Manual

Advanced

Axis AX

Config Tool (PC-NeT)

The operation and functions described in this manual are available from PC-NeT version 6.58 and above.

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1 Introduction

1.1 Cautions and Warnings

Before commencing with installation or operation of this PC-NeT software, please read this manual carefully. If you are unclear on any point, DO NOT proceed. Contact Advanced for clarification and guidance.

Only Advanced trained service personnel must undertake the Installation and Programming Procedures as described in this document. Individuals not certified by Advanced are not authorized to utilize the Advanced PC-NeT Programming Tool.

1.2 Minimum Computer Requirements

Processor: Pentium 300MHz

RAM: 64Mbyte RAM

Hard Disk: 10Mbyte Free Disk Space

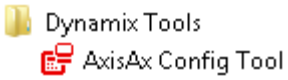
Operating System: Windows® 95, 98, ME, 2000, XP, Vista*#, Windows 7*# (32 and 64 Bit Windows Operating System) and Windows 8 / 8.1

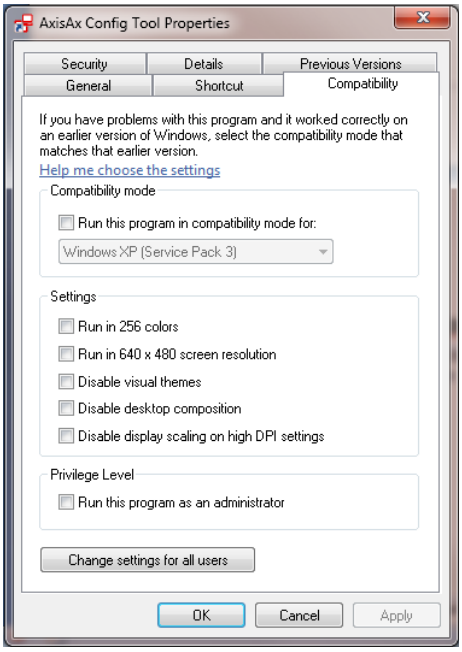
* Vista and Windows 7, 32 and 64 Bit Operating System, User Account Control (UAC) must be turned off during PC-Net installation.

Vista and Windows 7, 64 Bit Operating System, may require Borland Database Engine (BDE) manual editing to support longer path name for default installed folder.

Display Minimum: 600x800 16-bit Color, 1024x768 recommended.

Note: If utilizing Windows Vista, after installation of the program you must setup to run the program as an administrator. In the "Start" menu "All Programs" under "Dynamix Tools" right click "AxisAX Config Tool", select "Compatibility" tab, under "Privilege Level" select Run this program as an administrator. Select "Apply" than "OK". You are now set to run the program as an administrator.





1.3 Installing the Program

With the exception of PC-NeT 5.09, uninstall any other previous version PC-NeT program installed on your computer prior to installation.

Note: When uninstalling a previous PC-NeT version, you must utilize the "Uninstall Config Tool" program provided with the original Config Tool software, do not utilize Windows uninstall/program.

Install the PC-NeT setup file on your computer hard drive, where you store all your other Advanced' files. Launch the install program. The program will guide you through the installation process. Follow all of the on-screen instructions.

2 General Operation

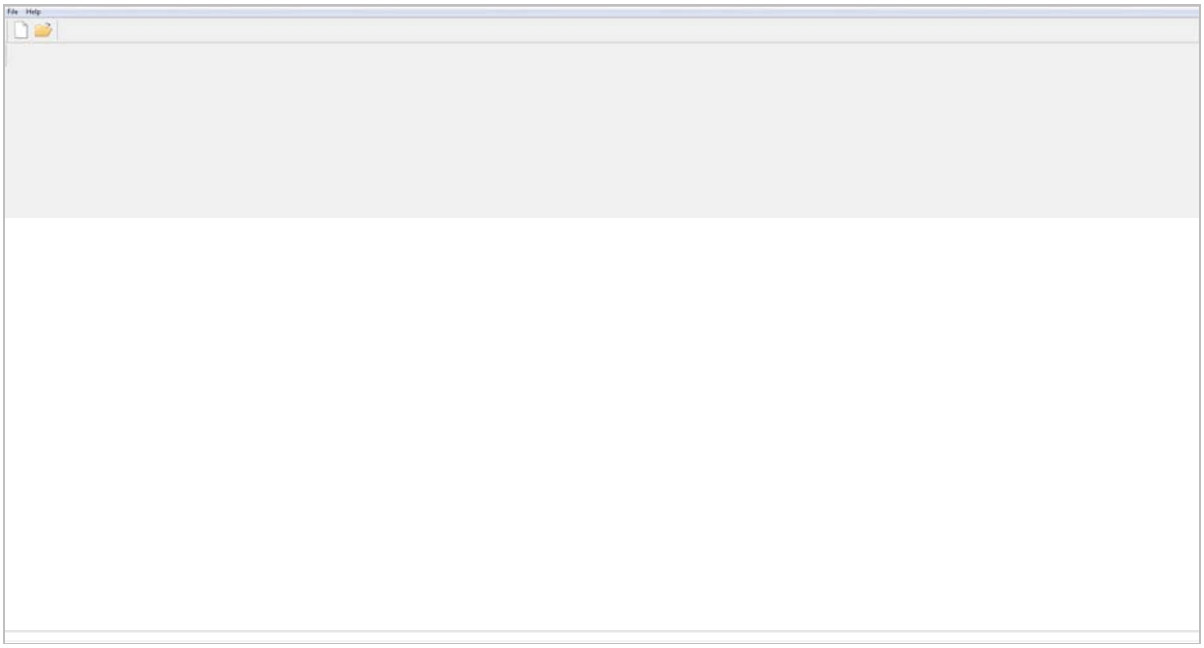
2.1 Running the Program for the First Time

To run the program, navigate to the "Dynamix Tools" file (Windows Start, All Programs, Dynamix Tools) and select "AxisAx Config Tool".

Alternatively, only if the file was created with version 6.02 or later use Windows Explorer to locate the required configuration data file and double click on the file name to automatically launch the program.

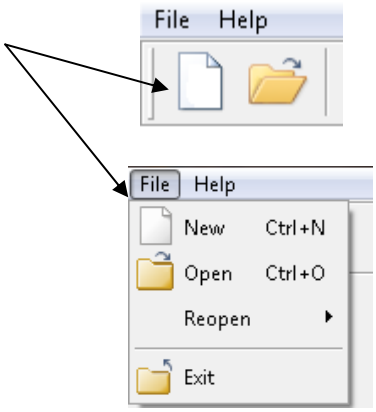
If starting a new program, once you select "AxisAx Config Tool" and the program has completed loading, a new window will appear on the screen, as shown below. To continue, choose to create a new configuration file or to open an existing version 6.02 or a later configuration file. These options are described in the following sections.

Note: PC-NeT 5.09 created configuration files cannot be opened within any PC-NeT 6.xx field configuration program.

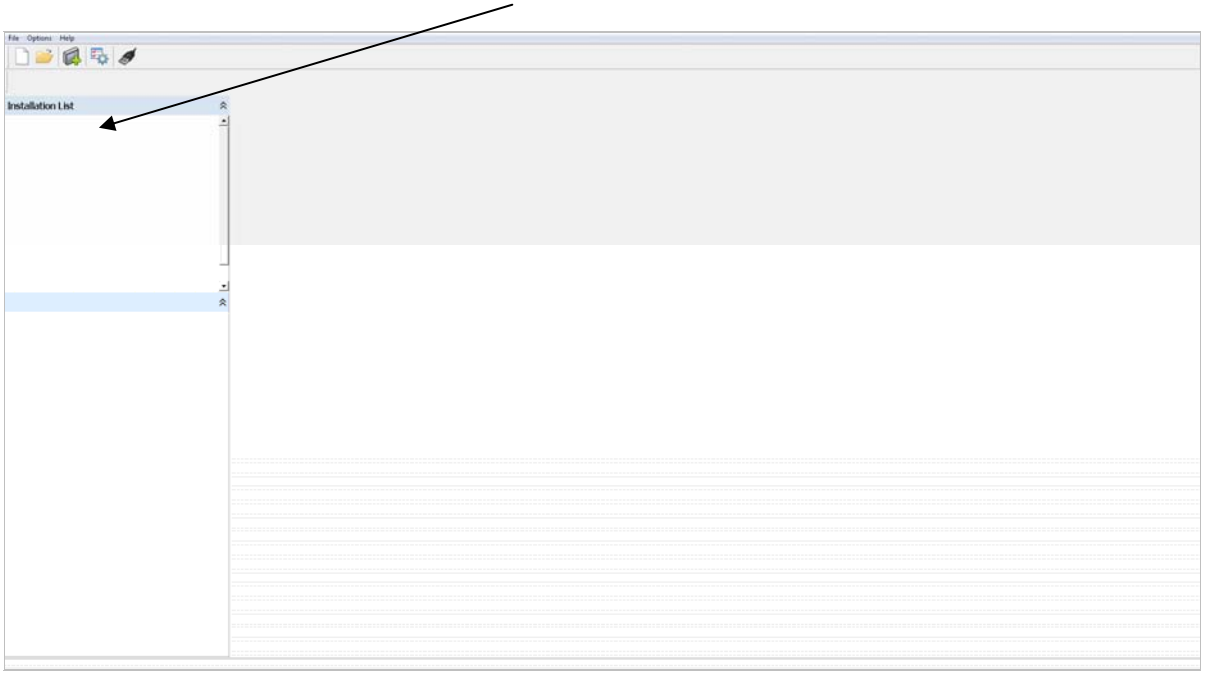


2.2 Creating a New Config File

To create a new configuration, click on the white page icon or click on File and then select New from the drop-down menu.



Once new has been selected, the screen will now look like the screen shown below, with a blank Installation List:



2.3 Adding Product to the PC-NeT Installation List

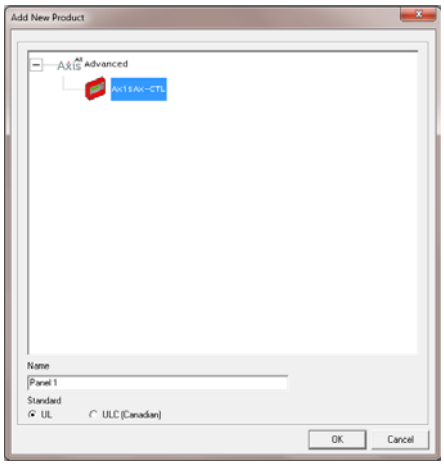
There are 2 ways to add a product to the Installation List:

1. Click the “Add Product” icon to select and add a new product with default configuration settings.

2. Transfer the product configuration data from an Axis^{AX} fire alarm control panel to the PC-NeT program, utilizing the computer’s communications port.

2.3.1 Add Product

In this section we will discuss adding a product to the installation list by the “Add Product” icon. Transferring product configuration data will be covered in a later section.

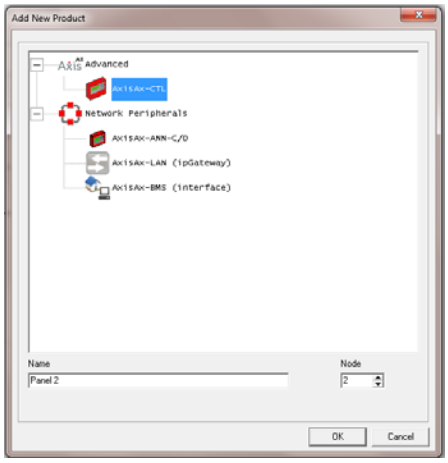


Click the “Add Product” icon to add a product to the installation list. A similar screen as shown opposite will be displayed. Being the first panel added, the “AxisAx-CTL” will be highlighted, as shown opposite.

Note: The AxisAx-CTL product selection will be utilized for a one, two or four loop system.

The “Name” field (defaulted as Panel[x]) can be up to 32 characters and must be unique for each product added to the installation list. The name is especially helpful in distinguishing between individual products in a network. Usually a name is chosen which reflects the physical location of product. The first panel to be added to the design is always allocated to Node 1 (this can be changed later if required).

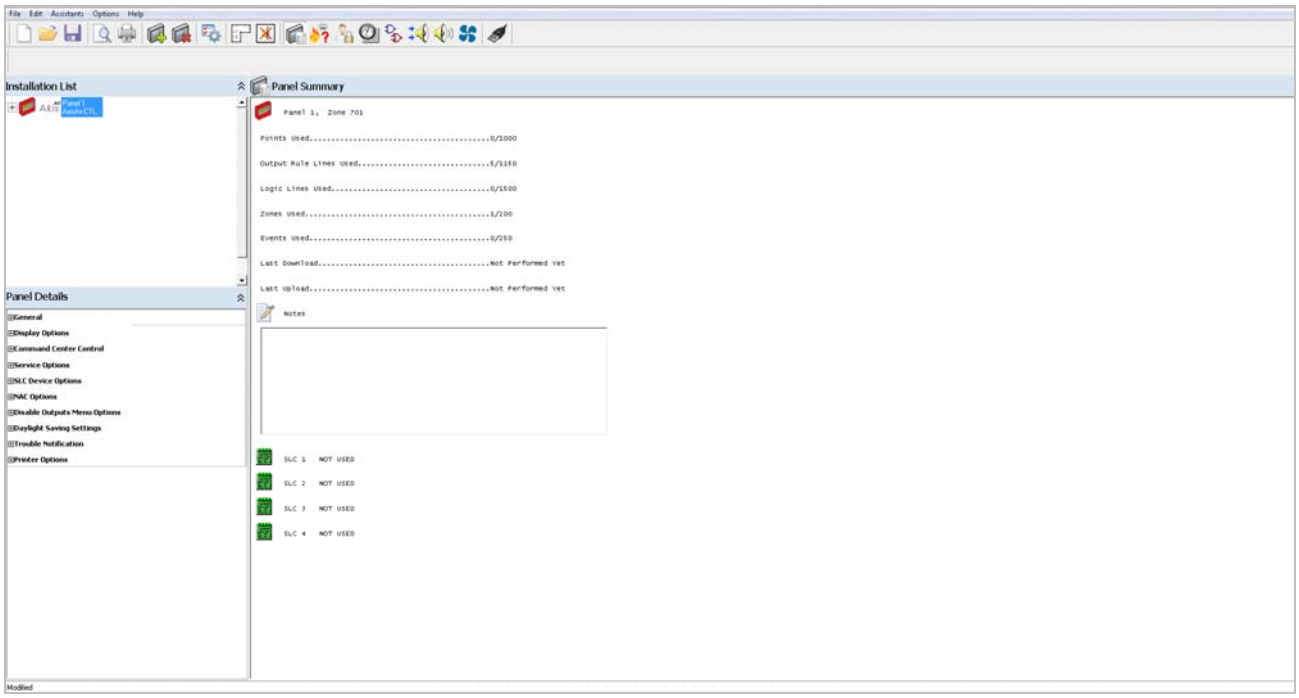
Note: For network systems repeat this sequence to add more products to the installation list, as required.



If a duplicate name or node is encountered, then the “OK” button shown in the opposite screen will remain disabled and an appropriate warning message will be displayed. Finally, when everything is correct, the “OK” button will be enabled. Click the “OK” button to complete the operation.

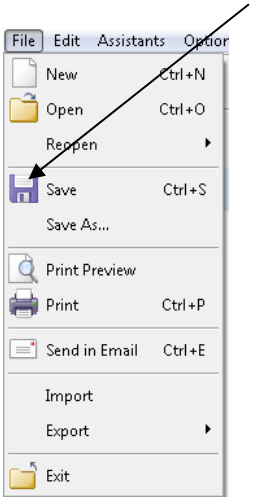
To add Network Peripherals such as remote annunciation or ipGateway after installing an AxisAx-CTL product, simply click the “Plus” icon [+] adjacent to the “Network Peripherals” to expand the Network Peripheral products available. A similar screen as shown opposite will appear, displaying the available “Network Peripheral” products.

After selecting an AxisAx-CTL product, the following display will appear:



2.4 Save the File

To save a new design, click on the diskette icon or select “File | Save As” from the menu. Refer to the pictures opposite.



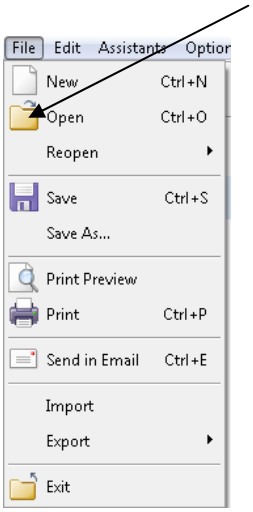
A window will be shown prompting you for the location of where to save the file. The default file name is “Config-1”. This file name can be changed to a more meaningful description (i.e. the name of the installation or panel location).

Browse the system drives and folders to find the location where you want the design to be saved. Create a new folder if necessary.

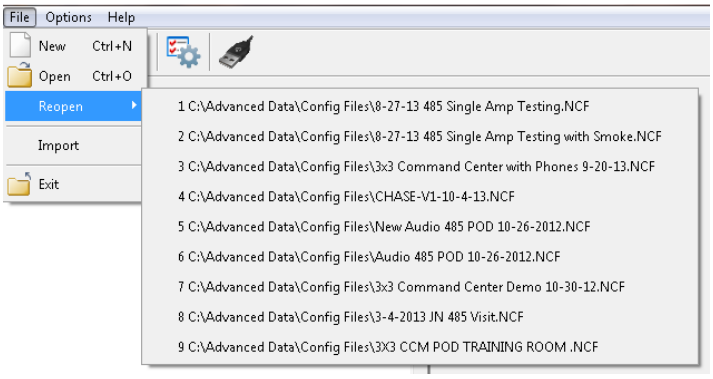
Note: There is no need to enter a file extension when entering a different file name, the program automatically adds the “*.NCF” extension.

2.5 Open an Existing File

To open an existing file, click the yellow folder icon or select “File | Open” from the menu. Refer to the pictures opposite.



Alternatively, select “Reopen” to select most recently used files in a sub-menu. Refer to the picture opposite.



3 Screen Layout

The basic PC-NeT screen layout is shown below. The main elements of the display are indicated and explained in the following sections.

1 - Menu Bar

2 - View/Action Buttons

3 - Filter Button

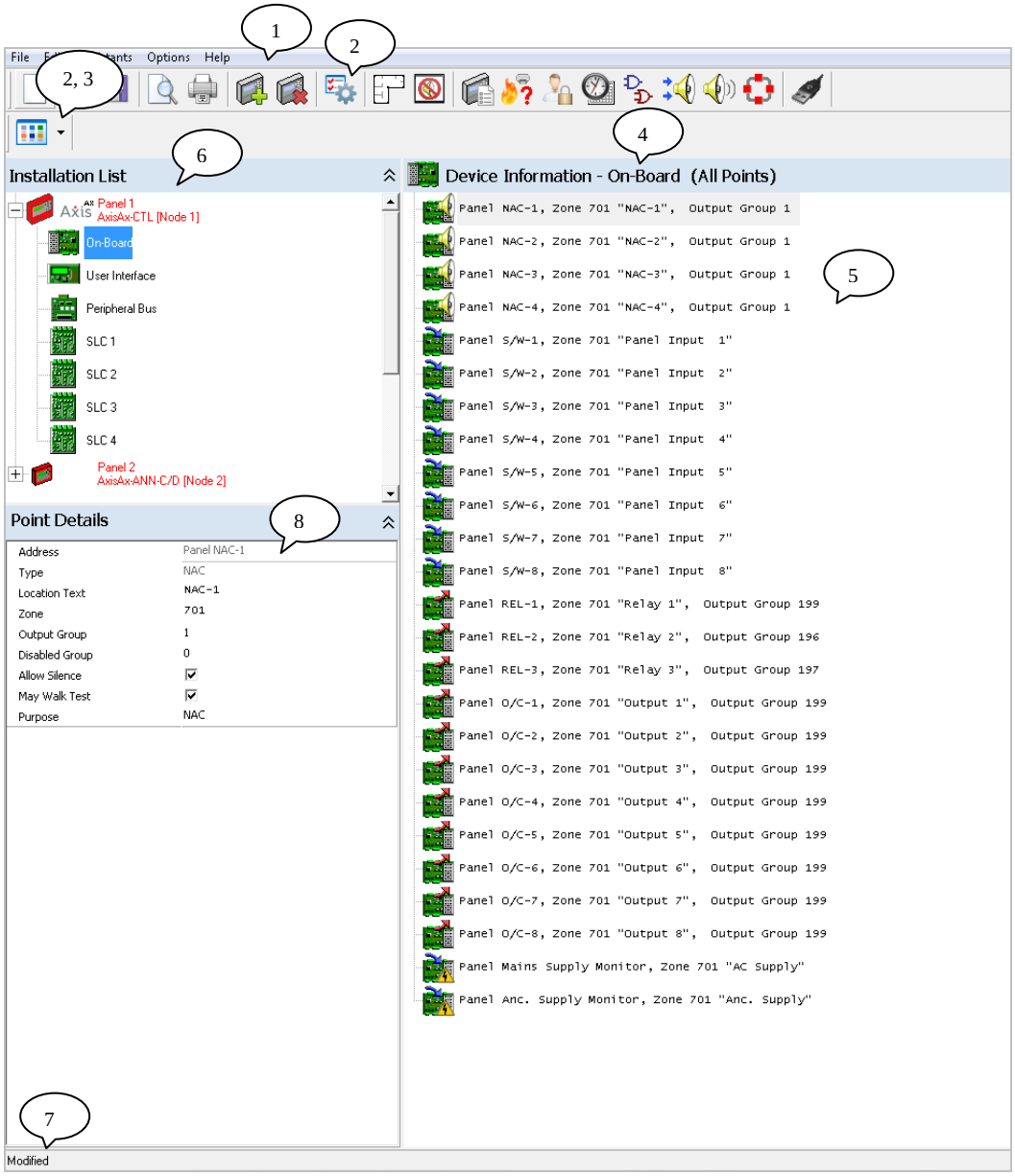
4 - Current View Description

5 - Current View Work Area

6 - Installation List

7 - Status Bar

8 - Current View Point Area

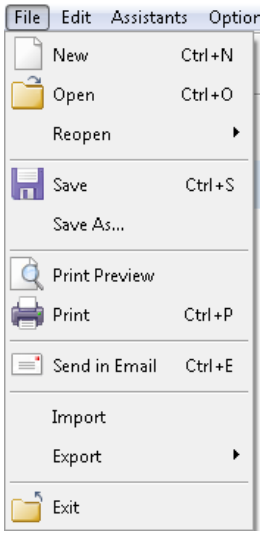


3.1 Menu Bar

This area provides access to the familiar items found in most Windows® applications (i.e.: File, Edit, Options, etc), along with other items specific to the PC-NeT. Click on an item on the menu bar and a drop down sub-menu will appear, from which to make a selection. Some of the menu bar items and their sub-menus are context sensitive, their content will depend upon the current view area and operations being performed.

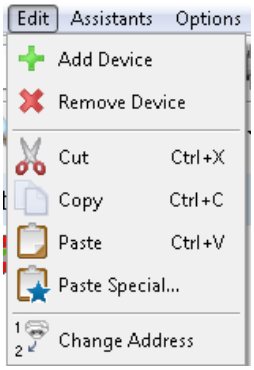
3.1.1 File

Provides access to all file and printing operations:



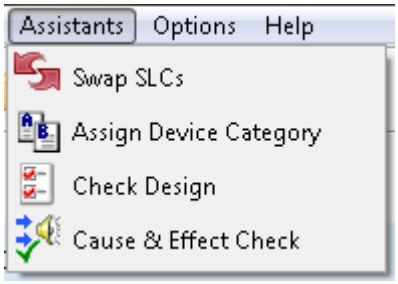
3.1.2 Edit

This area allows the user to Cut, Copy, Paste and Change Address of a specific device. The items shown here are context sensitive and depend upon the current selected view area.



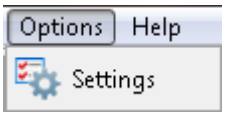
3.1.3 Assistants

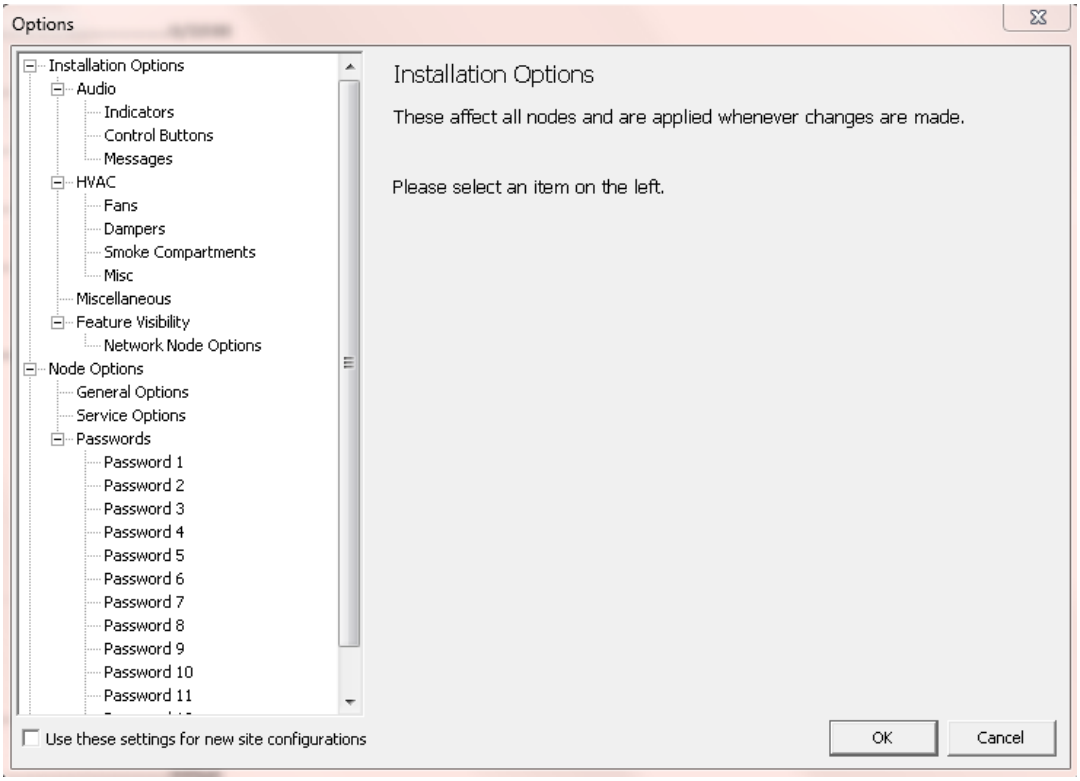
This area helps the user to perform certain actions (i.e.: swap SLC loops, assign device categories, check the integrity of the design or view cause and effect programming).



3.1.4 Options

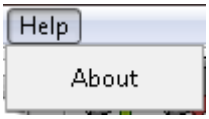
This area is used to setup site (installation) options (audio, HVAC, service options, passwords and communications serial port).

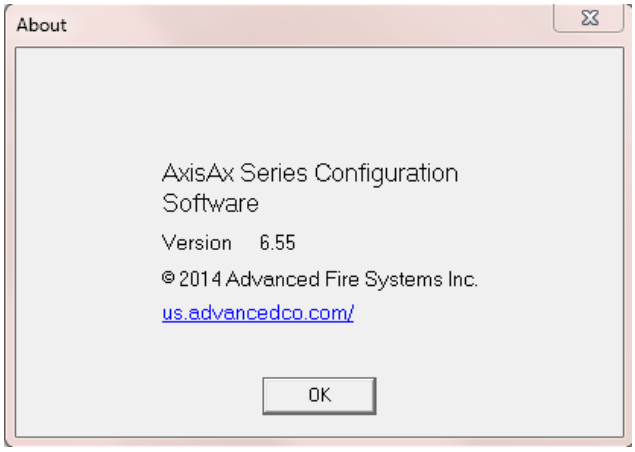




3.1.5 Help

Provides PC-NeT tool, copyright and version information.





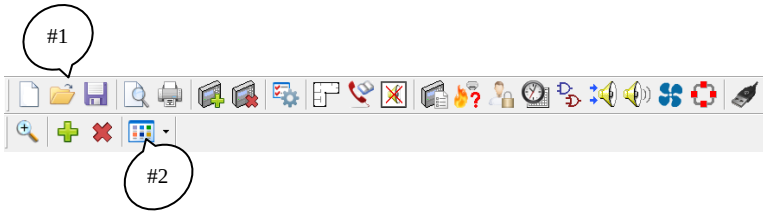
3.2 View/Action, Filter Buttons

These buttons provide access to the most commonly used functions. The View/Action Buttons (item #1) are displayed on the top row of the toolbar. The View/Action, Filter Buttons (item #2), are displayed on the bottom row of the toolbar. The buttons are context sensitive and their visibility depends upon the current node selected in the site list.

Clicking on a View/Action Button lets the user select a particular part of the configuration detail to work on.

Shown below are the View/Action Buttons/icons available/visible when an SLC loop is selected, in the installation list of a “config” file. These buttons are related to general product items (i.e.: zone text, time clocks, passwords, etc).

The functions of the View/Action Buttons/icons (item #1) from left to right are as follows:



New Installation Configuration File

Open Existing Configuration File

Save Current Configuration File

Print Preview

Print

Add Product

Delete Product
Displayed only after a product is added.

Installation Settings

View/Edit Zone Text

Field Phone Book
Displayed only when an addressable firefighter telephone module (Ax Series AV Jack) is added to the system.

View/Edit Disabled Group Text

View/Edit Panel Details

False Alarm Management

View/Edit Passwords

View/Edit Time Clocks

View/Edit Logic Statements

View/Edit Output Cause & Effect

View/Edit Signal Patterns

View Edit Fans and Dampers

View Edit Network Sector Information
Displayed only when multiple nodes are in the installation list.

Communications

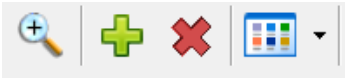
Shown below are the View/Action, Filter Buttons/icons available/visible when an SLC loop has been selected, in the installation list and a device has been added. The View/Action, Filter Buttons/icons visible relate to the working area of the selected SLC loop. The functions of the View/Action, Filter Buttons/icons from left to right are as follows:

Show Details (Program Devices)

Add Device

Remove Device

Change Displayed Addresses (Filtering Button)

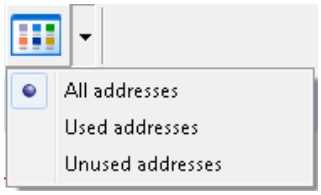


3.2.1 Filter Button

The filter button allows the user to filter the viewing and programming of information within a selected view/action area. This button is context sensitive and its options are dependent upon which view/action area the user is in.

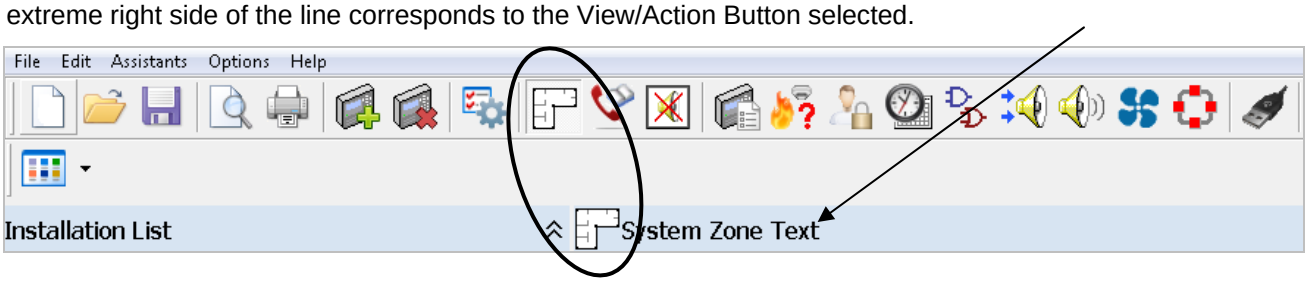
Each time the button is pressed the filter is toggled between the options/selections.

Alternatively, pressing the down arrow button will expand the list to allow selection of the required filter.



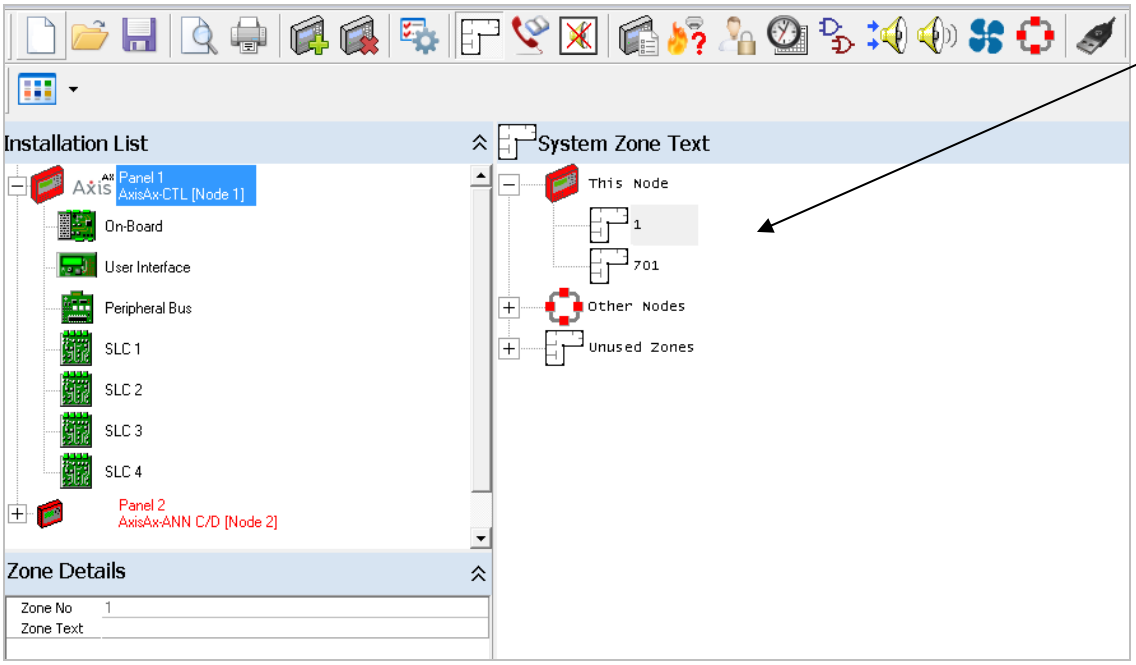
3.3 Current View Description

This area of the screen provides a text description of the current selected View/Action Button. The icon at the extreme right side of the line corresponds to the View/Action Button selected.



3.4 Current View Work Area

The contents of this area are context sensitive; the information displayed is relative to the current selected view. It is here that changes to configuration details take place.



3.5 Installation List

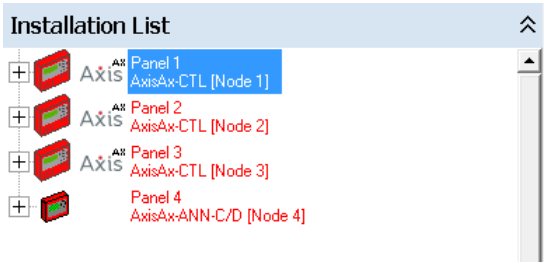
The following screens show views of an Installation List. The screens show that this is a network site that has three AxisAx-CTL panels and one Axis Ax-ANN-C/D remote annunciator.

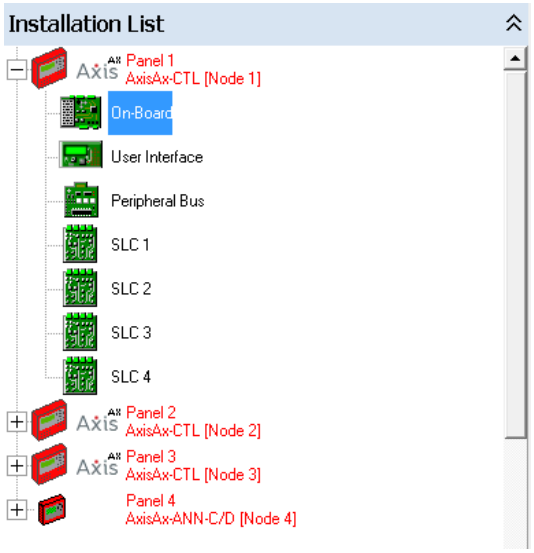
Note: Though the installation list shows AxisAx-CTL panels, based on programming, the panels will either be a one, two or four loop panel.

The screens opposite show two different views of the Installation List, one collapsed and the other with Node 1 expanded.

To the right of each product image is its assigned name and node address. Click on a product image in the Installation List to make it the current product to view or work on. All changes and editing operations are made relative to the current selection.

The ⊞ tag at the left side of each product indicates that the product can be expanded to show more detail. Click on the tag to expand the view and make the On-Board, User Interface, Peripheral Bus and SLC loop(s) for that node visible. The symbol then changes to a ⊟ indicating that the view can be collapsed to show less detail.





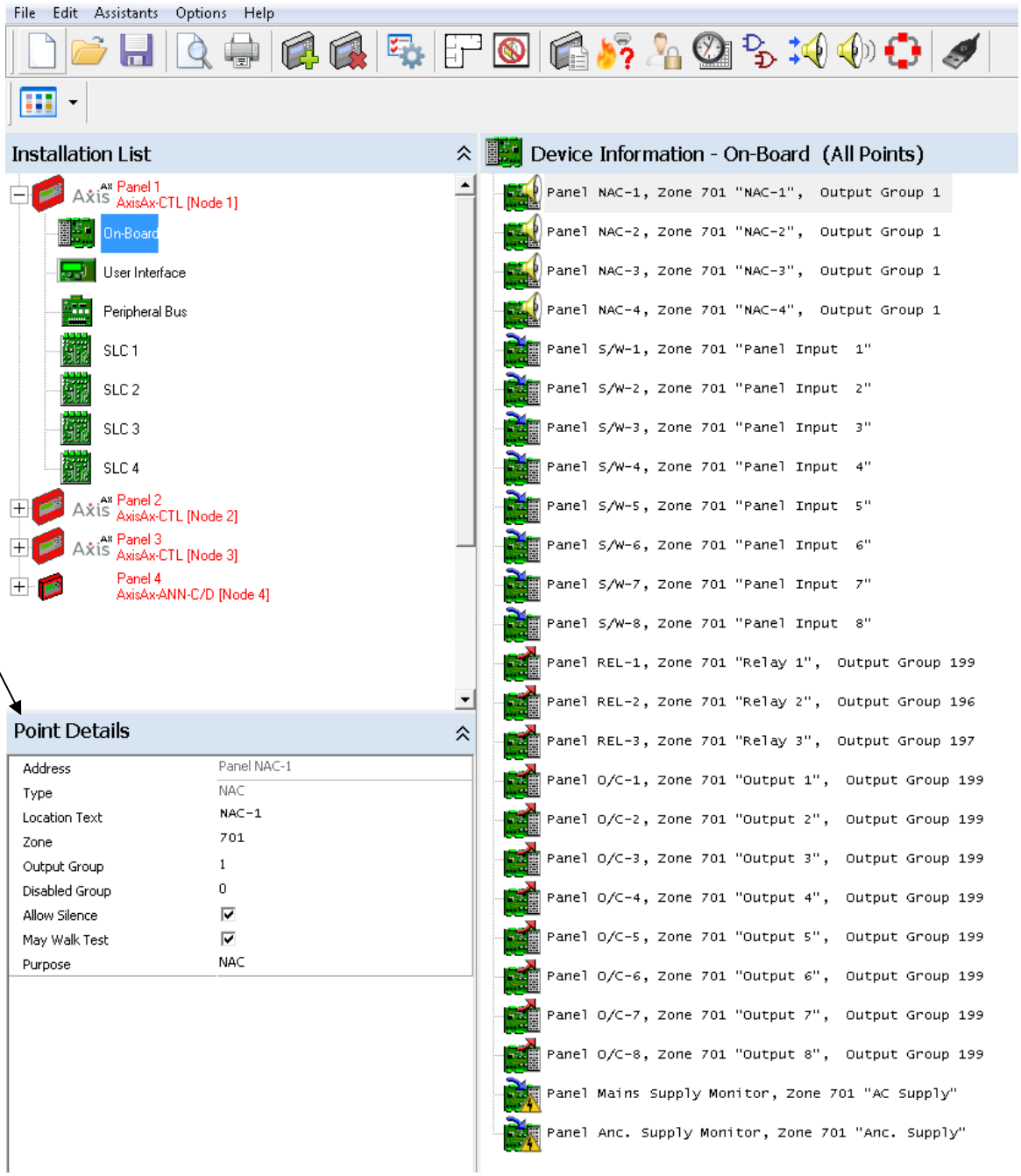
Note: The color of the name and node text to the right of the product image reflects its "modified" status. Normally black, it changes to red when modified. Perform a save operation and the color will return to black.

3.6 Status Bar

This area of the screen provides context sensitive statistics for the currently selected item. A "Modified" flag indicates changes have been made in the design since it was last saved.

3.7 Current View Point Area

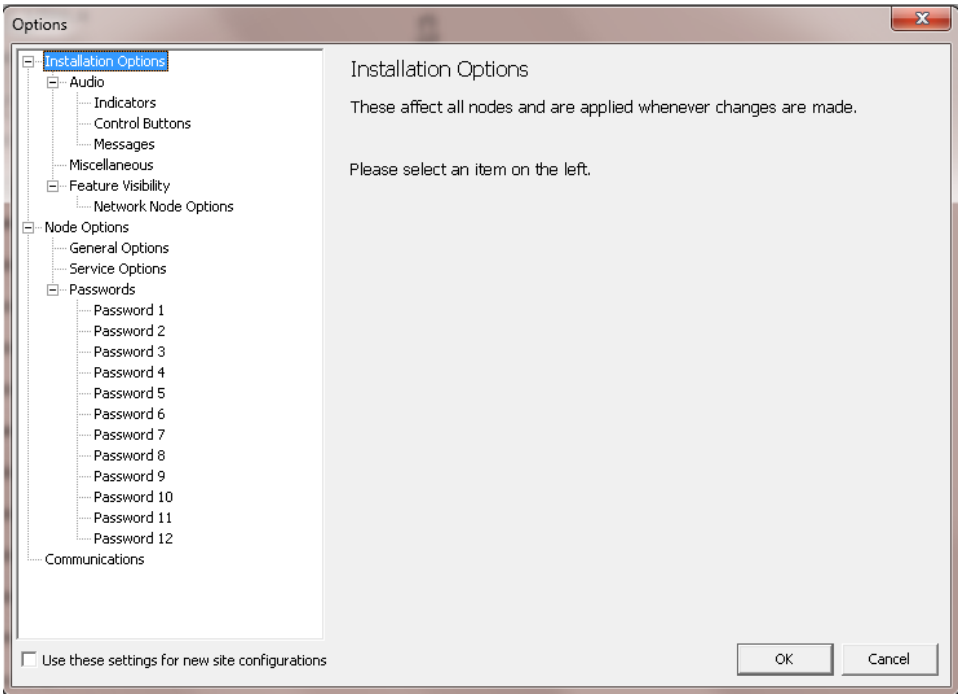
This area of the screen provides context sensitive details for the currently selected item. For example, in the screen below, the current point details for Node 1, On-Board panel NAC-1 are displayed. In the point details window, the user can modify and change various functionality of the panel NAC-1 circuit.



4 Settings (Installation)

The Settings area allows the user to program various global installation and node options.

Clicking on the Settings icon will bring up the following screen. Again, within this area you can set common Installation Options, Node Options and Communications. Installation Options include Audio, HVAC, Miscellaneous and Feature Visibility, while Node Options include General Options, Service Options and Passwords. Communications is for setting the correct PC COMM Port.



Note: Settings in the Installation Options can be programmed on each site configuration or settings entered can be utilized for all new site configurations.

4.1 Installation Options

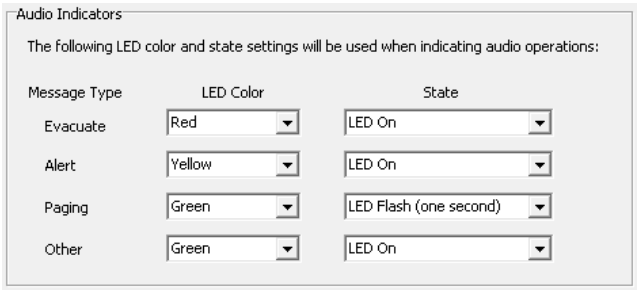
The items within this area affect all nodes and are applied whenever changes are made.

4.1.1 Audio

The options within the Audio area affect the rules and settings of the installation site audio operations (Indicators, Control Buttons and Messages).

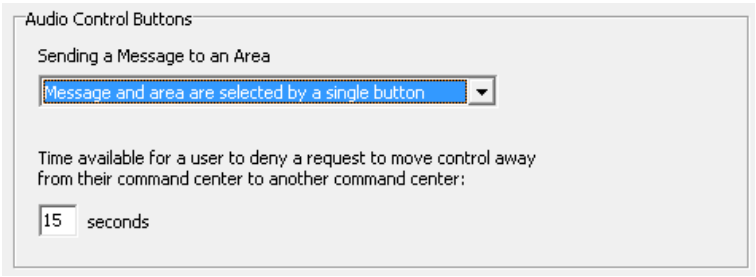
4.1.1.1 Indicators

This area allows the user to modify the default LED Color and State of Message Type LEDs indicating audio operations. Led colors include Red, Yellow and Green. State includes LED On, LED Flash (half second) and LED Flash (one second).



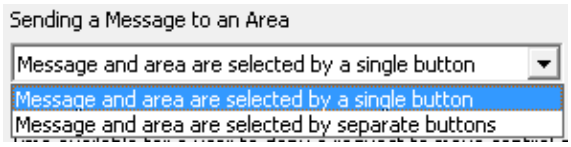
4.1.1.2 Control Buttons

This area allows the user to modify the message control buttons and to program a time-out of command center control when control is requested and a deny button has not been activated from the controlling command center.



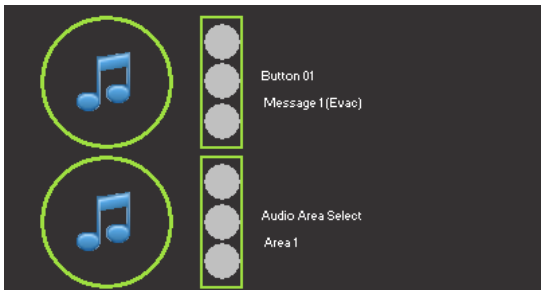
4.1.1.2.1 Sending a Message to an Area

This area allows the user to program whether messages manually sent to an area are either selected by a single button (message/area) or two buttons (a message button and an area button).



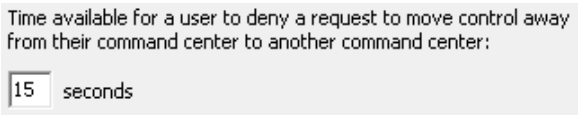
Message and area are selected from a single button:
Example of Playing EVAC Message to Area 1:

Message and area are selected by separate buttons:
Example of Playing EVAC Message to Area 1:

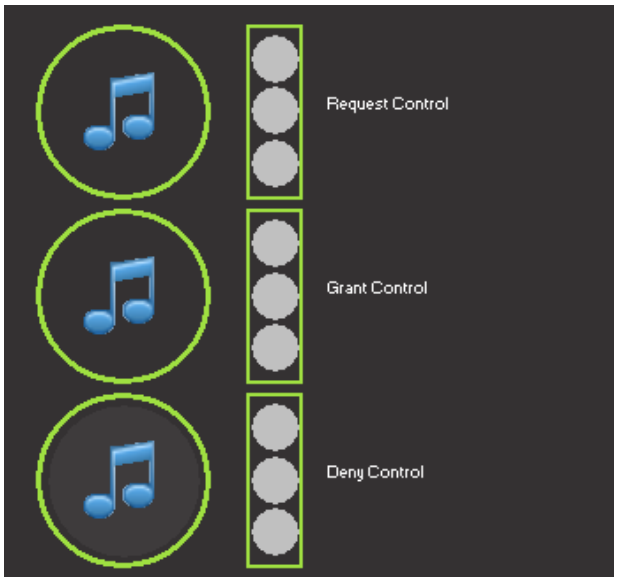


4.1.1.2.2 Deny Request Time-Out

This area allows the user to program a time-out period (maximum 60 seconds) between multiple command centers, when utilizing Request, Grant and Deny Control access buttons. When a command center in-control is requested access by another command center, the command center in-control must either Grant or Deny the Request. If neither Grant nor Deny is activated by the command center in-control, a time-out period (maximum 60 seconds) will begin for automatic transfer to the command control center requesting control.

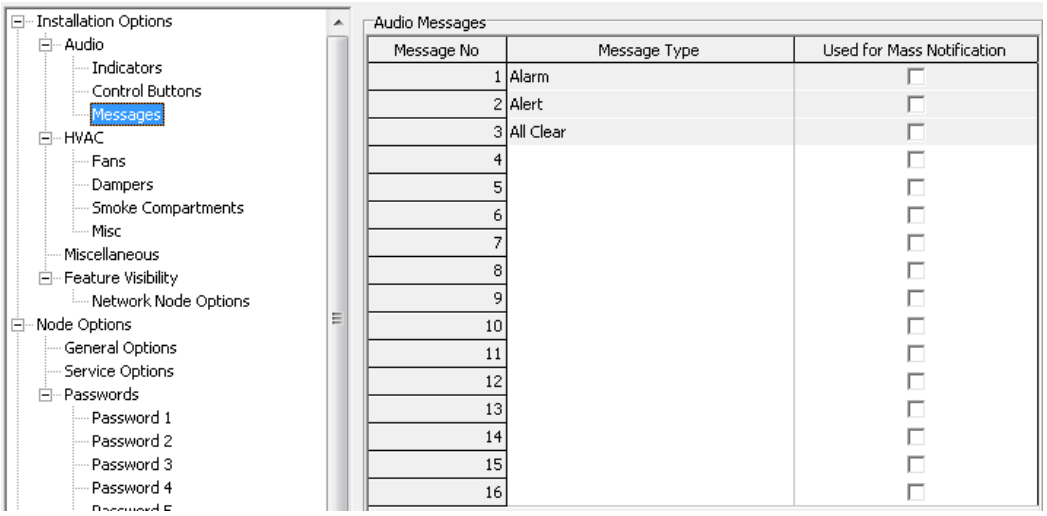


Request, Grant and Deny Access Control Buttons:



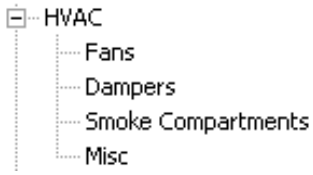
4.1.1.3 Messages

This area allows the user to allocate amplifier message numbers to a Message Type (label) and whether it will indicate a Mass Notification event or not. The Message Type (label) will be seen when programming messages within the PC-NeT.



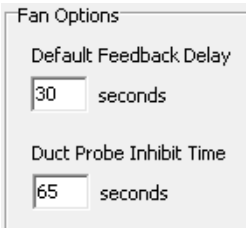
4.1.2 HVAC

The options within this area affect the rules and settings of the installation site fan and damper operations (Fans, Dampers, Smoke Compartments and Misc).



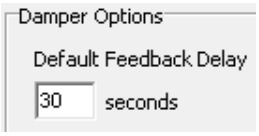
4.1.2.1 Fans

This area allows modification of fan feedback delay (maximum 10 minutes) and duct detector inhibit time period (maximum 5 minutes).



4.1.2.2 Dampers

This area allows modification of damper feedback delay (maximum 10 minutes).

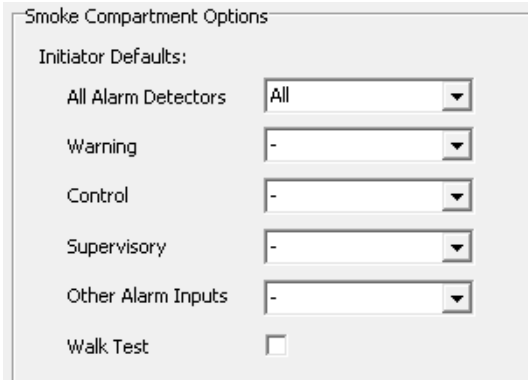


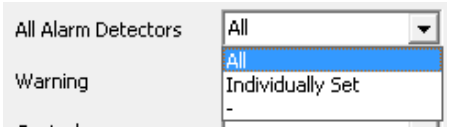
4.1.2.3 Smoke Compartments

This area allows modification of Smoke Compartment Options, Initiator Defaults and Cascade capabilities.

4.1.2.3.1 Initiator Defaults

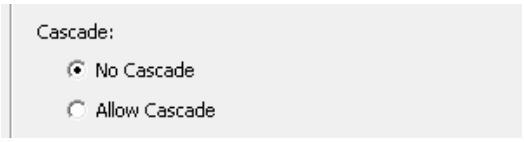
The items within this area allow the user to modify what devices and device types can exist in the smoke compartment. In addition, it allows the user to program whether the smoke compartment will activate during a walk test or not.





4.1.2.3.2 Cascade

The cascade area allows selection of whether smoke control can be cascaded (changed) based on additional automatic smoke compartment events.



Note: Cascading of smoke control is not UL or NFPA acceptable.

4.1.3 Miscellaneous

This area allows the user to select programming for a ULC regulatory standard for the site rather than the defaulted UL regulatory standard.

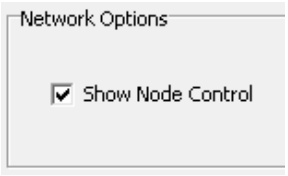
Note: Used for Canadian installations only.

4.1.4 Feature Visibility

This area allows the user to program to Show Node Control.

4.1.4.1 Network Node Options

When checked the Network Signals – Network Node Options screen becomes available within the View/Edit Network Sector Information area. This area allows the user to programming loging and printing network nodes (panels only).

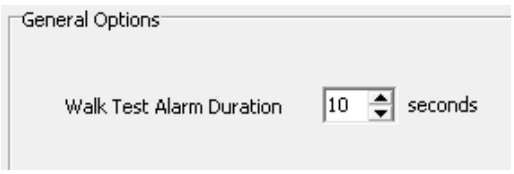


4.2 Network Options

The items in this area affect individual nodes and are only applied when a new node is added to the installation site.

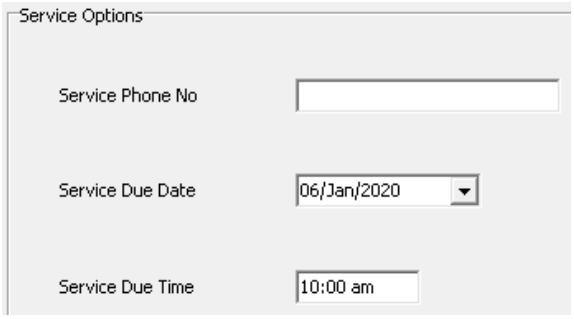
4.2.1 General Options

This area allows the setting of walk test alarm duration for all nodes added to the installation site, rather than setting it individually in each node under the Panel Details General area. Programmable 5 to 60 seconds (1 minute).



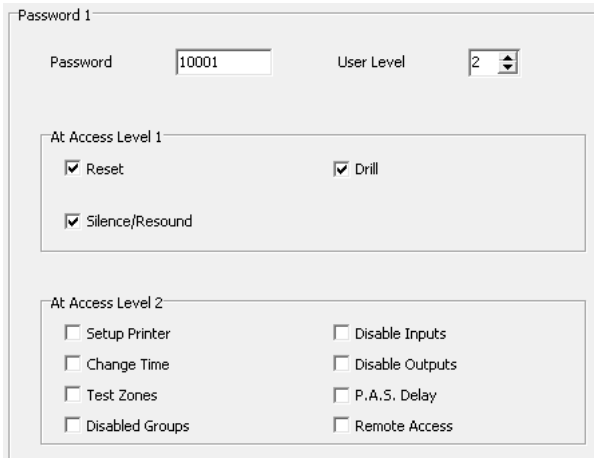
4.2.2 Service Options

This area allows the setting of service options; Service Phone No, Service Due Date and Service Due Time for all nodes added to the installation site, rather than setting it individually in each node under the Panel Details Service Options area.



4.2.3 Passwords

This area allows the programming of the twelve (12) panel Passwords, utilized for all new nodes add to the installation site, rather than programming them individually within the View/Edit Passwords area.

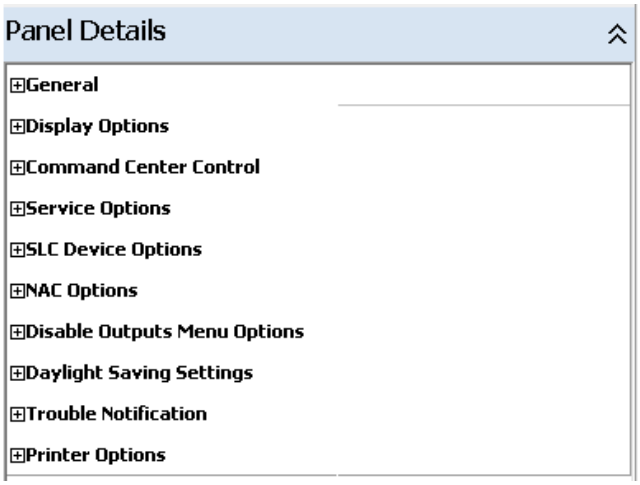


4.3 Communications

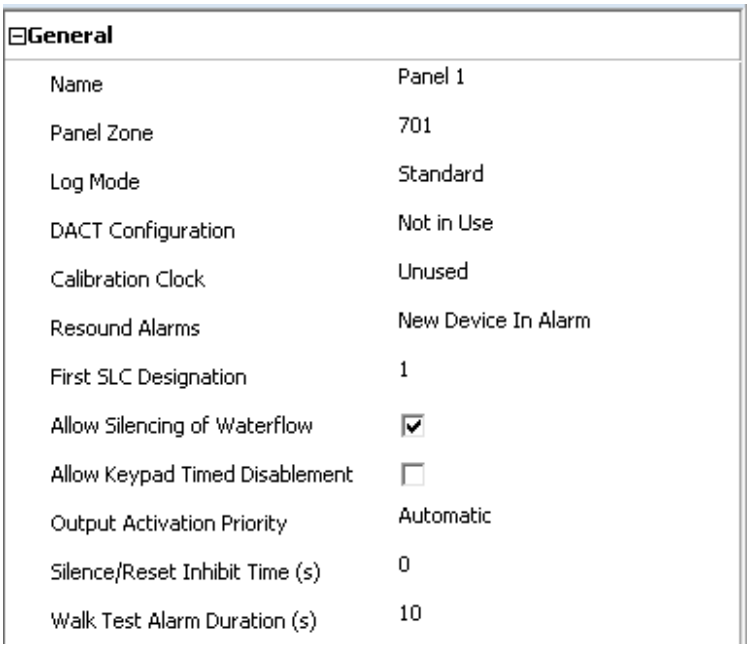
The area allows the user to select a PC communications port for all nodes added to the installation site.

5 Panel Details

The Panel Details programming screen is shown opposite and provides up to ten Tab pages of options.



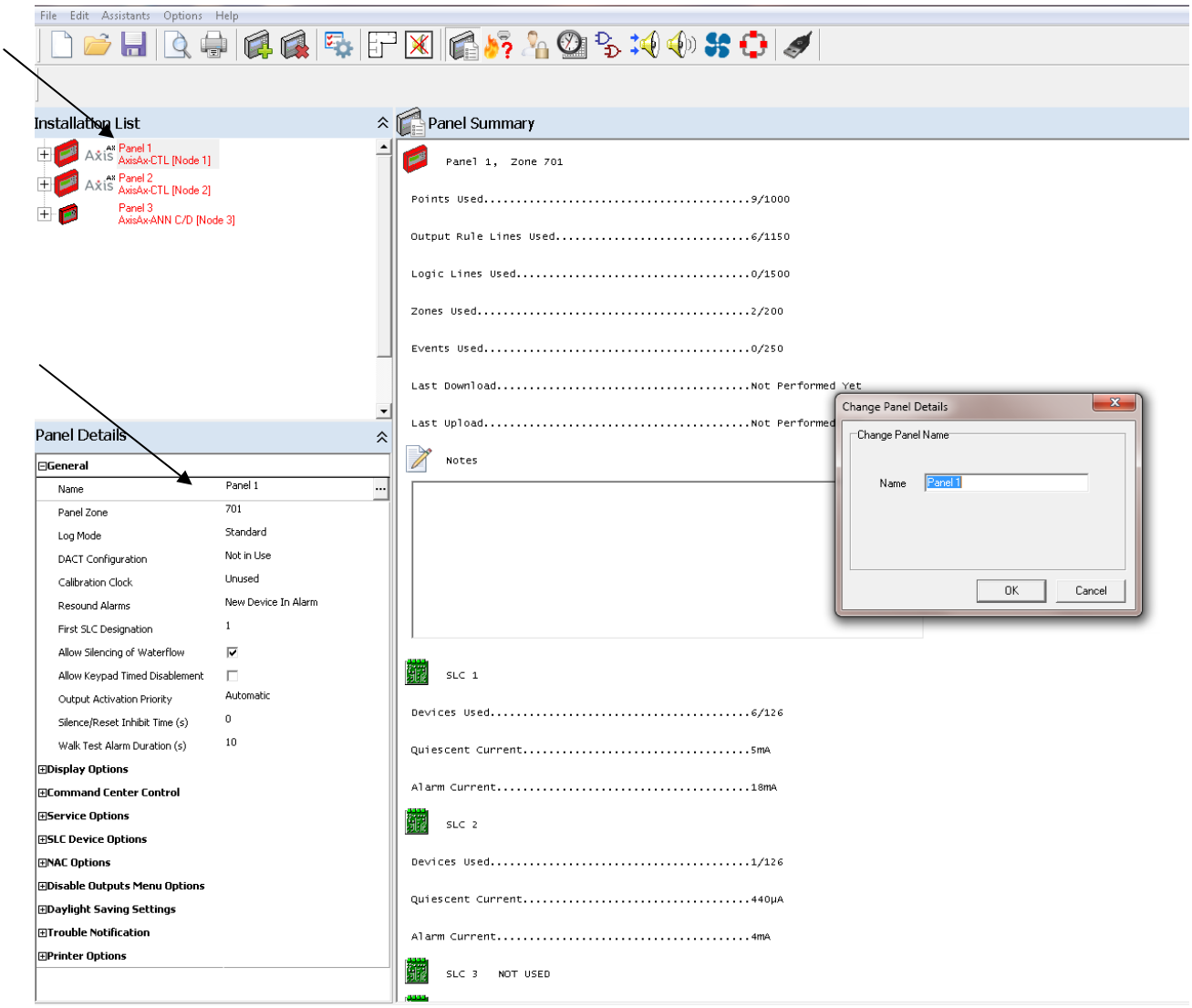
5.1.1 General



5.1.1.1 Name

In this area the user is capable of modifying the original name given to this product. The original name is the name the user entered when first adding the product to the installation list. If the user did not name the product when first added the default name will be within this area i.e. Panel x (where x is the panel number 1, 2, 3, etc added). The name is unique for this product and cannot be duplicated with other installation products. Product names contain up to 32 characters in length and usually denotes where the product is installed (i.e. Company x FACP).

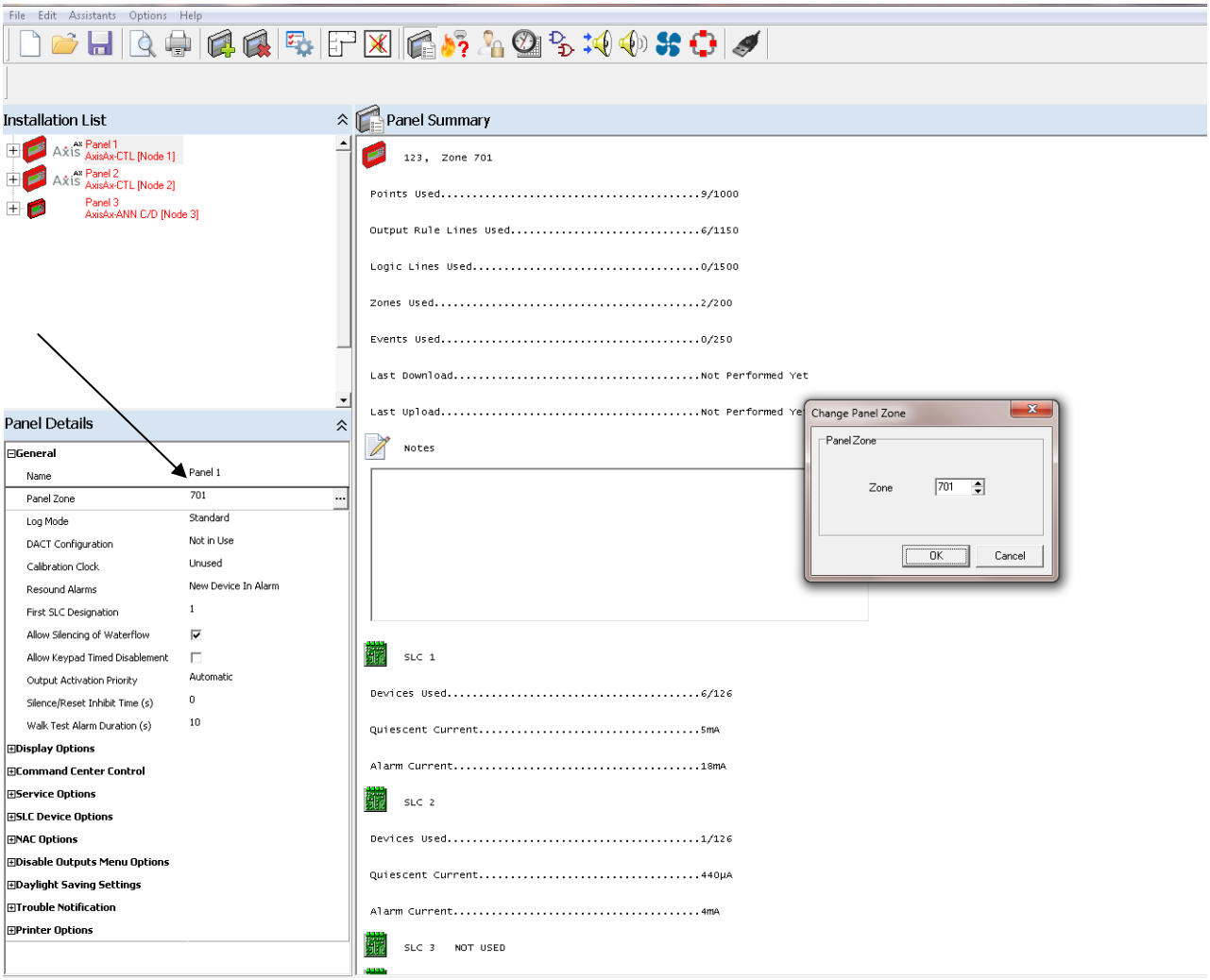
To change the name, click on the “Name” box and an additional Change Panel Details box will appear, enter a new name in the dialog box and click “OK”.



5.1.1.2 Panel Zone

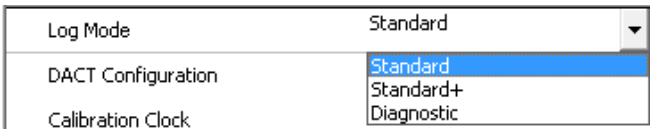
Each product when first added to the design is given a default zone number (701, 702, 703, etc), which should be defined in the “View/Edit Zone Text” programming area (i.e. the location of the product “Electrical Closet”). This zone number/text is utilized for zone allocation of on-board (AX-CTL) inputs and outputs. For example, if one of the outputs (NAC 1) of the AX-CTL base card, where to have a trouble the zone number/text and NAC-1 text would be displayed during this trouble condition. To change the zone number, click on the “Panel Zone” box and an additional Change Panel Zone box will appear, type a new zone or use the arrow buttons (to increase or decrease the numbers) and then click “OK”.

Note: Zone text labeling must be added in the View/Edit Zone Text area for any zone created within the installation. If zone text is not added, during uploading, a design check problem will be reported “No Zone Text: Zone x”.



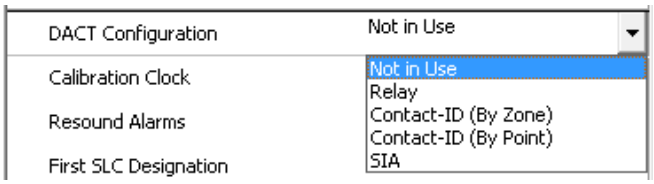
5.1.1.3 Log Mode

Log Mode is used to identify whether the panel will historically store basic information in the log or store more detailed information such as acknowledgements and resets. In addition, a detailed diagnostic mode logging is available, for assistance in diagnosing system/SLC problems. To change the setting, select the required option from the drop-down list. Available options are Standard, Standard + and Diagnostic. Refer to AxisAX Installation and Maintenance Manuals for further explanation.



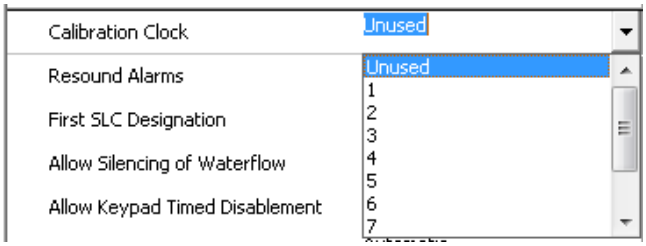
5.1.1.4 DACT Configuration

DACT Configuration is used to identify whether the panel has a D9068P DACT (Digital Alarm Communicator Transmitter) installed and what type of format the panel will be transmitting to the DACT via serial communications. The serial communications allows for device reporting (Contact-ID by point), Network node and zone reporting (Contact-ID) and zone and device reporting (SIA-300). Relay configuration is just a way of indicating in programming that a relay controlled DACT is connected to the system.



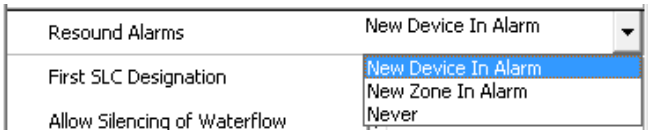
5.1.1.5 Calibration Clock

The Calibration Clock allows the allocation of a time clock to control when the calibration (compensation) will occur for all detectors connected to the panel. The time clock when set will automatically force detector calibration (compensation) to occur at the specified time (s) and day (s) of the week. If not controlled by a time clock (Calibration Clock) detectors will be calibrated every 24 hours. In addition, when a calibrated clock (time clock) is utilized a detector that reaches 100% drift is placed in an Off-Normal, Problem area within the Axis^{AX} fire alarm control panel. This Problem area is viewable by a service technician on his next service/maintenance visit to the site. In addition to placing 100% calibrated detectors in the Problem area of the Axis^{AX} fire alarm control panel, email reports can be transmitted via the Advanced' optional AX-LAN (ipGateway), so service personal can respond and rectify the dirty detector prior to the customer being notified.



5.1.1.6 Resound Alarms

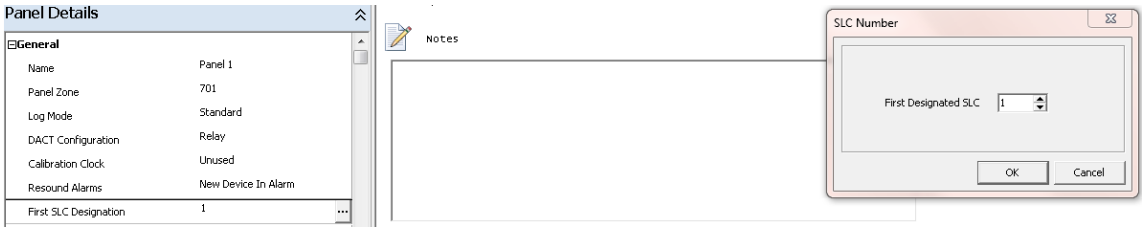
Resound Alarms allows the user to determine under what new alarm event the signals will resound. Available options are either "New Device Alarm", "New Zone Alarm" or "Never". The default is "New Device Alarm".



Note: "Never" is not UL listed and is only for special applications. It must not be utilized unless specifically required by the AHJ.

5.1.1.7 First SLC Designation

This option allows a different starting number to be set for the first SLC loop on a specific panel. It gives the user the ability to set sequential SLC loop numbering for network systems.

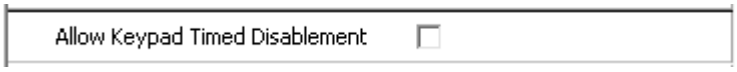


5.1.1.8 Allow Silencing of Waterflow

If an individual input device type is programmed as an Alarm (Waterflow), this area dictates whether the silenceable outputs (i.e. NAC circuits) are silenceable during an alarm from the Alarm (Waterflow) device type.

5.1.1.9 Allow Keypad Timed Disablement

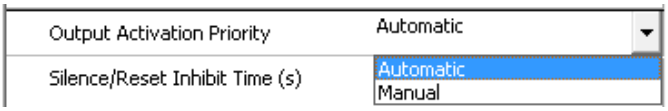
This option allows the user to select during a disablement, via the panel keypad, a time limit for the disablement.



Note: If timed disablement is utilized and at the end of the disablement time period the device being re-enabled is in an alarm state an alarm will be generated on the panel.

5.1.1.10 Output Activation Priority

Output Activation Priority is used to select automatic or manual priority activation of the 40 signal patterns (Standard Outputs and Audio Outputs) available within the panel. If Automatic is selected, patterns are prioritized from 0 – 40, with 0 having the highest priority and 40 the lowest priority. If Manual is selected, the user can set prioritization from 1 (highest) to 10 (lowest) on each signal pattern utilized.



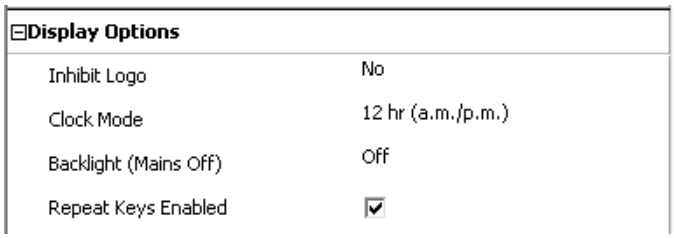
5.1.1.11 Silence/Reset Inhibit Time (s)

This is used to select a Silence/Reset Inhibit Time period, in seconds, from 0 to 300 seconds (5 minutes). If a time period is entered the panel will not be capable of being silenced or reset within this time period.

5.1.1.12 Walk Test Alarm Duration (s)

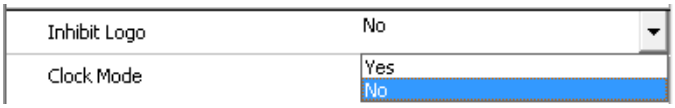
This is used to select a walk test NAC activation time period, when walk test with signals is selected. Programmable time period is 5 to 60 seconds (1 minute), default is 10 seconds.

5.1.2 Display Options



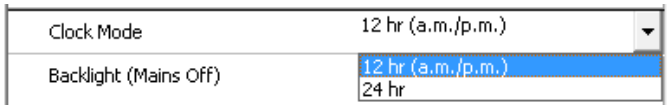
5.1.2.1 Inhibit Logo

This option selects whether the graphical LCD display during normal operation will show a Logo in the upper left-hand corner of the LCD. To change the setting, select the required option from the drop-down list.



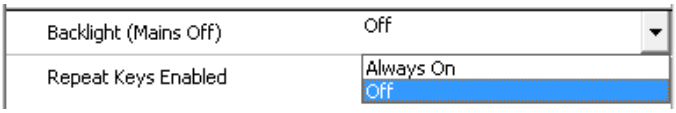
5.1.2.2 Clock Mode

This option selects 12 hour (a.m. / p.m.) or military (24 hr) formatted clock operation. To change the setting, select the required option from the drop-down list.



5.1.2.3 Backlight (Mains On)

This option selects whether the graphical LCD backlight is Always On or Off during an AC failure. To change the setting, select the required option from the drop-down list.



5.1.2.4 Repeat Keys Enable

This option allows manual scrolling of displayed events when the up or down arrow is held, rather than pressing the arrow button numerous times to view each displayed event.

5.1.3 Command Center Control

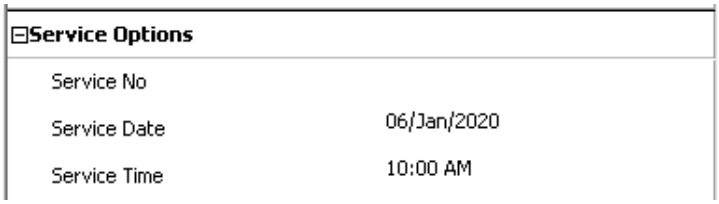
This area allows for programming of active command center controls.

5.1.3.1 Reset Only From Active Center

This option allows the control of Reset, Resound, Silence and Drill buttons to be only functional on the active command center, when multiple command centers are present. Active command center is dictated by the first command center utilized during the event.

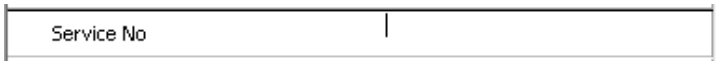
5.1.4 Service Time

This option allows the entering of an automatic time period for the panel to indicate it requires service.



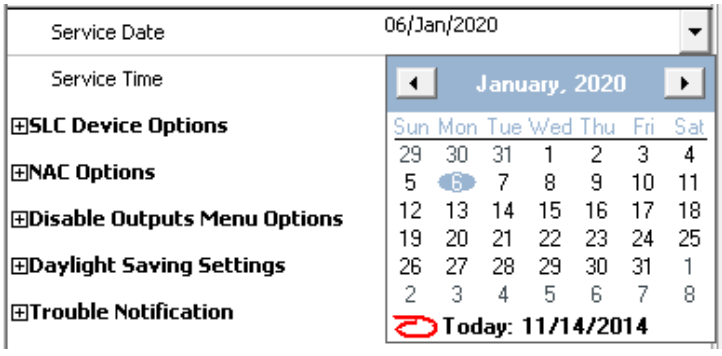
5.1.4.1 Service No

This field is displayed during a service required event. Usually the service company's phone number would be entered in this field.



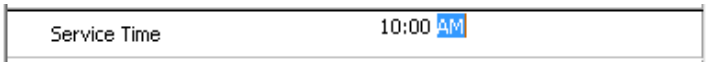
5.1.4.2 Service Date

This is used to program the specific date that the panel will indicate service required. The panel will remain in this state until it is serviced and the service date is reset to a future date.

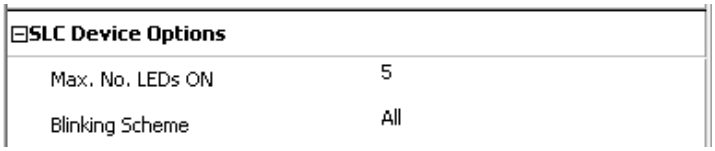


5.1.4.3 Service Time

This is used to program the specific time the panel will indicate service required. Time is entered in hour/minute and AM/PM.



5.1.5 SLC Device Options

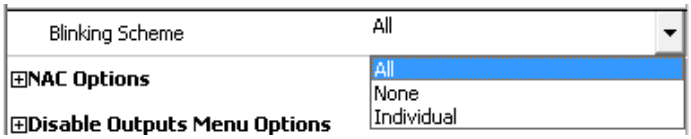


5.1.5.1 Max. No. LEDs ON

This option determines the maximum number of alarm LED indicators that can be illuminated on an SLC loop during an alarm condition. The figure entered is valid for each SLC loop on the panel. The number is programmable from 1 to 50 (default is 5 LEDs). To change the number, use the up and down arrows to increase or decrease the value. Alternatively, double click in the field to highlight the number and then overwrite using the number keys.

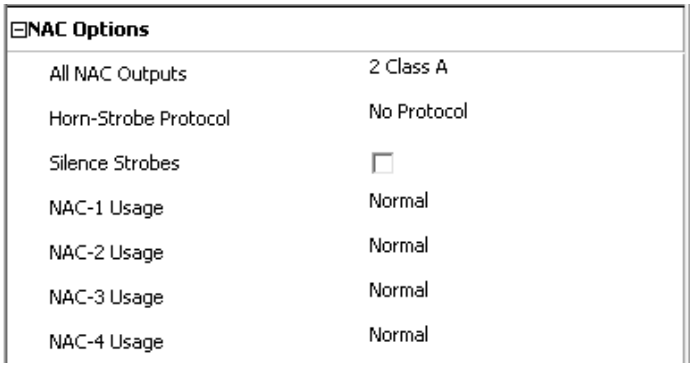
5.1.5.2 Blinking Scheme

This option determines whether the SLC loop detectors flash their LED indicator whenever the panel polls the device. To change the parameter, click on the arrow button to the right of the field and a drop down box will appear showing the options. Click on the required option to highlight and select it. The option can be set to “All”, “None”, “Individual”. If “Individual” is selected, each SLC loop detector must be programmed to flash (if the detector supports this option). Refer to the “Input Device” section.



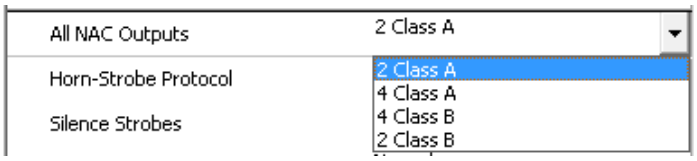
5.1.6 NAC Options

This area allows for the programming of NAC circuit wiring and synchronization protocols for the available on-board NAC circuits.



5.1.6.1 All NAC Outputs

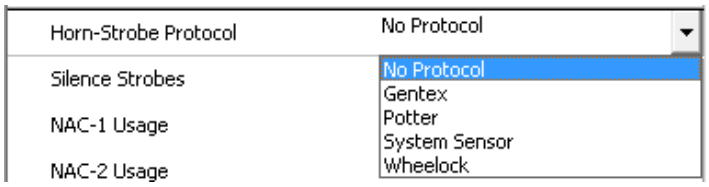
This option allows the programming of classification of wiring (Class A or B) and number of NAC circuits associated with the AX-CTL base card. The programmable options are 2 Class A, 4 Class A, 4 Class B or 2 Class B.



Note: All on-board AX-CTL base card NAC circuits must be Class A or Class B, Class A and B mixing of NAC circuits is not possible. In addition, if the AX-CTL base card supports 4 NAC circuits, the panel must be programmed for 4 NAC circuits or the last 2 NAC circuits will not function.

5.1.6.2 Horn-Strobe Protocol

This option allows the programming of notification appliance circuit (horn-strobe) synchronization protocol. Protocols include Gentex, Potter, System Sensor and Wheelock. Only one protocol can be utilized.

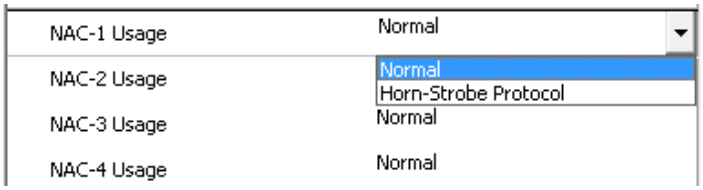


5.1.6.3 Silence Strobes

If a Horn-Strobe Protocol is selected, this option allows the programming of whether the protocol selected will allow for the silencing of the horns and strobes or just the horns (default is horn silencing only). If checked the strobes will be silenceable, if not checked, the strobes will be non-silenceable in either selection the horns will be silenceable.

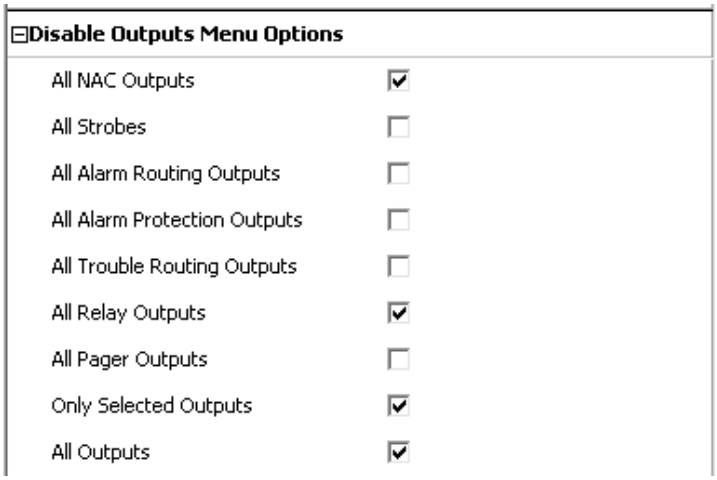
5.1.6.4 NAC-x Usage

If a Horn-Strobe Protocol is selected, this option allows the programming of which on-board AX-CTL base card NAC circuits will support the protocol. This is programmed on a per NAC circuit basis (i.e. NAC-1 Usage, NAC-2 Usage, etc.).



5.1.7 Disable Outputs Menu Options

This area allows the user to set what output disablement selections will be available when utilizing the keypad menu driven disable output screen. The default selections are All NAC Outputs, All Relay Outputs, Only Selected Outputs and All Outputs. Output purpose defining is done in the Device Information Point Details area during programming of the individual output.

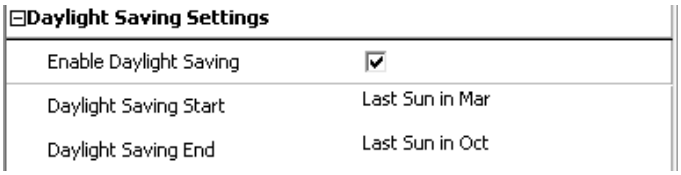


Note: If a separate disablement selection, via the keypad menu, is required for strobes, you must program the outputs purpose within the Device Information Point Details area of the output as a "Strobe" not as a "NAC". Presently All Alarm Routing Outputs, All Alarm Protection Outputs, All Trouble Routing Outputs and All Pager Outputs are not utilized.

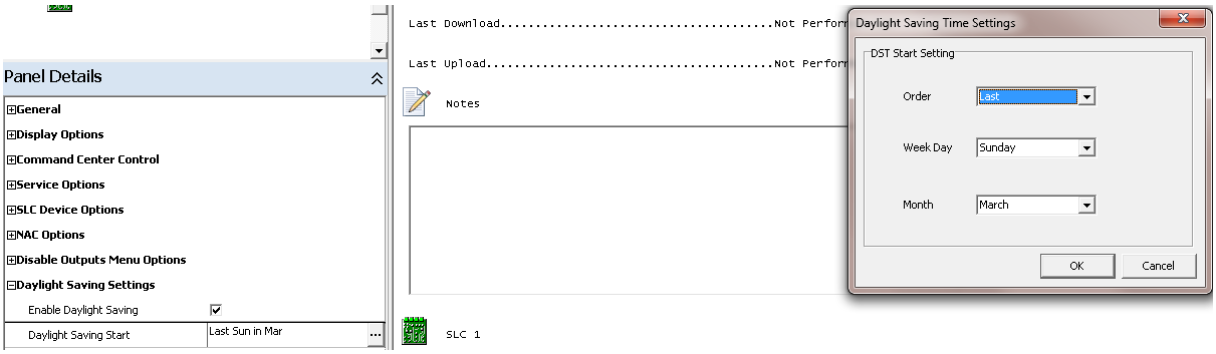
5.1.8 Daylight Saving Settings

This option allows the user to set whether the panel will support Daylight Savings programming (automatic clock correction for daylight savings.

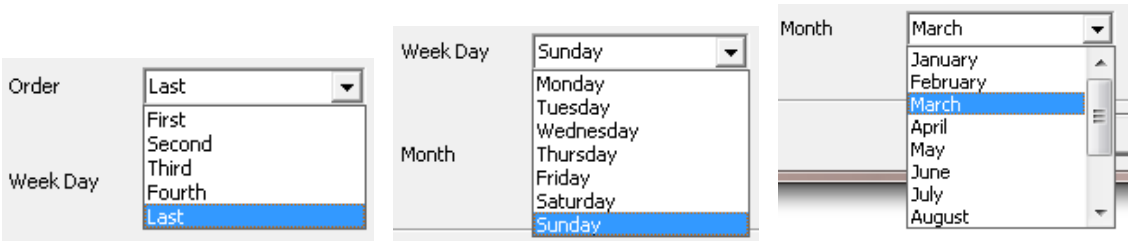
If enabled by selecting the Enable Daylight Saving box (√), a Daylight Saving Start and Daylight Saving End programming area will be available.



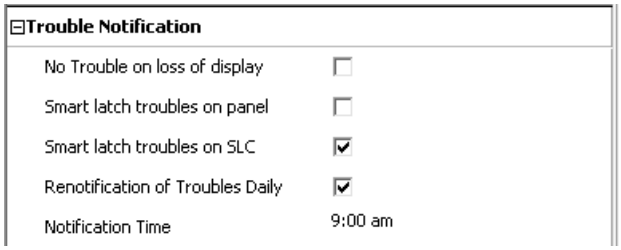
Clicking on the Last Sun in MAR or Last Sun in Oct will allow you to program the Daylight Saving Start and Daylight Saving End time periods.



Selections are; week, day of the week and month:



5.1.9 Trouble Notification



5.1.9.1 No Trouble on Loss of Display

This field allows configuration of a black box transponder, where the panel has no AX-DSP display.

5.1.9.2 Smart Latch Troubles on Panel

This field allows the configuration of smart latching panel troubles; if a specific event panel trouble occurs 5x (five times) and the panel is acknowledged 5x (five times), the specific trouble will latch requiring a system reset after rectification.

5.1.9.3 Smart Latch Troubles on SLC

This field allows the configuration of smart latching SLC troubles; if a specific event SLC trouble occurs 5x (five times) and the panel is acknowledged 5x (five times), the specific trouble will latch requiring a system reset after rectification.

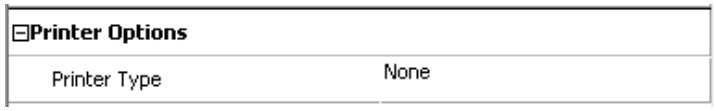
5.1.9.4 Daily Re-notification

This field allows for the resound of trouble conditions daily. When checked you may set the time period for the daily trouble resound. The default setting of this is daily re-notification every day at 9:00 am.

Note: Daily re-notification of trouble conditions is a requirement of NFPA 72.

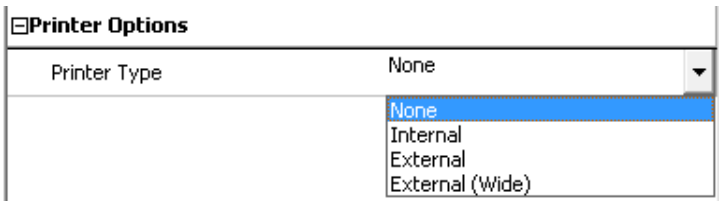
5.1.10 Printer Options

This area allows the user to select whether the panel has a printer or not.

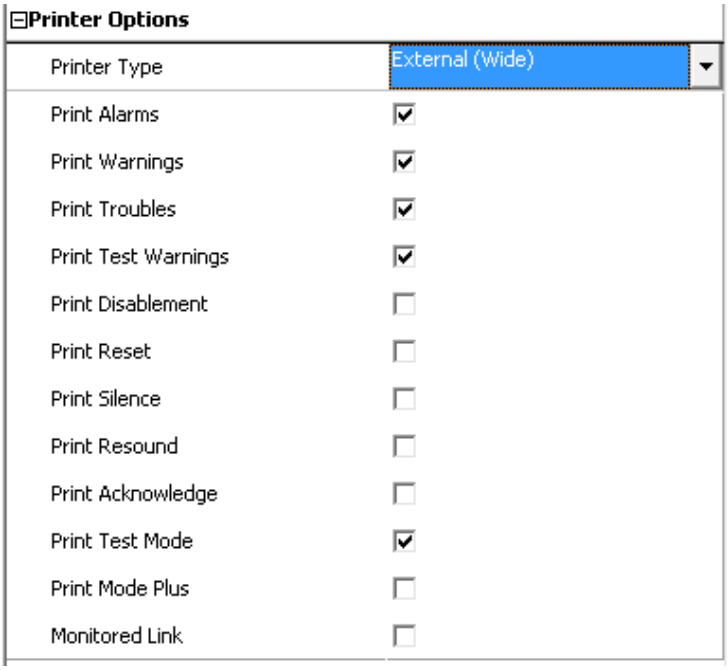


Note: Panels that contain a D9068P DACT cannot support an External printer.

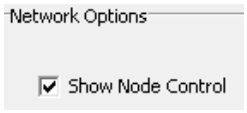
Printer selections are; None, Internal, External or External (Wide)

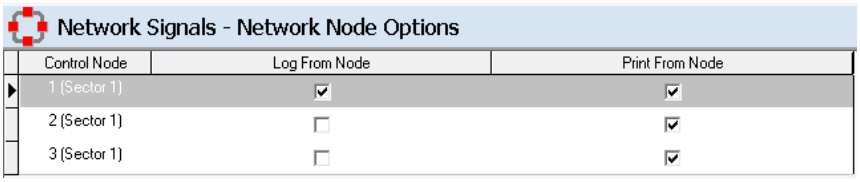


Once a printer type has been selected, the user can select what they want to be printed.



The associated printer can also print status from other network nodes as long as the Show Node Control is selected in the Settings programming area, under Installation Options, Network Node Options. In addition, selections must be made within the View/Edit Network Sector Information area, under Network Signals – Network Node Options.





5.1.10.1 Options Requiring Further Explanation

Print Warnings – Prints when Warning is active. Warnings include:

- Warnings
- Drills
- Mass Notification
- Security
- Door Open

Print Test Warnings – Prints when a Warning device in test mode is activated.

Print Test Mode – Prints when a zone or device is put in test mode or removed from test mode.

Print Mode Plus – Prints the following:

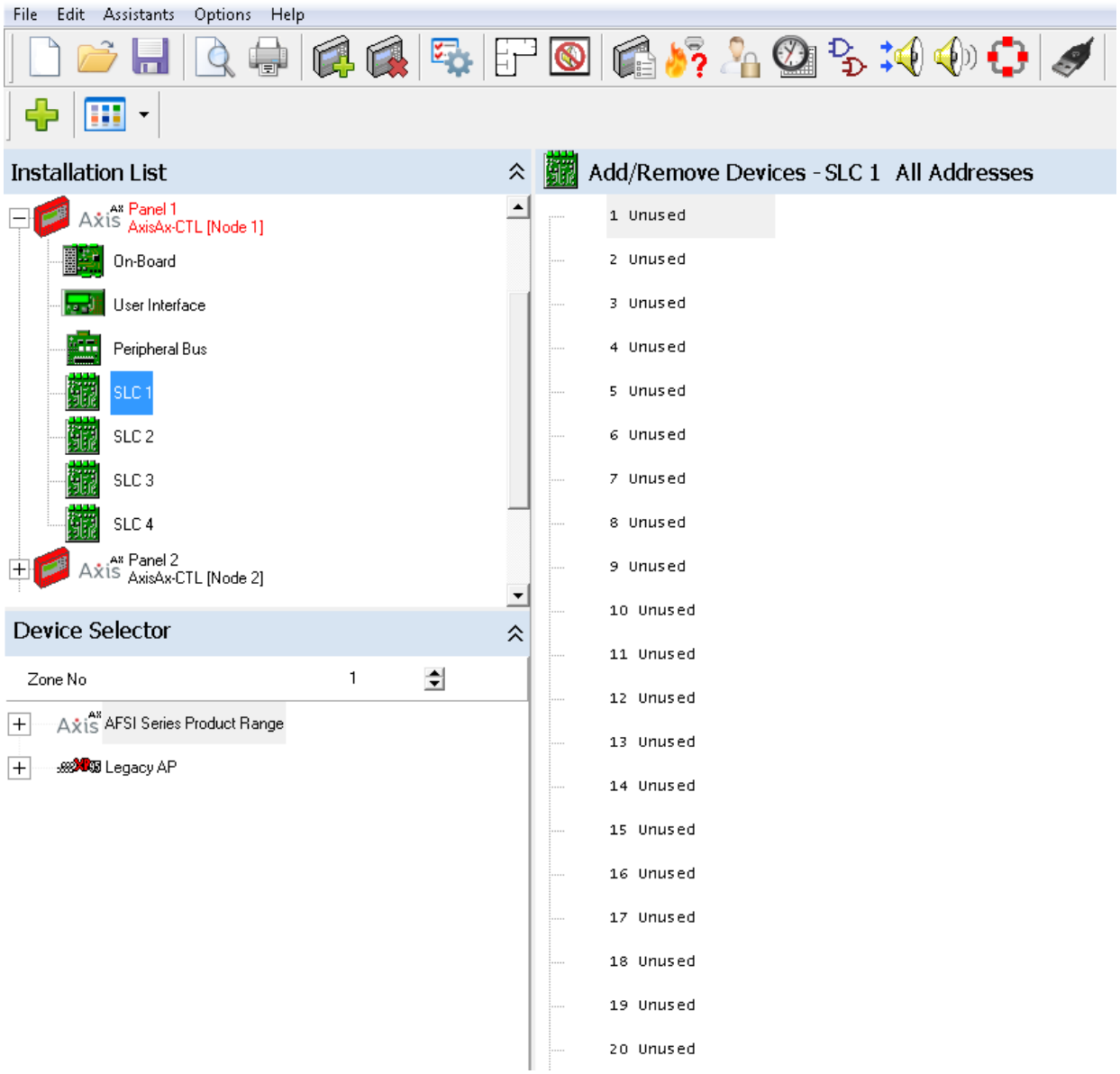
- Panel Access Level Changes
- All Troubles Cleared message when all troubles have been cleared
- All Alarms Cleared message when all alarms have been cleared
- System Normal message when all troubles and alarms have been cleared
- Return to Normal for all devices previously in alarm or trouble

Monitored Link – Allows for supervision of an external printer, via the printer's RTS signal.

6 SLC Programming

6.1 Add/Remove SLC Devices

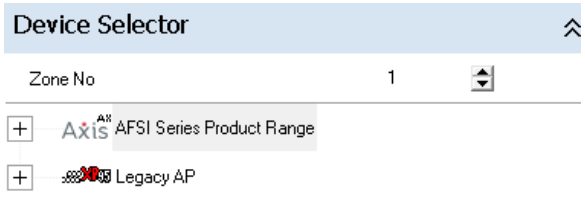
Navigate to the Add/Remove Devices – SLC [#] field for a specific SLC loop, by selecting the required AxisAx-CTL Node and SLC loop in the installation list.



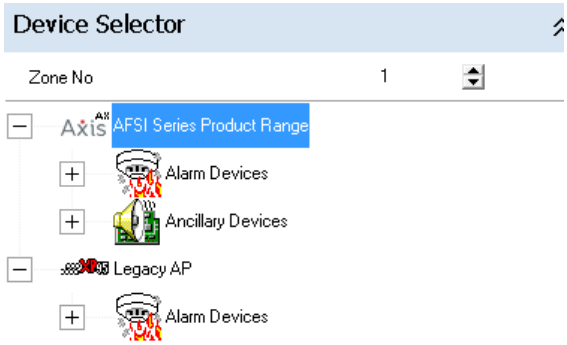
6.1.1 Device Selector Field

The Device Selector field allows the user to choose SLC loop devices, to be added to an individual selected SLC loop.

Device categories are grouped by Axis[AX] AFSI Series Product Range devices and Apollo Legacy devices



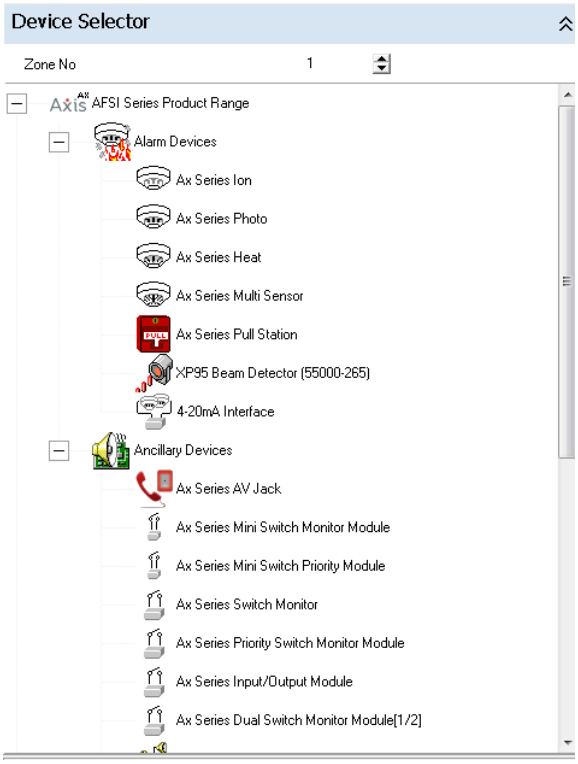
Clicking on the icon button allows the user to expand the device category view further. The category view now expands further to include, Alarm Devices and Ancillary Devices for the Axis^{AX} AFSI Series Product Range and Alarm Devices for the Apollo Legacy devices.



By clicking on the icon button again alongside the Alarm Devices and Ancillary Devices category, the individual addressable devices become available and can be selected.

In addition, as the categories are expanded, a scroll bar will appear on the right hand side of the Device Selector area, to view further devices that are currently hidden, at the top or bottom of the window.

Note: Clicking on icon button will minimize a category area.



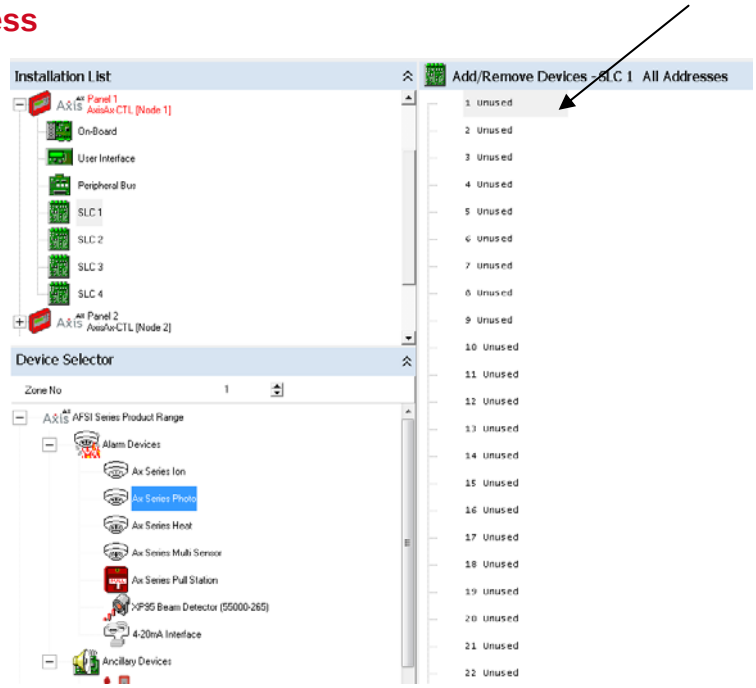
6.1.2 Add Devices to the SLC Loop Address

Click on the required addressable device to highlight it. This device can now be added to a specific SLC loop address.

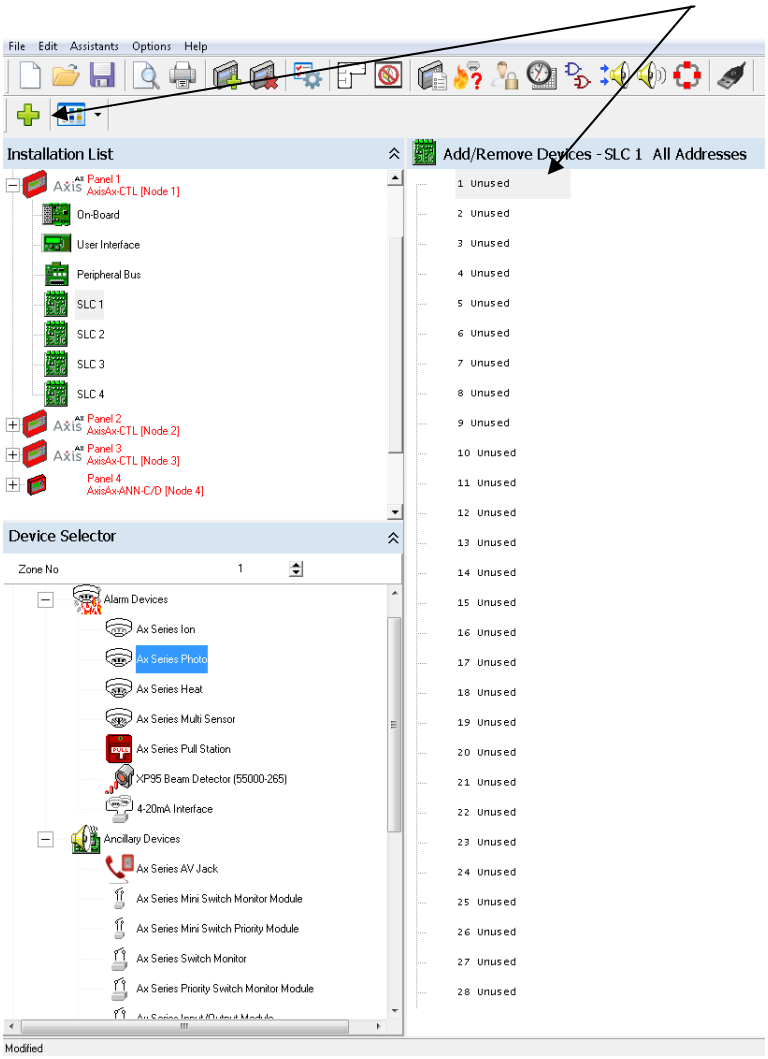
Double clicking on this device will place the device at the highlighted SLC address.

The last device selected from the Device Selector, will become the Current Loop Device and will be highlighted in the Device Selector.

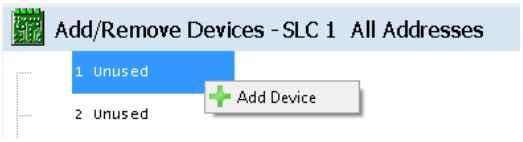
The Current Loop Device can now be easily added to further addresses. To do this, ensure the address required is visible on the screen and then double click anywhere in the device row.



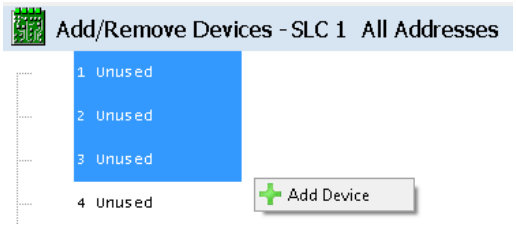
Devices can also be added by highlighting the specific address and pressing the icon button.



Alternatively, right click on the required device address and select “Add Device” from the popup menu.



To add devices to multiple addresses, hold down the “CTRL” key while clicking on the required addresses. While still holding the “CTRL” key, right click off the selected devices and select “Add Device” from the popup menu. Continue adding devices by selecting the required device from the list as before.



Note: Double clicking on an address will add the current selection to the selected address.

6.1.2.1 Copy and Pasting Devices to the SLC Loop Addresses

In addition to adding devices, once a device has been added it can be copied to other address locations.

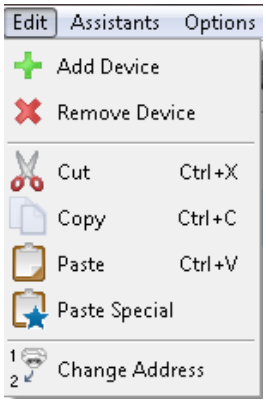
Note: When copying a device, the zone allocation number and, if added, the device text will also be copied to the new device or devices.

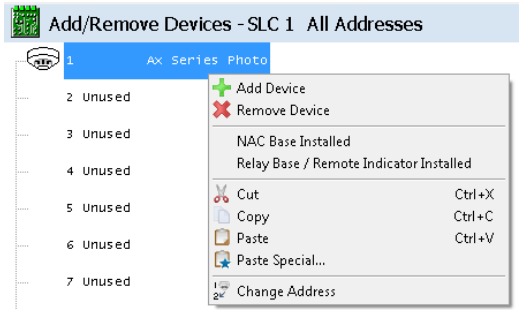
6.1.2.1.1 Coping a Device or Multiple Devices

There are three ways to copy a device, first select the device to copy from the list of devices, then...

1. Select “Copy” from the drop-down list of the “Edit” button on the menu bar.
2. Right click on the device and select “Copy” from the popup menu.
3. Press “CTRL + C” on your keyboard.

To copy multiple devices hold down “CTRL” while selecting the required devices to copy to.

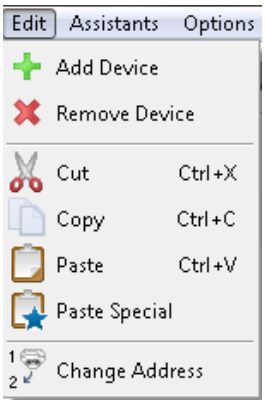


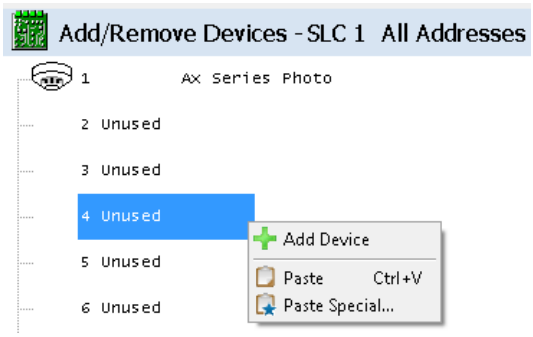


6.1.2.1.2 Pasting a Device or Multiple Devices

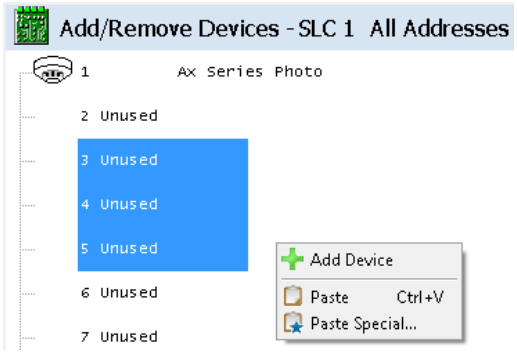
There are three ways to paste devices, first select the device to paste from the list of devices, then...

1. Select “Paste” from the drop-down list of the “Edit” button on the menu bar.
2. Right click on the device and select “Paste” from the popup menu.
3. Press “CTRL + V” on your keyboard.



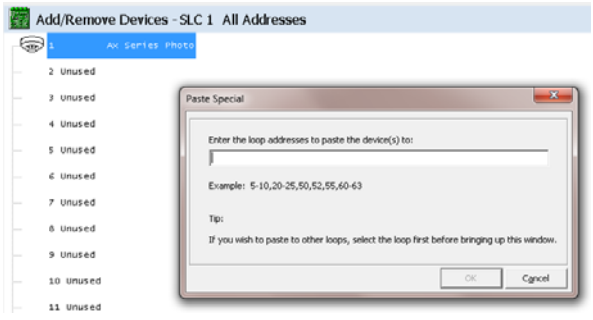


To paste a device to multiple addresses hold down the “CTRL” key while clicking on the required addresses. While still holding the “CTRL” key, right click off the selected devices and select “Paste” from the popup menu.



6.1.2.1.3 Paste Special Command

You can also “Paste Special…”, from the popup menu. “Paste Special…” lets you select an address range or group of address ranges to paste the copied device to. This can also be done from one SLC loop to another SLC loop.

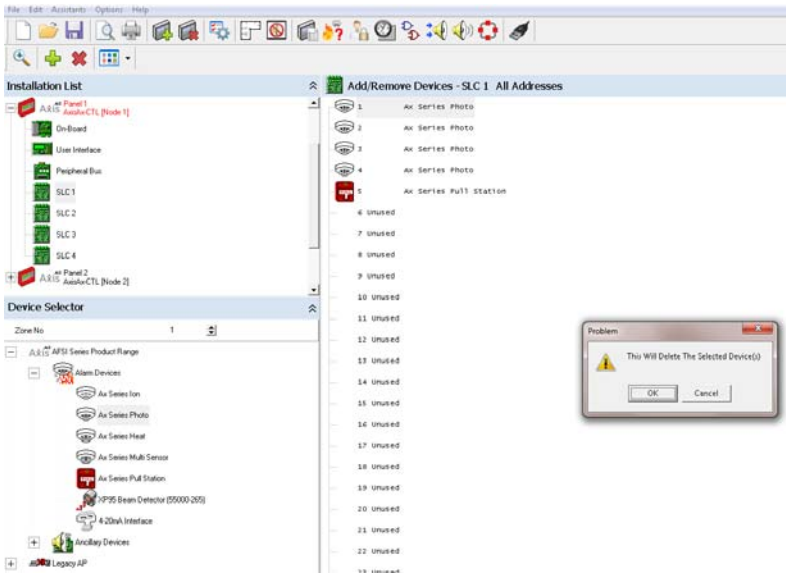


6.1.3 Remove (Delete) or Cut a Device from an SLC Loop Address

6.1.3.1 Remove Devices from an SLC Loop

There are numerous ways to remove devices from an SLC loop, first select the device to be removed from the list of devices, then...

To delete a device from an SLC loop, click on the address of the device and then press the “Delete” key on the computer keyboard or…



1. Select “Remove Device” from the drop-down list of the “Edit” button on the menu bar.
2. Right click on the device and select “Remove Device” from the popup menu.
3. Click on the ”View/ Action” button.

To remove multiple devices hold down “CTRL” while selecting the required devices to remove.

Note: The user must confirm the remove action in the popup message window, before the device will be deleted.

6.1.3.2 Cut Devices from a SLC Loop

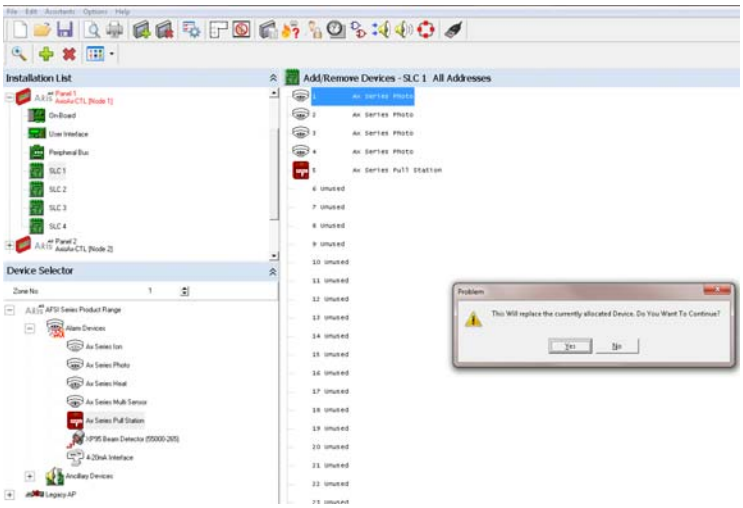
There are three ways to cut devices, first select the device to cut from the list of devices, then...

1. Select “Cut” from the drop-down list of the “Edit” button on the menu bar.
2. Right click on the device and select “Cut” from the popup menu.
3. Press “CTRL + X” on your keyboard.

To cut multiple devices hold down “CTRL” while selecting the required devices to cut.

6.1.4 Change a Device Type

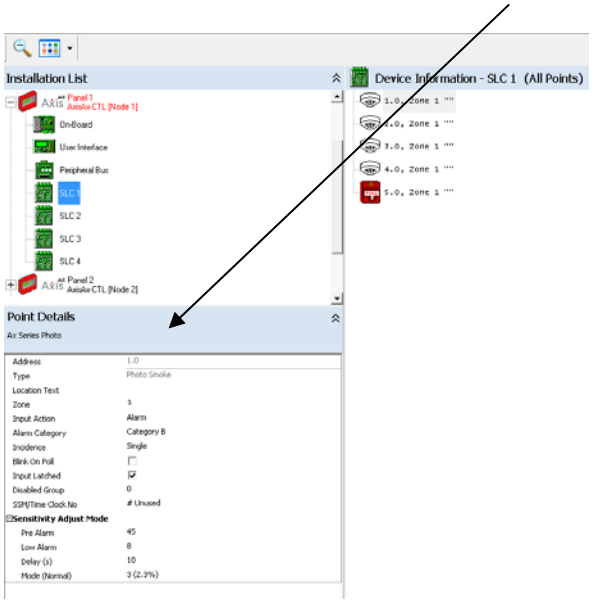
If a device already exists at a selected address and the icon button is pressed or if the address is double clicked, a popup window will be shown to confirm that the device should be changed. To confirm the change, click on the “Yes” button in the popup window.



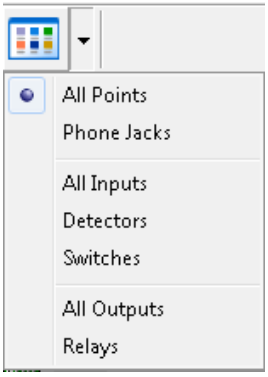
6.2 Show Details (Programming Device Criteria)

This option allows detailed configuration of addressable SLC loop devices. Select the required product and SLC loop in the installation list then click the Show Details icon button.

Once in the Point Details field, configuration can be performed for SLC loop individual addressable points.



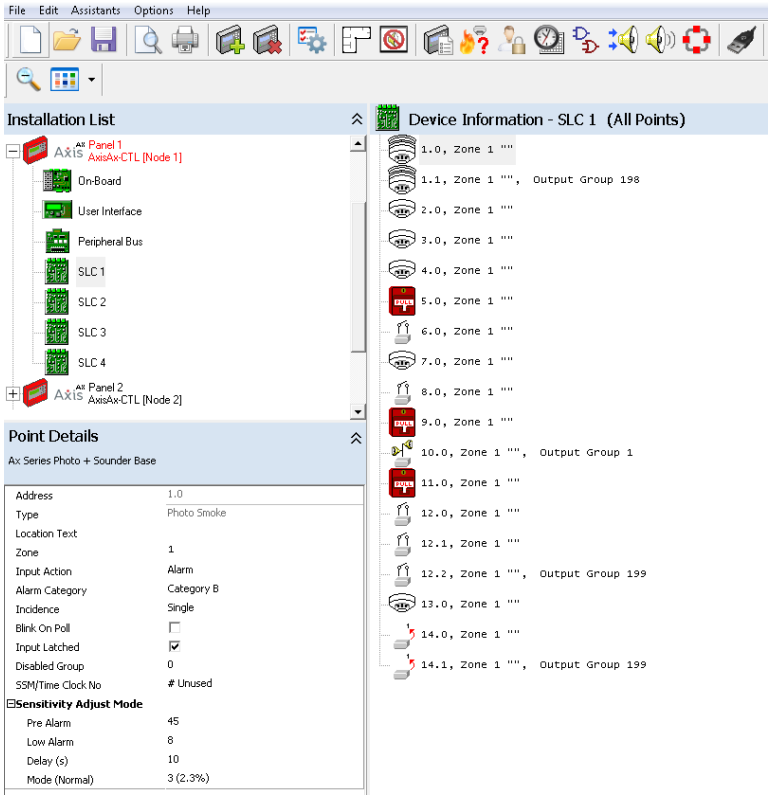
Note: There is also a filter button within the Point Details field that allows viewing of All Points, Phone Jacks, All Inputs, Detectors, Switches, All Outputs or Relays based on selection of the filter button down arrow. In addition, toggling between the different views is possible by click on the Change Displayed Addresses **icon filter button.**



6.2.1 Device Information

A typical device information display is shown in the picture opposite. Notice that in the address field, each address has a number followed by a dot (.), followed by another number. The second number denotes the sub-address of the primary device.

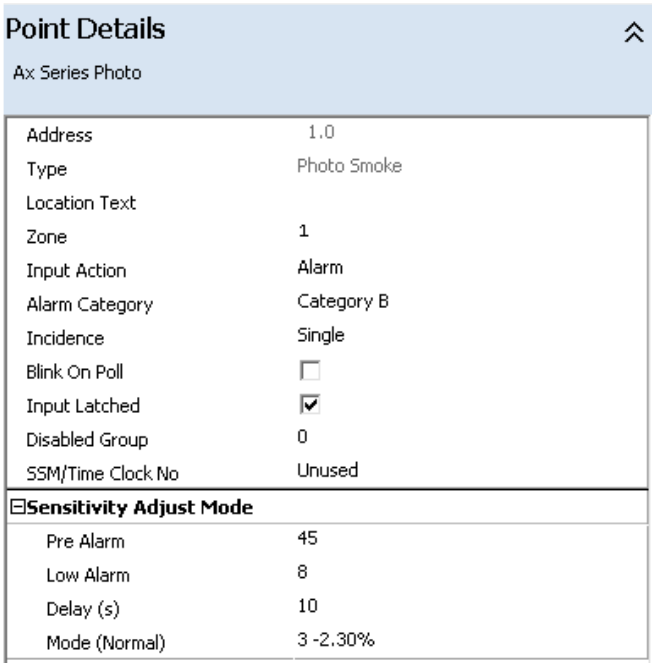
Some SLC loop devices have multiple input and output circuits. Each circuit element is given an individually programmable sub-address. For example, the intelligent smoke detector in the picture opposite is assigned with the addresses 1.0 and 1.1, where 1.0 is the intelligent smoke detector and 1.1 is the addressable 4-wire NAC sounder base output of the intelligent smoke detector. The 4-wire NAC sounder base output can be freely programmed as an output device and is not restricted to the individual detector.



6.2.2 Input Point Details

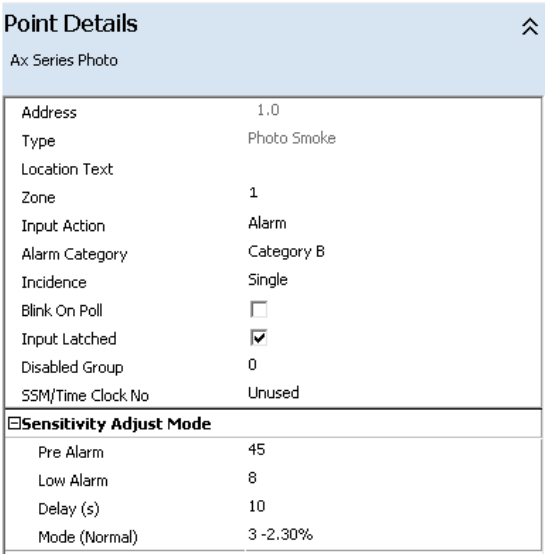
Input Point Details information of a device can be view/edited, in the bottom left corner of the screen. The Point Details area will also indicate the device type (i.e.: “Photo Smoke”, etc.) being programmed.

The number of items shown within the Point Details will change according to the type of device being configured / programmed. The user will only see items which can be changed and/or modified.



6.2.2.1 Address

The Address field cannot be modified. This field is for the display of the specific address being configured / programmed.



6.2.2.2 Type

The Type field cannot be modified. This field is for the display of the specific address device type being configured / programmed.

6.2.2.3 Location Text

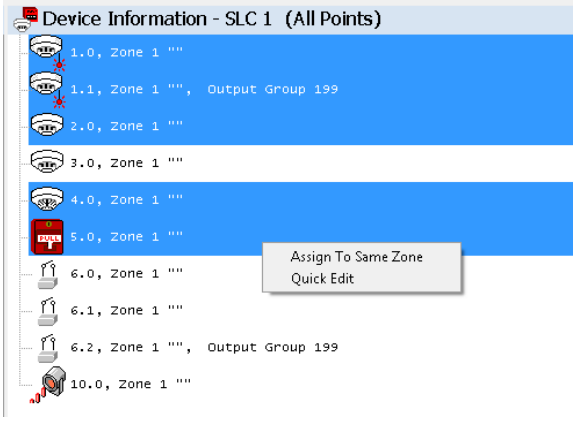
This is the text that can be utilized for the specific location of the associated address. To assign Location Text, click within the "Location Text" field to place the cursor within the field than insert characters as required. The text may be up to 26 characters in length, including spaces.

6.2.2.4 Zone

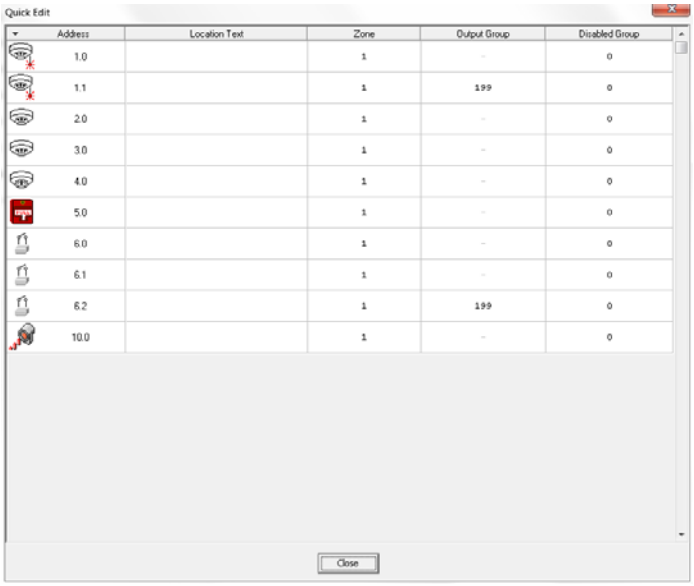
The Zone is the zone number allocated to a specific addressable device, to indicate the specific area the device is in (i.e.: 1st Floor or 1st Floor West Wing, etc.). To change the zone number, click within the "Zone" field to highlight the current value and overwrite the zone number using the number keys or the up/down arrows.

Note: The defining of the zone text gets done in the View/Edit Zone Text field. Once assigned, the zone text will also be displayed in this area, along with the zone number.

To assign multiple devices to the same zone, hold down "CTRL" while selecting other devices, right click off the selected devices, while still holding the "CTRL" key, and select "Assign To Same Zone" from the popup menu, and set the required zone number.

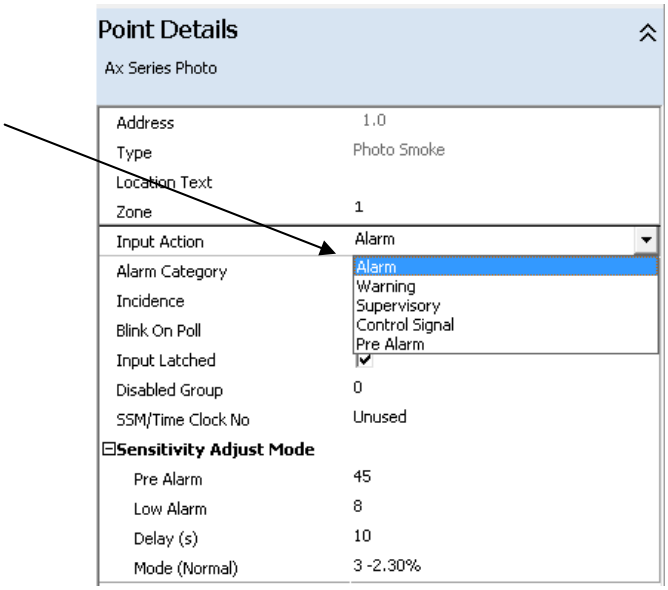


Alternatively to quickly change the location text, zone number, output group and disable group on a number of devices, right click and select the “Quick Edit”. Quick Edit enables the user to quickly enter location text, zone, output group, and disable group for points on the SLC loop.

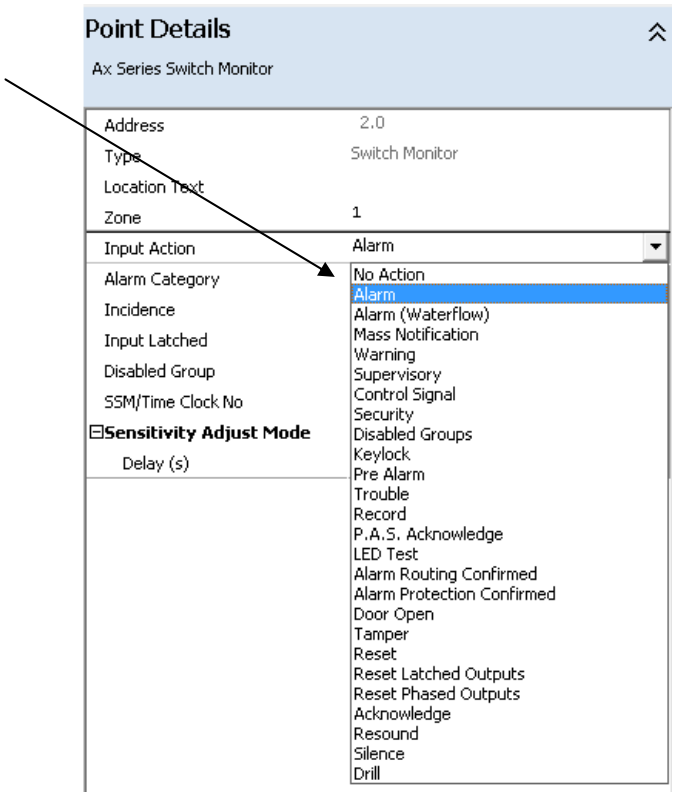


6.2.2.5 Input Action

This parameter determines the type of action that will be performed when the input device becomes active. The following drop-down list shows the possibilities for a smoke detector:



The following drop-down list shows the possibilities for the type of action of an input device:



Input Device – Type of Action

No Action	Just as indicated, the input has no action
Alarm	Generates an alarm event
Alarm (Waterflow)	Generates a waterflow alarm event
Mass Notification	Generates a mass notification event
Warning	Generates a warning event
Supervisory	Generates a supervisory event
Control Signal	Generates a background event for controlling outputs
Security	Generates a security event (NOT LISTED)
Disabled Groups	Disables an allocated disabled group
Keylock	Enables and disables panel display keyboard use/access
Pre Alarm	Generates a pre-alarm event
Trouble	Generates a trouble event
Record	Records event to the history log
P.A.S. Acknowledge	Acknowledges a P.A.S. input activation
LED Test	Generates a lamp test on associated panel
Alarm Routing Confirmed	Unused
Alarm Protection Confirmed	Unused
Door Open	Generates an open door event

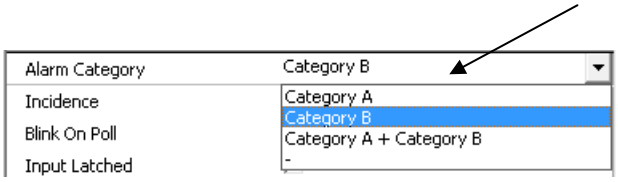
Tampers	Generates a tamper event
Reset	Resets latched events
Reset Latched Outputs	Resets any latched outputs
Reset Phased Outputs	Resets any phased controlled output
Acknowledge	Globally acknowledges any event status
Resound	Resounds any silenced outputs
Silence	Silences activated outputs
Drill	Activates a Drill condition on Outputs assigned to drill

The Acknowledge, LED Test, Reset, Silence and Resound options operate directly on control panel. These should only be used in special applications that require remote capabilities of these functions.

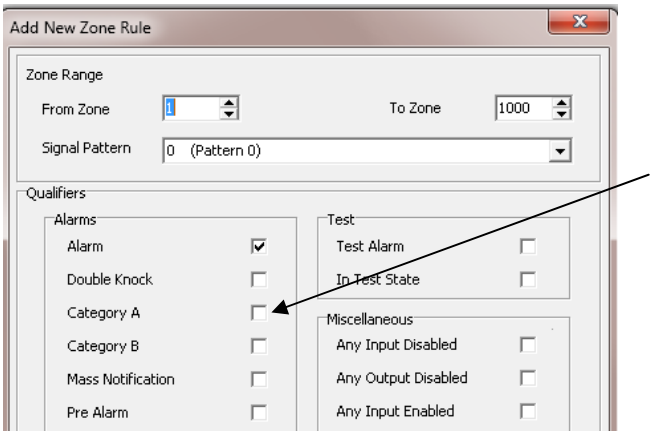
To avoid design check errors set any unused inputs on multiple input devices to "No Action"

6.2.2.6 Alarm Category

This input parameter can affect zoned outputs programmed to operate on a specific Alarm Category A or B. Devices can be programmed as Category A, Category B, Category A + Category B or no category (-).

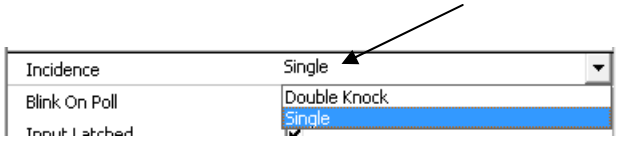


Note: Unless outputs are specifically programmed for category control/operation, programming within this area has no effect on category selection.

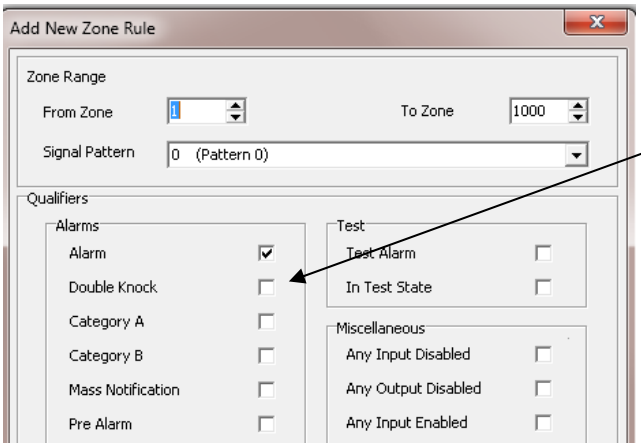


6.2.2.7 Incidence

This input parameter can affect outputs programmed to operate on a double-knock zone alarm. The available selections are “Double Knock” and “Single” Incidence.



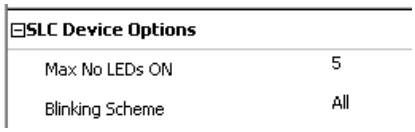
Selecting “Double Knock” causes the control panel to behave as if two devices in the same zone had been activated when the input goes into alarm. Any outputs programmed for zone double-knock alarm (and whose zone range includes this input) will be activated when this input goes into alarm. In addition, any two Single incidents within the same zone would equal a Double Knock.

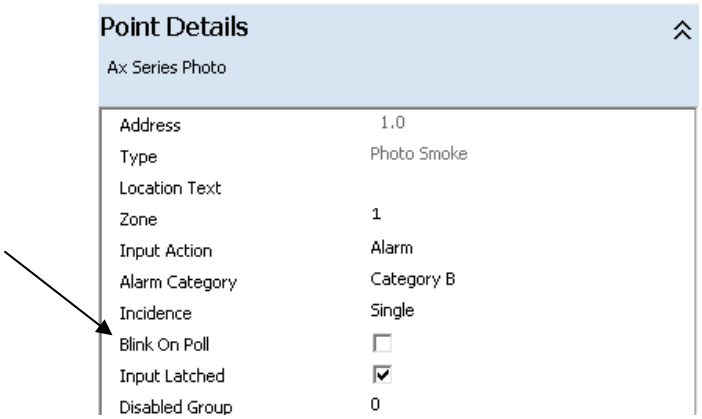


Note: Unless outputs are specifically programmed for double knock control/operation, programming within this area has no effect on single or double knock selection.

6.2.2.8 Blink On Poll

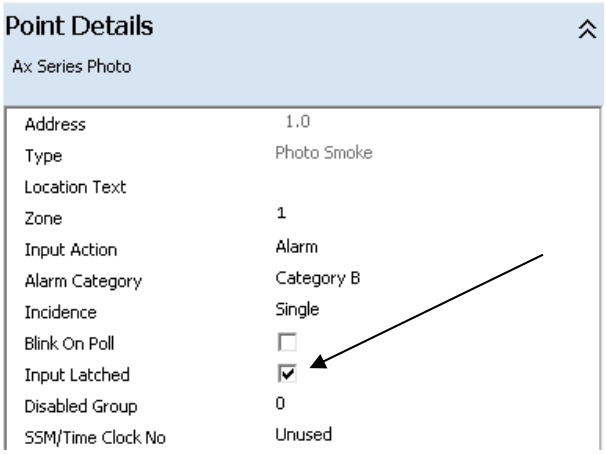
This parameter determines whether the LED, for a specific intelligent detector, will flash when polled by the panel, if the device supports this option. If the device type does not support blinking of its LED then this field is shaded out and cannot be changed. This can only be programmed if in the Panel Details area, programming of SLC Device Options, the Blink Scheme LED control is set to “Individually”. If the Blinking Scheme LED control in the Panel Details area is set to “All” or “None” then any settings made here have no effect on the detector’s LED blink scheme.





6.2.2.9 Input Latched

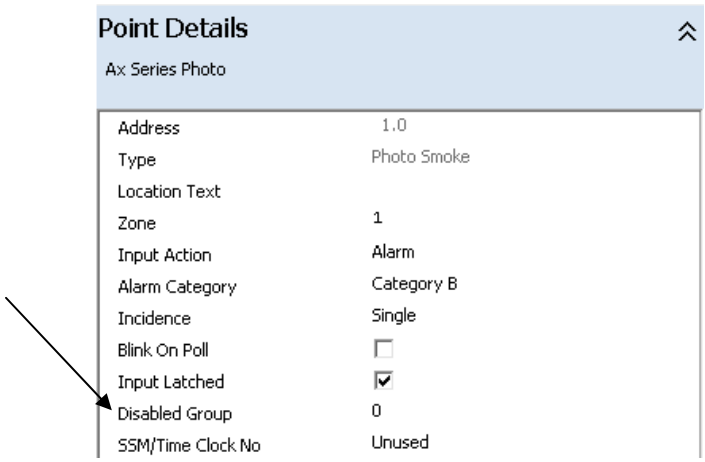
This parameter allows the user to select whether an input device will be latched or non-latched. If a signal is latched then a reset must be performed to clear the condition, even if the devices condition is no longer active. If a signal is non-latched then as soon as the input condition is no longer present the panel will automatically clear its status. Normally alarm inputs are always set as latched.



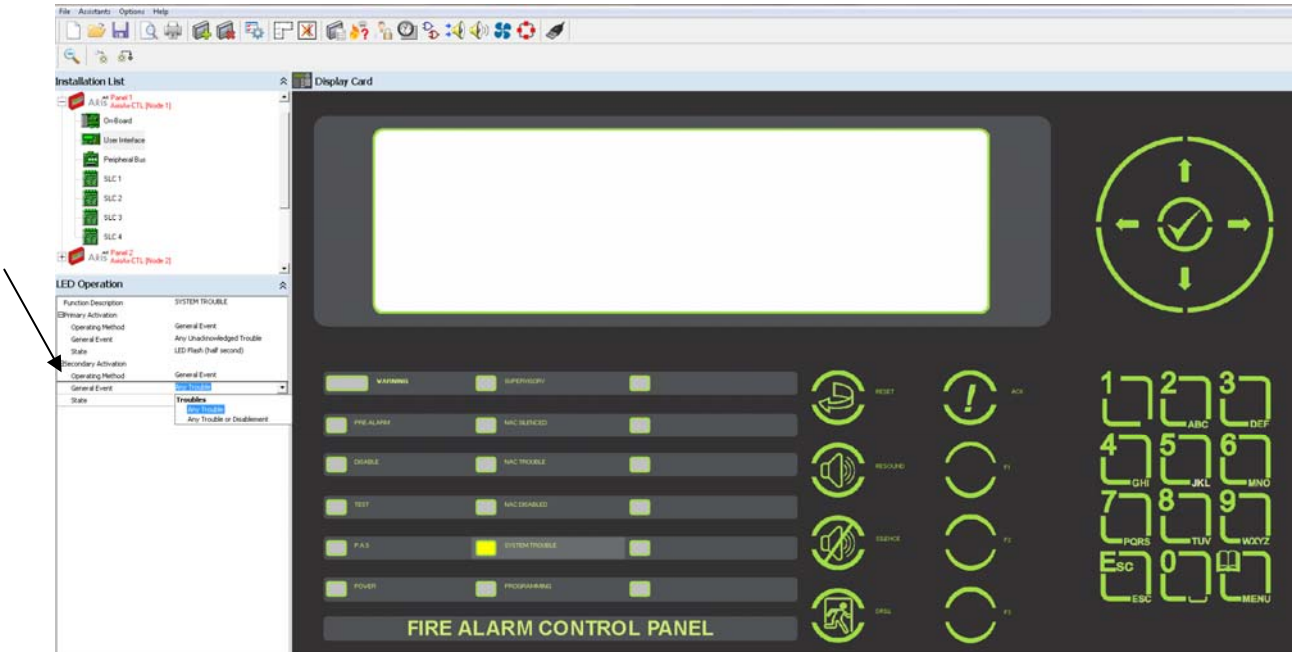
Note: Caution should be maintained if selecting an alarm input as a non-latched input, as this type of input would not require human intervention to return the alarm condition to normal (non-alarm).

6.2.2.10 Disabled Group

A Disabled Group (activated by an input whose action has been set to Disable Group) will disable all devices assigned with the same Disabled Group number. A disabled input will cause the common trouble relay to transfer, the disable LED to illuminate and the display to indicate the disablement. During disablement, the control panel will ignore all additional status changes from the devices associated with the Disabled Group.

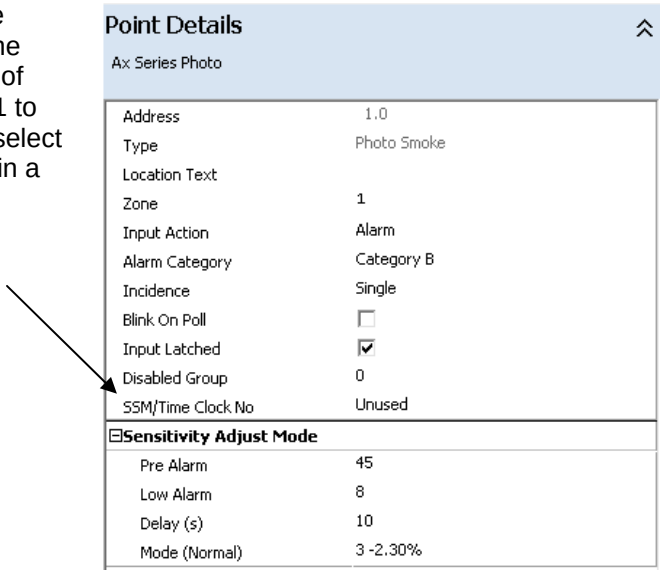


If required, the disabled event can also activate the system trouble LED, if programmed for such functionality. Programming of this functionality is done within the User Interface, Display Card programming area, System Trouble LED Operation.



6.2.2.11 SSM (Special Sensitivity Mode)/Time Clock No

Up to ten different time schedules can be entered in the panel, defining day and night periods for every day of the week. The number entered in this field, references one of these time clock schedules and can be in the range of 1 to 10. If a time schedule is not to be used for this device, select the “Unused”. By programming time clock periods within a detector perimeter, detectors can be set to different sensitivities based on time of day, day of week, etc.



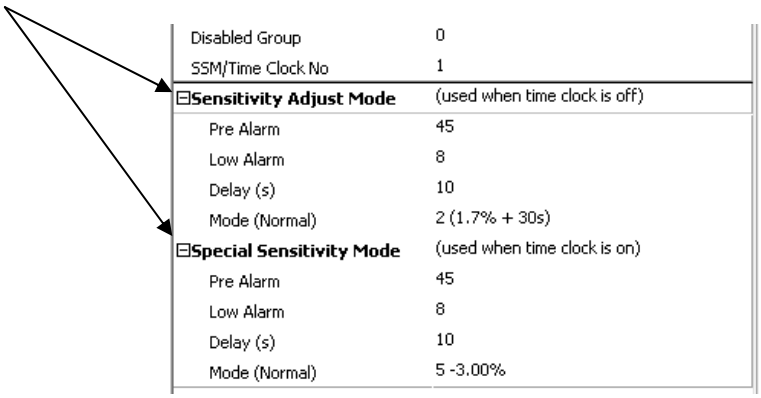
6.2.2.12 Sensitivity Adjust Mode and Special Sensitivity Mode

These options determine the response of the panel to signal values (sensitivity values if detectors) received from input devices. Many options are available for intelligent detectors (smoke, multi-sensor, heat) where as only the Delay option is available for manual pull stations or monitor inputs.

Sensitivity Adjust Mode settings are applied to a detector when the time clock (if selected) is in its OFF period. Sensitivity Adjust Mode is also the default settings, including sensitivity of detectors.

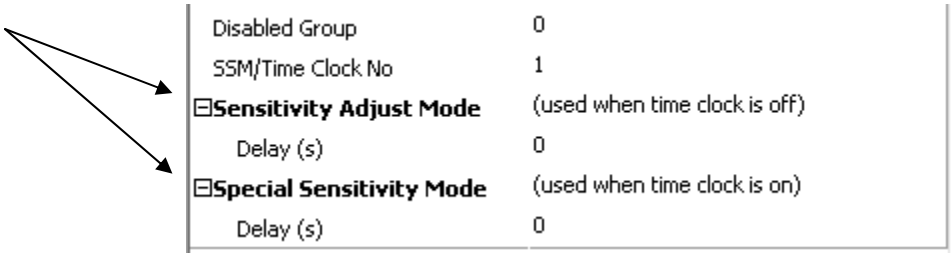
Special Sensitivity Mode settings are applied when a specified time clock has been allocated to the device and when the time clock is in its ON period. Special Sensitivity Mode with a detector would be the time period you would want the detector to change its sensitivity value or for a multi-sensor type device, the settings can be utilized to switch between smoke and heat modes.

Detectors



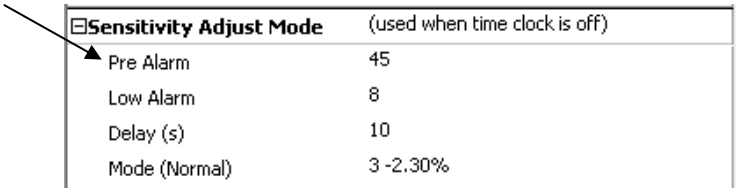
Note: When utilizing multi-sensor detector sensitivity extremely high concentrations of either smoke or heat will activate the detector, regardless of the detectors smoke or heat setting.

The same detector Special Sensitivity Mode settings are applied to ALL detectors that are allocated to the same time clock number.



6.2.2.12.1 Pre-Alarm

This value determines the analog level at which the panel will enter a pre-alarm condition (alarm level = 55) for the specific device.



Note: If pre-alarm indication is not required, set the pre-alarm value to 55 which equals the alarm level.

6.2.2.12.2 Low Alarm

This parameter determines the analog value returned by the detector that will cause the panel to register a trouble condition (i.e.: Photo LED failure) for the specific device. **It is recommended not to change this value.**

6.2.2.12.3 Delay

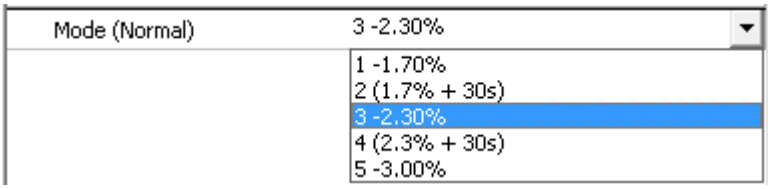
The value in this field defines an internal alarm confirmation period for the individual device, if used. The normal value and the allowed range depend on the type of device, and are as follows:

Smoke/Heat	Range 0 - 10 seconds,Normal = 10 seconds.
Manual Pull Stations	Range 0 - 30 seconds, Normal = 0 seconds.
Other Inputs	Range 0 - 999 seconds, Normal = 0 seconds.

Take care when introducing delays to intelligent devices. Intelligent devices that monitor sprinkler systems may require a delay of 20 seconds. However, a manual pull station should NOT be delayed.

6.2.2.12.4 Mode (Normal)

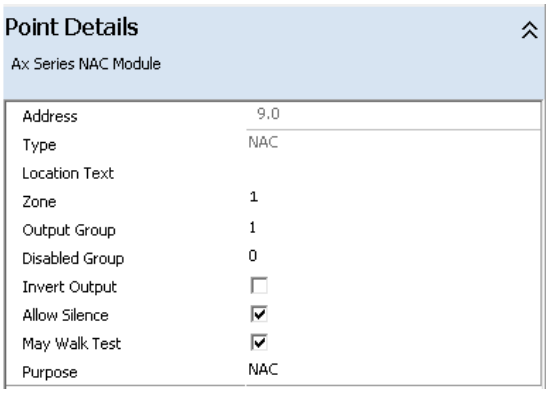
This parameter changes the sensitivity mode that will be used by the detector. Refer to Axis^{AX} Installation and Maintenance Manuals for detailed explanation of the various mode levels available for intelligent smoke detectors and heat detectors.



6.2.3 Output Point Details

Output Point Details information of a device can be view/edited, in the bottom left corner of the screen. The Point Details area will also indicate the device type (i.e.: NAC, Relay, etc.) being programmed.

The number of items shown within the Point Details will change according to the type of device being configured / programmed. The user will only see items which can be changed and/or modified.



6.2.3.1 Address

The Address field cannot be modified. This Address field is for the display of the specific address being configured / programmed.

6.2.3.2 Type

The Type field cannot be modified. This Type field is for the display of the specific address device type being configured / programmed.

6.2.3.3 Location Text

This is the text that can be utilized for the specific location of the associated address. To assign Location Text, click within the “Location Text” field to place the cursor within the field than insert characters as required. The text may be up to 26 characters in length including spaces.

6.2.3.4 Zone

The Zone is the zone number allocated to a specific addressable device to indicate the specific area the device is in (i.e.: 1st Floor or 1st Floor West Wing, etc.). To change the zone number, click within the “Zone” field to highlight the current value and overwrite the zone number using the number keys or the up/down arrows.

Note: The defining of the zone text gets done in the View/Edit Zone Text field. Once assigned, the zone text will also be displayed in this area, along with the zone number.

6.2.3.5 Output Group

This parameter determines what output cause and effect group will be controlling the specific output. NAC outputs are defaulted to group 1 (common alarm, drill and walk test activation), while relay contacts are defaulted to group 199 (common alarm activation).

6.2.3.6 Disabled Group

Assignment of a Disabled Group number will disable this output whenever the Disabled Group is active. A disabled output will cause the common trouble relay to transfer, the disable LED to illuminate and the display to indicate the device (s) disabled. During disablement, the control panel will ignore all additional status changes from the devices associated with the Disabled Group.

If required, the disabled event can also activate the system trouble LED, if programmed for such functionality. This functionality would be programmed within the User Interface, Display Card programming area, System Trouble LED Operation.

6.2.3.7 Invert Output

This parameter determines if an output is normally on and turns off or if the output is normally off and turns on (default value), when a qualifying condition is present.

6.2.3.8 Allow Silence

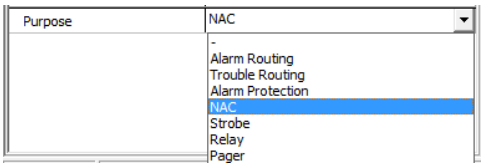
This parameter determines whether an output is turned off/on when the Silence/Resound buttons are pressed on the panel. By default, this parameter is checked for NAC circuits and unchecked for relays.

6.2.3.9 May Walk Test

This parameter determines whether an output turns on when a walk test “with signals” option is activated. If the parameter is enabled (checked) then the output will turn on if the “with signals” option is chosen. If the parameter is not checked, then the output will never turn on when a walk test alarm is generated. By default, NAC circuits turn on during a walk test “with signals” while relays do not.

6.2.3.10 Purpose

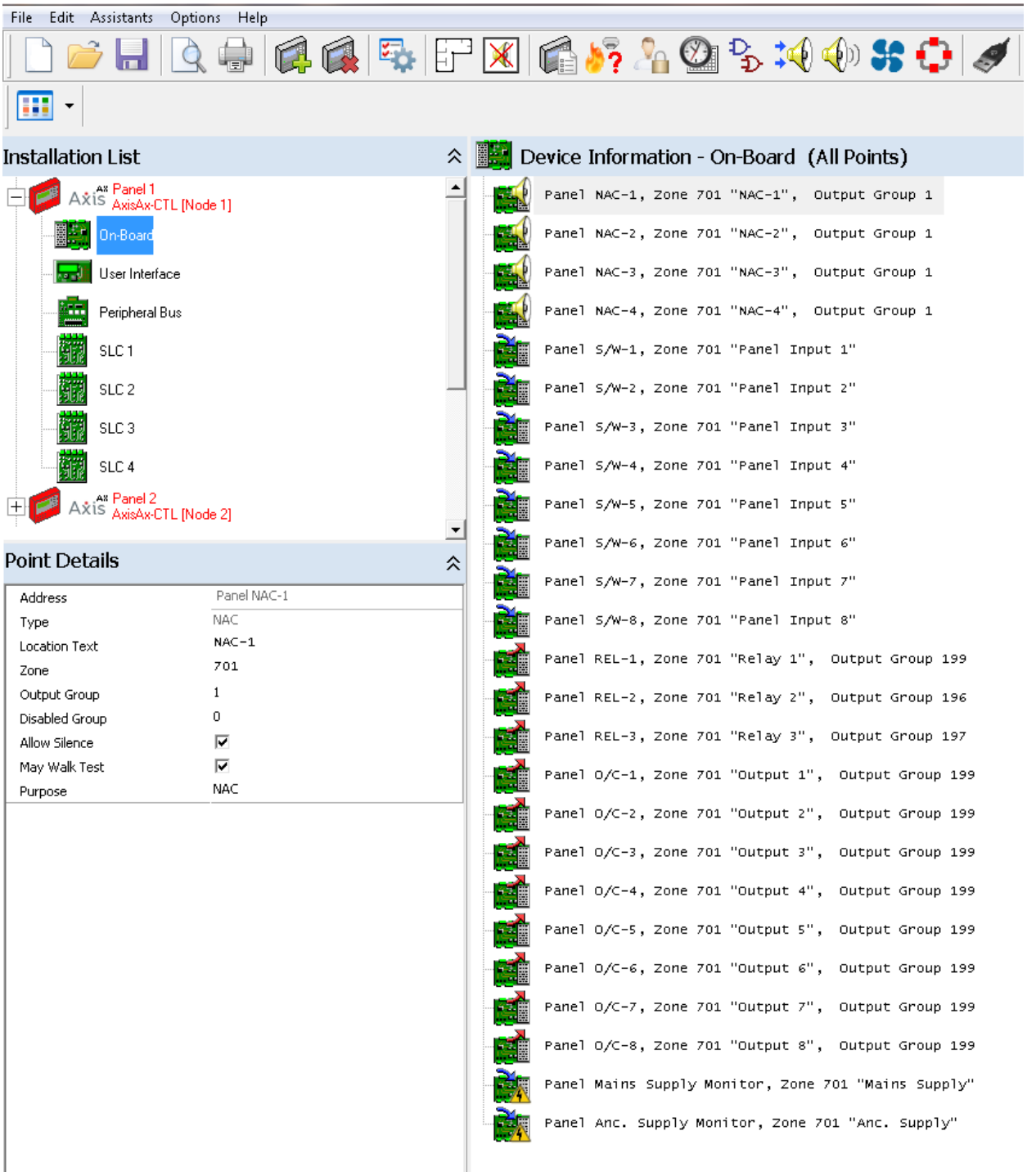
This parameter determines the purpose of the output for keypad disablement capabilities. Through the keypad menu, within the disable outputs area, rather than disabling all outputs you may select to disable all NACs, all Strobes or all Relays.



7 On-Board

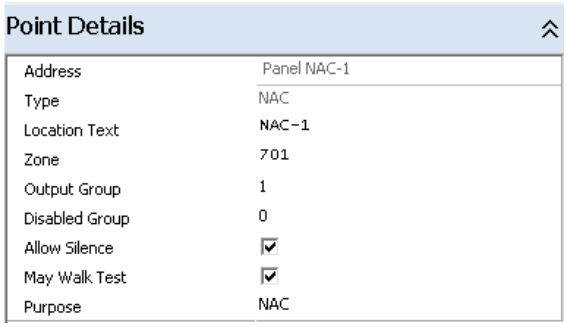
To program panel on-board NAC circuits, keyboard display inputs and relay outputs, navigate to and select the Panel On-Board icon

. Once selected, Device Information – On Board (All Points) and the Points Details area for the on-board I/O's will be available for programming.



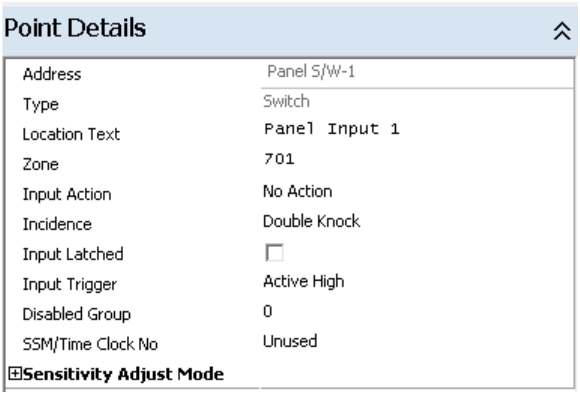
7.1 NAC-1, 2, 3 and 4 Programming

To program panel on-board NAC circuits, click on the specific NAC circuit (NAC-1, NAC-2, NAC-3 or NAC-4) icon requiring programming. Program as previously discussed, in the Output Points Details section of this manual. Programming includes: Location Text, Zone, Output Group, Disabled Group, Allow Silence, May Walk Test and Purpose.



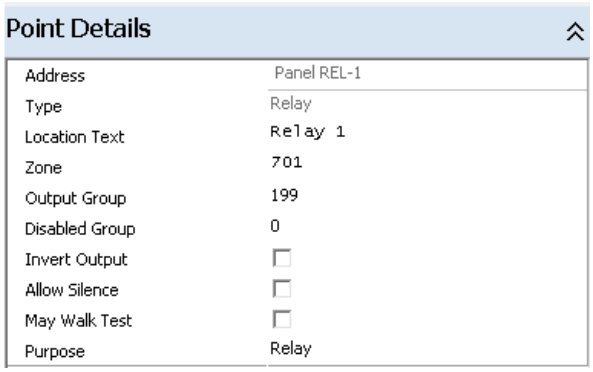
7.2 Panel Input (1 thru 8) Programming

To program the keyboard display on-board panel inputs (1 thru 8), click on the specific panel input icon requiring programming. Program as previously discussed, in the Input Points Details section of this manual. Programming includes: Location Text, Zone, Input Action, Incidence, Input Trigger (High or Low), Disabled Group, SSM/Time Clock No. and Sensitivity Adjust Mode (delay time).



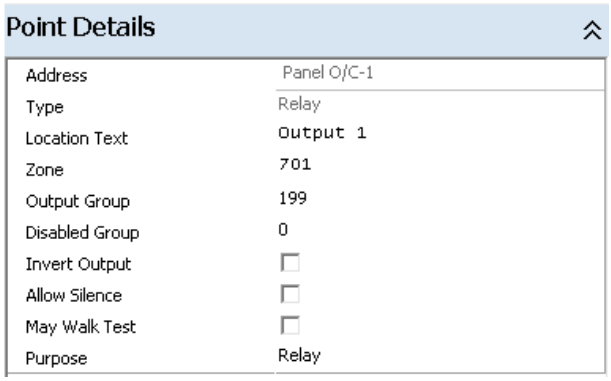
7.3 Relay 1, 2 and 3 Programming

To program the on-board predefined (defaulted) alarm, trouble and supervisory relays, click on the specific panel Relay 1, 2 or 3 icon requiring programming. Program as previously discussed, in the Output Points Details section of this manual. Programming includes: Location Text, Zone, Output Group, Disabled Group, Invert Output (relay failsafe), Allow Silence, May Walk Test and Purpose.



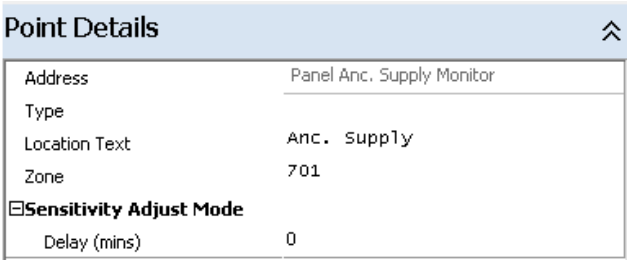
7.4 Output (AX-RL8) 1 thru 8 Programming

To program the on-board predefined (defaulted) alarm AX-RL8 outputs (1 thru 8), click on the specific AX-RL8 (O/C-1 thru O/C-8) output icon requiring programming. Program as previously discussed, in the Output Points Details section of this manual. Programming includes: Location Text, Zone, Output Group, Disabled Group, Invert Output (relay failsafe), Allow Silence, May Walk Test and Purpose.



7.5 Panel Mains and Anc. Supply Monitor Programming

To program Mains Supply delay or the Anc. (Ancillary) Supply Monitor input, of the AX-CTL base card, click on the associated supply monitor point icon requiring programming and program Location Text, Zone and any Delay time.



8 User Interface

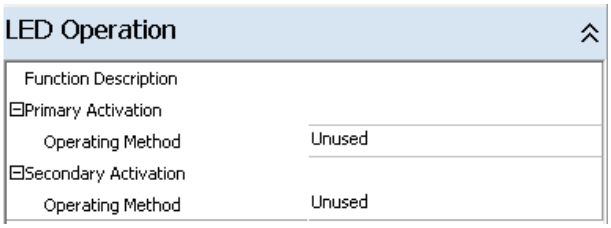
The User Interface allows programming of panel keyboard display (AX-DSP) LEDs (one red and five yellow) and control buttons (three; F1, F2 and F3). To access the programming details area, of the keyboard display (AX-DSP), click the Show Details icon button.

8.1 LED Programming

To program an LED, select one of the unassigned programmable LEDs, by clicking within the text label area, alongside the LED. The LED will eliminate and an LED Operation display will appear, to the left of the keyboard display.

LEDs can be programmed to be steady on, flash every ½ second or flash every 1 second. In addition, the LED can be assigned to a General Event, a Single Zone, an Output Group or to a Disable Group, with a number of other qualifiers based on activation method selected

The LED Operation display allows the user to assign a Function Description, Primary Activation and Secondary Activation for the individual LED.

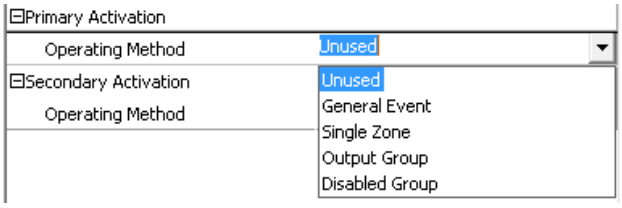


8.1.1 Function Description

This area allows the user to define with custom text the function of the LED.

8.1.2 Primary Activation

This area allows the user to program the Primary Activation Operating Method of the LED. The Primary Activation has priority over the Secondary Activation.

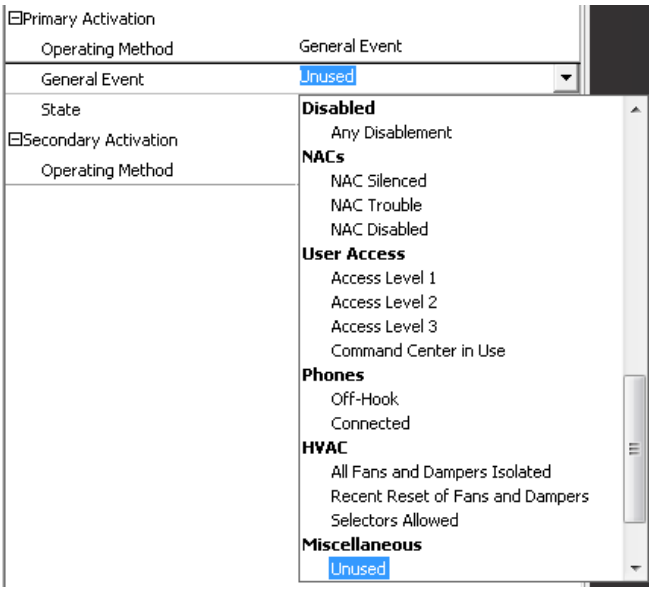


8.1.2.1 Operating Method

Operating Methods include; General Event, Single Zone, Output Group or Disabled Group.

8.1.2.1.1 General Event

Once General Event is selected, the selection of a specific General Event is available by clicking on the down arrow in the Unused area.



8.1.2.1.1.1 Below are the various General Event selections available:

Warnings
- Any Alarm
- Any Waterflow Alarm
- Any 2 Device Alarms
- Any 2 Zone Alarms
- Any Smoke Compartment
- Any Pre Alarm
- Any Warning
- Any Supervisory
- Any Disabled Device in Alarm
- Any Unacknowledged Alarm
- Any Unacknowledged Pre alarm
- Any Unacknowledged Warning
- Any Unacknowledged Supervisory

Alarm Routing and Protection
- Alarm Routing Activated
- Alarm Routing Trouble
- Alarm Routing Disabled
- Alarm Protection Activated

Alarm Verification
- Alarm Verification (Stage 1)
- Alarm Verification (Stage 2)

Two Stage
- P.A.S. Delay Effective
- P.A.S. Output Delay (Stage 1)
- P.A.S. Output Delay (Stage 2)

Troubles
- Any Trouble
- Any Trouble or Disablement
- AC Power Failure
- AC Delayed Trouble
- Battery Low Trouble
- Any Unacknowledged Trouble

Disabled
- Any Disablement

NACs
- NAC Silenced
- NAC Trouble
- NAC Disabled

User Access
- Access Level 1
- Access Level 2
- Access Level 3
- Command Center in Use

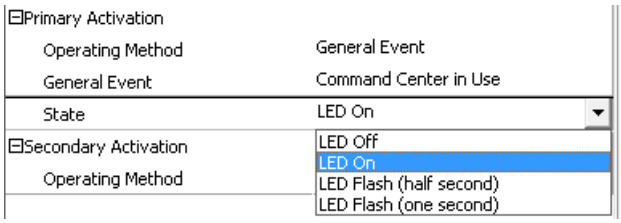
Phones
- Off-Hook
- Connected

HVAC
- All Fans and Dampers Isolated
- Recent Reset of Fans and Dampers
- Selectors Allowed

Miscellaneous
- Unused
- Always
- Any Zone in Test
- Any Warning
- Recent Reset

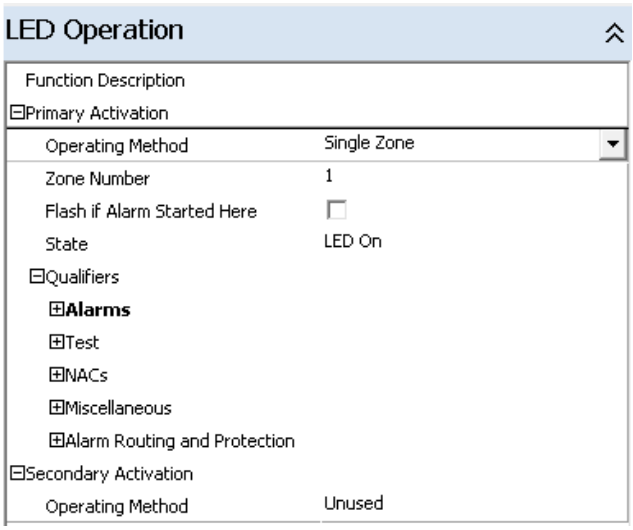
8.1.2.1.1.2 State

After the General Event type is selected, the State of the LED can be programmed based on the active condition of the General Event. Selections of the State include; LED Off, LED On, LED Flash (half second) or LED Flash (one second).



8.1.2.1.2 Single Zone

Once Single Zone is selected, Zone Number, Flash if Alarm Started Here, State and Qualifiers can be programmed for the specific LED.

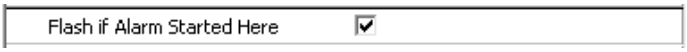


8.1.2.1.2.1 Zone Number

This area allows the user to program the zone number that will activate the LED. Zones range from 1 to 200 for a single panel and up to 1000 for a networked system (200 zones maximum per network node).

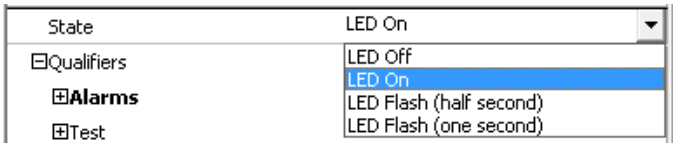
8.1.2.1.2.2 Flash if Alarm Started Here

This area allows the user to select the LED to flash if it is the first alarm received, by the panel.



8.1.2.1.2.3 State

This area allows the user to program the State of the LED when the zone is active. Selections of the State include; LED Off, LED On, LED Flash (half second) or LED Flash (one second).



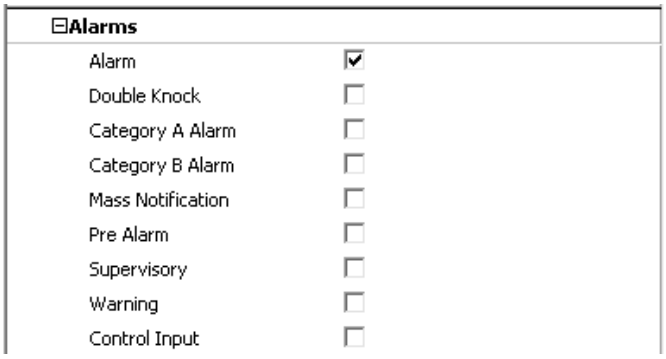
8.1.2.1.2.4 Qualifiers

This area allows the user to program Qualifiers that will control the State of the LED. Qualifiers can be selected under Alarms, Test, NACs, Miscellaneous and Alarm Routing and Protection areas.

Note: Multiple qualifiers can be selected to activate a specific zone LED.

8.1.2.1.2.4.1 Alarms

The Alarms qualifiers include the following zone event activations.



Whenever a Single Zone Operating Method is selected, the Alarm qualifier will be preselected (hence the bolded Alarms qualifier area). If the LED is not to activate on an Alarm, the user must uncheck the Alarm qualifier.

8.1.2.1.2.4.2 Test

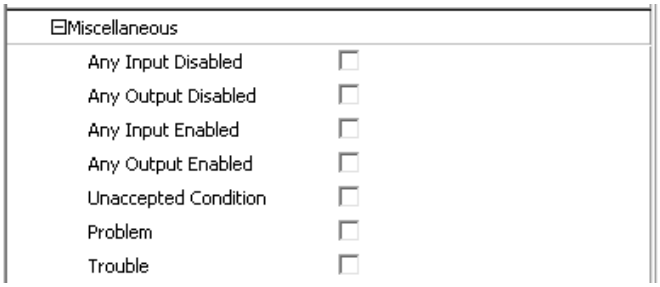
The Test qualifiers include activating the LED when the specific zone is in an active Test Alarm and/or when the zone is In Test State.

8.1.2.1.2.4.3 NACs

The NACs qualifiers include activating the LED when the specific zone has a NAC that is Silenced, Disabled and/or in Trouble.

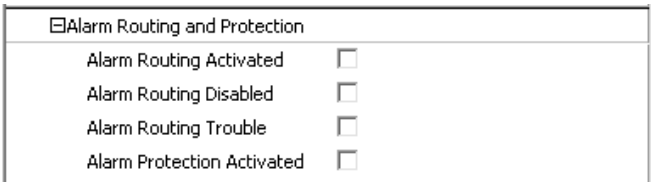
8.1.2.1.2.4.4 Miscellaneous

The Miscellaneous qualifiers include the following zone event activations:



8.1.2.1.2.4.5 Miscellaneous

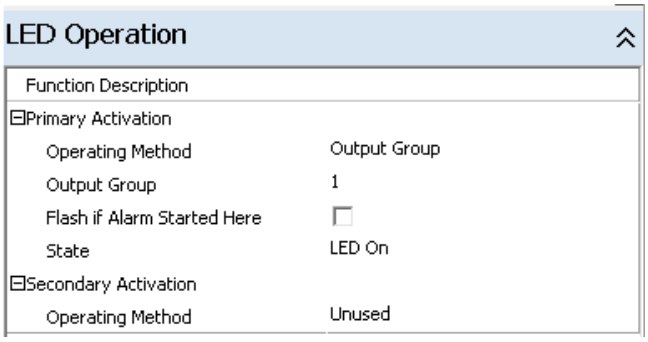
The Alarm Routing and Protection qualifiers include the following zone event activations:



Note: Alarm Routing and Protection controls are generally not utilized, they are for special applications only.

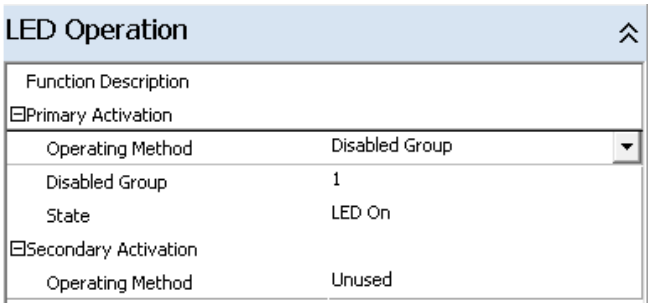
8.1.2.1.3 Output Group

Once Output Group is selected, Output Group number (1 to 200), Flash if Alarm Started Here (first group activated) and State can be programmed for the specific LED.



8.1.2.1.4 Disabled Group

Once Disabled Group is selected, Disabled Group number (1 to 200) and State can be programmed for the specific LED.

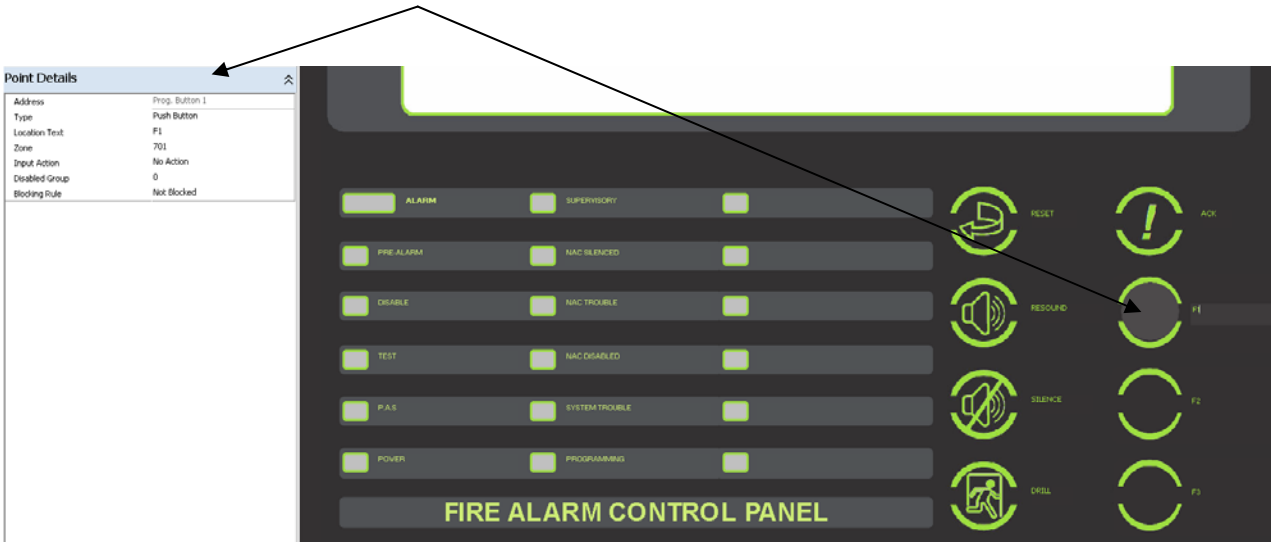


8.1.3 Secondary Activation

Secondary Activation has the same programming capabilities as the Primary Activation; however the Primary Activation has priority over the Secondary Activation. If both Primary Activation and Secondary Activation Operating Methods are active, the LED will follow the Primary Activation criteria.

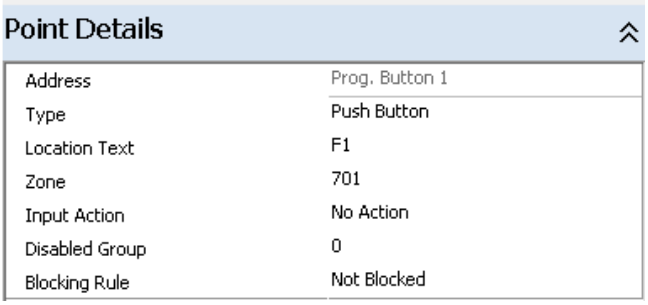
8.2 Control Button Programming

To program a Control Button, select one of the unassigned programmable Control Buttons, by clicking within the Control Button. The Control Button area will highlight and a Point Details display will appear to the left of the keyboard display.

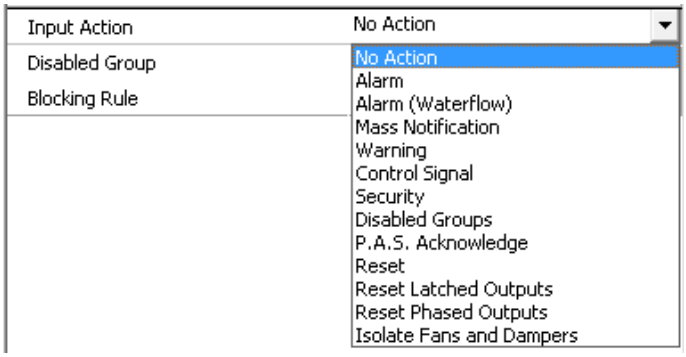


8.2.1 Point Details

Control Button Point Details programming include; button Type, Location Text, Zone number, Input Action, Disabled Group and Blocking Rule.



Additional Point Details are available based on the Control Button Input Action. In addition many of the Input Action selections predefine the Control Button Type and whether the Input Action is Latched or not.



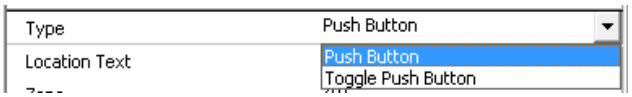
Input Action	Button Type	Latched	Comments
Alarm	Push Button	x	Activates Alarm, requires panel reset.
Alarm (Waterflow)	Push Button Toggle Push Button	x	Activates Waterflow Alarm, requires panel reset. Toggles Waterflow Alarm on/off
Mass Notification	Push Button	x	Activates MNS, requires panel reset
Warning	Push Button	x	Activates Warning, requires panel reset
Control Signal	Push Button Toggle Push Button	x	Activates Control Signal, requires panel reset. Toggles Control Signal on/off
Security	Push Button Toggle Push Button	x	Activates Security, requires panel reset. Toggles Security on/off
Disabled Group	Toggle Push Button		Toggles Disable Group on/off
P.A.S. Acknowledge	Push Button		Generates P.A.S. acknowledgment
Reset	Push Button		Generates panel reset
Reset Latched Outputs	Push Button		Resets any Latched Outputs
Reset Phased Outputs	Push Button		Resets any Phased Outputs
Isolate Fans and Dampers	Toggle Push Button		Toggles Fan/Damper Isolation

8.2.1.1 Address

Address is the address allocated to the Control Button (i.e. Prog. Button 1), this area is not programmable.

8.2.1.2 Type

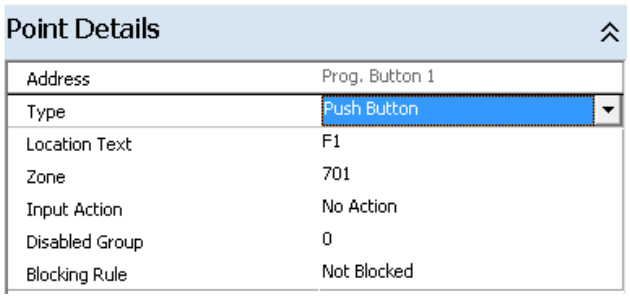
This area allows the user to select whether the Control Button is a Push Button (single action) or a Toggle Push Button (two actions active/inactive).



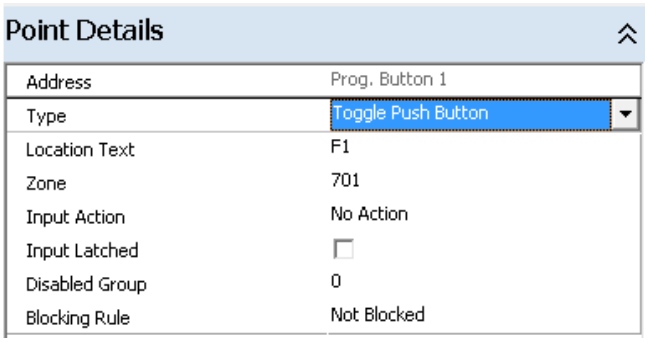
Note: As previously indicated, Control Button Type may be predefined based on Input Action selection.

8.2.1.2.1 Push Button / Toggle Push Button

When the user selects Push Button, the following areas are programmable:



When the user selects Toggle Push Button, the following areas are programmable:



8.2.1.2.1.1 Location Text

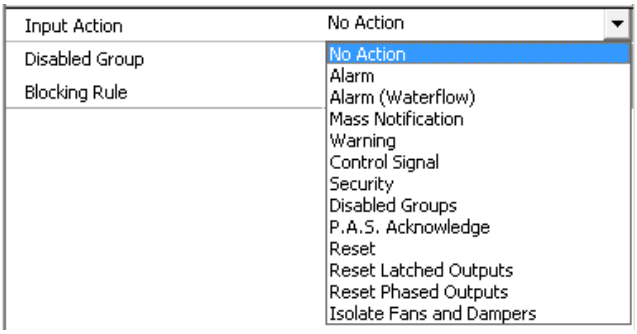
This area allows the user to program a Location Text (26 characters) for the Control Button.

8.2.1.2.1.2 Zone

This area allows the user to allocate a Zone to the Control Button. The Zone of the panel is the default Zone allocated.

8.2.1.2.1.3 Input Action

This area allows the user to program the type of action that will be performed by the Control Button. Input Actions include the items listed below:



8.2.1.2.1.4 Input Latched

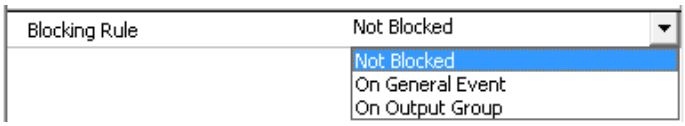
This area allows the user to program whether the Input Action will be Latched or not Latched.

8.2.1.2.1.5 Disabled Group

Assignment of a disabled group number will disable this Control Button whenever the disabled group is active.

8.2.1.2.1.6 Blocking Rule

This area allows the user to assign a Blocking Rule to the Control Button usage. The Blocking Rule can be based either on a panel General Event or a programmed Output Group.



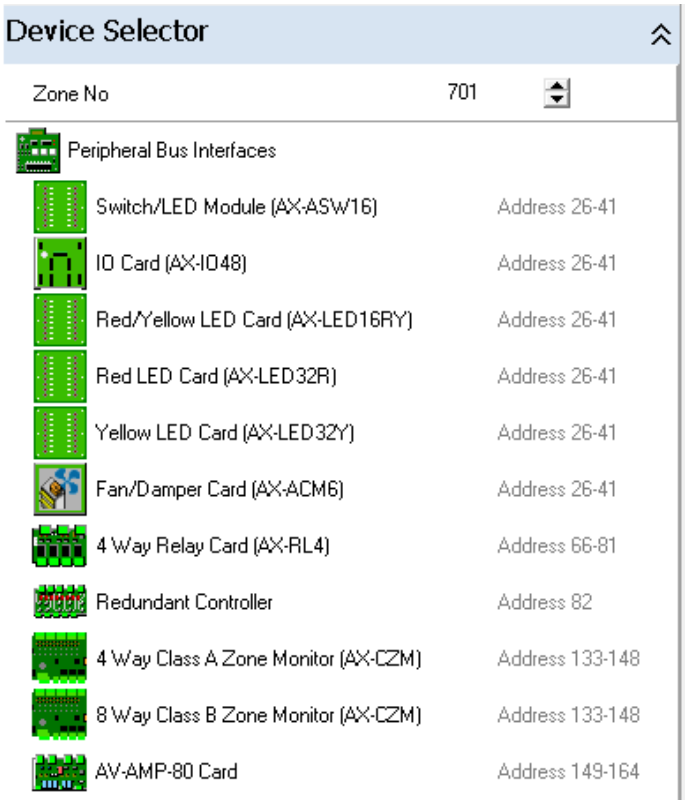
9 Peripheral Bus

The Peripheral Bus, also referred to as PBUS or RS485 Bus, is the AX-CTL base card's Class B PBUS (RS485) network, which accommodates up to sixteen (16) of each PBUS (RS485) module/card type.

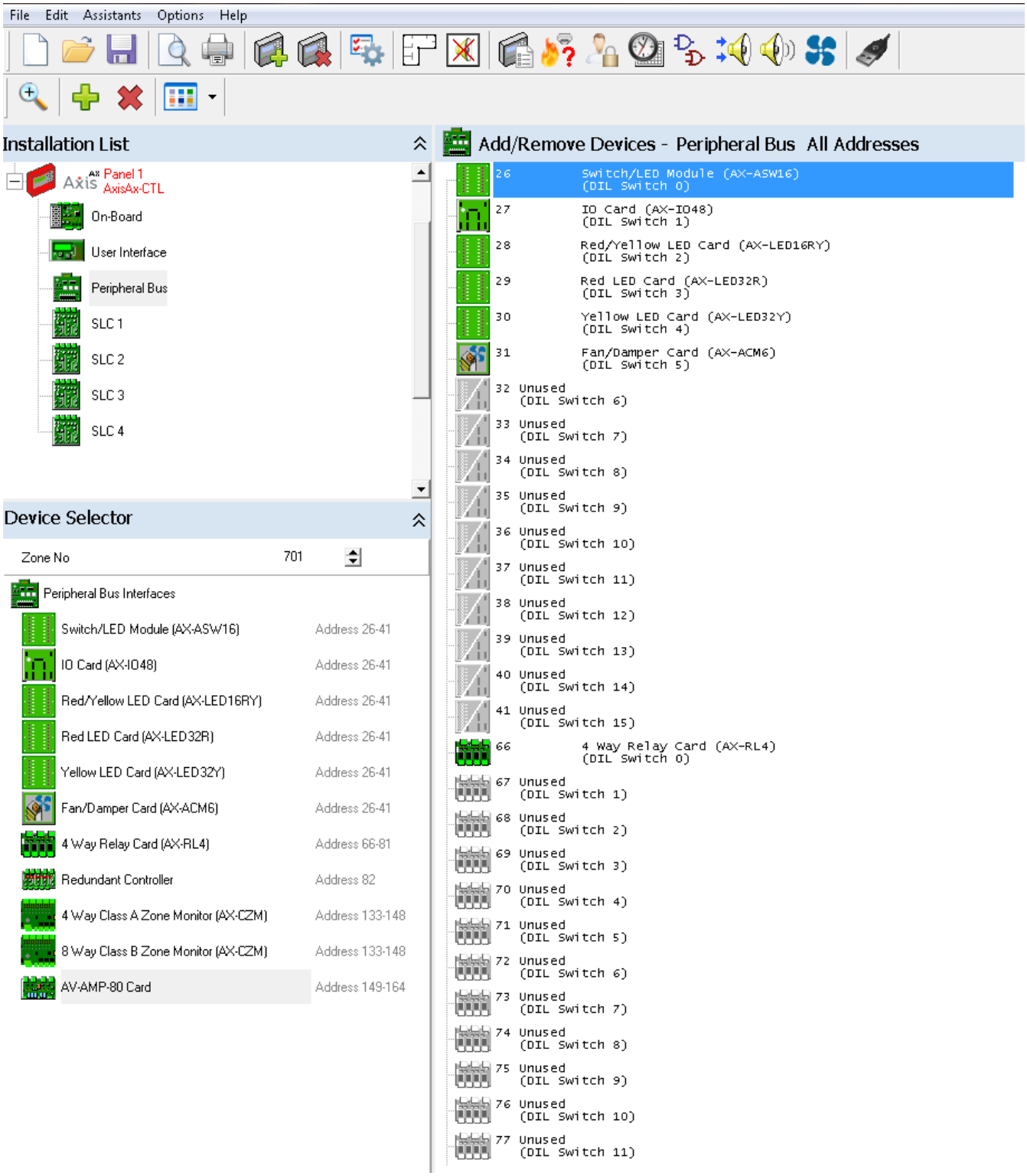
9.1 Adding Peripheral Bus Modules/Cards

The Peripheral Bus allows adding and programming of sixteen (16) of any combination of Switch/LED Cards (AX-ASW-16, AX-I/O-48, AX-LED-16RY, AX-LED-32R and AX-LED-32Y and AX-ACM-16 [Fan Damper Card]), sixteen (16) 4 Way Relay Cards (AX-RL4), Redundant Controller, sixteen (16) of any combination of 4 Way Class A Zone Monitor Modules (AX-CZM) and 8 Way Class B Zone Monitor Modules (AX-CZM) and sixteen (16) Amplifier Modules (AV-AMP-80). To add a peripheral bus module, select the required device from the Device Selector in the bottom left corner of the screen. Click on an unused peripheral bus address, allocated to the specific peripheral bus module selected and then press the icon button. Alternatively, right click on the required device address and select "Add Device" from the popup menu or double click on the unused peripheral bus address.

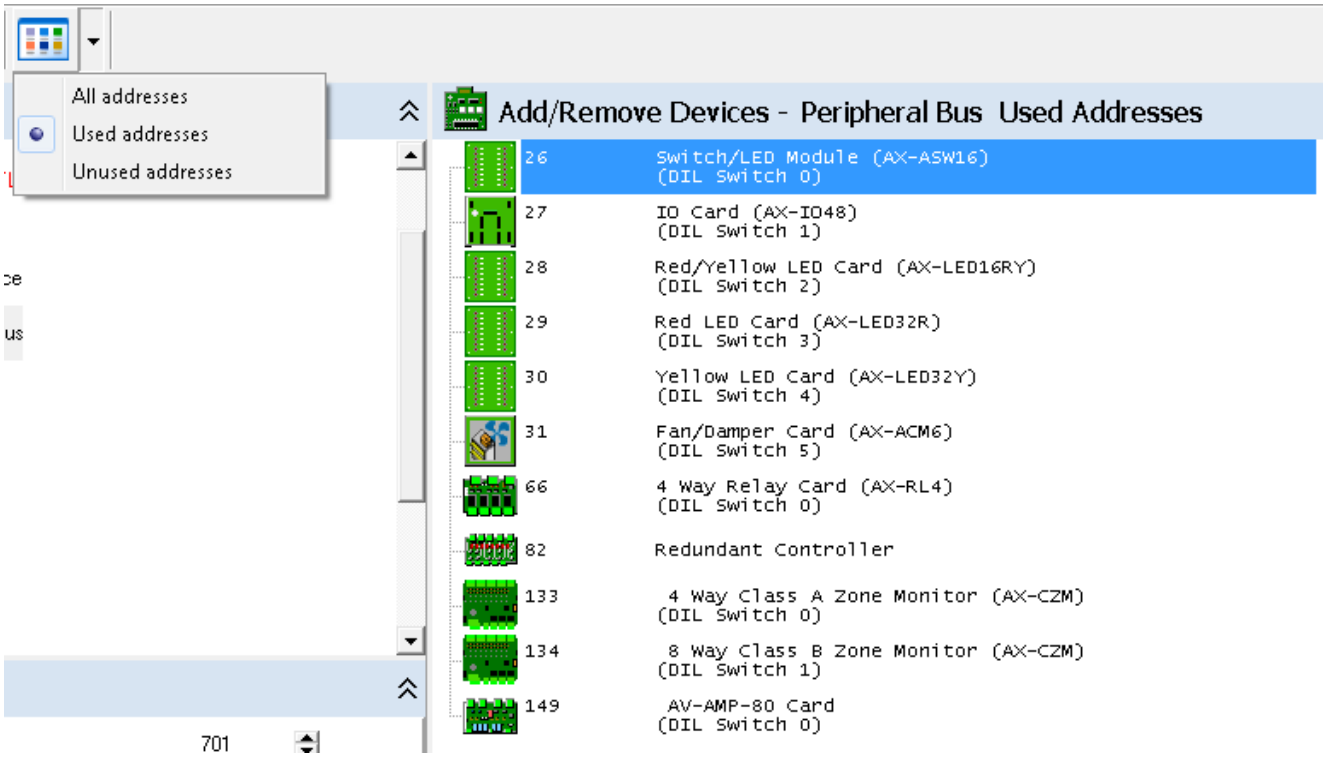
Peripheral Bus module/card type Device Selector:



Below is an example of one of each peripheral bus (PBUS/RS485) module added:

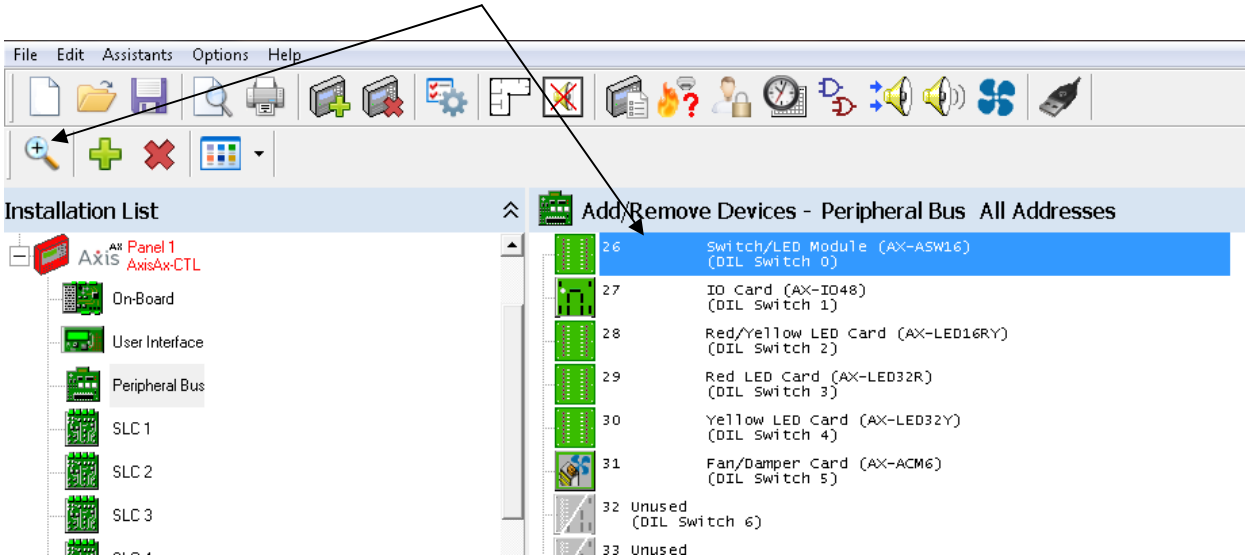


Below is an example of one of each peripheral bus (PBUS/RS485) module viewed via the filter button “Used Addresses”:



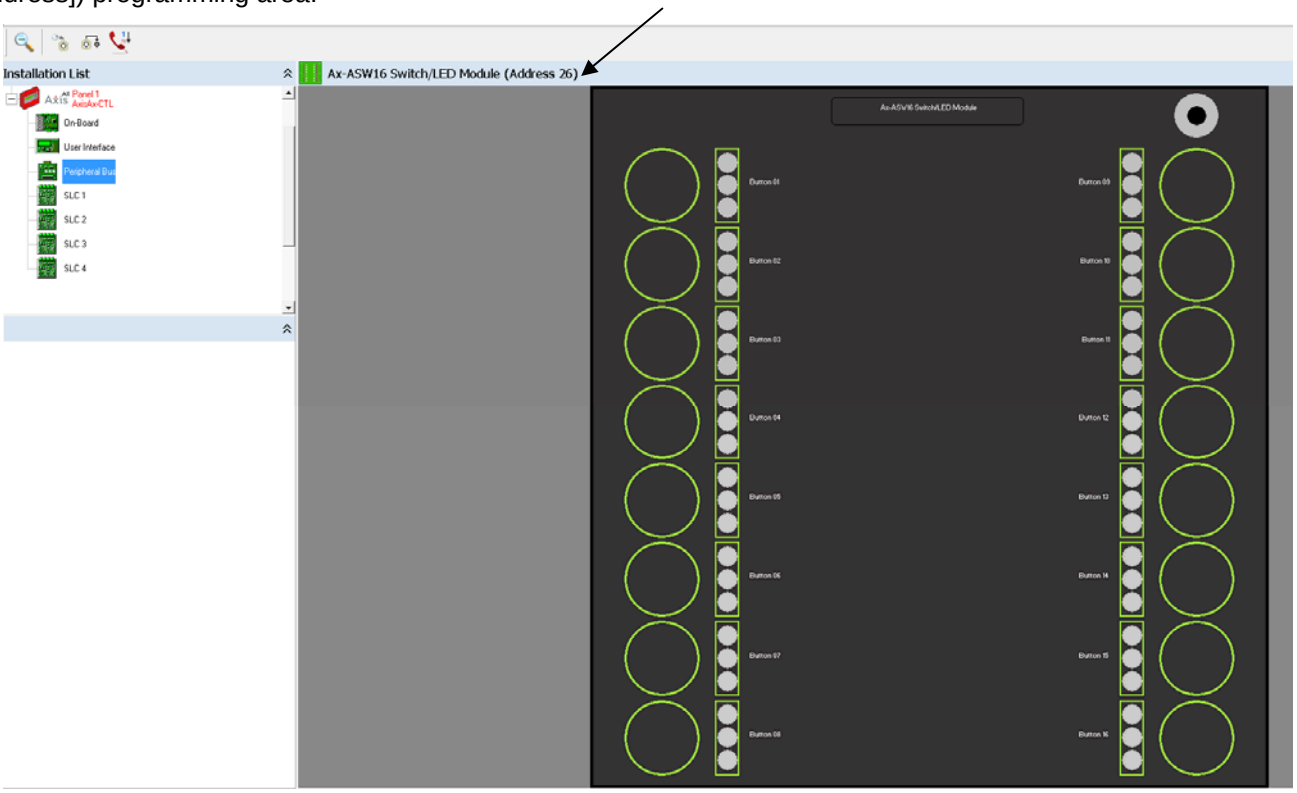
9.2 Point Detail Programming of a PBUS Module/Card

To program a PBUS module/card, highlight the specific module/card type internal bus address and click on the Show Details icon.



9.2.1 AX-ASW-16 Switch LED Module Programming

Once the user has selected the specific Switch/LED Module (Ax-ASW16) address and clicked on the Show Details icon, the user will be brought to the Ax-ASW16 Switch/LED Module (Address xx [where xx is the module address]) programming area.

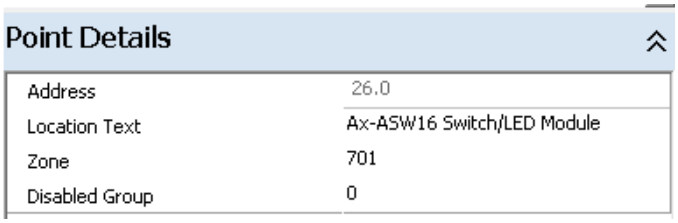


There are two (2) methods of programming switches and LEDs of an AX-ASW-16 Switch LED Card.

Method 1: Program each switch and LED as individual points

Method 2: Program a switch and associated three (3) LEDs for a specific Application

Each Switch LED Card (AX-ASW-16, AX-I/O-48, AX-LED-16RY, AX-LED-32R and AX-LED-32Y) address can also be programmed with a Location Text, Zone number and Disable Group for the whole card.



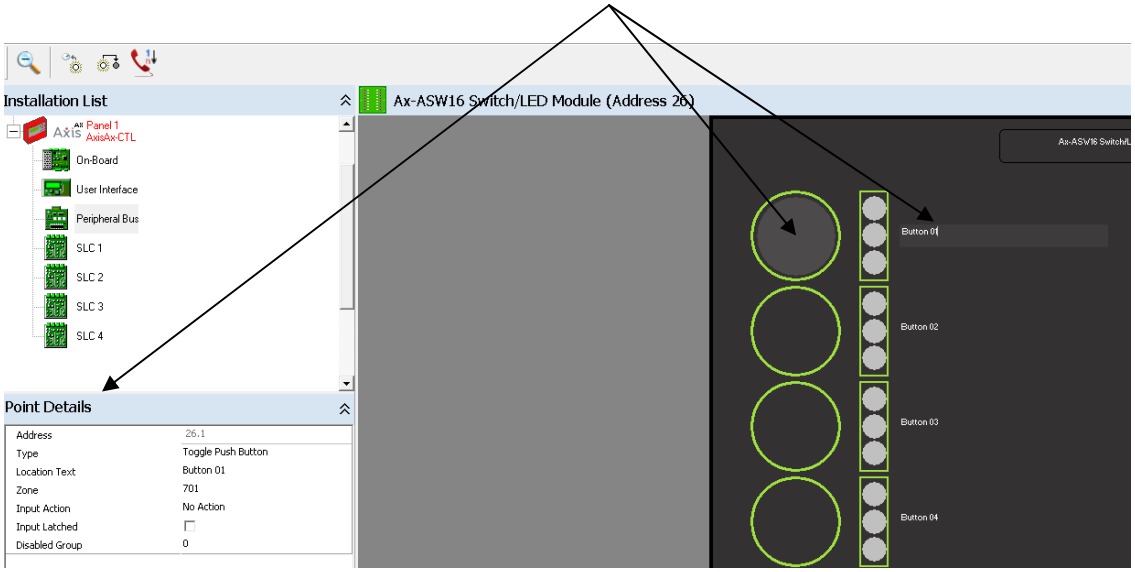
Location Text:	This is where the user can enter a Location Text or usage label for the specific Switch LED Card (i.e. Front Lobby or Audio Message Card).
Zone:	This is where the user can enter the Zone allocated to the Switch LED Card, 701 is the default zone for node 1 (i.e. 701 = Zone label “Electrical Closet Rm. 102”).
Disabled Group:	This is where the user can enter a Disabled Group number that will disable the operation of the complete module/card.

9.2.1.1 Programming Each Switch and LED Individually

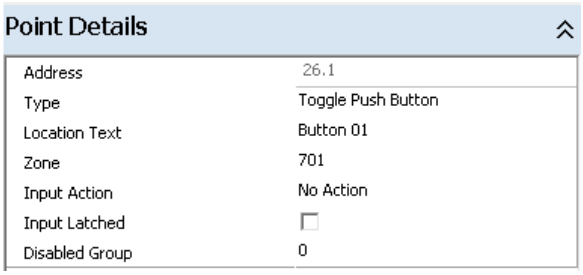
To program individual switches and LED points, select the switch or LED and a Point Details programming area will be available, at the bottom left corner of the screen, for the specific switch or LED selected.

9.2.1.1.1 Individual Switch Programming

To program an individual switch, click on the switch button. The switch button and Location Text area will highlight. In addition, a Point Details programming area will be available, at the bottom left corner of the screen.



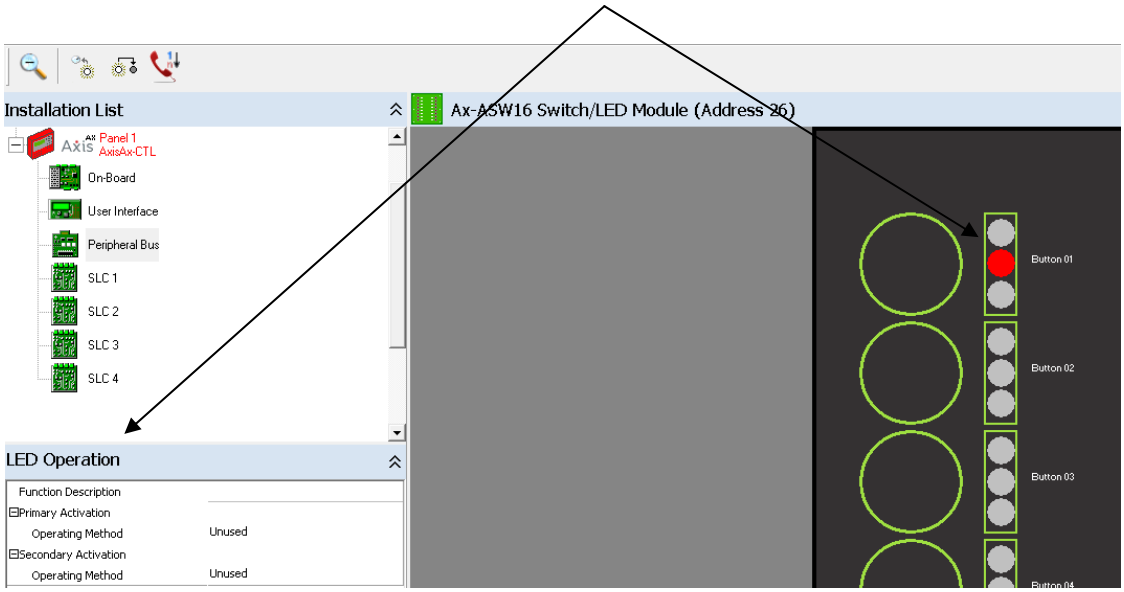
Programming options available for an individual switch are; switch Type, Location Text, Zone number, Input Action, Input Latched and Disabled Group.



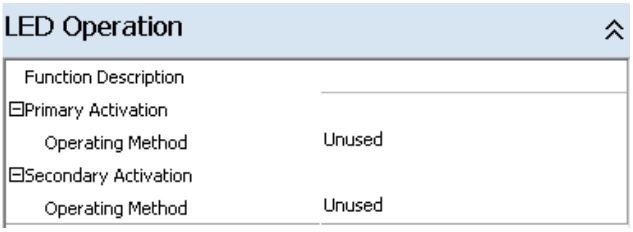
Address:	The Address field is the actual address within the panel allocated for the specific PBUS (RS485) module/card. Each Switch LED Card is allocated an address (26 to 41) with the input switches then being allocated to a sub-address, of the primary address (i.e. 26 [Switch LED Card address], 26.1 Switch 1, 26.2 Switch 2, etc., etc.). This Address allocation cannot be changed as it is the address number that will be utilized to program control output groups.
Type:	This is where the user enters the type of switch required: Switch, Push Button or Toggle Push Button. Toggle Push Button is the default setting.
Location Text:	This is where the user enters a Location Text (usage label) for the specific switch (i.e. Sprinkler Bypass)
Zone:	This is where the user enters the Zone allocated to the switch, 701 is the default zone for node 1 (i.e. 701 = Zone label “Electrical Closet Rm. 102”).
Input Latched:	This is where the user defines whether the switch is latching or not. Latching switches require a panel reset.
Disabled Group:	This is where the user can enter a Disabled Group number that will disable the operation of the individual switch.

9.2.1.1.2 Individual LED Programming

To program an individual LED, click on the LED to be program. The LED area will light in the color of the LED. In addition, a LED Operation programming area will be available, at the bottom left corner of the screen. LEDs can be programmed to be steady on, flash every ½ second or flash every 1 second. In addition, the LED can be assigned to a General Event, a Single Zone, an Output Group or to a Disable Group, with a number of other qualifiers based on activation method selected.



The LED Operation display allows the user to assign a Function Description, Primary Activation and Secondary Activation for the individual LED.

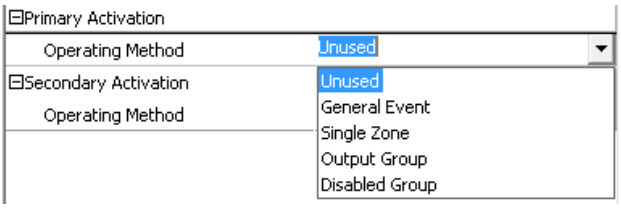


9.2.1.1.2.1 Function Description

This area allows the user to define with custom text the function of the LED.

9.2.1.1.2.2 Primary Activation

This area allows the user to program the Primary Activation Operating Method of the LED. The Primary Activation has priority over the Secondary Activation.

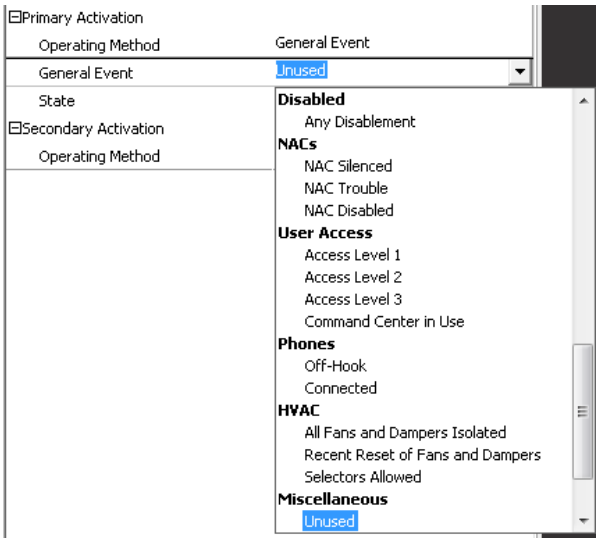


9.2.1.1.2.3 Operating Method

Operating Methods include; General Event, Single Zone, Output Group or Disabled Group.

9.2.1.1.2.3.1 General Event

Once General Event is selected, the selection of a specific General Event is available, by clicking on the down arrow in the Unused area.



Below are the various General Event selections available:

Warnings
- Any Alarm
- Any Waterflow Alarm
- Any 2 Device Alarms
- Any 2 Zone Alarms
- Any Smoke Compartment
- Any Pre Alarm
- Any Warning
- Any Supervisory
- Any Disabled Device in Alarm
- Any Unacknowledged Alarm
- Any Unacknowledged Pre alarm
- Any Unacknowledged Warning
- Any Unacknowledged Supervisory

Alarm Routing and Protection
- Alarm Routing Activated
- Alarm Routing Trouble
- Alarm Routing Disabled
- Alarm Protection Activated

Alarm Verification
- Alarm Verification (Stage 1)
- Alarm Verification (Stage 2)

Two Stage
- P.A.S. Delay Effective
- P.A.S. Output Delay (Stage 1)
- P.A.S. Output Delay (Stage 2)

Troubles
- Any Trouble
- Any Trouble or Disablement
- AC Power Failure
- AC Delayed Trouble
- Battery Low Trouble
- Any Unacknowledged Trouble

Disabled
- Any Disablement

NACs
- NAC Silenced
- NAC Trouble
- NAC Disabled

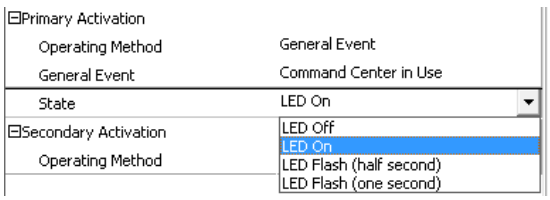
User Access
- Access Level 1
- Access Level 2
- Access Level 3
- Command Center in Use

Phones
- Off-Hook
- Connected

HVAC
- All Fans and Dampers Isolated
- Recent Reset of Fans and Dampers
- Selectors Allowed

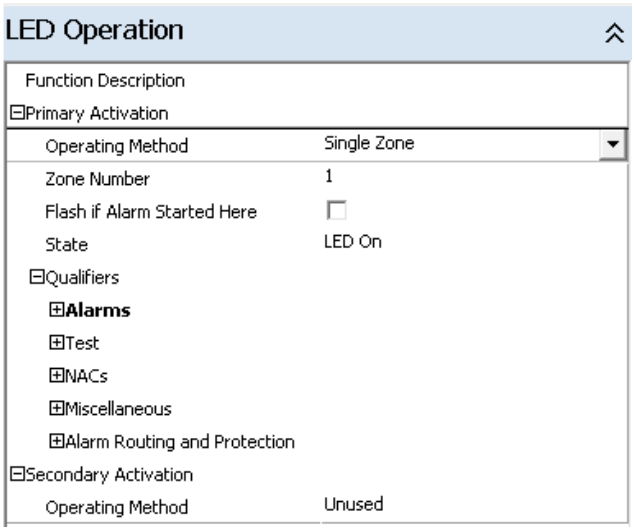
Miscellaneous
- Unused
- Always
- Any Zone in Test
- Any Warning
- Recent Reset

State: After the specific General Event is selected, the State of the LED can be programmed based on the active condition of the specific General Event. Selections of the State include; LED Off, LED On, LED Flash (half second) or LED Flash (one second).



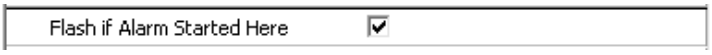
9.2.1.1.2.3.2 Single Zone

Once Single Zone is selected, Zone Number, Flash if Alarm Started Here, State and Qualifiers can be programmed for the specific LED.

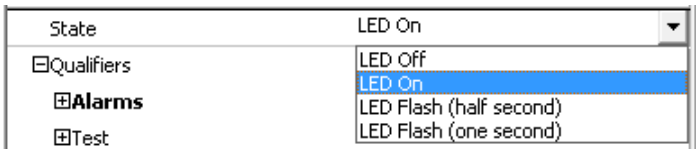


Zone Number: This area allows the user to program the zone number that will activate the LED. Zones range from 1 to 200 for a single panel and up to 1000 for a networked system (200 zones maximum per network node).

Flash if Alarm Started Here: This area allows the user to select the LED to flash if it is the first alarm received by the panel.



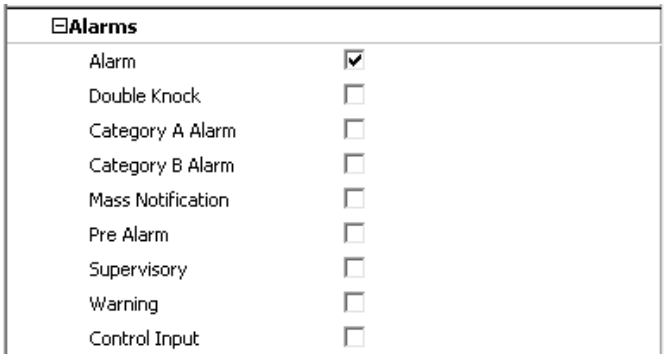
State: This area allows the user to program the State of the LED when the zone is active. Selections of the State include; LED Off, LED On, LED Flash (half second) or LED Flash (one second).



Qualifiers: This area allows the user to program Qualifiers that will control the State of the LED. Qualifiers can be selected under Alarms, Test, NACs, Miscellaneous and Alarm Routing and Protection areas.

Note: Multiple qualifiers can be selected to activate a specific zone LED.

Alarms Qualifiers include the following zone event activations:

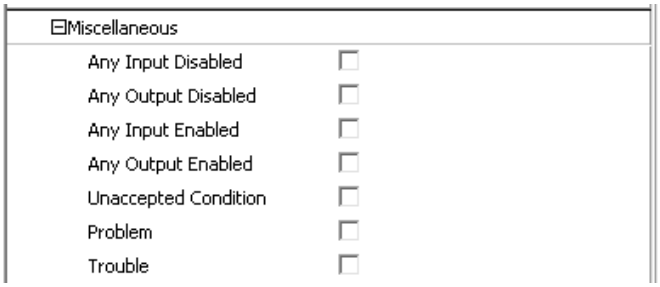


Note: Whenever a Single Zone Operating Method is selected, the Alarm qualifier will be preselected (hence the bolded Alarms qualifier area). If the LED is not to activate on an Alarm, the user must uncheck the Alarm qualifier.

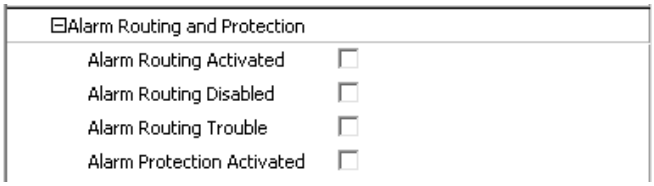
Test Qualifiers include activating the LED when the specific zone is in an active Test Alarm and/or when the zone is In Test State.

NACs Qualifiers include activating the LED when the specific zone has a NAC that is Silenced, Disabled and/or in Trouble.

Miscellaneous Qualifiers include the following zone event activations:



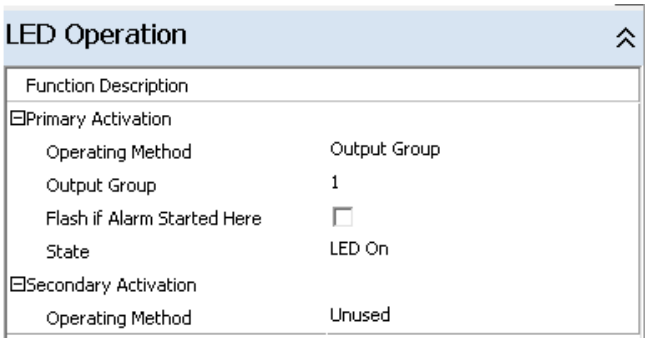
Alarm Routing and Protection Qualifiers include the following zone event activations:



Note: Alarm Routing and Protection controls are generally not utilized, they are for special applications only.

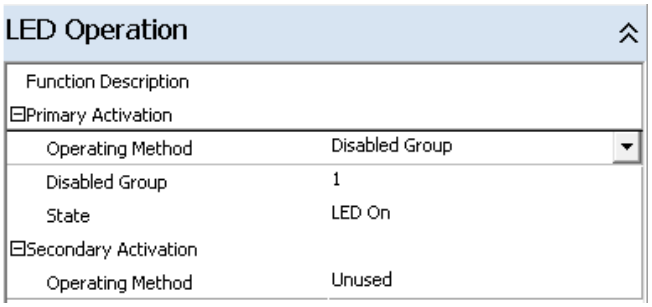
9.2.1.1.2.3.3 Output Group

Once Output Group is selected, Output Group number (1 to 200), Flash if Alarm Started Here (first group activated) and State can be programmed for the specific LED.



9.2.1.1.2.3.4 Disabled Group

Once Disabled Group is selected, Disabled Group number (1 to 200) and State can be programmed for the specific LED.

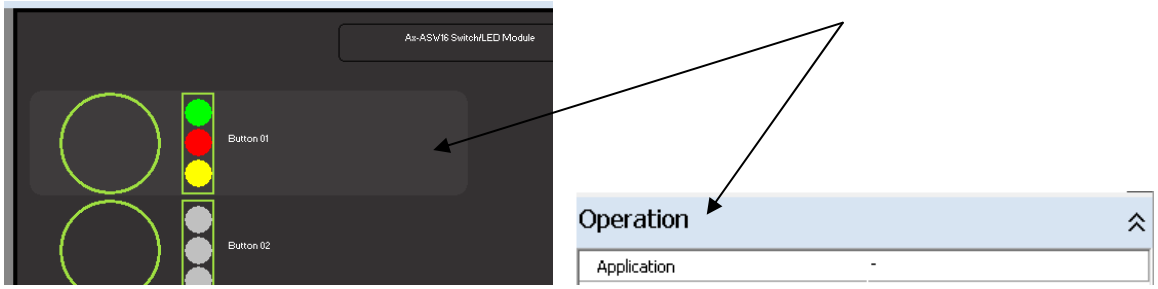


9.2.1.1.2.4 Secondary Activation

Secondary Activation has the same programming capabilities as the Primary Activation; however the Primary Activation has priority over the Secondary Activation. If both Primary Activation and Secondary Activation Operating Methods are active, the LED will follow the Primary Activation criteria.

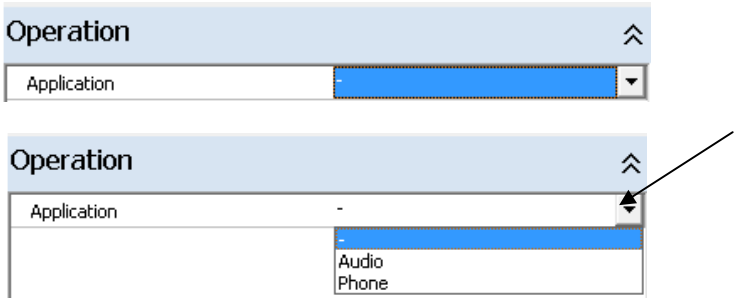
9.2.1.2 Programming Switch and LEDs for a Specific Application

To program a switch and associated three (3) LEDs for a specific application, move your cursor to the right of the switch and associated LEDs to be programmed until the area becomes highlighted, then click within the highlighted area. Once selected an Operation (Application) screen will appear at the bottom left corner of the screen.



9.2.1.2.1 Operation Application

To program a specific Application, click on the Application dash (-) mark, the area will change to blue with a drop down arrow. Click on the drop down arrow and two (2) Application selections will be available: Audio and Phone.

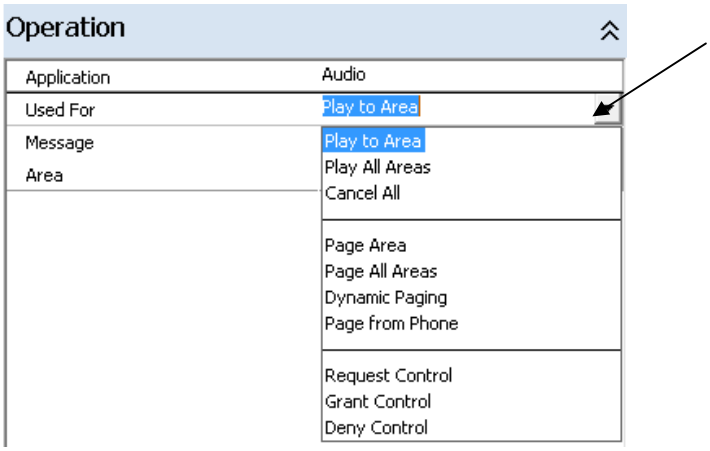


9.2.1.2.1.1 Audio Application

If Audio is selected, the following Operation, Application Audio programming screen will appear.

9.2.1.2.1.1.1 Used For

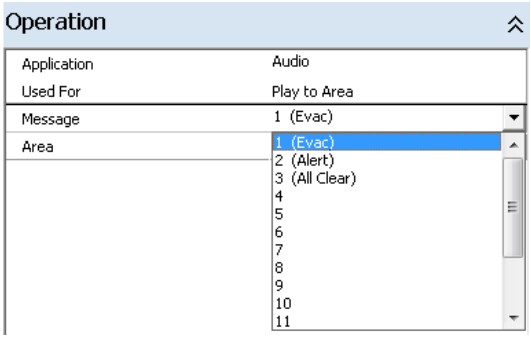
The Used For selection, determines what additional programming areas will be available.



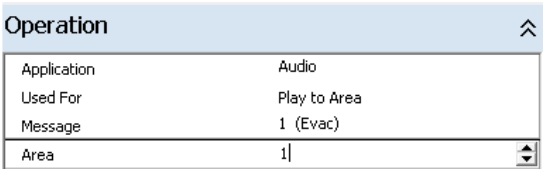
In addition, the following Used For selections are available for the audio switch/LED programming:

Play to Area — Allows a button to play a specific Message to a specific Area.

Message (1 to 16):



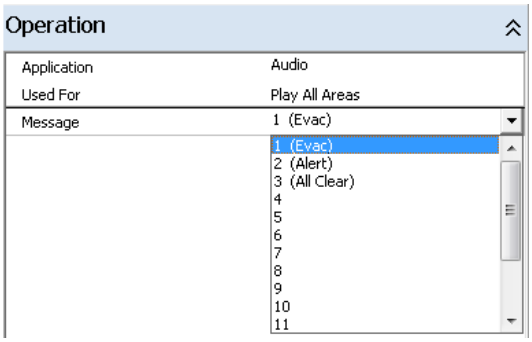
Area (1 to 200):



Play All Areas

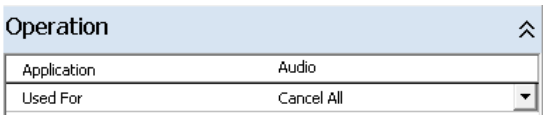
Allows a button to play a specific Message to all areas.

Message (1 to 16):



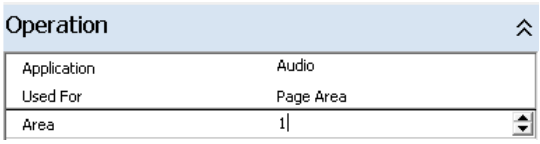
Cancel All

Allows a button to Cancel All manual audio/telephone button selections.



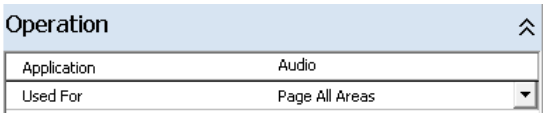
Page Area

Allows a button for paging a specific area.



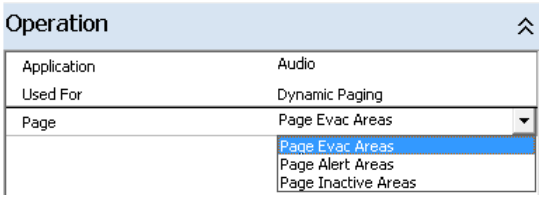
Page All Areas

Allows a button to page all areas.



Dynamic Paging

Allows a button for Page Evac Areas, Page Alert Areas and/or Page Inactive Areas.



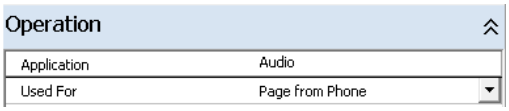
Page Evac Areas: Pages any area playing an Evac message.

Page Alert Areas: Pages any area playing an Alert message.

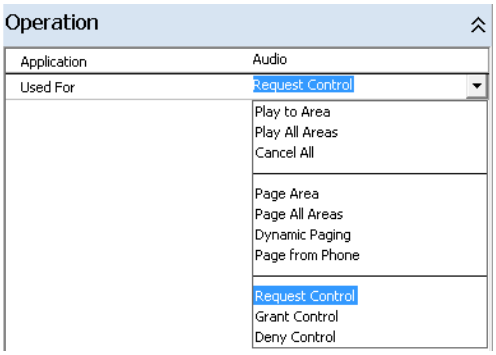
Page Inactive Areas: Pages any area not playing Evac or Alert message.

Page from Phone

Allows a button to patch firefighter telephone riser(s) to Mic amplifier for page usage.

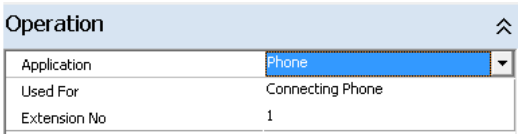


Request Control	Allows for multiple command center buttons for Request Control, Grant Control and Deny Control.
Grant Control	
Deny Control	

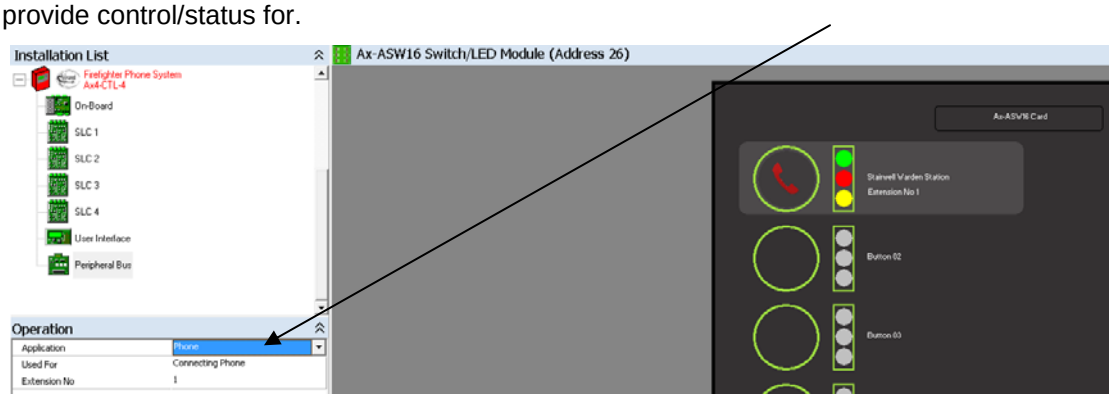


9.2.1.2.1.2 Phone Application

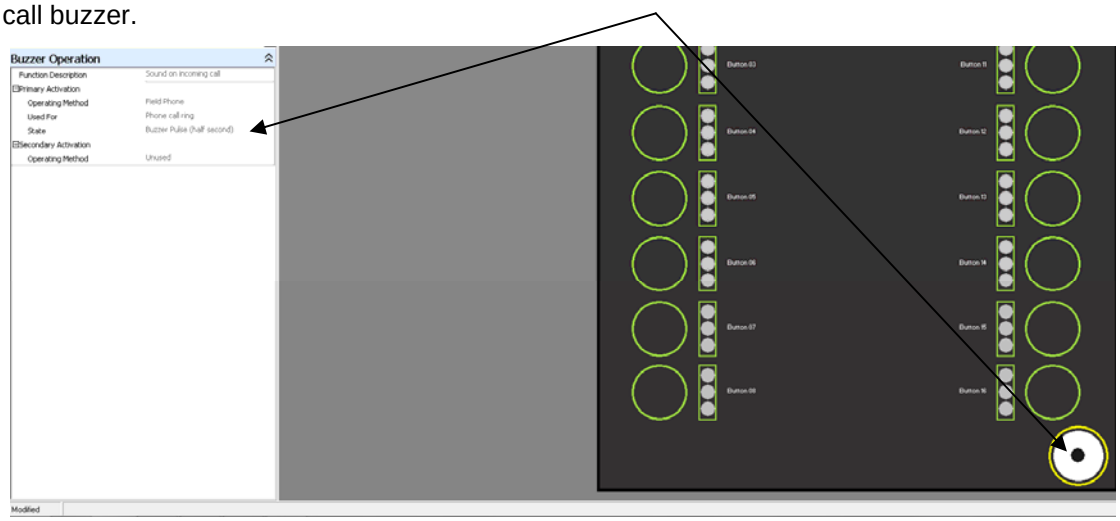
If Phone is selected, the following Operation, Application Phone programming screen will appear:



Once “Phone” has been selected, the user can program which Connecting Phone Extension No. the switch and LEDs will provide control/status for.

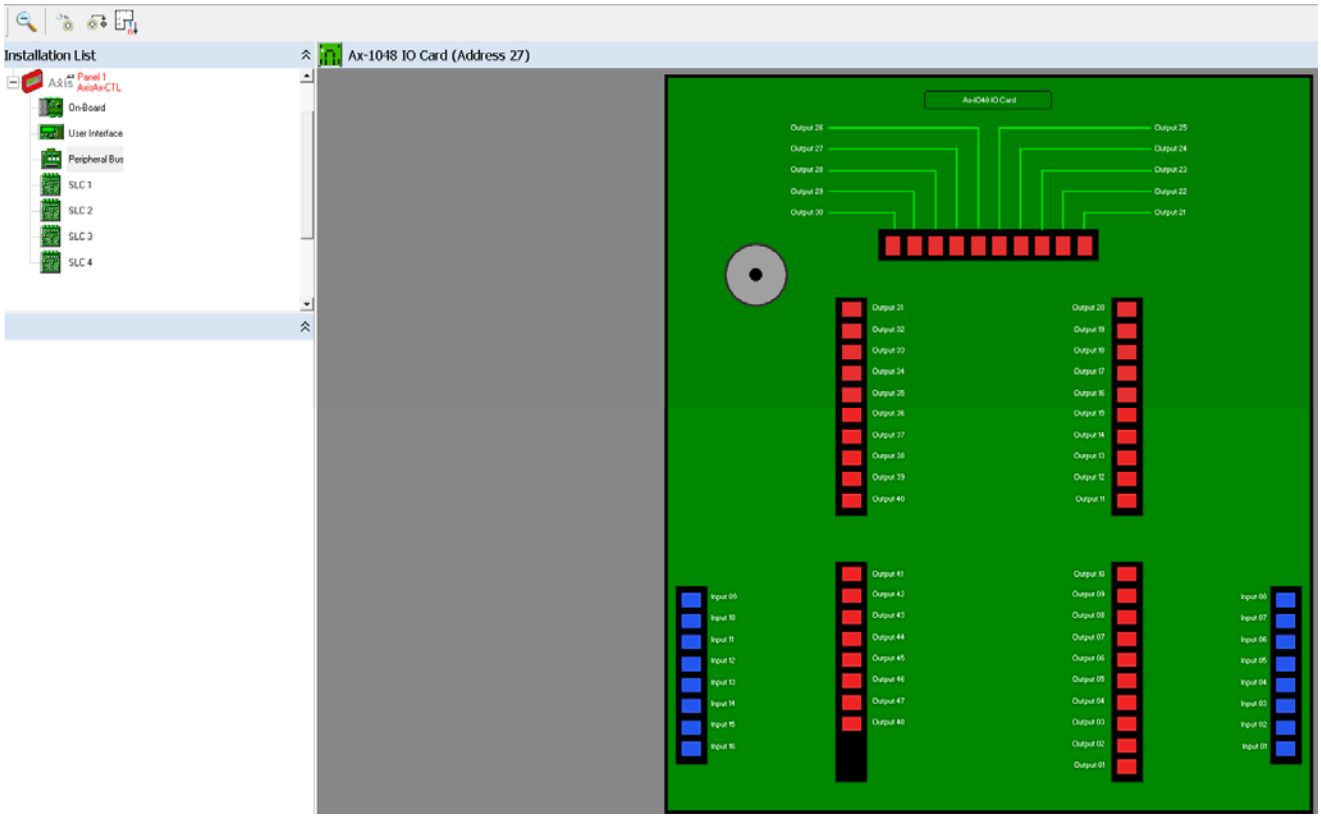


In addition to the switch/LED automatic programming, by programming one Ax-ASW16 switch/LED as a Connecting Phone, the Ax-ASW16 Switch/LED Card buzzer will automatically be programmed as a pulsed incoming call buzzer.



9.2.2 AX-I/O-48 Switch LED Module Programming

Once the user has selected the specific Ax-IO48 IO Card address and clicked on the Show Details icon, the user will be brought to the Ax-IO IO Card (Address xx [where xx is the module address]) programming area.



The AX-I/O-48 is programmed exactly as the AX-ASW-16 module, however the user selects an individual blue box for a switch input (sixteen [16]) or an individual red box for LED drive output (forty-eight [48]).

Switch Input (

):

Point Details

Address	26.1
Type	Switch
Location Text	Input 01
Zone	701
Input Action	No Action
Input Latched	☐
Disabled Group	0

LED Output (

):

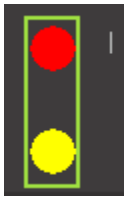
Output Operation

Function Description	Output 01
Include in LED Test	☐
⊟Primary Activation	
Operating Method	Unused
⊟Secondary Activation	
Operating Method	Unused

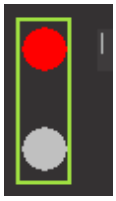
9.2.3 AX-LED-16RY, -32R and -32Y Switch LED Modules Programming

Once the user has selected the specific Switch/LED Module (AX-LED16RY, AX-LED-32R or AX-LED32Y) address and clicked on the Show Details icon, the user will be brought to the Switch/LED Module (Address xx [where xx is the module address]) programming area.

The AX-LED-16RY, AX-LED-32R and AX-LED-32Y modules are programmed exactly as the AX-ASW-16 module LEDs, thirty-two (32) LEDs maximum per module.



AX-LED-16RY

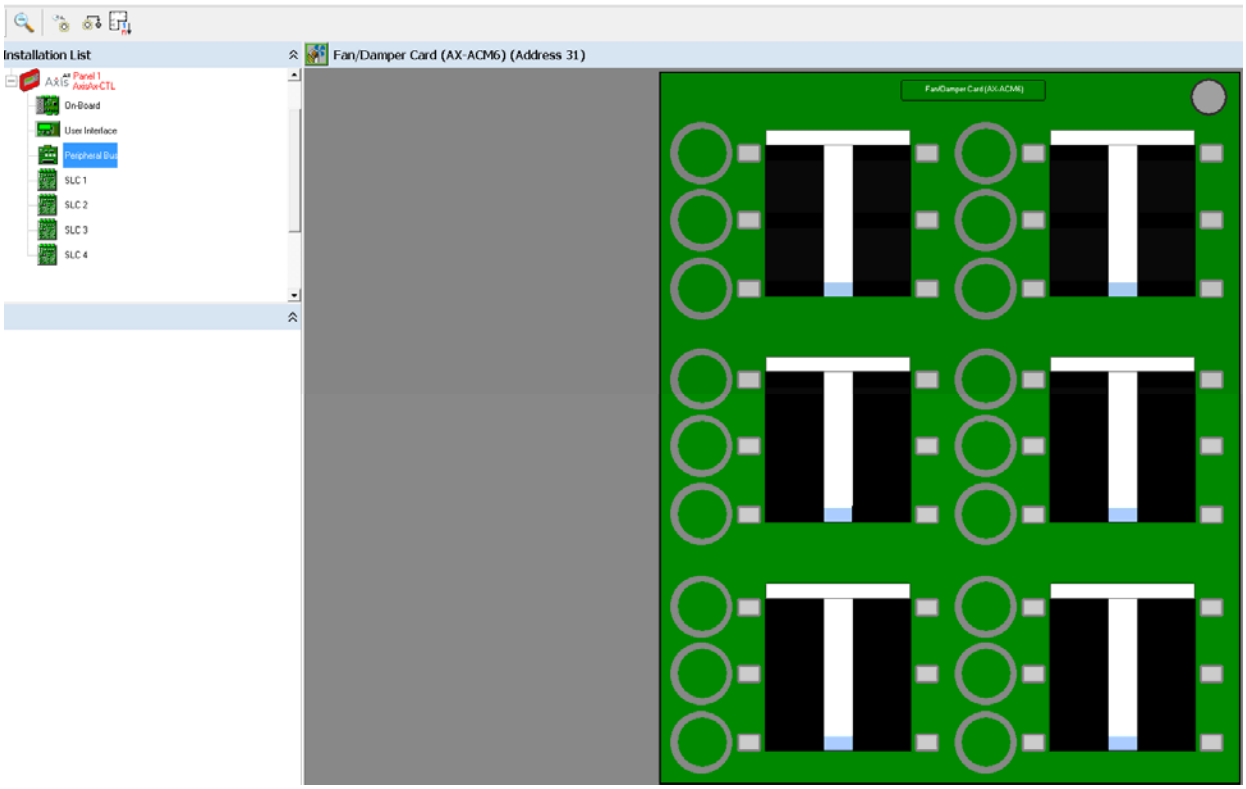


AX-LED-32R

AX-LED-32Y

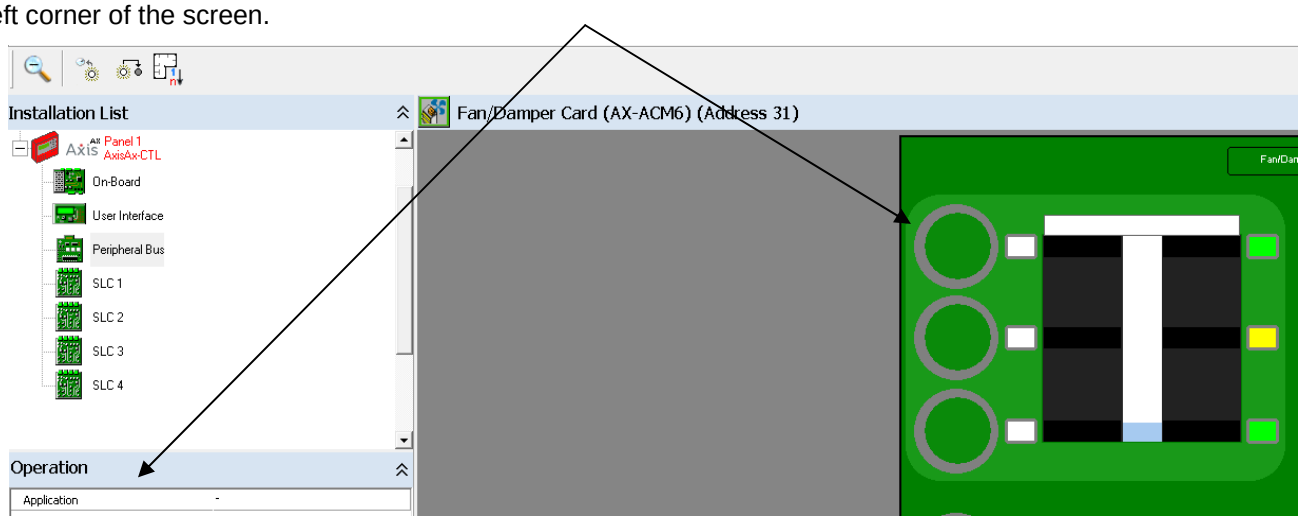
9.2.4 AX-ACM-6 Fan Damper Card Programming (NOT LISTED - firmware ≥ 053-10)

Once the user has selected the specific Fan Damper Card (AX-ACM6) address and clicked on the Show Details icon, the user will be brought to the Fan Damper Card (AX-ACM6) (Address xx [where xx is the module address]) programming area.



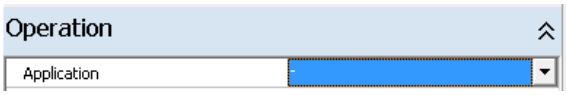
The AX-ACM-6 Fan Damper Card is setup to accommodate six (6) fans or dampers.

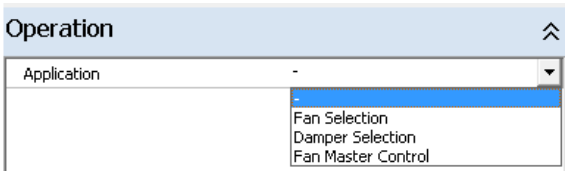
Each fan or damper area includes; three (3) switches and six (6) LEDs [three (3) white, one (1) green, one (1) red, and one (1) yellow]. Fan or damper programming is done similar to the AX-ASW-16 Switch LED Application programming, move the cursor to the right of the three (3) switch area (bank) until the area becomes highlighted, then click within the highlighted area. Once selected an Operation Application screen will appear, at the bottom left corner of the screen.



9.2.4.1 Operation Application

To program a specific Application, click on the Application dash (-) mark, the area will change to blue with a drop down arrow. Click on the drop down arrow and three (3) Application selections will be available: Fan Selection, Damper Selection or Fan Master Control.





9.2.4.1.1 Fan Selection

Application Fan Selection provides for pre-allocation of:

Switch Control and LED Status
One Auto Switch with white Auto LED position status
One Run switch with white Run LED position status
One Stop switch with white Stop LED position status

LED Status
One green LED fan Running status
One red LED fan Stopped status
One yellow LED fan Trouble status

User programming for the fan selection includes; Location Text, Fan Number and whether the fan will have Manual Controls or not.

9.2.4.1.2 Damper Selection

Application Damper Selection provides for pre-allocation of:

Switch Control and LED Status
One Auto Switch with white Auto LED position status
One Close switch with white Close LED position status
One Open switch with white Open LED position status

LED Status
One red LED damper Closed status
One Green LED damper Opened status
One yellow LED damper Trouble status

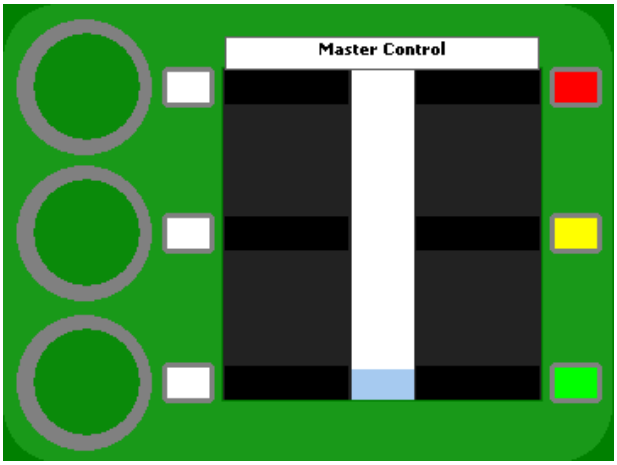
User programming for the damper selection includes; Location Text, Damper Number and whether the damper fan will have Manual Controls or not. In addition, Manual Arrangement is programmable for the damper switches and LEDs; either Close, Auto, Open or Open, Auto, Close.

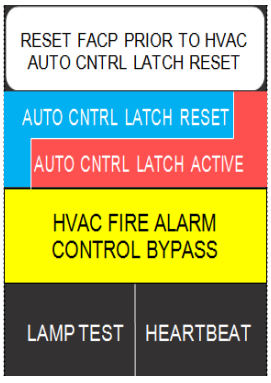
9.2.4.1.3 Fan Master Control

Application Fan Master Control provides for pre-allocation of:

Switch Control
Automatic Control Latched Reset
Fire Alarm Control Bypass/Isolation
Lamp Test

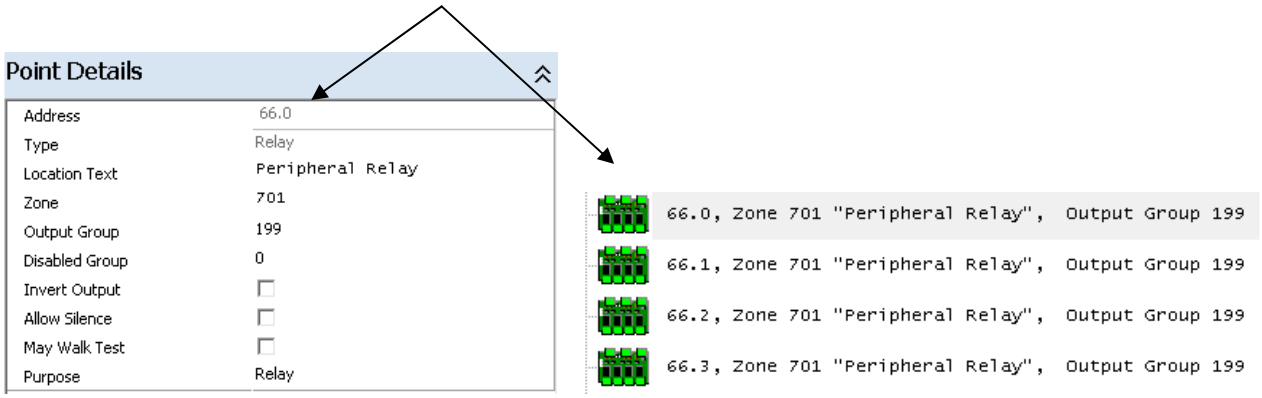
LED Status
One red LED illuminated equals alarm / flashing indicates HVAC Automatic Control Latch requires reset
One yellow LED illuminated HVAC Fire Alarm Control Bypass
One Green LED PBUS (RS485) Communications status





9.2.5 AX-RL4 4 Way Relay Card Programming

Once the user has selected and added a 4 Way Relay Card (AX-RL4), clicking on the Show Details icon will allow the user to program the four (4) associated relays (Address xx.x [where xx.x is the relay address ranging from 66.x to 81.x]) within the appropriate programming area.



9.2.5.1 Address

The Address field cannot be modified. This field is for the display of the specific address being configured / programmed.

9.2.5.2 Type

The Type field cannot be modified. This field is for the display of the specific address device type Relay being configured / programmed.

9.2.5.3 Location Text

This is the text that can be utilized for the specific location of the associated address. To assign a Location Text, click within the “Location Text” field, to place the cursor within the field than insert characters as required. The Location Text may be up to 26 characters in length including spaces.

9.2.5.4 Zone

The Zone is the zone number allocated to a specific address, to indicate the specific area the device is in (i.e.: 1st Floor or 1st Floor West Wing, etc.). To change the zone number, click within the “Zone” field to highlight the current value and overwrite the zone number using the number keys or the up/down arrows.

9.2.5.5 Output Group

This parameter determines what output cause and effect group will be controlling the specific output. NAC outputs are defaulted to group 1 (common alarm, drill and walk test activation) while relay contacts are defaulted to group 199 (common alarm activation).

9.2.5.6 Disabled Group

Assignment of a Disabled Group number will disable this output whenever the Disabled Group is active. A disabled output will cause the common trouble relay to transfer, the disable LED to illuminate and the display to indicate the device (s) disabled. During disablement, the control panel will ignore all additional status changes from the devices associated with the disabled group. If required, the disabled event can also activate the system trouble LED, if programmed for such functionality within the User Interface Display Card programming area, System Trouble LED Operation.

9.2.5.7 Inverted Output

This parameter determines if an output is normally on and turns off (failsafe), or if the output is normally off and turns on (default value) when a qualifying condition is present.

9.2.5.8 Allow Silence

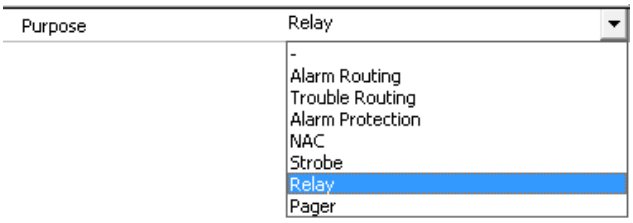
This parameter determines whether an output is turned off/on when the Silence/Resound buttons are pressed on the panel. By default, this parameter is checked for NAC circuits and unchecked for relays.

9.2.5.9 May Walk Test

This parameter determines whether an output turns on when a walk test “with signals” option is activated. If the parameter is enabled (checked) then the output will turn on if the “with signals” option is chosen. If the parameter is not checked, then the output will never turn on when a walk test alarm is generated. By default, NAC circuits turn on during a walk test “with signals” while relays do not.

9.2.5.10 Purpose

This parameter determines the purpose of the output for keypad disablement capabilities. Through the keypad menu within the disable outputs area rather than disabling all outputs you may select to disable all NACs, all Strobes or all Relays.

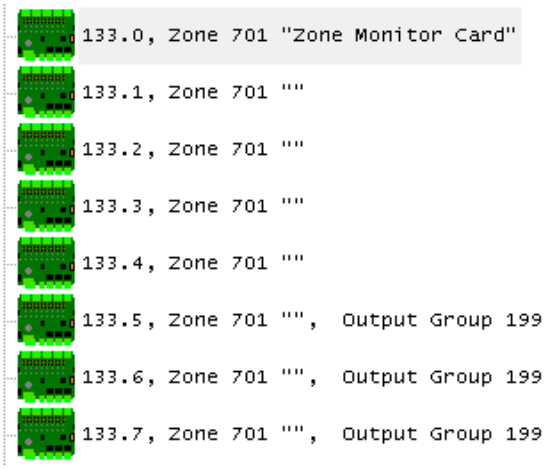


9.2.6 AX-CZM Conventional Zone Module

The AX-CZM Conventional Zone Module can be added to the panel peripheral bus as either a Class A or Class B module.

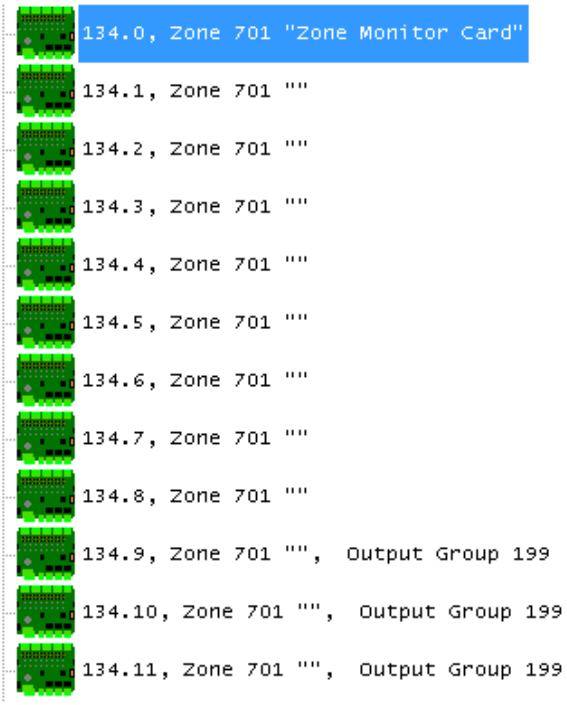
9.2.6.1 4 Way Class A Zone Monitor (AX-CZM) Programming

Once the user has selected and added a 4 Way Class A Zone Monitor Module (AX-CZM), clicking on the Show Details icon will allow the user to program the zone monitor module (Address xxx.x [where xxx.x is the conventional zone module address ranging from 133.x to 148.x]). Sub addresses of the primary 4 Way Class A Zone Monitor Module (AX-CZM) range from xxx.0 to xxx.7:



9.2.6.2 8 Way Class B Zone Monitor (AX-CZM) Programming

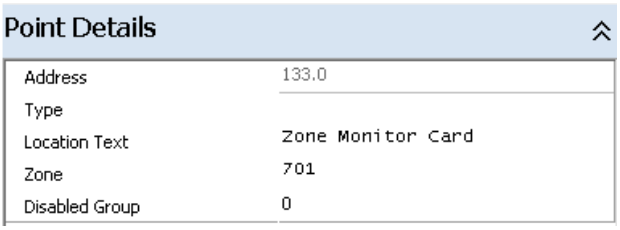
Once the user has selected and added a 8 Way Class B Zone Monitor Module (AX-CZM), clicking on the Show Details icon will allow the user to program the zone monitor module (Address xxx.x [where xxx.x is the conventional zone module address ranging from 133.x to 148.x]). Sub addresses of the primary 8 Way Class B Zone Monitor Module (AX-CZM) range from xxx.0 to xxx.11:



9.2.6.3 4 Way and 8 Way Zone Monitor Sub Addresses

9.2.6.3.1 Sub address xxx.0

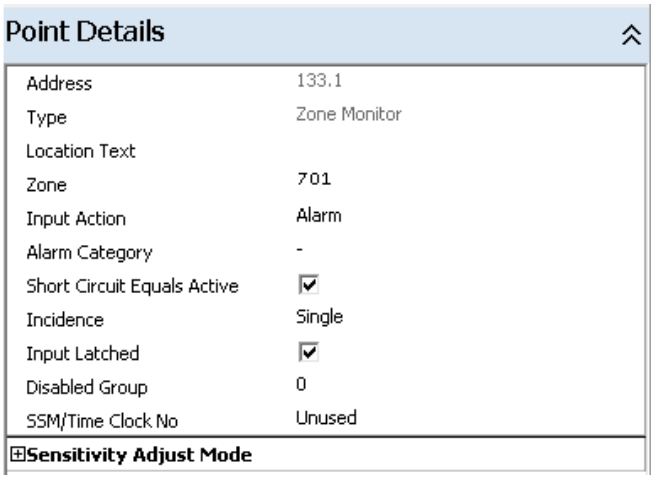
Sub Address xxx.0 is the primary address for the module/card. The user can program a Location Text, Zone number and Disable Group for the Whole AX-CZM module/card.



Address:	The Address field is the actual address within the panel allocated for the specific PBUS (RS485) AX-CZM module/card. This Address allocation cannot be changed.
Type:	With sub address xxx.0 this area is blank and cannot be changed.
Location Text:	This is where the user enters a Location Text (usage label) for the specific AX-CZM module/card.
Zone:	This is where the user enters the Zone allocated to the AX-CZM module/card, 701 is the default zone for node 1 (i.e. 701 = Zone label “Electrical Closet Rm. 102”).
Disable Group:	This is where the user can enter a Disabled Group number that will disable the operation of the complete AX-CZM module/card (all zone inputs and relay outputs).

9.2.6.3.2 Sub Address xxx.1 through xxx.4 (Class A), Sub Address xxx.1 through xxx.8 (Class B)

Sub addresses xxx.1 through xxx.4 (Class A) or sub addresses xxx.1 through xxx.8 (Class B) are the sub addresses allocated to the four (4) Class A or eight (8) Class B zones associated with either the 4 Way Class A Zone Monitor Module or 8 Way Class B Zone Monitor Module (AX-CZM).



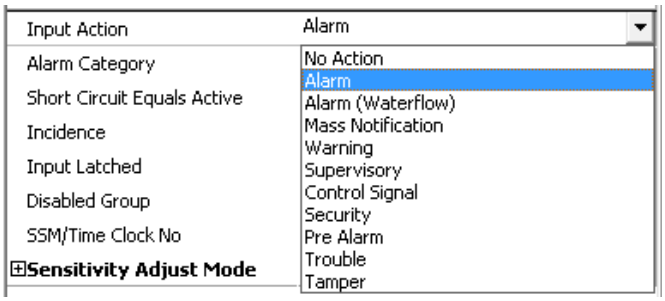
Address: The Address field is the actual address within the panel allocated for the specific AX-CZM zone, ranges from xxx.1 to xxx.4 for Class A and xxx.1 to xxx.8 for Class B. This Address allocation cannot be changed.

Type: With sub address xxx.1 through xxx.4 for Class A and xxx.1 to xxx.8 for Class B, this area indicates Zone Monitor and cannot be changed.

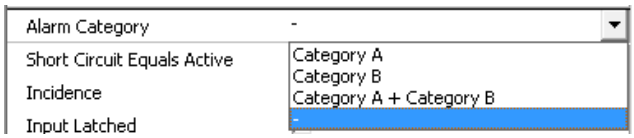
Location Text: This is where the user enters a Location Text (usage label) for the specific zone of the AX-CZM module/card (i.e. Corridor Smoke Detectors)

Zone: This is where the user enters the Zone allocated to the specific zone of the AX-CZM module/card, 701 is the default zone for node 1 (i.e. 701 = Zone label “Electrical Closet Rm. 102” this could also be Zone 1 = “1st Floor”).

Input Action: This parameter determines the type of action that will be performed when the specific zone becomes active. The following drop-down list shows the zone active possibilities:



Alarm Category: This input parameter can affect zoned outputs programmed to operate on a specific Alarm Category A or B. Devices can be programmed as Category A, Category B, Category A + Category B or no category (-).

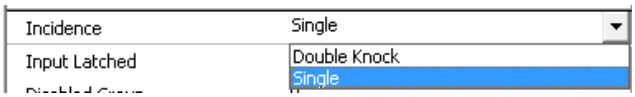


Note: Unless outputs are specifically programmed for category control/operation, programming within this area has no effect on category selection.

Short Circuit Equals Active: This area programs whether a short circuit will activate the input action selected, defaulted of course is checked, as pull stations create a short circuit alarm action.

Note: Caution must be observed when changing this programming area, as a short circuit alarm device would no longer be processed by the zone as an alarm.

Incidence: This input parameter can affect outputs programmed to operate on a double-knock zone alarm. The available selections are “Double Knock” and “Single” event. Selecting “Double Knock” causes the control panel to behave as if two devices in the same zone had been activated when the input goes into alarm. Any outputs programmed for zone double-knock alarm (and whose zone range includes this input) will be activated when this input goes into alarm. In addition, any two “Single” incidents within the panel would equal a “Double Knock”.



Note: Unless outputs are specifically programmed for double knock control/operation, programming within this area has no effect on single or double knock selection.

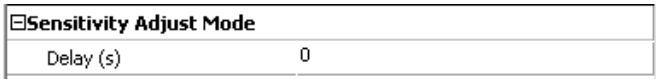
Input Latched: This parameter allows the user to select whether the zone action will be latched or non-latched. If a signal is latched then a reset must be performed to clear the condition, even if the condition is no longer in existence. If a signal is non-latched then as soon as the input condition is no longer present, the panel will automatically clear its status. Normally alarm inputs are always set as latched.

Note: Caution should be maintained if selecting an alarm input as a non-latched, as this type of input would not require human intervention to return the alarm condition to normal (non-alarm).

Disable Group: This is where the user can enter a Disabled Group number that will disable the operation of the specific zone.

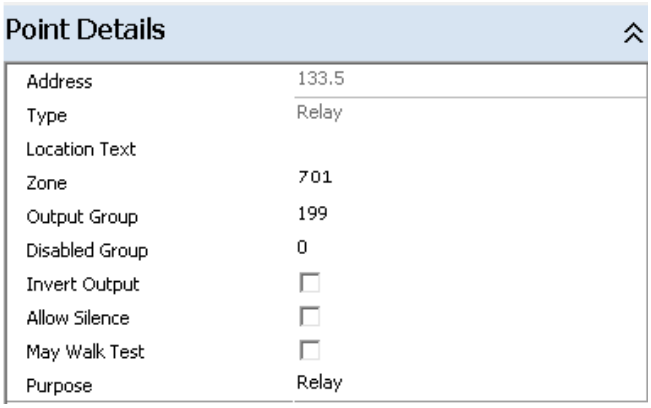
SSM/Time Clock No: Up to ten different time schedules can be entered in the panel defining day and night periods for every day of the week. The number entered in this field references one of these time clock schedules and can be in the range of 1 to 10. If a time schedule is not to be used for this device, select the “Unused” option. By programming time clock periods within this area, a delayed Sensitivity Adjustment Mode can be activated based on time of day, day of week, etc.

Sensitivity Delay: This is where the user can enter a Sensitivity Adjust Mode Delay Time in seconds.



9.2.6.3.3 Sub Address xxx.5 through xxx.7 (Class A), Sub Address xxx.9 through xxx.11 (Class B)

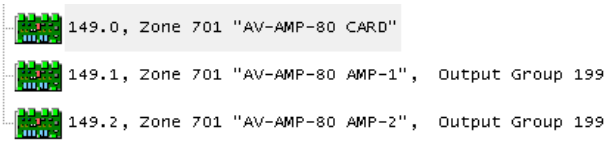
Sub addresses xxx.5 through xxx.7 (Class A) or sub addresses xxx.9 through xxx.11 (Class B) are allocated to the three (3) Form C relay contacts associated with either the 4 Way Class A Zone Monitor Module or 8 Way Class B Zone Monitor Module (AX-CZM).



Address:	The Address field is the actual address within the panel allocated for the specific AX-CZM relay ranges (xxx.5 to xxx.7 for Class A and xxx.9 to xxx.11 for Class B). This Address allocation cannot be changed.
Type:	With sub address xxx.5 through xxx.7 for Class A and xxx.9 to xxx.11 for Class B, the type is allocated as a Relay and cannot be changed.
Location Text:	This is where the user enters a Location Text (usage label) for the specific relay of the AX-CZM module/card (i.e. Door Release).
Zone:	This is where the user enters the Zone allocated to the specific relay of the AX-CZM module/card, 701 is the default zone for node 1 (i.e. 701 = Zone label “Electrical Closet Rm. 102”, this could also be Zone 1 = “1st Floor”).
Output Group:	This parameter determines what output cause and effect group will be controlling the specific relay output. Relay contact outputs are defaulted to group 199 (common alarm activation).
Disable Group:	This is where the user can enter a Disabled Group number that will disable the operation of the specific relay.
Invert Output:	This parameter determines if an output is normally on and turns off (failsafe) or if the output is normally off and turns on (default value) when a qualifying condition is present.
Allow Silence:	This parameter determines whether an output is turned off/on when the Silence/Resound buttons are pressed on the panel. By default, this parameter is unchecked for relays.
May Walk Test:	This parameter determines whether an output turns on when a walk test “with signals” option is activated. If the parameter is enabled (checked) then the output will turn on if the “with signals” option is chosen. If the parameter is not checked, then the output will never turn on when a walk test alarm is generated. By default, relays do not activate during walk test with signals.
Purpose:	This parameter determines the purpose of the output for keypad disablement capabilities. Through the keypad menu within the disable outputs area rather than disabling all outputs you may select to disable all NACs, all Strobes or all Relays.

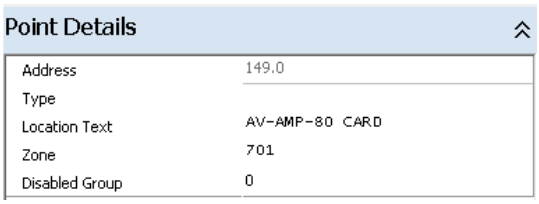
9.2.7 AV-AMP-80 Amplifier Card

Once the user has selected and added an AV-AMP-80 Card, clicking on the Show Details icon will allow the user to program the AV-AMP-80 Amplifier Card (Address xxx.x [where xxx.x is the amplifier card address ranging from 149.x to 164.x]). Each amplifier (AV-AMP-80) has three (3) programming areas (addresses xxx.0, xxx.1 and xxx.2); one for the card and one for each amplifier of the AV-AMP-80 Amplifier Card.



9.2.7.1 AV-AMP-80 Amplifier Card Programming

This area allows the user to program a Location Text, Zone and Disabled Group for the entire AV-AMP-80 Amplifier Card.



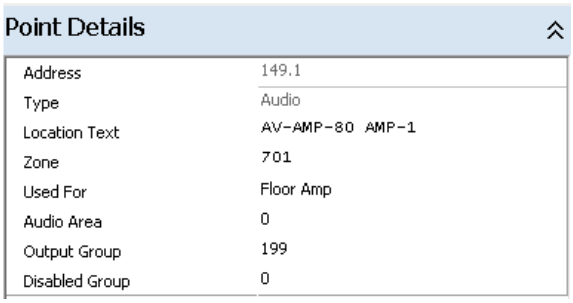
Address:	The Address field is the actual address within the panel allocated for the specific PBUS (RS485) AV-AMP-80 card. This Address allocation cannot be changed.
Type:	With sub address xxx.0 this area is blank and cannot be changed.
Location Text:	This is where the user enters a Location Text (usage label) for the specific AV-AMP-80 card.

Zone: This is where the user enters the Zone allocated to the AV-AMP-80 card, 701 is the default zone for node 1 (i.e. 701 = Zone label “Electrical Closet Rm. 102”).

Disable Group: This is where the user can enter a Disabled Group number that will disable the operation of the entire AV-AMP-80 card (amplifiers, power supply input, etc.).

9.2.7.2 AV-AMP-80 AMP-1 and AMP 2 Programming

When the user selects AV-AMP-80 AMP-1 or AV-AMP-80 AMP-2, the following programmable options are available in the Point Details area for the specific amplifier (AMP-x) selected:



Note: As AMP-1 and AMP-2 of the AV-AMP-80 Card are controlled together: Used For, Audio Area and Output Group of AMP-1 is automatically populated in AMP-2.

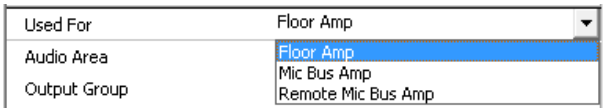
Address: The Address field is the actual address within the panel allocated for amplifier 1 of a specific PBUS (RS485) AV-AMP-80 card. This Address allocation cannot be changed.

Type: With amplifier 1 sub address xxx.1 the Type is Audio and cannot be changed.

Location Text: This is where the user enters a Location Text (usage label) for amplifier 1 of a specific AV-AMP-80 card.

Zone: This is where the user enters the Zone allocated to amplifier 1 of the AV-AMP-80 card, 701 is the default zone for node 1 (i.e. 701 = Zone label “Electrical Closet Rm. 102”).

Used For: This is where the user would define a use for the amplifier (AMP-1 and AMP-2). There are three (3) amplifier uses available: Floor Amp, Mic Bus Amp and Remote Mic Bus Amp.

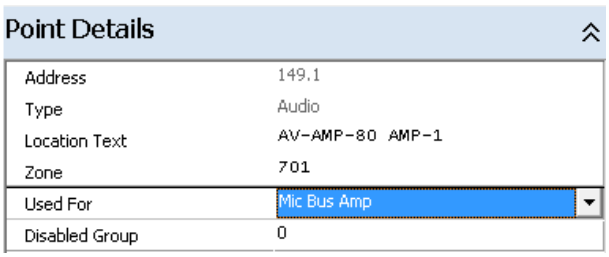


Floor Amp: A floor/area amplifier is an amplifier that provides broadcasting of messages and live voice to a specific floor/area.

Mic Bus Amp: A microphone bus amplifier provides for main panel live voice communications to all floor/area amplifiers.

Remote Mic Bus Amp: A remote microphone bus amplifier provides a live voice bus from a remote location to the main panel Mic Bus Amp, for broadcasting live voice communications to all floor/area amplifiers from the remote microphone.

Note: When an AV-AMP-80 amplifier card is utilized as a Mic Bus Amp or Remote Mic Bus Amp, the only additional programming required would be whether the specific amplifier (AMP 1 or AMP 2) being programmed is tied to a Disabled Group.



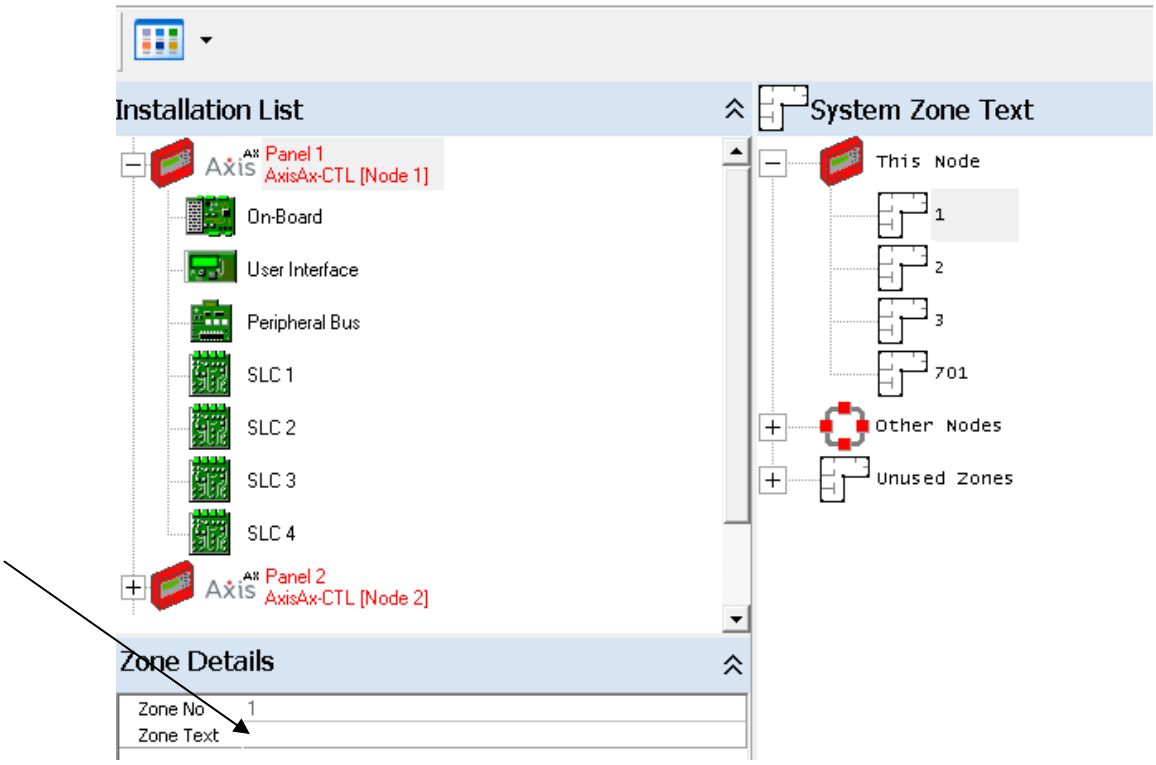
Audio Area:	This would be the area that the AV-AMP-80, AMP 1 and AMP-2, will broadcast its messages or live voice. Audio Area programming allows the user to segregate messages and live voice throughout a facility.
Output Group:	This is an Output Group (Audio) that is created by the user to automatically control the AV-AMP-80, AMP-1 and AMP-2, amplifier messages. This output group does not need to include any manual button selections for live voice or audio controlled activations.
Disabled Group:	This Disabled Group number allows for disabling of the specific AMP-1 or AMP-2 amplifier, other monitoring of the AV-AMP-80 Card would still be active (i.e.: the other amplifier if assigned to a deferent Disable Group, the AV-AMP-80 card and the power supply monitoring input).

10 Zone Text

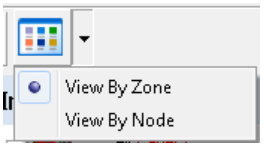
Click on the View/Edit Zone Text icon button to select the zone text programming screen.

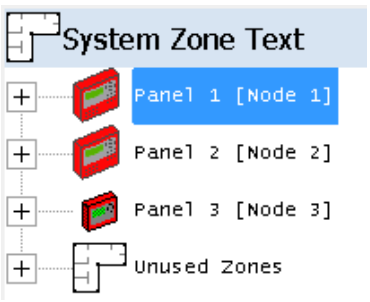
To change the text assigned to a zone, click within the Zone Text label field, of the Zone Details screen to place the cursor within this area and then delete or insert characters as required. The text may be up to 32 characters in length.

Note: Zones are grouped by panel and Other Nodes for ease of use. Zones cannot be duplicated on network nodes. In addition, zones without zone text assignment will indicate a design check error during panel uploading of the configuration file.

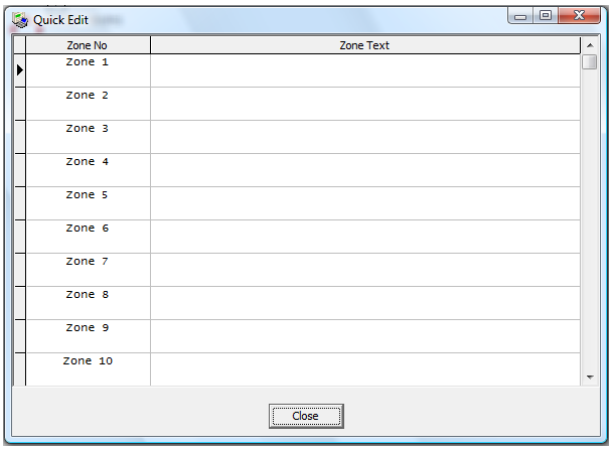


Note: Zones can also be viewed and edited by Node, by clicking on the icon filter button and selecting View By Node.



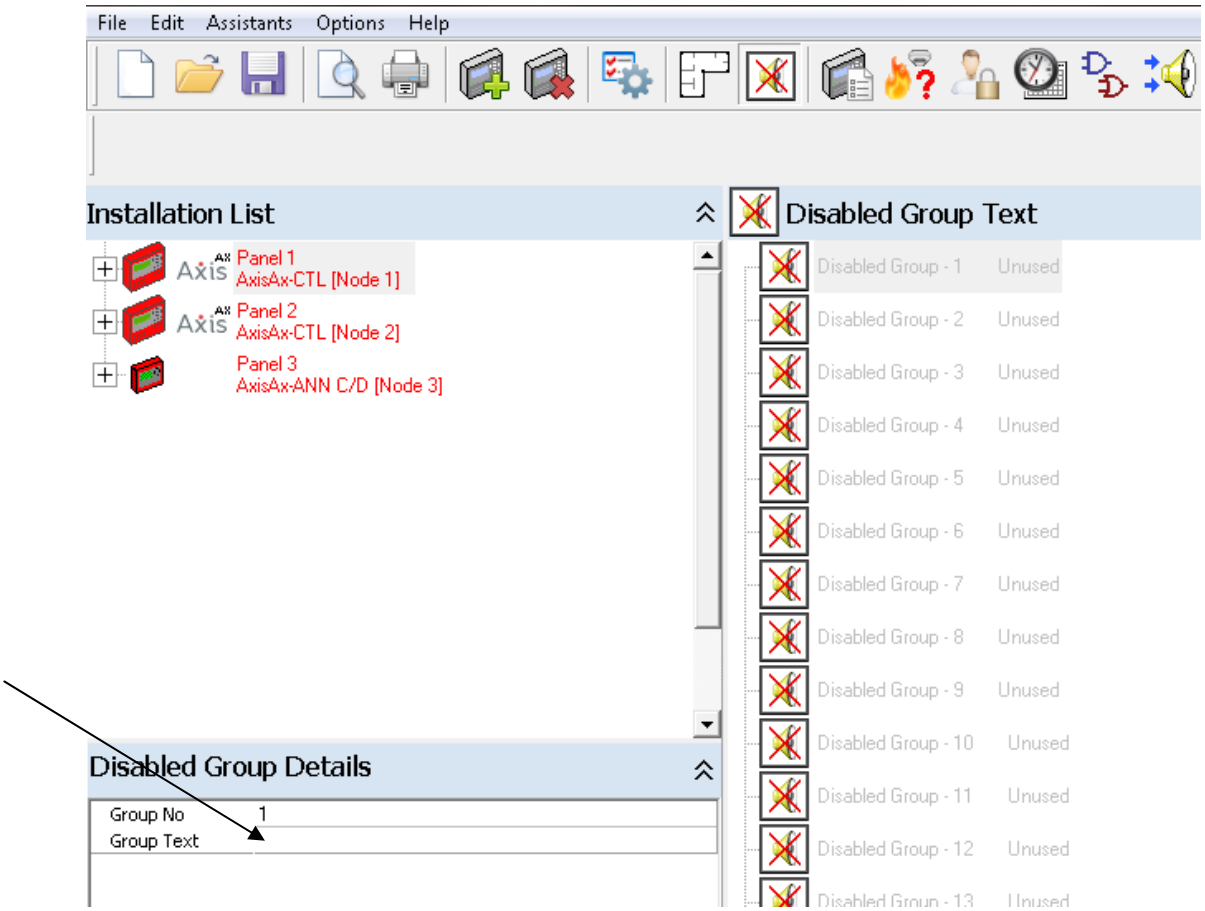


Alternatively, if there are a large number of zones to allocate text too, right click a zone and select “Quick Edit” from the popup menu. This gives the user a quicker method of inputting multiple zone text messages.

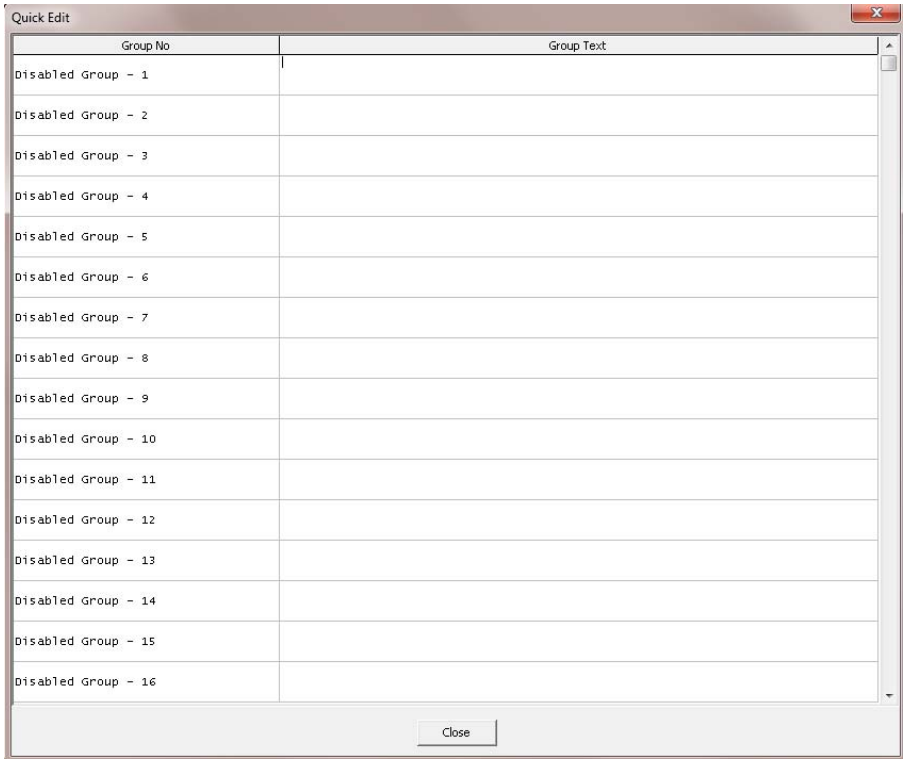


11 Disabled Group Text

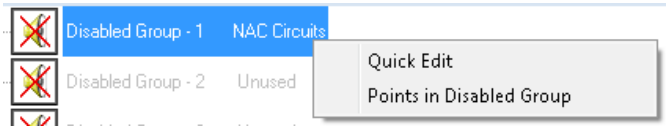
This option allows the user to enter descriptive text against the panel/network’s 200 Disabled Groups. The Disabled Group number can be allocated by the user to various selectable inputs and outputs, the Disabled Group number will be grayed out, until the group number is allocated. When accessing the panel/network for keypad disablement, the associated group number description will be displayed for disablement and re-enablement purposes. In addition, the Disabled Group number will be available for switch/button and LED usage for disabling the group and providing status. To label a Disabled Group, click on the grayed out Disabled Group number and a Disabled Group Details screen will appear, clicking in the Group Text label area will allow the user to enter the custom text (26 characters) for the Disabled Group.

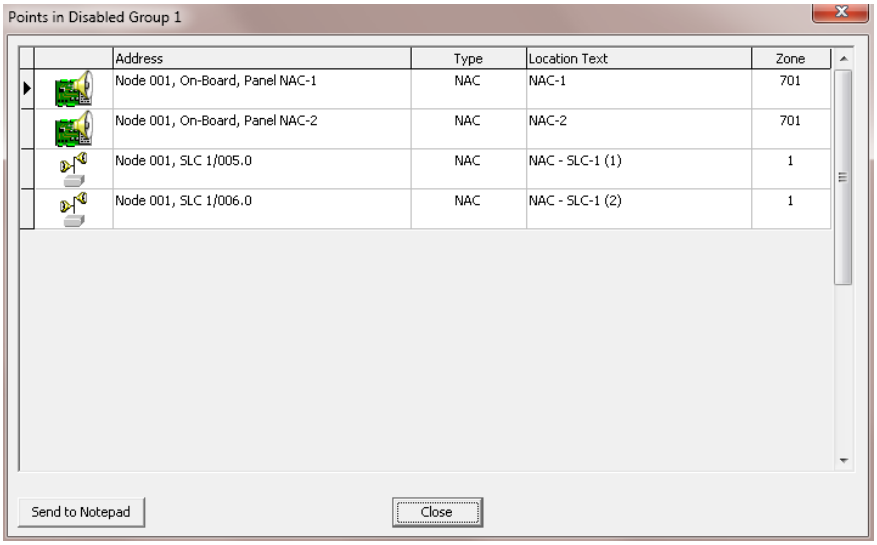


In addition, right clicking on the Disabled Group number will allow you to quick edit all Disabled Group numbers.



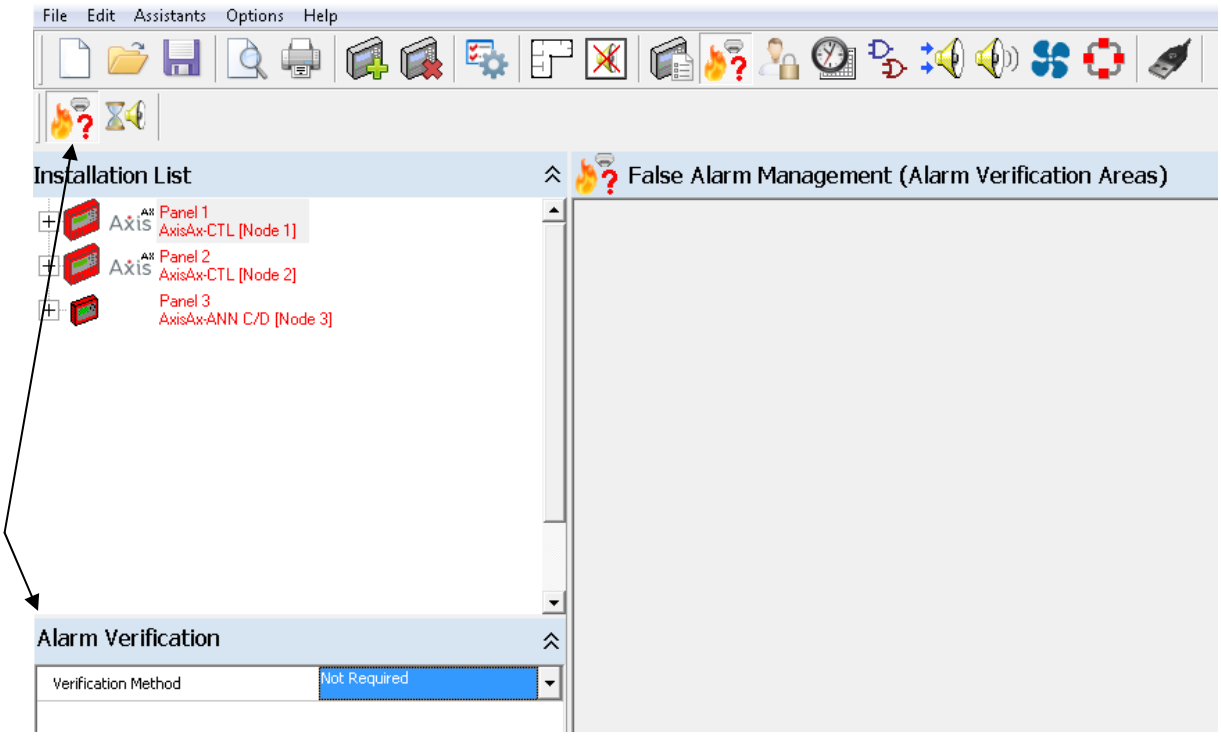
Once a Disabled Group has been allocated, the group number will no longer be grayed out. In addition, right clicking on an allocated Disabled Group will allow the user to view the points in the Disabled Group.

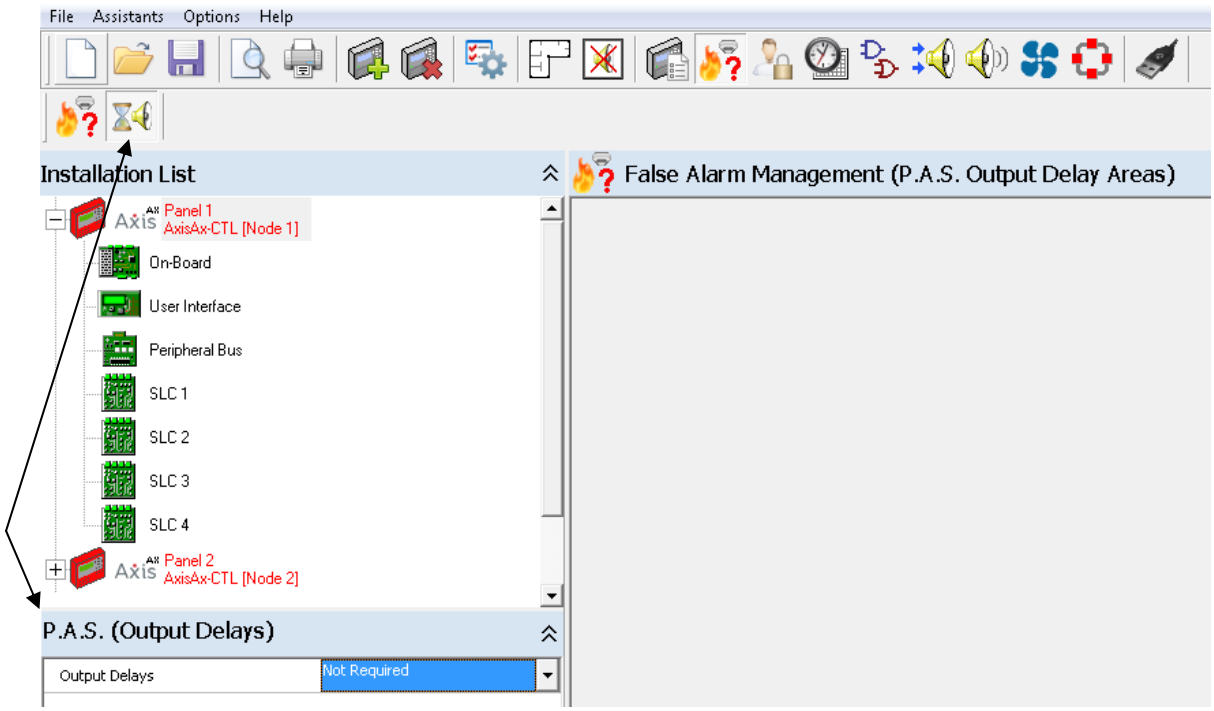




12 False Alarm Management

The False Alarm Management area, allows the user to program both alarm verification and P.A.S. (Positive Alarm Sequence) criteria's on a panel, point or building area basis.



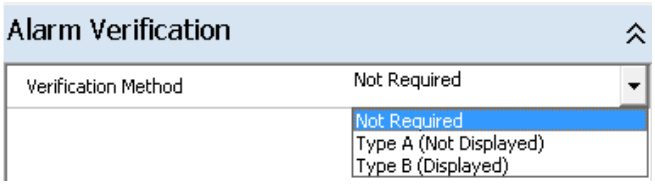


12.1 Alarm Verification Programming

Alarm Verification of smoke detectors can be programmed on a panel basis (all smoke detectors) or by individual smoke detectors. In addition, Alarm Verification can be configured by separate smoke detector building areas (zones).

12.1.1 Verification Method

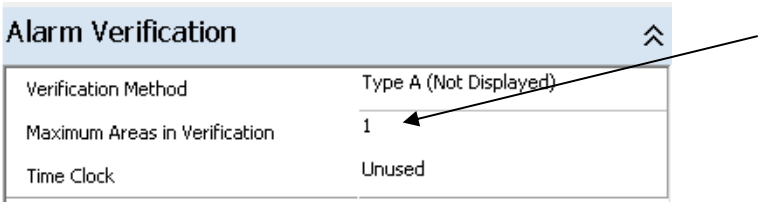
Within the False Alarm Management (Alarm Verification Areas), the user first must select a Verification Method; Type A (Not Displayed) or Type B (Displayed). Displayed alarm verification activates a pre-alarm event on the panel, providing display and buzzer signaling, while non-displayed verifies with no indication at the panel.



12.1.2 Maximum Areas in Verification

12.1.2.1 Pre-assigned Maximum Areas in Verification

Once the user has selected the Verification Method, automatically each smoke detector zone number is pre-assigned as a building area. In addition, the Maximum Areas in Verification is pre-assigned to 1, being pre-assigned to 1, whenever any two or more areas are verifying simultaneously, regardless of the zone, alarms will be generated for the verifying devices.

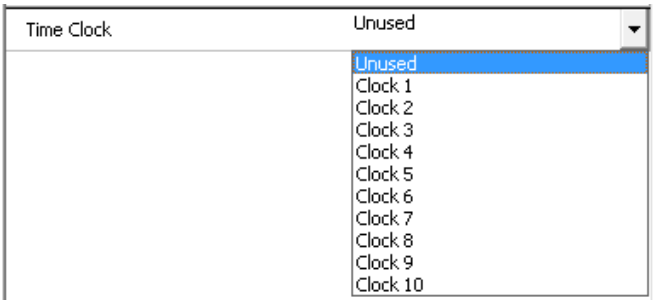


12.1.2.2 Modifying Maximum Areas in Verification

The user can modify the pre-assigned Maximum Areas in Verification, from 1 to a number up to 20, thereby allowing verification to occur simultaneously within the panel or across the Axis^{AX} network, without generating alarms. Simply click on the number 1 and utilize the scroll button to increase areas or simply replace 1 with a number from 2 to 20.

12.1.3 Time Clock

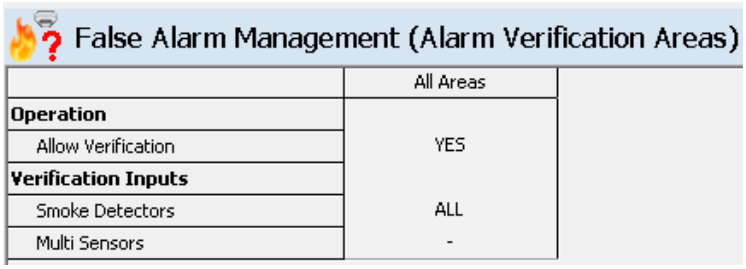
By selecting one of the panel's Time Clocks and assigning the Time Clock to Alarm Verification, the user can assign what time of day and day of the week verification of the smoke detectors will occur.

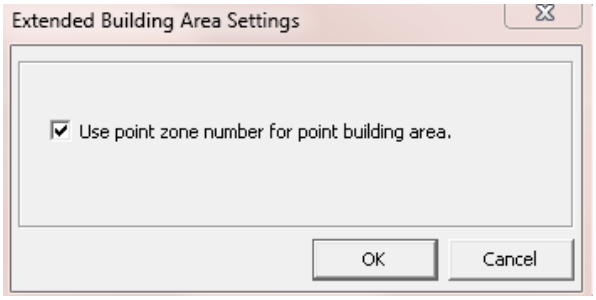


12.1.4 Alarm Verification Areas

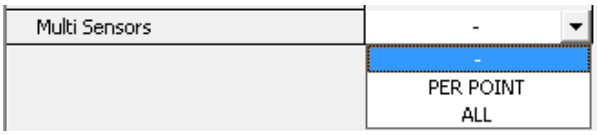
12.1.4.1 Pre-Assigned Smoke Detectors and Areas

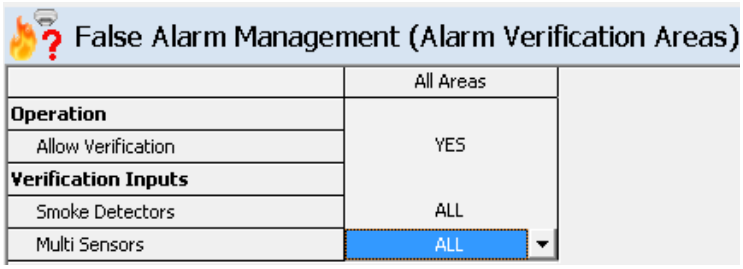
Once a Verification Method; Maximum Areas in Verification and Time Clock is programmed, the following verification functionality will be pre-assigned within the False Alarm Management (Alarm Verification Areas); All Smoke Detectors will be verified and zone numbers will be utilized for building areas.





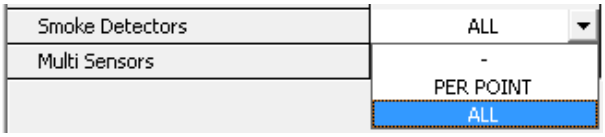
Note: Multi Sensors are not pre-assigned as verified, if Multi Sensor detectors are utilized and verification of all Multi Sensors is required, the user would click on the Multi Sensors dash (-) and select ALL.



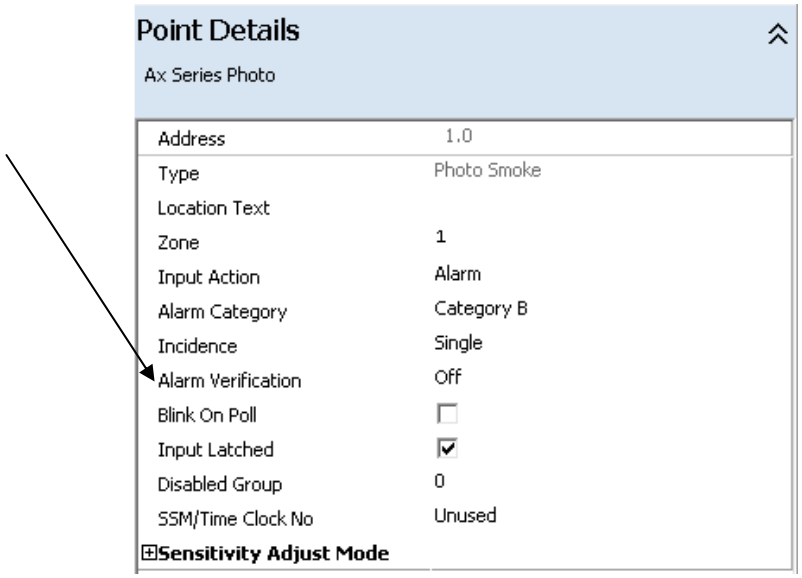


12.1.4.2 Re-assigning Verification by Point

Within the False Alarm Management (Alarm Verification Areas) programming area, click on “All” across from the Verification Inputs Smoke Detectors and select “PER POINT”.



Once the PER POINT is selected, an Alarm Verification option will be available in the smoke detector Point Details area. Clicking on the Alarm Verification “Off” text will allow the user to select “On” for individual smoke detector verification.

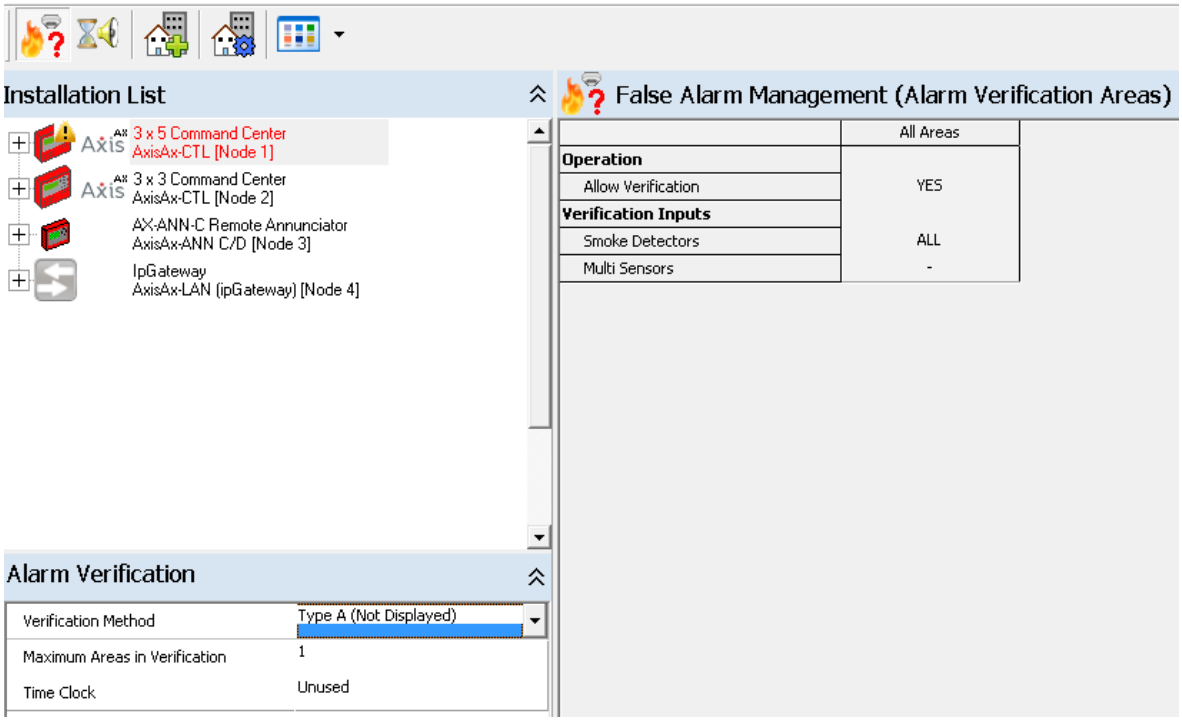


Note: This same programming is available for Multi Sensors by clicking on the Multi Sensors dash (-) and selecting "PER POINT".

12.1.5 Modifying Building Areas

12.1.5.1 Pre-assigned Building Areas

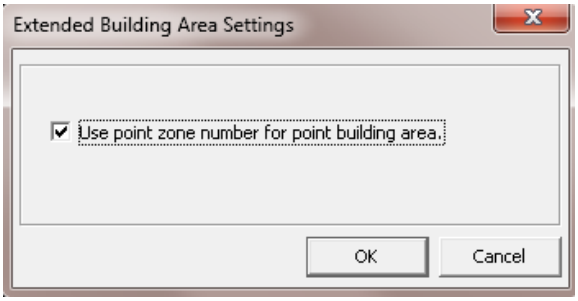
As previously indicated, when a Verification Method is selected, in the False Alarm Management (Alarm Verification Areas) area, each smoke detector zone number is automatically pre-assigned as a building area. Though these building areas are pre-assigned, the user has the capability to create individual building areas not associated to a smoke detector zone.



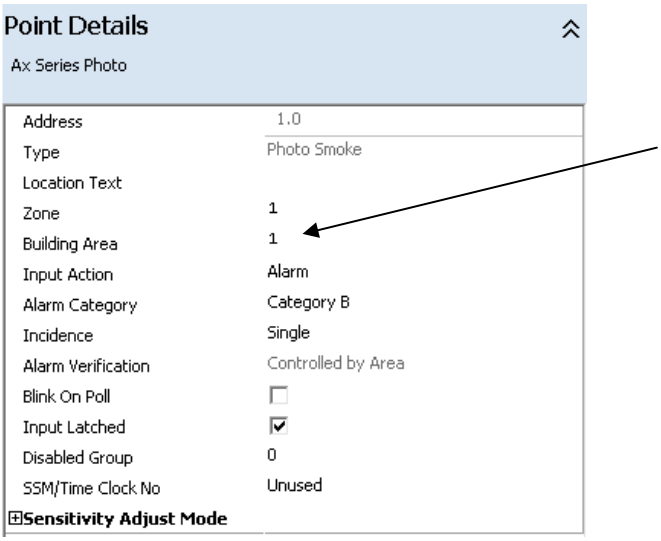
12.1.5.2 Creating New Building Areas

12.1.5.2.1 Zone Area to Building Area Pre-assignment Removal

To modify building areas, the user must first access the Extended Building Area Settings section, by clicking on the icon. To remove the Use point zone number for point building area, deselect the check mark.

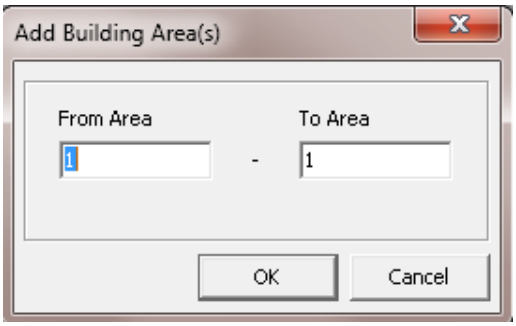


Once the zone number pre-assignment to the building area is removed, within the Points Details area of the smoke detectors, a Building Area assignment becomes available.

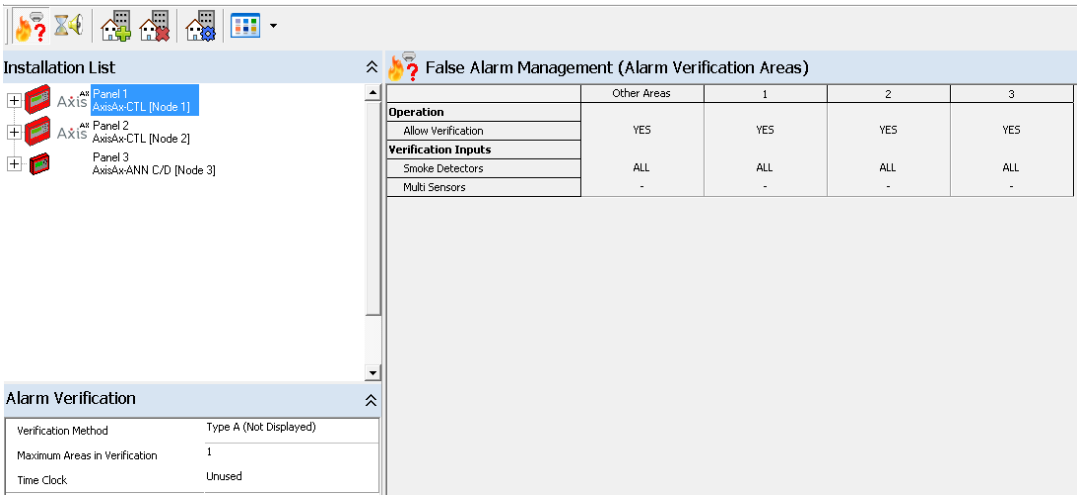


12.1.5.2.1.1 Creating New Building Areas

To create verification smoke detector Building Area (s), simply select the Add Building Area icon. A pop-up screen will appear, requesting building area (s) From and To. The maximum number of building areas that can be created is 200, plus an others area.



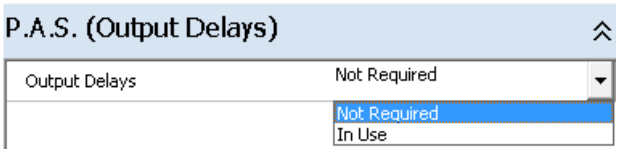
Below is an example of selecting from 1 to 3 areas:



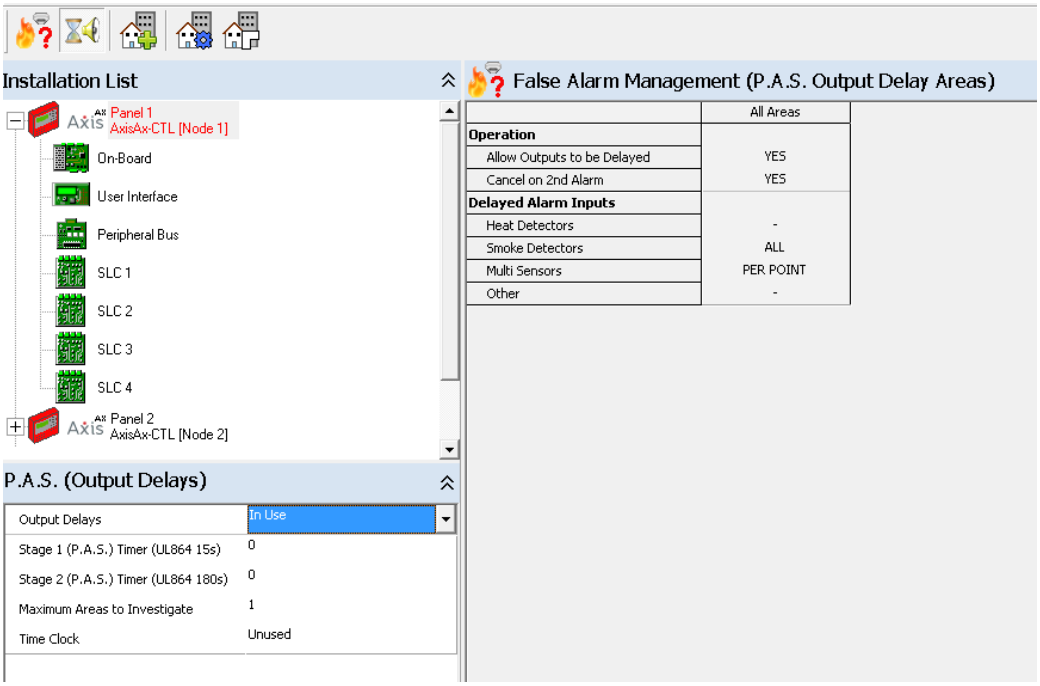
12.2 P.A.S. (Positive Alarm Sequence) Programming

When activated, via the panels keypad menu, P.A.S. (Positive Alarm Sequence) is an automatic alarm sequence that allows, based on alarming device, programmed outputs to be delayed, based on panel acknowledgement (time period 1 [Stage 1]) and system reset (time period 2 [Stage 2]). Stage 1 time period is a time to panel acknowledgement, Stage 2 time period (investigation time) is a time to panel reset.

To program P.A.S. within the False Alarm Management area, click on the P.A.S. icon . In the lower left corner of the screen there will an Output Delays programming area that indicates Not Required, select the down arrow and click on “In Use”:

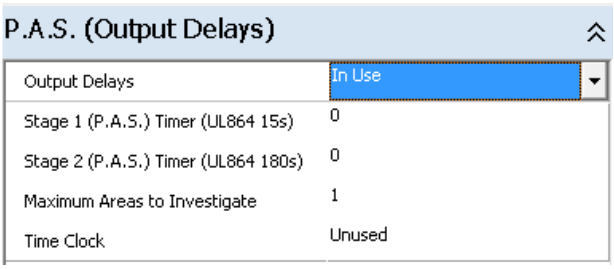


Once “In Use” is selected, the following screen will appear:



12.2.1 P.A.S. (Output Delays)

Within the P.A.S. (Output Delays) area, the user can program the Stage 1 time period (time to acknowledge panel), Stage 2 time period (time to reset panel), maximum areas to investigate and a time clock.



12.2.1.1 Stage 1 (P.A.S.) Timer (UL864 15s)

This is a time period for panel acknowledgement, during a programmable P.A.S. delayed alarm input. UL864 maximum delay period for Stage 1 is 15 seconds.

12.2.1.2 Stage 2 (P.A.S.) Timer (UL864 180s)

This is a time period for panel reset (i.e. alarm investigation), during a programmable P.A.S. delayed alarm input after acknowledgement. UL864 maximum delay period for Stage 2 (investigation period) is 180 seconds.

Note: Maximum allowable delay time for Stage 1 and Stage 2 is 600 seconds, however NFPA/UL864 time periods are maximum Stage 1 = 15 seconds, Stage 2 = 180 seconds.

12.2.1.3 Maximum Areas to Investigate

Maximum Areas to Investigate is pre-assigned to 1. By being pre-assigned to 1, regardless of the number of areas created, only one P.A.S. event can occur on the panel, if an additional P.A.S. delayed alarm occur s the panel will abort all P.A.S. functions and activate outputs without delay.

In panels being programmed with more than 1 P.A.S. Output Delay Area, the Maximum Areas to Investigate can be increased, so that P.A.S. events in one area do not affect P.A.S. events in another area.

False Alarm Management (P.A.S. Output Delay Areas)

	Other Areas	1	2
Operation			
Allow Outputs to be Delayed	YES	YES	YES
Cancel on 2nd Alarm	YES	YES	YES
Delayed Alarm Inputs			
Heat Detectors	-	-	-
Smoke Detectors	ALL	ALL	ALL
Multi Sensors	PER POINT	PER POINT	PER POINT
Other	-	-	-

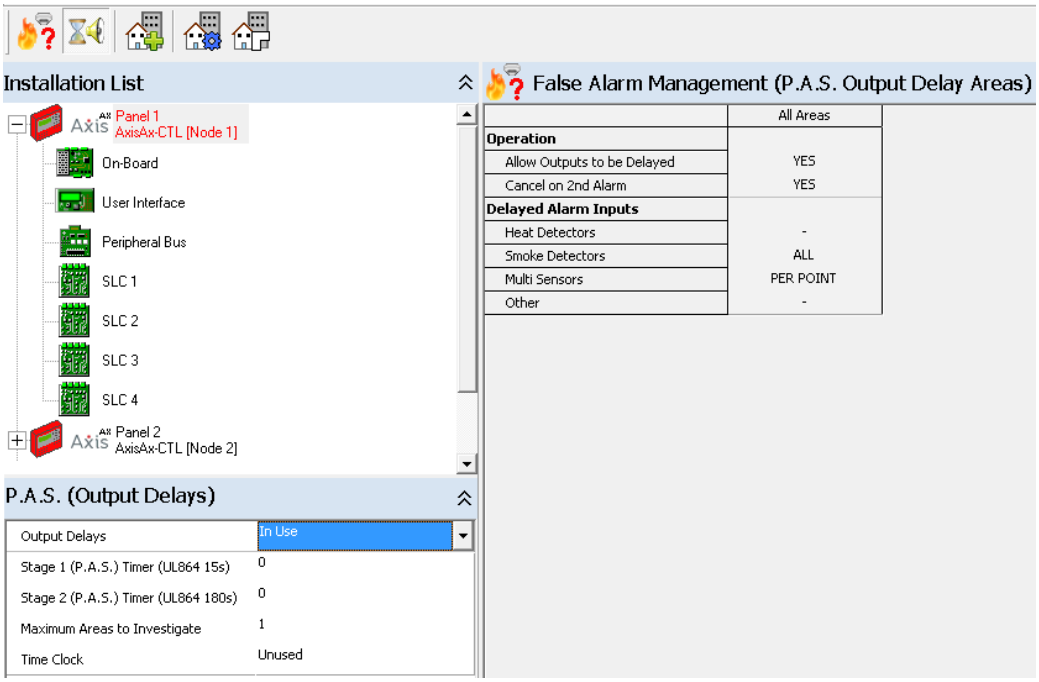
12.2.1.4 Time Clock

By selecting one of the panel's Time Clocks and assigning the Time Clock to the P.A.S. Output Delay, the user can assign what time of day and day of the week P.A.S. Output Delays are active.

12.2.2 P.A.S. Building Areas

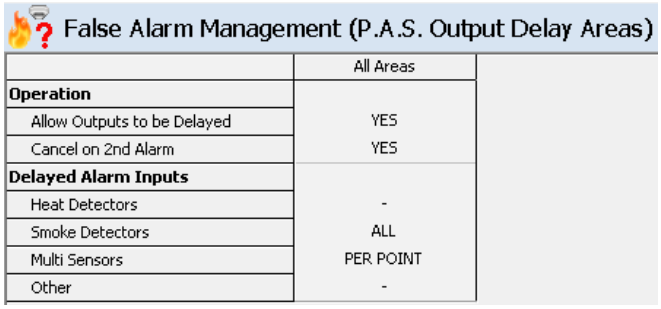
12.2.2.1 Pre-assigned P.A.S. Output Delayed Areas

When P.A.S. is selected in the False Alarm Management area, outputs can be delayed based on Signal Pattern programming and if a second alarm occurs the P.A.S. operation will be aborted. In addition, ALL Smoke Detectors are automatically pre-assigned to be a P.A.S. Delayed Alarm Input. Though the P.A.S. functionality is pre-assigned to All Areas, the user has the capability to modify P.A.S. delayed alarm inputs and how many independent P.A.S. areas the panel can accommodate.



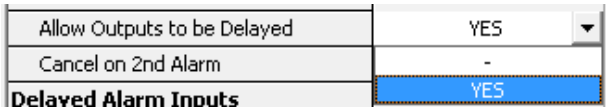
12.2.2.1.1 P.A.S. Output Delay Areas “All Areas”

Within the P.A.S. Output Delay Areas ALL Areas, the user can program the following Operation and Delayed Alarm Inputs:

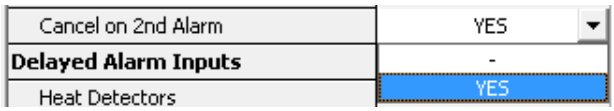


12.2.2.1.1.1 Operation

Allow Outputs to be Delayed (Default, YES): This area allows the user to define whether outputs can be delayed (YES) or not (-).

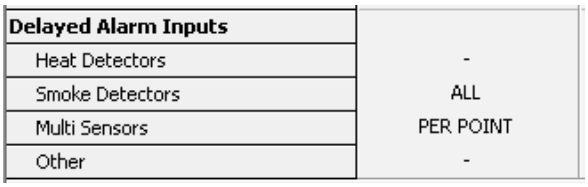


Cancel on 2nd Alarm: This area allows the user to not cancel P.A.S. operation on a second alarm **(NOTE THIS FUNCTION IS NOT LISTED PER UL864)**. Do not change unless advised by the local AHJ.

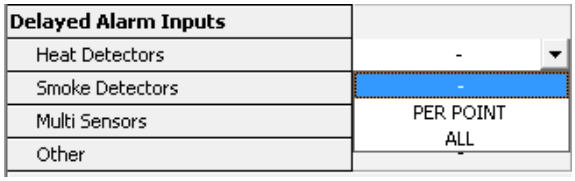


12.2.2.1.1.2 Delayed Alarm Inputs

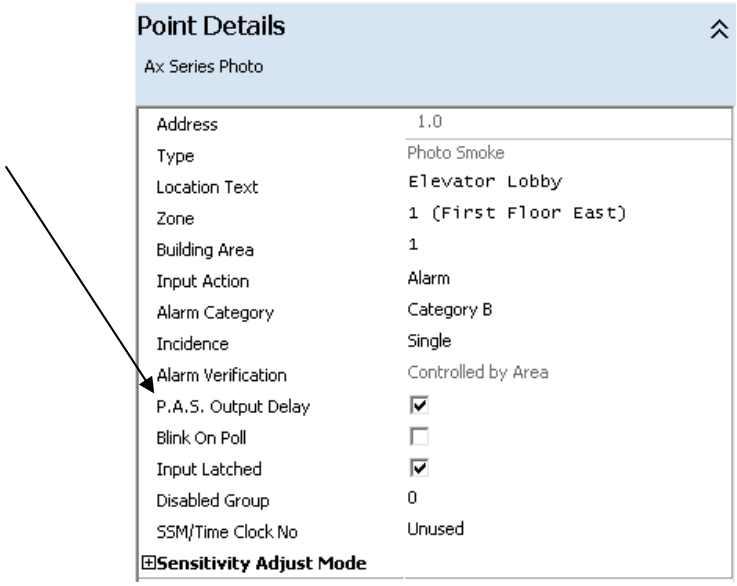
Within the Delayed Alarm Inputs area, the user can program what alarm input devices will be delayed when P.A.S. is active.



All of the above listed alarm input devices can be programmed to none (-), PER POINT or ALL Delayed Alarm Inputs:

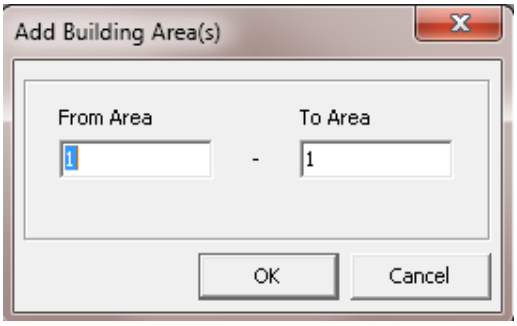


If “PER POINT” is selected, within the Point Details window of the input device, a P.A.S. Output Delay check box will be available. Checking the box indicates it will be a Delayed Alarm Input, the box not checked indicates the input device is not a delayed alarm input:

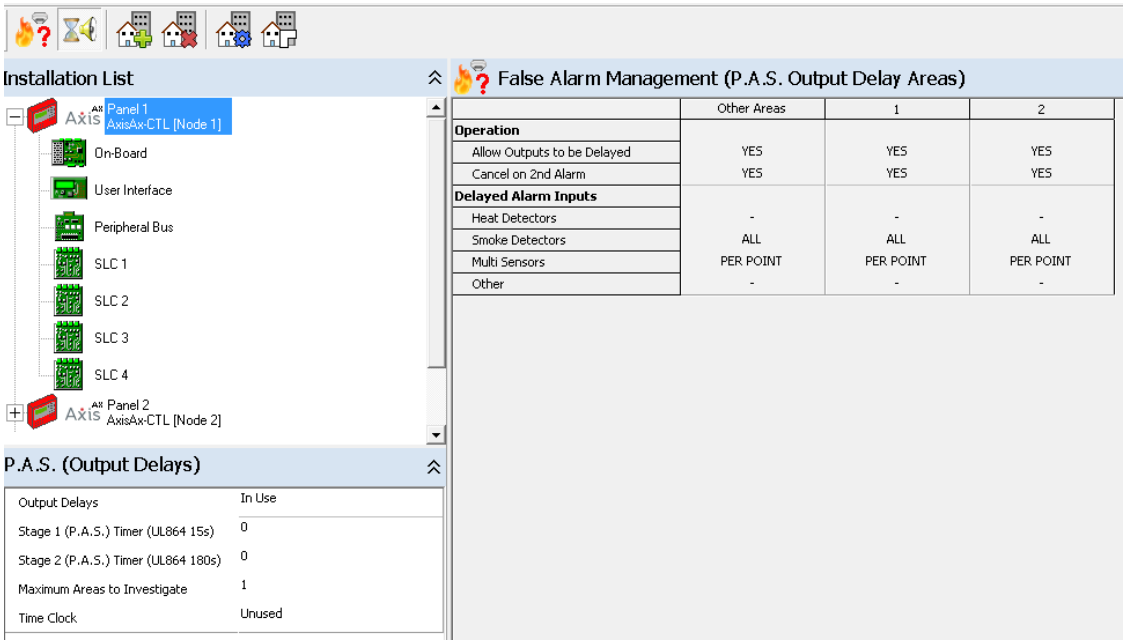


12.2.2.2 Adding Additional P.A.S. Building Areas

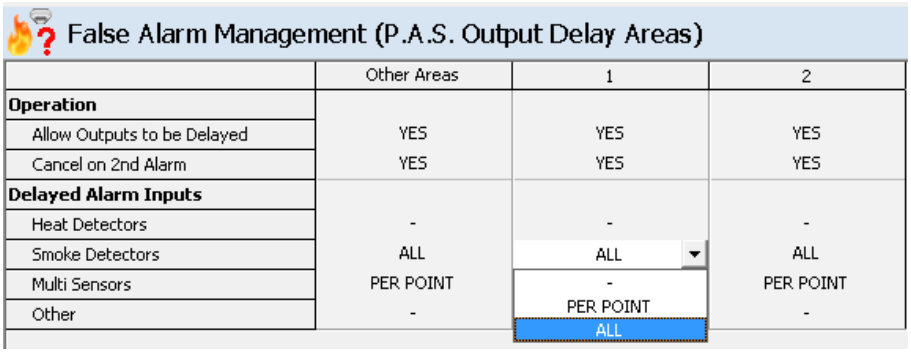
To create additional P.A.S. Output Delay Areas, simply select the Add Building Area icon. A pop-up screen will appear requesting building area(s) From and To. The maximum number of building areas that can be created is 200, plus an others area.



Below is an example of selecting from 1 to 2 areas:



Within the additional building areas, the user can program each area separately (independent areas) for Operation and Delayed Alarm Inputs:

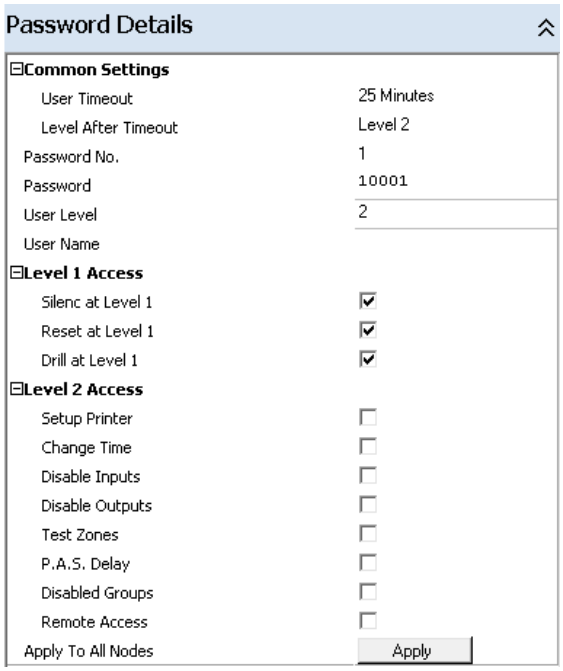


13 Passwords

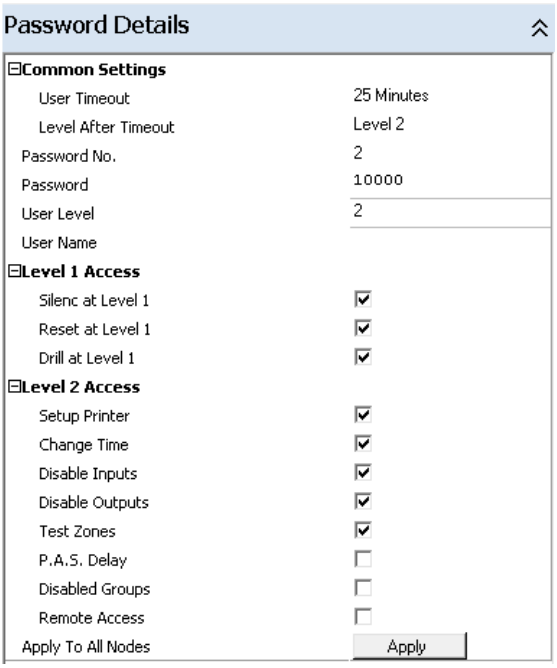
Within this area, the user can customize up to twelve panel/network Passwords (ten Level 2 access, two Level 3 access). Passwords can be up to eight characters in length, default passwords; 1 = 10001, 2-10 = 10000 and 11-12 = 7654.

As previously indicated, user passwords 1-10 are defaulted for level 2 access, passwords 11 and 12 are defaulted to level 3 access. These levels can be modified as needed. In addition, password access control capabilities are predefined and can be modified by the user:

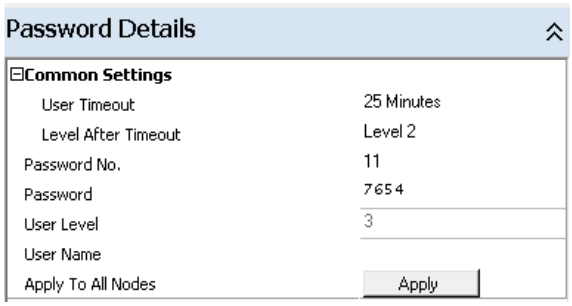
Password No. 1



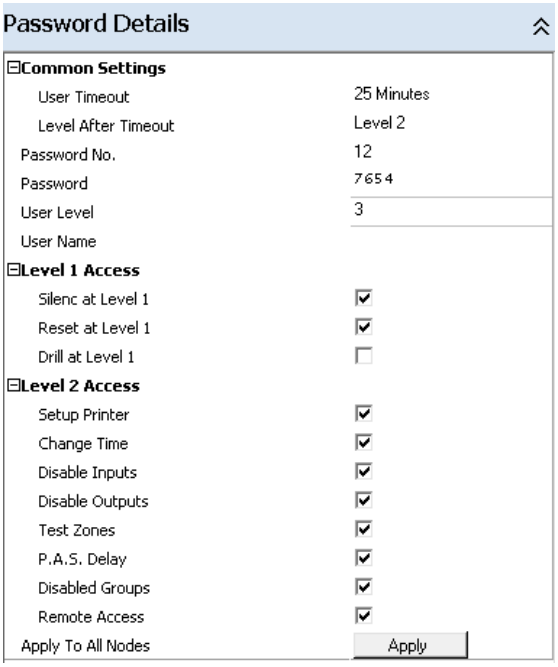
Password No. 2 - 10



Password No. 11



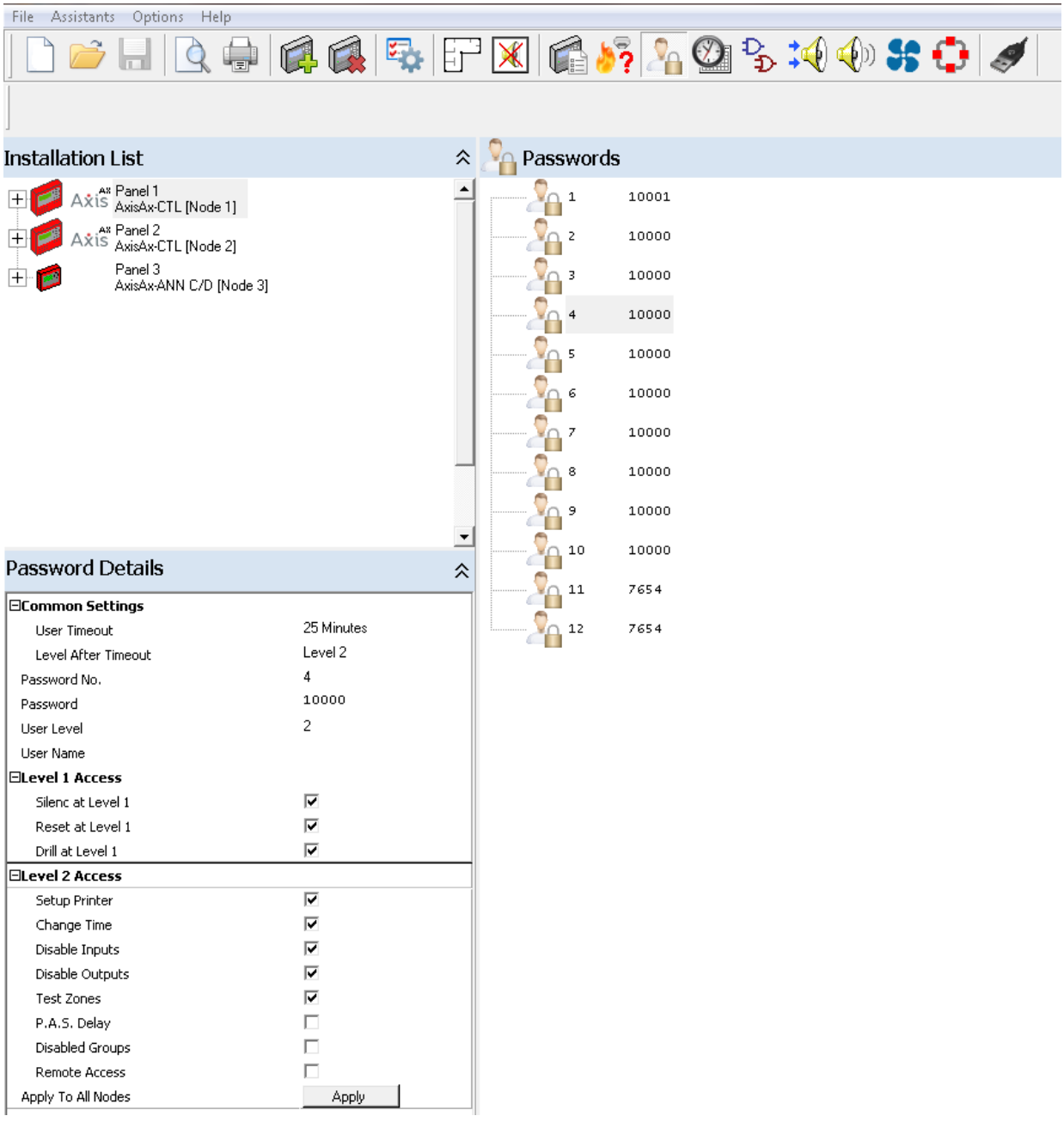
Password No. 12



To change a password, click on the password requiring modification (example, password 4 below), navigate to the Password Details field and click on the default password and enter the new password. For a network design, the currently selected panel's passwords and user settings can be applied to all panels (network nodes) in the design, by clicking the “Apply To All Nodes” button.

By selecting the plus icon, next to the Level x Access, the user is capable of programming specific access control capabilities per password. In addition, each programmable password has a programmable Level Timeout if no keypad activity occurs, for the specified time period. When Timeout occurs the panel will revert back to the previous Level, this ensures that the panel is not inadvertently left in an undesirable state.

Note: Level 3 has no user timeout period. Technicians must re-enter the level 3 password too exit level 3 access.



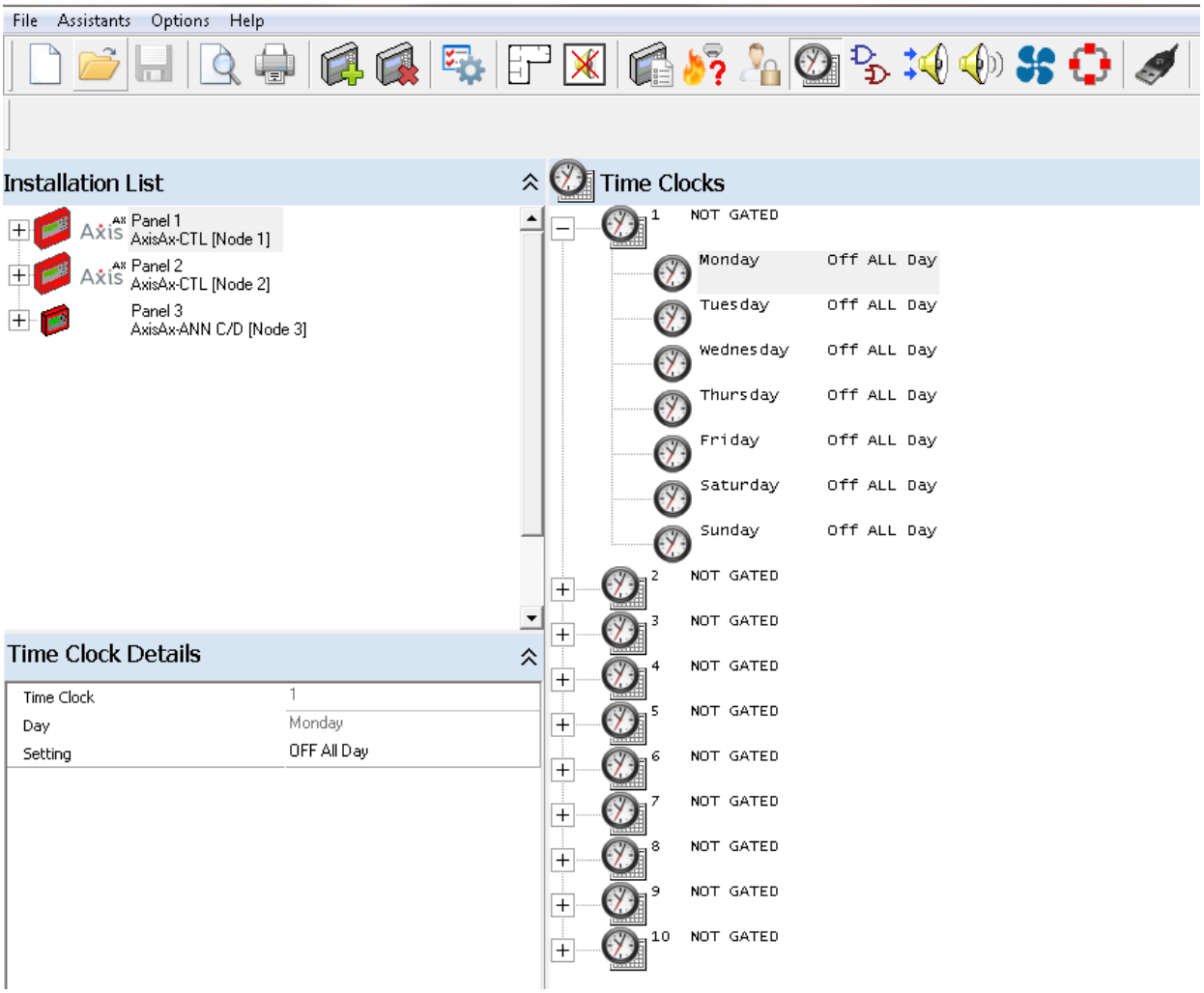
14 Time Clocks

Each panel has ten (10) programmable time clocks that the user can program for time control purposes, such as; detector Special Sensitivity Mode (SSM) operation, where a detector's sensitivities can be at a different value based on time-of-day and day-of-week. When an input device is programmed to use an SSM/clock, this in effect means that the SSM settings are used for the clocks ON phase and the SAM (Sensitivity Adjust Mode) settings used in the OFF phase.

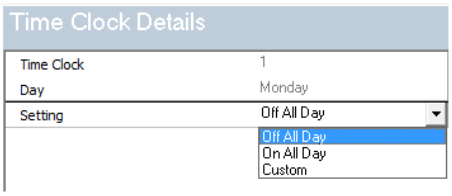
In general, time clocks are used to provide the following functions:

1. Automatically switch the sensitivity mode (SAM/SSM) for input devices.
2. Provide time periods when Staged 1 and 2 P.A.S. delays are enabled.
3. Control output cause and effects

In addition, time clocks may be optionally gated (usually with a switch input). A gated time clock will operate as normal, when the switch input is active, but be forced to the OFF state when the switch input is inactive.



To edit a particular time, use the Time Clock Details field in the bottom left corner of the screen:

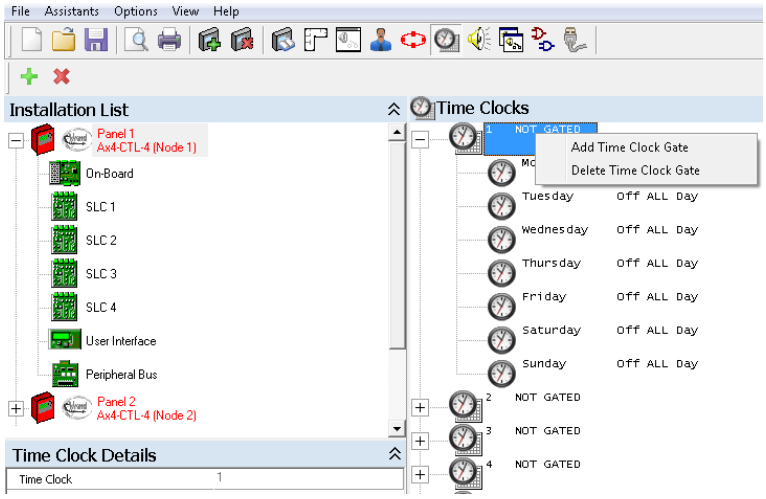


Time Clock

ON All Day: This option sets the selected time clock to be active for the whole day (same as 00:00 - 23:59)

OFF All Day: This option sets the selected time clock to inactive for the selected day of the week (same as 00:00 - 00:00)

Time Clock Gate



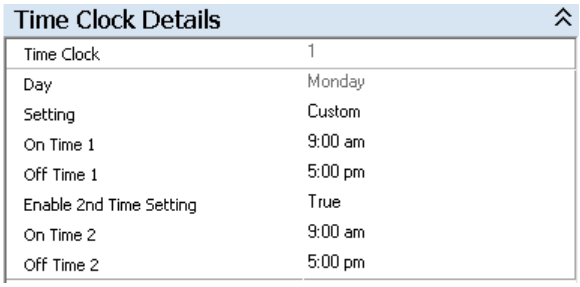
Add Time Clock Gate: This allows the user to select an input device to be used as an enablement gate for the time clock. When the switch (or gate) is active, the time clock is enabled to run as programmed. When the switch is inactive, the clock is forced to the OFF state.

Delete Time Clock Gate: This deletes the current time clock gate.

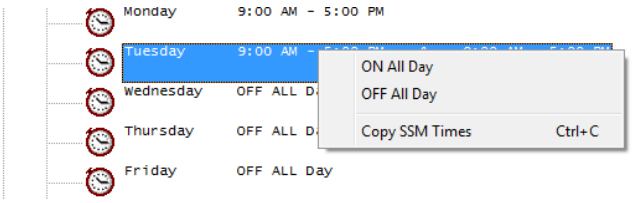
14.1 Custom Time Clock Settings

The Custom Time Clock Setting allows the user to define up to two separate periods during the day, when the time clock is ON and the associated SSM device settings are active. Setting the Enable 2nd Time Setting gives the user two time periods, to be defined for the sensitivity settings.

Each device can be assigned to a specific time clock. The device then uses the special sensitivity settings during the SSM periods.



Time clock settings can also be copied from one day to another, using the popup menu. Simply select the required day, right click and select “Copy SSM Times”. Select the day you want to copy the settings to, right click and select “Paste SSM Times” from the popup menu. SSM Times can be copied between different time clocks and also across different network nodes.



15 Logic Statements

This section describes how to define Logic Statements to be used with Output Cause and Effect settings.

15.1 Logic Command Buttons

The picture below shows the groups of buttons available to define and edit Logic Statements. The button groups are:

Add New Logic Statement

Delete Logic Statement

Add Zone Range

Add Double Zone Alarm

Add Audio Event

Add Time Clock Event

Add Input Event

Add Double Alarm Input Event

Add General Event

Invert Logic **

Delete Logic Line

AND Logic

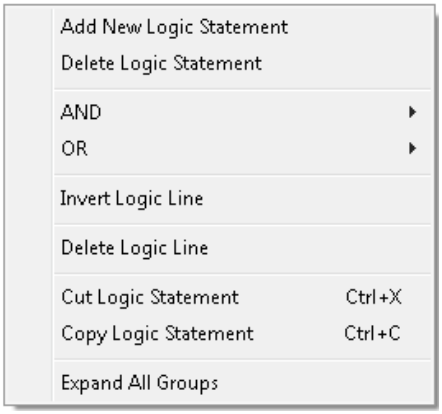
OR Logic

** Inverting an input device event will make its input term active when the input device is inactive. The input term description will be preceded with the word NOT. Inverting a time clock event will make its input term active when the clock is in the OFF state. Inverting a general event will make its input term active when the state is NOT present.

15.2 Logic Popup Menu

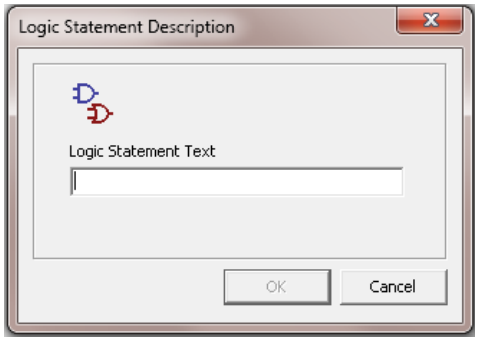
Right clicking on the logic Tree View, displays the popup menu, shown opposite. This gives the user another method of adding, editing and deleting logic statements. Providing access to all the same functions as the command buttons.

It also allows the user to Cut, Copy & Paste logic statements.



15.3 Creating a New Logic Statement

To create a new logic statement, click on the Add New Logic Statement icon or right click in the Tree View area and select “Add New Logic Statement” from the popup menu. This brings up a dialog box which prompts the user to enter a description for the logic statement. The “OK” button is only enabled if the description entered does not already exist.



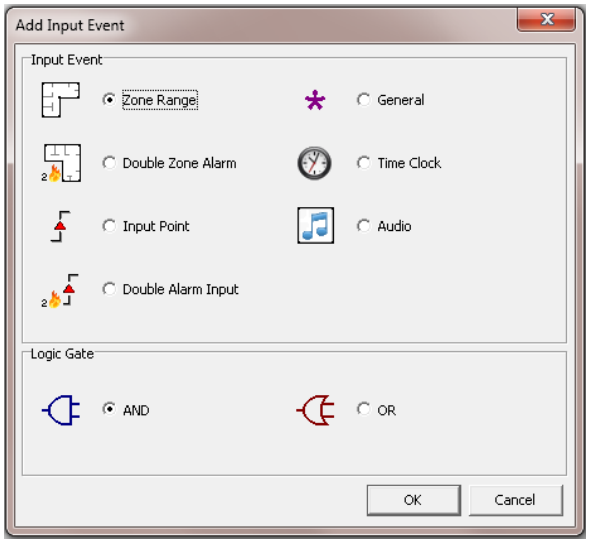
15.3.1 Select Logic Gate and Event Type

After entering a valid description, the user is then prompted to select the type of event to be used for the first term of the logic statement.

Type of events can be:

- Zone Range
- Double Zone Alarm
- Input Point
- Double Alarm Input
- General
- Time Clock
- Audio

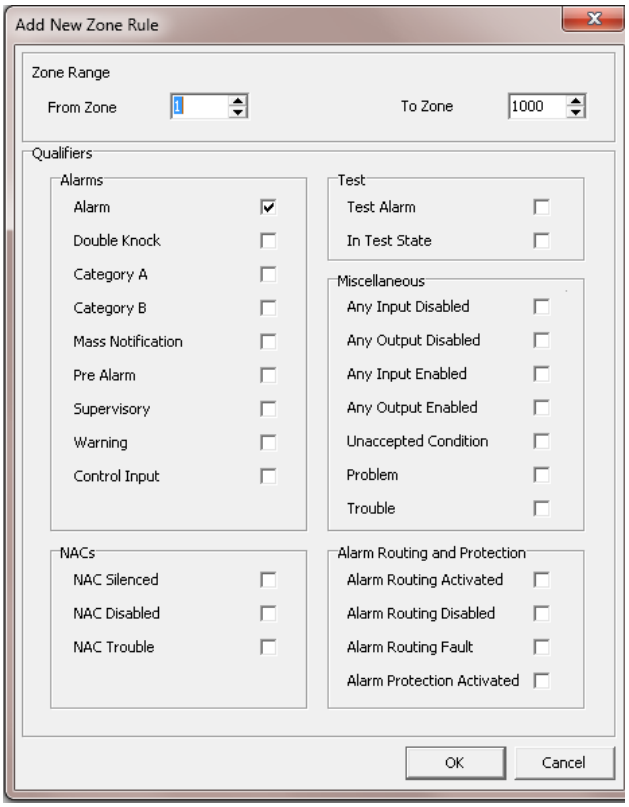
In addition, the logic options allow the user to select whether the logic gate is an AND or OR gate.



15.3.1.1 Zone Range

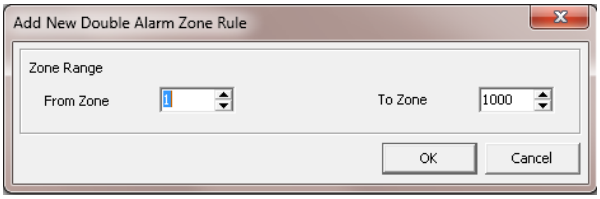
This option allows the user to select a zone range as an input to the logic statement. The zone range can be from 1 to 1000 or selected zones within a range (i.e. from zone 10 to zone 21).

The logic term zone range becomes active when the specific qualifiers selected become active.



15.3.1.2 Double Zone Alarm

This option allows the user to select a zone range that is qualified whenever two of the zones within the range selected are active.

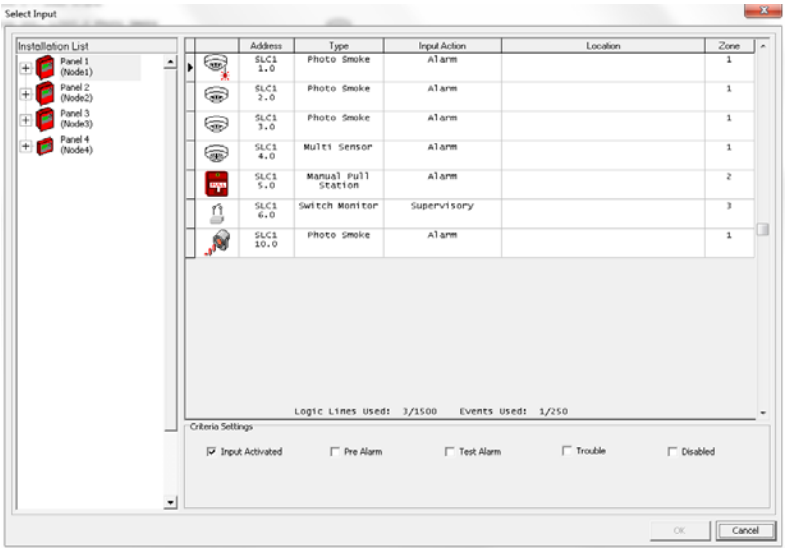


15.3.1.3 Input Point

This option allows the user to select any input point as an input to the logic statement. The input point can be selected from any product in the site (installation) list (with a valid input action*).

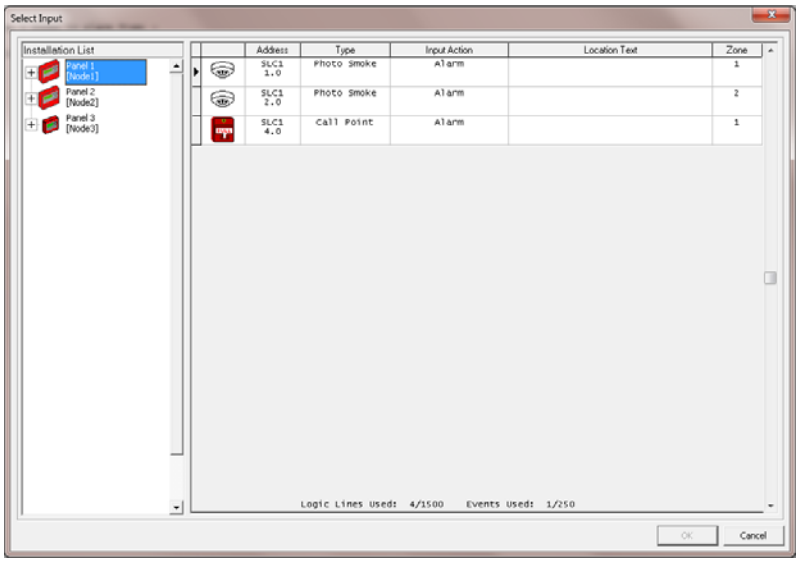
The logic term input becomes active when the input point becomes active.

*Valid Input Actions are; Alarm, Pre-Alarm, Control, Supervisory, Warning, Test Alarm, Trouble or Disabled.



15.3.1.4 Double Alarm Input

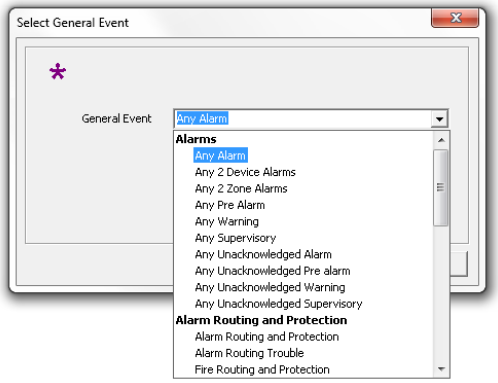
This option allows the user to select a logic statement dependent upon any two of the selected inputs being in alarm.



15.3.1.5 General

This option allows the user to select a general status event as an input to the logic gate. The logic term input becomes active when the general state exists.

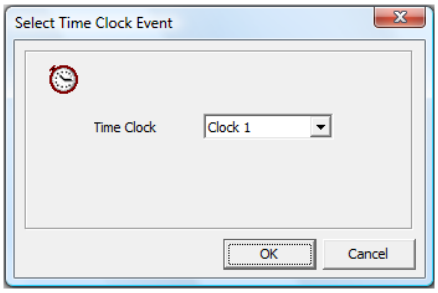
The general events available are; any alarm, any 2 devices in alarm, any 2 zones in alarm, recent reset, panel silenced, Stage 1 (P.A.S.) timer active, Stage 2 (P.A.S.) timer active, etc.



15.3.1.6 Time Clock

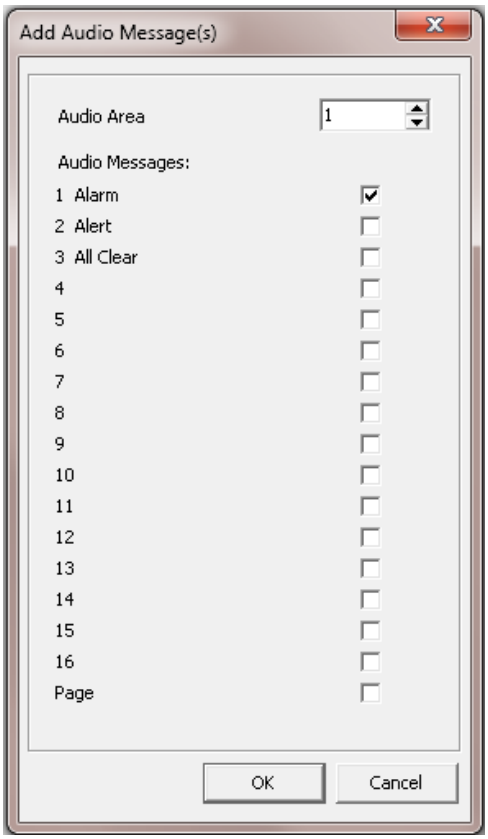
This option allows the user to select a time clock's active period to be used as an input to the logic gate.

The logic term input becomes active when the clock is in the ON state.



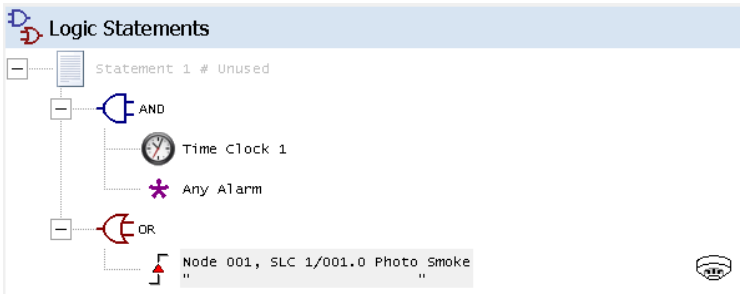
15.3.1.7 Audio

This option allows the user to select a logic statement dependent upon an audio message being active within an audio area.



15.3.1.8 AND & OR Qualifiers

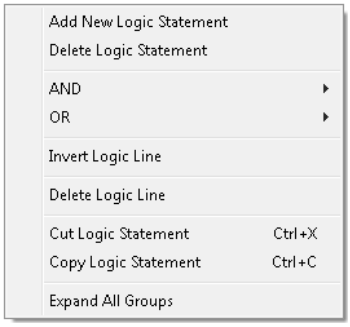
Below is an example of a logic statement screen. The logic statement becomes valid when either the AND qualifiers or the OR qualifier is satisfied.



15.3.2 Copy Logic Statement

To copy a logic statement, select the required statement, right click on the logic Tree View, this brings up the popup menu, then select “Copy Logic Statement”.

Alternatively, press “CTRL + C” to copy the selected Logic Statement.

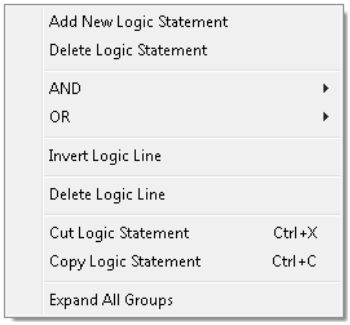


15.3.3 Cut Logic Statement

To cut a logic statement, select the required statement, right click on the logic Tree View, this brings up the popup menu, then select “Cut Logic Statement”.

Alternatively, press “CTRL + X” to cut the selected logic statement.

See example screen opposite.



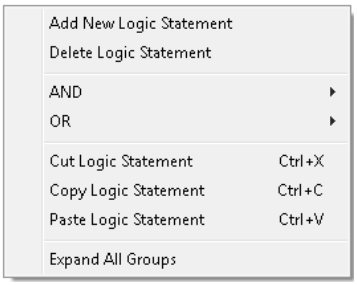
This is similar to the copy option but removes the source logic statement after copying it.

15.3.4 Paste Logic Statement

To paste a logic statement after performing a copy or cut command, right click on the logic Tree View, this brings up the popup menu, than select “Paste Logic Statement”.

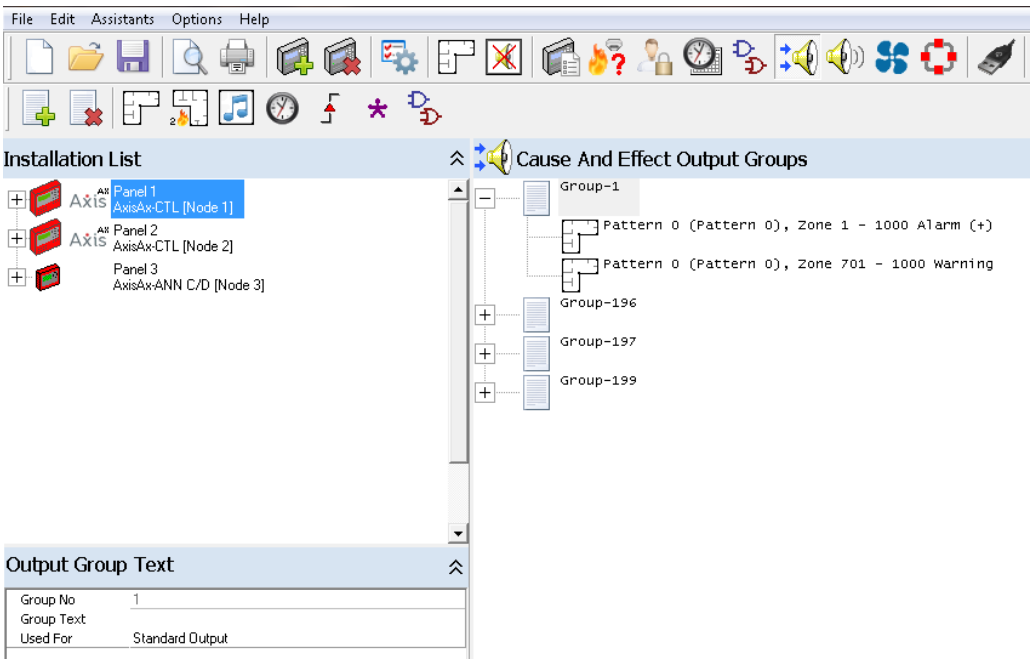
Alternatively, press “CTRL + V” to paste the selected Logic Statement.

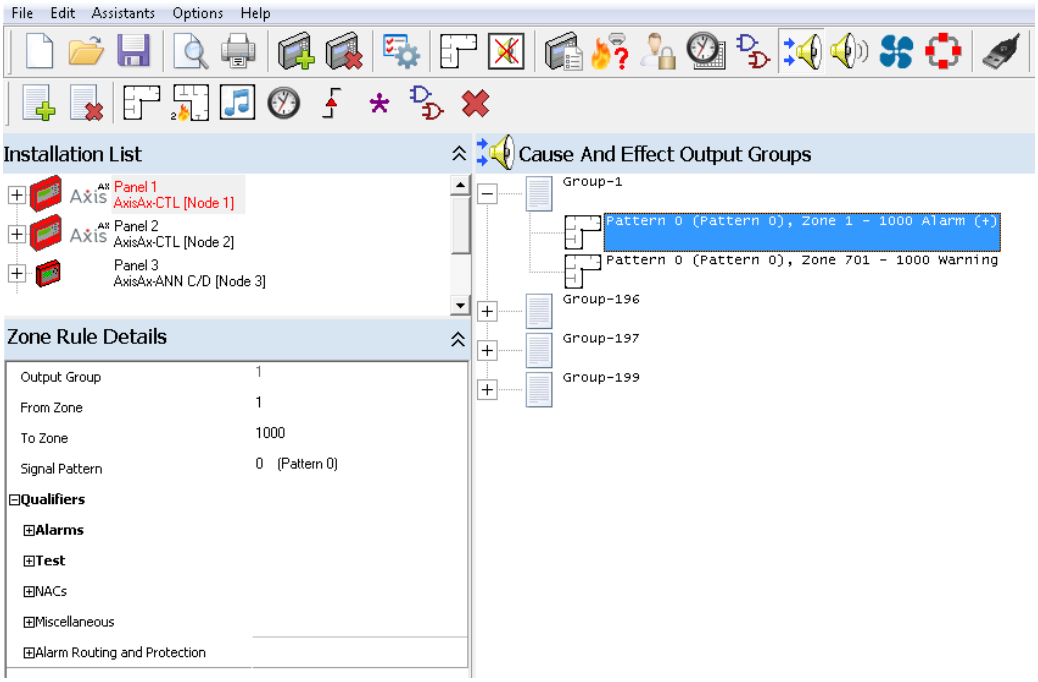
See example screen opposite.



16 Output Cause & Effect

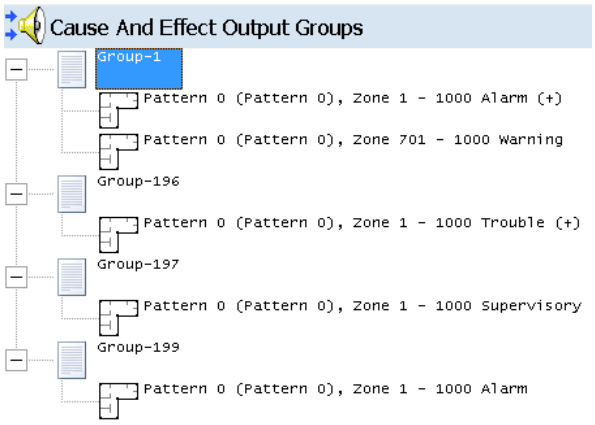
This section describes the main functions related to how outputs react to input events. Output cause and effect programming can be defined as a schedule of actions that will turn on one or more outputs dependent on a set of input events.





16.1 Default Output Cause and Effect Groups

Within the Cause and Effect Output Groups area, the panel is preconfigured with four (4) pre-assigned output groups.



Group-1: Allocated to all NAC circuits, including addressable outputs allocated as NAC purpose

Activates on any panel/network zone (1 to 1000) Alarm and any walk test with signals

Activates on any panel/zone 701 -1000 Warning (Drill is a Warning [i.e. 701, 702, etc. are network zoned panels associated drill buttons])

Group-196: Allocated to Relay 2 of the AX-CTL base card

Activates on any panel/network zone (1 to1000) Trouble and any input or output Disablement

Group-197: Allocated to Relay 3 of the AX-CTL base card

Activates on any panel/network zone (1 to 1000) Supervisory

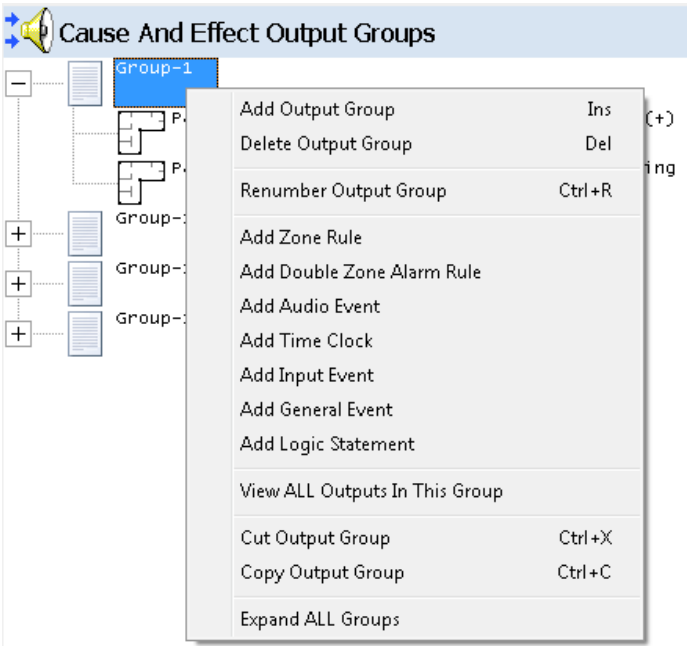
Group-199: Allocated to Relay 1 of the AX-CTL base card and any addressable output allocated as a Relay purpose

Activates on any panel/network zone (1 to 1000) Alarm

16.2 Adding to an Existing Output Cause and Effect Group

To simplify output programming, various event types, zone rules and logic statements can be combined to control specific outputs of the panel. This association of inputs, zones, logics and general events to specific outputs is called an Output Group. Output groups can be made up of many input lines and each line represents a rule that can activate the output (each panel supports up to1150 output rule lines).

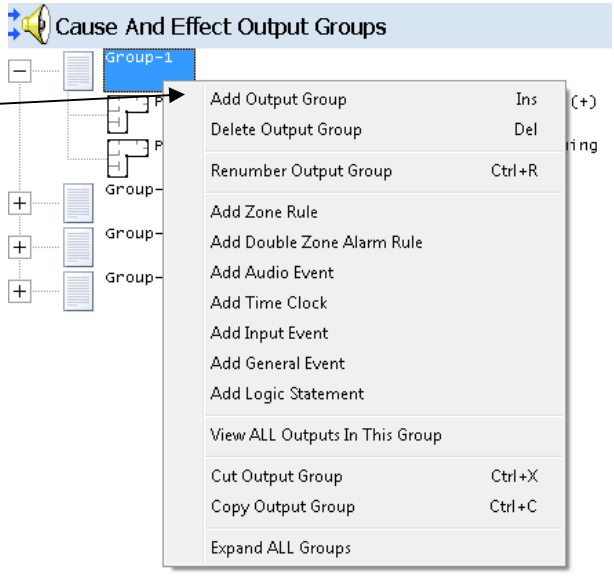
To add to an existing output group, click on the output group requiring modification and either utilize the icon command buttons to add events or right click on the output group and selecting events from the popup window.



Icons usage from left to right:

1 - Add Output Group
2 - Delete Output Group
3 - Add Zone Rule
4 - Add Double Zone Alarm Rule
5 - Add Audio Event
6 - Add Time Clock
7 - Add Input Event
8 - Add General Event
9 - Add Logic Statement
10 - Delete Output Rule Line

Right clicking selections:



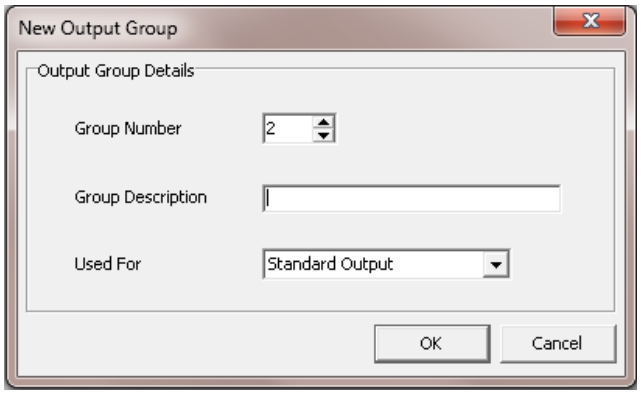
Note: For programming additional output rule lines refer to Add Input Event area of this manual.

16.3 Creating a New Output Cause and Effect Group

To create a new output group, click on the Add Output Group icon or right click within the Cause And Effects Output Groups area and select “Add Output Group”.

16.3.1 Output Group Details

Once add output group has been performed the following popup window will appear as shown opposite.

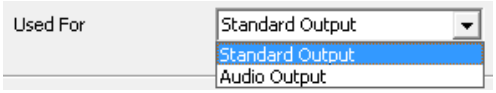


Within this screen the user must enter a Group Number, Group Description and group Used For.

Group Number: The panel can support up to 200 output groups (i.e. Group Numbers). Group Numbers cannot be utilized multiple times.

Group Description: Is usually the description (26 characters) of what the group is controlling (i.e. Fan Shutdown or 1st Floor Audio, etc.). Descriptions are optional but extremely useful in keeping track of and identifying different output groups.

Used For: There are two (2) types of output groups that can be created; a Standard Output or an Audio Output.



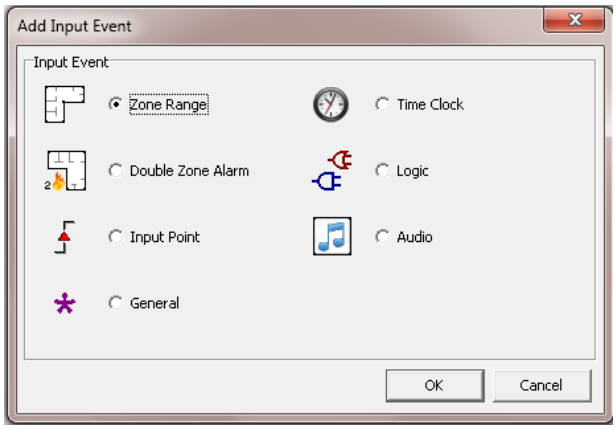
Standard Output is an output group that controls NAC circuits, relays, LEDs, etc.

Audio Output is an output group that controls AV-AMP-80 amplifiers.

Once the Output Group Details area is complete, if there are no conflicts with duplicate group numbers or descriptions, the “OK” button will be accessible. Clicking on the “OK” button will allow the user to proceed to the Add Input Event popup screen.

16.3.2 Add Input Event

There are seven basic types of input events that can be used to drive the output cause and effect of an output group.



1. Zone Rule (Zone Range)
2. Double Zone Alarm Rule (Double Zone Alarm)
3. Input Event (Input Point)
4. General Event (General)
5. Time Clock (Time Clock)
6. Logic Statement (Logic)
7. Audio Event (Audio)

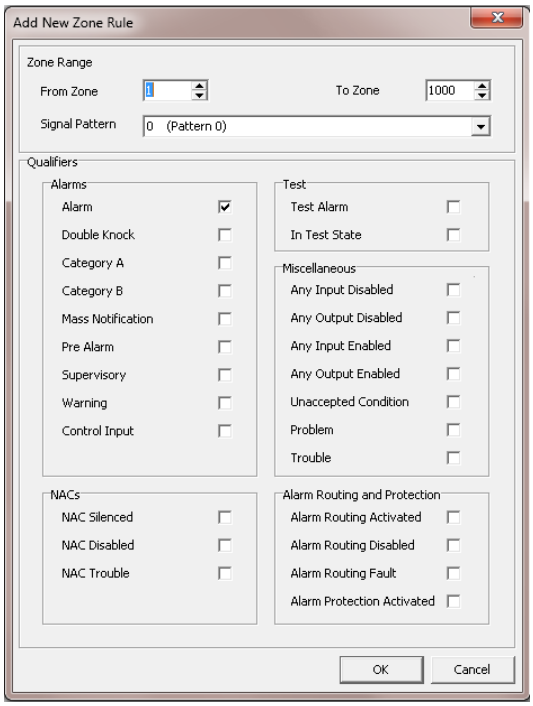
As previously indicated, various event types can be combined to control specific outputs of the panel.

Note: Each output group line can be assigned to a specific signal pattern; refer to the Signal Pattern area of this manual.

16.3.2.1 Zone Rule

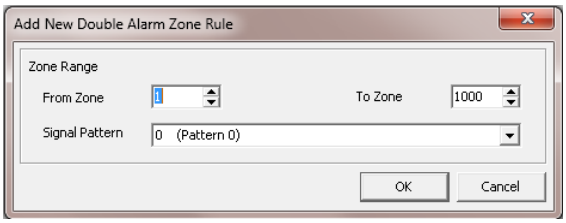
This option allows the user to define a range of zones and qualifiers as an input line.

Note: Multiple qualifiers can be selected.



16.3.2.2 Double Zone Alarm Rule

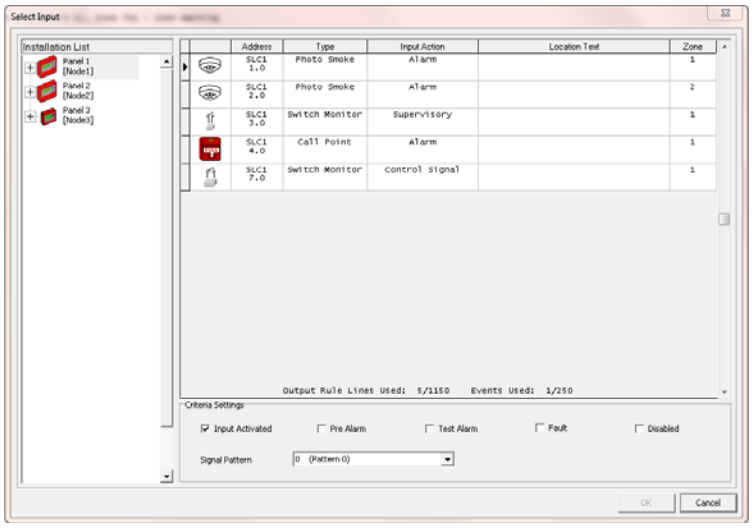
This option allows the user to select a zone range that is qualified whenever two of the zones within the range selected are active.



16.3.2.3 Input Event

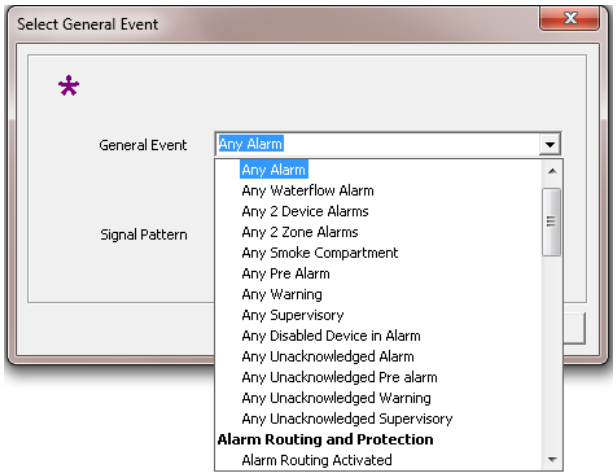
This option allows the user to select any input device (with a valid input action*) as an input line. The device can be selected from any panel in the site (installation) list.

* Valid Input Actions are; Alarm, Pre-Alarm, Control, Supervisory, Warning, Test Alarm, Trouble or Disabled.



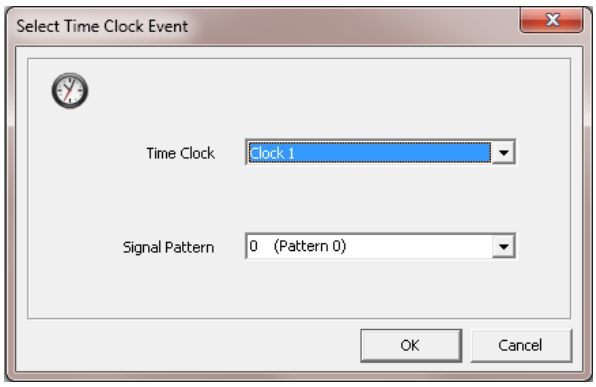
16.3.2.4 General Event

This option allows the user to select a general status event from a drop down list as an input line. General event types are; any alarm, any 2 devices in alarm, any 2 zones in alarm, recent reset, panel silenced, Stage 1 timer active, Stage 2 timer active, etc.



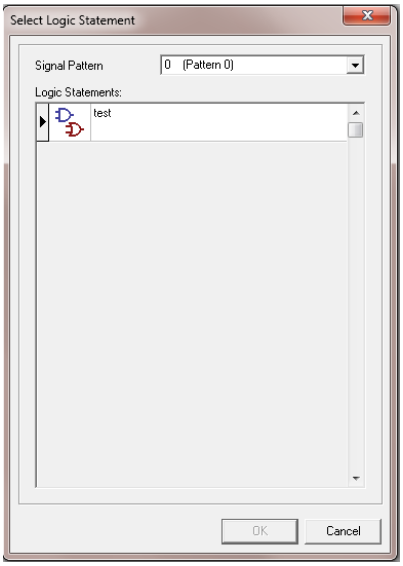
16.3.2.5 Time Clock

This option allows the user to select a time clock's active period for the input line.



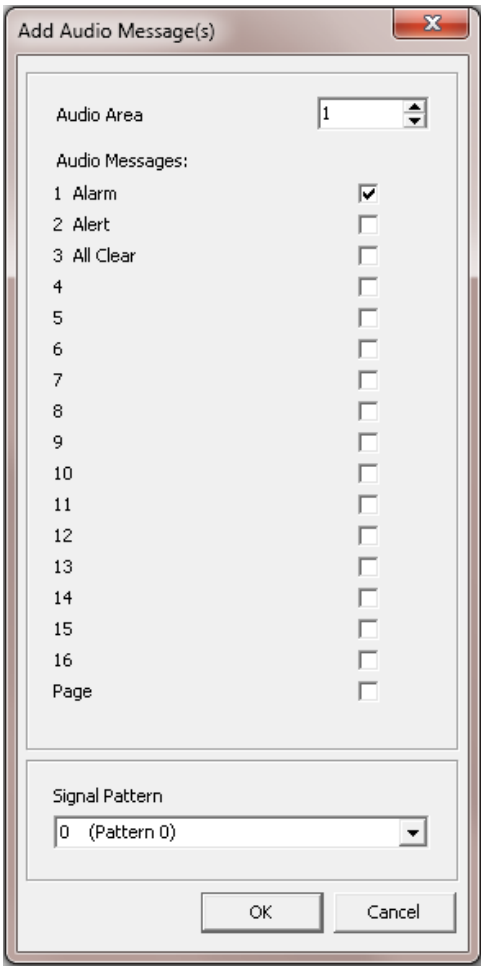
16.3.2.6 Logic Statement

This option allows the user to select a created logic statement as the input line. Created logic statements will be listed based on Logic Statement Text.



16.3.2.7 Audio Event

This option allows the user to select audio message input lines/rules to control an output group. Message(s) selection is based on Audio Area activation. A common application for this would be, controlling an addressable NAC module based on an Audio Event.



17 Signal Pattern

Associated with each input event output rule line, is a specific Signal Pattern. Signal patterns are a method in which the user can control the turning on and operation of specific associated outputs.

There are two (2) types of Signal Patterns available:

1. Standard Output Pattern
2. Audio Output Pattern

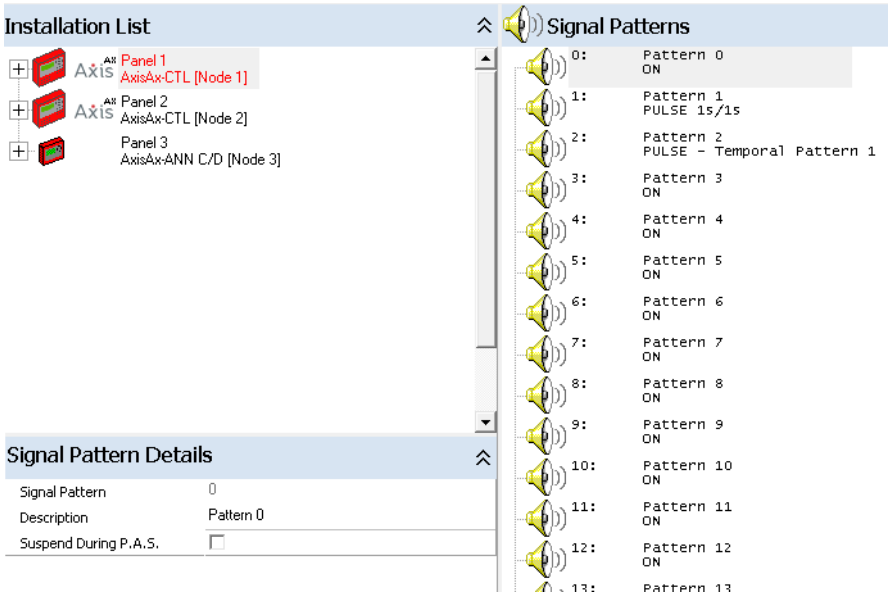
Each panel can support up to forty-one (Pattern 0 to Pattern 40) Signal Patterns. Forty of these patterns are freely programmable; Pattern 0 and the first two (2) Patterns are pre-configured;

Pattern 0 = Turns On Immediately, Steady, Continuous - Non Programmable

Pattern 1 = Turns On Immediately, Pulse 1 Second On/1 Second Off, Continuous - Programmable

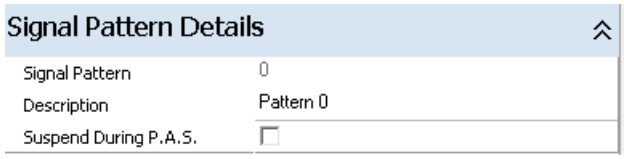
Pattern 2 = Turns On Immediately, Temporal Pattern 1, Continuous - Programmable

Note: Pattern 0 is the default pattern for all input event output rule lines. As Pattern 0 is a Standard Output Pattern only, in systems utilizing AV-AMP-80 amplifiers the Signal Pattern will need to be changed to an Audio Output Pattern. Unassigned Audio Output Pattern to an amplifier will create a design error within the PC-NeT, not allowing the program to be uploaded to the panel.



17.1 Standard Output Patterns

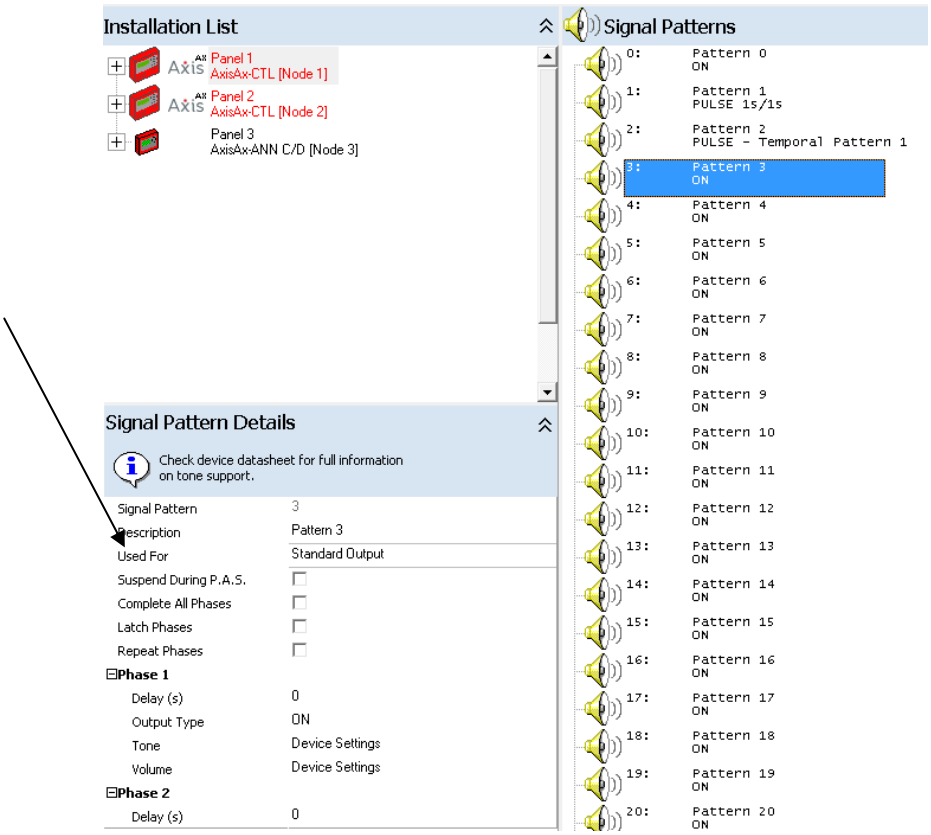
Standard Output Patterns are used to control NAC circuits, relays, LEDs, etc. Typically Pattern 0 will be the predominant pattern utilized, as Pattern 0 turns an output ON immediately. However, if a delay of an output, a latched output or a pulsed output is required, the user can configure one of the forty programmable Patterns to meet the specific output requirements.



Note: Standard Output Patterns cannot be utilized for AV-AMP-80 audio amplifier control.

17.1.1 Programming a Standard Output Pattern

To program a Standard Output Pattern, click on one of the forty programmable Patterns. In the lower left corner of the screen, a Signal Pattern Details programming area, for the Pattern selected will appear. Select Used For: Standard Output.



Within the Signal Pattern Details area of a Standard Output, the user can program the following output functionality:

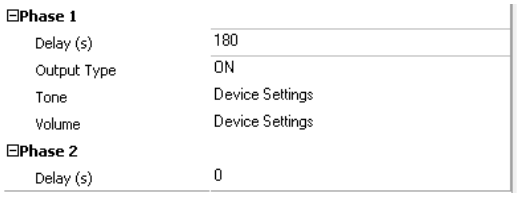
Description: This is an optional programming area; default would be the Pattern number. Descriptions are optional, but extremely useful in keeping track of and identifying different output usage (i.e. Door Holder Relay Delay, Latched Fan Control, etc.).

Used For: This is the use of the Output; Select Standard Output

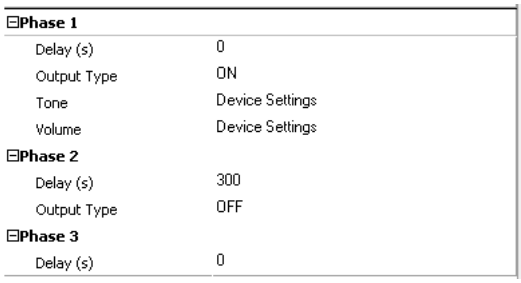
Suspend During P.A.S.: This selection is only beneficial when utilizing the functionality of P.A.S. (Positive Alarm Sequence) programming. This would suspend an output from activating until either P.A.S. panel acknowledgement times-out or reset time expires. Refer to False Alarm Management section of this manual.

Phase 1, Phase 2 and Phase 3:
Each Pattern can have up to three (3) different phases of operation, with programmable Delay, Output Type, Tone and Volume.

Delay: The user may want to have an output that turns ON after a delay period; Delay (time 1 to 9999 seconds) → ON (the below example shows an output turning ON after 3 minutes [180 seconds]).



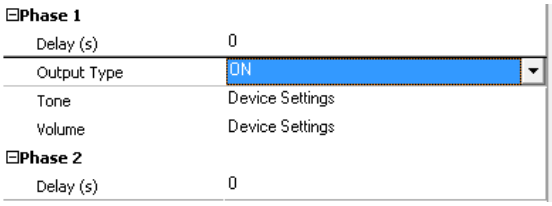
The user may want to have an output that goes on for a specific period of time and then turns OFF; No Delay → ON, Delay (1 to 9999 seconds) → OFF (the below example shows an output turning ON for 5 minutes (300 seconds) and then turning OFF.



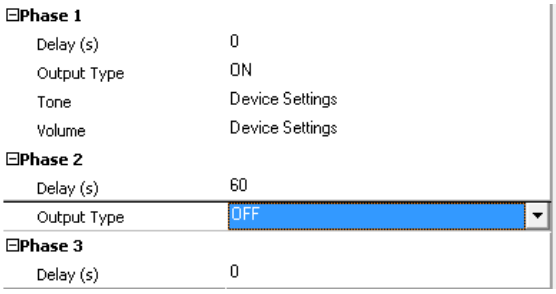
Note: The Tone and Volume program settings are for programming Advanced' loop powered enhanced sounder beacons and sounder beacon bases.

Output Type: The user can program the output pattern to turn ON, turn OFF (after an initial phase) or to PULSE.

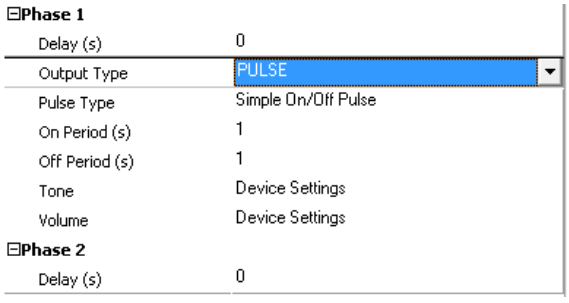
ON: ON turns the output immediately ON.



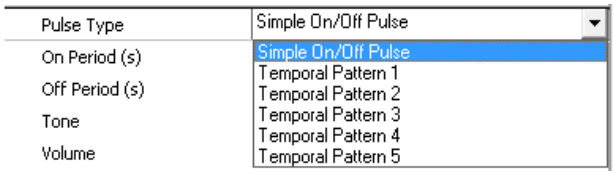
OFF: OFF turns an output OFF after it has been ON.



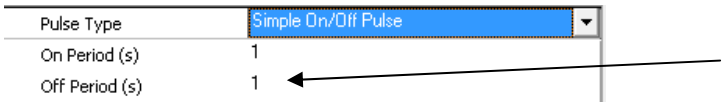
PULSE: PULSE allows the user to program a pulsed output.



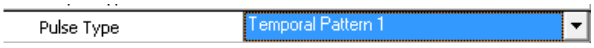
When PULSE Output Type is selected, a Pulse Type program area becomes available: The user can select whether Pulse Type is Simple On/Off Pulse or Temporal Pattern 1 thru 5.



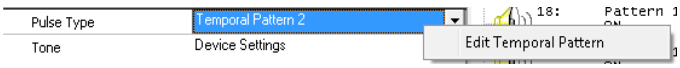
Simple On/Off Pulse: Allows the user to program an **On Period** and **Off Period** in seconds.



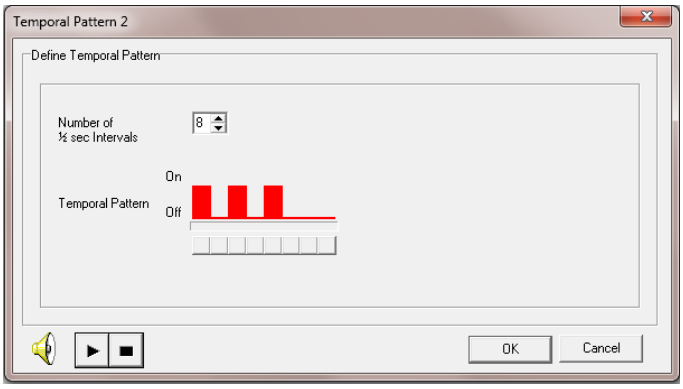
Temporal Pattern 1 thru Temporal Pattern 5: Allows the user to program up to five (5) Temporal Patterns (Temporal Patterns 1 thru 5 are defaulted as Temporal 3).



To program a Temporal Pattern, defaulted Temporal 3, select a Temporal Pattern x (1 to 5) and right click within the area. The following “Edit Temporal Pattern” selection will appear:



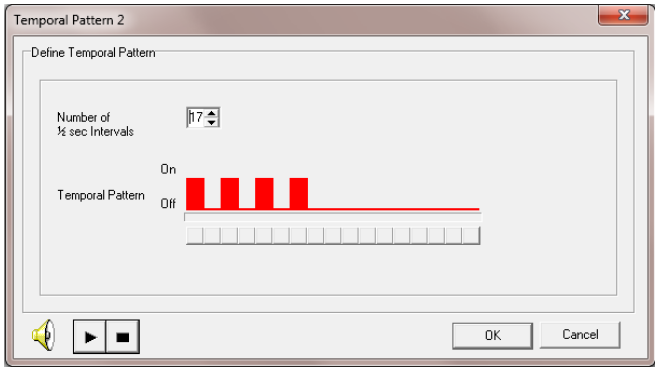
Selecting the Edit Temporal Pattern will bring up the following programming capabilities:



Number of ½ second intervals (24 - ½ seconds intervals maximum) can be programmed, along with ON / OFF ½ second intervals. As indicated above the default is Temporal 3 as dictated by NFPA:

(1) “On” phase lasting 0.5 second ±10 percent
(2) “Off” phase lasting 0.5 second ±10 percent for three successive “on” periods
(3) “Off” phase lasting 1.5 seconds ±10 percent

Example of CO detector Temporal 4 signal Pattern (four spaced tones, followed by a five-second silent period):



Users can utilize the play and stop buttons ( ) to listen to the programmed Pattern via their PC speaker.

Additional Phase Programming:

Complete All Phases: Once activated, the Pattern will complete all phases, until the controlling rule is no longer qualified and all phases have been completed (even if the rule becomes unqualified).

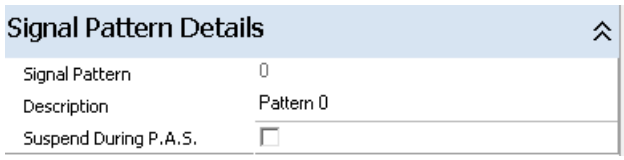
Latch Phases: Once activated, the Pattern will continue to be activated even if the qualifier is no longer active or if the panel has been reset. The only method of restoring a Latched Phase output is with a "Reset Latched Outputs" control button.

Note: By utilizing a Latched Phase control, a separate fan restart switch can be programmed (i.e. NYC Fan Restart Button).

Repeat Phases: Once activated, the Pattern will continue to repeat phase sequence again and again, until the Pattern is no longer qualified (or panel Reset).

17.2 Audio Output Patterns

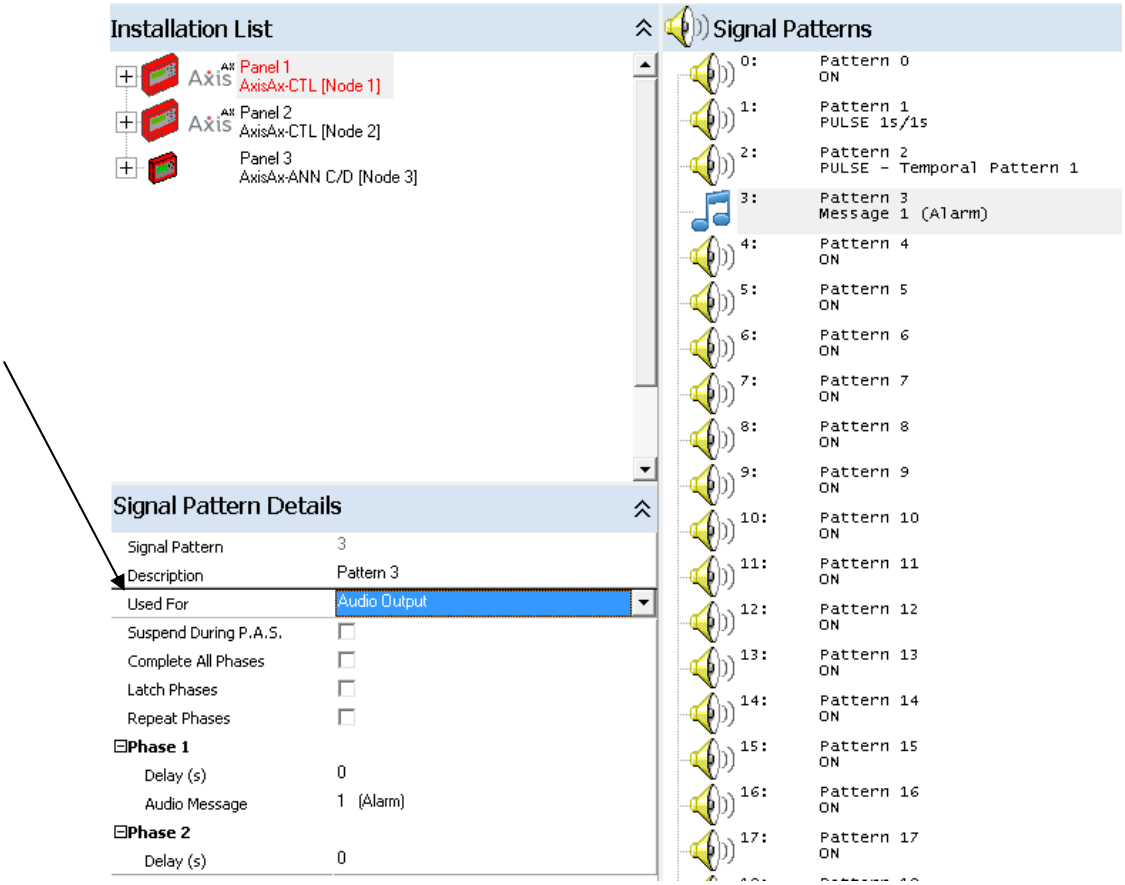
Audio Output Patterns are used to control the automatic selection of the playing of audio messages at an AV-AMP-80 audio amplifier.



Note: Audio Output Patterns cannot be utilized for NAC circuit, relay circuit or LED control.

17.2.1 Programming an Audio Output Pattern

To program an Audio Output Pattern, click on one of the forty programmable Patterns. In the lower left corner of the screen a Signal Pattern Details programming area for the Pattern selected will appear. Select Used For: Audio Output.



Within the Signal Pattern Details area of an Audio Output, the user can program the following output functionality:

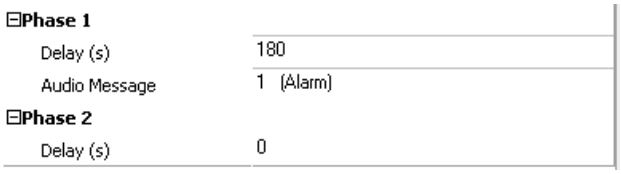
Description: This is an optional programming area; default would be the Pattern number. Descriptions are optional, but extremely useful in keeping track of and identifying different output usage (i.e. Alarm Message, Alert Message, etc.).

Used For: This is the use of the Output; Select Audio Output

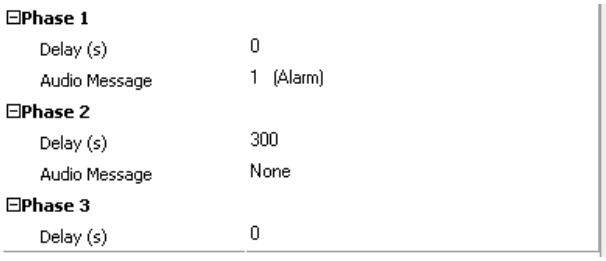
Suspend During P.A.S.: This selection is only beneficial when utilizing the functionality of P.A.S. (Positive Alarm Sequence) programming. This would suspend an audio output from activating until either P.A.S. panel acknowledgement times-out or reset time expires. Refer to False Alarm Management section of this manual.

Phase 1, Phase 2 and Phase 3:
Each Pattern can have up to three (3) different phases of audio message operation, with programmable Delay.

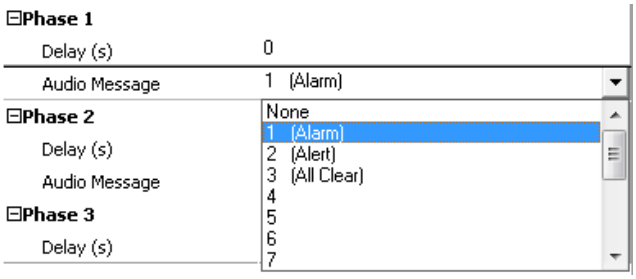
Delay: The user may want to have an audio message turn ON after a delay period; Delay (time 1 to 9999 seconds) → ON (the below example shows an audio message turning ON after 3 minutes [180 seconds]).



The user may want to have an audio message go on for a specific period of time and then turn OFF; No Delay → ON, Delay (1 to 9999 seconds) → OFF (the below example shows an audio message turning ON for 5 minutes (300 seconds) and then turning OFF.



Audio Message: Within the Audio Message area, the user selects the message the AV-AMP-80 audio amplifier is going to play (1 to 16 messages).



Note: These messages are the message specifically programmed in the controlling AV-AMP-80 audio amplifier (1 to 16 messages). Though the program indicates 1 Alarm, 2 Alert, 3 All Clear, these messages would need to be programmed into the AV-AMP-80 amplifier being controlled.

Additional Phase Programming:

Complete All Phases: Once activated, the Pattern will complete all phases, until the controlling rule is no longer qualified and all phases have been completed (even if the rule becomes unqualified).

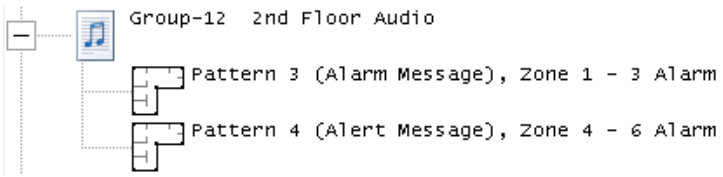
Latch Phases: Once activated, the Pattern will continue to be activated even if the qualifier is no longer active or if the panel has been reset. The only method of restoring a Latched Phase output is with a "Reset Latched Outputs" control button.

Repeat Phases*: Once activated, the Pattern will continue to repeat phase sequence again and again, until the Pattern is no longer qualified (or panel Reset).

***Note: Though multiple messages can be selected for a single pattern and repeat phase programming is possible for audio messages, the AV-AMP Message Programming Tool would be the place to program this functionality as synchronization of messages between amplifiers is done via the message programming tool.**

17.2.1.1 Example of an Audio Output Cause and Effect Group

Below is an example of an Audio Output Group 12, mapped to a 2nd Floor Audio amplifier (AV-AMP-80). The amplifier broadcasts an Alarm Message when zones 1, 2 and 3 are in alarm and broadcasts an Alert Message when zones 4, 5 and 6 are in an alarm. In the below example, zones are allocated by floor (six floor building), thereby providing a fire floor, floor above and floor below alarm message and an alert message for any other floor in alarm.

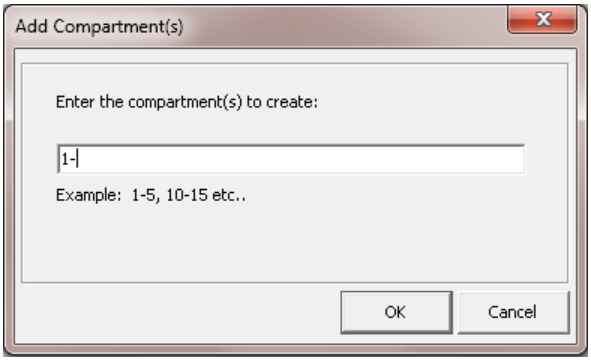


18 Fans and Dampers (Presently NOT Listed - firmware ≥ 053-10)

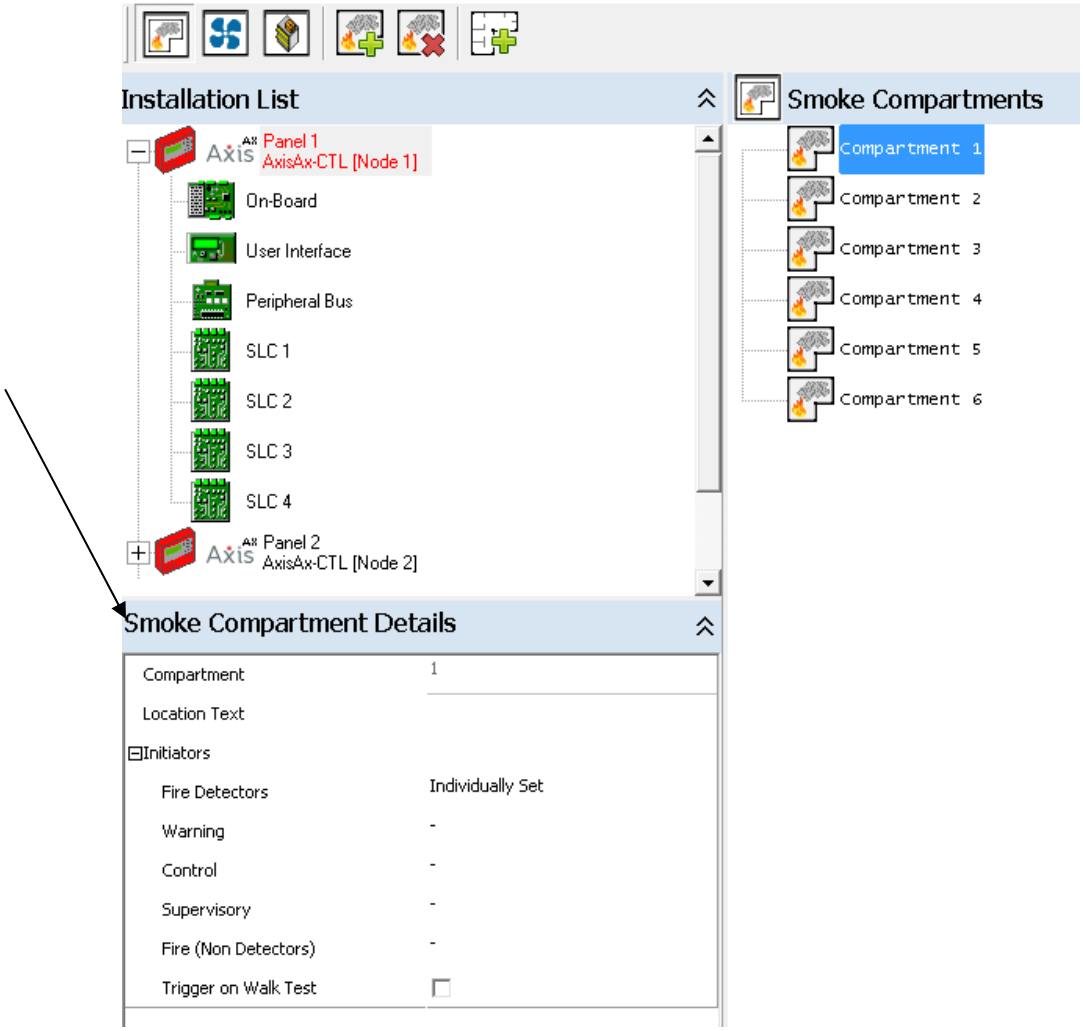
The AX-CTL firmware 053-10 will be the first release of **NON Dedicated Smoke Control**, this programming area will allow the user to program **NON Dedicated Smoke Control ONLY**.

18.1 Adding Smoke Compartments

To add a smoke compartment (1 – 500 maximum), within the View/Edit Fans and Dampers, click on the Add Compartment (s) icon, the following program screen will appear:



Enter the number of smoke compartments required, for example 1-6 for six compartments. Once a compartment (s) has been added, a programmable Smoke Compartment Details area will open for the compartment, in the lower left corner of the screen.



18.1.1 Programming Smoke Compartments

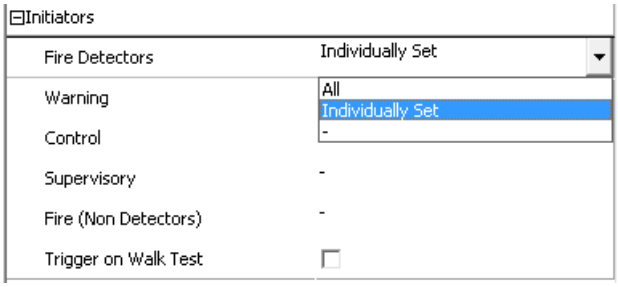
18.1.1.1 Smoke Compartment Details

Within the Smoke Compartment Details area, the user can program the following compartment criteria's:

Compartment: This is the Smoke Compartment number and cannot be modified.

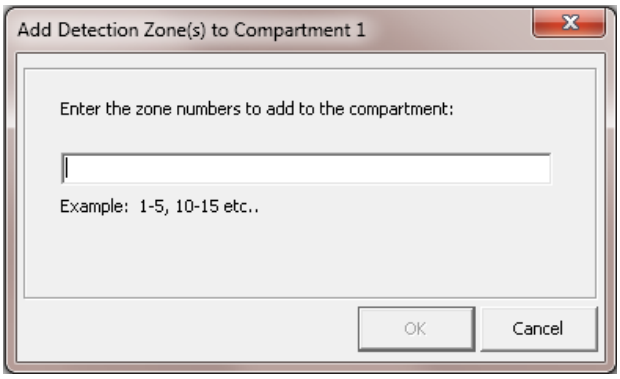
Location Text: This is where the user will define the physical location of the smoke compartment (i.e. First Floor, Stairwell, etc.), 26 characters.

Initiators: This area allows the user to define which initiators within the smoke compartment zones will initiate the smoke control compartment operation. Initiators can be setup by type for All, Individually Set or none (-). In addition, initiators can activate the smoke compartment when the initiator is activated (triggered) in a Walk Test, if checked.

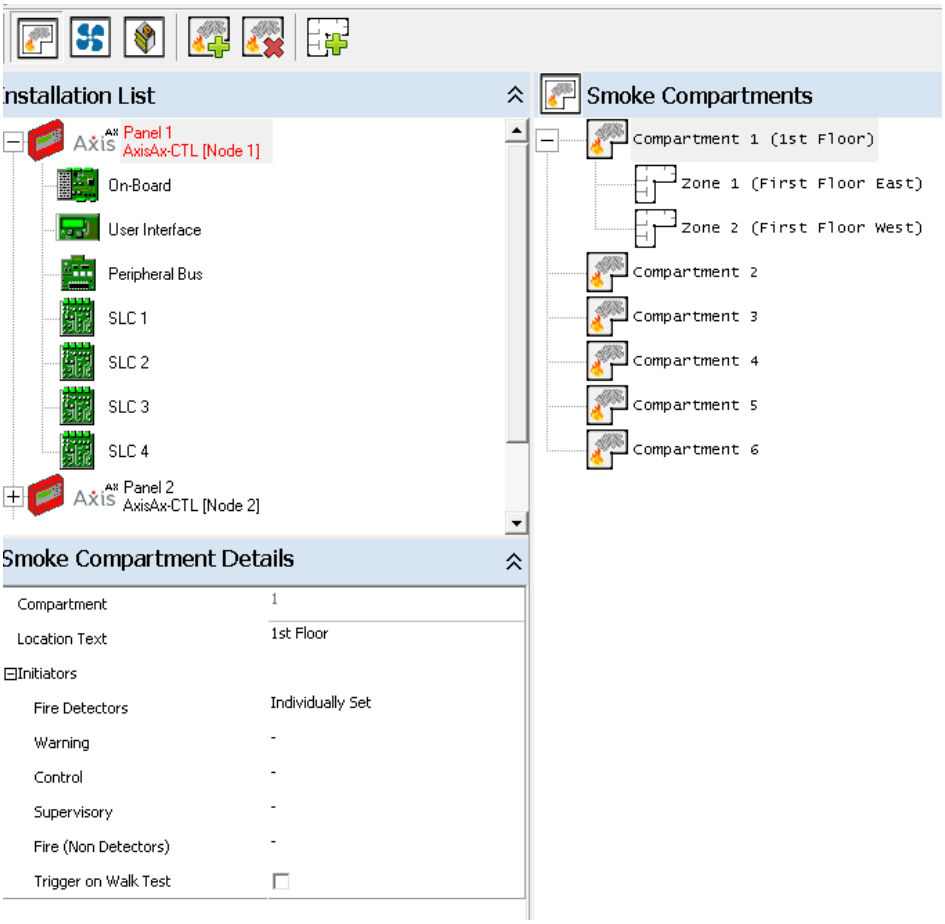


18.1.1.2 Adding Zones to a Smoke Compartment

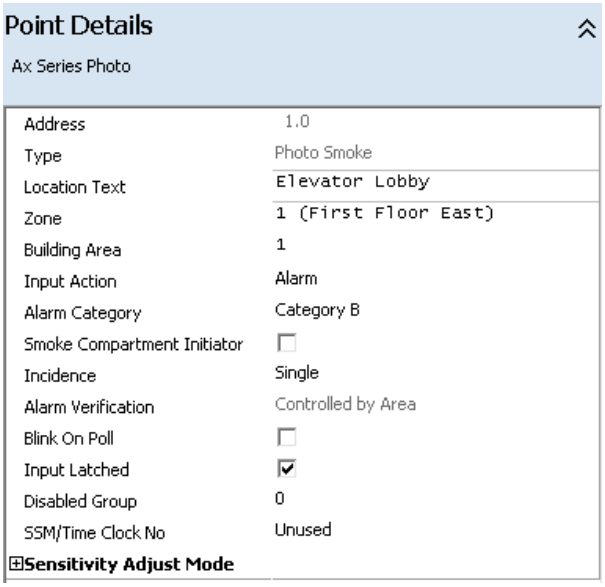
At least one or more zones must be added to each smoke control compartment. This zone (s) will include the initiators selected in the Smoke Compartment Details. To add a zone to a smoke control compartment click on the Add Detection Zone (s) icon the following program screen will appear:



In the below example; first floor zones 1 and 2 have been add to Compartment 1 (1st Floor). In addition, within these zones the initiators will be Fire Detectors individually selected:



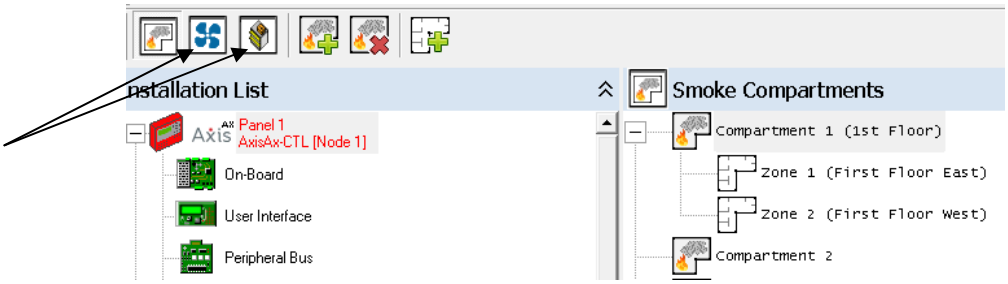
As the initiators in the above example are Fire Detectors individually selected, within the Point Details area of the Zone 1 Photo Smoke there will now be a check box, which if selected includes this Photo Smoke as an initiator for the Smoke Compartment.



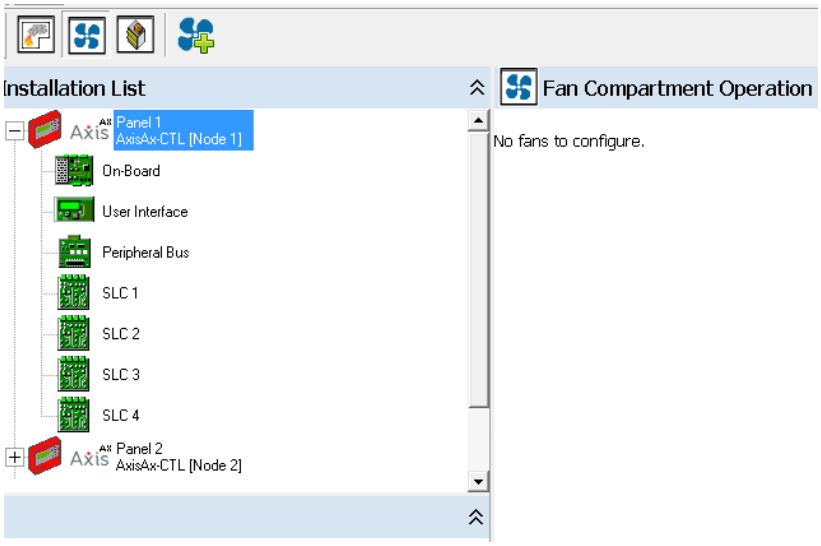
Note: If All Fire Detectors was selected, in the Smoke Compartment Details, all detectors within the zone would be an initiator to the Smoke Compartment.

18.1.1.3 Adding Fans and Dampers to a Smoke Compartment

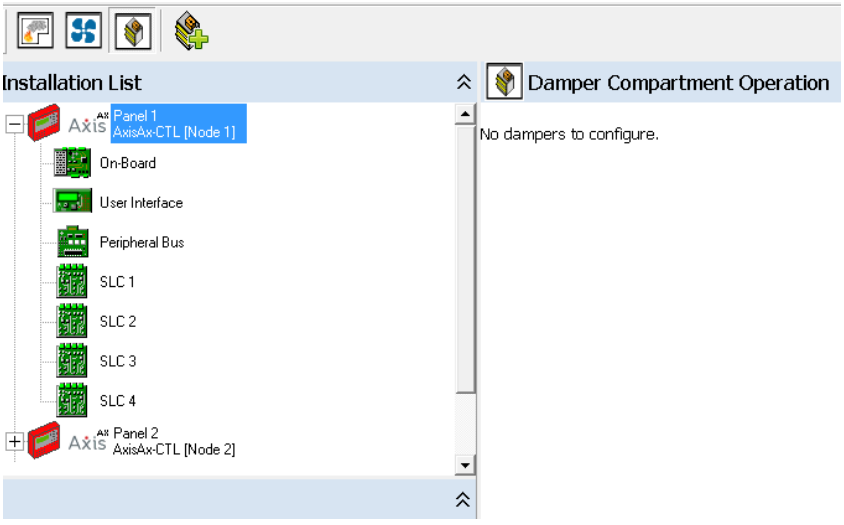
To add a Fan(s) or Damper(s) to the installation, select the View/Edit Fans icon or the View/Edit Dampers icon:



The following screen will appear for Fans:



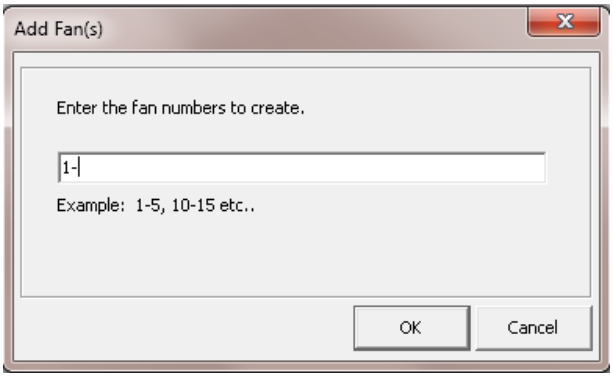
The following screen will appear for Dampers:



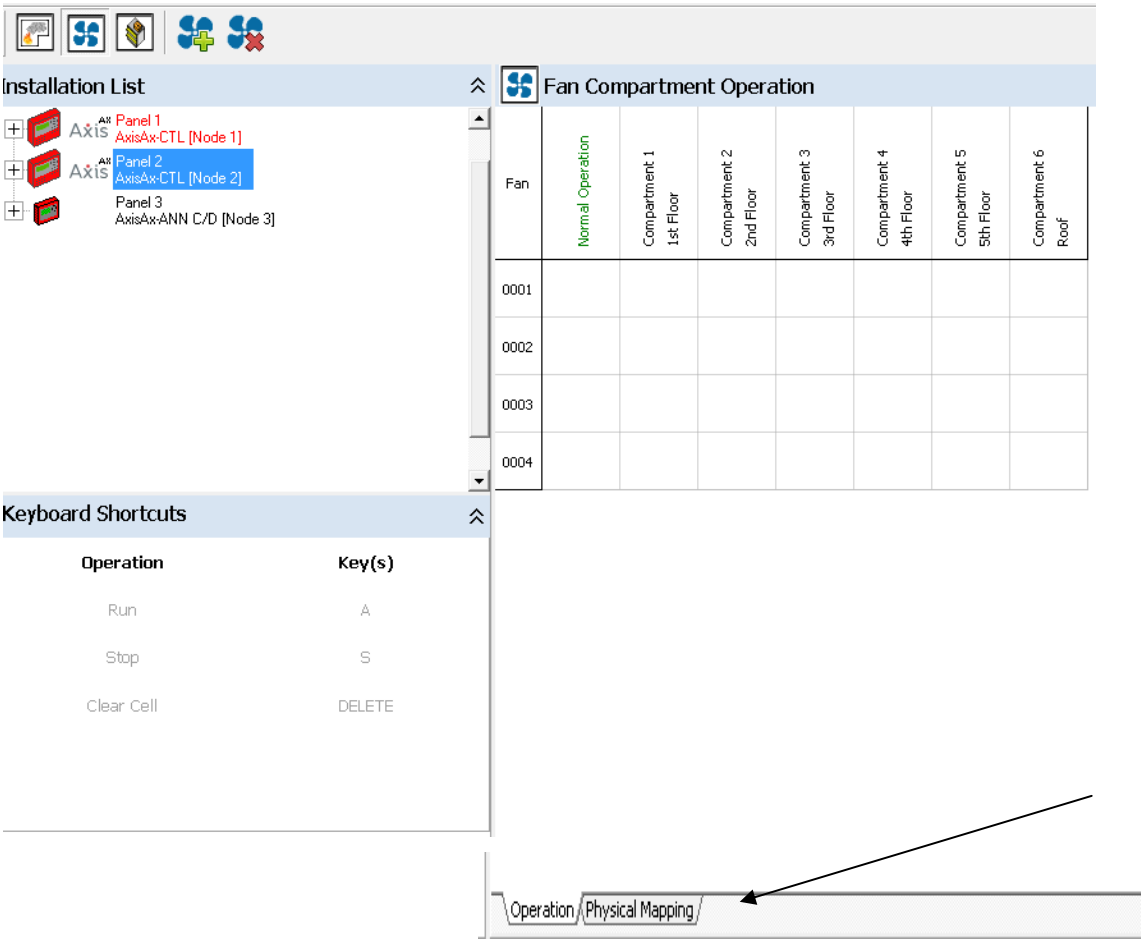
Within these screens, the user can navigate between Fans and Dampers within the installation (Fans/Dampers):

18.2 Adding Fans

To add Fans (1 to 1000) to the installation, within the View/Edit Fans area, click on the Add Fan(s) icon, the following program screen will appear:



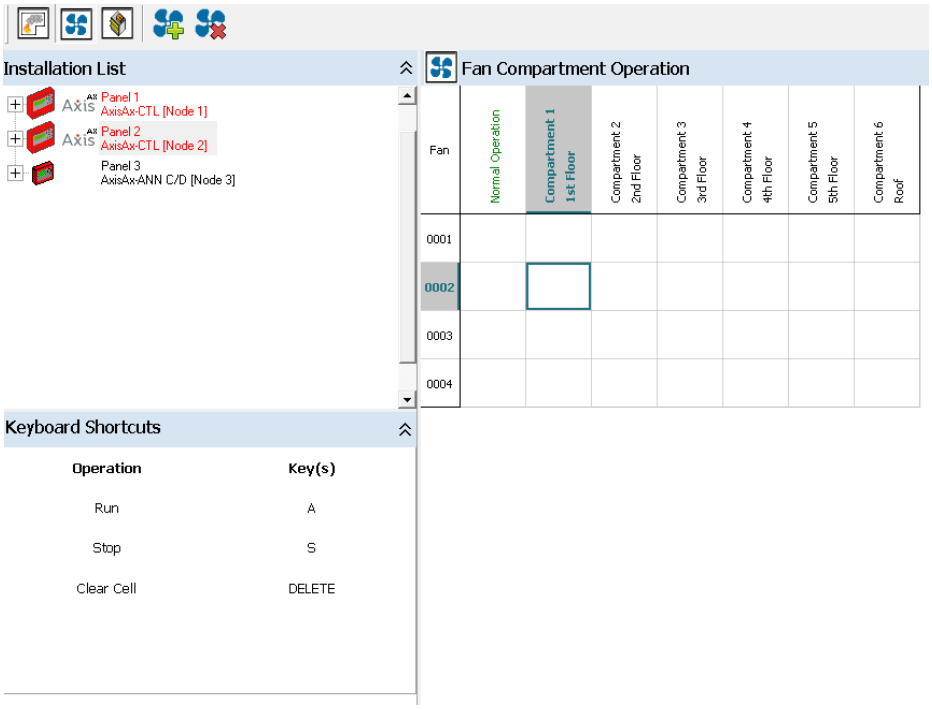
Enter the number of Fans within the installation (below is an example of four [4] Fans). In addition, once Fans have been added, an Operation and Physical Mapping programming area become available:



18.2.1 Fan Operation Area

Within the Fan Operation screen, the user programs the status of each Fan based on Normal Operation and Compartment activation:

By clicking within a box, highlighting a row, column or complete matrix, the user can define the state of the Fan (s) by selecting the “A” key (Run) or “S” key (Stop) on the user’s PC:



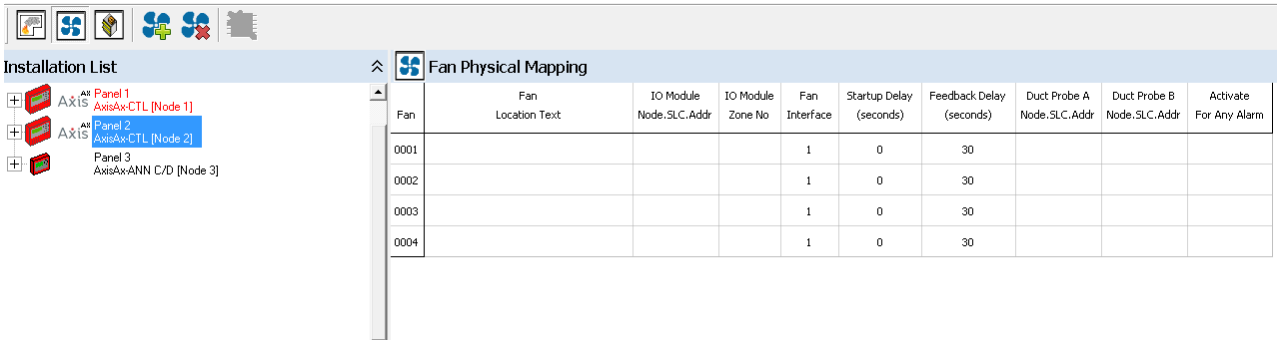
Below is an example of Fan (s) operation based on Compartment initiator activations, i.e. Fan 0001 through 0005 will in Normal Operation - Run, if an initiator in any Compartment is active, Fan 0001through 6 will Run and fans 0007 through 0009 will Stop.

Fan Compartment Operation

Fan	Normal Operation	Compartment 1 1st Floor	Compartment 2 2nd Floor	Compartment 3 3rd Floor	Compartment 4 4th Floor
0001 Smoke Exhaust Fan (SEF 1)	RUN	RUN	RUN	RUN	RUN
0002 Smoke Exhaust Fan (SEF 2)	RUN	RUN	RUN	RUN	RUN
0003 Smoke Exhaust Fan (SEF 3)	RUN	RUN	RUN	RUN	RUN
0004 Smoke Exhaust Fan (SEF 4)	RUN	RUN	RUN	RUN	RUN
0005 Stairwell Pressurization	RUN	RUN	RUN	RUN	RUN
0006 Smoke Exhaust Fan w/Delay		RUN	RUN	RUN	RUN
0007 AHU-1		STOP	STOP	STOP	STOP
0008 AHU-2		STOP	STOP	STOP	STOP
0009 AHU-3		STOP	STOP	STOP	STOP

18.2.2 Fan Physical Mapping Area

Within the Fan Physical Mapping screen, the user programs each individual Fan:



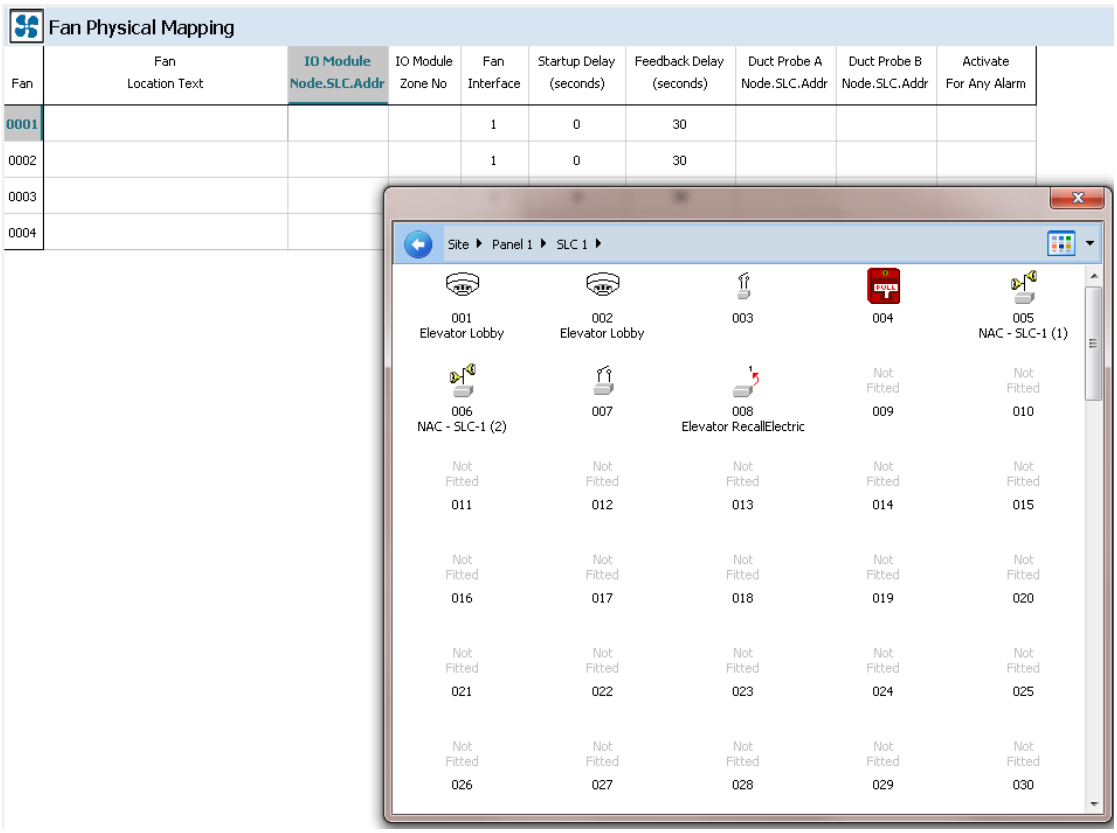
Fan Location Text: This is the physical location of the Fan, i.e. First Floor Fan (26 characters).

IO Module Node.SLC.Addr: This is where the user enters the Node number. SLC loop number and SLC address for the module (s) controlling and monitoring the Fan. The IO Module type (Run & Stop, Run Only with and without feedback) is dictated by the Fan Interface number/letter.

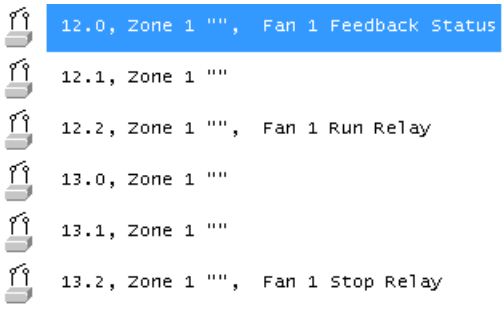
Fan Physical Mapping

Fan	Fan Location Text	IO Module Node.SLC.Addr	IO Module Zone No	Fan Interface	Startup Delay (seconds)	Feedback Delay (seconds)	Duct Probe A Node.SLC.Addr	Duct Probe B Node.SLC.Addr	Activate For Any Alarm
0001				1	0	30			
0002				1	0	30			
0003				1	0	30			
0004				1	0	30			

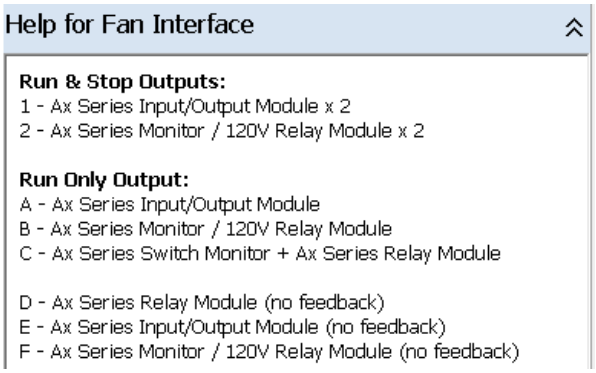
Module Node, SLC and Address can be entered manually (Node.SLC.Addr) or selected by clicking on the PC space bar and selecting Site, Panel number, SLC number and device:



1 = two (2) Ax Series Input/Output Modules; Fan 1 Status on the first I/O Module along with Run Relay, Stop Relay on second I/O Module :



Fan Interface: Pre-allocates the type (s) of module (s) that will be utilized for the Fan control/monitoring.



IO Module Zone Number: This is the zone number for the Fan module (s).

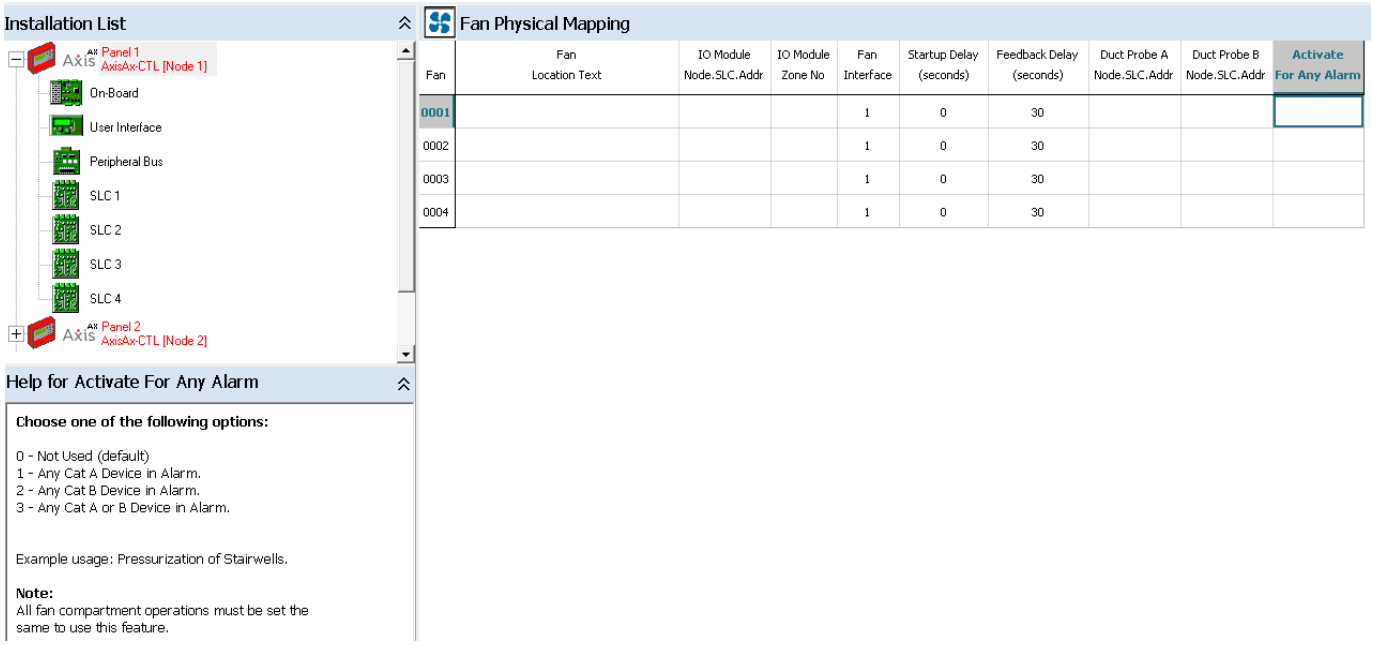
Startup Delay (seconds): This is a programmable Startup Delay for a Fan that has been turned OFF (i.e. Sequential Fan Restart). Time period is programmable from 0 to 99 seconds.

Feedback Delay (seconds): This is a programmable time period for fan status feedback (Run/Stop). Time period is programmable from 0 to 600 seconds. The panel will indicate a trouble if the feedback signal is not received within this time period or if the wrong feedback is received (RUN vs. STOP).

Duct Probe A Node.SLC.Addr: This is where the user enters the Node number, SLC loop number and SLC address for a Duct Detector, which will STOP the Fan when in an automatic mode during activation, regardless of the Smoke Compartment programming criteria. Leave blank if a duct detector control is not required. As with the IO Module, Node, SLC and Address can be entered manually (Node.SLC.Addr) or selected by clicking on the PC space bar and selecting Site, Panel number, SLC number and device.

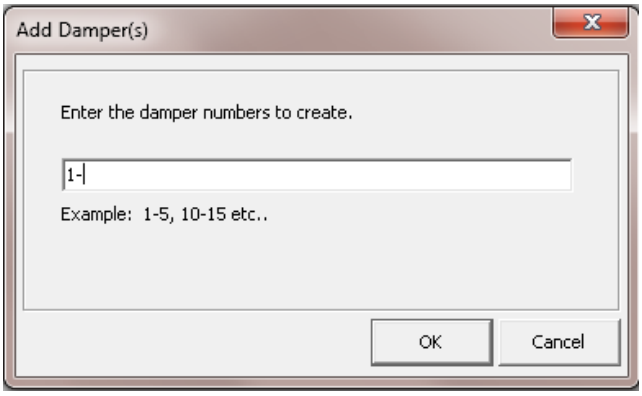
Duct Probe B Node.SLC.Addr: This is where the user enters the Node number, SLC loop number and SLC address for an additional Duct Detector, which will STOP the Fan when in an automatic mode during activation, regardless of the Smoke Compartment programming criteria. Leave blank if an additional duct detector is not required.

Activate For Any Alarm: This is where the user can select the Fan output to activate based on a Category A and/or Category B Alarm, blank or 0 equals default Not Used.

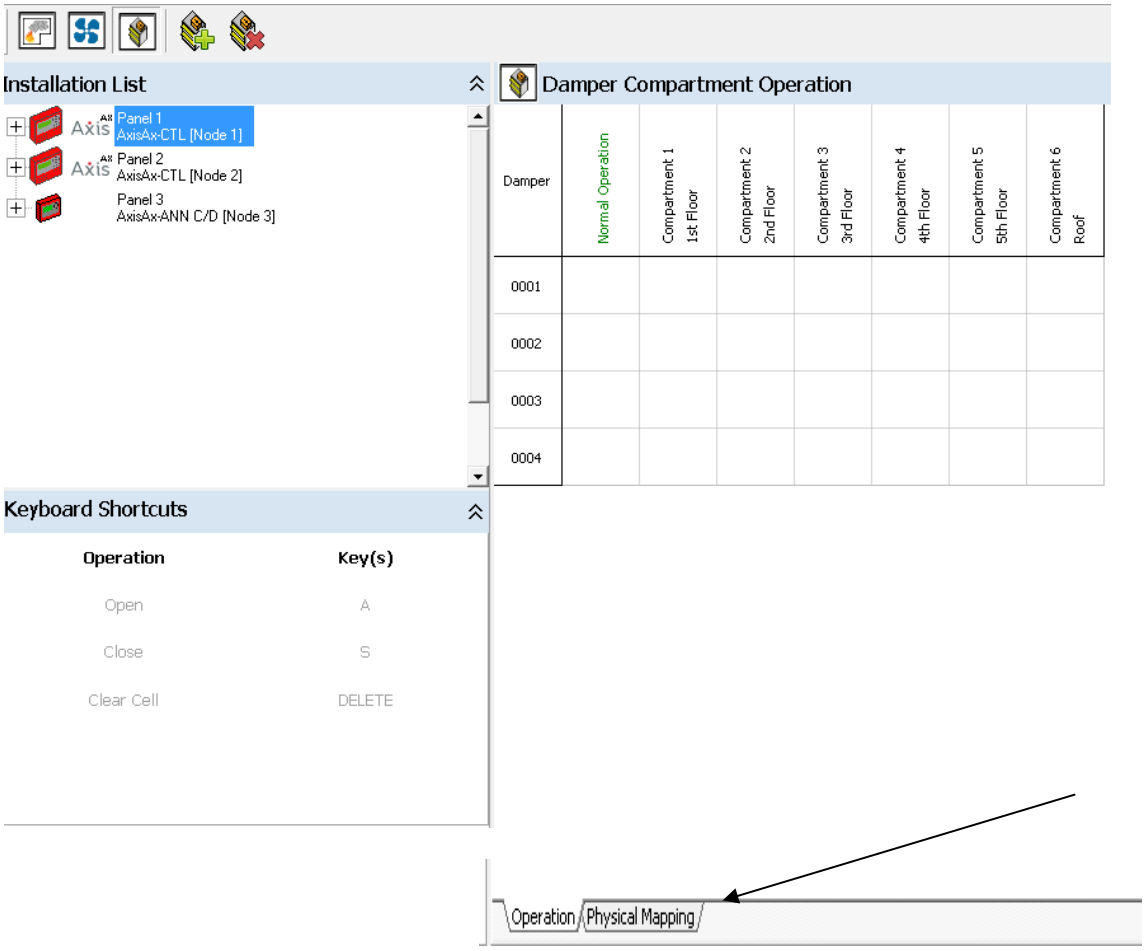


18.3 Adding Dampers

To add Dampers (1 to 1000) to the installation, within the View/Edit Dampers area, click on the Add Damper(s) icon, the following program screen will appear:

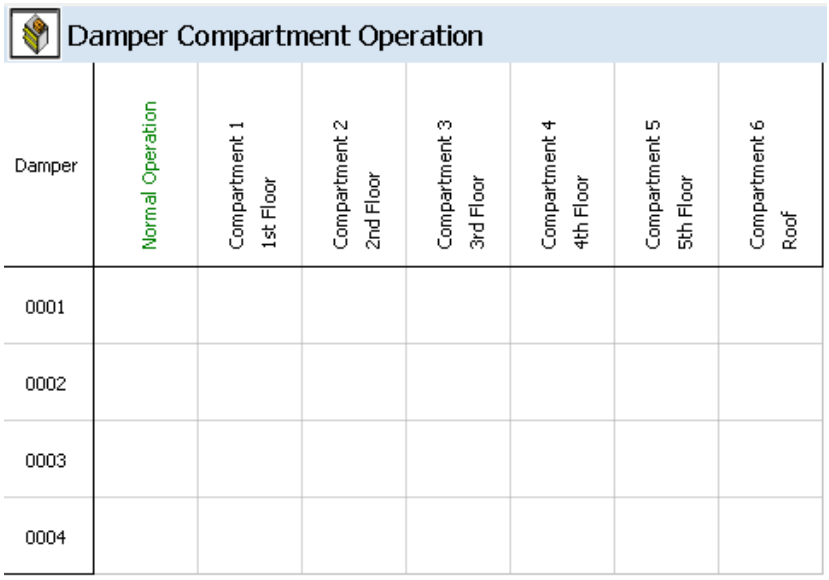


Enter the number of Dampers within the installation (below is an example of four [4] Dampers). In addition, once Dampers have been added, an Operation and Physical Mapping programming area become available:

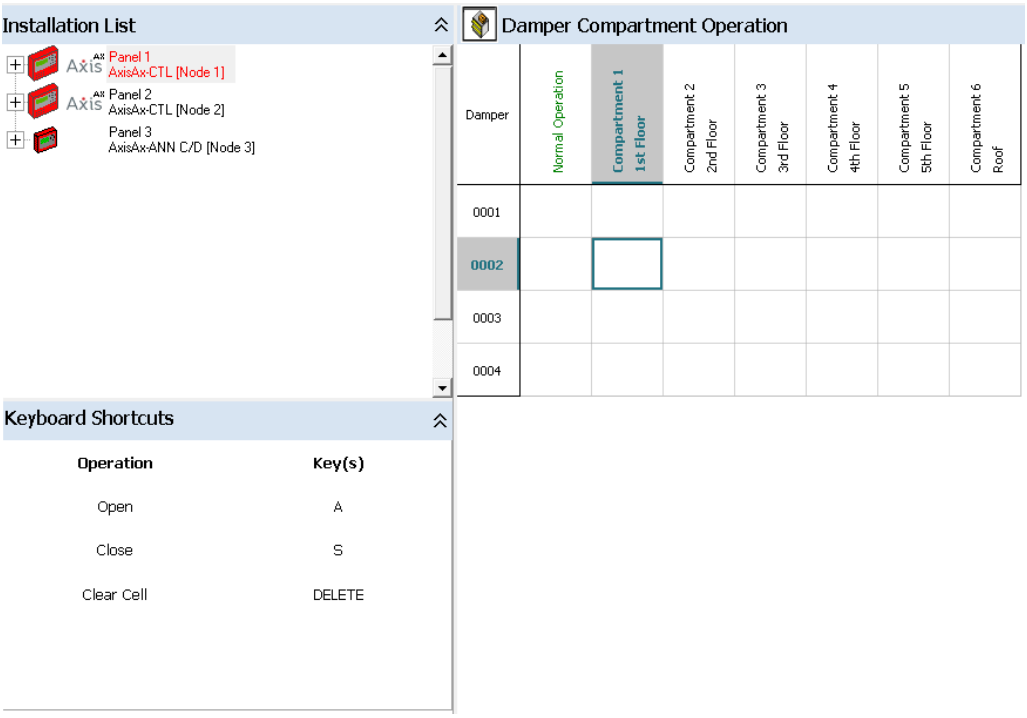


18.3.1 Damper Operation Area

Within the Damper Operation screen, the user programs the status of each Damper based on Normal Operation and Compartment activation:



By clicking within a box, highlighting a row, column or complete matrix, the user can define the state of the Damper (s) by selecting the “A” key (Open) or “S” key (Close) on the user’s PC:



Below is an example of Damper (s) operation based on Compartment initiator activations, i.e. Damper 0001 will in Normal Operation - OPEN, if an initiator in Compartment 1 through 4 is active, Damper 0001 will CLOSE. In addition, Damper 0002 will OPEN if an initiator in Compartment 1 is active.

Damper Compartment Operation

Damper	Normal Operation	Compartment 1 1st Floor	Compartment 2 2nd Floor	Compartment 3 3rd Floor	Compartment 4 4th Floor
0001 1st Floor Supply	OPEN	CLOSE	CLOSE	CLOSE	CLOSE
0002 1st Floor Exhaust	OPEN	OPEN	CLOSE	CLOSE	CLOSE
0003 2nd Floor Supply	OPEN	CLOSE	CLOSE	CLOSE	CLOSE
0004 2nd Floor Exhaust	OPEN	CLOSE	OPEN	CLOSE	CLOSE
0005 3rd Floor Supply	OPEN	CLOSE	CLOSE	CLOSE	CLOSE
0006 3rd Floor Exhaust	OPEN	CLOSE	CLOSE	OPEN	CLOSE
0007 4th Floor Supply	OPEN	CLOSE	CLOSE	CLOSE	CLOSE
0008 4th Floor Exhaust	OPEN	CLOSE	CLOSE	CLOSE	OPEN

18.3.2 Damper Physical Mapping Area

Within the Damper Physical Mapping screen, the user programs each individual Damper:

Damper Physical Mapping

Damper	Damper Location Text	IO Module Node.SLC.Addr	IO Module Zone No	Damper Interface	Feedback Delay (seconds)	Closed Limit Switch	Open Limit Switch	Activate For Any Alarm
0001				1	30	Yes	Yes	
0002				1	30	Yes	Yes	
0003				1	30	Yes	Yes	
0004				1	30	Yes	Yes	
0005				1	30	Yes	Yes	
0006				1	30	Yes	Yes	
0007				1	30	Yes	Yes	
0008				1	30	Yes	Yes	

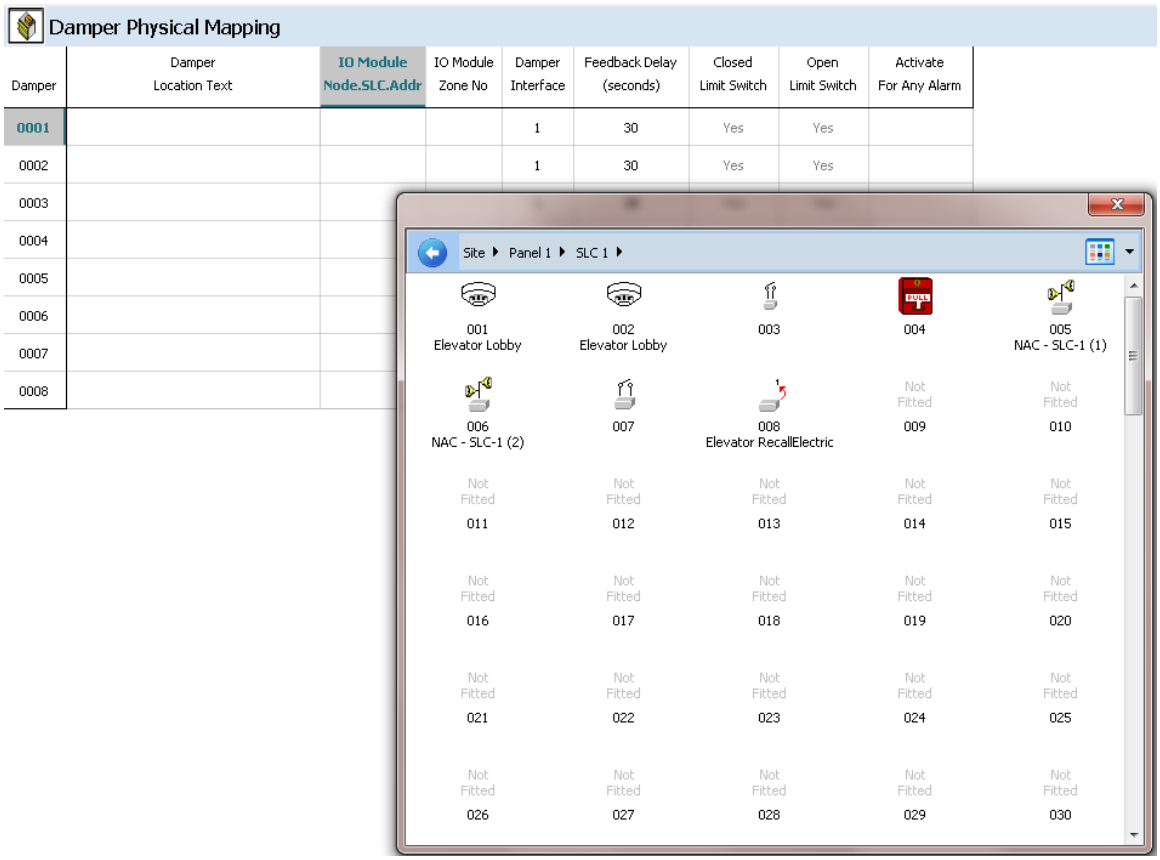
Damper Location Text: This is the physical location of the Damper, i.e. First Floor Damper (26 characters).

IO Module Node.SLC.Addr: This is where the user enters the Node number, SLC loop number and SLC address for the module (s) controlling and monitoring the Damper. The IO Module type (Open & Close, Close Only, Open Only with / without limit switch) is dictated by the Damper Interface number/letter.

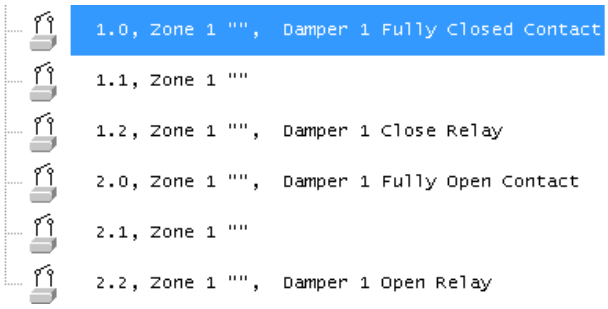
Damper Physical Mapping

Damper	Damper Location Text	IO Module Node.SLC.Addr	IO Module Zone No	Damper Interface	Feedback Delay (seconds)	Closed Limit Switch	Open Limit Switch	Activate For Any Alarm
0001				1	30	Yes	Yes	
0002				1	30	Yes	Yes	
0003				1	30	Yes	Yes	
0004				1	30	Yes	Yes	
0005				1	30	Yes	Yes	
0006				1	30	Yes	Yes	
0007				1	30	Yes	Yes	
0008				1	30	Yes	Yes	

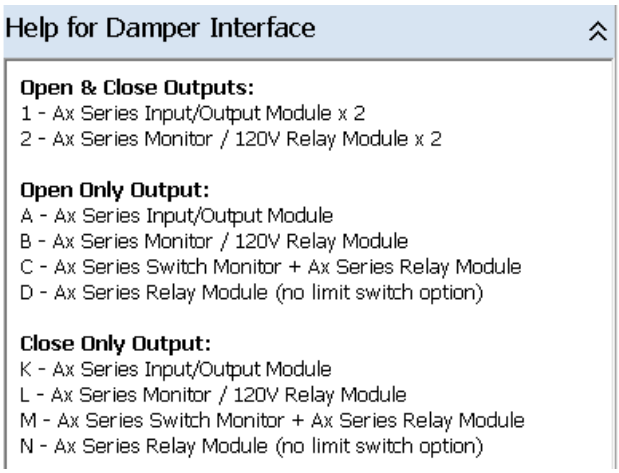
Module Node, SLC and Address can be entered manually (Node.SLC.Addr) or selected by clicking on the PC space bar and selecting Site, Panel number, SLC number and device:



1 = two (2) Ax Series Input/Output Modules; Damper Closed relay and status on the first I/O Module along with Damper Open relay and status on second I/O Module :



Damper Interface: Pre-allocates the type (s) of module (s) that will be utilized for the Damper control/monitoring.



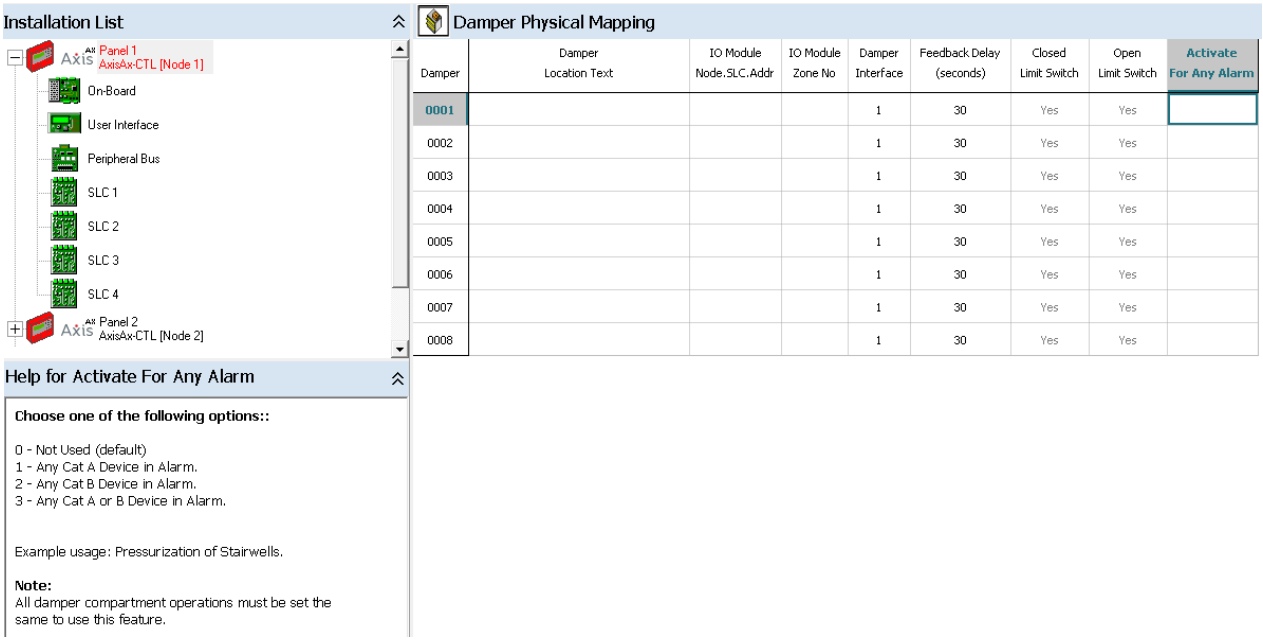
IO Module Zone Number: This is the zone number for the Damper module (s).

Feedback Delay (seconds): This is a programmable time period for Damper status feedback (Open/Closed). Time period is programmable from 0 to 600 seconds. The panel will indicate a trouble if the feedback signal is not received within this time period or if the wrong feedback is received (OPEN vs. CLOSED).

Closed Limit Switch: This is where the user enters whether the damper has an end-of-travel, closed position limit switch. Delete if closed limit switch is not available.

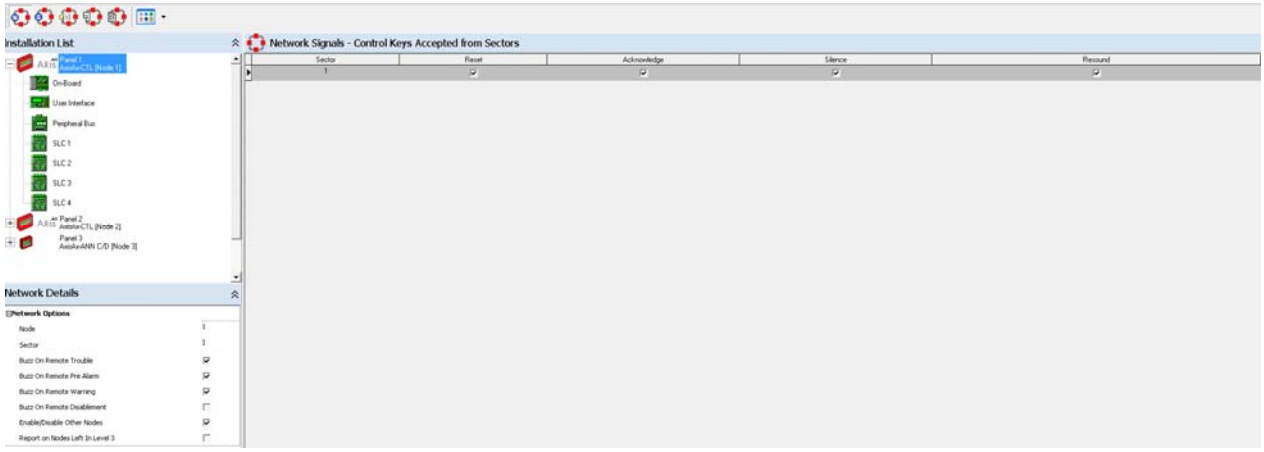
Open Limit Switch: This is where the user enters whether the damper has an end-of-travel open position limit switch. Delete if open limit switch is not available.

Activate For Any Alarm: This is where the user can select the Damper output to activate based on a Category A and/or Category B Alarm, blank or 0 equals default Not Used.



19 Network Sectoring

By clicking on the View/Edit Network Sector Information icon (this icon is only available when two or more nodes have been added to the Installation List) for a specific panel within the installation, the following programming network sectoring area will appear:



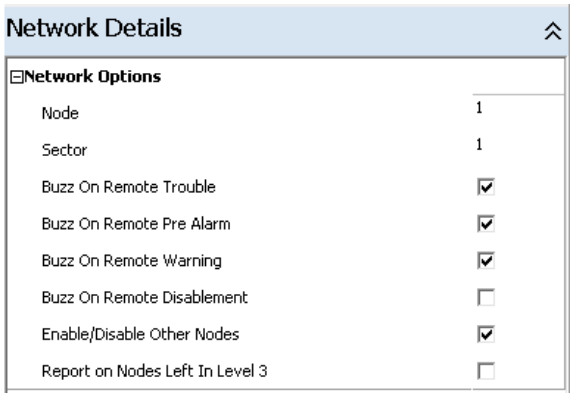
Within this screen there are five (5) Network Sector programming icon buttons (from left to right):

- Sector Control Keys
- Sector Operations
- Sector Extended Operations
- Zone Qualifiers
- Network Log

The function of each of the Network Sector programming areas are described in the Network Sector Programming section of this manual.

19.1 Network Details

In addition to the Network Sector programming areas, there is also a Network Details area for the specific selected network node. Below is a default indication of the Network Details for a specific node:



19.1.1 Node

This is used to identify the unique address (Node) of a panel within a network system. To change the network node address, click within the node number field and then utilize the up/down arrows that appear to the right of the field to increase or decrease the number. Alternatively, click within the field to highlight the number and then enter the required address using the number keys.

19.1.2 Sector

This option allows the user to set the sector number where the selected node resides. The default sector is 1. Each panel is assigned to a sector and many panels may reside within the same sector (default is Sector 1 for all nodes). The concept of a sector is used to describe how different panels may operate and interact together, similar to building partitioning in the security industry. For example, a control panel in one part of an installation may not respond to control key actions from a second panel in another part of the installation. But both panels may however want to respond to control key actions from a third panel (say in a control room). Assigning each panel to a sector allows this required interaction to be achieved.

19.1.3 Buzz On Remote Trouble

This option specifies whether or not the selected product will sound its internal buzzer if a Trouble is detected elsewhere on the network. This option is set as default.

19.1.4 Buzz On Remote Pre Alarm

This option specifies whether or not the selected product will sound its internal buzzer if a Pre Alarm is detected elsewhere on the network. This option is set as default.

19.1.5 Buzz On Remote Warning

This option specifies whether or not the selected product will sound its internal buzzer if a Warning is detected elsewhere on the network. This option is set as default.

19.1.6 Buzz On Remote Disablement

This option specifies whether or not the selected product will sound its internal buzzer if a Disablement is detected elsewhere on the network. This option is not set as default.

19.1.7 Enable/Disable Other Nodes

This option specifies whether or not the selected product will be capable of enabling and disabling other network nodes. This option is set as default.

19.1.8 Report On Nodes Left In Level 3

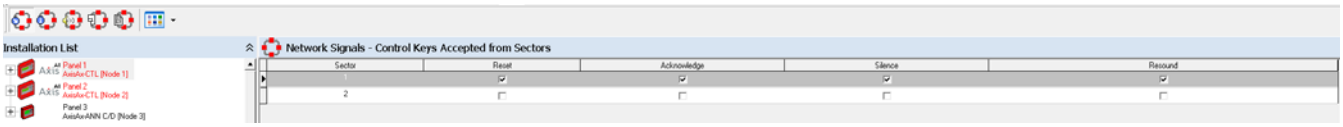
This option allows this node to indicate (via LED) other nodes left in level 3 access.

19.2 Network Sector Programming

Once the user has allocated additional Network Sectors, the user can configure the interrelationship of each sector within the installation.

19.2.1 Sector Control Keys

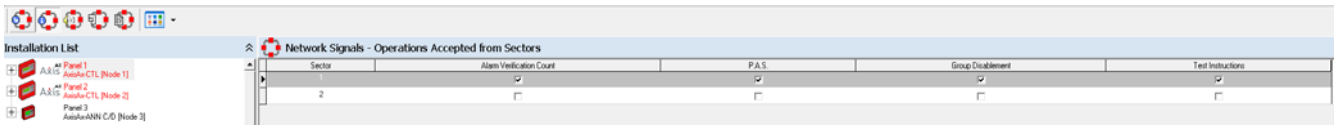
The Sector Control Keys area allows the user to define which control key actions from other sectors will be accepted, by the specific panel sector being programmed. The sector to which the current product selected is highlighted, un-checking other network sector controls will prevent the current product from responding to their control keys. For example, below shows the selected product (network node) and an additional Sector 2, by removing the check marks within the Network Signals - Control Keys Accepted from Sector" section of Sector 2, the Sector 2 nodes cannot reset, acknowledge, silence or resound any event generated from a Sector 1 network node.



Note: Nodes included in the highlighted Sector (i.e. Sector 1) cannot be modified. All nodes within this Sector will have common control keys.

19.2.2 Sector Operations

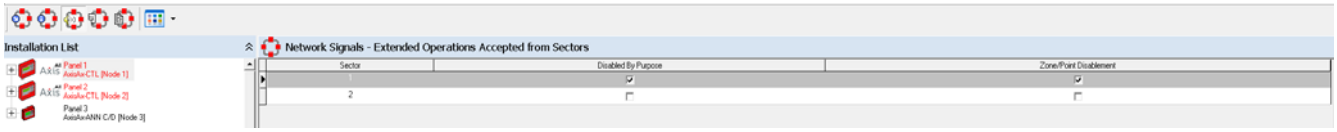
The Sector Operations area allows the user to define panel operations that will be accepted from other Sectors. For example, below shows the selected product (network node) and an additional Sector 2, by removing the check marks within the Network Signals - Operations Accepted from Sectors section of Sector 2, the Sector 2 nodes cannot control Alarm Verification Count, P.A.S., Group Disablement and Test Instructions of a Sector 1 network node.



Note: Nodes included in the highlighted Sector (i.e. Sector 1) cannot be modified. All nodes within this Sector will have control of these operations.

19.2.3 Sector Extended Operations

The Sector Extended Operations area allows the user to define whether other Sector nodes are capable of disabling by purpose, zone or points connected to this Sector node(s). For example, below shows the selected product (network node) and an additional Sector 2, by removing the check marks within the Network Signals – Extended Operations Accepted from Sectors section of Sector 2, the Sector 2 nodes cannot perform Disabled by Purpose or Zone/Point Disablement of a Sector 1 network node.

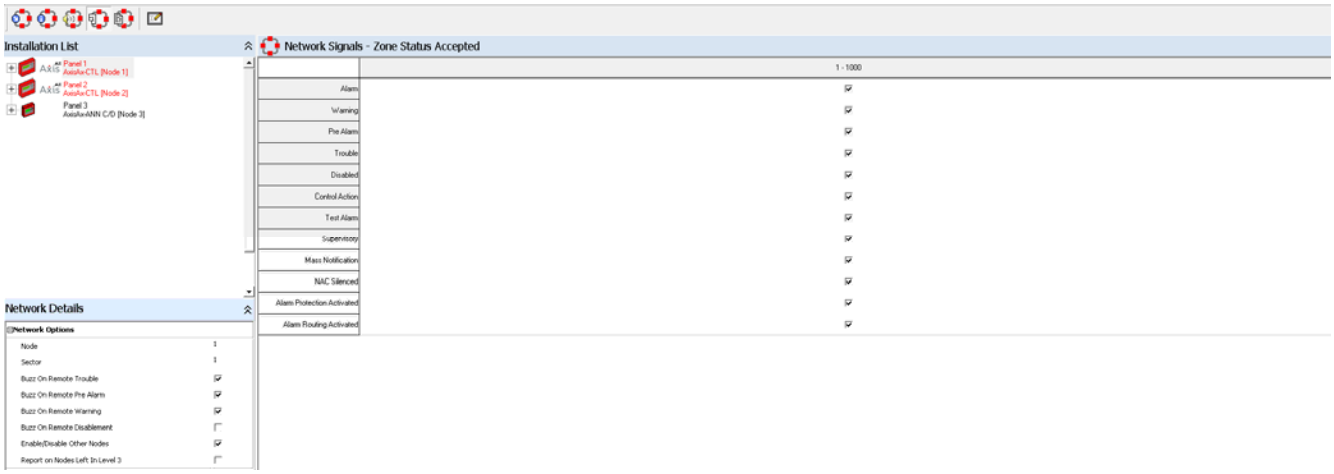


Note: Nodes included in the highlighted Sector (i.e. Sector 1) cannot be modified. All nodes within this Sector will have control of these disablement operations.

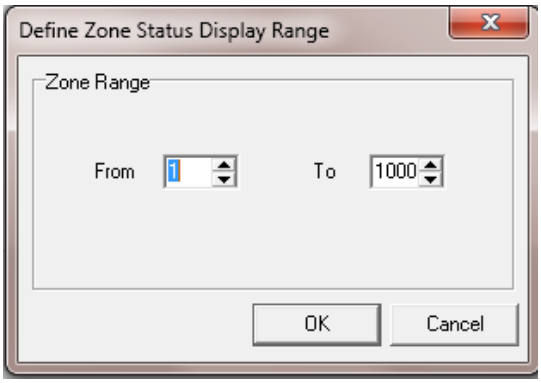
19.2.4 Zone Qualifiers

Each control panel will indicate alarm, supervisory, trouble, etc. conditions when generated by devices directly connected to it. In addition, as default all conditions (status changes) from any network node will be displayed and indicated throughout the network nodes. However, there may be cases where installations would want to limit or direct specific event status (visually and audibly) at various dedicated nodes. Limiting and directing information via programmable Sectoring and Zone Qualifiers is how a user would accomplish these types of installation requirements.

The Zone Qualifiers area allows the user to allocate specific events and zones to individual Sectors, within the network. By default all events and zones (zones 1 to 1000) available on the network are indicated at all Sector nodes.



In order to allocate zones to a Sector, the user must click on the Define New Zone Qualifier Range icon. The following screen will appear:



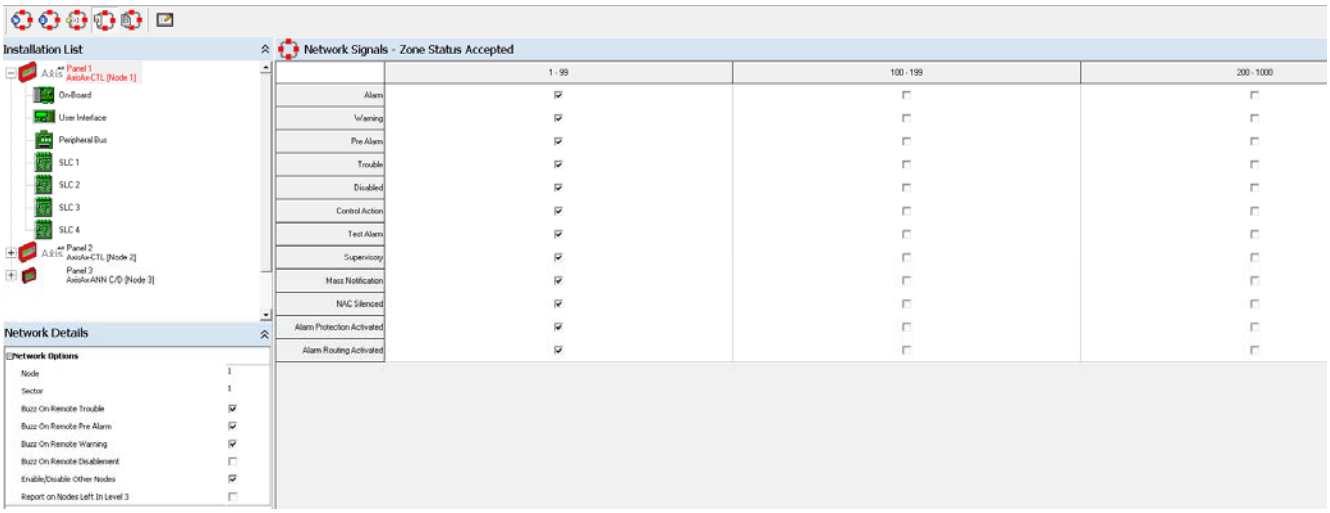
Note: Defining of all Sector zones must be done at this stage, in sequential order (i.e. Sector 1 zones 1 – 99, Sector 2 zones 100 – 199, etc.).

Below is an example of three (3) segregated zone groups; 1 – 99, 100 – 199 and 200 – 1000:

Network Signals - Zone Status Accepted

	1 - 99	100 - 199	200 - 1000
Alarm	☑	☑	☑
Warning	☑	☑	☑
Pre Alarm	☑	☑	☑
Trouble	☑	☑	☑
Disabled	☑	☑	☑
Control Action	☑	☑	☑
Test Alarm	☑	☑	☑
Supervisory	☑	☑	☑
Mass Notification	☑	☑	☑
NAC Silenced	☑	☑	☑
Alarm Protection Activated	☑	☑	☑
Alarm Routing Activated	☑	☑	☑

The follow example shows Sector 1 nodes only providing status for zones 1 through 99:

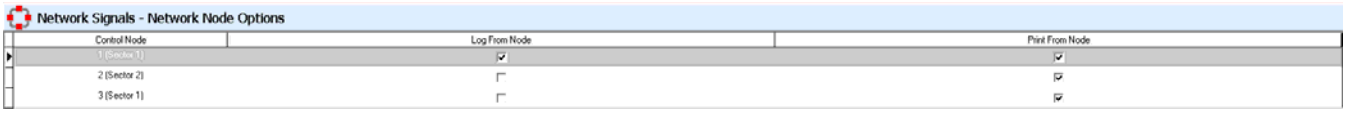


NOTE: If a zone is not included in a Sector network node, relevant status events of that zone for output cause and effect programming at this Sector node panel will not be possible.

19.2.5 Network Log

Within the Network Log area the user can define what network node panels (FACPs) will log network events and print network events.

The below example indicates that network node 1 will log only its own events, however if a printer is connected and programmed within the Panel Details, Printer Option area, this node will print all network status (based on Printer Option selections).



Note: If a serial digital dialer (DACT) is connected to a network FACP node a printer cannot be connected, as the serial port for the printer is utilized for the DACT.

Log From Node: Indicates the highlighted Node will log information from each additional network node that is checked. You cannot change the node you are programming as it will always log its own events.

Print From Node: Indicates the highlighted Node will print, to a connected printer, information from each additional network node that is checked. You cannot change the node you are programming as it will always print its own events.

20 Computer to Panel Communications

To communicate with a panel via a PC, the user will require either an RS-232 or USB cable. Within the PC-NeT programming tool, there are two (2) methods a user can communicate with the panel; one is to transfer configurations to and from the panel and the other method is utilizing the PC-NeT virtual terminal display.

20.1 Transferring configurations

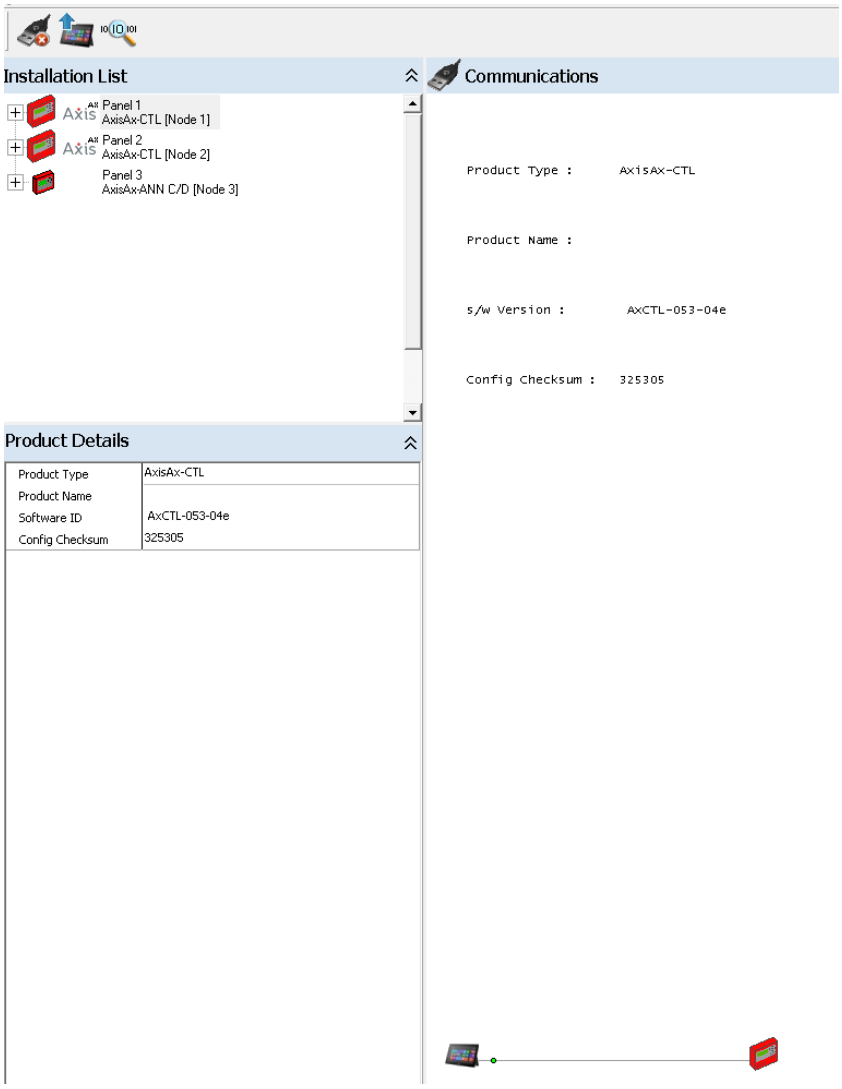
To transfer data to and from the panel click on the cable icon to establish PC to panel communications.

20.1.1 Transferring to the Panel

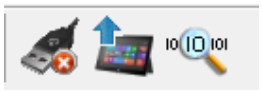
If the computer establishes successful communications with the panel, the details of the panel are shown on the screen.

- Product Type — AxisAx-CTL
- Product Name — If user has defined, if not it will be blank
- Software ID — Version Number
- Config Checksum — Checksum value for the software

At the bottom of the Communications screen a panel and PC icon will have a green indicator moving back and forth, between the PC and panel, this indicates correct PC to panel communications. If the connection is broken then the indicator stops moving.



In addition the following three icons will be available:



Disconnect From Installation: Disconnects communication between PC and panel.

Transfer Configuration Data From PC To Panel: Transfers configuration to panel.

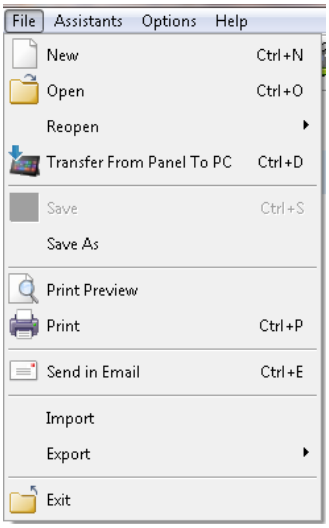
View Communications Status: Provides Packet Statistics Counters.

To transfer the configuration program to the panel, select the Transfer Configuration Data From PC To Panel icon.

Note: The panel must be in "PC-CONFIG" programming area to perform a transfer of the configuration data to the panel.

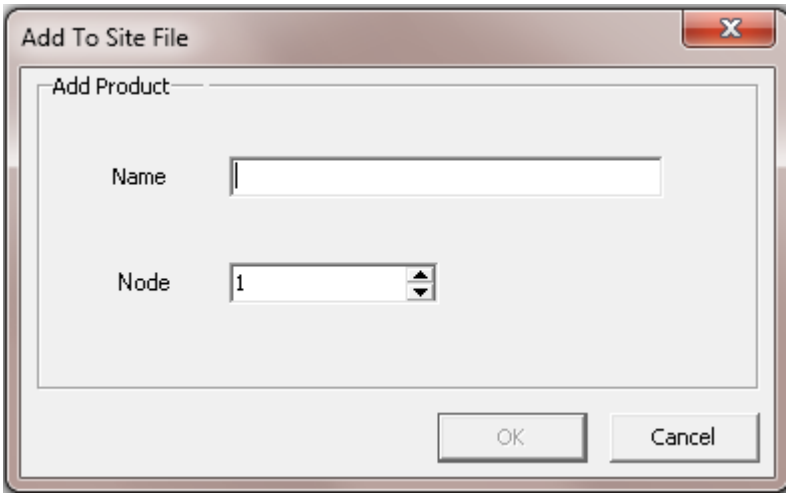
20.1.2 Transferring from the Panel

To transfer from the panel to a PC, establish PC to panel communications. Once communications has been established, select File drop down and select "Transfer From Panel To PC".



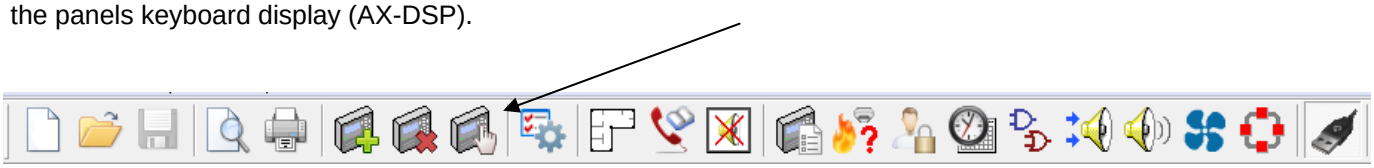
The PC-NeT programming tool will require the user to select whether the panel is standalone or part of a network.

If standalone; selecting the "Yes" button will transfer data from the panel to the PC. If a network node, selecting "No" will bring up the following screen, requiring the user to enter a product Name and Node number.



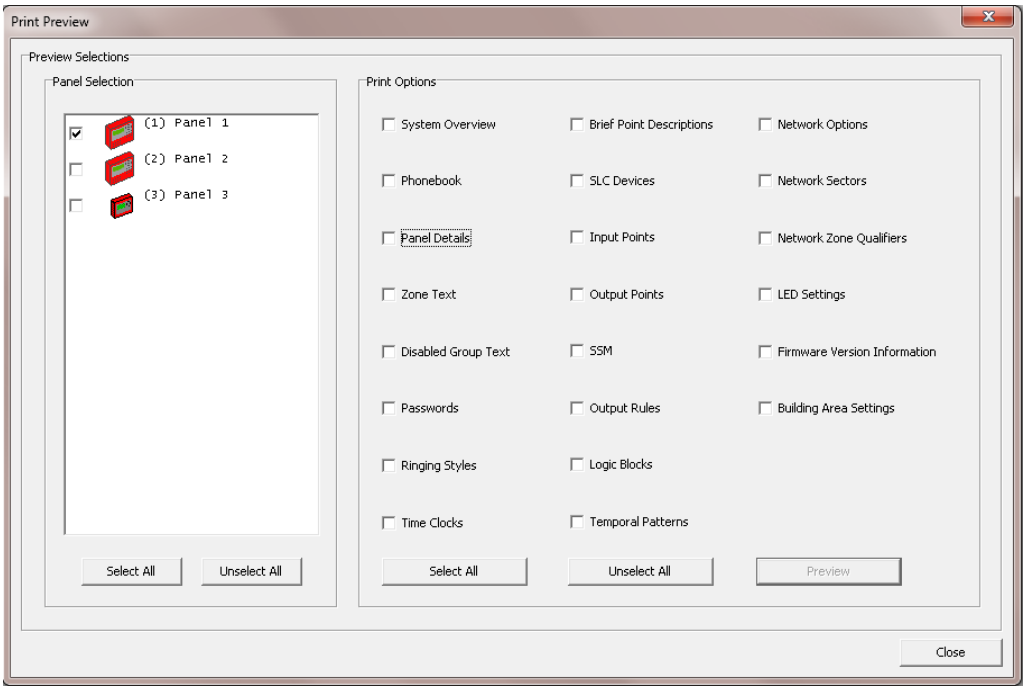
20.2 Virtual Terminal Display

Once communications with the PC and panel is established a new icon appears, this icon is used to activate the Axis AX Terminal. The Axis AX Terminal allows the user to perform all of the functions that can be performed at the panels keyboard display (AX-DSP).



21 Print Preview (Reports)

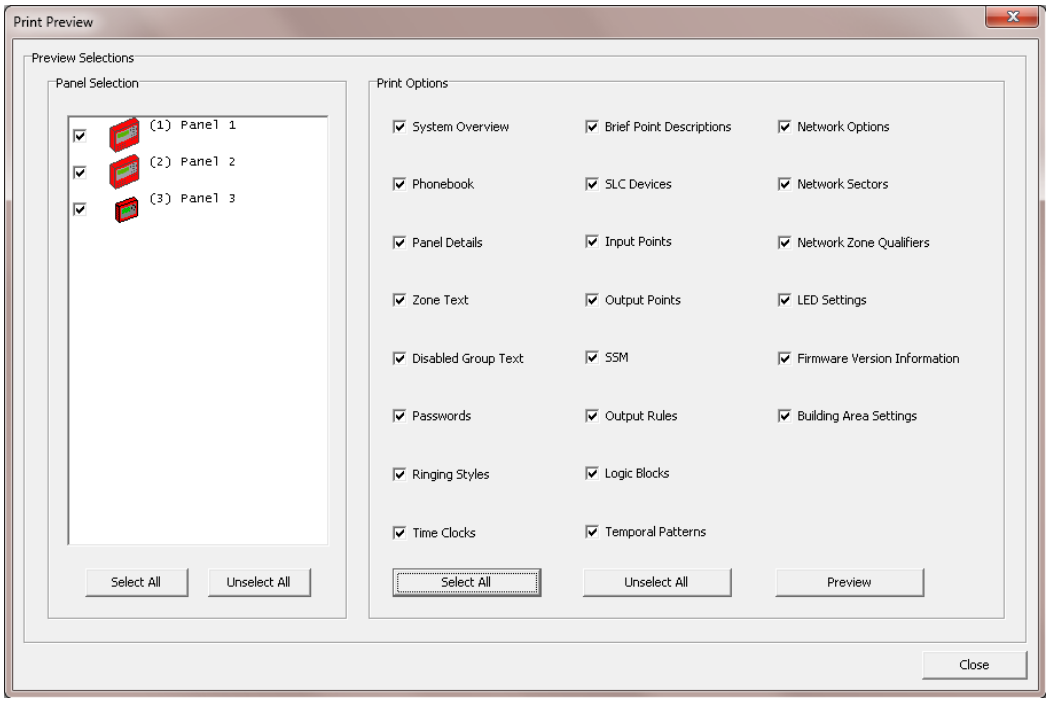
An installations configuration data can be viewed and/or printed as a set of formatted reports, utilizing the Print Preview icon. To view and/or print configuration data, select the Print Preview icon and the following screen will appear:



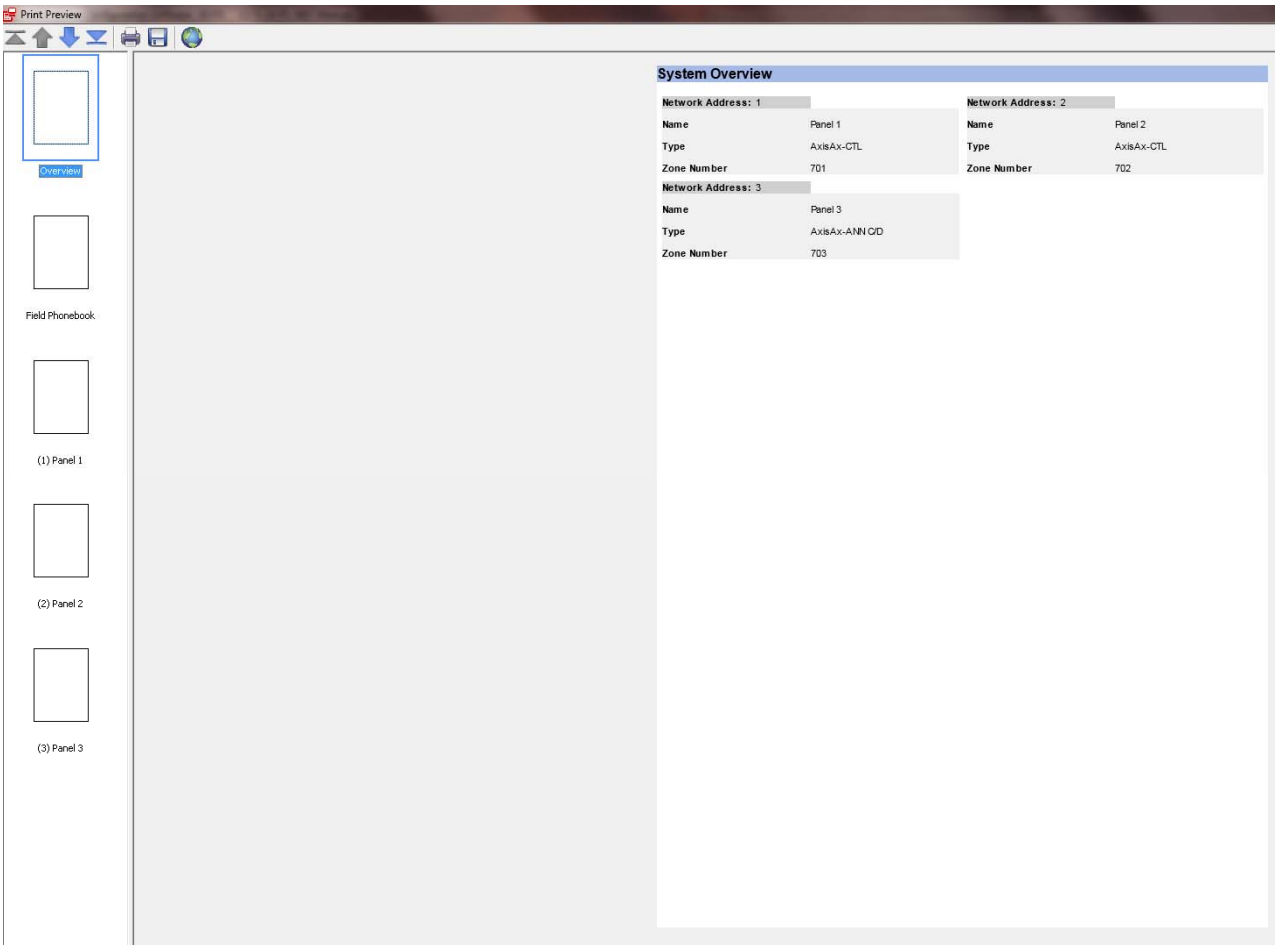
By default, the panel being programmed will be checked however, no other print option will be check.

The user can select additional panels (network nodes) individually or the user can select all nodes. Once the Panel Selection (s) has been made, the user can select the various reports requiring viewing (Preview) or printing. Preview / printing can be done by selecting report (s) or selecting all.

Example of all items selected:



The following reports will be available for the user. The user can review, print and/or save the reports.



21.1 Brief Point Descriptions

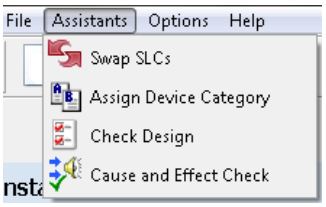
By performing a Print Preview of Brief Point Descriptions, the user can create a print out that will indicate each SLC loop of the selected panel(s). In addition, the Brief Points Descriptions will include device address, device type, zone number, zone text and device location text. This is an excellent document to provide to the AHJ (Authority Having Jurisdiction) upon completion of the installation.

SLC 1 Brief Points Description [Panel 1]

Address	Type	Zone	Zone Text	Location
1.0	Photo Smoke	1	First Floor	Elevator Lobby
1.1	Relay	1	First Floor	Remote LED Common Alarm
2.0	Photo Smoke	1	First Floor	Corridor Outside Room 101
3.0	Photo Smoke	1	First Floor	Corridor Outside Room 105
4.0	Multi Sensor	1	First Floor	Electrical Closet
5.0	Manual Pull Station	1	First Floor	Main Lobby
6.0	Switch Monitor	2	1st Floor West Wing	Waterflow
6.1	Switch	2	1st Floor West Wing	Not Used
6.2	Relay	2	1st Floor West Wing	Waterflow Gong
10.0	Photo Smoke	3	Pump Room	Large Area
14.0	NAC	1	First Floor	Hallway Signal
15.0	NAC	1	First Floor	Lobby Signal
16.0	Strobe	1	First Floor	Room Alarm Indicator

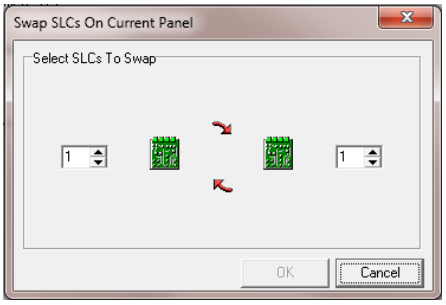
22 Assistants

The Assistants provides help in performing useful tasks that would normally be difficult or tedious to do manually. Select the Assistants from the menu bar and choose the required tasks to be performed. The items displayed in the drop-down menu are context sensitive and depend upon the current selection in the site list. Each task is described in detail in the following sub-sections.



22.1 Swap SLCs

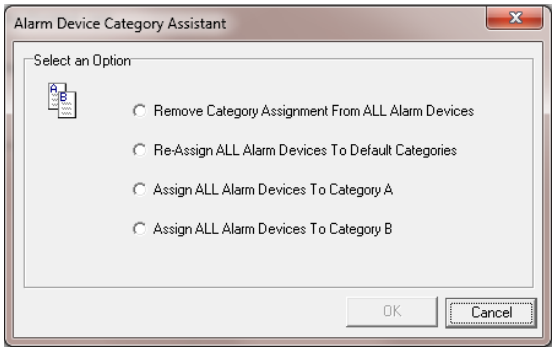
This option allows the devices assigned to one SLC loop to be swapped over to another SLC loop. Select the two loops to be swapped and click the “OK” button.



22.2 Assign Device Category

This option allows the user to redefine Alarm Categories, Category A (default all addressable manual pull stations) and Category B (all other addressable alarm inputs [detectors and switch input modules]). AX-CZM conventional zones are defaulted to no category.

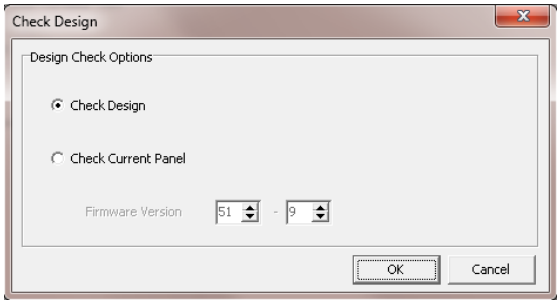
Note: Categories are only available for Alarm input points.



22.3 Check Design

When a configuration is completed it would be tedious (especially on a network system) to validate all of the details manually. The Check Design assistant helps to validate the design for you.

Select Assistants then select Check Design from the menu bar, the opposite screen will appear:



22.3.1 Design Check Options

The user can check the design (Check Design) by selecting installation nodes or check the current panel (Check Current Panel).

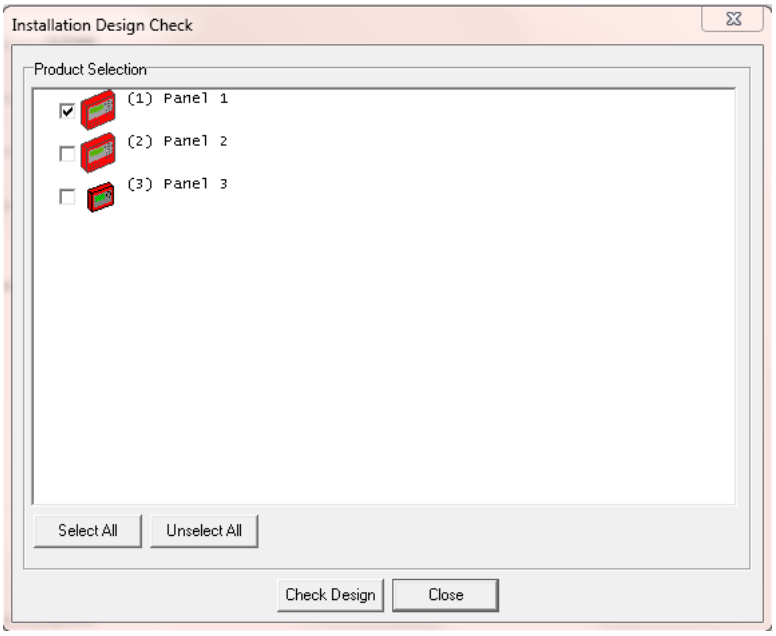
Design checks review the following items for the selected node (s):

- Used zone with no text
- Unused zone with text
- Input or output device with no text
- Duplicate zone usage (across 2 or more panels)
- Input/output device assigned to duplicate zone
- Output with undefined output rule
- Output rule unused
- Logic statement unused
- Invalid event input action
- Invalid input event
- SLC loop driver current overload

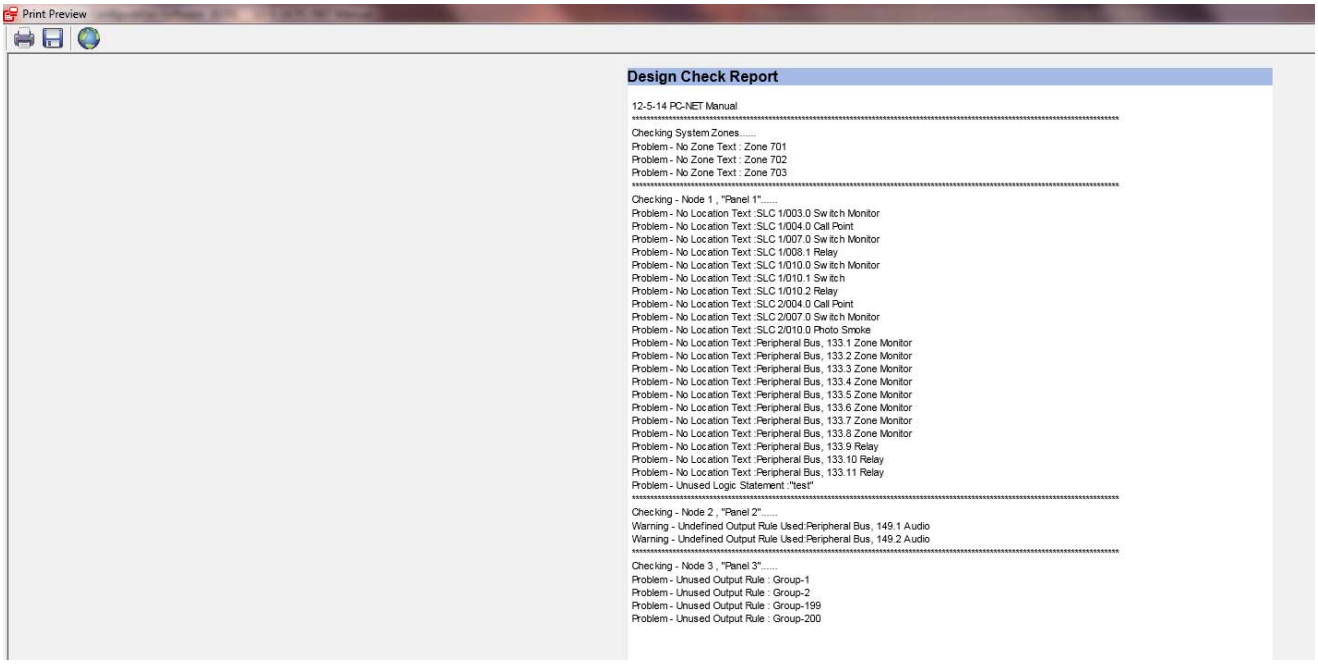
Note: Within the Design check report, if issues are found, items will be listed as Problems or Warnings. With Problems, the user will still be able to upload the program to individual nodes. With Warnings, the user will not be able to upload to network nodes until the Warning is rectified.

22.3.1.1 Check Design

To check the design, select Check Design and click on “OK”. Within the Installation Design Check area the user can select individual network nodes or can select all network nodes.

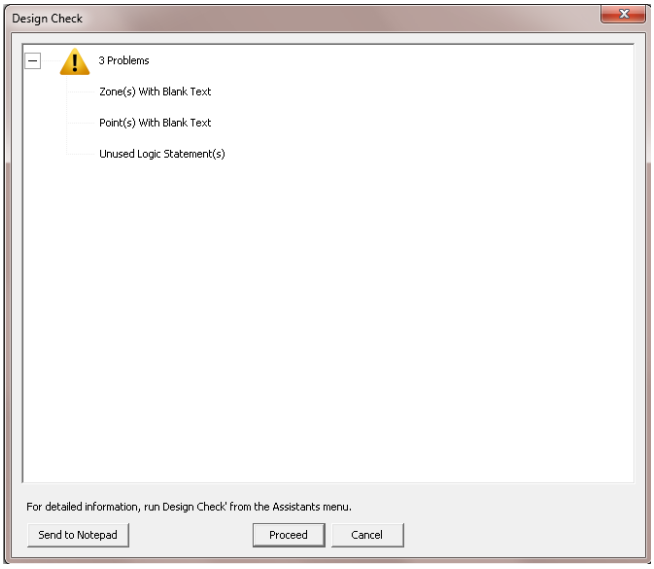


Once the network node or nodes have been selected, clicking on the “Check Design” button will check the selected nodes. Below is an example of a design check for all nodes (3):



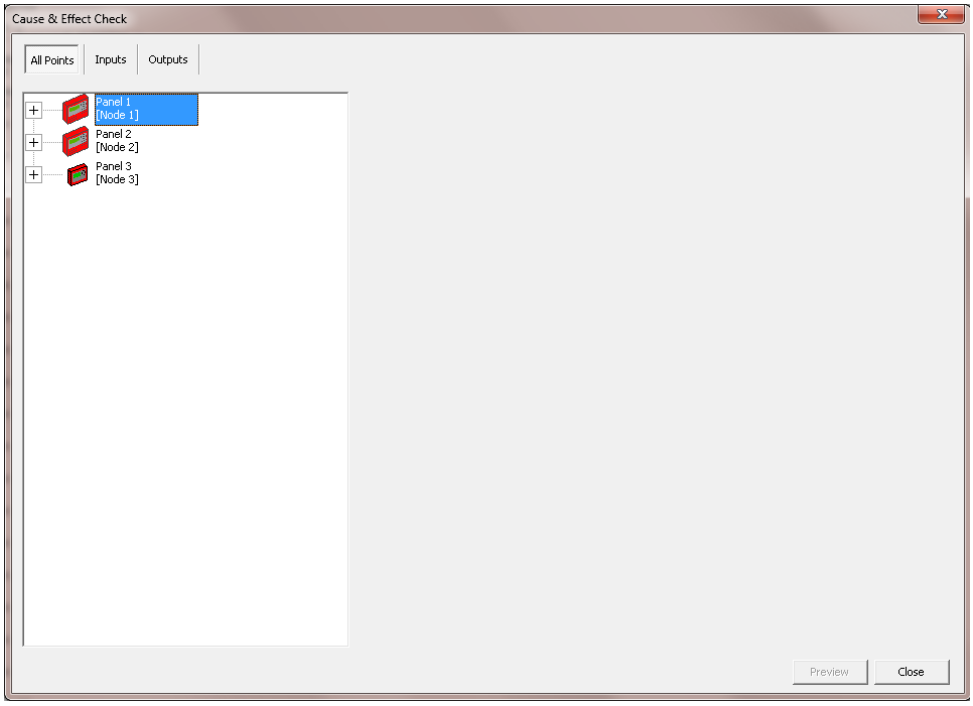
22.3.1.2 Check Current Panel

To check the current panel, select Check Current Panel and click on “OK”. Below is an example of a design check for the current panel:

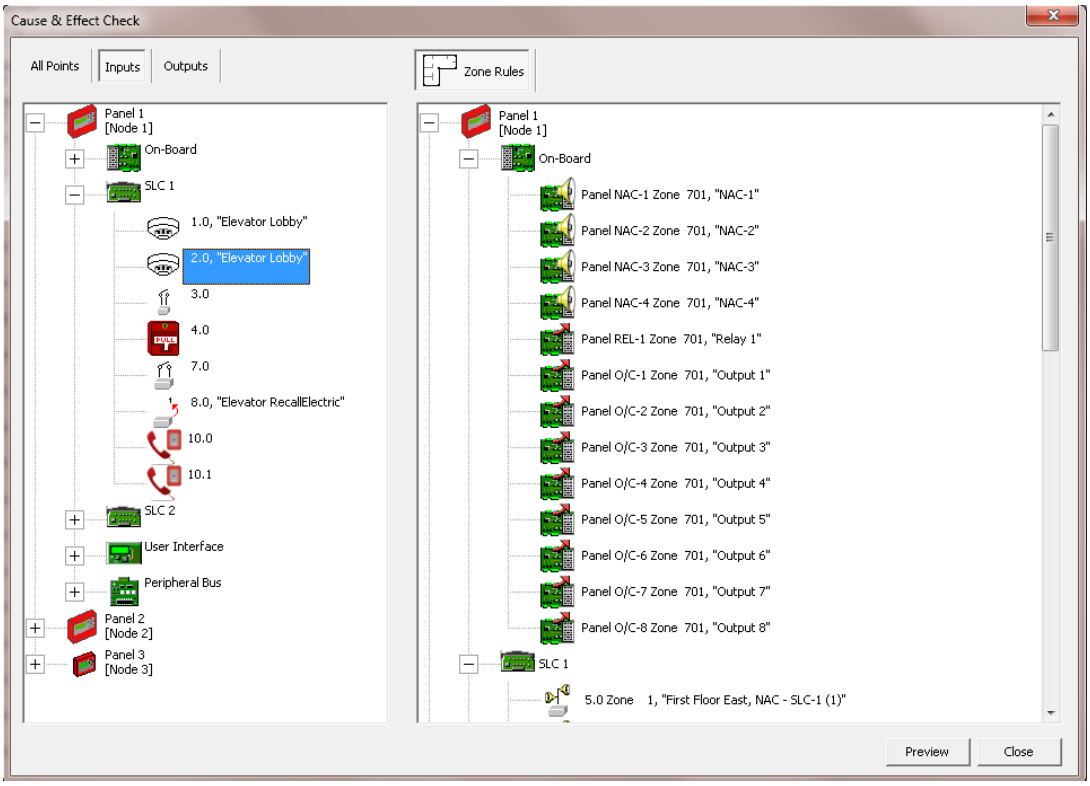


22.4 Cause & Effect Check

Within the Cause & Effect Check area, the user can check the interrelationship between inputs and outputs. All points (inputs and outputs) can be viewed or just inputs to outputs or outputs to inputs.

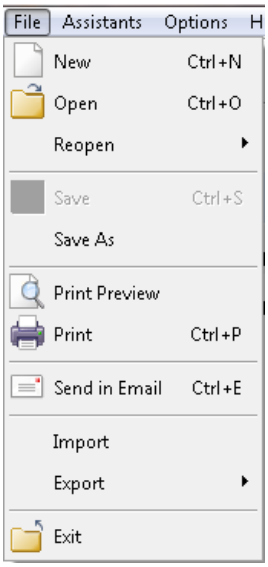


Below is an example of checking the cause & effect of input device node 1, SLC 1 device 2.0. To the right is a list of all of the outputs that the selected input is activating.

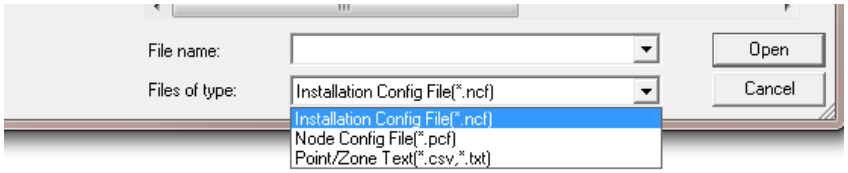


23 Import and Export Design, Node and Point/Zone Info

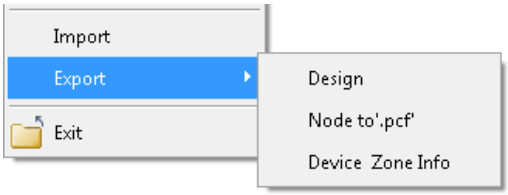
Import and Export located under the File drop down menu, allows the user to either import or export the Installation (design) configuration, Node configuration or Point (Device) Zone information.



23.1 Import Files



23.2 Export Files



23.3 Point/Zone Text (Device Zone Info)

Below is an example of the file format of an.csv (comma delimited file) file:

[Zone Details]

Zone No Text,
1, Zone 1,,
2 , Zone 2,,
3, Zone 3,,

[Point Details]

Loop, Address, Text, Zone
1, 1, Lp1 Addr 1, 1
1, 2, Lp1 Addr 2, 2
1, 3, Lp1 Addr 3, 3

Doc Number: 682-100AFS

Revision: 4

Advanced Fire Systems Inc

100 South Street, Hopkinton, Massachusetts 01748

Tel: (508) 435-9995 Fax: (508) 435-9990