ED

Zerio Plus

EDA-Z5008 & Z5020

Radio Fire Alarm System

User Manual

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Electro-Detectors

Revision History

Manual Version	Author	Software Version	Date	Description
V1.00	DR		03-06-11	First Release User Manual
V1.01	DR		19-07-11	Technical Manual Added

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1.   Introduction

Electro Detectors has been manufacturing radio fire alarm systems since 1987 and with the introduction of a harmonised specification for Europe has now complemented its range of products to meet EN54 Part 25. Based on the popular Zerio system, it has been designed to be capable of handling 240 devices in 20 zones. Typical installations would include small offices, private houses, HMO's, guest-houses and small hotels.

The system has been designed to allow very simple set up with most operations being automated and is capable of displaying full text and having sophisticated cause and effect programming.

The panel requires a single 7.0Ahr Lead Acid battery to achieve 72 hours standby. If wired booster panels or other ancillary equipment is connected to the system then care should be taken to ensure that the standby battery time is not effected. See appendix

Devices for the system are visually the same as the standard Millennium devices but are labelled differently with a blue label. These devices are not compatible with the Millennium or Zerio range of fire alarm equipment.

A memory module is plugged into the processor board. This stores a copy of any set-up information including device text and cause and effects. This can be used as a means of swapping data between panels should the need arise.

In order to program and log devices into the system, the system uses a radio interface. A cable is no longer needed with the Zerio Plus system. The system also stores the data programmed into each device allowing replacement devices to be easily cloned onto the system.

Prior to installation, the building where the system is to be installed must be surveyed to ensure that each device to be fitted has a good radio communication path to the control or booster panel . If this is not done correctly the system will operate unreliably.

When installing devices, they must be positioned as per the survey. Installing a device even a few inches from the surveyed position can reduce the signal strength significantly, especially if any metal work is contained in the ceiling above the new position (e.g. air-conditioning ducting).

When manufactured, each device is programmed with a unique ID. Whenever a device transmits a message this ID is included as part of the message. Also included in the message is the status (i.e. alarm condition, unit removal, low battery etc). The amount of smoke inside the head at the time of the transmission is included as part of the message. Even if there is no change in status, the device will transmit an 'I'm OK' verify message approximately every 60 seconds. If these transmissions are not received from the device within the verify period (typically 400 seconds) then a 'Verify Fail' fault is generated.


IMPORTANT

Failure to perform an accurate survey will result in the system being unlikely to function correctly. These errors can be costly to correct.

Points to remember:
1. **Position the panel where it is to be installed**
2. **Ensure devices are surveyed for their exact positions touching the ceiling or wall. A few inches either side may affect the signal strengths substantially.**
3. **In order to have an accurate survey the batteries in the survey detector should be changed at least once a year**

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2.   Front Panel Display and Keys

Figure 1.1 Front Panel Display and Buttons
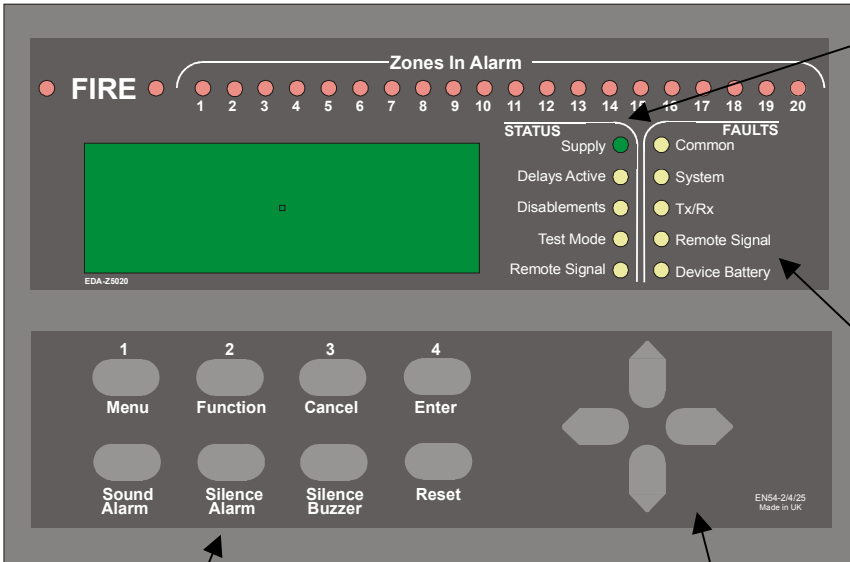
Status
Supply – This LED will be illuminated when mains is present
Delays Active – Illuminated if a fire condition exists and delays are programmed.
Disablements-Illuminated if any devices or zones are isolated.
Test Mode-Illuminated if any test modes are operational. The buzzer will pulse and can be silenced by pressing 'Silence Buzzer'
Remote Signal-Not implemented.

Faults
Common – Device or panel has a fault – see the main display for details.
System – System failure.
Tx/Rx – Not implemented.
Remote Signal – Not implemented.
Device Battery – Not implemented.

Keys
Menu – Press to initiate the menu system. If held down for longer than 2 seconds, the LED's will follow a test sequence (lamp test).
Function 1 – Programmable for use as Evacuate and Alert functions. The default is to do nothing. By use of special software these function keys can be programmed perform specialist functions
Cancel - Used to return to the main screen from a menu or to return to the menu from a programming screen.
Enter - This is used to accept information programmed into the panel.
Sound Alarm – To sound the alarms this button should be pressed. Following an alarm condition that has since been silenced, pressing this button will re-sound the alarms
Silence Alarm - If the panel is in a fire condition this will silence the sounders.
Silence Buzzer- Silences the panel buzzer for all currently displayed faults (fault acknowledgement).
Reset – Resets the panel from an alarm or fault condition. Note that the system must be silenced before it can be reset from a fire condition.

Navigation Keys
Used to navigate through the menu structure and programming / status screens.
In a multiple fault or alarm condition, the up and down arrow keys allow the user to scroll through all the current events. The display will also scroll automatically every 4 seconds.

Electro-Detectors

3. <u>User Operation</u>

> **Please note: No operator serviceable parts are contained within this panel. Always refer to a qualified technician for parts and servicing.**

3.1 System Normal

In normal operation the screen will show either the date and time, or the supplier/service contact details. If requested by the customer, the unit will be configured to alternate between the two. Also a single green "Supply" LED will be illuminated.

```
    A.N.Other Fire
     01234 5678901
```

```
       Thursday
      25-05-2011

       11:02:31
```

3.2 Fault Conditions

If a fault occurs, a message will be displayed and the internal buzzer will sound. The top line of the message will alternate between the supplier/service contact name, and their telephone number. The second line details the current fault number, the device type, and the device number. The third line details the fault type. Finally, on the bottom line, the device location is displayed (if programmed). The description has a maximum length of 59 characters and will scroll across the screen if more than 20 characters. Appropriate action should be taken to remedy the fault as this may affect the operation of the fire alarm system. If in doubt, the system maintenance company should be contacted.

```
    A.N.Other Fire
001 SMOKE/SOUND 005
UNIT REMOVAL
1st Floor Garden Entr
```

```
     06677 663425
001 SMOKE/SOUND 005
UNIT REMOVAL
1st Floor Garden Entr
```

If more than one fault exist on the system they will scroll round every 5 seconds. Pressing the '↑' or '↓' cursor key will automatically move to the previous or next fault.

3.3 Silence Buzzer

If the panel buzzer is sounding following a fault, it can be silenced with the 'Silence Buzzer' key.
Once the 'Silence buzzer' button has been pressed the panel assumes that the fault has been acknowledged and does not re-sound the buzzer, unless a new fault occurs. The indicator on the device will continue to flash until the fault is reset – see below.

3.4 Reset a Fault

A fault will be displayed on the panel until the system is reset, even if the fault condition has been rectified. Assuming the fault has been rectified, pressing reset on the panel will reset the panel and the devices on which a fault has occurred. The system normal screen will then be displayed. If the fault is still present or re-occurs it will be re-displayed. Where there are multiple faults, all will be reset at the same time. It is not necessary to silence a fault before resetting it. The particular device or devices in fault will also flash a green LED and beep.

For a list of faults, their most common causes and ways to rectify faults see Appendix 7.

3.5 Alarm Conditions

In a fire condition, a screen similar to that below will be displayed. The Fire LEDs will flash and the appropriate zone LED(s) will flash and the system sounders will be activated (assuming the system is programmed to do this). The first two lines on the display details the first zone that has been activated, the last zone to activate, and the total number of zones in alarm. The third line details the event number, device type and its number. If the device location has been programmed on the panel, the last line details the text location of the device in alarm. If this description is longer than 20 characters it will scroll across the screen. If more than 1 alarm occurs, the bottom two lines will scroll across the screen

```
ZN: FIRST LAST  TOTAL
     001    001    001
001 CALLPOINT 006
First Floor Next to W
```

3.6 Silence the Alarm.

When it is certain that it is safe to return to the building the 'Silence Alarms' button should be pressed. The user will then be prompted to enter a valid user password. Up to 30 seconds should be allowed for all sounders to silence with a radio system. If the device is still in an alarm condition the sounders will not sound again unless another device goes into alarm. The sounders will automatically silence after 60 minutes.

3.7 Re-Sound the Sounders

There may be times when the sounders have been mistakenly silenced - for example if the alarm was genuine but someone mistakenly pressed silence. To re-sound the alarm, press the 'Sound Alarm' button.

3.8 Reset the Alarm

Assuming the reason for the alarm condition has been investigated, pressing 'Reset' after silencing the alarm will return the system to its normal operation screen. Again, the user will need to enter a valid password. The screen will display any faults that were detailed prior to the alarm condition or any new fault that occurred during the alarm condition. If the device has remained in alarm (i.e. the glass has not been replaced in a callpoint or a smoke detector still thinks smoke is inside the unit) after silencing the alarm and then pressing RESET, the panel will re-display the alarm and sounders will sounder again.

3.9 Menu Navigation

To enter the menu system, press 'MENU' and enter a valid password. 'Main Menu' will appear. *The options available on the main menu (and sub-menus) will be depend on the password entered, which is determined by the access level*.

To scroll through the menu the '↑' or '↓' keys should be pressed. In order to select a menu option the '→' key should be pressed. To return to the previous menu screen from a sub-menu the '←' should be pressed. Pressing 'Cancel' will return to the system screen where any faults or alarms will be displayed if present.

If a non-menu screen is selected the 'Cancel' button should be pressed to return to the menu also without making any changes. Subsequently, then pressing 'Cancel' will return to system normal screen.

If any changes are made to settings, these are generally saved using the 'Enter' key as detailed on the display. If an alarm occurs while in menu mode, the menu will be automatically cancelled, and the alarm message displayed. If a fault occurs while in the menu mode, the fault LED will light, but the display will remain in the menu mode until cancelled in the usual way.

If the screen is left unattended for a period of time (default 5 minutes) the screen will automatically return to the normal screen.

```
    Main Menu
1→Setup
2 Disable/Enable
3 View Events
```

3.10   Changing the system date and time – all access levels

To set the date and time, press 'MENU', enter the correct password, select '1-Setup', '1- Time & Date'. Use the ←and→ keys to navigate to the value to change and the ↑ or ↓ keys to select the desired value. Press 'ENTER' to accept or 'CANCEL' to exit. The Zerio Plus panel automatically adjusts the clock for daylight savings. Should complete power be lost the panel will revert the time back to the default of 01/01/2011 12:00:00

```
Time: 12:29:00
Date: 01-01-2011


   ENTER to save
```

3.11   Isolating a Zone – all access levels

If a zone is isolated the system will not display any fire or fault events for devices located in the zone. This includes any call point activations.

Press 'MENU', enter the correct password, select '2-Disable/Enable', select '1-Disable', select '1-Disable Zone'. Using the ↑ or ↓ keys, select the zone number to be disabled and press the '→' key. Select the timeout (in hours) followed by the '→' key. Finally, as indicated on the display, press 'ENTER' to save the change. After this time has expired the isolated zone(s) will be automatically enabled. Press 'ENTER' to confirm the change (or 'Cancel' to exit without changing). The 'Disablements' LED will be illuminated. If more zones need to be isolated press 'ENTER' again, or press 'CANCEL' to exit.

```
  Select Zone 01↕          Timeout (hours) 01↕          Press ENTER to
                                                        Disable Zone 01
   Use ← → keys              Use ← → keys
```

To view which zones are disabled, select the appropriate ENABLE operation detailed below. Only the previously disabled zones can be selected to be re-enabled. If no changes are required, press CANCEL.

3.12   Isolate a Device – all access levels

Once a device is isolated the system will ignore any fire or fault event from that device.

Press 'MENU' and enter a valid password. Select '2-Disable/Enable', select '1-Disable', select '2-Disable Device'. Using the ↑ or ↓ keys select the device number to be disabled and press the '→' key. Select the timeout (in hours) followed by the '→' key. Finally, as indicated on the display, press 'ENTER' to save the change. After this time has expired the device that was isolated will automatically be enabled. Press 'ENTER' to confirm the change (or 'Cancel' to exit without changing). The 'Disablements' LED will be illuminated. If more devices are to be isolated press 'ENTER' again, or press 'CANCEL' to exit.

```
  Select Device 01↕         Timeout (hours) 01↕          Press ENTER to
   SMOKE/SOUNDER                                         Disable Device 01

   Use ← → keys              Use ← → keys
```

To view which devices or zones are disabled select the appropriate ENABLE operation detailed below. Only the previously disabled devices or zones can be selected to be re-enabled.

3.13   Enable a Zone – all access levels

To enable a previously isolated zone, press 'MENU' and enter a valid password. Select '2-Disable/Enable', select '2-Enable', select '1-Enable Zone'. Using the ↑ or ↓ keys select the zone number to be enabled and press 'ENTER'. To enable more zones press 'ENTER', or 'CANCEL' to exit. If all zones have been enabled 'No Zones to enable' will be displayed. If a previously disabled zone is enabled, and no other 'Disablement' conditions exist such as an isolated device/zone, then the 'Disablements' LED will extinguish.

```
  Select Zone 01↕          Press ENTER to
                           enable Zone
   Use ← → keys
```

3.14 Enable a Device – all access levels

To enable a previously isolated device, press 'MENU' and enter a valid password. Select '2-Disable/Enable', select '2-Enable', select '2-Enable Device'. Using the ↑ or ↓ keys, select the device number to be enabled and press 'ENTER'. To enable more devices press 'ENTER' or 'CANCEL' to exit. If all devices have been enabled 'No Devices to enable' will be displayed. If a previously disabled device is enabled, and no other 'Disablement' conditions exist such as an isolated device/zone, then the 'Disablements' LED will extinguish.

```
   Select Device 01↕


   Use ← → keys
```

```
   Press ENTER to
   enable Device 01
```
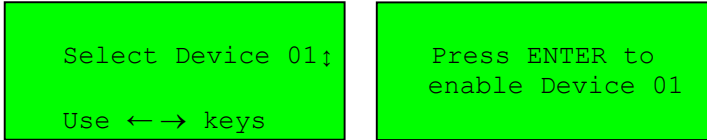
3.15 Viewing Event History – all access levels

To view a log of historical system events, press 'MENU' followed by a valid password and select '3-Event Log '. A sub menu will appear detailing 'VIEW EVENTS'. Select this using the cursor keys. The display will then show the most recent event. Use the up/down keys to scroll through the recorded events. The panel stores up to 255 fire or fault events in memory. A description of the fault or fire is recorded together with the date and time of the event. When the log becomes full the oldest entries are automatically removed to make room for new ones. To scroll through the event log use the cursor keys.

```
   13:24:15 01/05/11
001 CALLPOINT 06
UNIT REMOVAL
1st Floor Landing
```
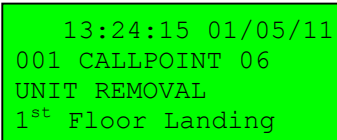
4. Advanced User Operations

> **Please note: No operator serviceable parts are contained within this panel. Always refer to a qualified technician for parts and servicing.**

4.1 General

Assuming the correct password is entered, the user can sign on as an advanced user. This allows some extra functions not available to the basic user. Only people who have been trained in the operation of the system should be allowed access at this level as certain operations of the fire alarm can be disabled (although they will be automatically enabled after a short timeout period)

4.2 View Access Codes – Advanced, Service and Commissioning users only.

The access code / password is a 4 digit number with each digit in the range of 1 to 4. To view the current passwords press the 'MENU' button and enter the correct password for an 'Advanced User'. The default is 2222. Using the cursor keys, select '1-Setup', select '2-Access Codes' and select '1-View Codes'. A screen, as shown below, will list the passwords for the basic user labelled 'AL1' and the advanced user labelled 'AL2'. Access codes for other users (Service or Commissioning) can only be viewed if entering the menu system as one of those users.

```
AL1 1111  AL2 2222


   CANCEL to exit
```

4.3 Changing Access Codes – Advanced, Service and Commissioning users only.

An advanced user can change the password for the basic and advanced user. The password is a 4 digit number with each digit ranging from 1 to 4. To change the password, press the 'MENU' button, select '1-Setup', select '2-Access Codes' and select '2-Change Codes. Using the cursor keys, select either the 'advanced user' (Access Level 2) or the 'basic user' (Access Level 1). Once selected, press '→' key to continue. Using the numbered keys enter the current password. Assuming this matches the stored user code you will be prompted to enter the new password and then re-enter the new password to confirm. Press 'ENTER' to save the new password, or cancel to exit without saving. A message will be displayed indicating that the password is being saved to the SIM and flash memory. At each stage, the process can be aborted by pressing and holding the 'CANCEL' key.

```
 Access Level 1↕      Enter Current Code      Enter New Code        Confirm New Code
   Basic Use               ----                  ----                  ----

 Use ← → keys        Hold CANCEL to exit    Hold CANCEL to exit    Hold CANCEL to exit
```

4.4 Select Test Mode – **Advanced, Service** and **Commissioning users only.**

BS5839 and EN54 specify what tests should be performed, and at what intervals. ALWAYS FOLLOW ANY TESTING SCHEDULE OR ROUTINE RECOMMENDED BY THE SYSTEM INSTALLER. As a rough guide the system should be tested weekly, but sounders only need to be tested every month.

Test mode allows a system to be tested with minimal disruption to the occupants of a building. This is achieved by putting into Test Mode, any zone(s) in which a device to be tested is located, which normally disables output devices and/or sounders from operating should an alarm occur within the Test Mode zone(s).

Either a zone or group of zones can be selected to be tested. Should anything happen outside of these selected zones the system will operate as normal and the sounders will sound. If the whole system is to be tested or the system wants to be soak tested then all zones can be isolated by using the 'ALL' setting.

Test Mode is activated at the end of a sequence of instructions given on the screen to set various Test Mode parameters. Once selected, the option is also given to save the parameters so that they can be used for subsequent test mode operations. Note that Advanced, Service and Commissioning users each have their own set of parameters stored individually.

Note: whilst in Test Mode the Sound Alarm panel button will still operate as usual.

To select Test Mode, press 'MENU', and enter a valid password. Select '4-Test Mode' then select '1-Enable Test'.

### Zones – Advanced, Service and Commissioning users only

The system now requires that each zone to be operated in Test Mode is selected. Scroll to the appropriate zone number using the $\uparrow$ or $\downarrow$ keys, and press the 'ENTER' key to select that zone. A '*' will be indicated next to the zone number on the display. Use the $\uparrow$ or $\downarrow$ keys to select any other zones containing devices that are to be tested at the same time, pressing 'ENTER' key to select to select each zone in turn. If a zone is selected in error, it can be de-selected for test mode by using the $\uparrow$ or $\downarrow$ keys to scroll to that zone, and pressing 'ENTER' again. The '*' indicator next to the zone on the display will extinguish to show that the zone is no longer selected for test mode. If you want to test all zones then position the cursor by 'All' and press 'Enter'. A '*' indicator will be displayed.

Failure to select all the required zone(s) will mean the system will operate as normally for those zones – a device alarm within the zone will set an alarm in that zone.

Having selected the required zone(s), use the '$\rightarrow$' key to continue.

```
   Zone 05↕

ENTER to select
```
```
   Zone 05↕ *

  Use → keys
```
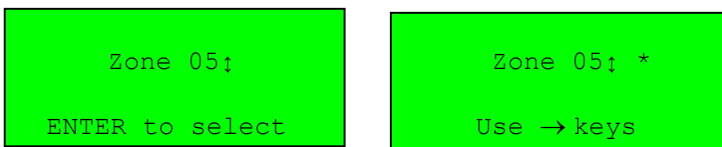
Sounders – Advanced, Service and Commissioning users only

If sounders within the zone are to be disabled, set 'Sounders' to OFF. If sounders are required to operate in test mode, set the parameter to ON.

```
  Sounders OFF ↕

ENTER to continue
```
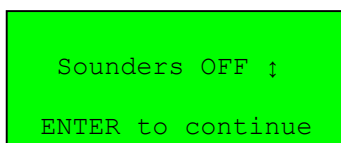
Tone Commissioning users only. Not implemented on early versions of the system.

If sounders are set to ON, they can be set for SHORT or FULL operation. A setting of SHORT causes any activated sounders to silence automatically after 6 seconds. The FULL option causes continual sounding until silenced at the panel. If using the short test tone, 60 seconds must be left after the sounders have silenced before testing further devices.

Actuators– Advanced, Service and Commissioning users only

If actuators are not required to operate then set 'Actuators' to OFF. Actuators are output devices used to control equipment like magnetic doors, other alarm systems, gas valve shut-offs, air conditioning etc. It would be normal for actuators to be isolated in an alarm test.

Beacons – Commissioning user only. Not implemented on early versions of the system.

If beacons are not required to operate then set 'Beacons' to OFF.

Callpoint Override – Commissioning user only

When set to YES, callpoints will cause an alarm and sounders will sound if operated in Test Mode. When set to NO, callpoints will not cause sounders to sound if operated in Test Mode. With YES selected, the service engineer can perform a silent system test for detectors while leaving the callpoints active.

Sound Area – Commissioning user only

Setting this to zero will sound all sounders providing the sounder option is on. By selecting a specific sound area a certain group of sounders can be operated that are programmed to this area.

This is useful so that during testing, a specific group of sounders (or single sounder) can be set of after each activation. Each test would only operate this sounder provided it was programmed to a unique sounder area.

Fire Relay– Advanced, Service and Commissioning users only

The fire relay inside the panel is often used as a way of triggering a link to the fire brigade or to an alarm monitoring station If this relay is required to be disabled, this parameter should be set to OFF. Always follow the procedure outlined by the system installer.

Timeout– Advanced, Service and Commissioning users only

This is the amount of time before the system will automatically exit test mode operation. This should be set slightly longer than the test should take. It can be set in 1 hour intervals and is selected using the cursor keys. A maximum of 48 hours can be set.

After setting the timeout value, the option is given to press 'ENTER' to enable Test Mode. Alternatively, the '←' key can be operated to go back through the parameters and make any changes, or 'CANCEL' can be pressed to abort any changes

```
     Press ENTER to
    enable Test Mode

       Use ← Key
```

After entering Test Mode, the 'Test Mode' LED will illuminate, and the panel will give the option to save the test mode setting for quick set-up in future. If unsure of the saved settings, select NO and then ENTER.

```
    Test Mode enabled
    Save Test Settings
           YES↕
    ENTER to continue
```

Devices that require testing should now be set into a fire condition and the details on the screen checked. Care should be taken to ensure the correct devices are tested as failure to do this could result in all the bells sounding.

Once the tests are complete and the user is satisfied that everything functioned correctly, the test mode should be disabled. If this procedure is forgotten the test mode will automatically time out after the selected period.

4.5   Disable Test Mode– Advanced, Service and Commissioning users only.

Press 'MENU', and enter a valid password . Select '4-Test Modes' then '2-Disable Test' Press 'ENTER' to disable test. The 'Test Mode' LED will extinguish.

4.6   View Saved Settings– Advanced, Service and Commissioning users only.

Press the 'MENU' button, select '4 - Test Modes' then '3 -View Test Settings. Use the ← →, keys to view the settings.

4.7   View Test Zones – Advanced, Service and Commissioning users only.

Press the 'MENU' button, select '4-Test Modes' then '4-View Test Zones. Use the ↑ or ↓ keys to view the Zones that have been put into Test.