

SmartGraphics^{HD}



Operators Manual

MAN 3023

**WORLD LEADER OF INNOVATIVE SOLUTIONS
IN FIRE DETECTION AND ALARM SYSTEMS**



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1 About This Manual

1.1 Introduction

SmartGraphics is a Graphics system that provides monitoring and control of the fire detection and evacuation systems at a site.

SmartGraphics is a tool which provides important information in the event of a fire and makes this information readily available to emergency services.

In addition **SmartGraphics** provides facilities for testing and maintenance of the fire detection and evacuation system.

1.2 Purpose

The purpose of this manual is to provide guidance and instruction to the Operators of the **SmartGraphics** System.

1.3 Scope

The information within this manual is only available to and for the use of personnel engaged in the installation, maintenance and operation of the **SmartGraphics** System.

1.4 Symbols

 Important operational information

 **Note:** Configuration considerations



Observe antistatic precautions

1.5 Hardware

SmartGraphics requires a communication connection to the fire detection and evacuation system. This connection can be serial (RS232 or RS485) or via Ethernet. Please refer to the installation guide MANxxxx for further information.

The system may be used with either a mouse or a touch screen but not both at the same time. This manual is written as if the user were using a mouse, if a touch screen is being used substitute “press” where “click” appears.

1.6 Software Installation

SmartGraphics is pre-installed on the supplied PC. Awareness training is available for **SmartGraphics**, which includes installation on a Windows PC, backing up and restoring projects and so forth.

2 Getting Started

This Manual assumes that the user has access to the SmartGraphics demonstration mode as it is used as the basis for our definitions and operating instructions. Should the Demonstration mode not be available all controls and definitions still apply and virtually any project can be used to demonstrate most of the operator requirements.

2.1 The Site Map or Start-up Page

The site map is the first screen to be displayed when the system is running, it shows a map of the whole site which is split into several areas. From this map selecting an area causes the graphics screen to go to the next zoom level.

The system is configured to have multiple levels of zoom. A minimum of two levels of zoom is normally provided. Each zoom level is a separate map, and these maps are defined by the customer prior to the system being configured.

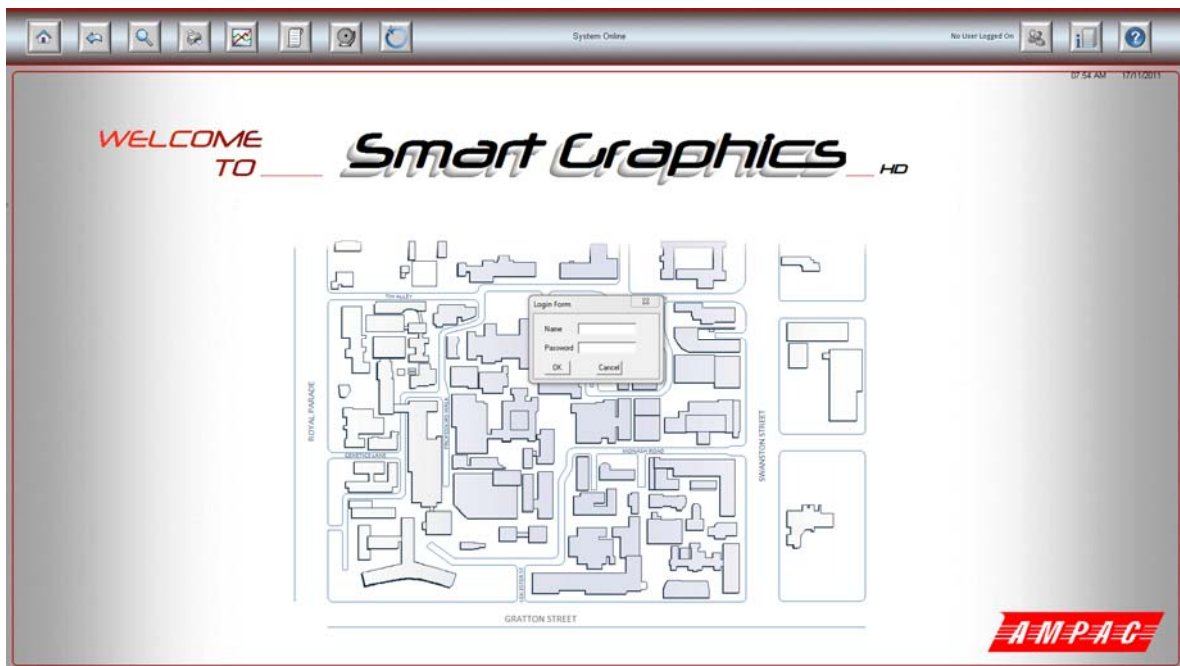


Figure 1: The Start up Page with Log In, Legend, Buttons and Login Form

2.2 Login Form



Before the user can access any of the system functions they are required to log in. Clicking on the Log In Icon will bring up the Login Form

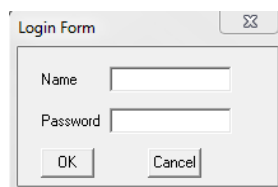


Figure 2: Login Form

Using the Login Form, the user can then enter their name and password. In the case of the Demonstration Mode the user will be prompted through the process.

2.3 Access Levels

There are three levels of log-in in the **SmartGraphics** package. These are;

- Level 1 (General) allows access to view maps.
- Level 2 (Operator) allows access to all facilities except to erase logs and maintain passwords.
- Level 3 (Engineer) allows full access to the system. (Default = engineer / password)

2.4 Default Icons

The following are the main icons that appear across the top of the status maps.



Home Button



Display previous page



Search for a device



Print current map



Display current system status



Display log page



Silence alarms



Master reset



Engineer Tools



Log In / Out User



Display Building/Contact Information



Legends

Refer to Section 4 for further detail on the main icons.

2.5 Moving around the Project.

The operator can move around the site and examine buildings within the project, by clicking on the outline of the building. The next map that is displayed is the detail on the selected building. These map links are setup when the project is created.

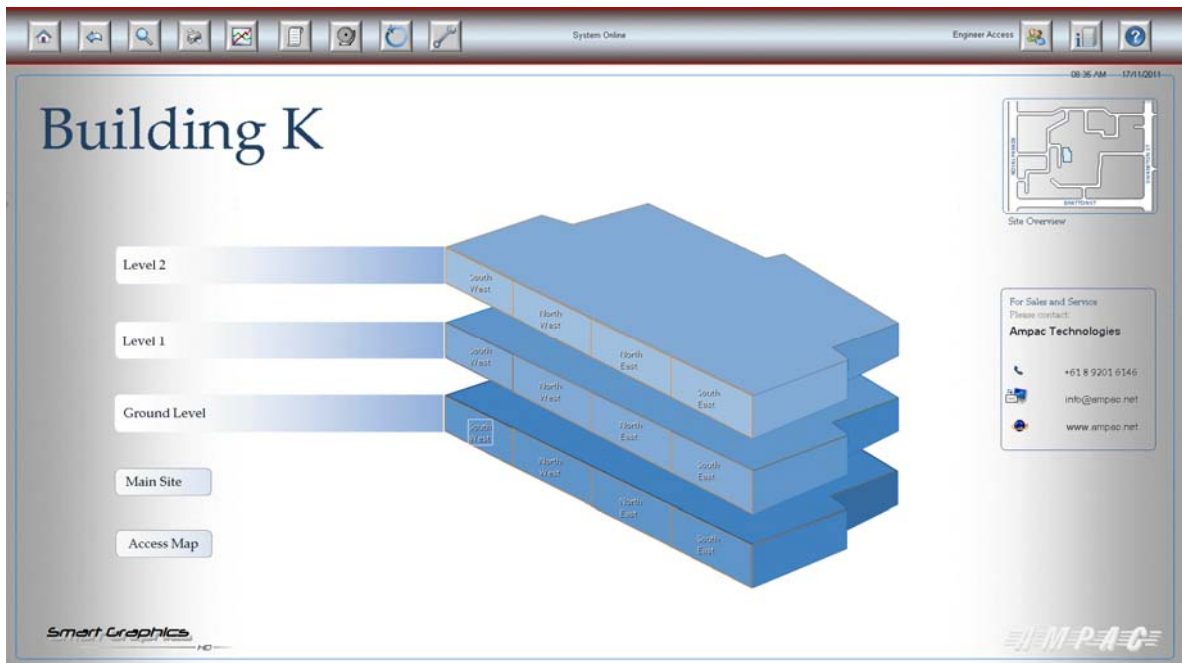


Figure 3 Typical Building Map

By selecting one of the areas shown within each level, the following area map is displayed

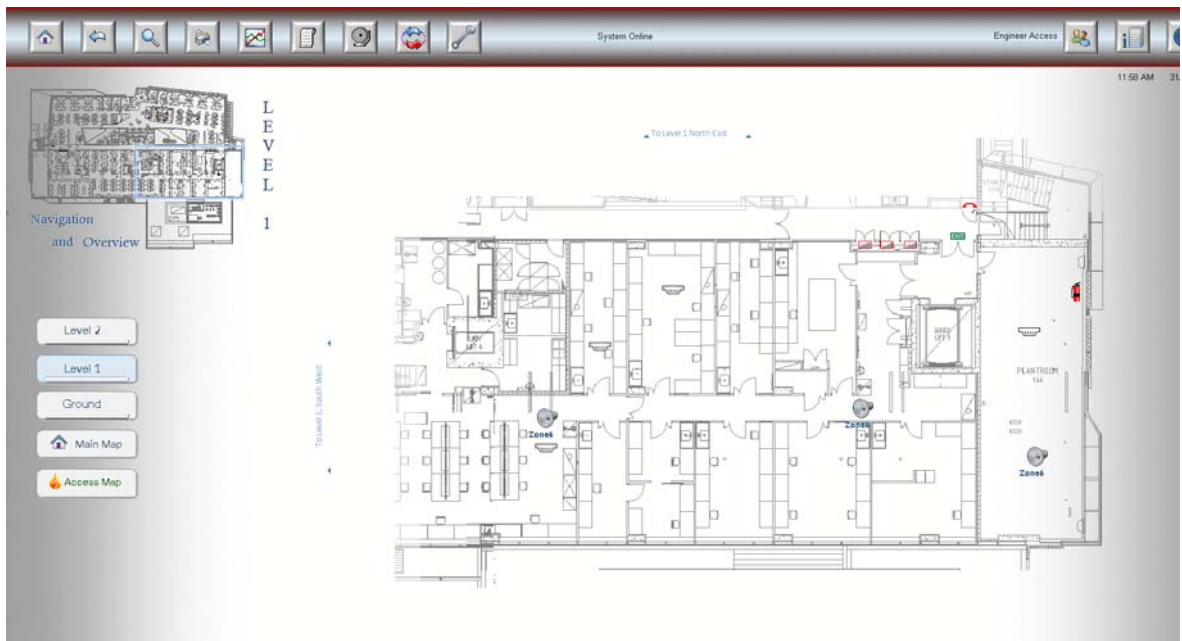


Figure 4 Area Map

Considering each section of the area map

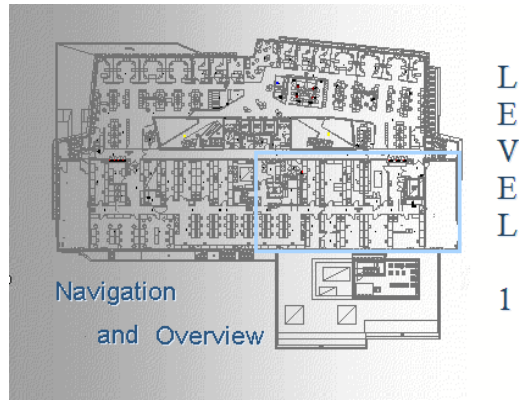


Figure 6 Key Map

Key Map: Shows the Overall Level Site Map and allows the User to click on an area to highlight the map required. The area currently displayed is shown in blue outline.



Figure 7 Navigation Buttons

Navigation Buttons: Allows you to navigate between layers. The area that is under current view will be highlighted. The **main map** selection navigates back to the main map, and the **access** displays the access screen. Refer to section xx.xxx



Figure 8 Floor Map

Floor Map: Display the User's current choice of Map. The map also has links which will take you directly to the adjoining area.

3 System Operation

3.1 Overview

When SmartGraphics is run, the first screen to be displayed is the site map (refer to section 2.1). It is a site overview and at a glance you can tell the alarm status of every area on the site. To make this usable, the site is divided into sections. By clicking on the name, representative of a sub area or specific map area, that area is then navigated to and shown in enlarged detail. Each section may have more than one level, or floor. From every sub- area you should be able to see the activity on the other areas of that level or sub area and navigate directly to them and to every other area on site, and back to the main site map.

On the main site map, the background colour of any sub area will show its alarm status- red for alarm, orange for pre alarm, yellow for fault and blue for isolate. These status colours are consistent with devices and states throughout the Smart Graphics.

The following map shows the building detail for building K. Building K consists of 3 levels (ground, level 1 and level 2), with each level broken into 4 areas. One of the areas on the ground floor has at least one detector in alarm – refer to the section highlighted in Red

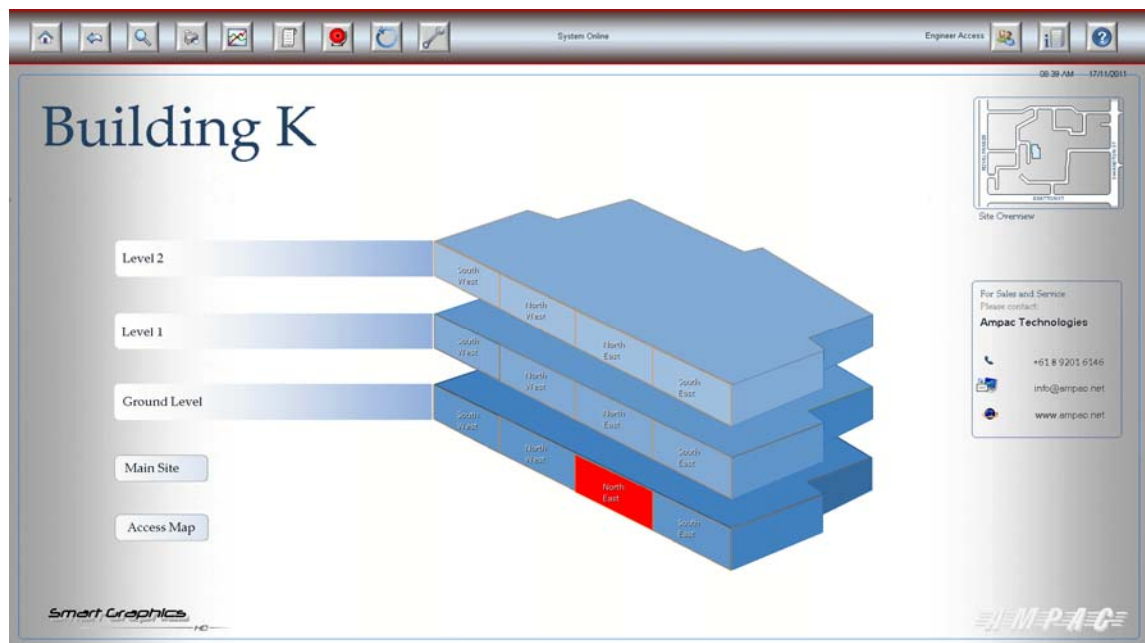


Figure 9 Map Showing Building K

By selecting an area from level 1, the following area is displayed.

3.1.1 Area Map

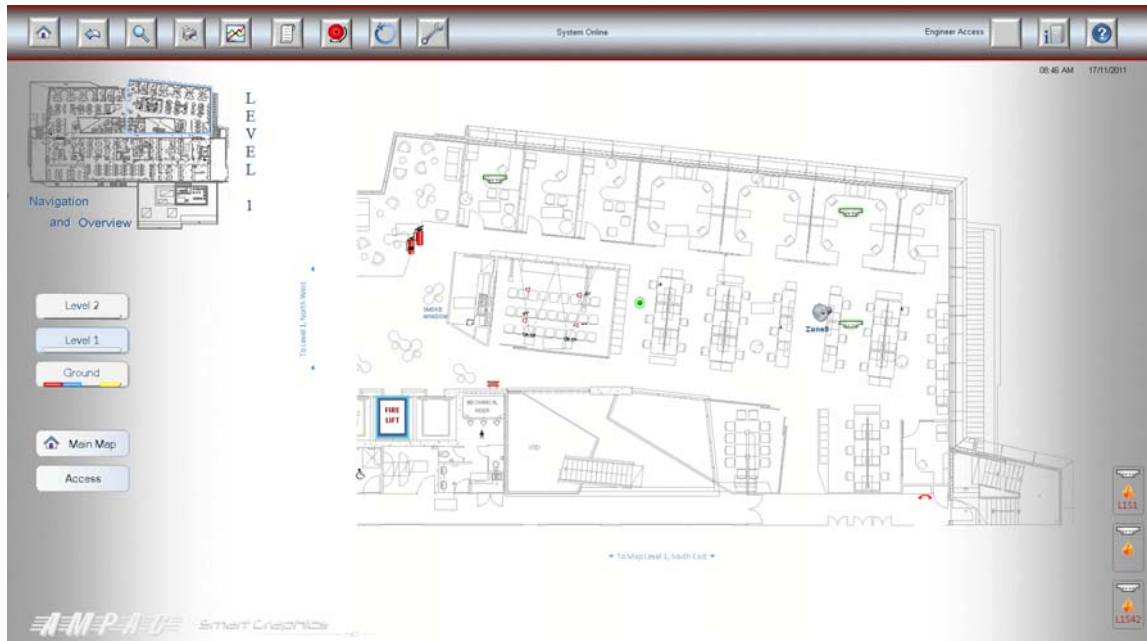


Figure 10 Level 1 Area Map

An area map usually has three elements.

- Key map
- Navigation Buttons
- Floor Map

3.1.2 Key Map

In the top left there is a key map which shows the overview view of the level and allows the operator to view other areas of the level by clicking the mouse in the desired section. The highlighted portion of the key map denotes the section of the level currently being displayed.

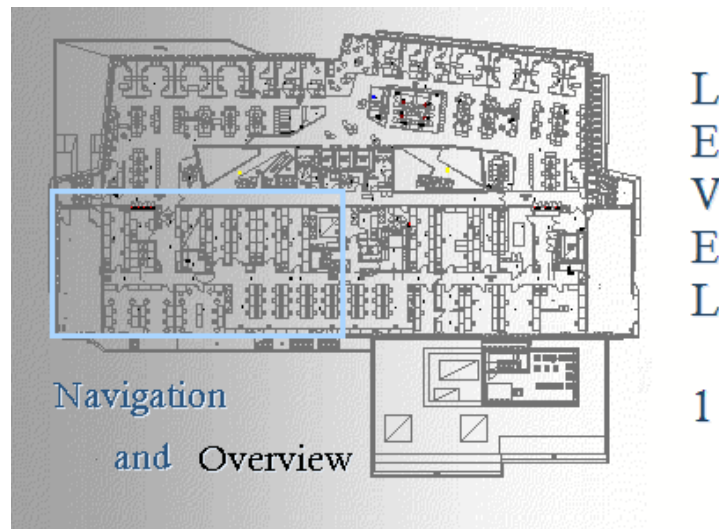


Figure 11 Example of a Key Map

If a detector is off normal (isolated, fault, pre-alarm or alarm), then the highlighted portion will be filled in with the appropriate colour corresponding to the condition.

- Blue – isolated
- Yellow – fault
- Orange – pre-alarm
- Red - alarm

3.1.3 Navigation Buttons

The navigation buttons are situated on the left hand side of the map and serve two purposes. Firstly they allow the operator to navigate to other levels within the building, and secondly they show the overall status of the level. The following example shows the ground level has detectors that are:

- In alarm (Red)
- Isolated (Blue)
- Fault (Yellow)

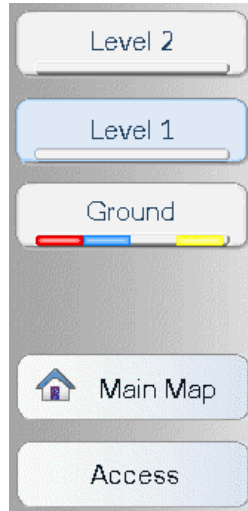


Figure 12 Navigation Buttons

The main map button navigates back to the nominated main map for site.

The Access button will navigate to an access map.

3.1.4 Access Map

The access map incorporates information detailing action to be taken in the event of an emergency, such as:

- Map Reference: The map reference number.
- Location: Tells the user where the map is.
- Brigade Access: Fire Brigade access route.
- Hazchem Details: Indicating the presence of any dangerous materials in the area
- Fire Fighting Equipment: Any special equipment in the area.
- Public Egress: The escape routes.

The access map is not part of the standard SmartGraphics_{HD} package. It is an extra which needs to be specified separately.

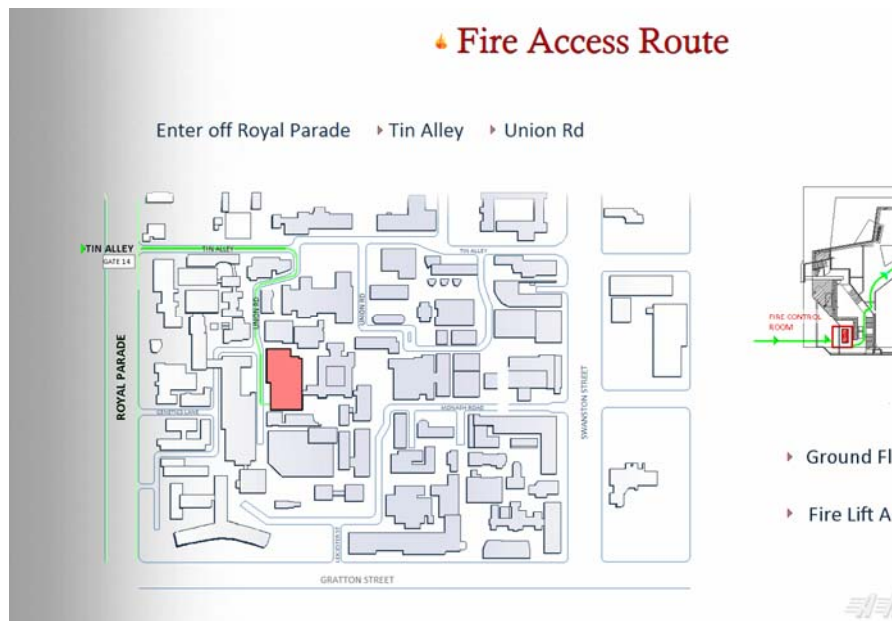


Figure 13 Access Map

3.1.5 Floor Map

The following is an example of a floor map

Each floor map contains interactive and static icons, which reflect the status of the fire detection system, emergency warning system and the location of important items within the building (e.g. fire extinguishers, chemical store and so forth).

Each floor map has an interactive icon for:

- Detector / device connected to the fire system
- Emergency zone of the emergency warning system
- Air handling Unit
- Stair Pressuration Fan
- Smoke Spill Fan

These interactive icons will change shape and colour according to their status. Double clicking the left hand mouse button while hovering over these icons then a dialogue box will appear which allows control of the entity. Refer section 3.2

Each floor map also has a number of static icons (which do not change shape or colour), these icons represent fire extinguishers, fire hydrants, fire hose reels, chemical stores and so forth. (These static icons are not part of the standard SmartGraphics^{HD} package. It is an extra which needs to be specified separately).

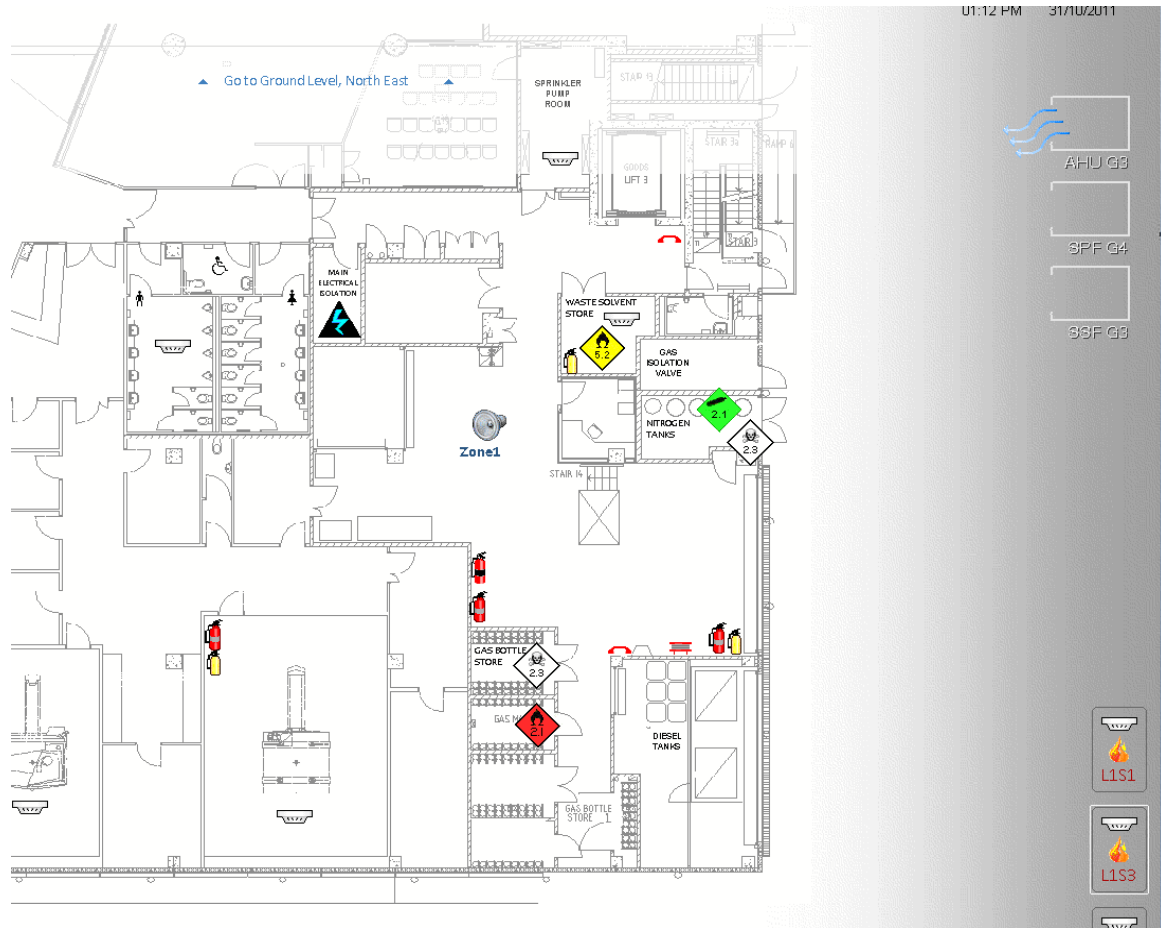


Figure 14 Floor Map

3.2 Icons

3.2.1 Detector / Device Icon

The following are the states of the detector / devices

Icon	Comment
	Normal
	Fault
	Isolated
 	First device in alarm – which shows the seat of the fire. Displays the time of the alarm. The icon is dynamic with the red circle changing diameter
	Subsequent device in alarm – showing the time of the alarm

Commands available – (right click while hovering over the icon)

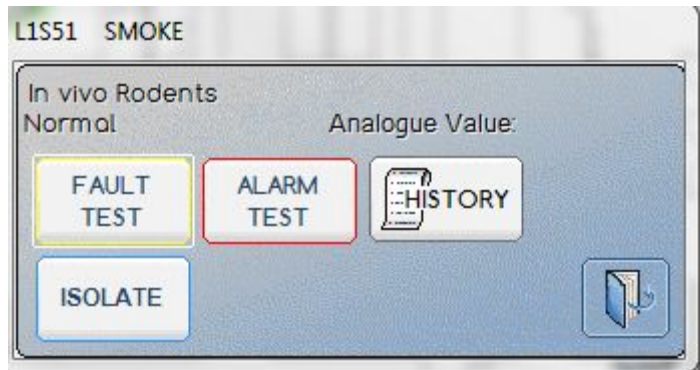


Figure 15 Detector / Device Commands

Fault test places the detector into fault. Condition is latched until a master reset
 Alarm test places the detector into alarm. Condition is latched until a master reset
 Isolate will set the detector is isolate. If the detector is already isolated, then this will show de-isolate

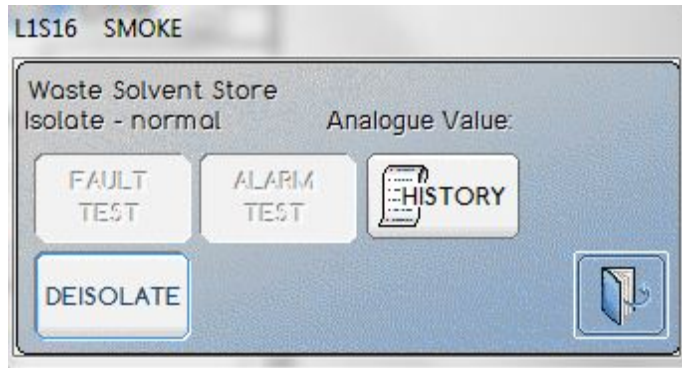


Figure 16 Detector / Device Commands - De-Isolate

If the detector is in alarm, then the following dialogue box is shown:

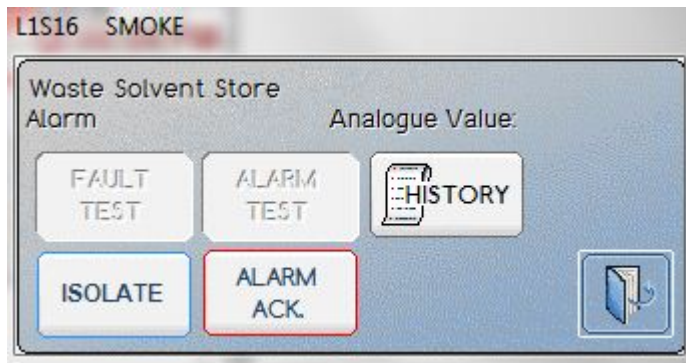


Figure 17 Detector / Device Commands - Alarm Ack

Which shows an alarm acknowledge command.

History displays the state changes of the detector / device

Date	Time	Device	Location	Map Name	Status
8/12/2011	11:00:47 AM	L1S92	Corridor	L2_MW	Alarm
8/12/2011	11:00:50 AM	L1S92	Corridor	L2_MW	Alarm
8/12/2011	11:00:58 AM	L1S92	Corridor	L2_MW	Fault - device missing
8/12/2011	11:01:05 AM	L1S92	Corridor	L2_MW	Fault - device missing
8/12/2011	11:01:16 AM	L1S92	Corridor	L2_MW	Fault - device missing
8/12/2011	11:01:20 AM	L1S92	Corridor	L2_MW	Fault - device missing
8/12/2011	11:01:18 AM	L1S92	Corridor	L2_MW	Isolate - normal
8/12/2011	11:01:35 AM	L1S92	Corridor	L2_MW	Isolate - normal
8/12/2011	11:01:16 AM	L1S92	Corridor	L2_MW	Isolate - fault
8/12/2011	11:01:17 AM	L1S92	Corridor	L2_MW	Isolate - fault

Figure 18 Detector / Device History

3.2.2 Emergency Warning Zone

Icon	Comments
------	----------







	Off – no fault
	PA selected
	Alert signal applied
	Evacuation signal applied



Figure 19 Emergency Zone Commands

The emergency zone icon is not part of the standard SmartGraphics^{HD} package. It is an extra which needs to be specified separately.


3.2.3 Air Handling Unit

Icon	Comments
 AHU G1	Stopped
 AHU G3	Running

There are no commands for air handling units.

The air handling unit icon is not part of the standard SmartGraphics^{HD} package. It is an extra which needs to be specified separately.

3.2.4 Stair Pressurisation Fan

Icon	Comments
 SPF G2	Stopped

	<p>Running</p>
--	----------------

There are no commands for stair pressurisation fans

The stair pressurization fan icon is not part of the standard SmartGraphics_{HD} package. It is an extra which needs to be specified separately.

3.2.5 Smoke Spill Fan

Icon	Comments
	<p>Stopped</p>
	<p>Running</p>

There are no commands for the smoke spill fans

The smoke spill fan icon is not part of the standard SmartGraphics_{HD} package. It is an extra which needs to be specified separately.

3.2.6 Hazardous Chemicals

Icon	Comments
	<p>Flammable and combustible material store. Doubling clicking on the icon will bring up additional information about the chemical hazard 5.2 = organic peroxides</p>
	<p>Flammable and combustible store 2.1 = flammable gases</p>
	<p>Gas under pressure store – non flammable 2.1 = flammable gases</p>
	<p>Toxic material store 2.3 = toxic gases</p>

The hazardous chemical icon is not part of the standard SmartGraphics_{HD} package. It is an extra which needs to be specified separately.

3.3 Processing Alarms

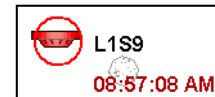
When the system receives an alarm, it is added to the events log and the system will be optionally configured to display and/or print the floor map upon which the alarm occurred. Refer to section 5.9.4.



Figure 20 Alarm Screen

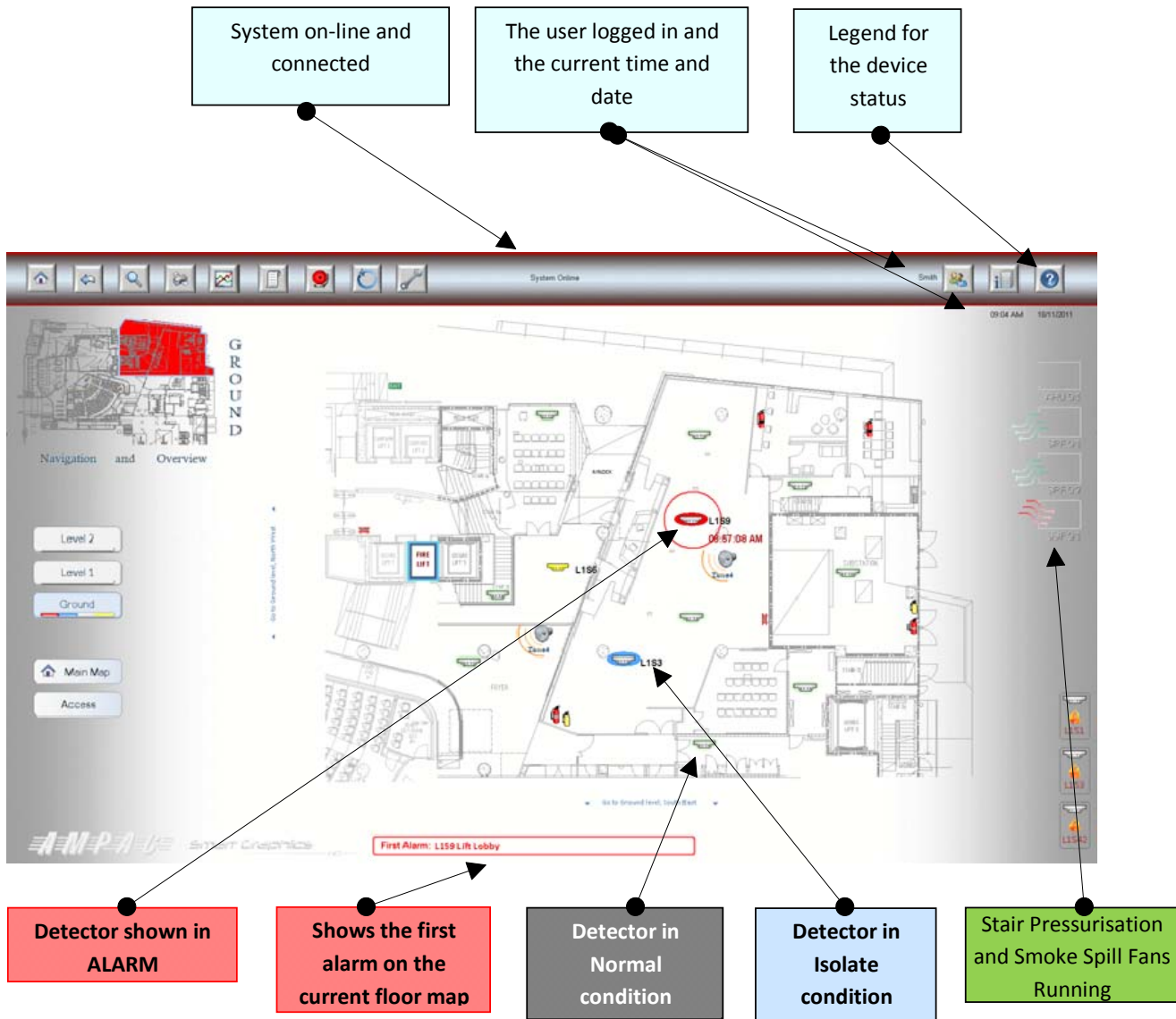
The above example shows:

- Loop 1 device 9 is in alarm – and it is the first device in alarm
- Key map of the ground floor with the floor section highlighted in Red denoting the alarm
- Navigation buttons highlighting an alarm on the ground level
- Smoke Spill fan running
- Emergency warning zone in alert



The first in alarm is displayed across the bottom of the screen.


3.4 Summary of a Area Map




4 Main Icons

Once the user is logged on at Level 2 or 3 all Menu Buttons become active and enable the user to access each function at their prescribed level.



 **Note:** 1. The Main Menu functions are only available at either the **Operator or Engineer level**.

 **Note:** 2. In Demonstration mode all functions are available.

4.1 Home Function



Home Button: Clicking once will return you to the Main Site Map. Clicking once again returns you to the Home screen.

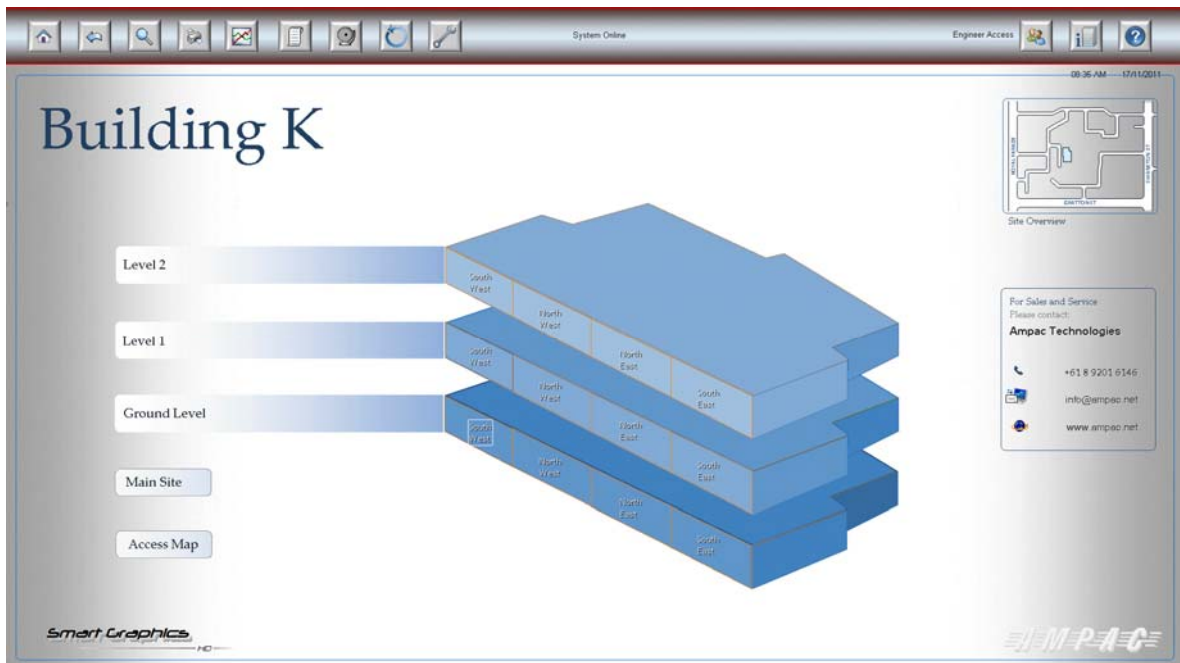


Figure 21: Main Site Map

4.2 Display Previous Page



Display Previous Page: Return to the last page viewed.

4.3 Search for Device



Search for Device: Allows the user to search for a device by Loop Number and Sensor Number.

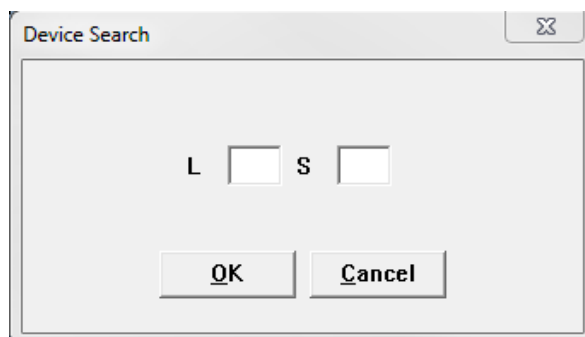


Figure 22: Device search screen

4.4 Print Current Map



Print Current Map: Clicking on the print Map button will print the current screen to the selected printer. (See section 4.9.4 for Printer Setup)

4.5 Display Current System Status



Display Current System Status: Clicking the Icon will display the following page.



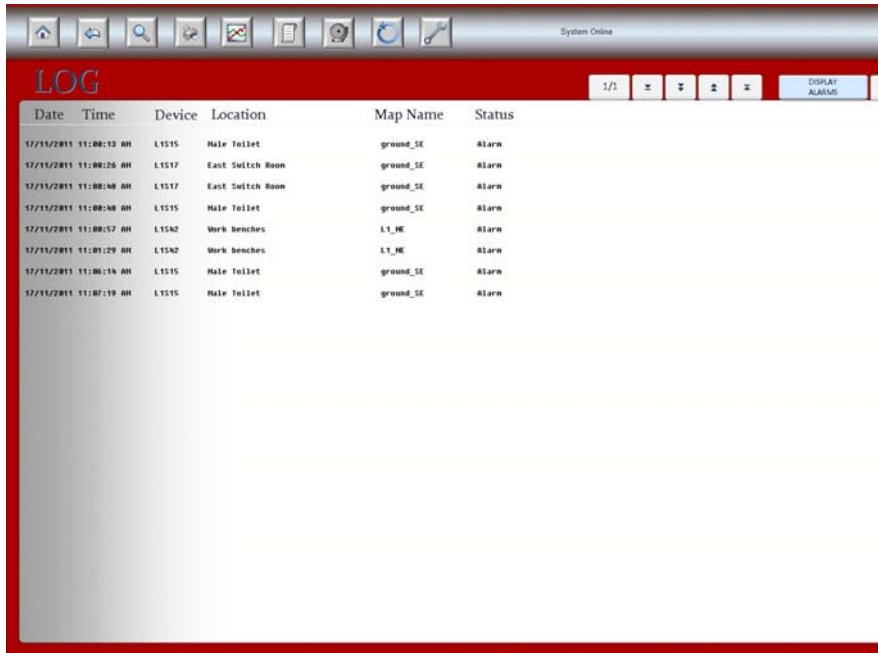
Figure 23: Current Status

From this window you can select: Display All, Display Alarms, Display Isolates, Display Pre-Alarms and Display Faults via the tabs at the top of the status display area. Each will display the current the status of the panel.

4.6 Display Log Page



Display Log Page: Display a Log of Alarm, Isolate and Fault events.



Date	Time	Device	Location	Map Name	Status
17/11/2011	11:00:10 AM	L1515	Male Toilet	ground_SE	Alarm
17/11/2011	11:00:26 AM	L1517	East Switch Room	ground_SE	Alarm
17/11/2011	11:00:40 AM	L1517	East Switch Room	ground_SE	Alarm
17/11/2011	11:00:40 AM	L1515	Male Toilet	ground_SE	Alarm
17/11/2011	11:00:57 AM	L1542	Work benches	L1_NE	Alarm
17/11/2011	11:01:29 AM	L1542	Work benches	L1_NE	Alarm
17/11/2011	11:06:14 AM	L1515	Male Toilet	ground_SE	Alarm
17/11/2011	11:07:19 AM	L1515	Male Toilet	ground_SE	Alarm

Figure 24 Current Logs

From this window you can select: Display Alarms, Display Isolates and Display Faults. Each will display the log account of selected TAB.

4.7 Silence Alarms



Silence Alarms: Allows the User to silence alarms system wide.

4.8 Master reset



Master Reset: As per the Master Reset at the Fire Alarm Control Panel (FACP). Resets all Alarms on the system

4.9 Tools



Tools Icon: Click on the icon in top menu bar shown on every map screen. There are six selections available from this menu



Figure 25 Tools Menu

Considering each selection

4.9.1 Shutdown



Clicking the Shutdown button will pop up a window asking you Yes or No to Shutdown the Project.

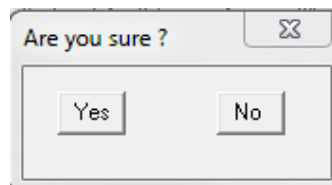


Figure 26: Shutdown Yes No Window

4.9.2 Control



Clicking the Control Icon will bring up the Multiple Device Control. allowing you multiple control of Zones or Loop/Sensors.

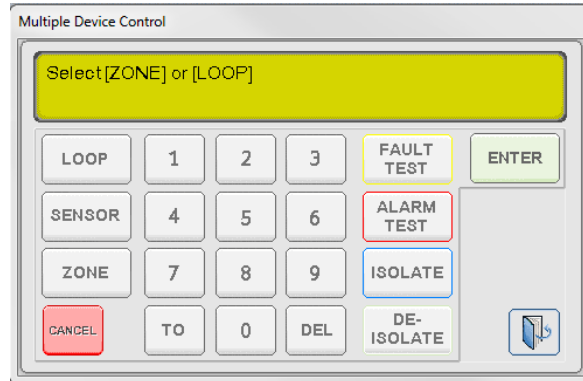


Figure 27: Multiple Device Control Screen

4.9.3 Erase Logs



Clicking on the Erase Logs allows the User to erase User Logs, Alarm Logs, Fault Logs and Isolate Logs by clicking on the appropriate Icon. Once the Icon is clicked a pop up box will ask you to confirm your decision.

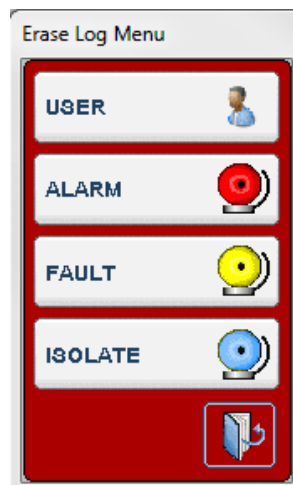


Figure 28: Erase Log Menu

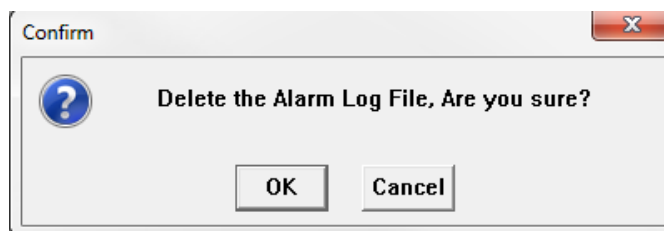



Figure 29: Confirmation Window

 **Note:** Clicking OK will erase all logs to date

 **Note:** The same “pop up” screen to that above will be presented for Erase Alarm, Fault and Isolate Log Files

4.9.4 Set Up



Clicking the Setup button allows the User to, Setup the Printer, Turn Auto Print On/Off and Turn Auto Display On/Off



Figure 30: Set Up Menu

Selecting PRINT SETUP results in the following dialogue being displayed

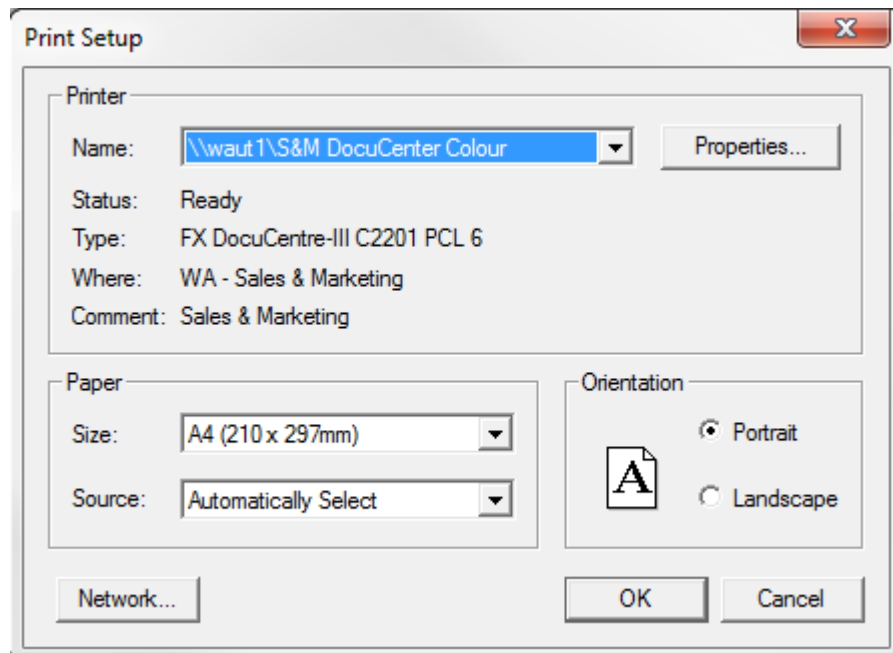


Figure 31: Set Up Printer Window



By selecting AUTO PRINT an Alarm will be automatically printed to the Map Printer as it occurs. (This Option is toggled by clicking on the Icon)



By selecting AUTO DISPLAY an Alarm will be automatically displayed on the screen as it occurs. (This Option is toggled by clicking on the Icon)

4.9.5 User Tools



Click on the User Tools allows the user to Add User, Edit User and User Log setup.

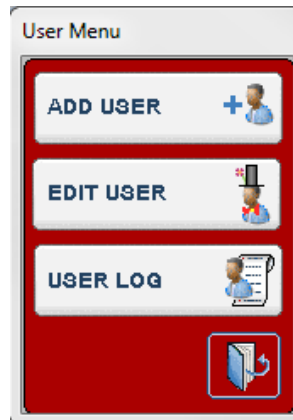
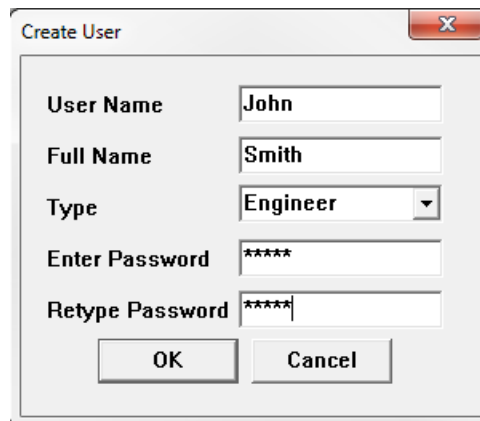


Figure 32: User Menu

Considering each of the selections:



Provides the User the ability to add extra users to the system. The following pop up screen allows for User information to be added

A dialog box titled "Create User" with a close button (X) in the top right corner. It contains the following fields:

- User Name: John
- Full Name: Smith
- Type: Engineer (dropdown menu)
- Enter Password: *****
- Retype Password: *****

At the bottom, there are two buttons: "OK" and "Cancel".

Figure 33: Create User Screen



Provides the User the ability to Edit current user information

Edit User ✖

User Name

Full Name

Enter Password

Retype Password

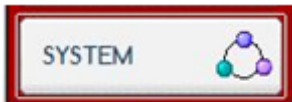
Figure 34: Edit User Screen



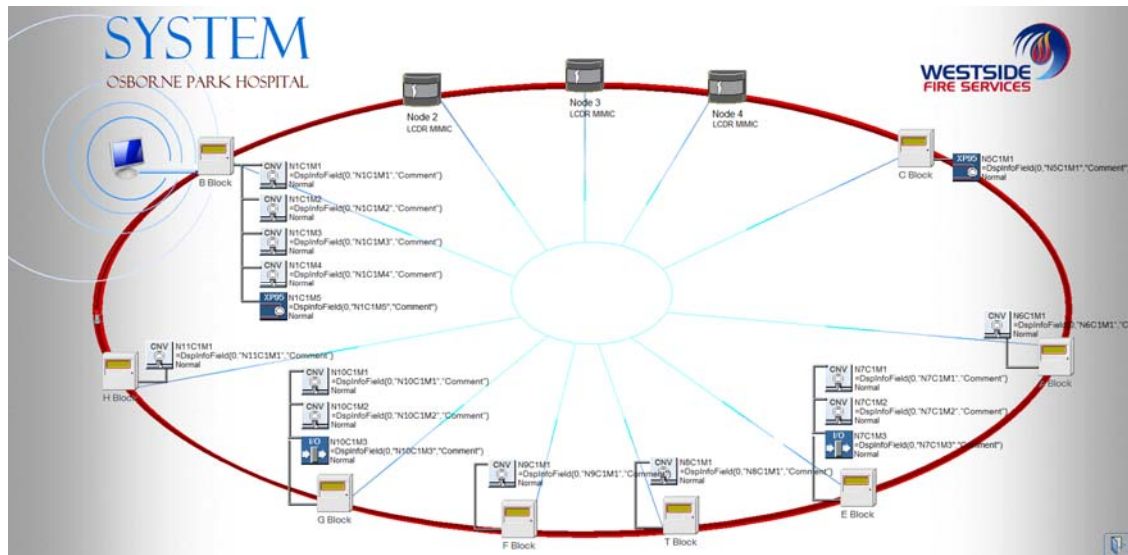
Provides the user the ability to view which users have accessed the system

Security Access Log			
Date	Time	User	Status
17/11/2011	02:00:52 PM	Engineer Access	Logged In
18/11/2011	07:04:10 AM	Engineer Access	Logged In
18/11/2011	08:01:12 AM	Engineer Access	Logged Out
18/11/2011	08:01:27 AM	Engineer Access	Logged In
18/11/2011	08:01:39 AM	Engineer Access	Logged Out
18/11/2011	08:01:58 AM	Smith	Logged In
18/11/2011	08:01:57 AM	Smith	Logged Out
18/11/2011	08:02:09 AM	Smith	Logged In
18/11/2011	10:15:15 AM	Engineer Access	Logged In
18/11/2011	10:22:59 AM	Engineer Access	Logged In
18/11/2011	10:33:29 AM	Engineer Access	Logged Out
18/11/2011	10:33:41 AM	Engineer Access	Logged In
6/12/2011	08:58:24 AM	Engineer Access	Logged In

4.9.6 System



The system page displays the current status of the fire system network to be viewed, as well as the status of the modules connected to each network node.



 **Note:** The above example System Display shows the connections and status of the panels and modules in a FireFinder system.

4.9.7 Close Menu



Click to close the open window.

4.10 Log In / Log Out



Log In / Out User: Click here when you have finished using the system. This will return the system to Level 1 access and will be ready for the next user to login.

4.11 Display Building Info



Display Building Info: Display Information about the Building Site and Contact Details

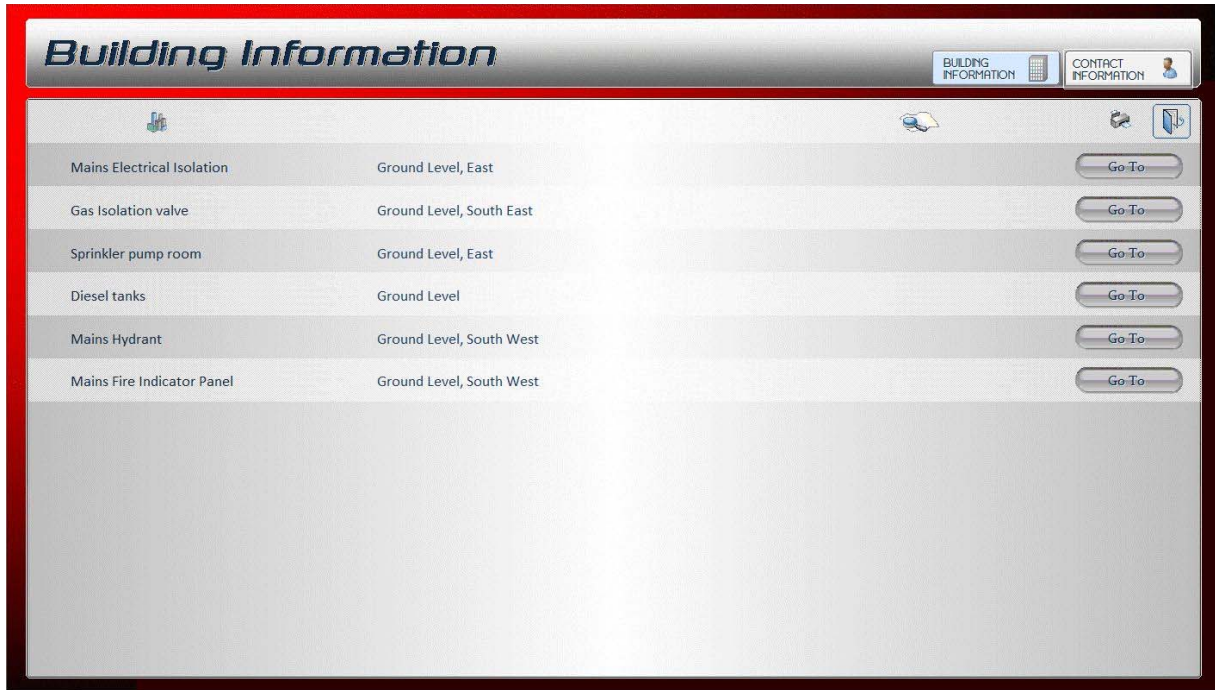


Figure 35 Building Information

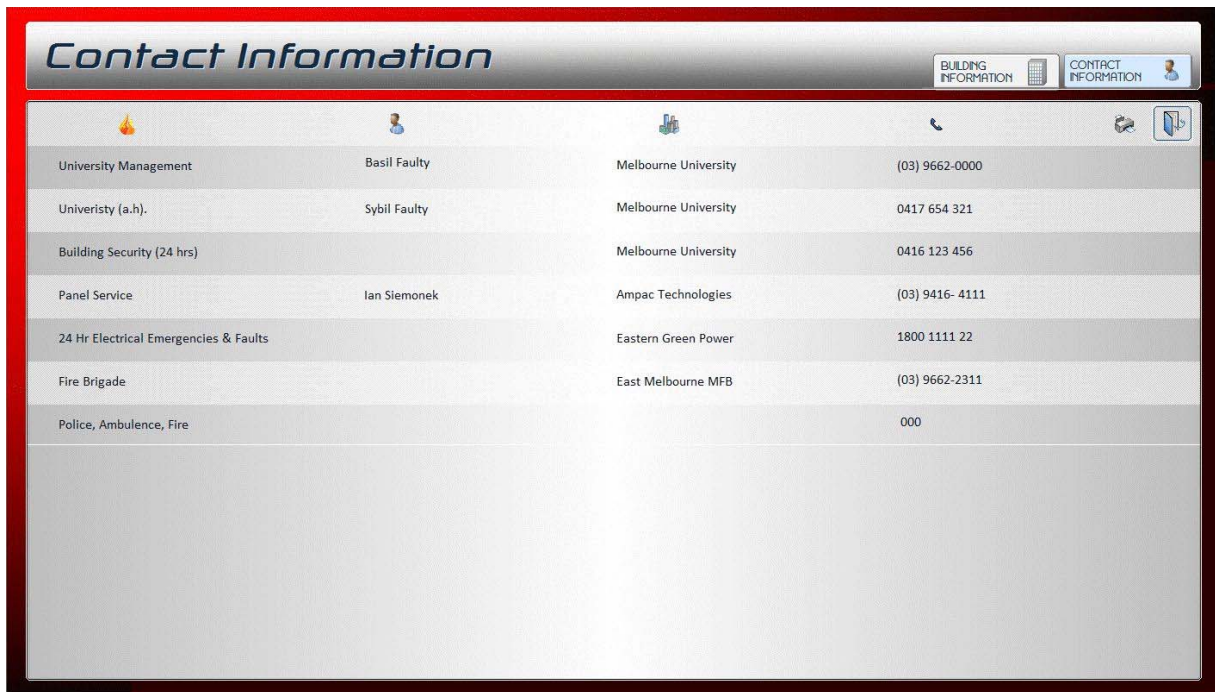


Figure 36 Contact Information

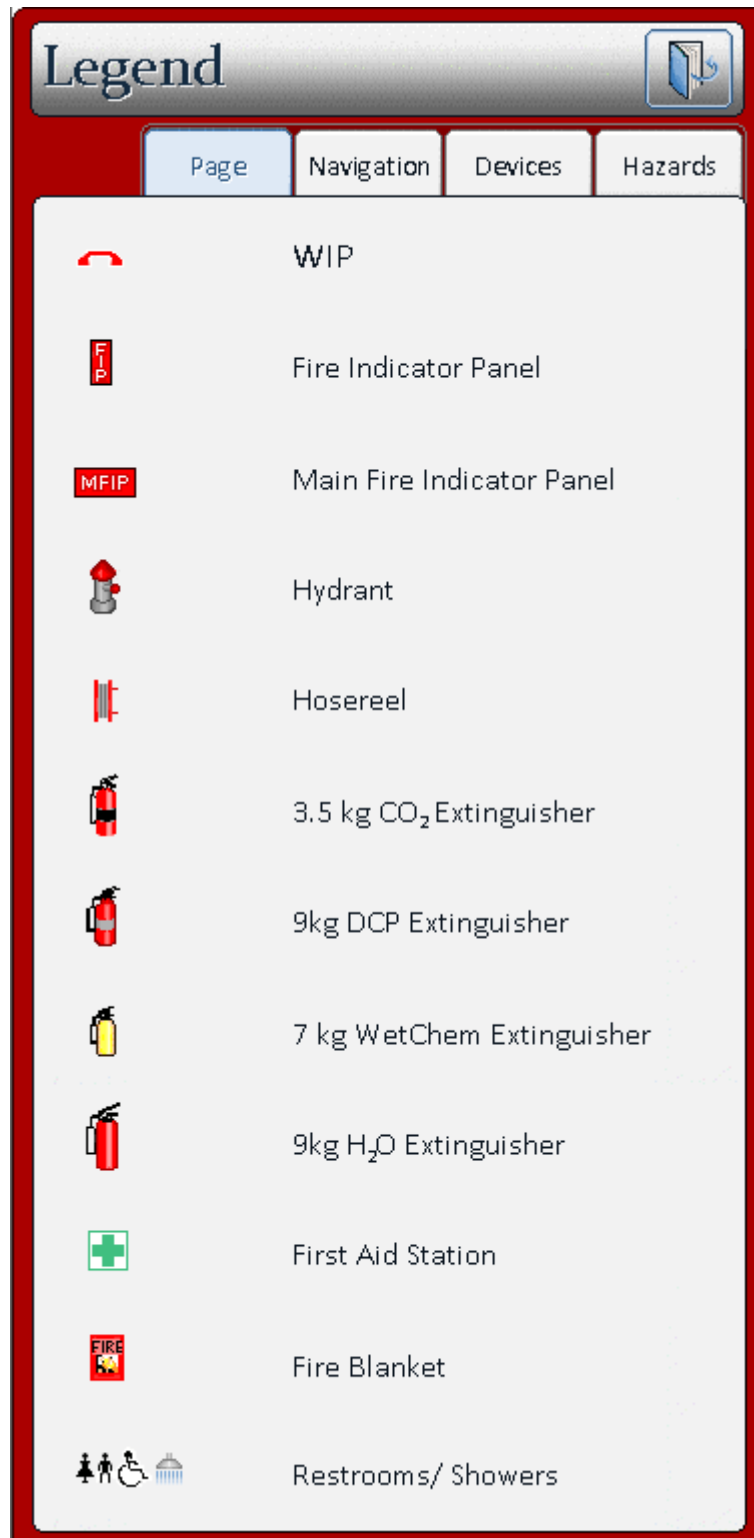
The building display and contact information is not part of the standard SmartGraphics^{HD} package. It is an extra which needs to be specified separately.

4.12 Legend















Legend: Displays a Legend of all the Icons and the Terminology

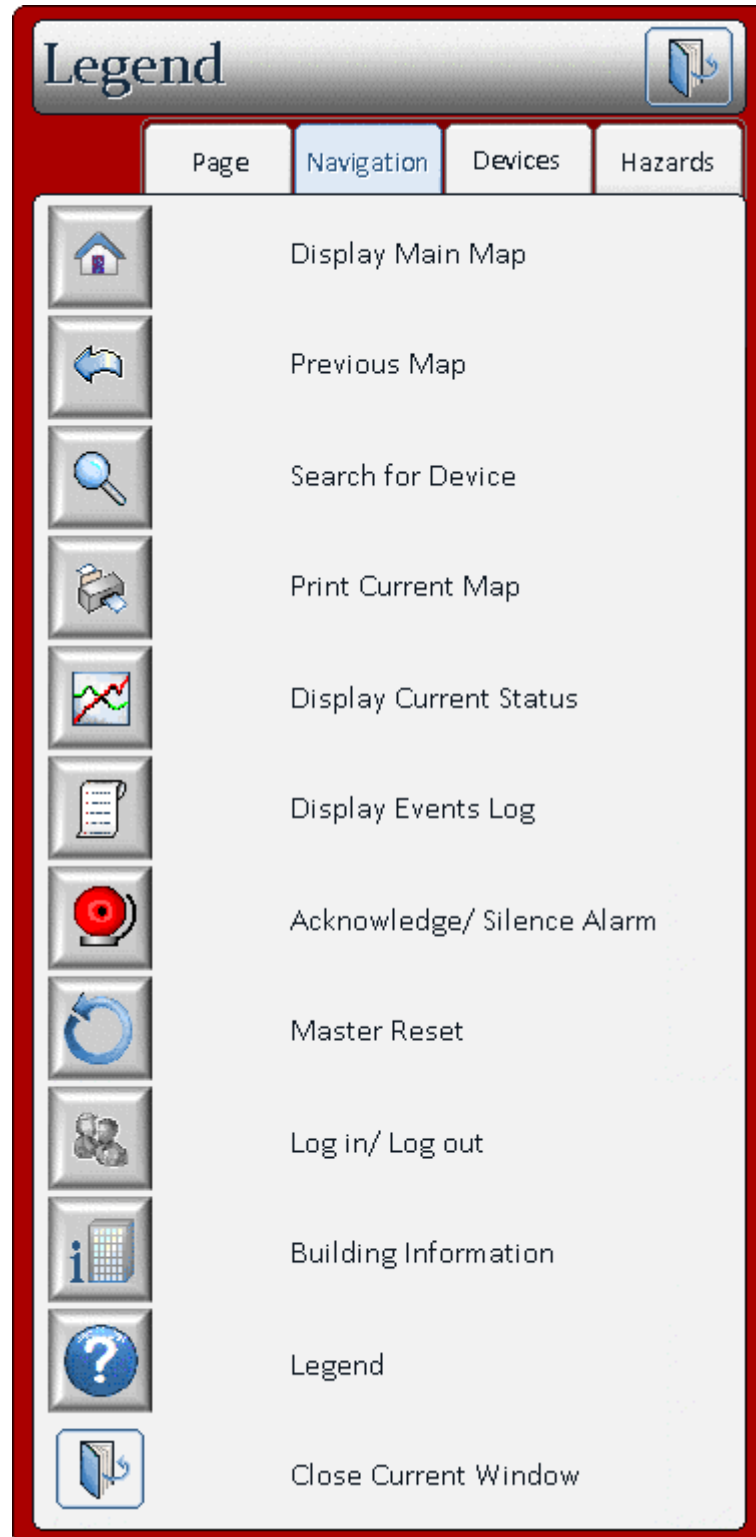
4.12.1 Page Legend















The screenshot shows a window titled "Legend" with a close button in the top right corner. Below the title bar are four tabs: "Page" (selected), "Navigation", "Devices", and "Hazards". The main content area lists various icons and their corresponding terminology:

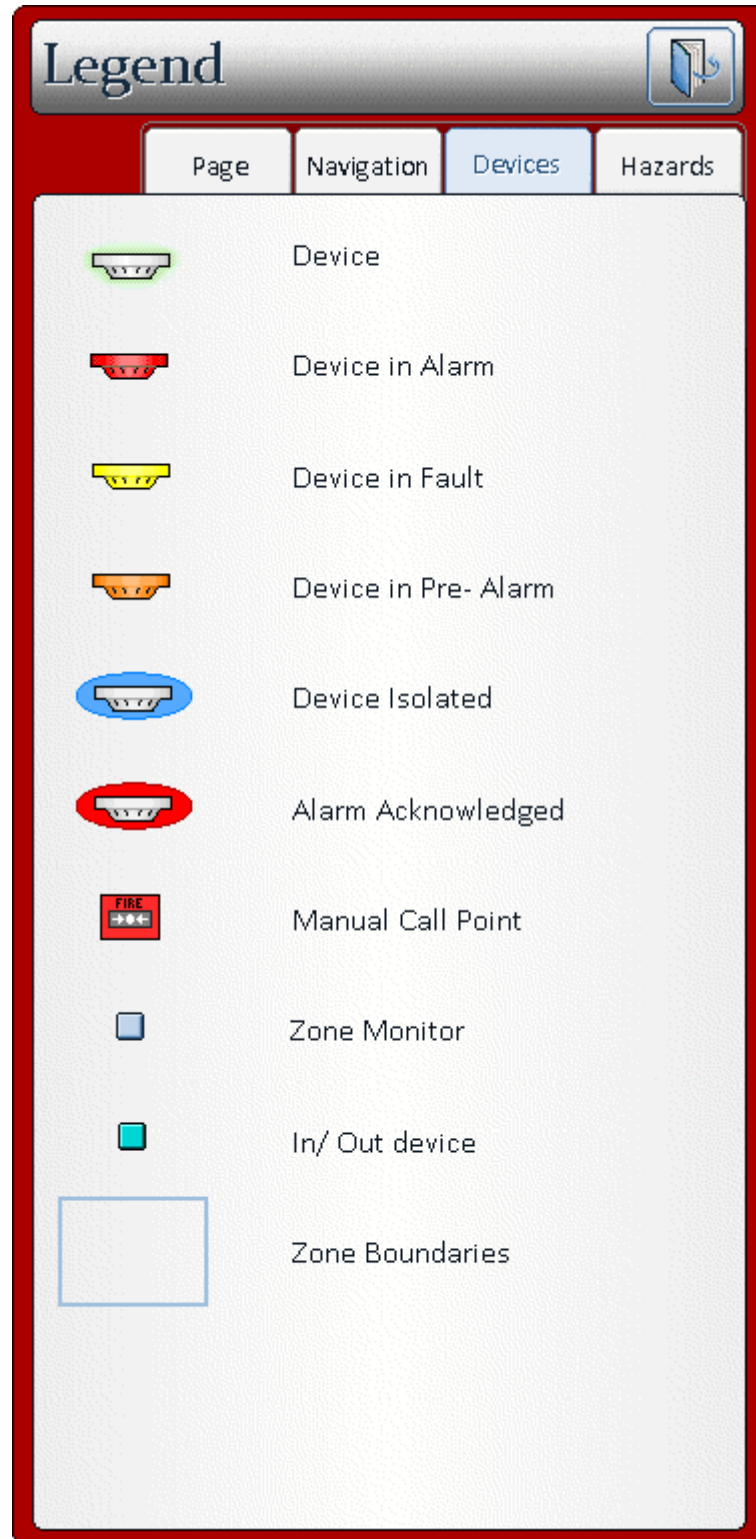
	WIP
	Fire Indicator Panel
	Main Fire Indicator Panel
	Hydrant
	Hosereel
	3.5 kg CO ₂ Extinguisher
	9kg DCP Extinguisher
	7 kg WetChem Extinguisher
	9kg H ₂ O Extinguisher
	First Aid Station
	Fire Blanket
	Restrooms/ Showers










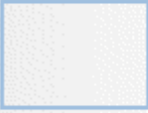
4.12.2 Navigation Legend




	Page	Navigation	Devices	Hazards
		Display Main Map		
		Previous Map		
		Search for Device		
		Print Current Map		
		Display Current Status		
		Display Events Log		
		Acknowledge/ Silence Alarm		
		Master Reset		
		Log in/ Log out		
		Building Information		
		Legend		
		Close Current Window		

4.12.3 Device Legend















Icon	Description
	Device
	Device in Alarm
	Device in Fault
	Device in Pre- Alarm
	Device Isolated
	Alarm Acknowledged
	Manual Call Point
	Zone Monitor
	In/ Out device
	Zone Boundaries

4.12.4 Hazards Legend

Legend 

Page Navigation Devices Hazards

	Explosive
	Flammable Gas
	Non Flammable Gas
	Flammable Solid
	Spontaneously Combustible
	Dangerous When Wet
	Organic Peroxide
	Toxic
	Infectious
	Radioactive
	Corrosive
	Dangerous (miscellaneous)



NOTES:

AMPAC TECHNOLOGIES

WESTERN AUSTRALIA

7 Ledger Road
Balcatta
Western Australia 6021
Telephone: +618 9201 6100
Fax: +618 9201 6101
Email: info@ampac.net

SOUTH AUSTRALIA

63 Grange Road
Welland
South Australia 5032
Telephone: +618 8340 9519
Fax: +618 8340 4218
Email: info.sa@ampac.net

AMPAC PACIFIC- AUCKLAND

Unit 4/101 Diana Drive

Glenfield, New Zealand

Telephone: +64 9443 8072
Fax: +64 9443 8073
Email: info.nz@ampac.net
Web: www.ampac.net

VICTORIA & TASMANIA

422 Johnston Street
Abbotsford
Victoria 3067
Telephone: +613 9416 4111
Fax: +613 9416 4227
Email: info.vic@ampac.net

QUEENSLAND

1/53 Paramatta Road
Underwood
Queensland 4119
Telephone: +617 3208 9299
Fax: +617 3208 9355
Email: info.qld@ampac.net

AMPAC PACIFIC-
CHRISTCHURCH

Unit D/163 Wordworth Street

Christchurch, New Zealand

Telephone: +64 3974 1350
Fax: +64 3974 1351
Email: info.nz@ampac.net
Web: www.ampac.net

NEW SOUTH WALES &
AUSTRALIAN CAPITAL
TERRITORY

Unit B 28-32 Egerton Street
Silverwater
New South Wales 2128
Telephone: +612 9648 4933
Fax: +612 9648 4932
Email: info.nsw@ampac.net

NORTHERN TERRITORY

2/10 Cato St
Winnellie
Northern Territory, 0820
Telephone: +618 8911 1260
Telephone: +618 8911 1261
Email:
m.cavenagh@ampac.net

AMPAC EUROPE LTD

Unit 18
Networkcentre, Yorkshire Way,
West Moor Park, Doncaster,
South Yorkshire, England
DN33GW
Telephone: +44 (0) 1302 833
522
Fax: +44 (0) 1302 835 021
Email: info.eu@ampac.net
Web: www.ampac.net



(HEAD OFFICE)



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