

# 4100ESi Upgrade Kits

## Installation Instructions

Existing 4100U and 4100ES systems can be upgraded to 4100ESi by fitting the appropriate upgrade parts.

### What Parts do I Need?

Use this table to determine which parts will be required for your upgrade situation.

Starting from:	Requires these parts:	See page
4100 Classic cabinet, 4100+ or 4100A in Legacy cabinet, 4100+ or 4100A in 19" rack cabinet	These cabinets are not directly compatible with 4100ESi hardware. The recommended upgrade path is to upgrade the whole cabinet. Note that most of the existing cards in the older cabinet can be transferred to the new cabinet and will be compatible.	-
4100U in 19" rack cabinet 28U or 40U	<ul style="list-style-type: none"> <li>4100-7158 4100ES CPU kit,</li> <li>4100-SX0184 InfoAlarm+ door,</li> <li>FZ9032 4U blank panel, black</li> </ul>	6
4100U-S1 in 21U cabinet	<ul style="list-style-type: none"> <li>4100-7158 4100ES CPU kit,</li> <li>4100-SX0184 InfoAlarm+ door,</li> <li>4100-KT0568 Upgrade trim panel</li> </ul>	4
4100ES in 19" rack cabinet with InfoAlarm	<ul style="list-style-type: none"> <li>4100-ME0510K 7U InfoAlarm+ door,</li> <li>FZ9032 4U blank panel, black</li> </ul>	3
4100ES-S1 in 21U cabinet	<ul style="list-style-type: none"> <li>4100-SX0184 InfoAlarm+ door,</li> <li>4100-KT0568 Upgrade trim panel</li> </ul>	4

In general, the other existing cards in the 4100/4100U/4100ES system being upgraded can be reused after the upgrade.

There is also new scope for expansion after completing the upgrade, e.g., by adding an IDNet/IDNet2 card, or replacing existing MAPNET cards and motherboards with IDNet cards.

Note that IDNet/MAPNET detectors and devices are not formally listed for use with 4100ESi.

Note also that some MAPNET devices cannot be used with IDNet, which might limit this option in some installations. Refer to compatibility guide S4090-0011-16 and Product Bulletin PBS0061, which are available from the Fireplace web site.

The 4100-6077AU or 4100-6077LIM MX loop card can be added to provide an addressable loop for MX 850 series detectors and devices and loop powered sounders and beacons. This is best done in conjunction with fitting a 4100-ME0504 APS as an additional power supply for the MX loop cards. Refer to LT0618 4100ESi Installation Manual for more information about doing this.

## Cautions and Warnings

**READ AND SAVE THESE INSTRUCTIONS.** Follow the instructions in this installation manual. These instructions must be followed to avoid damage to this product and associated equipment. Product operation and reliability depends upon proper installation.

**DO NOT INSTALL ANY SIMPLEX PRODUCT THAT APPEARS DAMAGED.** Upon unpacking your Simplex product, inspect the contents of the carton for shipping damage. If damage is apparent, immediately file a claim with the carrier and notify your authorized Simplex product supplier.

**ELECTRICAL HAZARD** - Disconnect electrical power when making any internal adjustments or repairs. Servicing should be performed by qualified Simplex representatives.

**STATIC HAZARD** - Static electricity can damage components. Therefore, handle as follows:

- Ground yourself before opening or installing components.
- Prior to installation, keep components wrapped in anti-static material at all times.

**RADIO FREQUENCY INTERFERENCE** - This equipment complies with AS/NZS CISPR 22 Class A. This provides reasonable protection against harmful interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area may result in harmful interference in which case the user will be required to correct the interference (at their own expense).

**SYSTEM SOFTWARE CHANGES** - After upgrading to 4100ESi, the job file for the panel must also be upgraded to a 4100ESi job type. This process is summarised on page 8, but for a full description, refer to the Upgrade section in LT0619 4100ESi Programming Manual.

**SYSTEM REACCEPTANCE TEST AFTER SOFTWARE CHANGES** - To ensure proper operation after the upgrade, the system must be tested in accordance with AS 1670.1 after any programming operation or change in site-specific software. Reacceptance testing is required after any change, addition or deletion of system components, or after any modification, repair or adjustment to system hardware or wiring.

All components, circuits, system operations, or software functions known to be affected by a change must be 100% tested. In addition, to ensure that other operations are not inadvertently affected, at least 10% of initiating devices that are not directly affected by the change, up to a maximum of 50 devices, must also be tested and proper system operation verified.

## Upgrade a 4100ES panel with InfoAlarm to 4100ESi

### Required parts:

- 4100-ME0510K 7U InfoAlarm+ door,
- FZ9032 4U blank panel, black

### Overview:

The 8U InfoAlarm door is replaced with a 7U InfoAlarm+ door.

The 3U blank panel at the top of the cabinet is replaced with a 4U blank panel to fill the gap.

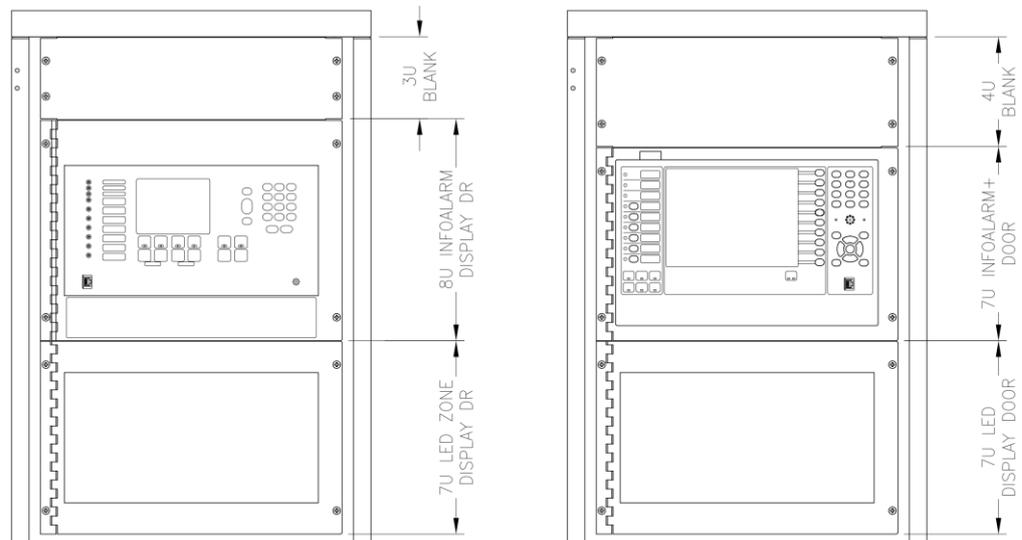


Figure 1 – Face layout of the panel before (left), and after (right) the 4100ESi upgrade

### Replacement Procedure:

- Power the system down: remove AC power from the PSU and remove the red lead from the positive battery terminal.
- Disconnect the 8U InfoAlarm door from the bay:
  - Disconnect the earth loom from the internal bay side.
  - Disconnect the Ethernet lead from the bottom edge of the CPU board.
  - Disconnect the 4 way power/comms lead from wherever it is connected inside the bay.
- Unfasten and remove the 8U InfoAlarm door.
- Unfasten and remove the 3U blank panel at the top of the cabinet. Fit the 4U blank panel in its place. This will require the lower pair of the cage nuts to be moved down three holes.
- Fit the 7U InfoAlarm+ upgrade door in place and fasten it on its left side. This will require the upper pair of cage nuts to be moved down three holes.
- Connect the 7U InfoAlarm+ door to the bay using the same connection points that the old InfoAlarm door was connected to.
- Apply the mains to the power supply, and check that the cards power up correctly. When this is confirmed, reconnect the battery.  
Note that the system will not operate correctly until the new site-specific software is loaded into the CPU card.
- Close and fasten the InfoAlarm+ door. All the necessary updates to system software and job files can be made via the Ethernet service port on the InfoAlarm+ door.

**Upgrade a  
4100U-S1 or  
4100ES-S1  
panel to  
4100ESi**

**Required parts:**

- 4100-7158 4100ES CPU kit (4100U-S1 only),
- 4100-SX0184 InfoAlarm+ door,
- 4100-KT0568 Upgrade trim panel

**Overview:**

The LCD door is replaced with the InfoAlarm+ touchscreen.

For 4100U-S1, the CPU board is upgraded to 4100ES.

The trim plate is replaced with one suited to the larger size of the InfoAlarm+ touchscreen.

The other hardware in the panel is unchanged.

**Replacement Procedure:**

- Remove the trim panel from the 4100U-S1 or 4100ES-S1. This part will be replaced with the 4100-KT0568 upgrade trim panel.
- Power the system down: remove AC power from the PSU and remove the red lead from the positive battery terminal.
- Open the 2x40 LCD door.
- Unplug the 40 way LCD FRC from the front edge of the CPU board.
- For 4100ES-S1: unplug the Ethernet cable from the bottom edge of the CPU card.
- For 4100U-S1: unplug the 10 way service port FRC from the front edge of the CPU board.
- Disconnect the earth looms from the LCD door.
- Unclip the old LCD door from the top bay and remove it.
- For 4100U-S1: Configure the links on the upgrade 4100ES CPU card as follows:
  - P1 should be in Position 1 – 2, or not fitted.
  - P3 should be in the ON position.
- For 4100U-S1: remove the old 4100U CPU card. Fit the upgrade (4100ES) CPU card in its place.
- Remove the card restraint bar in top bay. Replace with the card restraint bar supplied with the upgrade InfoAlarm+ door. See Figure 2.
- Fit the upgrade InfoAlarm+ door to the top bay. Carefully, check that it closes correctly, without clashing with any cards in the bay, and that the new restraint bar is fitted correctly.
- Connect the InfoAlarm+ door to the bay, as shown in Figure 3:
  - Connect the earth lead at the right side of the InfoAlarm+ door to the bay side in place of the old earth lead.
  - Connect the Ethernet lead from the InfoAlarm+ door to the Ethernet port on the bottom edge of the new CPU board.
  - Connect the 4 way power/comms lead from the InfoAlarm+ door to an unused socket on the CPU motherboard (any of P4, P5 or P6).
- Apply the mains to the power supply, and check that the cards power up correctly. When this is confirmed, reconnect the battery.  
Note that the system will not operate correctly until the new site specific software is loaded into the new CPU card.
- Fit the new trim panel and fasten it. All the necessary updates to system software and job files can be made via the Ethernet service port on the InfoAlarm+ door.

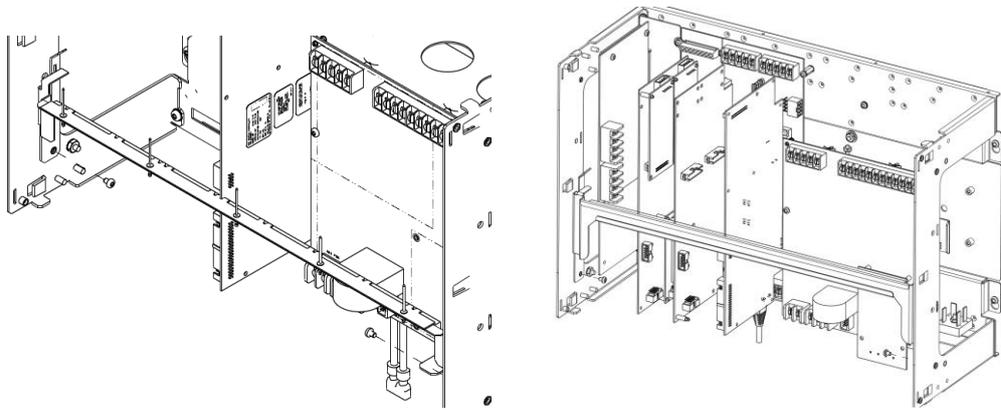


Figure 2 – Removing the old card restraint bar from the CPU bay (left), and replacing it with the new card restraint bar (right)

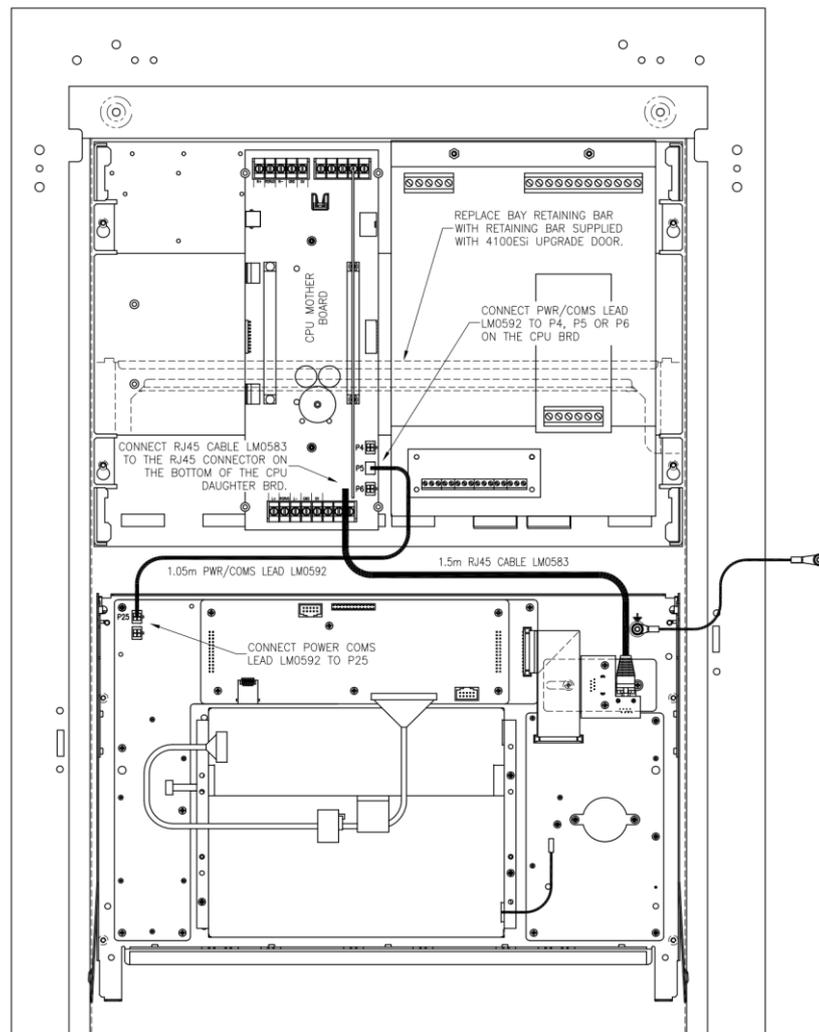


Figure 3 – Connecting the new InfoAlarm+ display door to the CPU bay

## Upgrade a 4100U 28U or 40U Cabinet to 4100ESi

### Required parts:

- 4100-7158 4100ES CPU kit,
- 4100-SX0184 InfoAlarm+ door,
- FZ9032 4U blank panel, black

### Overview:

The LCD door is replaced with a blank panel.

The topmost zone indicator/control door is replaced with the InfoAlarm+ touchscreen.

The CPU board is upgraded to 4100ES.

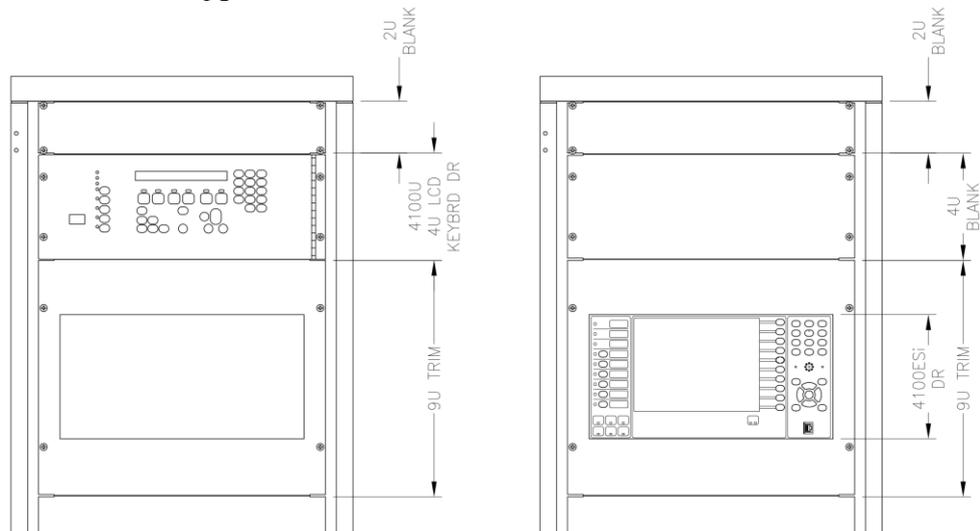


Figure 4 – Face layout of the panel before (left), and after (right) the 4100ESi upgrade

### Replacement Procedure:

- Power the system down: switch off AC power, and disconnect the system battery.
- Remove the 9U trim plate from the top most zone indicator/control door.
- Open the zone indicator door, and disconnect the 40 way FRC and 10 way FRC from the front edge of the CPU board in this bay.
- Remove the 4U LCD door above the zone indicator door.
- Unplug the 4 way power/comms lead from the zone indicator door where it connects to the PDI back plane or other internal connection.
- Disconnect the earth looms from the zone indicator door.
- Unclip and remove the zone indicator door.
- Configure the links on the upgrade (4100ES) CPU card as follows:
  - P1 should be in Position 1 – 2, or not fitted.
  - P3 should be in the ON position.
- Remove the old 4100U CPU card. Fit the upgrade 4100ES CPU card in its place.
- Remove the card restraint bar from the top bay. Replace with the card restraint bar supplied with the upgrade InfoAlarm+ door. Refer to Figure 2 for detail.
- Fit the upgrade InfoAlarm+ door to the bay. Carefully, check that it closes correctly, without clashing with any cards in the bay, and that the new restraint bar is fitted correctly. Connect the earth leads between the new InfoAlarm door and the bay sides.
- Connect the InfoAlarm+ door to the bay, as shown in Figure 5:
  - Connect the earth lead at the right side of the InfoAlarm+ door to the bay side in place of the old earth lead.
  - Connect the Ethernet lead from the InfoAlarm+ door to the Ethernet port on the bottom edge of the new CPU board.

- Connect the 4 way power/comms lead from the InfoAlarm+ door to an unused socket on the CPU motherboard (any of P4, P5 or P6) or on the PDI backplane (P2 or P3).

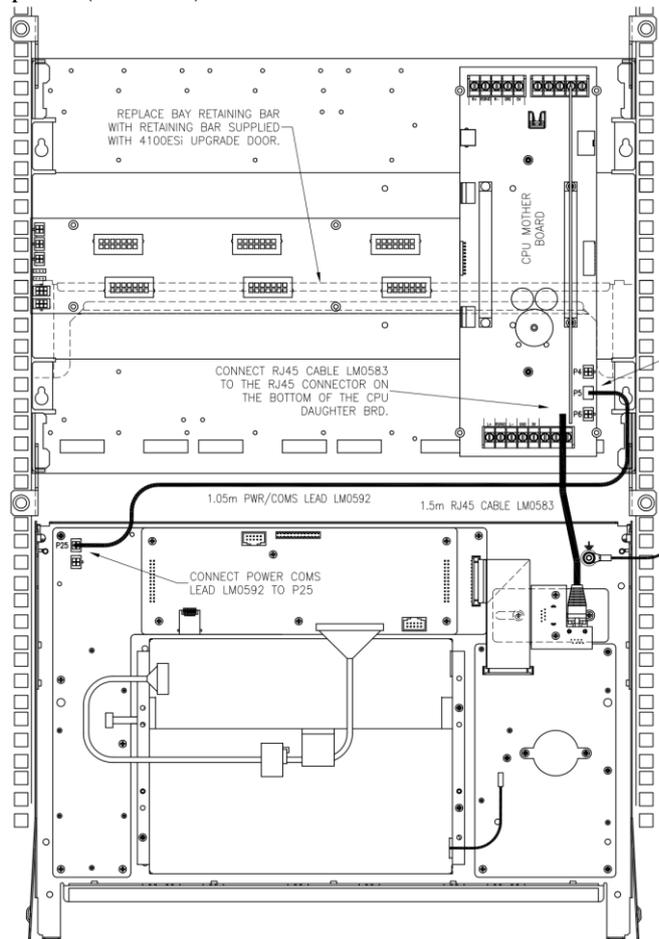


Figure 5 – Connecting the new InfoAlarm+ display door to the CPU bay

- Apply the mains to the power supply, and check that the cards power up correctly. When this is confirmed, reconnect the battery.  
Note that the system will not operate correctly until the new site specific software is loaded into the new CPU card.
- Fit the FZ9032 4U blank panel in place of the 4U LCD door removed in an earlier step.
- Refit the 9U trim plate over the InfoAlarm+ door and fasten it. All the necessary updates to system software and job files can be made via the Ethernet service port on the InfoAlarm+ door.

## **Overview**

An existing 4100U or 4100ES configuration can be upgraded to a 4100ESi job via this process. This is only a summary of the process for general information. For full details of the procedure, refer to LT0619 4100ESi Programming Manual.

## **Hardware Conflicts**

Before it can be converted, the old job file must be checked for conflicts and these must be removed. Any 4100-FUI InfoAlarm units must be removed from the configuration. These units will not work in 4100ESi jobs. All other commonly used hardware from AS4428 4100U/4100ES jobs is compatible with 4100ESi jobs.

## **Other Conflicts**

Any custom control in Program groups 3, 4 and 5 will be deleted during the conversion process, since these are required for 4100ESi specific custom control. Since these are normally used for specific AS4428 functionality which is being replaced, this should not be a problem.

Program group 6 will also be used when upgrading to 4100ESi. Any site specific equations in this group must be moved to another group.

## **Conversion to 4100ESi Job**

The prepared 4100U or 4100ES job file is upgraded to the intended version of ES Programmer by opening it and saving it.

The ES Programmer has a new tool *Convert to 4100ESi* to convert the job type.

What this tool does:

- All hardware and addressable devices are retained unchanged.
- Zone lists are added, each with an alarm test point.
- Addressable devices that were in the AS4428 zones 1 to 100 (lists L261 to L360) are transferred to the corresponding zone lists ZN1001 to ZN1100.
- The custom control equations for AS4428 operation in Programs 3, 4 and 5 are all removed.

## **Adding AS7240 Requirements**

The remainder of the AS7240 requirements are added using the contents of the 4100ESi upgrade package, part code SF0513. This is installed as part of the 4100ESi templates package SF0505.

The zone lists in the converted job will have default labels which will almost certainly require customising. Detectors and other devices in zones in a 4100ESi system do not require the zone name to be part of the device label; these labels also may require updates.

If custom control in the old job makes reference to specific status points in the AS4428 job, these points will probably have changed their function in the converted job, and equivalent status points will have to be identified and the custom control changed.

Full detail of the AS7240 facilities available in the 4100ESi job type can be found in LT0619 4100ESi Programming Manual.

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