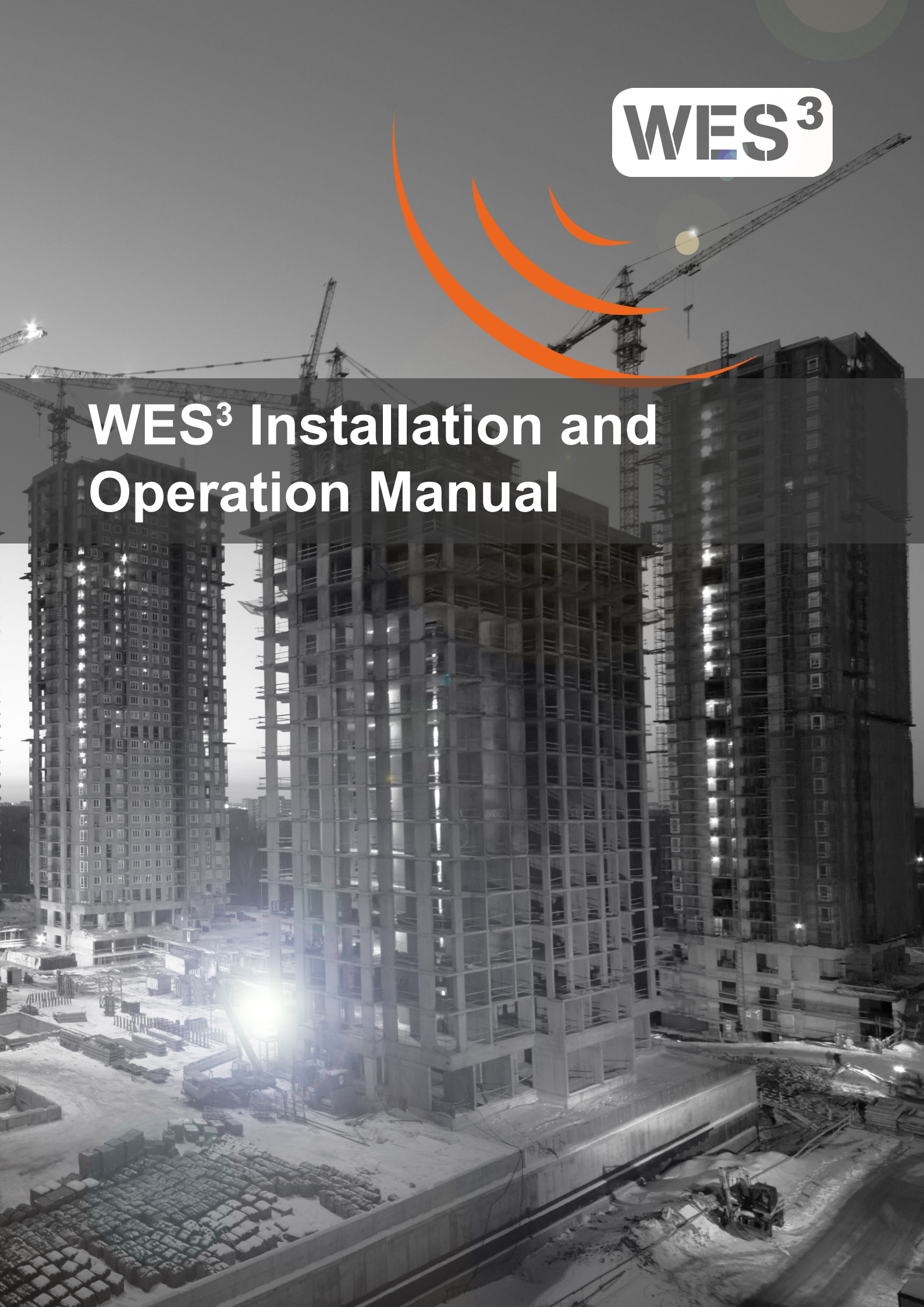
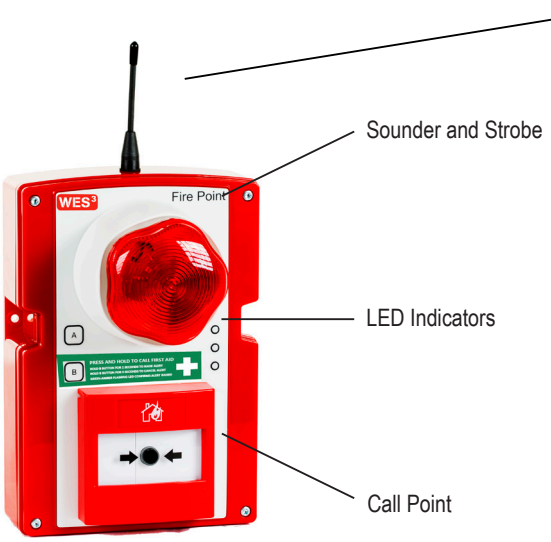


WES³ Installation and Operation Manual

Contents

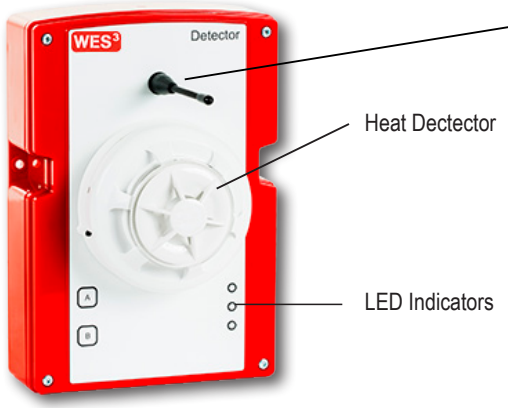
System Units

Unit Diagrams



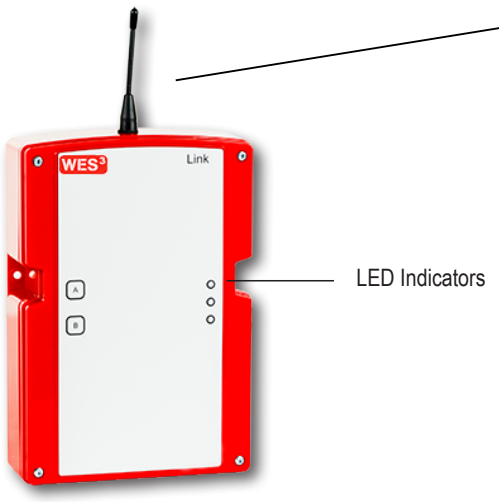
Emergency Call Point

Emergency Control Unit

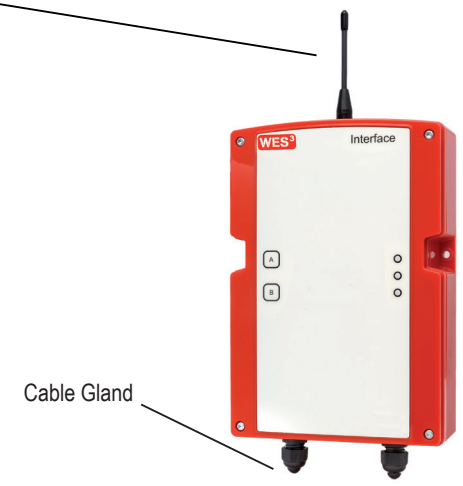


Sensor Units

Sensor Units



Link



Interface

System Units

WES^3 Units

All WES^3 units have three indicator LEDs, plus two push buttons, labelled A and B.

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 WES^3 units relay all WES^3 radio messages for the relevant site.

Emergency Call Point (ECP)

WES^3 Emergency Call Points (ECPs) include a manual call point used to raise the alarm when necessary, a first aid button to raise an alert for medical assistance, and a loud alarm sounder (with optional strobe).

Emergency Call Points should be securely mounted approximately 1.4 metres above the floor, or in accordance with specific client- or site-requirements.

Heat Sensor

WES^3 Heat Sensors automatically raise the alarm if the temperature rises above a safe level. Heat Sensors are silent, but communicate with Emergency 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). 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

WES^3 Smoke Sensors are silent but communicate with sounding units automatically to raise the alarm if smoke is detected. There are two Smoke Sensors in the WES^3 range; a Standard Smoke Sensor and a Dust Resistant Smoke Sensor.

All Smoke Sensors are sensitive to dust and steam - use the WES^3 Dust Resistant Smoke Sensor in dusty areas, or a WES^3 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.

WES^3 Smoke Sensors should be securely mounted to the ceiling and should be regularly maintained (see Smoke Sensor Maintenance section). 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.

Emergency Control Unit (ECU)

WES^3 Emergency Control Units include a buzzer, an LCD display and a navigation pad. An Emergency Control Unit is required to configure the WES^3 network, and therefore at least one WES^3 Emergency Control Unit needs to be included in a WES^3 network.

It is possible to use Emergency Control Units as mobile units (see Mobile ECU section).

Link

WES^3 Link units are used solely to relay WES^3 radio messages on large or complex sites if there is no need for additional Emergency Call Points. Link units should be securely wall mounted.

Interface

WES^3 Interface units allow external outputs to be triggered in the event of an alarm. They can also take an input from an external trigger and set off the alarm on the WES^3 system.

Basic System Setup

A basic system is made up of a minimum of three WES^3 units, at least one being a WES^3 Emergency Control Unit. Emergency Call Points are essential to all systems if an audible evacuation alarm is required.

Health and Safety

As with all site practices, working safely must be a priority when installing the WES^3 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 WES^3 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.

WES^3 units are not ATEX rated and have not been tested for use in explosive atmospheres. WES^3 is not recommended for use in ATEX applications.

Manual Handling, Storage and Transportation

Whilst WES^3 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 stored and transported in boxes of 8. Refer to Product Datasheets 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, WES^3 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.

It is essential that testing, repairs and servicing are carried out by WES^3 Engineers or approved, qualified partners. Modifying any part of the unit can prevent correct functionality, even if the unit appears to be working.

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

WES^3 units are only compatible with other WES^3 units. It is not possible to create a network using other versions of the WES product e.g. WES1 or WES$^+$. Ensure that all units intended to be used on site are the WES^3 units.

Installing WES^3 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 Emergency Control Unit Setup

To activate the Emergency Control 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.

Initial setup of the Emergency Control Unit is through a series of on-screen options. Language, Inspection Delay and Pre-Alarm mode options can be configured.

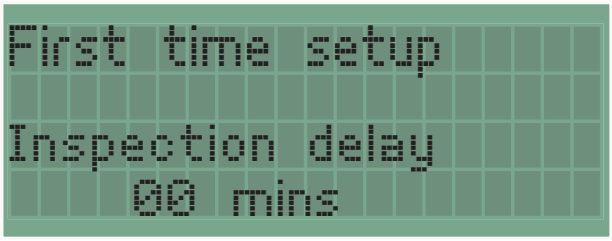
Language Selection

Select language, available options are English, German, French, Spanish, Italian and Swedish. Language settings can be changed at any time via the Settings menu on the Emergency control unit.

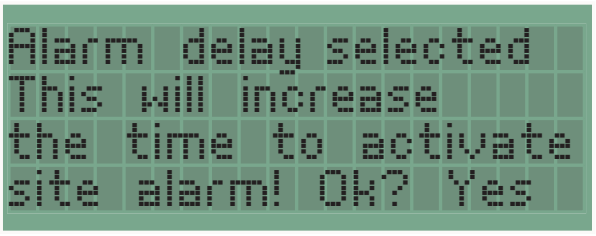
Inspection Delay

The Inspection Delay setting allows an optional delay period between triggering a unit 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

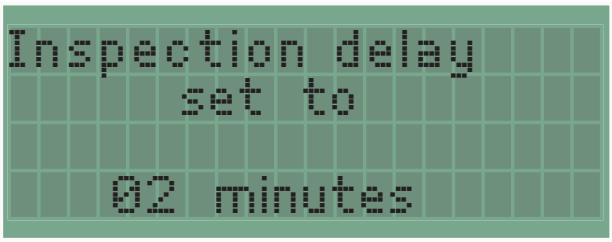
i) confirm alarm is genuine, raise site wide alarm and evacuate site, or
ii) confirm false activation, cancel the alarm and return to normal (non-alarm) state.



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 Emergency control unit. This will clear any existing unit numbering and other network settings from the network.

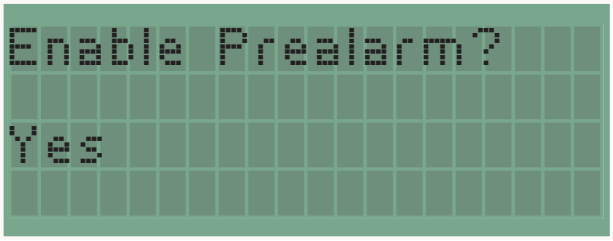


Pre Alarm Mode

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

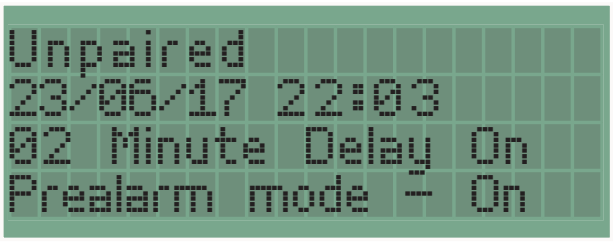
With Pre Alarm mode enabled, the entire network will emit a site-wide, intermittent sound and (on strobe-equipped call points) an intermittent flash, to alert site personnel that a potential evacuation may be imminent.

With Pre Alarm mode disabled, only the local call point which has been triggered will sound. 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 activation process. Once set, the Pre Alarm setting can only be changed by turning off and reactivating the Emergency Control Unit. 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 Emergency Control Unit home screen. Check the settings displayed on screen are the desired settings, and if not, repeat the Initial Emergency control unit Setup process before proceeding.



2. Activate units

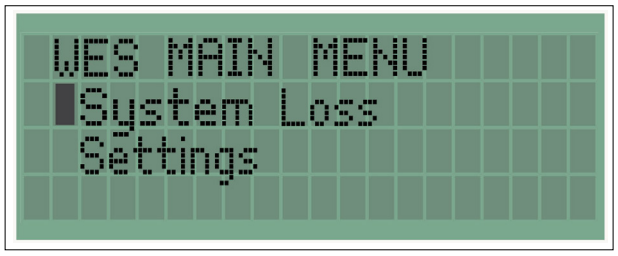
All WES^3 units are delivered to site with batteries installed and ready for site activation. To activate a unit, hold down 'A' and press 'B' three times in quick succession. All three LEDs will briefly illuminate and then the amber LED will flash.

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

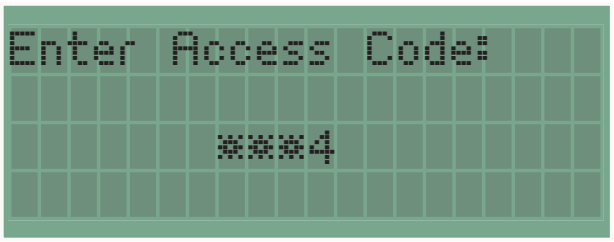
3. Allocate unit numbers

Activated Emergency Call Points, Sensors, and other WES^3 units can be added to create a WES^3 network using the Unit Numbering process. During Unit numbering, WES^3 devices receive details of network configuration from the Emergency control unit, including Inspection Delay and Pre Alarm settings. Note this is the only way of creating and adding to a WES^3 network.

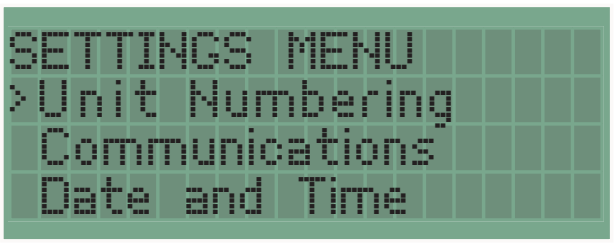
Access the Settings Menu on the Emergency Control Unit home screen. The Settings menu can be accessed from the Main Menu by selecting Settings with the directional pad then pressing Enter.



You will be required to enter the PIN code before proceeding. This is set as default to 1234, but can be changed (refer to page 17).

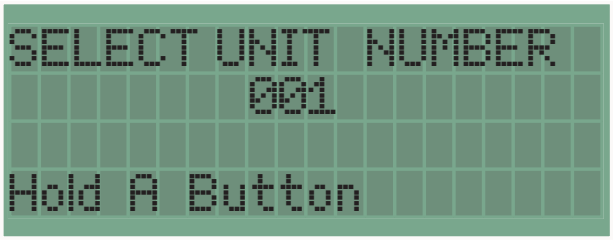


From the Settings menu select the first option, Unit Numbering:



Ensure that any WES^3 devices to be paired is activated and has an amber flashing LED. This indicates the unit is ready to pair. Units can be numbered any three digit number from 001 to 999. 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 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 Emergency Control Unit and repeat the process above for all required units. Note that the Polling feature of WES^3 can perfom an automatic integrity test of the first 128 WES^3 units added to a network. Additonal 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 activated, and repeat the Unit Numbering process.

4. Add units to an existing group

Repeat steps 2 and 3 above.

5. Position units on site

Once activated and paired, WES^3 units can be installed on site. Ensure any applicable national guidelines or Standards regarding locating units on site are adhered to.

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.

6. Securely fix the units in place

Each WES^3 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.

- Sensor units are ceiling mounted and intended for indoor use only. Installation of sensors 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.

- Emergency 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 Emergency Call Point can be mounted to backing board or pattressing such as plywood or similar sheet material.

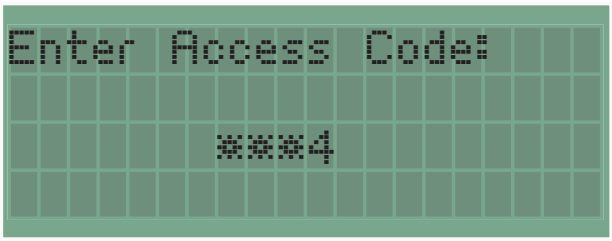
Each unit should be securely mounted using its two integrated mounting points with M4 x 50mm pan head screws and wall plugs or other fixings selected for the particular wall or ceiling type. Ensure that all fixing points are secure and that the back tamper is fully depressed.

7. Test the system

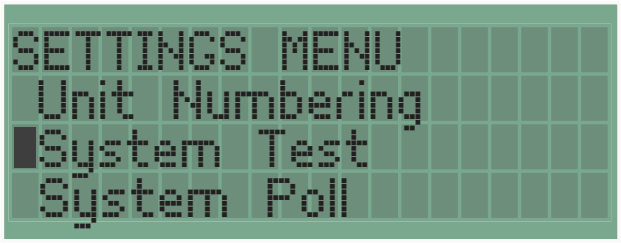
After installation of the units, it is essential to perform a system alarm test to confirm proper operation of the system. It is also best practice to conduct a full system test on a weekly basis. This test should also be performed following any significant change to the site environment (new structure,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

The System Test is started from the Emergency Control Unit Settings Menu:

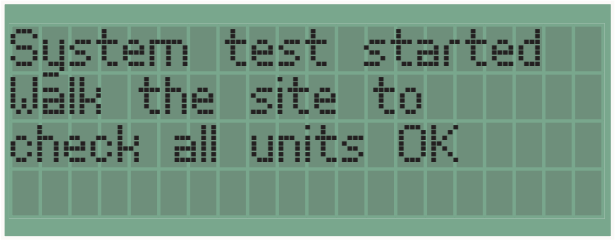
The access code is required to access the Settings Menu. The default PIN number is 1234.



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



The Emergency Control 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 WES^3 network isolates all devices in the network, allowing full physical test of each unit, without activating the site-wide alarm. Emergency Call Points can be triggered manually, and Sensors can be triggered using standard test equipment such as smoke spray or heat probe.

Once the System Test is complete, return to the Emergency Control Unit 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 WES^3 network is inactive and a site-wide alarm cannot be triggered from any unit. System Test mode must be exited from the Emergency Control 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 WES^3 units will self-calibrate to adjust for background radio noise which may impact the accuracy of the system test.

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 Sensors will automatically raise the alarm if sufficient smoke is detected. Heat Sensors 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

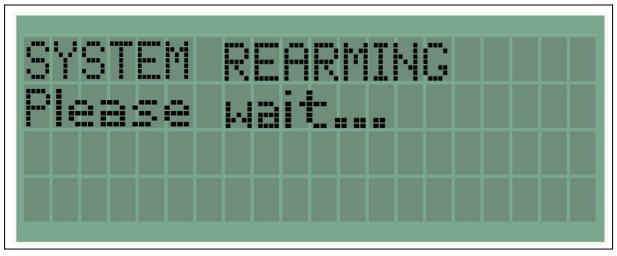
Note: it is vital to confirm that there is no site incident before silencing the alarm.

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 Emergency Control Unit.

The alarm will automatically silence 30 minutes after activation.

The alarm can be manually cancelled from an Emergency Call Point that has been pressed using the reset key provided. If necessary, a call point on a nearer emergency 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.

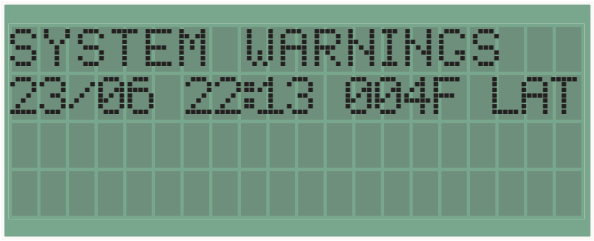


During the re-arm period, the alarm cannot be reactivated. It is therefore vital to confirm that there is no fire hazard before silencing the alarm.

Resetting a Call Point

Any Emergency Call Point that has been activated will periodically beep after the re-arm period has ended as a reminder that the unit needs to be mechanically reset using the key before they can be used to raise a alarm.

The Latched alert is displayed on the Emergency control Unit and will show which individual Emergency Control Unit needs to be reset:



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

2) Push key in as far as possible

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

4) Remove the key

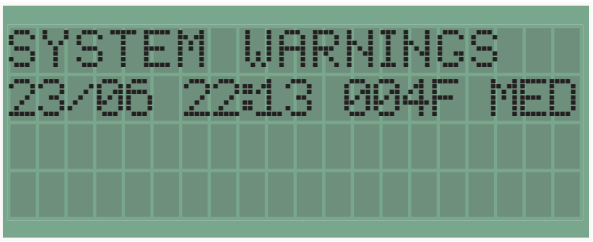
Ensure the call point is fully reset before removing the key. Partially resetting a latched call point after the fire alarm has been cancelled can retrigger the fire alarm.

System Operation

Raising a Medical Alert

The medical alert can be raised from any Emergency 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 Emergency Control Unit. It does not trigger any alert on other units.

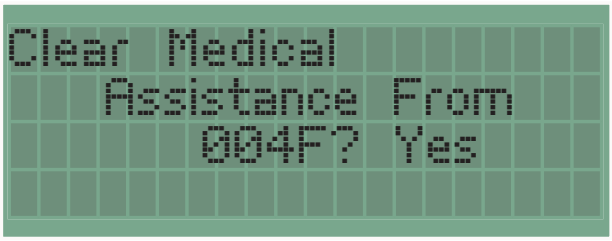


Cancelling a Medical Alert

The medical alert can be cancelled either from the call point used to create it, or from the Emergency Control 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 Emergency Control Unit, scroll to the alert on the Emergency control unit 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.



WES^3 can receive and display multiple Medical Alerts on the Emergency Control Unit, 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 an emergency alarm being raised while a Medical Alert is active, the system will give priority to the emergency alarm. Any Medical Alert that was active prior to the alarm, will remain in the WES^3 system and be displayed once the emergency 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 WES^3 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		

Red LED Indication

If a Sensor has raised the alarm, its red LED indicator will flash during an alarm.

It is recommended that the WES^3 system is tested weekly or whenever a significant change has been made to the installation or the building under construction. WES^3 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.

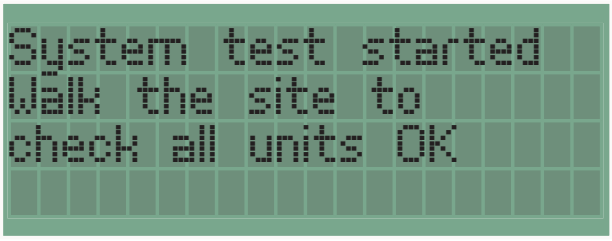
System Tests

Initiating a System Test

The System Test is started from the Emergency Control Unit 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 Emergency Control 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 WES^3 network isolates all devices in the network, allowing full physical testing of each unit, without activating the site-wide alarm. Emergency Call points can be triggered manually, and Sensors 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 Emergency control unit and press the ↵ button to complete the test. It is important to be aware that, whilst in System Test mode, the WES^3 network is inactive and a site wide alarm cannot be triggered from any unit. The test must be exited from the Emergency control 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 WES^3 units will self-calibrate to adjust for background radio noise which may impact the accuracy of the system test.

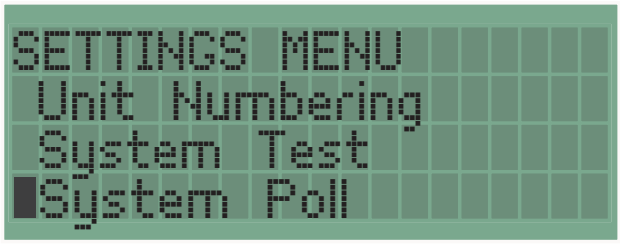
The test result is indicated as follows:

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').

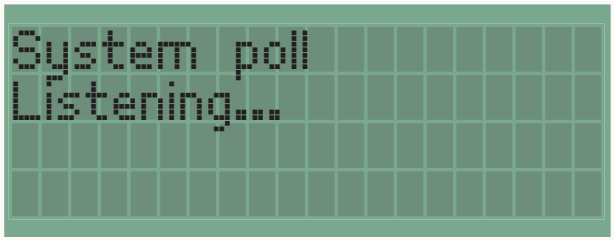
System Integrity Test (Polling)

WES^3 includes a System Integrity Test that can report on changes to the network configuration, such as when additional or unexpected units are detected on the network, or when units have been removed.

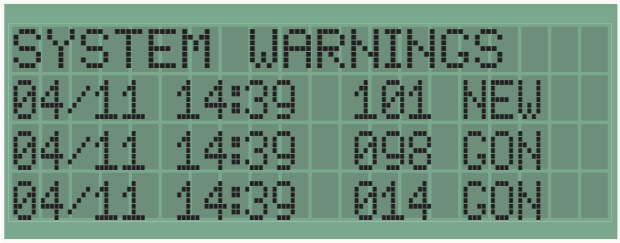
The Integrity Test is conducted automatically twice daily, and can also be activated on-demand from the WES^3 Emergency Control Unit. To activate the Integrity Test, go to the Settings Menu of the Emergency control unit. The access code is required to access the Settings Menu. The default PIN number is 1234. From the Settings Menu, select System Poll to initiate the integrity test.



While the Integrity Test is being performed, the message "System Poll ; Listening..." will be displayed on the screen.



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



In addition to the automatic system integrity test and the on-demand polling feature, WES^3 provides immediate real-time notification when a unit is removed from the network, displayed on the Emergency Control Unit as a 'REM' notification. Note that system polling is limited to the first 128 WES^3 units added to the network. Beyond this number, further units can be added but will be excluded from the integrity test.

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 WES^3 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.

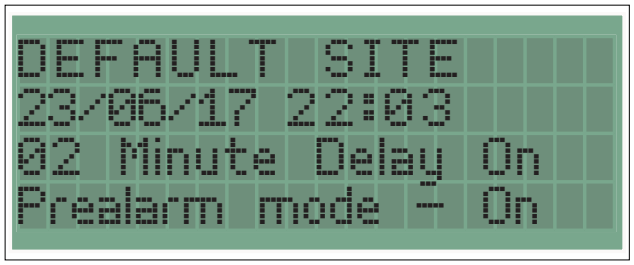
Hold down 'A' and then press 'B' three times in quick succession. All three LEDs will briefly illuminate and then switch off.

Note: units cannot be deactivated while an alarm is active.

Emergency Control Unit 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 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 fire alarm using the access code.

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 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.

Menu overview

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
- Backlight
- Mobile Base
- Change Language

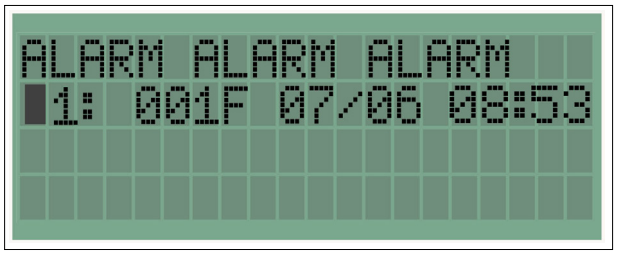
Change Language
- English
- Deutsche
- Français
- Español
- Italiano
- Svenska

* Acces Code Required

Emergency Control Unit Operation

Alarm

When an alarm has been raised by a Emergency Call Point or Sensor, the Emergency Control 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 Emergency Call Point, I an Interface and S a Sensor. For example, the above shows that a Emergency call point with the number 001 was activated at 08:53 on the 7th June.

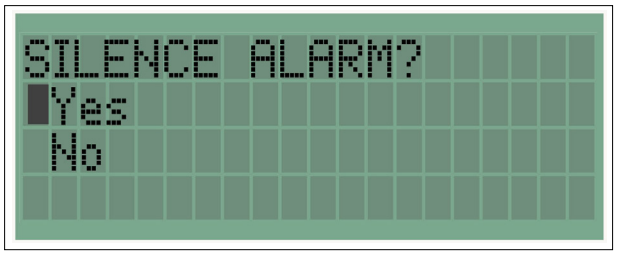
An alarm can be silenced in three ways:

i) Resetting a call point

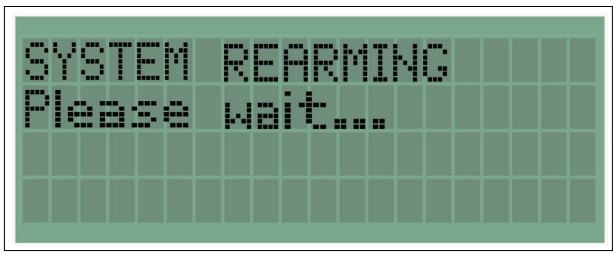
ii) Waiting 30 minutes after the last activation

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

To silence the alarm from the Emergency Control Unit, press enter during the fire alarm. This will take you to the Silence Alarm screen.



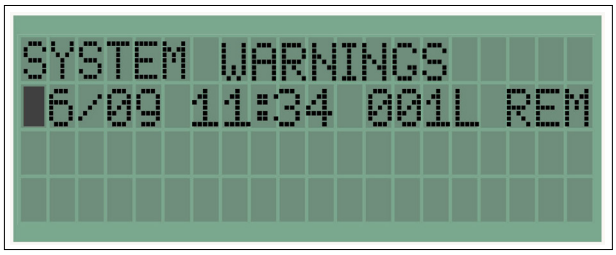
Select 'Yes', and enter your access code when requested. During the re-arming period the following message will be displayed for two minutes.



At the end of the re-arming period the Emergency Control 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 Emergency Control Unit 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.

Emergency Control Unit Operation

WES Warning Code Guide

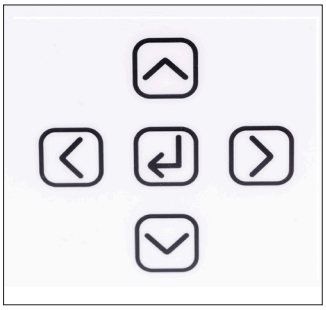
Warning Code	Warning	Description	Self-Cleaning	SMS setting
MED	Medical Assist	Medical assistance required at Unit NNN	No	8
BAT	Low Battery	Unit NNN has a low battery	No	5
DET	Sensor Tamper	Unit NNN has had sensor head removed	Yes	3
EXT	External Tamper	Unit NNN has been removed from wall/ceiling	Yes	4
FLT	Flat Battery	Unit NNN has turned off, its battery is flat	No	5
INT	Internal Tamper	Unit NNN has been opened	No	2
LAT	Latched	Call point button on unit NNN is still depressed	Yes	10
REM	Removed	Unit NNN has been deactivated and removed	No	9
SIG	Low Signal	Unit NNN has a low radio signal	Yes	6
TST	System test	Unit NNN initiated a System test	Yes	7
NEW	Unexpected unit	Unit NNN added since last system poll	No	
GON	Unit missing	Unit NNN removed since last system poll	No	

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.

Emergency Control Unit 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.

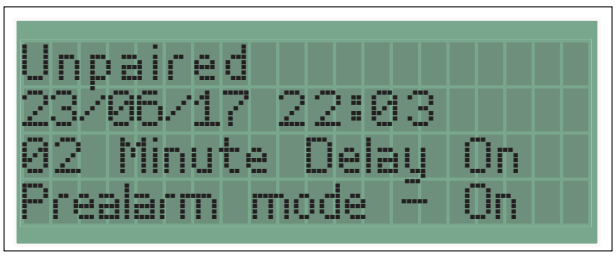
Use the left arrow button to move to a previous character.

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

Home Screen

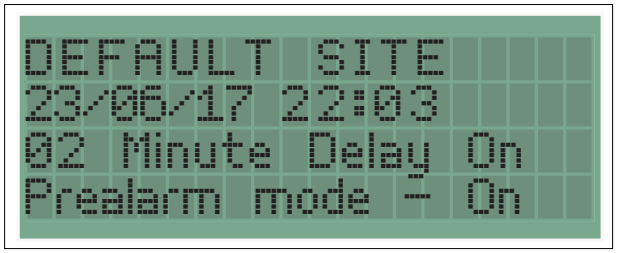
Pressing enter on the home screen opens the main menu, giving access to the System Log Menu and the Settings Menu. The settings are only available to authorised users with an access code.

If the Emergency Control Unit has not yet been paired, it will display ‘Unpaired’ instead of the site name.



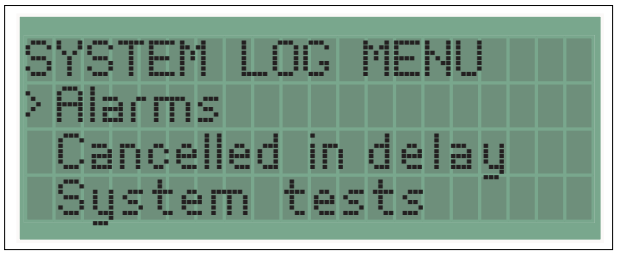
Emergency Control Unit Operation

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:

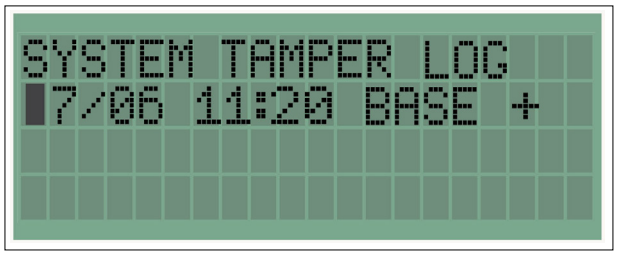


- Emergency Alarms
- Cancelled in Delay
- System tests
- Medical Assist
- External Tampers
- Internal Tampers
- DT Head Tampers
- Low Signals
- Low Batteries
- Flat Batteries
- Latched Units
- Unit Removed
- Unit Missing
- Unexpected Unit

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

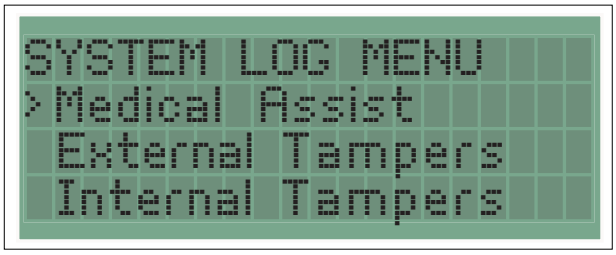
Each log entry starts with the date and time the event was logged, followed by the unit number and type and then a + or – symbol to indicate the raising (+) or clearing (-) of an event. If there is a down arrow in the bottom right corner, there are further log entries which can be displayed by pressing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

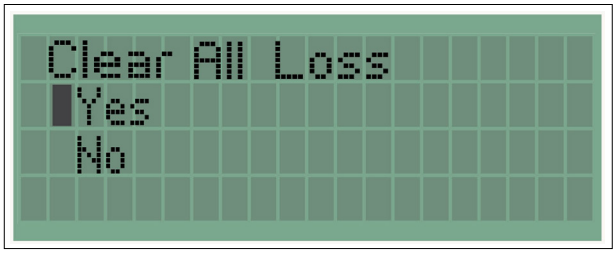
The example below shows the External Tamper Log where unit BASE had an External Tamper cleared at 11:20 on 7th June.



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

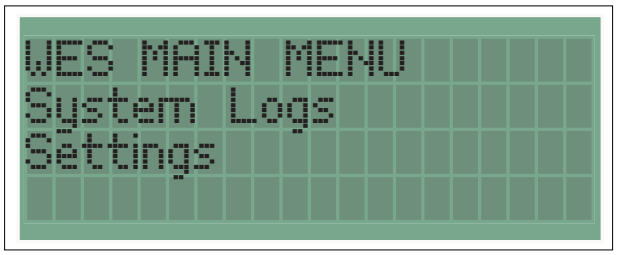
Logs can be cleared by either deactivating the unit (see 'Removing a unit from the site') or using the Clear All Logs option at the end of the System Log Menu. This can only be performed by an authorised user as it requires the access code.





Settings

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

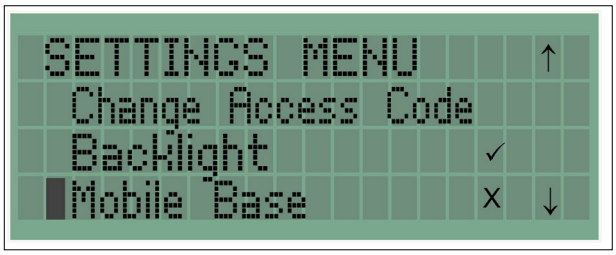


All settings are protected from unauthorised change by an access code. By default, this is set to 1234.

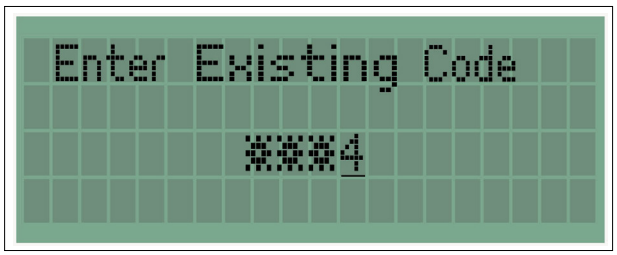
Change Access Code

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

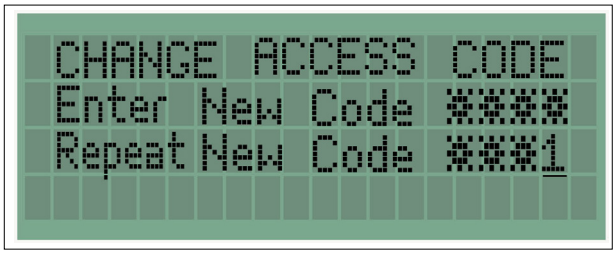
To change the access code, navigate down the Settings Menu until the Change Access Code option is highlighted as shown. Press Enter to select.



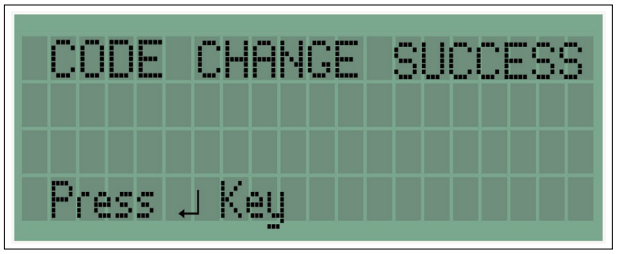
The existing Access Code will then be requested, as shown below.



The new Access Code then needs to be entered twice.



Confirmation of the Access Code change will be displayed.



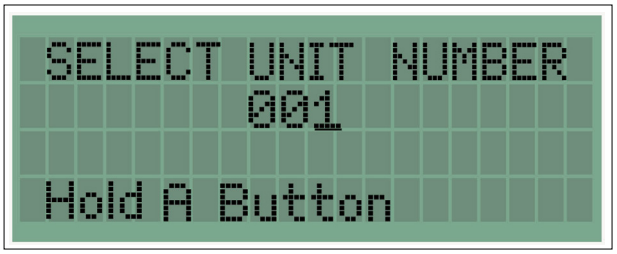
Unit Numbering

Every WES^3 unit is numbered when activated and 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.

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

To number a unit from a different site network, you will first need to deactivate and reactivate the site to remove the information specific to the original site.

Select the number you wish to assign to a particular WES^3 unit using the navigation pad. Once the correct number is displayed, press and hold the A buttons on both the Emergency Control Unit 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.

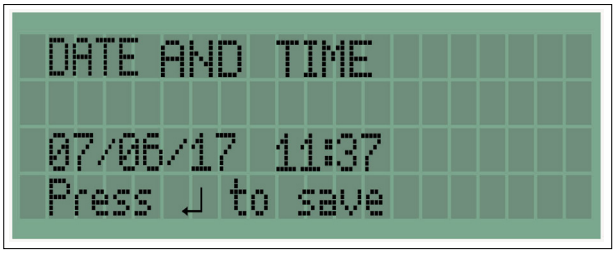
Unit Numbering LED indications

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 Emergency Control 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.
● 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 emergency control 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.

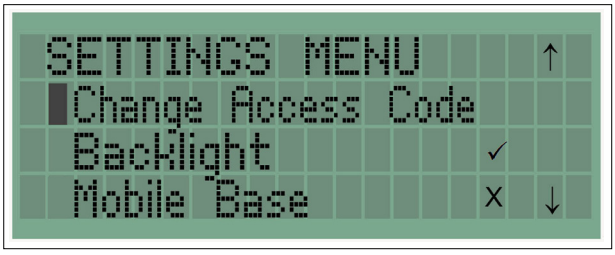
Date and Time



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.

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 Emergency Control 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.

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

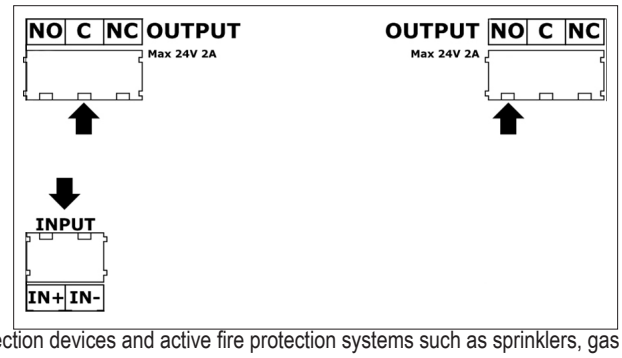
Interface

The Interface has two auxiliary relay outputs and one auxiliary input. These allow the WES^3 system to be expanded to interact with external devices.

Pictured right is the layout of the connections inside the Interface Unit

The Interface unit should be installed by a suitably qualified person.

DO NOT connect the Interface to mains current.

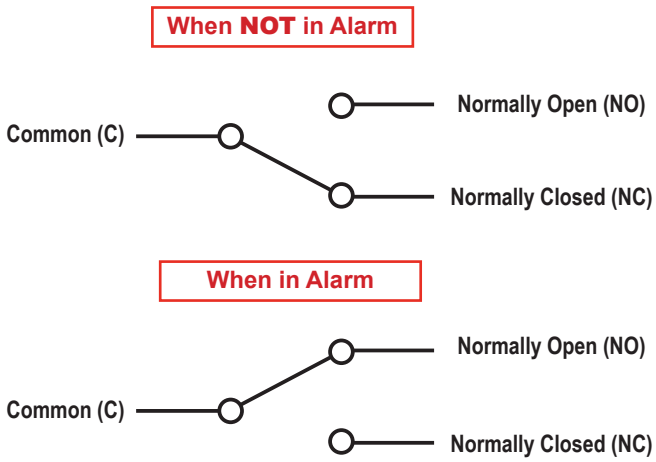


The input is unmonitored. The connection of automatic or manual fire detection devices and active fire protection systems such as sprinklers, gas suppression systems etc may require additional measures. Cable disconnection or damage could result in the alarm not activating when required without any fault or warning indication.

All cable lengths must be less than 3 metres long.

Output

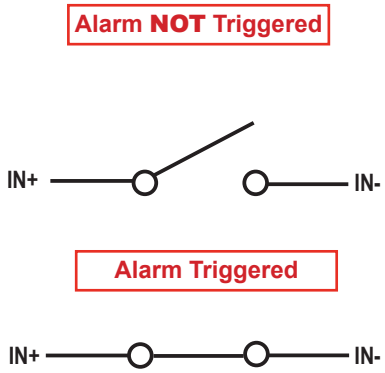
The outputs are rated for 24V at up to 2 Amps maximum.



Input

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

The input is unmonitored and connection of automatic or manual fire detection devices may require additional measures. Cable disconnection or damage could result in the alarm not activating when required without any fault or warning indication.



Radio Equipment Statement

These products contain: FCC ID: **2AHNO2-RD0-9X and 2AHNOW2CTRLMK2**

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

These products contain IC ID: **21246-W2RDO9X and 21246-W2CTRLMK2**

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.

Emergency Call Point Technical Data

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

Device Parameters

Dimensions (mm) HxWxD:	235 x 161 x 128 (excl. antenna 81mm and USB 15mm)
Weight:	1.7kg
Operating temperature:	-13°F to +158°F (-25°C to +70°C)
Humidity:	Relative humidity >95% (77°F to 131°F)
IP Code:	IP55C
Main sound frequencies & patterns:	800Hz to 970Hz swept at 1Hz

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%
Encryption:	None
Channel spacing:	Single channel
Compatible with:	Other WES^3 units
Protocol:	Proprietary

Emergency Call Point Technical Data

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

Device Parameters

Dimensions (mm) HxWxD:	235 x 161 x 128 (excl. antenna 81mm)
Weight:	1.1kg
Operating temperature:	-13°F to +158°F (-25°C to +70°C)
Humidity:	Relative humidity >95% (77°F to 131°F)
IP Code:	IP55C
Main sound frequencies & patterns:	800Hz to 970Hz swept at 1Hz

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, 7.6Ah

RF Parameters

Operating frequency:	916.5MHz
Transmit power:	25mW max
Duty cycle:	<1%
Encryption:	None
Channel spacing:	Single channel
Compatible with:	Other WES^3 units
Protocol:	Proprietary

Emergency Control Unit Technical Data

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

Device Parameters

Dimensions (mm) HxWxD:	235 x 161 x 128 (excl. antenna 81mm and USB 15mm)
Weight:	1.5kg
Operating temperature:	-13°F to +158°F (-25°C to +70°C)
Humidity:	Relative humidity >95% (77°F to 131°F)

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 WES^3 units
Protocol:	Proprietary

The Radio Frequency (RF) range complies with the Phase II EGSM 900/DCS 1800 recommendation. The frequency range for the transmit band and the receive band are listed in the table below:

	Transmit Band (Tx)	Receive Band	Power
E-GSM 900	880 to 915 MHz	925 to 960 MHz	2 Watts EGSM 900 radio section
DCS 1800	1710 to 1785 MHz	1805 to 1680 MHz	1 Watt GSM1800 radio section

Heat Sensor Technical Data

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

Device Parameters

Dimensions (mm) HxWxD:	235 x 161 x 118 (excl. antenna 81mm and USB 15mm)
Weight:	1.6kg
Operating temperature:	-13°F to +158°F (-25°C to +70°C)
Humidity:	Relative humidity >95% (77°F to 131°F)
Heat sensor class:	A2

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%
Encryption:	None
Channel spacing:	Single channel
Compatible with:	Other WES^3 units
Protocol:	Proprietary

Heat Sensor Technical Data

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

Device Parameters

Dimensions (mm) HxWxD:	235 x 161 x 118 (excl. antenna 81mm)
Weight:	1.3kg
Operating temperature:	-13°F to +158°F (-25°C to +70°C)
Humidity:	Relative humidity >95% (77°F to 131°F)
Heat sensor class:	A2

Supply Parameters

Operating voltage range:	4.0-6.4V 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%
Encryption:	None
Channel spacing:	Single channel
Compatible with:	Other WES^3 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 and USB 15mm)
Weight:	1.6kg
Operating temperature:	-13°F to +158°F (-25°C to +70°C)
Humidity:	Relative humidity >95% (77°F to 131°F)

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%
Encryption:	None
Channel spacing:	Single channel
Compatible with:	Other WES^3 units
Protocol:	Proprietary

Smoke Sensor Technical Data

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

Device Parameters

Dimensions (mm) HxWxD:	235 x 161 x 108 (excl. antenna 81mm)
Weight:	1.3kg
Operating temperature:	-13°F to +158°F (-25°C to +70°C)
Humidity:	Relative humidity >95% (77°F to 131°F)

Supply Parameters

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

RF Parameters

Operating frequency:	916.5MHz
Transmit power:	25mW max
Duty cycle:	<1%
Encryption:	None
Channel spacing:	Single channel
Compatible with:	Other WES^3 units
Protocol:	Proprietary

Link Technical Data

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

Device Parameters

Dimensions (mm) HxWxD:	235 x 161 x 58 (excl. antenna 81mm and USB 15mm)
Weight:	800g
Operating temperature:	-13°F to +158°F (-25°C to +70°C)
Humidity:	Relative humidity >95% (77°F to 131°F)

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%
Encryption:	None
Channel spacing:	Single channel
Compatible with:	Other WES^3 units
Protocol:	Proprietary

Interface Technical Data

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

Device Parameters

Operating temperature:	14°F to +131°F (-10°C to +55°C)
Humidity:	Relative Humidity >95% (77°F to 131°F)

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%
Encryption:	None
Channel spacing:	Single channel

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 sensor head is secure and undamaged

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

iii) Ensure the surface of the sensor's outer cover is clean. If there are deposits due to the presence of oil vapour, dust etc, the sensor should be cleaned in accordance with the cleaning instructions detailed later. It may be advisable to ensure 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 sensor 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 sensor's correct operation in response to a heat condition.

i) Testing the sensors 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 sensor with heat from a warm air gun designed for heat sensor testing (e.g. 'No Climb - Solo' heat sensor tester).

Check that the sensor gives an alarm condition within 10-20 seconds depending upon the sensor grade and the applied air temperature.

Note: Hot air blowers sold for paint stripping, soldering pipes etc, generate sufficient heat to damage the sensor and should not be used for testing heat sensors.

iii) After the sensor has given the alarm condition, silence the system from an Emergency Call Point or Emergency Control Unit. It may be necessary to allow a short time to elapse before resetting the sensor, to allow any residual heat from the test to disperse.

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

Functional Test

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

Cleaning

Note: The sensor head should NOT be disassembled.

i) Carefully remove the sensor 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 sensor to WES Customer Support for service.

Smoke Sensor Maintenance

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

One month after installation and every 3 months thereafter	: Routine inspection
Every 6 months	: Operational Test
Every 12 months	: Cleaning

All above frequencies of maintenance are dependent upon ambient conditions.

Routine Inspection

i) Ensure the sensor head is secure and undamaged.

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

iii) Ensure the surface of the sensor's outer cover is clean. If there are deposits due to the presence of oil vapour, dust etc, then the sensor should be cleaned in accordance with the cleaning instructions detailed later in this manual. It may be advisable to ensure 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 sensor 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 sensor's correct operation in response to a heat condition.

i) Testing the sensors 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 sensor head, e.g. using a 'No Climb -Solo' smoke test head. Check that the sensor gives an alarm condition within 15 seconds. Check the LED indicator on the Sensor illuminates and any remote indicator LED fitted also illuminates.

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

Functional Test

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

Cleaning

Note : The sensor head should NOT be disassembled.

i) Carefully remove the sensor 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 sensor to Ramtech Electronics for service.

Contact Us

Further Information:

For further information please visit the WES website at **www.wesfire.com**

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WES Customer Support

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

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V1.4 11-2018