confirm that the message has been sent.

GSM Status

The status of the Connection to a mobile telephone network can be checked via the GSM Status option. Note that the modem is switched off when not in use to conserve battery power, so this check can take a few minutes to complete.

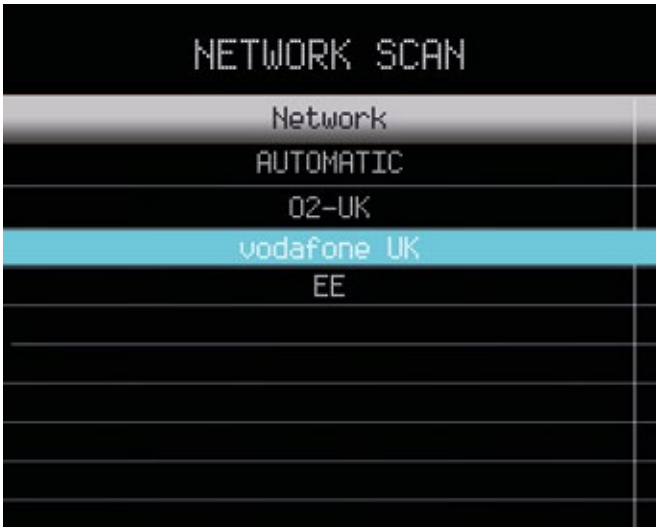
SIM Card Information

Selecting this option will automatically scan the SIM card in your Connect unit to reveal its SIM ID Number.

Settings

Network Scan

The selection of a mobile telephone network can be undertaken via the Network Scan option. Note this scan can take a few minutes to complete.



The network can be selected using the top & bottom soft keys to move the selection up & down. The desired network is confirmed by pressing 'tick' button.

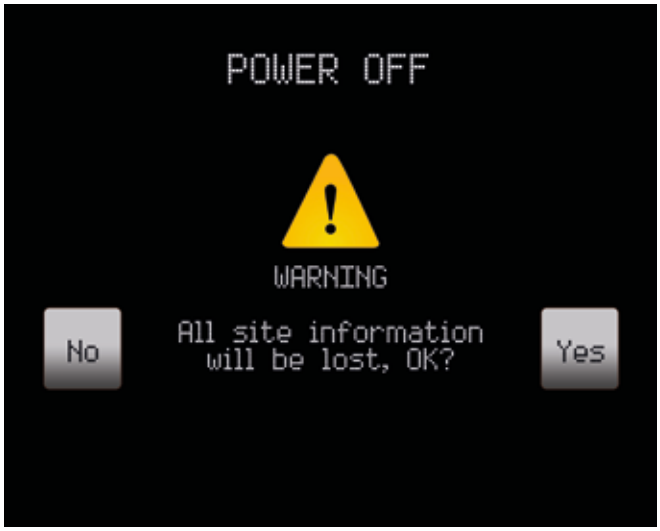
Change Site Name

The site name appears on the Home Screen and is included in every text message so that you can quickly identify the source of the alarm or warning. The site name should be changed to a uniquely recognisable site location.

Power Off

To turn off the WES3 Connect, the Power Off button must be pressed on the Main Menu. The user will then be presented with the Enter Access Code screen:

Upon successful entry of the access code, a warning/ confirmation screen is displayed:



WES3 Base Station

Basic Setup

The following pages detail the setup of a network using a WES3 Base Station.

Basic System Setup (Base Station version, if applicable to your system)

Initial Base Station Setup

To activate the WES3 Base Station, hold down 'A' and press 'B' three times in quick succession. All three LEDs will briefly illuminate and then the amber LED will flash.

Initial setup of the Base Station is through a series of on-screen options such as Language, Inspection Delay and Pre-Alarm mode options.

Language Selection

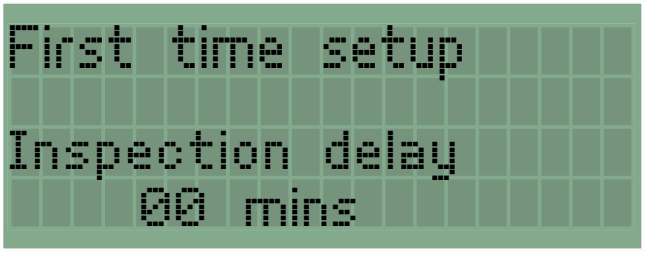
Select language, available options are English, German, French, Spanish, Italian and Swedish. Language settings can be changed at any time via the menus within the Base Station.

Inspection Delay

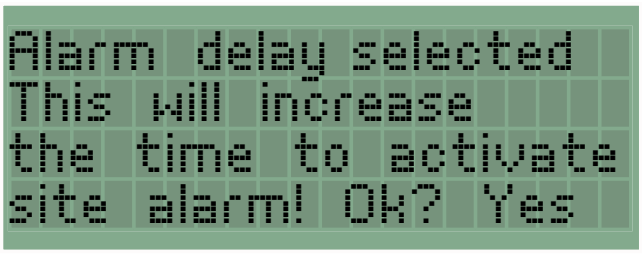
The Inspection Delay setting allows an optional delay period between triggering a call point and the site wide alarm being raised. This can allow time for the incident to be validated on site, and a decision to be made to either

i) confirm alarm is genuine, raise site wide alarm and evacuate site, or

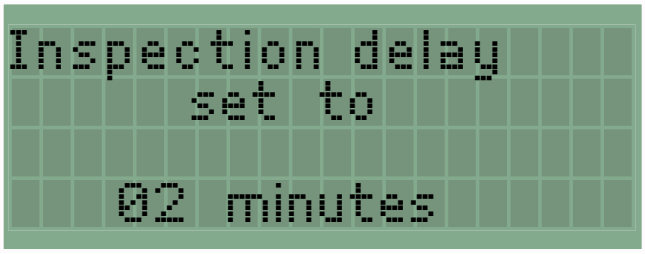
ii) confirm false activation, cancel the alarm and return to normal (non-alarm) state.



Default setting is 00 minutes (ie no delay), but can be set in 1 minute increments up to a maximum 10 minutes. A confirmation screen will be displayed to validate the setting and prevent accidental activation.



Note that Inspection Delay can only be set during the initial activation process. Once set, the Inspection Delay can only be changed by turning off and reactivating the Base Station. This will clear any existing unit numbering and other network settings from the network.

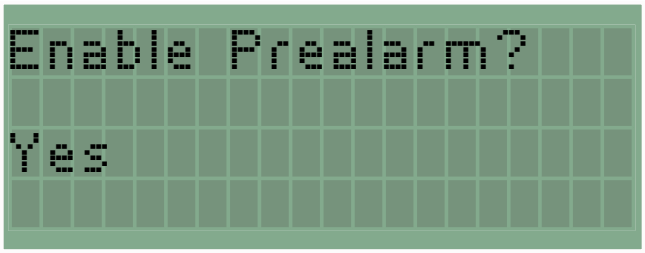


Pre Alarm Mode

The Pre Alarm function defines site-wide behaviour of the network during an Inspection Delay period.

With Pre Alarm mode enabled, the entire network will emit a site-wide, intermittent sound and (on strobe-equipped call points) an intermittent flash, to alert site personnel that a potential evacuation may be imminent.

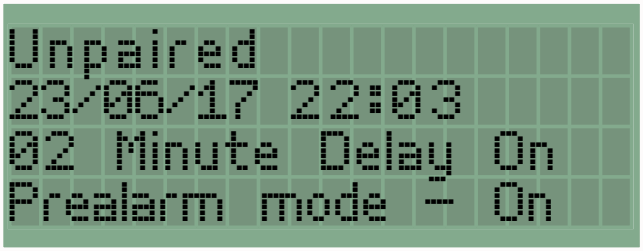
With Pre Alarm mode disabled, the local call point which has been triggered will sound in addition to the Connect unit. All other call points around site will remain in the normal state of non-alarm.



Note that Pre Alarm can only be set during the initial network setup process. Once set, the Pre Alarm setting can only be changed by turning off and reactivating the Base Station. This will clear any existing unit numbering and other network settings from the network.

Basic System

Played on screen are the desired settings, and if not, repeat the Initial Base Station Setup process before proceeding.



Creating a network

A network can be made up of a variety of WES3 units such as Call Points, Base Stations and Interfaces. All WES3 units are delivered to site with batteries installed and ready for site activation. To activate any unit, hold down 'A' and press 'B' three times in quick succession. All three LEDs will briefly illuminate and then the amber LED will flash.

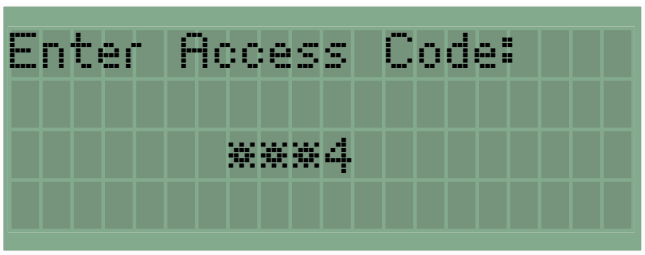
This operation activates the unit – no radio Connection is established at this point. The system must include a least one Call Point in order to generate an audible alarm. Where a system comprises Detectors only, no audible alert will be transmitted on site.

Allocate unit numbers

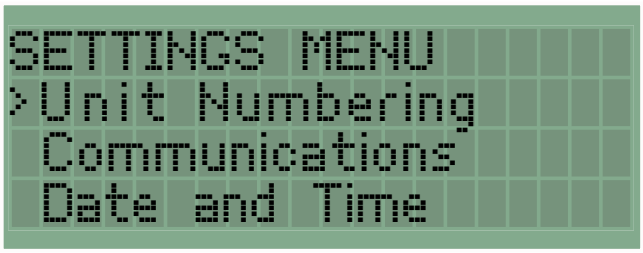
Activated Call Points, Detectors, and other WES3 units can be added to create a WES3 network using the Unit Numbering process. During Unit numbering, WES3 devices receive details of network configuration from the Base Station, including Inspection Delay and Pre Alarm settings. Note this is the only way of creating and adding to a WES3 network.

Access the Settings Menu on the Base Station home screen. The Settings menu can be accessed from the Main Menu by selecting Settings with the directional pad then pressing Enter.

You will be required to enter the PIN code before proceeding. This is set as default to 1234, but can be changed (refer to separate section).

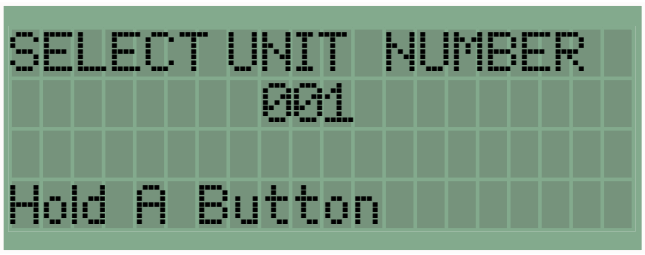


From the Settings menu select the first option, Unit Numbering:



Ensure that any WES3 device to be paired is turned on and has an amber flashing LED. This indicates the unit is ready to pair. Units can be numbered any three or four digit number (depending on firmware version) from 000 to 9999 in accordance with your site plan. Numbering allows messages and alerts during operation to be referenced to a specific unit location on site, using the construction project site plan.

From the Unit Numbering screen, use the up and down arrows to select the desired number for your first unit



Press and hold 'A' on both units. The amber LEDs will illuminate followed by the green LEDs on both units to indicate that the units have been successfully paired and a site group created. Release the 'A' buttons.

After successfully numbering a unit, change the number displayed on the Base Station and repeat the process above for all required units. Note that the Polling feature of WES3 can perform an automatic integrity test of the first 128 WES3 units added to a network. Additional units can be added to the network, but will be excluded in the integrity test.

Basic System

If the red LED illuminates, pairing has failed. Ensure the unit to be numbered is turned on, and repeat the Unit Numbering process, ensuring you haven't used the same number twice.

Add units to an existing group

Repeat steps 2 and 3 above.

Position units on site

Once activated and paired, WES3 units can be installed on site. Ensure any applicable national guidelines or standards regarding locating units on site are adhered to, such as BS 5839-1 in the UK.

Wherever possible, avoid positioning the unit directly adjacent to metal frames, metal surfaces, electric cables and similar equipment that may interfere with the signal strength.

Securely fix the units in place

Each WES3 unit must be securely fixed in place to ensure correct operation. The tamper switch on the rear of the unit must be in contact with the wall or ceiling.

Detector units are ceiling mounted and intended for indoor use only. Installation of detectors may involve working at height or on elevated platforms. Ensure a risk assessment has been carried out and all reasonable safety precautions are in place before commencing work.

Call points must be securely fixed, with the antenna upright, to a robust vertical surface such as a wall or trolley. Where the existing surface is unsuitable for direct fixing, the Call Point can be mounted to backing board or pattressing such as plywood or similar sheet material.

Each unit should be securely mounted using its two integrated mounting points with M4 x 50mm pan head screws and wall plugs or other fixings selected for the particular wall or ceiling type. Ensure that all fixing points are secure and that the back tamper is fully depressed.

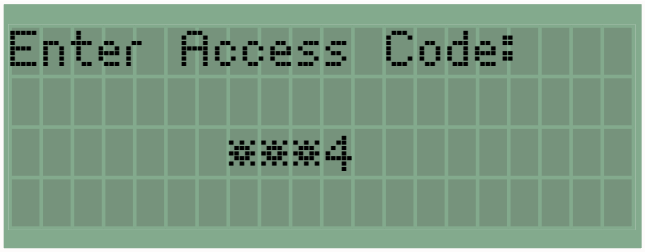
Test the system

After installation of the units, it is essential to perform a system alarm test to confirm proper operation of the system. It is also best practice to conduct a full system test on a weekly basis. This test should also be performed following any significant change to the site environment (new structure, wall or construction equipment installed) that may affect the network signal.

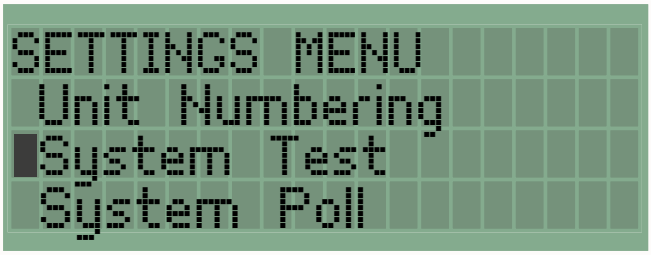
The System Test is started from the Base Station Settings Menu:

The access code is required to access the Settings Menu.

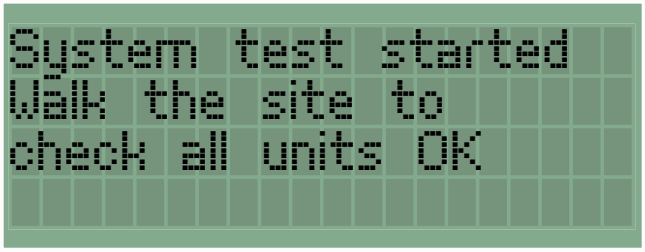
The default PIN number is 1234.



From the Settings Menu, select System Test to start test mode::



The Base Station will display a confirmation message that the test has started. Walk the site to check all units in the network.



During System Test mode, the WES3 network isolates all devices in the network, allowing full physical test of each unit, without activating the site-wide alarm. Call Points can be triggered manually, and Detectors can be triggered using standard test equipment such as smoke spray or heat probe.

Once the System Test is complete, return to the Base Station and press the ↵ button to complete the test and exit System Test mode.

It is important to be aware that, whilst in System Test mode, the WES3 network is inactive and a site-wide alarm cannot be triggered from any unit. System Test mode must be exited from the Base Station in order to reactivate the network.

For further information, see 'System Tests' section later in this chapter.

Note: Following initial installation, wait for a minimum of 60 minutes before starting the first system test. During this time, the WES3 units will self-calibrate to adjust for background radio noise which may

System Operation

Raising the Alarm

Manual activation
To raise the alarm, press any call point in the system. The call point will latch into the pressed position and a mechanical yellow and black striped flag will be displayed in the call point window as below.

Automatic activation
Smoke detection units will automatically raise the alarm if sufficient smoke is detected. Heat detection units will automatically raise the alarm if the temperature rises above the threshold. The red 'Alarm' LED will only flash on the unit(s) which raised the alarm.

Silencing the Alarm

Note: it is vital to confirm that there is no fire hazard before silencing the alarm.

Do not attempt to open the unit or deactivate by removing the battery. The alarm must be silenced either by using the reset key or at the Base Station.

The emergency evacuation alarm will automatically silence 30 minutes after activation.

The emergency evacuation alarm can be manually cancelled from a call point that has been pressed using the reset key provided. If necessary, a call point on a nearer call point can be pressed and then reset to cancel the alarm. Please wait for 5 seconds between pressing and resetting a call point.

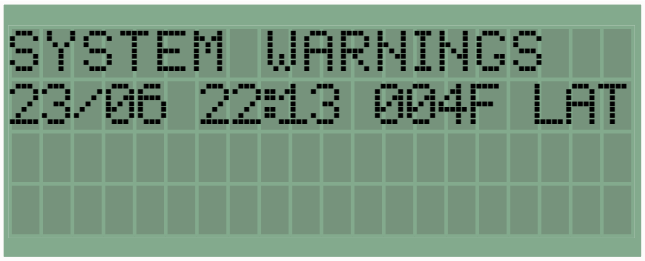
After the alarm has cleared the system has a short (2 minute) re-arm period during which the sirens will sound intermittently, and the amber warning LEDs flash in groups of 5, following which the system is re-armed and ready for use.

During the re-arm period, the alarm cannot be reactivated. It is therefore vital to confirm that there is no fire hazard before silencing the alarm.

Resetting a Call Point

Any call point units with activated call points will periodically beep after the re-arm period has ended as a reminder that the call points need to be mechanically reset using the key before they can be used to raise a fire alarm.

The Latched call point alert displayed on the Base Station will show which individual call point (or call points) need to be reset:



1) Insert reset key with tab to the right as shown below.

2) Push key in as far as possible (take care not to use excessive force as this could damage the unit)

3) Turn key anti-clockwise until a loud mechanical click is heard.

4) Remove the key

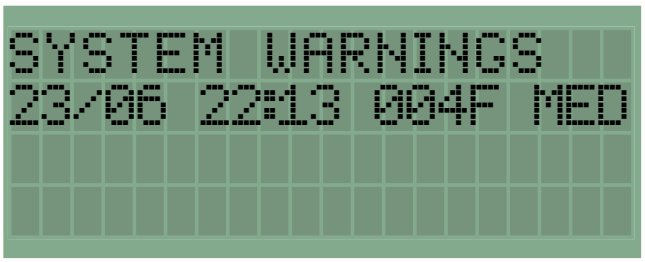
Ensure the call point is fully reset before removing the key. Partially resetting a latched call point after the fire alarm has been cancelled can retrigger the fire alarm.

System Operation

Raising a Medical Alert

The medical alert can be raised from any call point by pressing and holding the B button for 2 seconds, until the alternating amber-green LEDs flash repeatedly.

Raising a medical alert sends a message to the Base Station. It does not trigger any alert on other units.

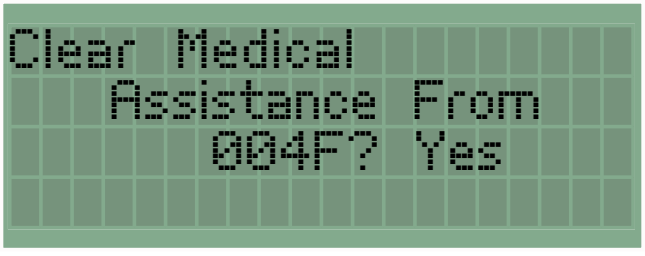


Cancelling a Medical Alert

The medical alert can be cancelled either from the call point used to create it, or from the Base Station.

To cancel from the call point, press and hold the B button for 5 seconds, until the alternating LEDs turn off.

To cancel from the Base Station, scroll to the alert on the Base Station Screen and press enter, scroll to Yes, then press enter to confirm. The access code is required to cancel a medical alert. The default PIN number is 1234.



WES3 can receive and display multiple Medical Alerts on the Base Station, and these can be managed and cancelled individually. Multiple medical alerts are displayed in chronological order, and prioritised over other system messages except fire alarm.

In the event of a Fire Alarm being raised while a Medical Alert is active, the system will give priority to the Fire Alarm. Any Medical Alert that was active prior to the Fire alarm, will remain in the WES3 system and be displayed once the Fire alarm has been resolved.

Unit Alive Indication

Active units with no faults will flash their green LED once every 4 seconds to indicate that the unit is operational.

Amber LED Indication

Each WES3 unit monitors itself for a number of faults. These are indicated via the amber LED, which will flash in grouped patterns with longer than usual gaps in between them.

Units displaying one of these patterns require further investigation and should not be relied upon as part of the fire alarm and detection system until the fault has been corrected. Use the chart below to determine the nature of the issue:

Group Flash 1 - Low Battery	☀	☀
Group Flash 2 - Low signal	☀ ☀	☀ ☀
Group Flash 3 - Unpaired	☀ ☀ ☀	☀ ☀ ☀
Group Flash 4 - Tamper	☀ ☀ ☀ ☀	☀ ☀ ☀ ☀
Group Flash 5 - Re-arm or Unit latched (potentially input latched on Interface unit only)	☀ ☀ ☀ ☀ ☀	☀ ☀ ☀ ☀ ☀

Red LED Indication

If a detector has raised the alarm, its red LED indicator will flash during a fire alarm.

It is recommended that the fire system is tested weekly or whenever a significant change has been made to the installation or the building under construction. WES3 is equipped with a system test function that allows you to test the radio link between units without activating an audible fire alarm. You can therefore ensure each unit in the system has a robust radio link with sufficient capacity to allow for environmental fluctuations without disturbing the site.

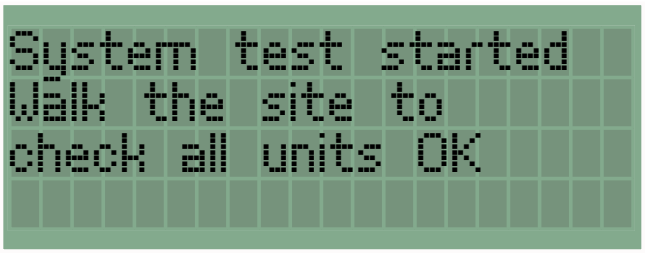
System Tests

Initiating a System Test

The System Test is started from the Base Station Settings Menu:

The access code is required to access the Settings Menu. The default PIN number is 1234. From the Settings Menu, select System Test to start test mode.

The Base Station will display a confirmation message that the test has started. Walk the site to check all units in the network.



During System Test mode, the WES3 network isolates all devices in the network, allowing full physical testing of each unit, without activating the site-wide alarm. Call points can be triggered manually, and Detectors can be tested using standard test equipment such as smoke spray or a heat probe.

Cancelling a System Test

Once the System Test is complete, return to the Base Station and press the ↵ button to complete the test. It is important to be aware that, whilst in System Test mode, the WES3 network is inactive and a site wide alarm cannot be triggered from any unit. The test must be exited from the Base Station in order to reactivate the network.

Note : Following initial installation, wait for a minimum of 60 minutes before starting the first system test. During this time, the WES3 units will self-calibrate to adjust for background radio noise which may impact the accuracy of the system test.

The test result is indicated as follows:

Pass	Green LED solid illumination
Radio OK, other fault detected	Red LED flashes followed by Amber LED group flashes to indicate fault (see 'Amber LED Indication').
No Radio Signal	Amber LED group flashes to indicate fault (see 'Amber LED indication').

System Integrity Test (Polling)

PLEASE REFER TO MODIFED SECTION INCLUDED IN APENDIX 1 AT THE END OF THIS DOCUMENT FOR THE UPDATED SYSTEM INTEGRITY TEST (POLLING) PROCEDURE

Moving a Unit on Site

After moving a unit, we recommend that you conduct a system test to check that the movement has not adversely affected radio communication. Ensure any site fire plans are updated with any revisions to WES3 unit numbering and location.

Removing a Unit from Site

Before shipping a unit or moving it to another site it must first be deactivated, in order to:

- Prevent accidental triggering
- Preserve battery unit life
- Clear site information which would prevent it forming or joining another site

First, remove the unit to be deactivated from the wall/ ceiling and ensure the back tamper button is not pressed in.

Hold down 'A' and then press 'B' three times in quick succession. All three LEDs will briefly illuminate and then switch off.

Note: units cannot be deactivated while a fire alarm is active.

Base Station Operation

One or more Emergency Control Units can be added to a basic system to provide additional system monitoring information. Emergency Control Units can display details about which units have raised emergency evacuation alarms, any units with current fault warnings, and historical event logs. The Emergency Control Unit also allows an authorised user to cancel active medical alerts, and silence a emergency evacuation alarm using the access code.

To conserve battery power, the LCD display and back light turn off after a short period of inactivity. Pressing any of the navigation buttons will activate the display. If there are no current warnings or emergency evacuation alarms across the system, the Emergency Control Unit will display the home screen which shows the site name and the date and time.

Pressing enter (↵) goes to the main menu to allow settings to be changed or logs to be viewed.

Main Menu

System Logs
Settings

System Log Menu

Alarms
Cancelled in Delay
System Tests
Medical Assist
External Tampers
Internal Tampers
DT Head Tampers
Low Signals
Low Batteries
Flat Batteries
Latched Units
Unit Removed
Unit Missing
Unexpected Unit
Clear All Logs*

Settings Menu*

Unit Numbering
System Test
System Poll
Date and Time
Change Access Code
Back light
Mobile Base
Change Language

Change Language

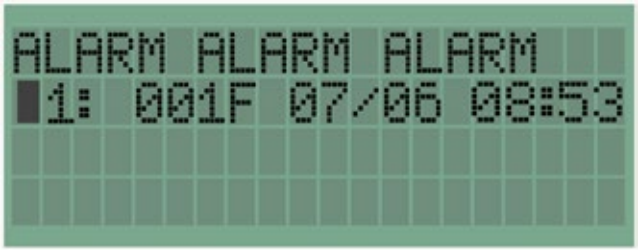
English
Deutsche
Français
Español
Italiano
Svenska

* Access Code Required

Base Station Operation

Alarm

When an alarm has been raised by a Call point or Sensor, the Base Station will flash the LCD display, beep and display "ALARM ALARM ALARM" together with which units raised the alarm. The newest event will be at the top of the list.



Units are identified by unit number and unit type. F indicates a Call Point, I an Interface and D a Sensor. For example, the above shows that a Call Point with the number 001 was activated at 08:53 on the 7th June.

An alarm can be silenced in three ways:

i) Resetting a Call Point

ii) Waiting 30 minutes after the last activation

iii) Using your access code to silence the alarm from the base station

To silence the alarm from the base station, press enter during the emergency evacuation alarm. This will take you to the Silence Alarm screen.

Select 'Yes', and enter your access code when requested. During the re-arming period the following message will be displayed for two minutes.

At the end of the re-arming period the base station will return to the home screen unless any system warnings have been received during the fire alarm or re-arm period.

System Warnings

The base station will indicate warnings from itself or any other system unit. When a warning is received the LCD will flash and the unit will beep periodically.

Warnings are displayed in the format: date, time, unit number and type, warning type. Some warnings, for example EXT, will self-clear if the fault is resolved.

Unconfirmed Alarms

In instances where an alarm is activated and subsequently left unattended for 30 minutes, the Base Station will display "UNCONFIRMED ALARMS" once the alarm times out.

Base Station Operation

WES Warning Code Guide

Warning Code	Warning	Description	Self-Clearing	SMS Setting
'MED' or 'MD'	Medical Assist	Medical assistance required at Unit NNN	No	8
'BAT' or 'BT'	Low Battery	Unit NNN has a low battery	No	5
'DET' or 'DT'	Detector Tamper	Unit NNN has had detector head removed	Yes	3
'EXT' or 'EX'	External Tamper	Unit NNN has been removed from wall/ceiling	Yes	4
'FLT' or 'BF'	Flat Battery	Unit NNN has turned off, its battery is flat	No	5
'INT' or 'IN'	Internal Tamper	Unit NNN has been opened	No	2
'LAT' or 'LT'	Latched	Call point button on unit NNN is still depressed	Yes	10
'REM' or 'RM'	Removed	Unit NNN has been deactivated and removed	No	9
'SIG' or 'SG'	Low Signal	Unit NNN has a low radio signal	Yes	6
'TST' or 'ST'	System test	Unit NNN initiated a System test	Yes	7
'NEW' or 'NW'	Unexpected unit	Unit NNN added since last system poll	No	
'GON' or 'GN'	Unit missing	Unit NNN removed since last system poll	No	

Note: Alerts will appear as either a 2-character or 3-character code, depending on firmware version.

It is not possible to exit the warning screen until all warnings have either been resolved or acknowledged by an authorised user.

To acknowledge a warning, select it with the navigation pad and press enter. You will need to enter your access code for the first warning you acknowledge.

Base Station Controls

The navigation pad, shown below, is used to move between menus, change characters and select entries.

Menu items can be selected using the up and down arrows and then pressing enter (middle arrow button).

Change characters using the up and down arrows while the character is highlighted.

Scroll through characters by holding down the up or down arrows.

Move to the next character or field using the right arrow.

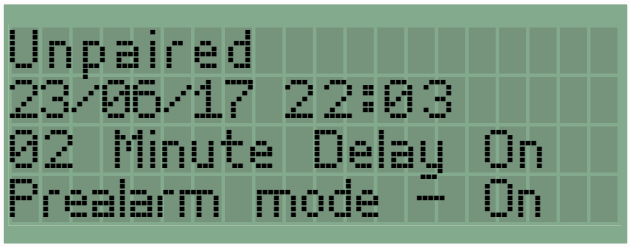
Use the left arrow button to move to a previous character.

To exit a menu, move to the left-most character and press the left arrow key again.

Home Screen

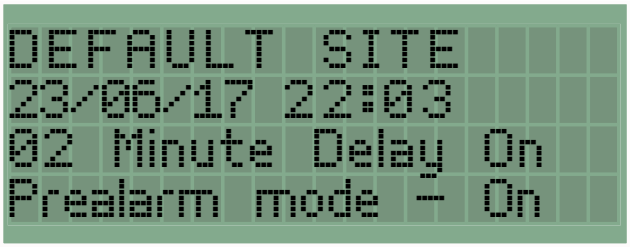
Pressing enter on the home screen opens the main menu, giving access to the System Log Menu and the Settings Menu. The settings are only available to authorised users with an access code.

If the Base Station has not yet been paired, it will display 'Unpaired' instead of the site name.



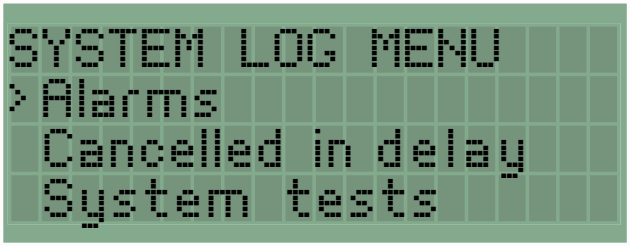
Base Station Operation

Once a unit has been added to a site group, the site name will be displayed. Note: by default, this is 'DEFAULT SITE'. Please ensure you change it to reflect the location of your site, as this will be used in text message alerts to identify the site where an alarm has been activated.



System Logs

The following logs are accessible from the System Log menu:



- Emergency Evacuation Alarms
- Cancelled in delay
- System tests
- Medical Assist
- External Tampers
- Internal Tampers
- DT Head Tampers
- Low Signals
- Low Batteries
- Flat Batteries
- Latched Units
- Unit Removed
- Unit Missing
- Unexpected Unit

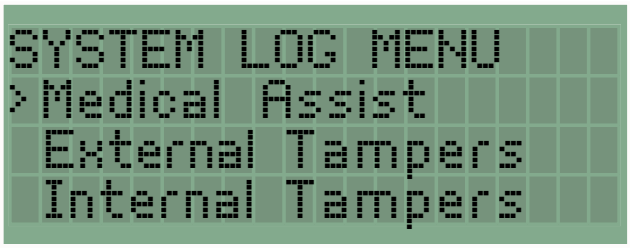
All logs are in the same format and are listed in chronological order with the newest at the top of the list.

Each log entry starts with the date and time the event was logged, followed by the unit number and type and then a + or – symbol to indicate the raising (+) or clearing (-) of an event. If there is a down arrow in the bottom right corner, there are further log entries which can be displayed by pressing the down arrow on the navigation pad.

The example below shows the External Tamper Log where unit BASE had an External Tamper raised at 11:20 on 7th June.

Exit the log display using the left arrow key on the navigation pad.

Logs can be cleared using the Clear All Logs option at the end of the System Log Menu. This can only be performed by an authorised user as it requires the access code.



Settings

The Settings menu can be accessed from the Main Menu by selecting Settings with the directional pad then pressing Enter.

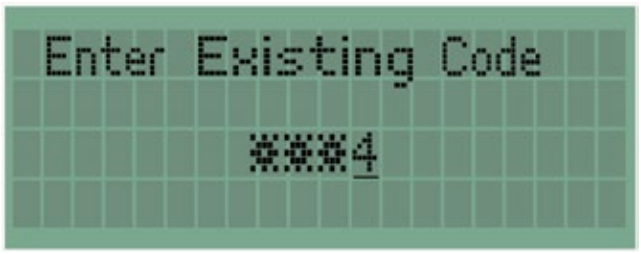
All settings are protected from unauthorised change by an access code. By default, this is set to 1234.

Change Access Code

We recommend that you change the default 1234 access code to a secure code specific to site.

To change the access code, navigate down the Settings Menu until the Change Access Code option is highlighted as shown. Press Enter to select.

The existing Access Code will then be requested, as shown below.



The new Access Code then needs to be entered twice.

Confirmation of the Access Code change will be displayed.

Unit Numbering

Every WES3 unit needs to be numbered when first paired to the WES network. This unit number can be changed using the Unit Numbering feature, and any number between 001 and 999 may be used - avoid duplicating numbers.

Units must be either freshly activated or already paired to a unit on the same site as the Base Station before renumbering.

To number a unit from a different site network, you will first need to turn it off and back on to remove the information specific to the original site.

Select the number you wish to assign to a particular WES3 unit using the navigation pad. Once the correct number is displayed, press and hold the A buttons on both the base station and the unit you are numbering. The amber LEDs on both units will illuminate and then the green LEDs will flash to confirm successful renumbering.

To exit the Unit Numbering screen, press the left arrow when at the left most digit of the unit number.

Settings

Unit Numbering LED indications

When the A button is held down on two units, both will begin by illuminating the amber LED followed by a confirmation LED pattern. The following table indicates the meaning of the various LED patterns. One of the units needs to be the Base Station

LED pattern	Description
○ Red ● Amber ○ Green	Pairing started
○ Red ○ Amber ● Green	Pairing success. The two units are on the same site and have the same unit number. Both units must display a green LED.
● Red ○ Amber ○ Green	Pairing failed. The units are already part of two different existing sites. The units need to be deactivated and reactivated to allow pairing to succeed.
○ Red ○ Amber ● Green	Unit numbering success. The unit has successfully joined the same site as the base station and has the unit number selected in the Unit Numbering Screen.

A unit whose amber LED fails to illuminate will not pair. This may be due to an internal tamper.

Date and Time

The date and time can be updated in the Date and Time screen using the navigation pad and pressing enter to save. The date and time must be set manually and will not automatically adjust for international time zones, British Summer Time etc. The format is DD/MM/YYYY and HH:MM. Time is displayed as a 24hr clock.

Back Light

The LCD backlight can be disabled by pressing enter when the Backlight option is highlighted. A tick indicates that the backlight is enabled and a cross indicates it is disabled. By default the backlight is enabled.

Mobile Base

It may be desirable for the Base Station to be used without being fixed to a wall, for example, if you need to keep it in the site office during the day but move it to a security hut at night.

This feature deactivates the rear tamper so the unit is Mobile.

The Base Station unit can be made mobile by pressing enter on the Mobile base option. A tick indicates that the Mobile Base option has been enabled.

Call Point Technical Data

Model Numbers: W3-ECP-CSS-N-9X

Device Parameters

Dimensions (mm) HxWxD:	235 x 161 x 128 (excl. Antenna 81mm)
Weight:	1.7kg
Operating temperature:	-25°C to +70°C
Humidity:	Relative humidity >95% non-condensing (25°C to 55°C)
IP Code:	IP55C
Main sound frequencies & patterns:	800Hz to 970Hz swept at 1Hz – UK

Minimum A-weighted sound at 1 metre

Position	Horizontal Plane dB(A)	Vertical Plane dB(A)
15	83.7	85.3
45	89.4	91.6
75	96.5	94.8
105	96.5	97.6
135	90.4	91.3
165	85.0	83.9

Supply Parameters

Operating voltage range:	4.4-6.4V from internal battery
Power:	620µW average
Current consumption:	120µA average
Battery type:	Alkaline primary cells, 23Ah

RF Parameters

Operating frequency:	916.5MHz
Transmit power:	25mW max
Duty cycle:	<1%
Compatible with:	Other WES3 units
Protocol:	Proprietary

Model Numbers: W3-ECP-CSS-R-9X

Device Parameters

Dimensions (mm) HxWxD:	235 x 161 x 128 (excl. Antenna 81mm)
Weight:	1.1kg
Operating temperature:	-25°C to +70°C
Humidity:	Relative humidity >95% non-condensing (25°C to 55°C)
IP Code:	IP55C
Main sound frequencies & patterns:	800Hz to 970Hz swept at 1Hz – UK

Minimum A-weighted sound at 1 metre

Position	Horizontal Plane dB(A)	Vertical Plane dB(A)
15	83.7	85.3
45	89.4	91.6
75	96.5	94.8
105	96.5	97.6
135	90.4	91.3
165	85	83.9

Supply Parameters

Operating voltage range:	4.4-6.4V from internal battery
Power:	620µW average
Current consumption:	120µA average
Battery type:	Alkaline primary cells, 7.6Ah

RF Parameters

Operating frequency:	916.5MHz
Transmit power:	25mW max
Duty cycle:	<1%
Compatible with:	Other WES3 units
Protocol:	Proprietary

Connect Control Unit Technical Data

Model Numbers: W3-CON-U-9X

Device Parameters

Dimensions (mm) HxWxD:	235 x 161 x 128 (excl. antenna 81mm and USB 15mm)
Weight:	1.5kg
Operating temperature:	-25°C to +70°C
Humidity:	Relative humidity >95% non-condensing (25°C to 55°C)

Supply Parameters

Operating voltage range:	4.4-6.4V from internal battery
Power:	620µW average
Current consumption:	120µA average
Battery type:	Alkaline primary cells, 15.2Ah

RF Parameters

Operating frequency:	916.5MHz
Transmit power:	25mW max
Duty cycle:	<1%
Compatible with:	Other WES3 units
Protocol:	Proprietary

The Radio Frequency (RF) range complies with the LTE Cat 1 (10 Mb/s DL, 5 Mb/s UL) 3GPP Release 9 FDD bands: 2,4,5,12 and the UMTS HSDPA category 8, HSUPA category 6 Bands: 2, 5. The frequency range for the transmit band and the receive band are listed in the table below:

	Transmit Band (Tx)	Receive Band	Power
LTE FDD Band 2	1850 to 1910 MHz	1930 to 1990 MHz	Power Class 3 (23 dBm)
LTE FDD Band 4	1710 to 1755 MHz	2110 to 2155 MHz	Power Class 3 (23 dBm)
LTE FDD Band 5	824 to 849 MHz	869 to 894 MHz	Power Class 3 (23 dBm)
LTE FDD Band 12	699 to 716 MHz	729 to 746 MHz	Power Class 3 (23 dBm)
UMTS FDD Band 2	1850 to 1910 MHz	1930 to 1990 MHz	Power Class 3 (24 dBm)
UMTS FDD Band 5	824 to 849 MHz	869 to 894 MHz	Power Class 3 (24 dBm)

Base Station Technical Data

Model Numbers: W3-SCU-STD-U-9X

Device Parameters

Dimensions (mm) HxWxD:	235 x 161 x 128 (excl. Antenna 81mm and USB 15mm)
Weight:	1.5kg
Operating temperature:	-25°C to +70°C
Humidity:	Relative humidity >95% non-condensing (25°C to 55°C)

Supply Parameters

Operating voltage range:	4.4-6.4V from internal battery
Power:	620µW average
Current consumption:	120µA average
Battery type:	Alkaline primary cells, 23Ah

RF Parameters

Operating frequency:	916.5MHz
Transmit power:	25mW max
Duty cycle:	<1%
Encryption:	None
Channel spacing:	Single channel
Compatible with:	Other WES3 units
Protocol:	Proprietary

Heat Sensor Technical Data

Model Numbers: W3-SEN-HTD-N-9X

Device Parameters

Dimensions (mm) HxWxD:	235 x 161 x 118 (excl. Antenna 81mm)
Weight:	1.6kg
Operating temperature:	-25°C to +70°C
Humidity:	Relative humidity >95% non-condensing (25°C to 55°C)
Heat Sensor class:	A2

Supply Parameters

Operating voltage range:	4.4-6.4V from internal battery
Power:	620µW average
Current consumption:	120µA average
Battery type:	Alkaline primary cells, 23Ah

RF Parameters

Operating frequency:	916.5MHz
Transmit power:	25mW max
Duty cycle:	<1%
Compatible with:	Other WES3 units
Protocol:	Proprietary

Model Numbers: W3-SEN-HTD-R-9X

Device Parameters

Dimensions (mm) HxWxD:	235 x 161 x 118 (excl. Antenna 81mm)
Weight:	1.3kg
Operating temperature:	-25°C to +70°C
Humidity:	Relative humidity >95% non-condensing (25°C to 55°C)
Heat Sensor class:	A2

Supply Parameters

Operating voltage range:	4.4-6.4V from internal battery
Power:	1.3mW average
Current consumption:	240 µA average
Battery type:	Alkaline primary cells,15.2Ah

RF Parameters

Operating frequency:	916.5MHz
Transmit power:	25mW max
Duty cycle:	<1%
Compatible with:	Other WES3 units
Protocol:	Proprietary

Smoke Sensor Technical Data

Model Numbers: W3-SEN-SMP-N-9X

Device Parameters

Dimensions (mm) HxWxD:	235 x 161 x 108 (excl. Antenna 81mm)
Weight:	1.6kg
Operating temperature:	-25°C to +70°C
Humidity:	Relative humidity >95% non-condensing (25°C to 55°C)

Supply Parameters

Operating voltage range:	4.4-6.4V from internal battery
Power:	2.7mW average
Current consumption:	520µA average
Battery type:	Alkaline primary cells, 23Ah

RF Parameters

Operating frequency:	916.5MHz
Transmit power:	25mW max
Duty cycle:	<1%
Compatible with:	Other WES3 units
Protocol:	Proprietary

Model Numbers: W3-SEN-SMP-R-9X

Device Parameters

Dimensions (mm) HxWxD:	235 x 161 x 118 (excl. antenna 81mm)
Weight:	1.3kg
Operating temperature:	-25°C to +70°C
Humidity:	Relative humidity >95% non-condensing (25°C to 55°C)

Supply Parameters

Operating voltage range:	4.4-6.4V from internal battery
Power:	1.3mW average
Current consumption:	240 µA average
Battery type:	Alkaline primary cells,15.2Ah

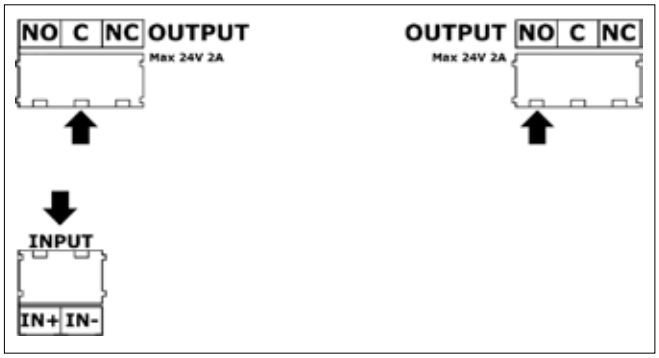
RF Parameters

Operating frequency:	916.5MHz
Transmit power:	25mW max
Duty cycle:	<1%
Compatible with:	Other WES3 units
Protocol:	Proprietary

Interface

The Interface has two auxiliary relay outputs and one auxiliary input. These allow the WES3 system to be expanded to interact with external devices.

Connections to third-party devices (both inbound and outbound) are unmonitored. Where remote monitoring is required, such as the connection of automatic or manual fire detection devices and active fire protection systems such as sprinklers, gas suppression systems etc. additional measures may be required.



Cable disconnection or damage could result in the alarm not activating when required without any fault or warning indication. The cable length of connected devices must be no more than 50m length.

Output

The outputs are rated for 24V at up to 2A maximum.

When NOT in Alarm

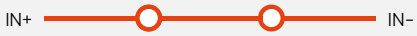
When in Alarm

Input

The input requires a "volt free" contact from a relay and should not be connected to power.

Alarm NOT Triggered

Alarm Triggered



Model Numbers: W3-INF-I2O-N-9X

Device Parameters

Operating temperature:	-10°C to +55°C
Humidity:	Relative Humidity >95% non-condensing (25°C to 55°C)

Supply Parameters

Operating voltage range:	4.4-6.4V from internal battery
Power:	770µW average
Current consumption:	150µW average
Battery type:	Alkaline primary cells, 23Ah

RF Parameters

Operating frequency:	916.5MHz
Transmit power:	25mW max
Duty cycle:	<1%
Compatible with:	Other WES3 units
Protocol:	Proprietary

Interface Installation (Best Practice)

1. Install Interface in the desired location.
2. Make the connections inside the interface with the Interface turned off.
3. Tun on the interface (A+B+B) and pair the unit to the base station.
4. Test the Interface is paired into the network by performing a 'System test' from the base station and by triggering the interface external tamper.
5. Test any input or output connected devices to ensure correct operation.

Note: For an in-depth installation guide for your **WES3 Interface** which includes the **Standard, Water, Maintenance and Medical** variants please refer to the **'WES3 Interface Manual'**.

The WES3 Interface Manual and Installation Guide can be found here: **www.ramtechglobal.com/wessupport/qsg/** or alternatively **scan the QR code below.**

Link Technical Data

Model Numbers: W3-LNK-NNN-R-9X

Device Parameters

Dimensions (mm) HxWxD:	235 x 161 x 58 (excl. Antenna 81mm)
Weight:	800g
Operating temperature:	-25°C to +70°C
Humidity:	Relative humidity >95% non-condensing (25°C to 55°C)

Supply Parameters

Operating voltage range:	4.4-6.4V from internal battery
Power:	600µW average
Current consumption:	110µW average
Battery type:	Alkaline primary cells, 7.6Ah

RF Parameters

Operating frequency:	916.5MHz
Transmit power:	25mW max
Duty cycle:	<1%
Compatible with:	Other WES3 units
Protocol:	Proprietary

Maintenance

Heat Sensor Maintenance

The maintenance procedures described below should be conducted with the following frequency:

One month after installation: Routine inspection

Inspection every 3 months thereafter

Every 6 months: Operational Test
Every 12 months: Cleaning

All above frequencies of maintenance are dependent upon ambient conditions. Best judgment should be used to ensure proper maintenance.

Routine Inspection

i) Ensure the detector head is secure and undamaged.

ii) Check the heat entry apertures are in no way obstructed.

iii) Ensure the surface of the detector's outer cover is clean. If there are deposits due to the presence of oil vapour, dust etc, the detector should be cleaned in accordance with the cleaning instructions detailed later. It may be advisable that such cleaning is conducted regularly in the future.

iv) Ensure no equipment which may generate excessive heat has been installed in the vicinity of the detector since the last routine inspection. If such equipment has been installed, you should notify the Safety Officer or other competent authority that its presence may cause false alarms.

Operational Test

The purpose of the Operational Test is to confirm the detector's correct operation in response to a heat condition.

i) Testing the detectors will trigger the site wide alarm. To avoid unnecessary evacuation site personnel should be informed when testing starts and when testing is complete.

ii) Test the detector with heat from a warm air gun designed for Heat Sensor testing (e.g. 'No Climb - Solo' heat sensor tester). Check that the detector gives an alarm condition within 10-20 seconds depending upon the detector grade and the applied air temperature.
Note: Hot air blowers sold for paint stripping, soldering pipes etc, generate sufficient heat to damage the detector and should not be used for testing Heat Sensors.

iii) After the detector has given the alarm condition, silence the system from a call point or base station. It may be necessary to allow a short time to elapse before resetting the detector, to allow any residual heat from the test to disperse.

iv) Before proceeding to the next detector, ensure that the detector just tested does not re-operate due to the presence of residual heat.

Functional Test

The Functional Test checks the detector's operation. These detectors may be returned to WES Customer Support for Functional Testing.

Cleaning

Note: The detector head should NOT be disassembled.

i) Carefully remove the detector head from its base.

ii) Use a soft, lint-free cloth, moistened with alcohol for sticky deposits, to clean the plastic casing.

iii) Using a soft bristle brush (e.g. an artist's paint-brush) carefully brush between the vanes and thermistor in a linear motion away from the apertures on the plastic case.

iv) Ensure that no debris is left on or around the thermistor once cleaning is complete.

v) If the unit needs further cleaning, or is damaged or corroded, please return the complete detector to WES Customer Support for service.

Smoke Sensor Maintenance

The maintenance procedures described below should be conducted with the following frequency:

One month after: Routine inspection

Installation and every 3 months thereafter

Every 6 months: Operational Test
Every 12 months: Cleaning

All above frequencies of maintenance are dependent upon ambient conditions.

Routine Inspection

i) Ensure the detector head is secure and undamaged.

ii) Check the smoke entry apertures are in no way obstructed.

iii) Ensure the surface of the detector's outer cover is clean. If there are deposits due to the presence of oil vapour, dust etc, then the detector should be cleaned in accordance with the cleaning instructions detailed later in this manual. It may be advisable that such cleaning is conducted regularly in the future.

iv) Ensure no equipment which may generate combustion products or fine airborne particles, has been installed in the vicinity of the detector since the last routine inspection. If such equipment has been installed, then you should notify the Fire Safety Officer or other competent authority that its presence may cause false alarms.

Operational Test

The purpose of the Operational Test is to confirm the detector's correct operation in response to a heat condition.

i) Testing the detectors will trigger the site wide alarm. To avoid unnecessary evacuation site personnel should be informed when testing starts and when testing is complete.

ii) Introduce a discreet amount of smoke into the detector head, e.g. using a 'No Climb -Solo' smoke test head. Check that the detector gives an alarm condition within 15 seconds. Check the LED indicator on the Detector illuminates and any remote indicator LED fitted also illuminates.

iii) Before proceeding to the next detector, ensure that the detector just tested does not re-operate due to the presence of residual smoke.

Functional Test

The Functional Test checks the detector's operation. These detectors may be returned to WES Customer Support for Functional Testing.

Cleaning

Note : The detector head should NOT be disassembled.

i) Carefully remove the detector head from its base.

ii) Use a soft, lint-free cloth, moistened with alcohol for sticky deposits, to clean the plastic casing.

iii) Using a soft bristle brush (e.g. an artist's paint-brush) care fully brush between the vanes in a linear motion away from the smoke entry apertures.

iv) It is permissible to blow dust from the chamber, without removing the cover, using a clean air line.

v) If the unit needs further cleaning, or is damaged or corroded, please return the complete detector to Ramtech Electronics for service.

The WES range of products is manufactured by: Ramtech Electronics Limited, Ramtech House, Nottingham, NG7 1TN, UK

Simplified UK & EU Declaration of Conformity for the WES range of products:

Hereby, Ramtech Electronics Limited declares that the radio equipment type WES, are in compliance with the UK Radio Equipment Regulations 2017 and Directive 2014/53/EU

Full text of the UK & EU Declaration of Conformity is available by contacting us at the following internet address: www.ramtechalobal.com

WES units may be operated in these countries:

AUT	BEL	BGR	HRV	CYP	CHE	CZE
DEU	DNK	ESP	EST	FIN	FRA	GBR
GRC	HUN	IRL	ISL	ITA	LIE	LTU
LUX	LVA	MLT	NLD	NOR	POL	PRT
ROU	SVK	SVN	SWE	TUR		

Radio Equipment Statement

WES3 products contain the following FCC radio modules:

Model Name	Model Number	FCC ID of radio module	Radio module
Emergency Control Unit	**W3-SCU-STD-U-9X**	2AHNO2-RD0-9X	Ramtech radio module
Interface	**W3-INF-I2O-N-9X**	2AHNO2-RD0-9X	Ramtech radio module
CONNECT	**W3-CON-U-9X**	2AHNOW2CTRLMK2	Ramtech MK2 radio module
		XPY1EIQ24NN	UBLOX LARA R202-02B-##
All other WES³ models contain:		2AHNOW2CTRLMK2	Ramtech MK2 radio module

The following should be present on all products that are subject to radio approval under Part 15 of the FCC Rules. FCC warning statement:

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.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.
End users must follow the specific operating instructions for satisfying RF exposure compliance.
Changes or modifications not expressly approved by the party responsible for compliance could void the use's authority to operate the equipment.

WES3 products contain the following ISED radio modules:

Model Name	Model Number	IC ID of radio module	Radio module
Emergency Control Unit	**W3-SCU-STD-U-9X**	21246-W2RDO9X	Ramtech radio module
Interface	**W3-INF-I2O-N-9X**	21246-W2RDO9X	Ramtech radio module
CONNECT	**W3-CON-U-9X**	21246-W2CTRLMK2	Ramtech MK2 radio module
		8595A-1EIQ24NN	UBLOX LARA R202-02B-##
All other WES³ models contain:		21246-W2CTRLMK2	Ramtech MK2 radio module

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

This device complies with Industry Canada licence-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.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada.

Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

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.

Contact Us

Ramtech Customer Support

Technical advice is available over the phone by contacting Ramtech Customer Support and site visits can be arranged if required, subject to availability.

Telephone: +44 (0)115 822 3424
Email: wes@ramtechglobal.com

Or you can contact us by post:

Ramtech Electronics Ltd
Ramtech House
6 Castlebridge Office Village
Castle Marina Road
Nottingham, NG7 1TN
United Kingdom

APPENDIX 1

System Integrity Test (Polling) - Optional Feature

WES3 includes a System Integrity Test that registers and reports any changes to the network configuration, such as when additional or unexpected units are detected on the network, or when units have been removed.

The System Integrity Test (polling) mode is an optional feature which can be enabled or disabled using the WES Android app. When enabled, the system will automatically conduct a self-test twice daily.

The System Integrity Test can also be activated manually on demand, directly from the menu of your WES Control Unit or WES Connect.

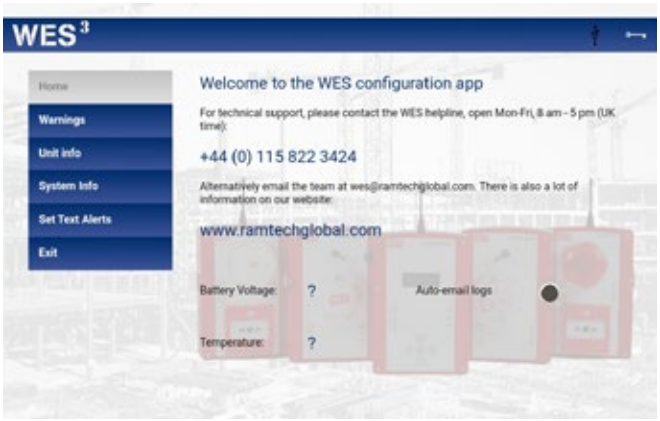
Enabling/disabling the System Integrity Test

The automatic System Integrity Test can be enabled or disabled using the WES App. Note: units operating firmware version 3.4.6 or earlier are supplied with the automatic System Integrity Test enabled by default. Units operating firmware version 3.4.7 or later are supplied with the automatic System Integrity Test disabled by default. Either setting can be easily changed using the WES app by following the following procedure:

1. Connect your WES Connect or WES3 Base Station to a compatible Android tablet with the WES app installed, using the OTG cable supplied with your WES Connect or WES3 control unit.

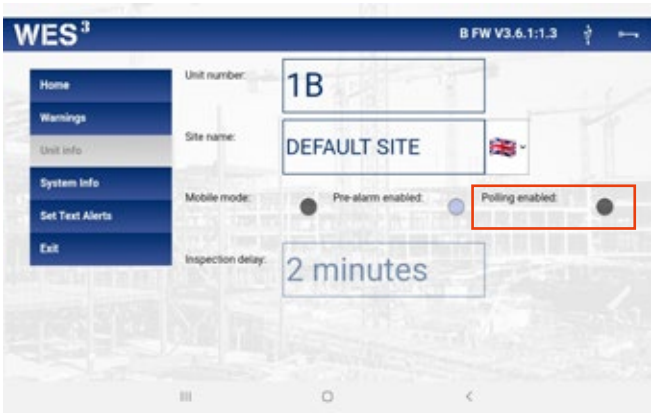
2. The WES app can be downloaded here or by visiting the Google Play store and searching for "Ramtech WES". First time users will need to register to use the full functionality of the app.

3. Connect your WES Control Unit or WES Connect to your Android device using the OTG cable supplied. The landing page within the app will be displayed as below:



4. To access the device settings menu, where Polling can be enabled/disabled, select "Unit info" from the left-hand menu. You will be asked to enter the security PIN for your Connected WES device:

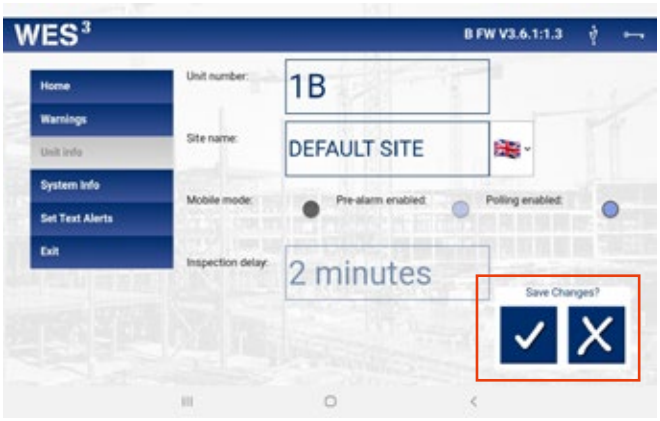
5. From the "Unit info" screen, you are able to view and amend basic device settings including Unit Number, Site Name, Language Settings and Mobile Mode. Pre-alarm mode and Inspection delay will also be displayed, but cannot be edited from the App. These settings must be set only at initial site setup.



6. The "Polling enabled" button indicates whether the Automatic System Integrity Test feature is enabled or not. A greyed out button shows the feature is disabled, a blue highlighted button shows the feature is enabled.

System Integrity Test (Polling) - Optional Feature (continues)

7. Use the button to either enable/disable the feature as required. You will then be asked to save the changes.



8. The "Polling enabled" button should now reflect you selected choice. A "Write Success" message will be displayed at the top of the screen. You can now Exit the WES app and disConnect the WES device.

Activating via the WES Connect / WES Base Station control units

To activate the System Integrity Test (Polling), go to the Test Menu and select System Poll to initiate the integrity test. While the Integrity Test is being performed, a "Listening to Network" message will be displayed on screen.

Any additional units that have been found on the network since the last system poll will be displayed as a 'NEW' or 'NW' notification. Any units that have been removed from the network since the last system poll will be displayed as a 'GON' or 'GN' notification.

In addition to the automatic system integrity test and the on-demand polling feature, WES3 provides immediate real-time notification when a unit is removed from the network, displayed as a 'REM' or "RM" notification.

Note that system polling is limited to the first 128 WES3 units (by unit number) added to the network. Unit numbers above 128 can be added (up to a maximum of 9999) but will be excluded from the Integrity Test.


WES
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