

GSM Communications Module

**installation,
commissioning &
configuration
manual**

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1 Introduction

This manual describes the procedure for the installation and configuration of a GSM Communications Module (GCM) to work with the ID50 Series fire control panel. The GCM allows selected panel or system events to be sent over the GSM telephone network. Up to five phone numbers can be entered and this is done at the time of system commissioning. The following events are configurable:

- a. Alarm¹
- b. Fault¹
- c. Pre-alarm¹
- d. Controls²
- e. General Disablement³
- f. Zone Disablements³
- g. Device Disablements
- h. System Disablements

¹ First event instance only

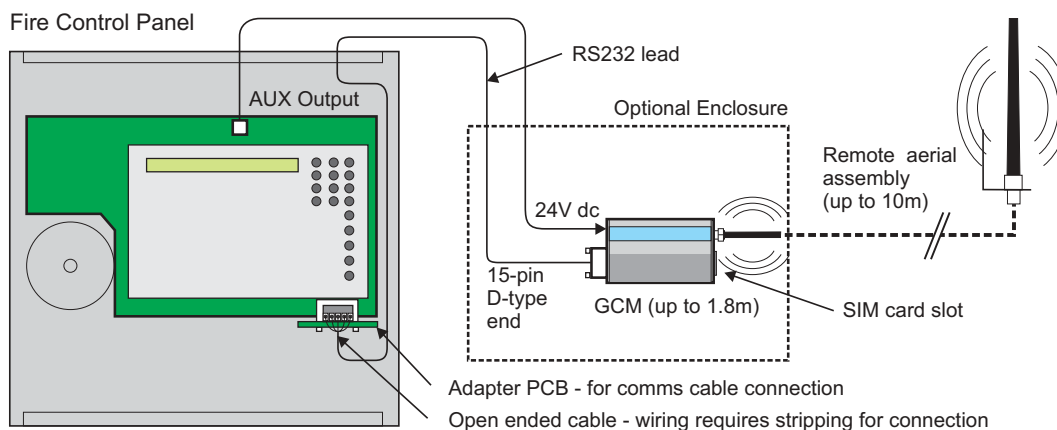
² Any instance

³ Any instance of going fully into or out of disablement.

The events listed above are selectable for any of the five phone numbers configured, with notification of Alarm, Fault and Pre-alarm as the default selection. The ID50 Series fire control panels provide menus to allow changes to be made. See **Section 3 Commissioning**.

1.1 GCM Requirements

SIM Card - The GCM is not supplied with a SIM card so this must be acquired separately. The GCM has a SIM card holder which is located adjacent to the aerial connector (see illustration below). To release this holder use the tip of a small screwdriver or ball-point pen to press the small button beside the SIM card slot to eject it from the GCM. Pressing the button will partly eject the SIM card holder to allow it to be then pulled clear of GCM - the SIM card cannot be fitted unless the holder is removed completely from the GCM. Fit the SIM card in the holder and push into place; the holder is keyed to aid the correct orientation of the SIM card. Insert the SIM card holder into the slot in the casing and push fully home; the holder remains slightly proud of the casing.



Location - The GCM can be installed within a separate enclosure (not provided) located adjacent to, or up to a maximum of 1.8 metres from, the fire control panel. A plastic or metal enclosure may be used but if a metal enclosure is used this will require a remote aerial location to ensure a good level of signal is obtained.

Power - The GCM can be powered from the fire control panel's AUX output. However, if the AUX output is being used to support other applications and, as a result, insufficient power is available an external PSU can be used (refer to **Section 5 Specification** which defines the requirements of a suitable PSU).

Comms - The GCM communicates with the fire control panel via the panel's RS232 comms port. The cable supplied with the GCM has a 15-way D-type connector at one end to connect to the GCM, while the other end must be stripped back to allow connection to the adapter PCB terminal block. See **Section 2 Installing the GCM** for details.

2 Installing the GCM

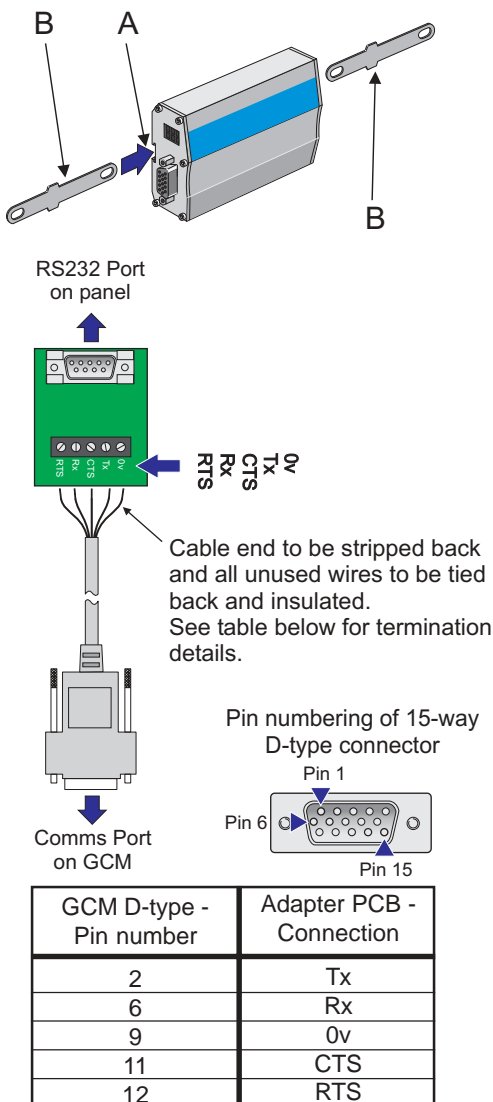
Before connecting the GCM make sure that all power is disconnected from the fire control panel.

Install the GCM as follows:

- 1 Ensure the SIM card is correctly fitted in the GCM.
- 2 If the GCM is being installed adjacent to the fire control panel without an enclosure, remove the aerial stub protection cap and fit the GCM aerial unit (kit PN: 020-764). If the GCM is being installed adjacent to the fire control panel and within a plastic enclosure, also fit this aerial unit.
- 3 If the GCM is being installed adjacent to the fire control panel and within a metal enclosure, the aerial will need to be located outside of the enclosure to ensure that a good signal can be obtained.

Note: A remotely-located aerial may be required to obtain a good signal strength. A suitable antenna assembly, is available from your supplier for remote operations (kit PN: 020-765).

- 4 Install the GCM in a location adjacent to the fire control panel, or install it in a separate enclosure. The rear face of the GCM's casing has a channel (A) which, when used with the two provided metal strips (B), allows it to be secured, using screws, to the mounting surface.
- 5 Connect the D-type connector end of the comms cable to the GCM. Run the other end of the cable through a suitable 20mm knockout in the fire alarm control panel and terminate the five discrete wires to the connector block as marked on the PCB. See the table at left. Check the wiring continuity between each D-type connector pin and the corresponding discrete wire end.
- 6 With the GCM satisfactorily installed, fit the adapter PCB to the RS232 port on the bottom, right-hand edge of the Main PCB. Using the provided small screwdriver secure the PCB in place using the screws on the D-type connector.



3 Commissioning

With all cables correctly connected power can now be applied to the panel. Connect power to the GCM only after connection has been made to the RS232 serial port on the panel.



Configuration Memory Lock

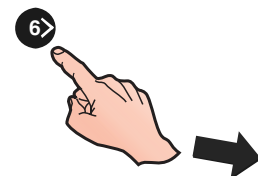
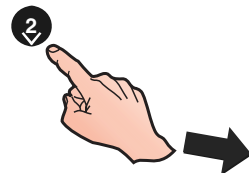
Before any configuration changes can be made, the memory lock must be set to the unlocked position. The memory lock Jumper link MEM (J9) locks/unlocks the system configuration. To configure the panel, J9 must be in the 'unlocked' position (link NOT fitted).


Re-fit the link to the jumper before returning to normal operation.

3.1 RS232 Serial Port Configuration


The panel communicates with the modem via the RS232 port located at the bottom right-hand corner of the main PCB. Configuration options are provided for the RS232 third-party serial port to enable communication with up to five GSM mobile phone network numbers. The off-line configuration tool (version 2.72, or later) can be used to configure the GCM. Alternatively, use the panel configuration menus to configure the RS232 port for use with the GCM as follows:

- 1 With the panel in Commissioning mode (this requires an access level 3 passcode to be entered - refer to the ID50 Series Installation, Commissioning & Configuration Manual for details), press the  pushbutton to access the panel's configuration menus and navigate to the Peripheral Options menu via the Panel Setup menu.
- 2 Select the RS232 option and, using the '

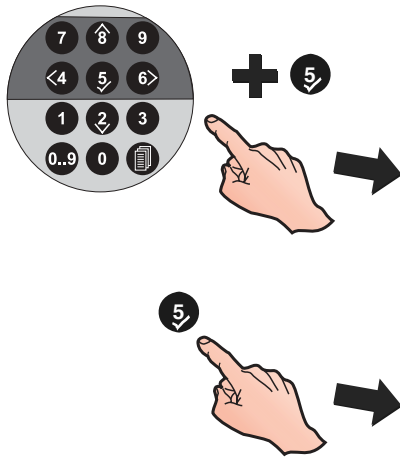


- a. With RS232 Protocol screen displayed, press the '

```
[Setup]      Change GSM PIN Number:
>: Change           ↑: More <: Exit
```

- b. To change the GSM PIN number, press the '

```
[Setup]      Enter current PIN : _
<: Exit
```



- c. Using the numeric keypad enter the current PIN number (an asterisk appears for each number entered). Press '5' when you have finished entering the PIN number. You are now prompted to enter the new PIN number:

[Setup] Enter new PIN : _ <: Exit

- d. Using the numeric keypad enter the new PIN number (use a minimum of 4 numeric digits and a maximum of 8). Re-enter your new PIN number and again press '5' to finish:

[Setup] Confirm new PIN : * * * * <: Exit

- e. If the GSM PIN number change was successful you will get the following message:

[Setup] PIN Change complete <: Exit

However, if the change was not successful the following message is displayed:

[Setup] PIN Change failed <: Exit

The PIN change failure may be due to an incorrect PIN number having been entered.

Note: This failure notification is displayed at the end of the PIN number change procedure, **so use care when entering each number to avoid this happening**. You are only allowed three attempts at entering a PIN code before it is locked out. Likewise, if you have entered an incorrect PIN and restart the panel you are only allowed one more attempt before the PIN is locked out. **Don't restart the panel if the PIN is incorrect.**

- 4 To enter the GSM network telephone numbers, press the '2' pushbutton repeatedly until the GSM Item 1 screen is displayed; the GSM Number¹ and GSM Signal screens (see Section 3.2) are displayed first.

¹ The panel displays this number automatically.

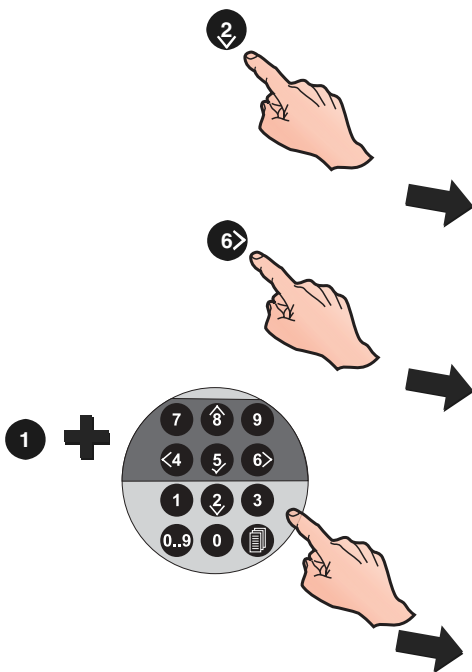
[Setup] GSM Item 1:
>: Change 1: Test ↑: More <: Exit

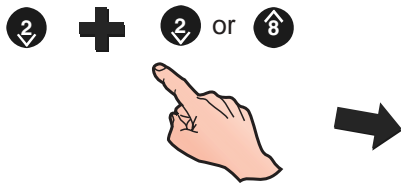
- 5 To enter the GSM network contact number, press the '6' pushbutton.

[Setup] GSM Item 1:
1: Number 2: Notifications [AFPCGZDS]

- 6 Using the numeric keypad press '1' to select the number entry option. Using the numeric keypad enter the required number, without spaces and press the '5' pushbutton when finished.

[GSM number entry field] ↑: Char ✓: Done
>: Next <: Previous u1:Delete u3:Insert



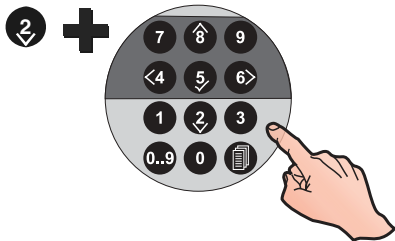


- Using the numeric keypad press the '2' pushbutton to select 'Notifications' option. Selection of Alarm, pre-alarm, fault and various disable classes can be made. Using the '2/8' pushbuttons the following event notification option screens can be displayed :

```
[Setup] Options [AFP.....] : 1 : Alarm
2 : Fault 3 : Pre-Alarm 4 : Controls      ↕: More
[Setup] Options [AFP.....] : 1 : Alarm
5 : General Disable 6 : Zone Disable      ↕: More
[Setup] Options [AFP.....] : 1 : Alarm
7 : Device Disable                          ↕: More
[Setup] Options [AFP.....] : 1 : Alarm
8 : System Disable                          ↕: More
```

- Use the numeric keypad to select/deselect any of the event notification options. The characters displayed in the square brackets indicate which options have been selected.

Note: Each GSM number has the following pre-selected options as a default: Alarm, Pre-alarm and Fault.



- Using the '2' pushbutton, select the remaining four GSM Number entry fields, as required, and repeat steps 4 to 8 above. Once all GSM numbers have been entered and the appropriate notifications selected, press '5' to exit. All numbers and selections are saved on exiting.

3.2 GSM Signal Strength Indication

The fire control panel's LCD can display the GSM network signal strength using a simple, bar-segment graphic; few segments indicate a weak signal strength while more bar segments indicates a strong signal, as shown in the example below:

```
[Setup] GSM Signal : [ ■ ■ ■ ■ ■ ]
                        ↕: More <: Exit
```

3.3 Sending a Test Message

To verify that the system is working correctly select the Test option for any of the numbers that have been entered. To check the connection for each number entered repeat the test, as required.

To send a test message:

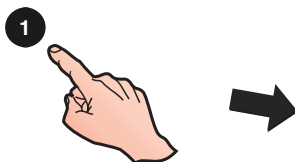
- Select the screen containing the GSM number you wish to send the message to:

```
[Setup] GSM Item 1:
>: Change 1: Test      ↕: More <: Exit
```

- Using the numeric keypad, press the '1' pushbutton and the panel displays the following message:

```
[Setup] Sending text message
                        <: Exit
```

- After sending the text message the LCD then displays 'Text message sent'. Press '4' to exit.

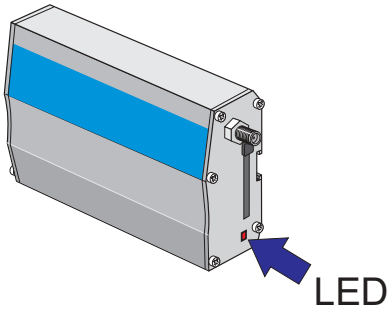


4 Testing Your System

After entering the panel configuration options, check that the modem is receiving a good signal; a signal strength indicator* is provided in the bottom left-hand corner of the panel's LCD - look for a 'ϕ' symbol together with a numeric signal strength indication between 0 and 9; where 0 indicates no signal and 9 for maximum signal strength. An indication of 2 or above is acceptable for the system to operate correctly. If the signal strength is below 2 the following message is displayed on the fire control panel's LCD: 'GSM Signal Degraded'.

* This is displayed only when the panel is in quiescent mode.

Also check that the GCM has registered successfully on the GSM network. This is indicated by the red LED next to the SIM card slot flashing slowly (see illustration at left).



Terminal Link Fault Error Message

After power has been applied to the GCM the panel may display (not always straight away) the following message:

TERMINAL LINK FAULT

In most cases this can be cleared by entering the SIM card PIN code. If it cannot be cleared by doing this it indicates that there is a wiring, hardware problem or the SIM card is locked¹. Check all wiring connections and ensure that the Adapter PCB is securely in place.

¹ In some cases it is possible to unlock the SIM card. If you are not sure how to do this, contact your GSM network provider for details.

Refer to **Section 3.3** Sending a Test Message to test that the system is working satisfactorily.

Note: When more than one contact number has been entered, messages are always transmitted in ascending order, i.e. GSM number 1 first and GSM number 5 last.

5 PSU Specification

If an external PSU is to be used with the GCM, it should conform to the following specification:

Input rating:

230Vac, ±10%, 50 / 60Hz

Output rating:

Voltage: +5.5 to 32Vdc*

Ripple voltage: ±300mV

Min. current: 0.5A

* Supply voltages above 30V are not recommended.

Refer to the fire control panel's Installation, Commissioning & Configuration Manual specification for details on the climatic classification and operating temperature range requirements.