



# Wireless Zone Monitor

# Engineers Guide



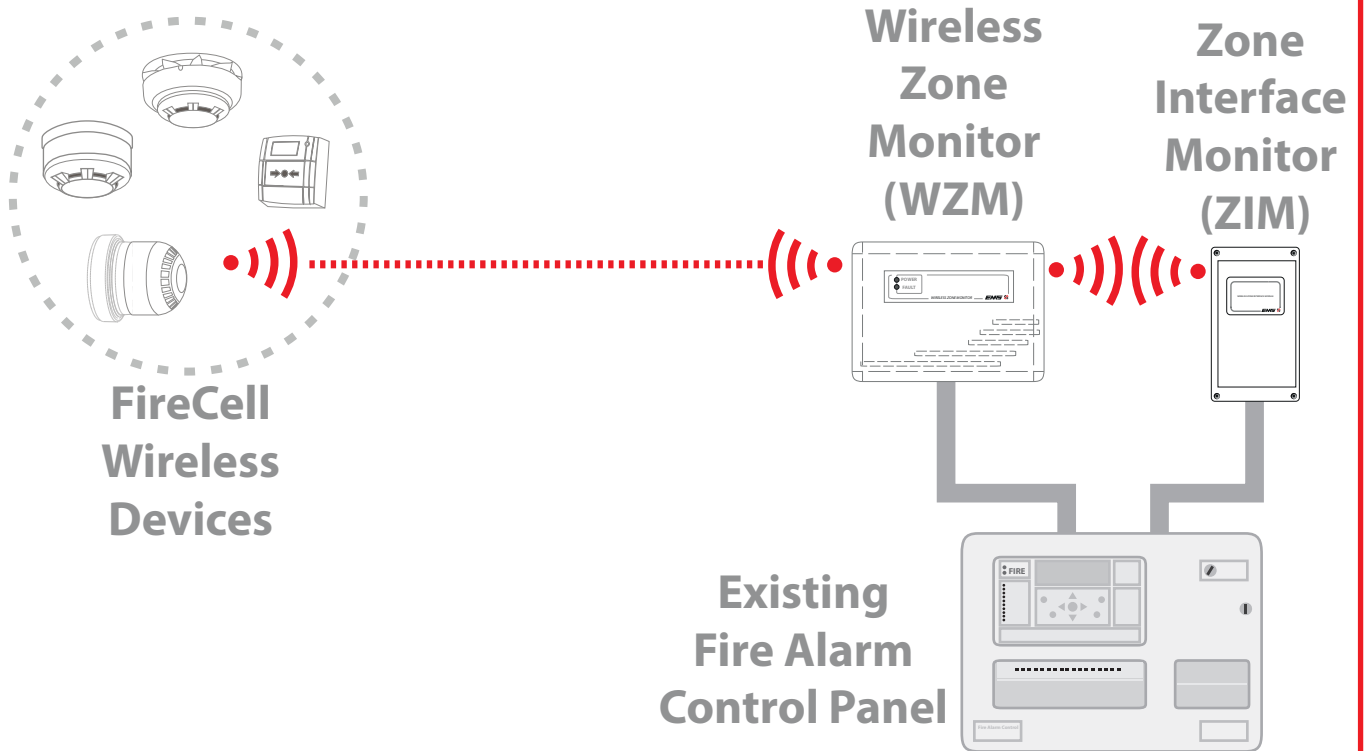


# Table Of Contents

Introduction	4
Installation	4
Step 1: Install the WZM and the ZIM	4
Step 2: Wiring	5
<i>a) WZM to an Addressable Control Panel</i>	5
<i>b) WZM to System 5000 Control Panel</i>	6
<i>c) Remote WZM to System 5000 Control Panel, option 1</i>	7
<i>d) Remote WZM to System 5000 Control Panel, option 2</i>	8
<i>e) WZM to a Conventional Panel, option 1</i>	9
<i>f) WZM to a Conventional Panel, option 2</i>	10
<i>Wireless Zone Monitor Overview</i>	11
<i>Wireless Zone Monitor Display</i>	11
<i>Wireless Zone Monitor Rotary Control Operation</i>	11
<i>Wireless Zone Monitor Menu Structure</i>	12
Step 3: Power Up the Devices	13
Step 4: Log On the Devices	14
Step 5: Install the Devices	16
Step 6: Check Signals	17
Frequently Asked Questions	19
WZM Fault Rectification	20
Troubleshooting (when connected to an Addressable Control Panel)	21
Troubleshooting (when connected to a System 5000 Control Panel)	21
How To Improve Device Signal Levels	22

# Introduction

The EMS Wireless Zone Monitor (WZM) allows for 30 FireCell wireless devices to be added to an existing Fire Alarm Control Panel, in conjunction with an EMS Zone Interface Module (ZIM).



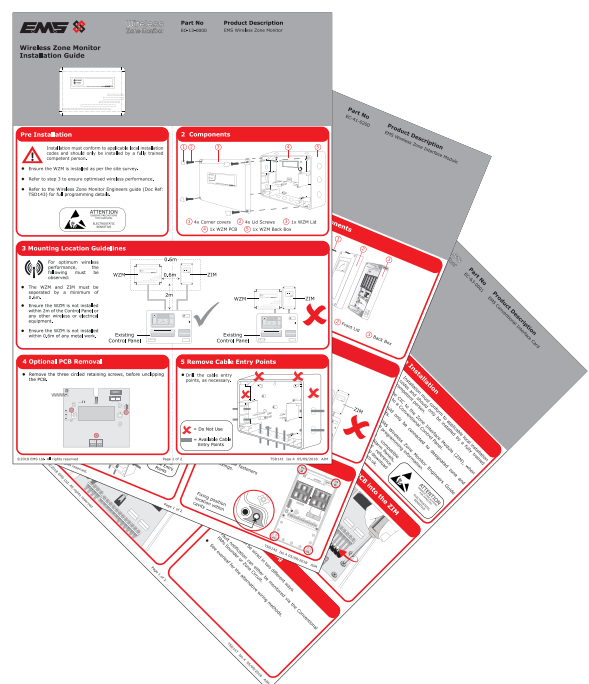
# Installation

## Step 1: Install the WZM and the ZIM

Refer to the EMS Wireless Zone Monitor Installation Guide (TSD141) and the EMS Zone Interface Monitor Installation Guide (TSD142) for full information.

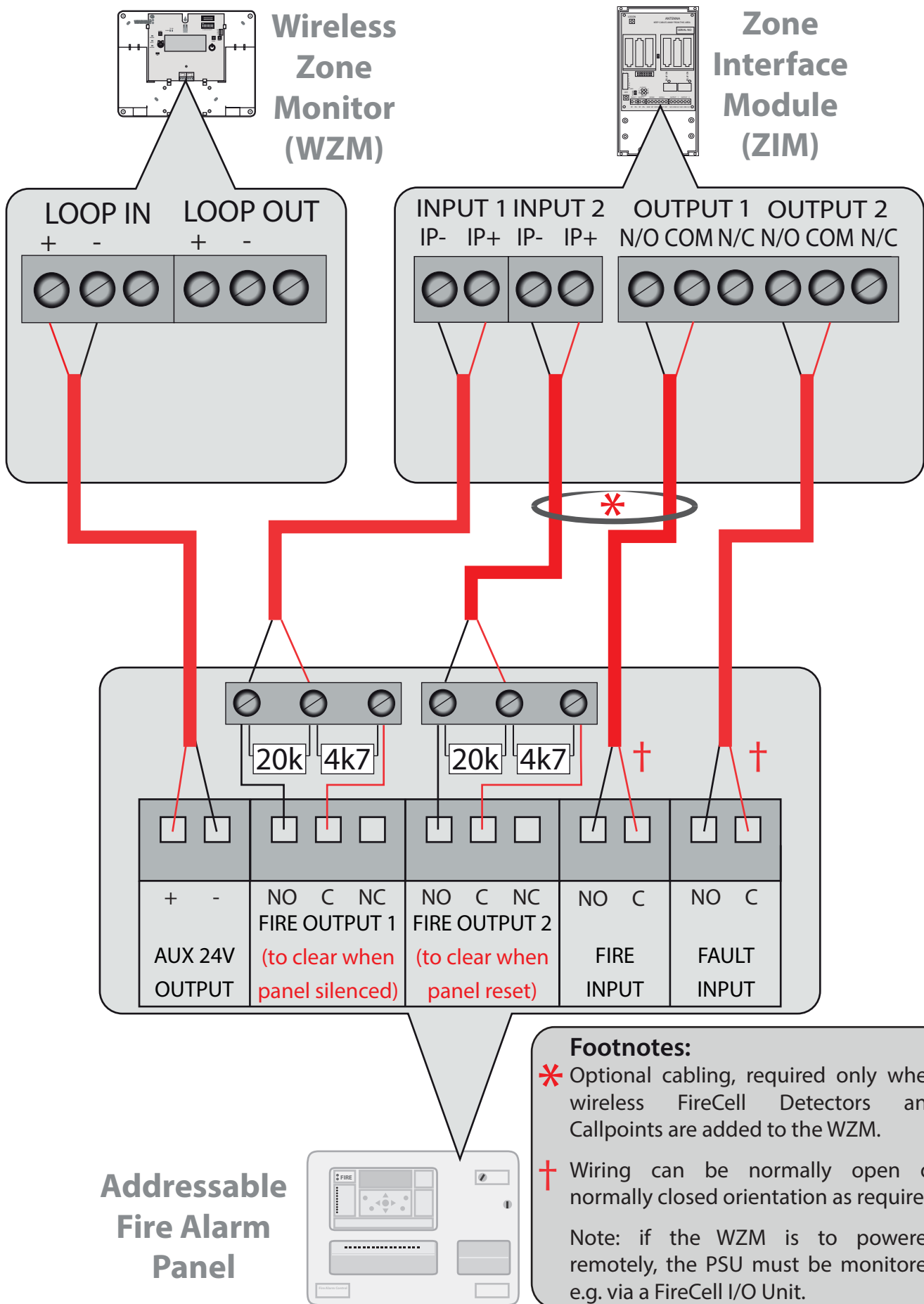
If connecting to a Conventional Fire Alarm Control Panel, also follow the Conventional Interface Card Installation Guide (TSD147).

**Note** For details on compatible Conventional Fire Alarm Control Panels refer to document reference MK51, which is free to download from [www.emsgroup.co.uk](http://www.emsgroup.co.uk).

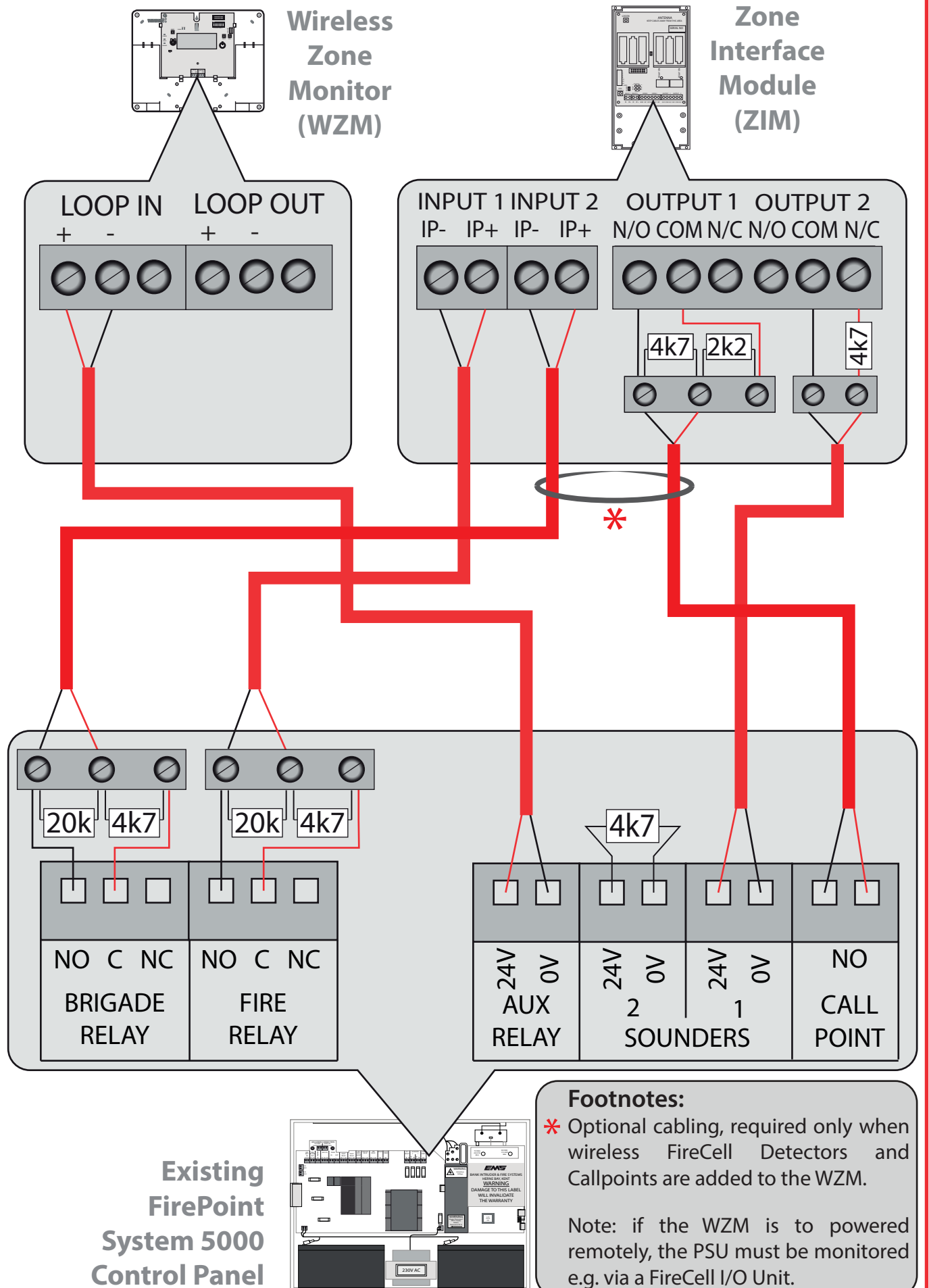


## Step 2: Wiring

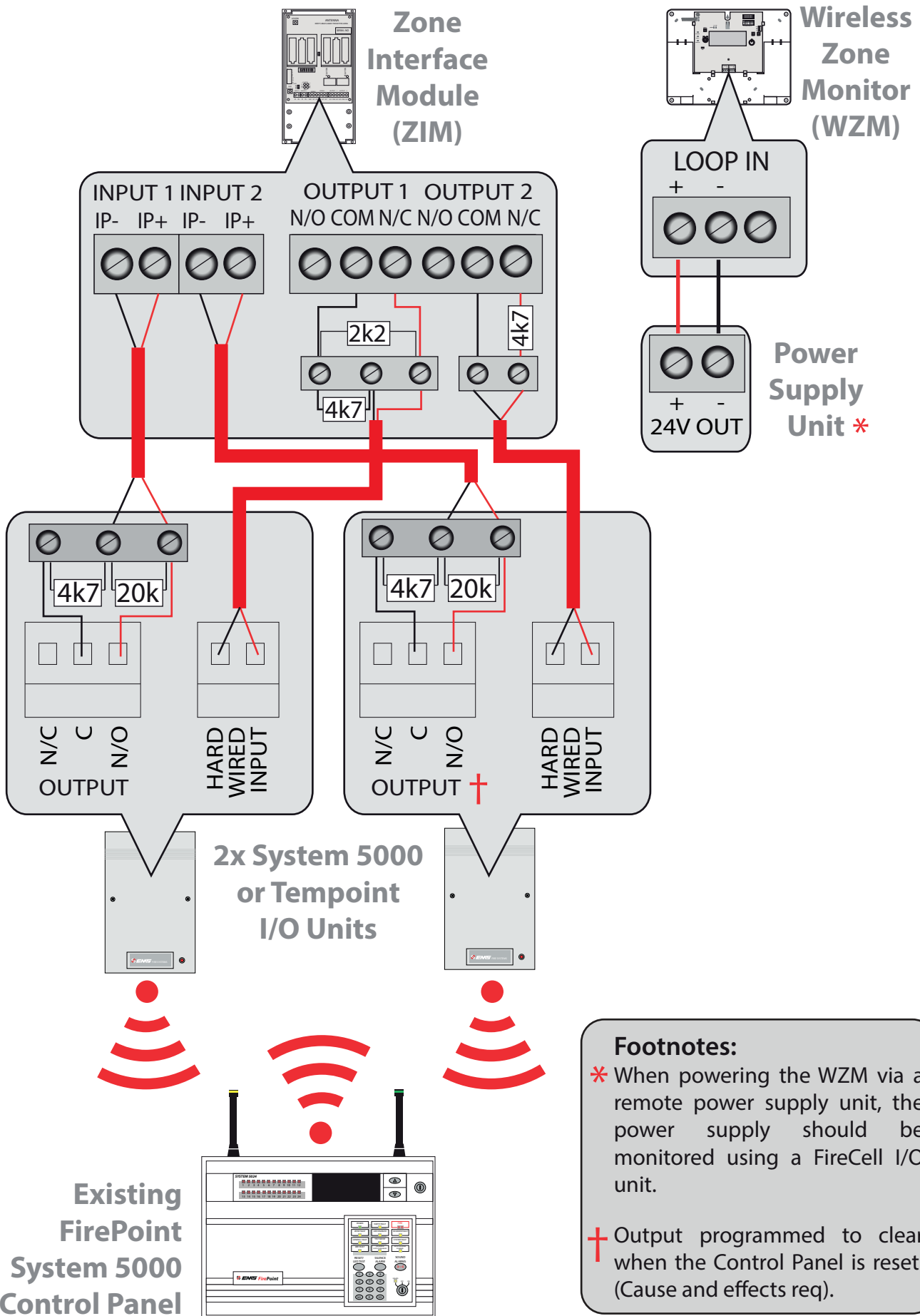
### a) WZM to an Addressable Control Panel



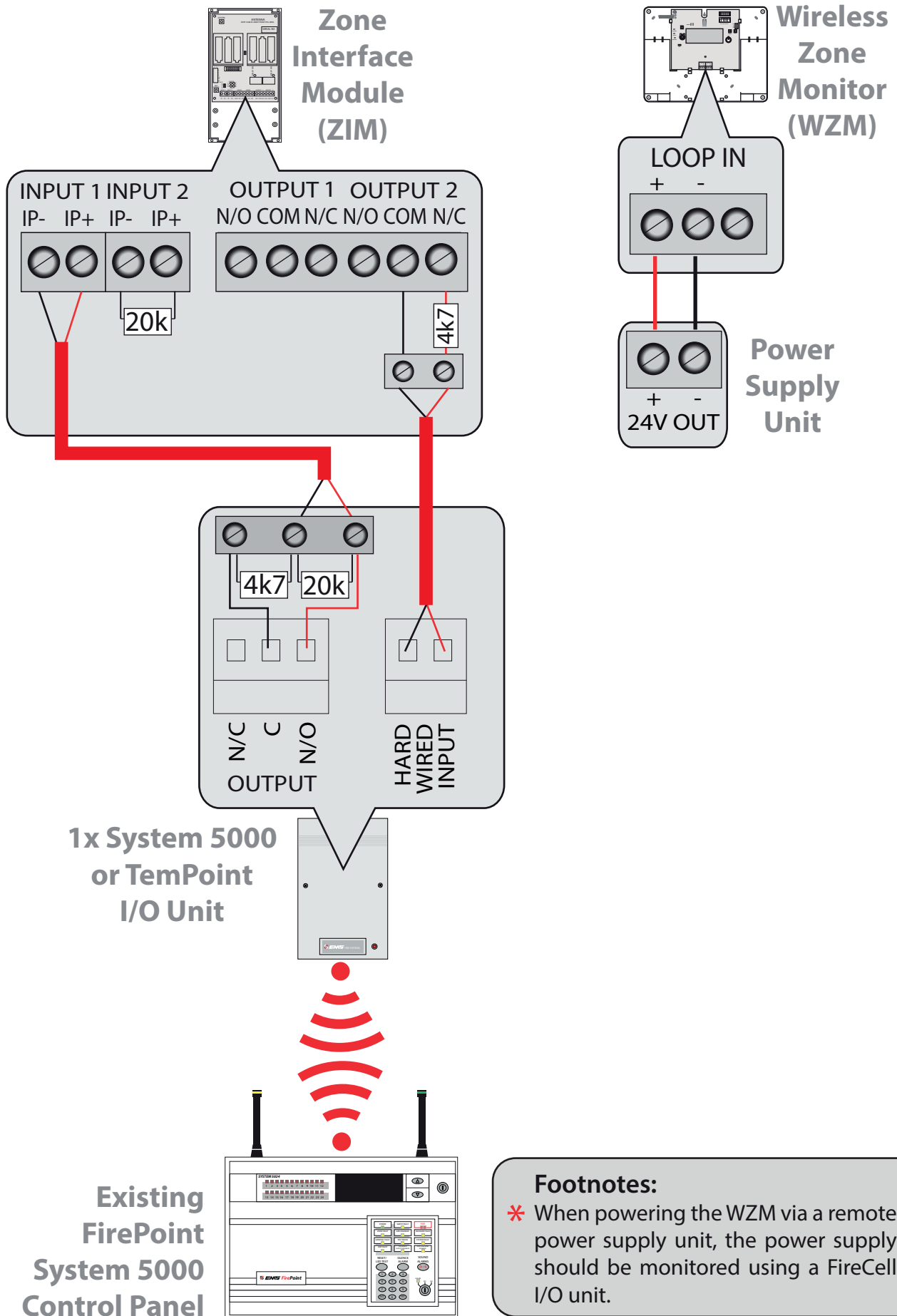
## b) WZM to System 5000 Control Panel



**c) Remote WZM to System 5000 Control Panel, option 1  
(when both sounders and detection are added to the WZM)**



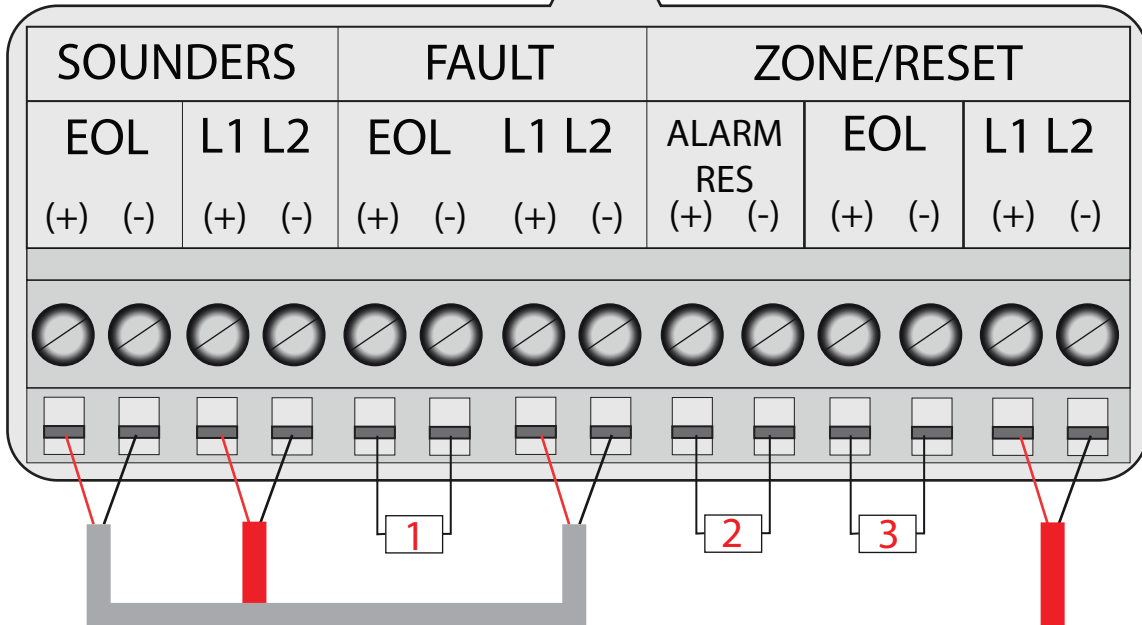
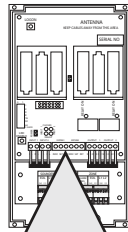
*d) Remote WZM to System 5000 Control Panel, option 2  
(when only sounders are added to the WZM)*



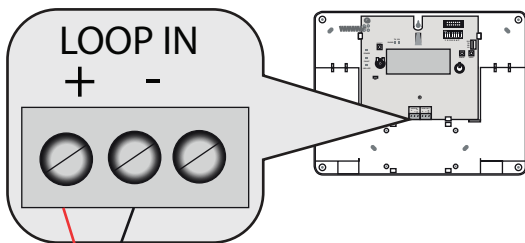


**e) WZM to a Conventional Panel, option 1  
(providing fault notification on the sounder circuit)**

**Zone Interface Monitor (ZIM) with Conventional Interface Card (CIC) fitted**



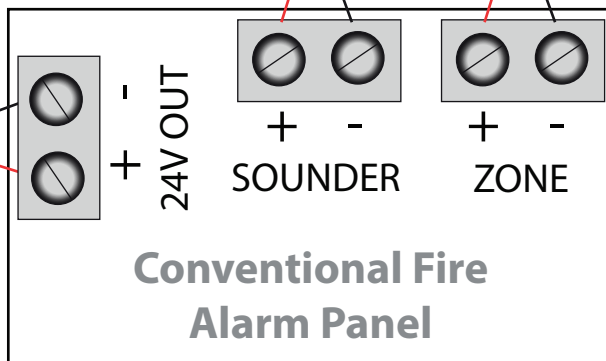
- 1 = Sounder circuits end of line \*
- 2 = Alarm triggering resistor
- 3 = Zone circuits end of line



**Wireless Zone Monitor (WZM)**

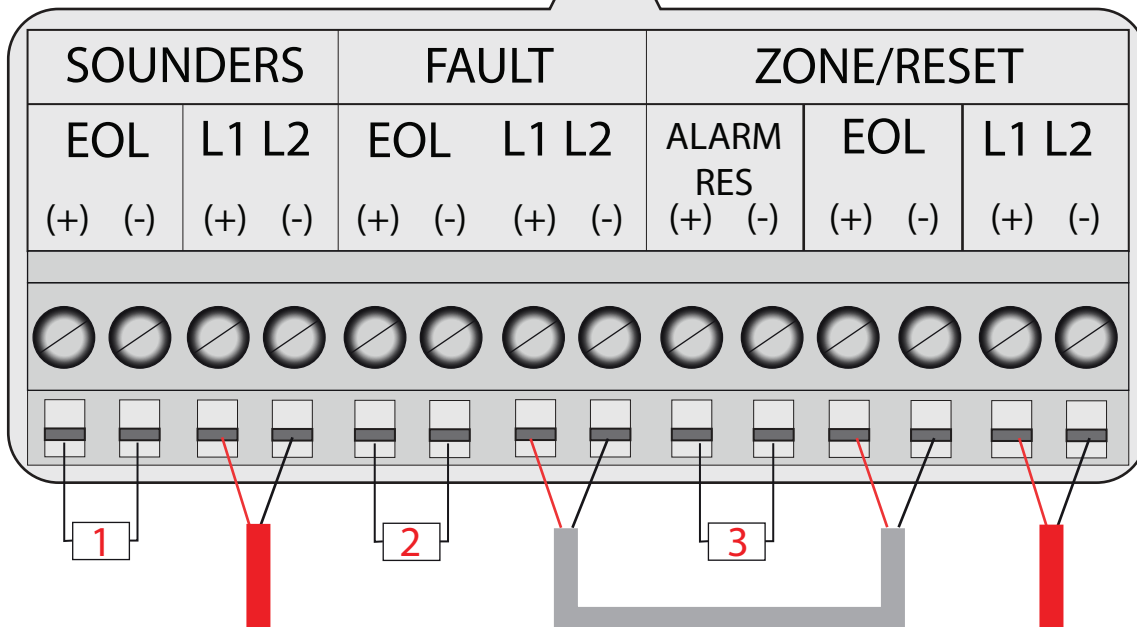
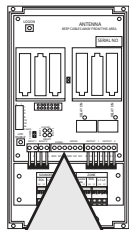
**Footnotes:**

\* Ensure the manufacturer's specified end of line components and triggering resistors are fitted. See the Control Panel's instructions for details.

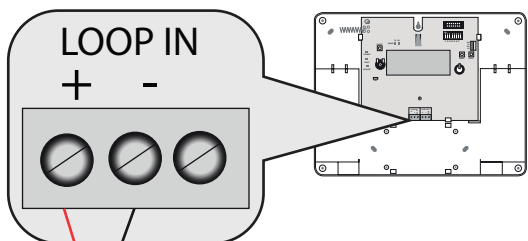


**f) WZM to a Conventional Panel, option 2  
(providing fault notification on the zone circuit)**

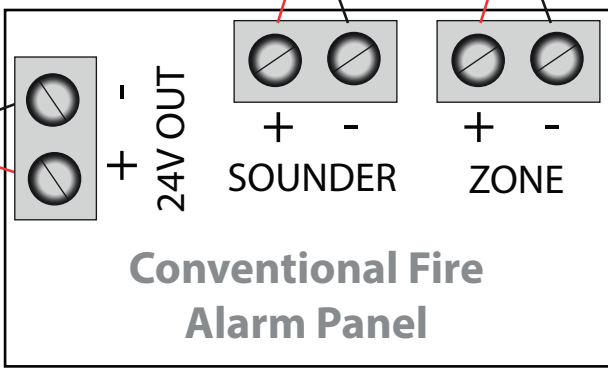
**Zone Interface Monitor (ZIM) with Conventional Interface Card (CIC) fitted**



- 1 = Sounder circuits end of line \*
- 2 = Zone circuits end of line
- 3 = Alarm triggering resistor

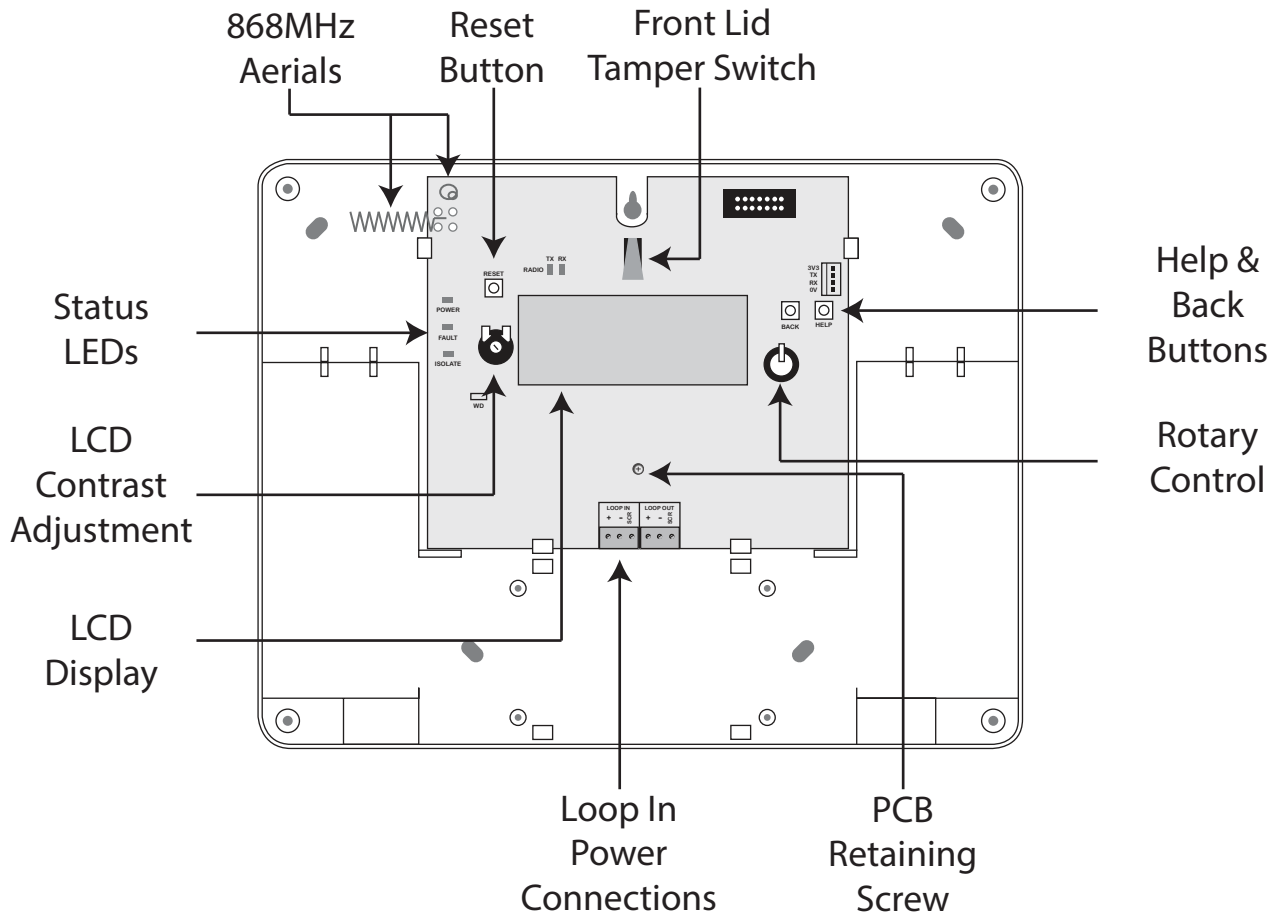


**Wireless Zone Monitor (WZM)**



**Footnotes:**  
\* Ensure the manufacturer's specified end of line components and triggering resistors are fitted. See the Control Panel's instructions for details.

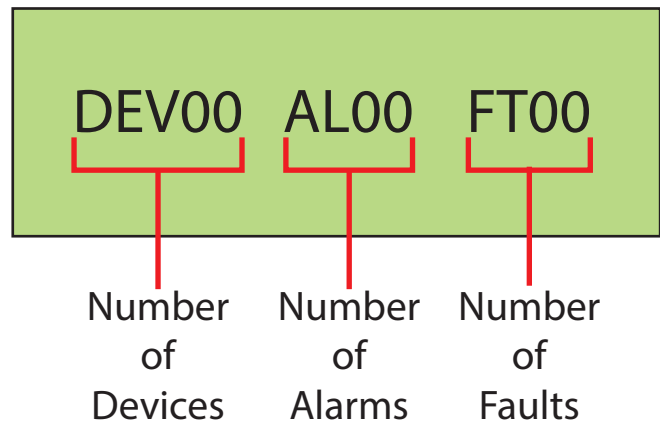
# Wireless Zone Monitor Overview



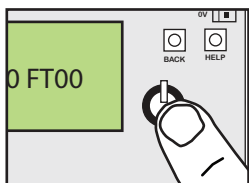
# Wireless Zone Monitor Display

The front display of the WZM indicates the number of devices allocated to the module, along with the amount of devices currently in alarm and fault conditions.

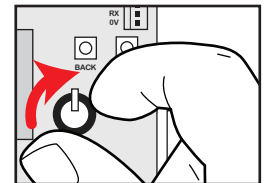
These three fields can range between 00 and 31 and are displayed as shown:



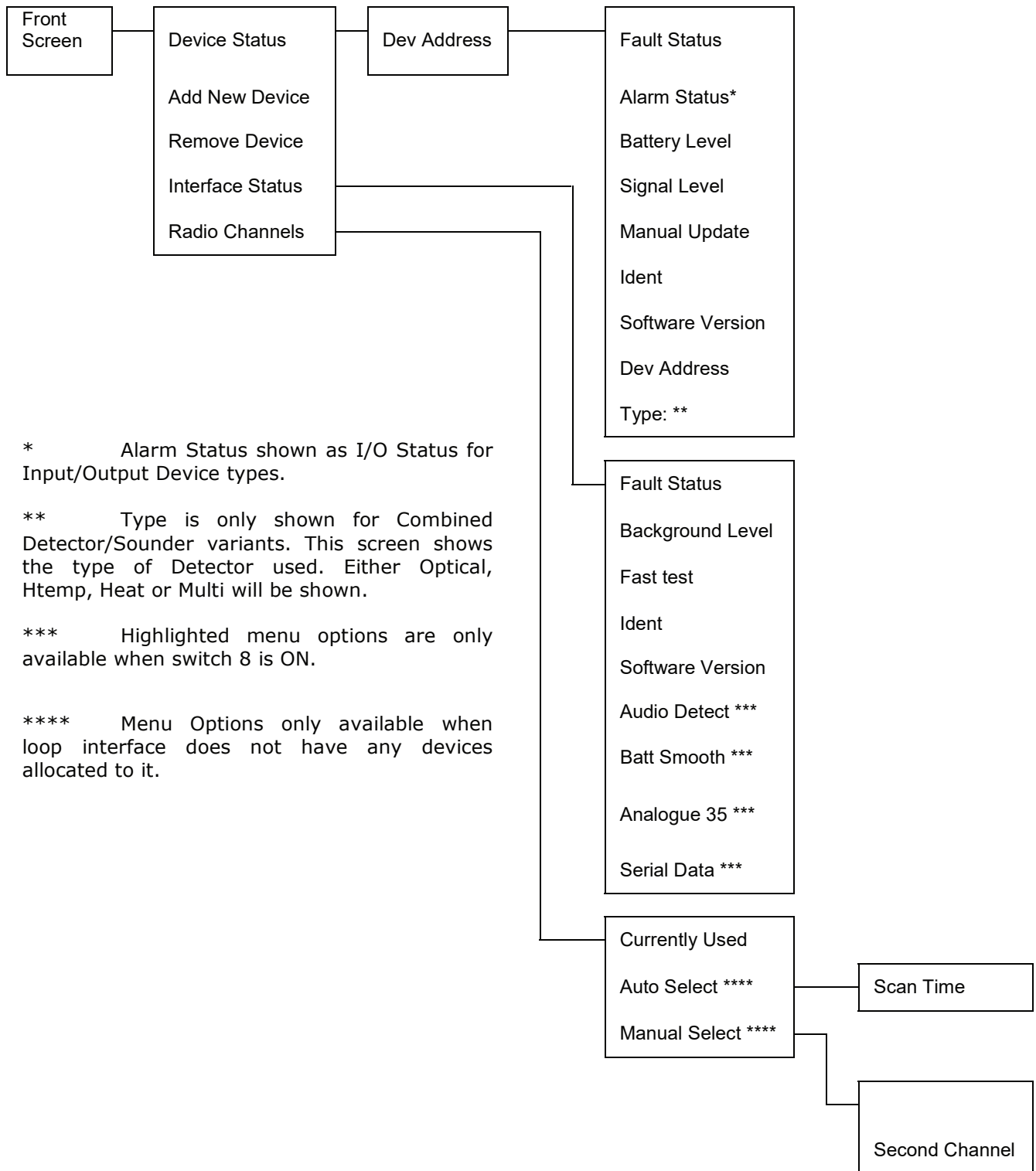
# Wireless Zone Monitor Rotary Control Operation



The Rotary Control is used to navigate the WZM's menu structure. It can be pressed and released to select a menu option. It can also be rotated to scroll through the available options.



# Wireless Zone Monitor Menu Structure



\* Alarm Status shown as I/O Status for Input/Output Device types.

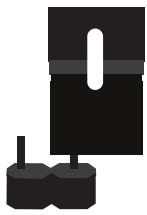
\*\* Type is only shown for Combined Detector/Sounder variants. This screen shows the type of Detector used. Either Optical, Htemp, Heat or Multi will be shown.

\*\*\* Highlighted menu options are only available when switch 8 is ON.

\*\*\*\* Menu Options only available when loop interface does not have any devices allocated to it.

# Step 3: Power Up the Devices

Detectors, Sounders, Callpoints, Input/Output Units and the Zone Interface Module have power jumpers that power the device as shown:



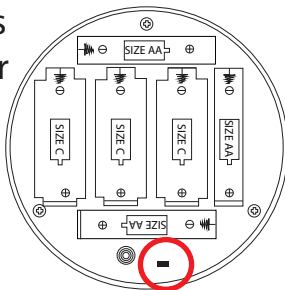
device unpowered  
(pins unlinked)



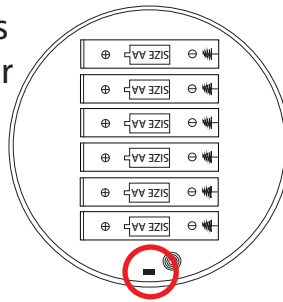
device powered  
(both pins linked)

Power jumper locations are shown below:

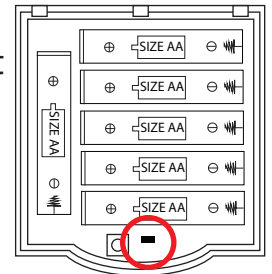
Wireless Sounder



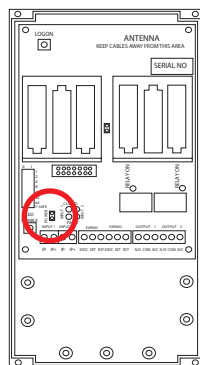
Wireless Detector



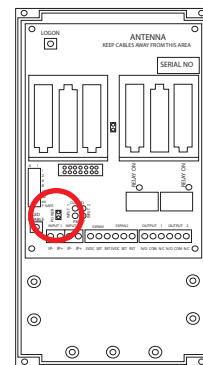
Wireless Call Point



Wireless Input Output Unit

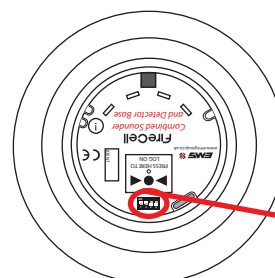


Wireless Zone Interface Module



Combined Sounder Detectors are powered by changing the orientation of Switch 1 as shown:

Switch 1 on = POWER ON



Wireless Combined Sounder Detector



## Step 4: Log On the Devices

Programming is achieved **manually** within the menu structure of the WZM.

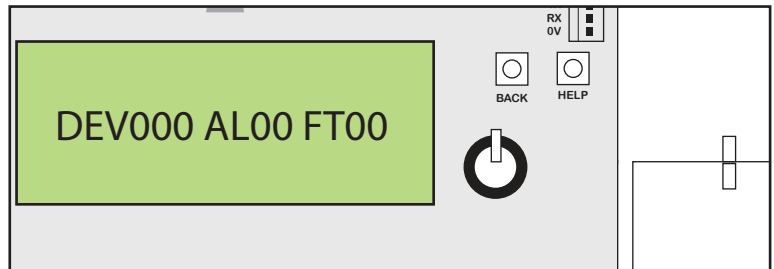


### Note

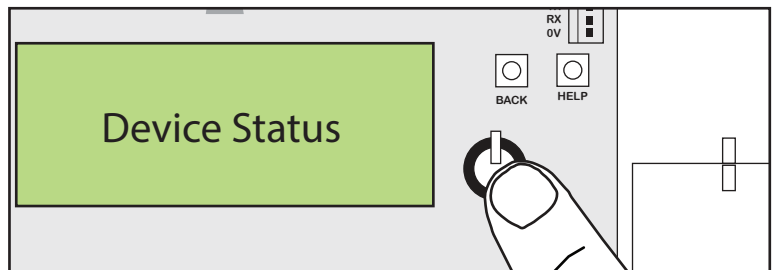
The EMS Zone Interface Module (ZIM) must be logged on before adding other wireless devices to the system.

The Log On process is as follows:

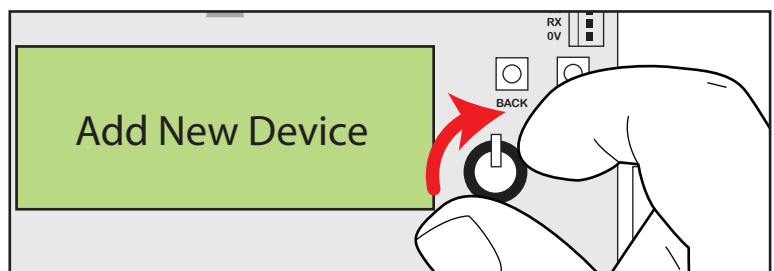
From Front display:



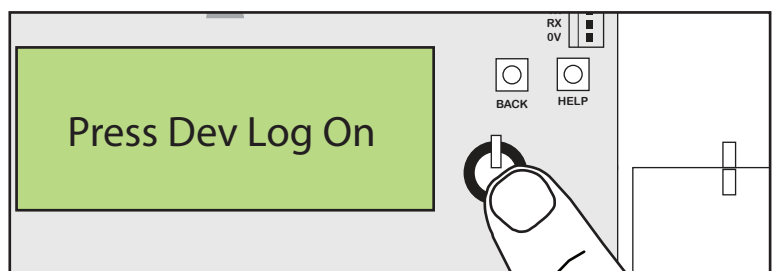
Click the rotary control, and the screen will display:



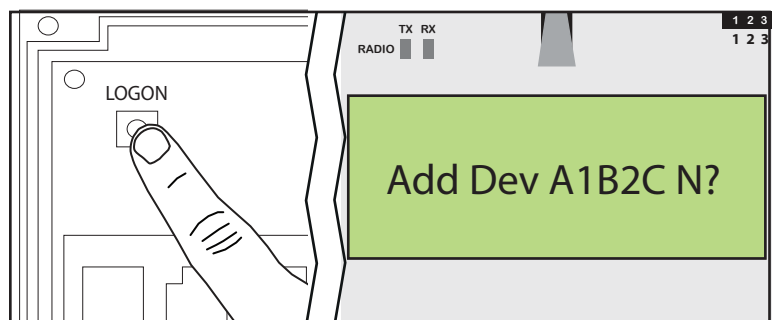
Turn the rotary control until the screen displays:



Click the rotary control, and the screen will display:



Press the device log on button for 3 seconds and the screen will display the devices 5 character alphanumeric ident:

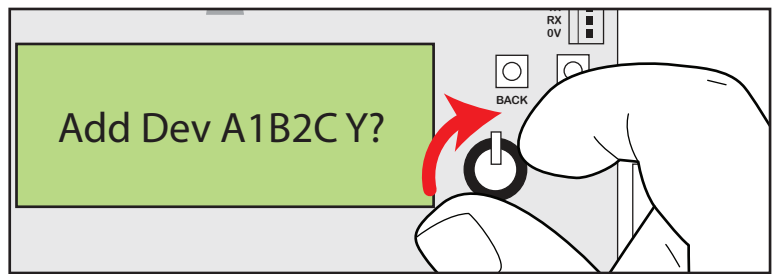


E.G. A1B2C

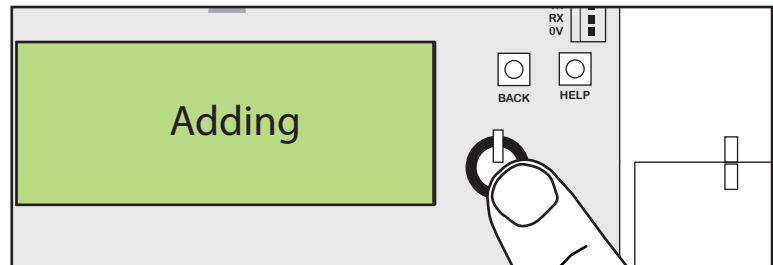
## Step 4: Log On the Devices (continued)

Turn the rotary control to change the N? to Y?

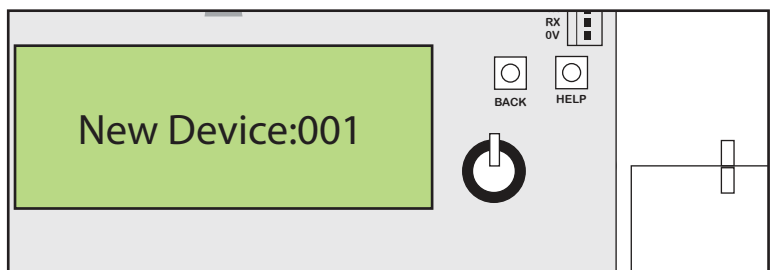
Where: N? = NO  
Y? = YES



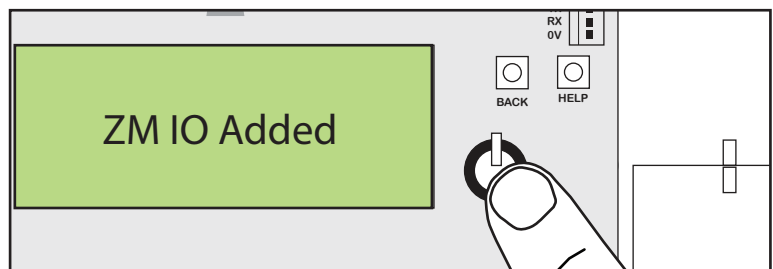
Click the rotary control and the screen will display:



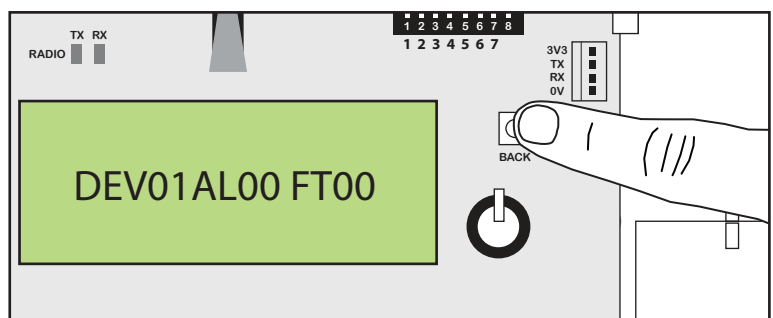
Followed by:



Click the rotary control and the screen will display:



The new device has been successfully added to the system. Once all of the required devices have been added to the system, press the back button repeatedly until the front screen is displayed:



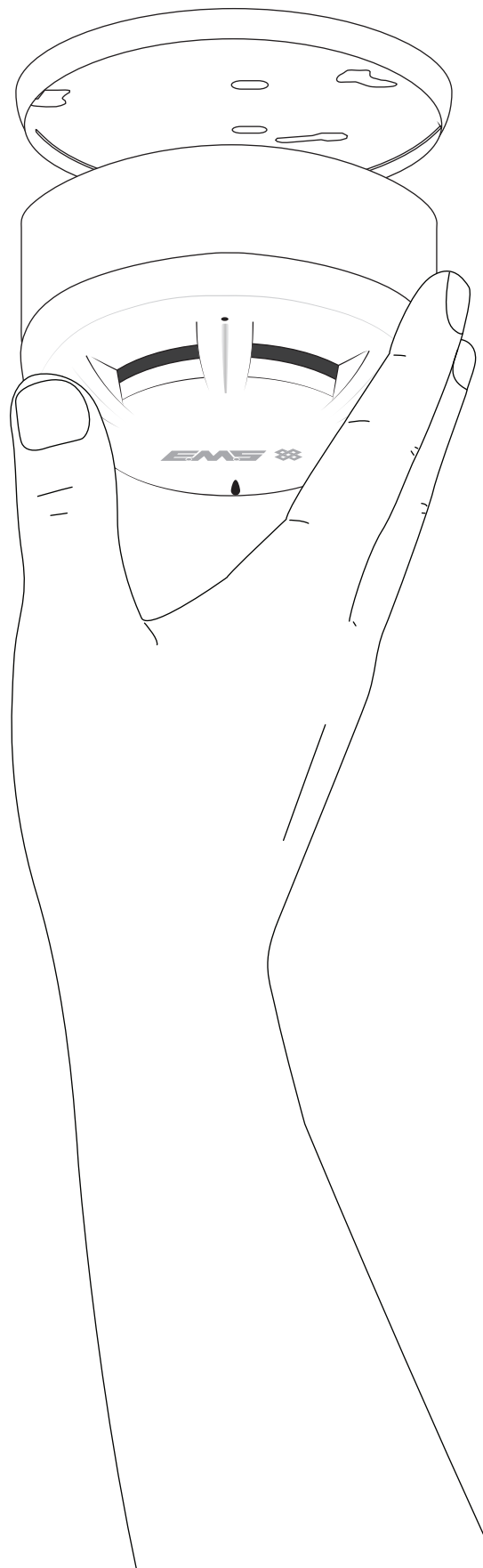
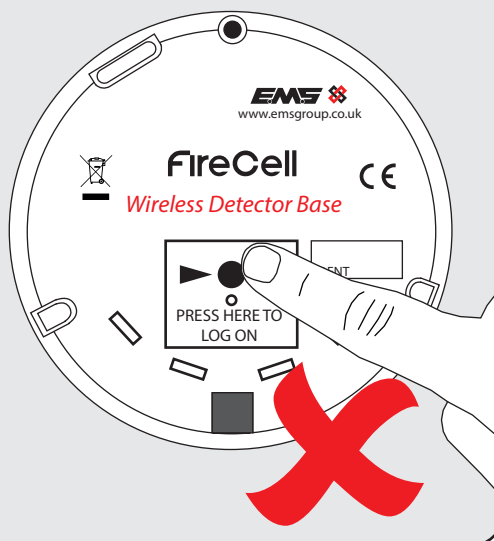
## Step 5: Install the Wireless FireCell Devices

Refer to the associated FireCell device installation guides for more information.



### Note

Do NOT Press the Log On button on a device that is logged on to the system as this will cause the communication with the WZM to be lost. Should this happen, delete the device from the system and add it back on.

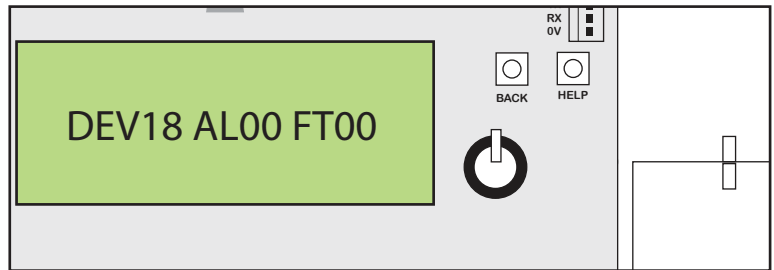




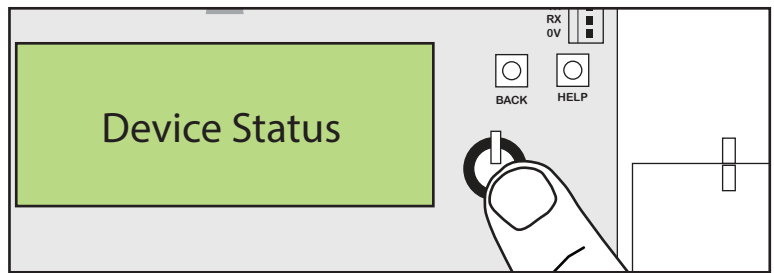
## Step 6: Check Signals

The signal levels for all wireless devices can be viewed as follows:

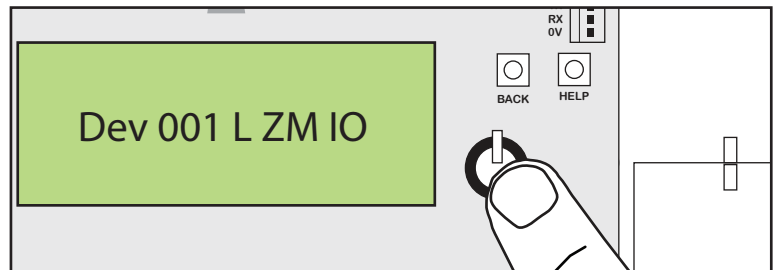
From Front display:



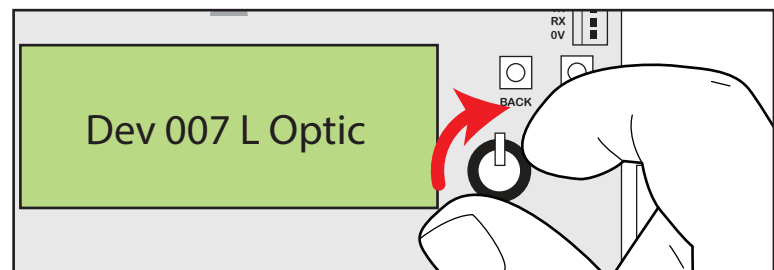
Click the rotary control, and the screen will display:



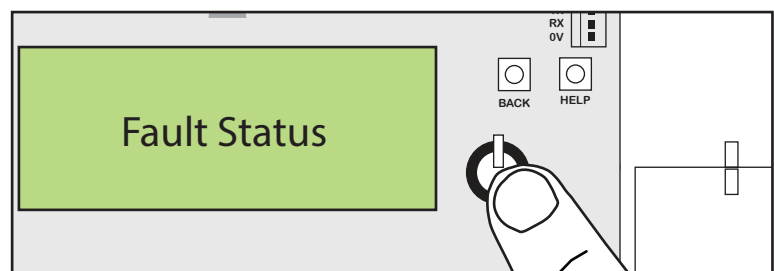
Click the rotary control, and the screen will display the first available device:



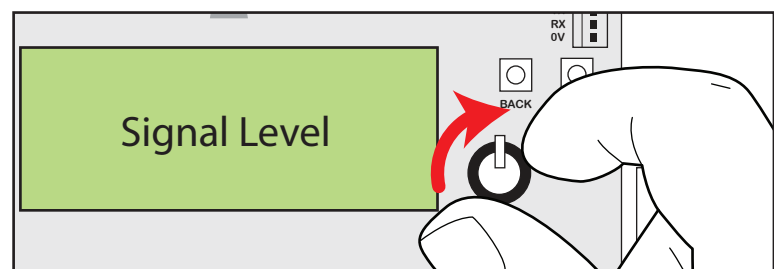
Turn the rotary control until the screen displays the required device:



Click the rotary control, and the screen will display:

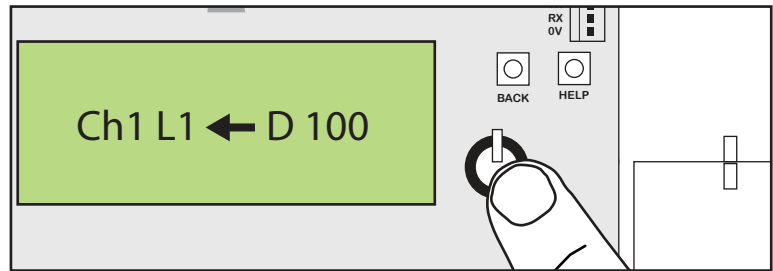


Turn the rotary control until the screen displays:

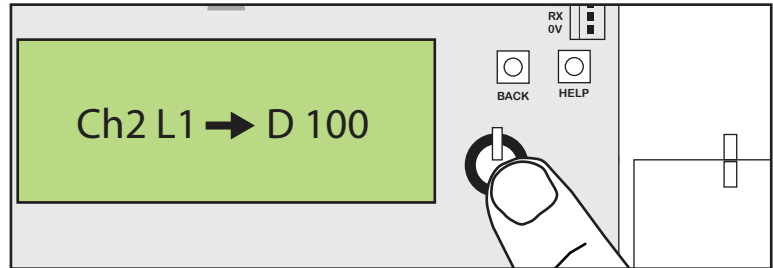


## Step 6: Check Signals (continued)

Click the rotary control, and the screen will display the signal level received at the WZM from the device:



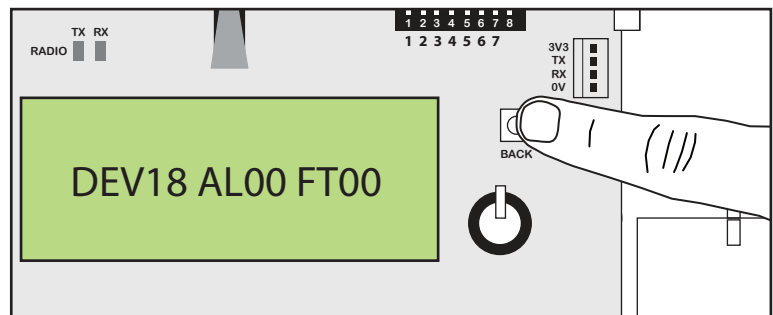
Click the rotary control, and the screen will display the signal level received at the device from the WZM:



This above displays detail information on the two signalling channels used by the Wireless Zone Monitor. The signal levels shown range from 100 - 0, with 100 being the highest signal to 0 where no signal is being seen, as shown below:

100	Shown indicates Good Signal Level
90	Shown indicates Good Signal Level
80	Shown indicates Good Signal Level
70	Shown indicates Good Signal Level
60	Shown indicates Good Signal Level
50	Shown indicates Good Signal Level
40	Shown indicates Medium Signal Level
30	Shown indicates Low Signal Level
20	Shown indicates Caution Signal Level
10	Shown indicates Caution Signal Level
0	Shown indicates No Signal Level Received

When all levels have been checked, press the back button repeatedly until the front screen is displayed:



## Frequently Asked Questions

When using these Frequently Asked Questions, the following symbols are shown for the internal controls on the Wireless Zone Monitor.



= Turn & Press Rotary Button to select relevant menu option.



= Press the Back Button to exit the menu.

**Q;** How do I remove a device from the system?

**A;** To remove a device on the WZM, select:

Front display  Remove Device  Select required device  Remove Device  
xxxxx Y?  01 Removed Optic






To Exit

**Q;** How do I replace a device on the system?

**A;** To replace a device on the system, the device must firstly be removed from the WZM (see above). Then the new device must be added to the system. (See previous Step 3 Log On Devices)

**Q;** I'm struggling to get detectors to go into fire upon routine test.

**A;** Detectors can be entered into fast test mode. Fast test heightens the detectors sensitivities, allowing the detectors to be triggered into an alarm condition quicker than normal. The led on the device will flash to indicate it is in this fast test mode. A time period of between 1 and 30 minutes is selectable which decrements and is then re-generated on a fire alarm event. The devices automatically come out of fast test mode when the timer expires or the fast test mode is exited. To place the detectors in to Fast Test Mode, select:

Front Display  Interface Status  Fast Test  Start Fast Test  Select Time



To Exit

**Q;** My system is showing a device fault/alarm. How do I find out what type of fault/alarm it is?

**A;** To view devices currently in fault or alarm, select:

Front display  Device Status  Select required device\*  Fault Status or Alarm Status



To Exit

\* An exclamation mark (!) will be shown whilst a device is in fault.

A fire symbol (🔥) will be shown whilst a device is in alarm.

**Q;** Why can I not change my radio channels?

**A;** Radio Channels can only be changed whilst no devices are added to the system.

## WZM Fault Rectification

Fault symptoms seen at the WZM and their relevant rectification processes are shown below:

Device Type	Symptom	Rectification Process
All Device Types.	In Tamper.	Check device is inserted correctly into its base.
All Device Types.	Battery Fault.	Check all batteries are inserted correctly. Check voltage on batteries. Replace batteries if necessary or re-insert correctly.
All Device Types.	Signal Fault.	Check devices is in its correct location. Check that the device is powered ( <i>see step 3</i> ). Test the device locally at the WZM. Check the devices signal level ( <i>see step 6</i> ).
I/O Unit and ZIM.	Short Circuit / Open Circuit.	Check the 20k end of line resistor is in place and that connections are secure.
Sounder.	No Sndr Audio.	Check for sounder audio. Also check the Audio Detect Switch on the wireless module. See device installation instructions for more information.
Sounder & Detector.	Head Missing.	Check head in situ and check connectivity of head to base. The head missing fault will clear upon successful re-location.
Detector.	Head Fault.	Check the head is fitted correctly. If the problem is not related to the Detector Head connection it is recommended that the Detector Head is replaced.
Detector.	Head Dirty.	It is recommended that the Detector Head is replaced.
Detector.	Pre Alarm.	Check device is in a clean environment and is free from smoke, dust and dirt.
Detector.	Alarm.	Ensure that the environment of the devices location is free of smoke residue and dust.
Call Point	Alarm.	Check the device's element is reset.

## Troubleshooting (when connected to an Addressable Control Panel)

### FireCell Sounders are not working.

Check the wiring from the ZIM's 'Input 1' to the Control Panel's associated fire output.

The ZIM's 'Input 1' status will reflect the following:

20K $\Omega$  = Normal Condition (Sounders OFF)

3K3 $\Omega$  = Alarm Condition (Sounders ON)

### FireCell Detector's LEDs are not switching off .

Check the wiring from the ZIM's 'Input 2' to the Control Panel's associated fire output.

The ZIM's 'Input 2' status will reflect the following:

20K $\Omega$  = Normal Condition (FireCell Detector/Call Point LED's OFF)

3K3 $\Omega$  = Alarm Condition (FireCell Detector/Call Point LED's (ON)

### I am getting a Fault Condition at the Control Panel.

This fault can occur for the following reasons:

A - Faults on the WZM.

B - The ZIM is not logged on to the WZM? Whilst the ZIM is not logged on, the ZIM's default output state is energised.

C - Check the wiring from the ZIM's 'Output 2' to the Control Panels associated fault input.

Note: If the Panel's 'Fault' input is end of line (EOL) monitored, ensure the manufacturers specified EOL component is fitted. See the Control Panel instructions for more information.

### FireCell Detectors/Call Points are not triggering the Control Panel.

Check the wiring from the ZIM's 'Output 1' to the Control Panel's associated fire input.

Note: If the Panel's 'Fire' input is end of line (EOL) monitored, ensure the manufacturers specified EOL component is fitted. See the Control Panel instructions for more information.

## Troubleshooting (when connected to a Conventional Control Panel)

### FireCell Sounders are not working.

Check the wiring from the ZIM's CIC cards 'Sounders - L1 L2' connection to the Control Panel's connected Sounder Circuit.

### FireCell Detectors LEDs are not switching off.

Check the wiring from the ZIM's CIC cards 'Zone - L1 L2' connection to the Control Panel's connected Zone Circuit.

### I am getting a Zone Fault Condition at the Control Panel.

This fault can occur for the following reasons:

A - Faults on the WZM. *(Only if WZM faults are monitored on the Zone Circuit).*

B - The ZIM is not logged on to the WZM? Whilst the ZIM is not logged on, the ZIM's default output state is energised. *(Only if WZM faults are monitored on the Zone Circuit).*

C - The fault may also relate to an incorrect or missing Zone Circuit end of line (EOL). Ensure the manufacturers specified EOL Component is fitted. See the Panel's instructions for more info.

### I am getting a Sounder Fault Condition at the Control Panel.

This fault can occur for the following reasons:

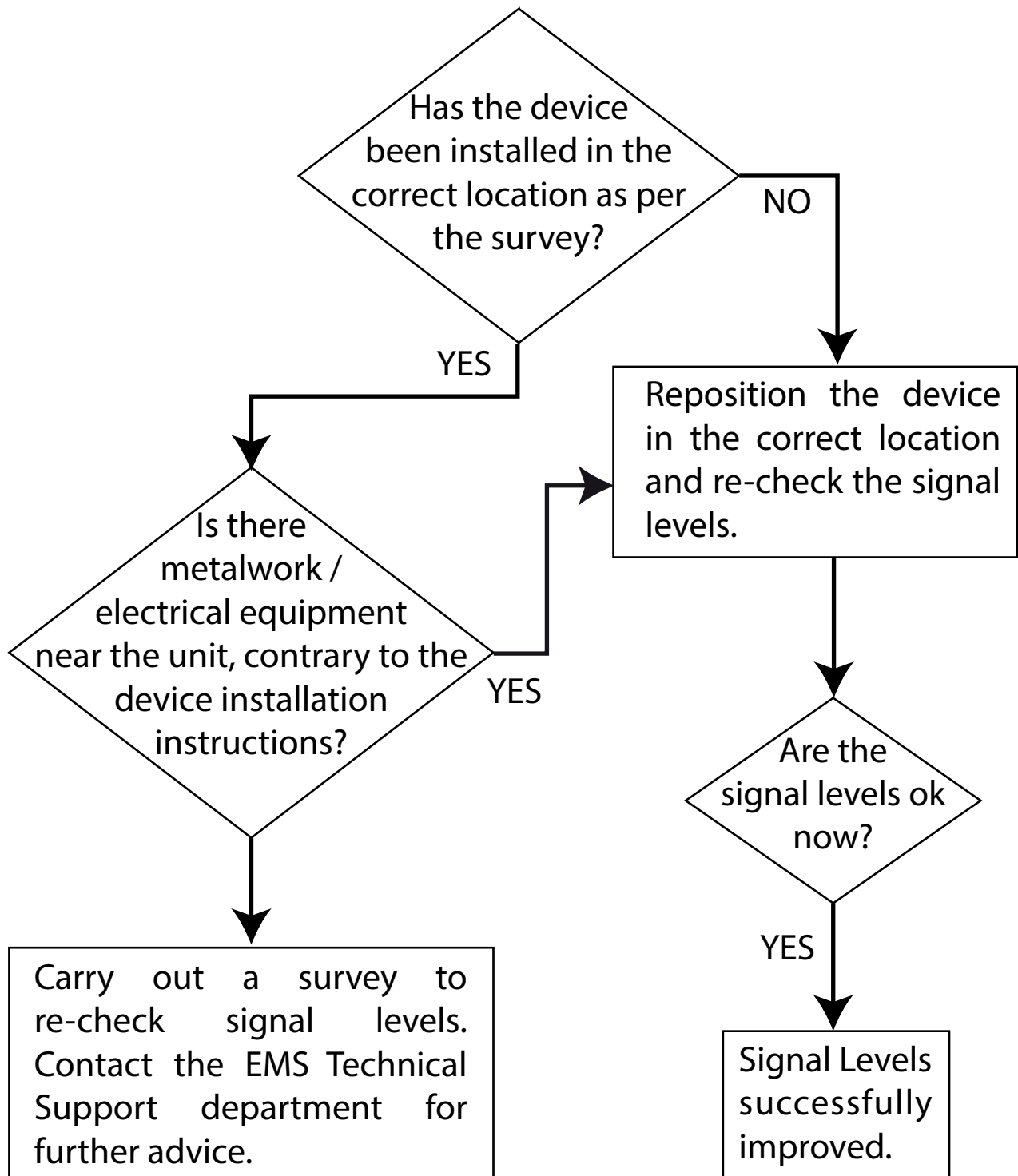
A - Faults on the WZM. *(Only if WZM faults are monitored on the Sounder Circuit).*

B - The ZIM is not logged on to the WZM? Whilst the ZIM is not logged on, the ZIM's default output state is energised. *(Only if WZM faults are monitored on the Sounder Circuit).*

C - The fault may also relate to incorrect or missing Sounder Circuit end of line (EOL). Ensure the manufacturers specified EOL component is fitted. See the panel's instructions for details.




# How To Improve Device Signal Levels

Device signal levels can be improved by following the flowchart below:







-  [www.emsgroup.co.uk](http://www.emsgroup.co.uk)
-  +44 (0) 1227 369570
-  [enquiries@emsgroup.co.uk](mailto:enquiries@emsgroup.co.uk)



Fire Industry Association



The information contained within this literature is correct at time of publishing. EMS reserves the right to change any information regarding products as part of its continual development enhancing new technology and reliability. EMS advises that any product literature issue numbers are checked with its head office prior to any formal specification being written.