

# FIREM

## FireM Advanced Fire Monitoring System Field Installation Manual

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# **FIREM** FireM Advanced Fire Monitoring System Field Installation Manual

## **Document Introduction**

This document provides technicians with the information necessary to install, test, and troubleshoot the FireM edge server.

## **Package Contents**

1. 1x FireM enclosure, *contains FireM edge server*
2. 1x Double pole double throw (DPDT) momentary LED switch
3. 1x Radio antenna
4. 1x DE-9 female socket to terminal block breakout

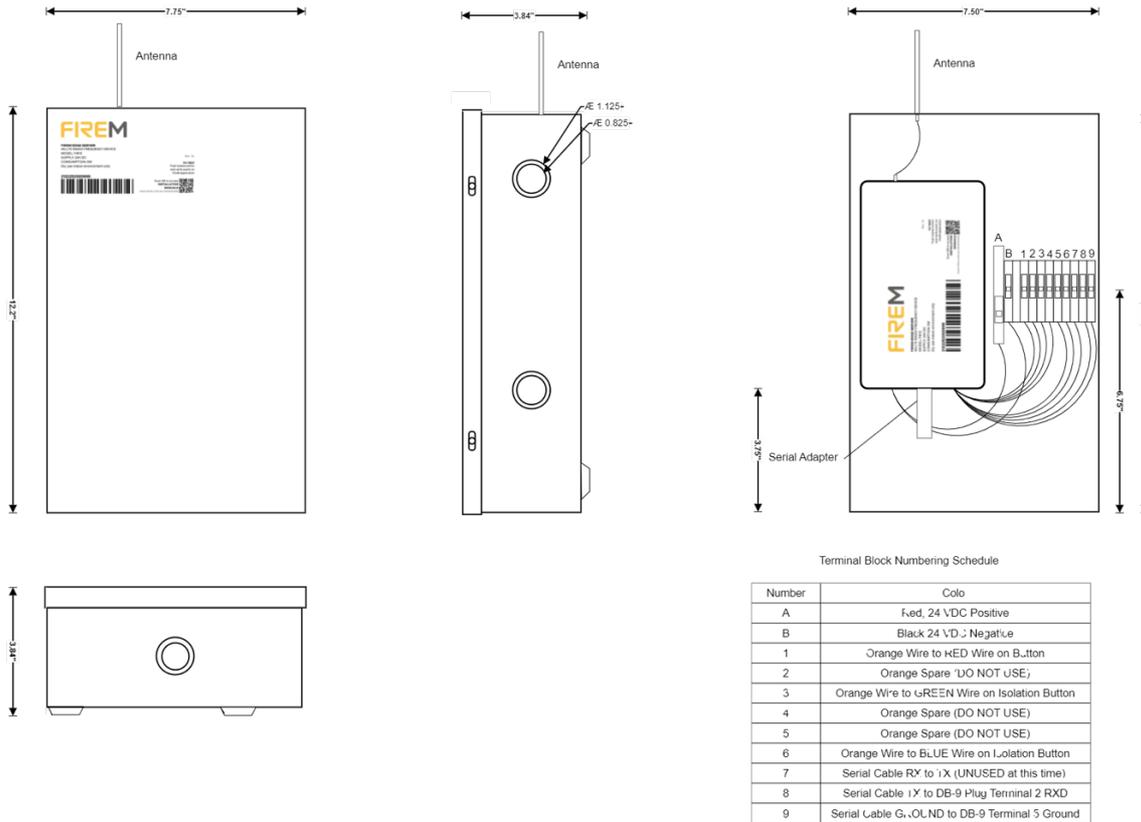
**Figure 1:** FireM enclosure



**Figure 2:** Exposed FireM enclosure internal wiring



**Figure 3: FireM enclosure layout**



## Material Required

The following material is required by the technician to install the FireM edge server.

1. Four (4) Conductor, Twisted, Shielded 18-22 GA wire with overall jacket
2. Two (2) Conductor, Twisted, Unshielded 16-18 GA stranded wire with overall jacket
3. 25mm (1 inch) Electrical Metallic Tubing (EMT)
4. 25mm (1 inch) Set screw type connectors

## Device Installation

Note that the installation configuration of the FireM edge server can vary based on the manufacturer and type of the fire alarm control unit (FACU) it is being connected to.

### WARNING

-  *The FireM edge server is intended to be installed in an indoor, dry environment no further than 6 meters (20 feet) from the FACU.*

### WARNING

- Do not power on the FireM device without first installing the provided antenna or, for locations with low cellular signal strength, the cable with remote antenna or yagi.*
-  *Power down the FireM device if the antenna needs repair or replacement prior to disconnecting. Failure to power down the FireM device prior to removing the antenna or cable to remote antenna or yagi may cause damage to the device's cellular components.*

### Fire alarm control unit (FACU) preparation

Before commencing installation, prepare the FACU for connection to the FireM edge server. To do so, refer to the relevant manuals provided by the manufacturer to which the FireM edge server is to be connected. Any programming of the FACU is to be done by an authorized trained technician.

The following is required from the FACU to install the FireM edge server:

- 24V DC power supply relay
  - Positive (+), red
  - Negative (-), black
  
- GPIB/HLI serial connection
  - Ground (GND)
  - Transmit (TX)

The FACU is now ready for connection.

### FireM-FACU installation

To connect the FireM edge server to the FACU, the following is required from the package contents:

- DE-9 female socket to terminal block breakout
- Double pole double throw (DPDT) momentary LED switch

Once these are prepared, device installation can commence. To power the device:

1. Identify the two 24V DC power supply relay wires on the FACU and prepare them for straight through connection to the FireM power terminal block.
2. Connect the red-color wire to the positive (+) terminal interface located on the left side of the power terminal block on the FireM device. Tighten the connection screw located on the topside of the terminal block to ensure the cable is secure.
3. Repeat step 2 for the black-colored wire connection to the negative (-) terminal interface on the right. Refer to *Figure 5* for reference to the connection terminals.
4. Use the LED indicator light on the top of the FireM device to determine if successful connection to the power supply has been made. Refer to the *Troubleshooting* section to identify potential issues with the connection.

To connect the FACU to the FireM to access event data:

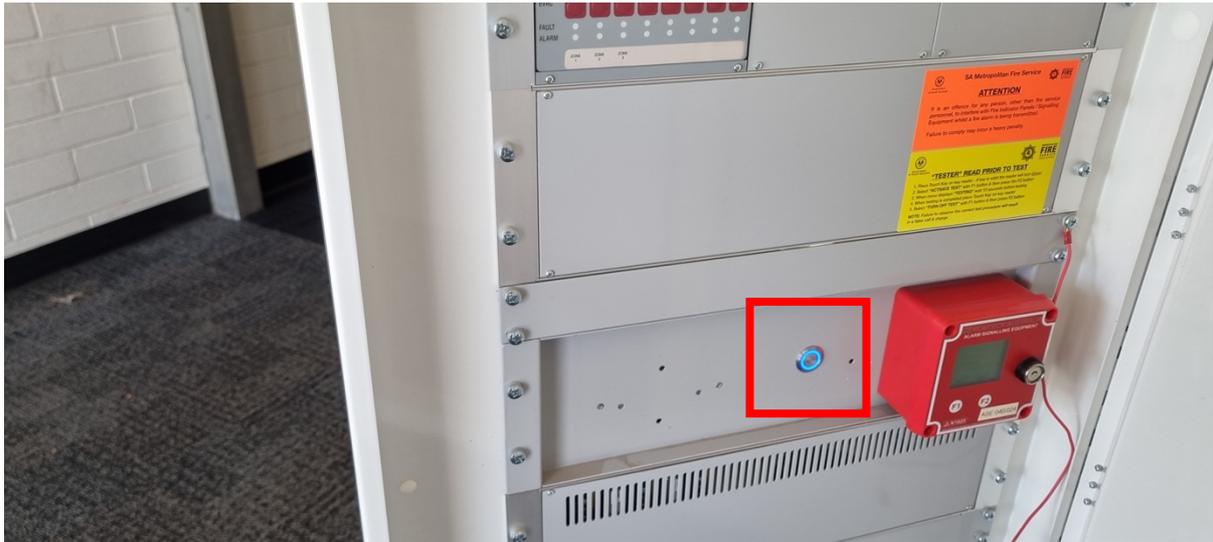
5. Identify the two GPIB/HLI connection wires on the FACU and prepare them for connection to the supplied DE-9 breakout.
6. Before connecting the wires to the DE-9 breakout, identify the type of connector that the FACU supports. If it is a straight through connection refer to *Table 2* for the wiring connections to be made. If the connection is crossover, refer to *Table 3* instead.
7. Open and expose the DE-9 breakout terminal and connect the GPIB/HLI wires as identified in step 6. Ensure the connections are secure and close the breakout case.
8. Plug the DE-9 interface into the FireM device.

To connect the DPDT momentary LED switch:

9. Identify and prepare the wires of the DPDT switch for connection to the 7-pin connection terminal on the FireM edge server. See *Table 5* for assistance with wire identification.

10. Connect the wires to the appropriate terminal input interface on the FireM device. Tighten the connection screws located on the topside of the connection terminal block to ensure the cables are secure. Refer to *Table 4* to identify the correct terminal connections.
11. Install the DPDT momentary LED switch in an appropriate location nearby the FireM device within the FACU. A 25mm (1 inch) hole saw may be required to create a hole that can securely hold the switch. *Figure 4* is an example of the switch securely installed within a FACU.

**Figure 4:** An installed DPDT momentary LED switch within a FACU



## Troubleshooting

Use this section of the manual to troubleshoot the FireM edge server.

**Table 1:** FireM edge server LED descriptions

LED	LED state	LED color	Description of LED state
PWR	Off	-	No power
	On	Red	Power, no connection
		Blue	Power, normal operation

If there is no power as indicated by the lack of LED on the FireM device, check the wiring to ensure that it is connected correctly, and that the polarity is correct.

If the LED light appears red, it indicates that the device is not connected to the internet. Firstly, ensure the antenna is correctly affixed to the device. If the antenna is connected, open the device enclosure to verify that the internal SIM card is presented and inserted correctly. If the LED remains red, contact FireM support.

If the device is connected but not posting events to the dashboard confirm the DE-9 connection is secure.

## Wiring Connections

Figure 5: FireM edge server terminal connections (not available in North America)

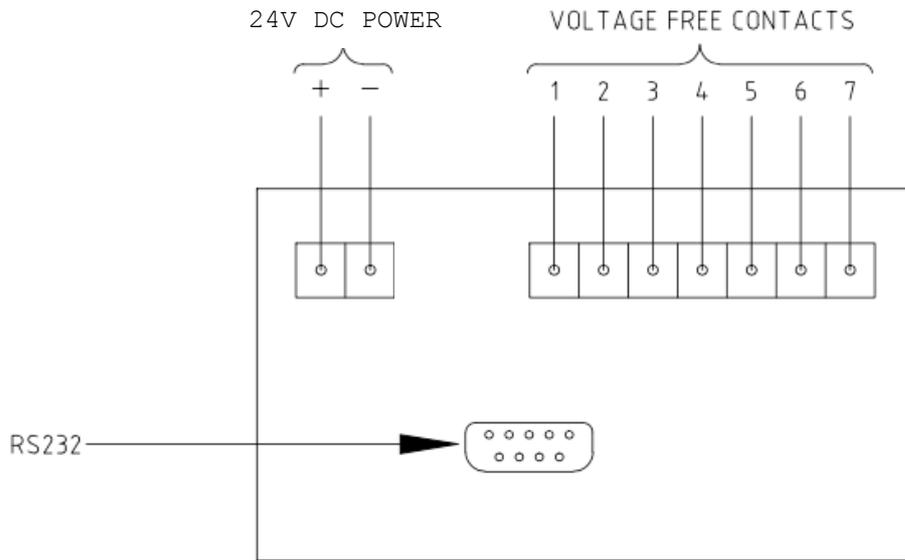


Figure 6: FireM edge server wiring diagram

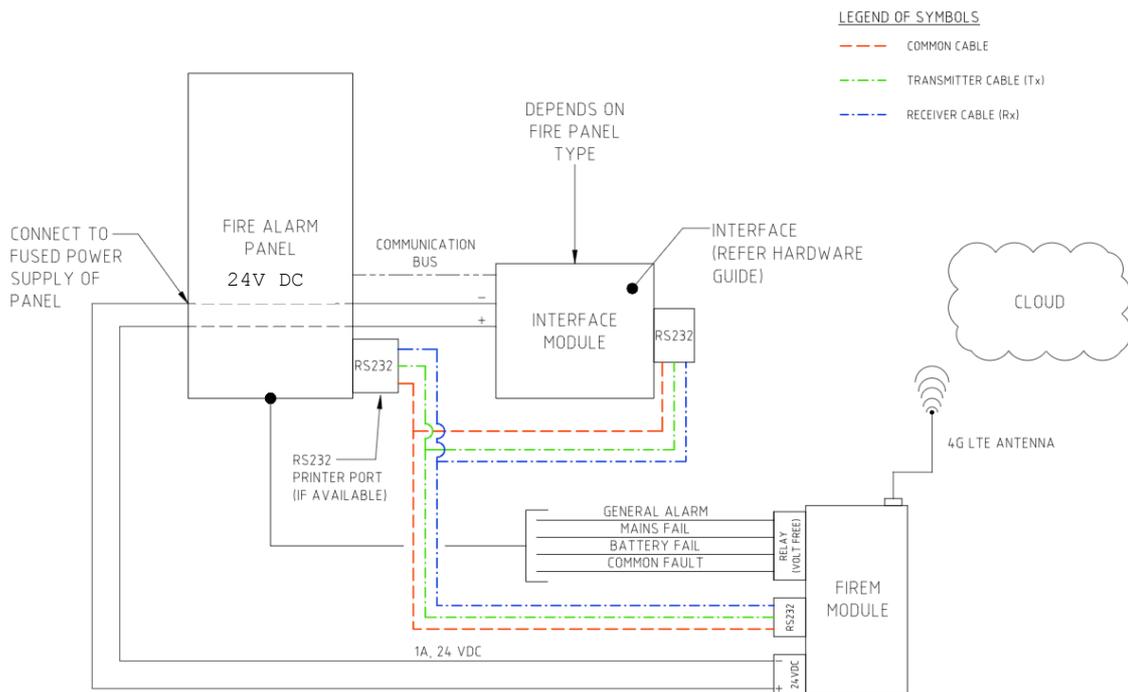


Table 2: GPIB/HLI card to DE-9 interface straight through wire connections

Pin Name	GPIB/HLI card	DE-9 interface
Receive	RX	No connection
Transmit	TX	3 TXD
Ground	GND	5 GND

Table 3: GPIB/HLI card to DE-9 interface crossover wire connections

Pin Name	GPIB/HLI card	DE-9 interface
Receive	RX	No connection

<b>Transmit</b>	TX	2 RXD
<b>Ground</b>	GND	5 GND

**Table 4:** Fire alarm panel voltage free output relay to FireM 7-PIN terminal connections (*not available in North America*)

Pin Name	Fire alarm panel voltage free output relays	FireM 7-pin terminal
<b>Test Isolate Switch</b>	-	1
<b>Test Isolate LED</b>	-	2
<b>Mains Fail</b>	Mains fail (FACU)	3
<b>Battery Fail</b>	Battery fail	4
<b>General Fire</b>	General fire alarm	5
<b>Common Fault</b>	Common fault	6
<b>Ground</b>	Common 0V	7

**Table 5:** DPDT momentary LED switch to FireM panel terminal wiring

Switch terminal (Lead color)	FireM Panel Terminal
4 (Red)	1
1 (Green)	2
5 (Blue)	7

## Testing & Maintenance

While the health of the FireM edge server can be monitored remotely via the application dashboard, it is recommended to perform manual checks of the hardware every 12 months. It is important to ensure that the device is secured in its original install location with the LED emitting a steady red light. To verify the integrity of the FireM hardware, perform the Device Operation Test by following the instructions below.

If the system is unresponsive to the test, please contact FireM support.

### Device Operation Test

If the device has been successfully powered on as indicated by a steady blue LED on the top of the device, it is recommended to test the device for proper operation before considering the installation complete. To complete the device operation test, access to the FireM dashboard via web browser or mobile app is required. FireM recommends full Inspection and Test (I&T) for the fire alarm system be performed to confirm all devices report to the FireM dashboard and application.

To initiate test isolate mode:

1. Press the test isolate switch button. The blue LED light on the switch will turn on and appear steady.

By default, test isolate mode will automatically end after 30 minutes. It can be manually ended:

2. Press and hold the test isolate switch button for at least 10 seconds. The blue LED light will turn off.

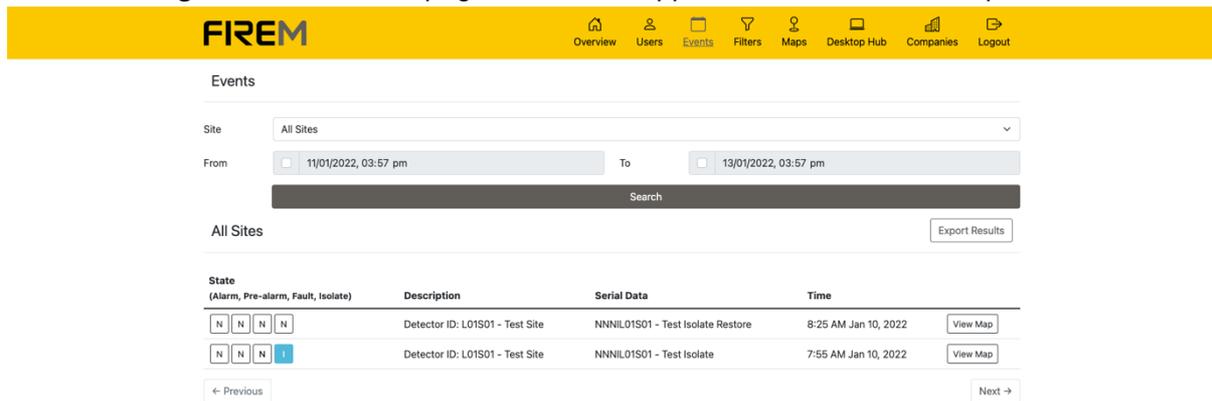
These two actions will cause separate events to appear on the FireM dashboard.

Successful installation and connection of the FireM edge server should result in an event posted to the dashboard which contains the serial data “Test Isolate” with an affixed time of when the isolate switch was pressed. See *Figure 7*.

### Verifying the test on the web app

On the FireM app dashboard, select the relevant company to which the installed FireM edge server has been configured. From the company overview page, select ‘Events’ tab in the navigation bar at the top of the page.

**Figure 7:** The events page on the web app with two isolate events posted



The screenshot shows the FireM web application interface. At the top is a yellow navigation bar with the FireM logo and menu items: Overview, Users, Events (selected), Filters, Maps, Desktop Hub, Companies, and Logout. Below the navigation bar is the 'Events' section. It features a search filter for 'All Sites', a date range from '11/01/2022, 03:57 pm' to '13/01/2022, 03:57 pm', and a 'Search' button. Below the search filters, there is a table of events. The table has columns for State, Description, Serial Data, and Time. Two events are listed, both with the state 'I' (Isolate) and the description 'Detector ID: L01S01 - Test Site'. The first event occurred at 8:25 AM Jan 10, 2022, and the second at 7:55 AM Jan 10, 2022. Each event row has a 'View Map' button. At the bottom of the table are 'Previous' and 'Next' navigation buttons.

State (Alarm, Pre-alarm, Fault, Isolate)	Description	Serial Data	Time
<span>N</span> <span>N</span> <span>N</span> <span>I</span>	Detector ID: L01S01 - Test Site	NNNIL01S01 - Test Isolate Restore	8:25 AM Jan 10, 2022
<span>N</span> <span>N</span> <span>N</span> <span>I</span>	Detector ID: L01S01 - Test Site	NNNIL01S01 - Test Isolate	7:55 AM Jan 10, 2022

Successful installation and connection of the FireM edge server should result in an event posted to the dashboard which contains the serial data “Test Isolate” with an affixed time of when the isolate switch was pressed. *Figure 7* is an example of this successfully occurring after a 30-minute wait period.

### Contact

For general information or support, please use the following support channels.

**FIREM** FireM  
Website: [www.firem.com.au](http://www.firem.com.au)  
Email: [info@firem.com.au](mailto:info@firem.com.au) | [support@firem.com.au](mailto:support@firem.com.au)

### Technician Details

For service, warranty, and support, please contact your FireM installation technician.

Installed by	
Company	
Phone Number	
Email Address	
Date of Install	