

# **Velocity** CONTROL PANEL

# **Operation and Maintenance Manual**





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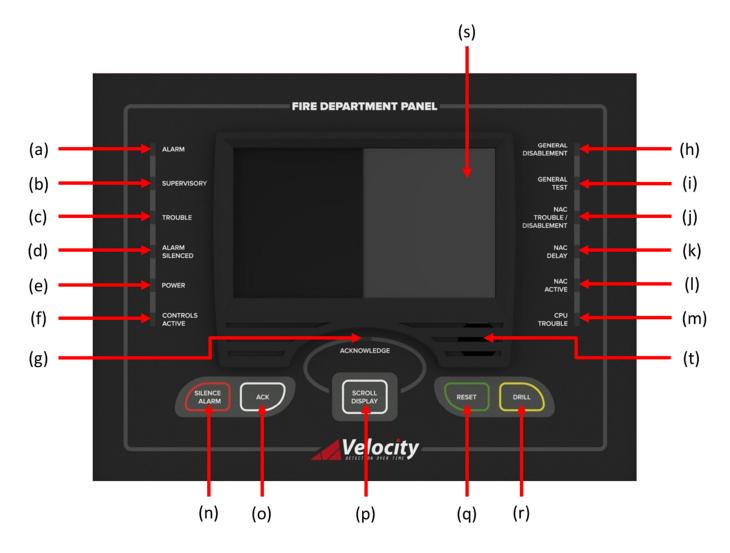
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# Controls and Indicators

Figure #1below shows the control buttons, LED indicators and switch locations.

Figure #1



### a) LED: Alarm

- Red LED.
- Flashes when there is an active alarm event present.
- On steady once acknowledged.
- Off when the alarm condition is cleared, and when the panel has been reset.

### b) LED: Supervisory

- Yellow LED.
- Flashes when there is a supervisory event present.
- On steady once acknowledged.
- Off when the supervisory condition is cleared (some supervisory inputs may require a system reset if they are latched).

### c) LED: Trouble

- Yellow LED.
- Flashes when there's a fault with a monitored circuit/system component or when a NAC device has been disabled.
- On steady once acknowledged.
- Off when the trouble condition has been cleared (some trouble signals may require a system reset if they are latched).

### d) LED: Alarm Silenced

- Yellow LED.
- Flashes to indicate that the Notification Alarm Circuits and the Notification Alarm Devices are deactivated, but the panel is still in alarm.

• Off if the panel re-enters alarm, the system is reset, or if a drill is carried out.

#### e) LED: Power

- Green LFD.
- On steady when the panel has power.
- Off when the panel has no source of power applied.

#### f) LED: Controls Active

- Yellow LED.
- Indicates that the user now has access to use either the function buttons or the LCD touch screen display (depending on access level).
- On when the user has entered the access level 2 user password, or when the user has entered the access level 3
  engineers password.
- Off when either the access has timed out, or when the user/engineer has locked the panel.

### q) LED: Acknowledge

- Yellow LED.
- Flashes when there are unacknowledged events.
- On steady when all current events have been acknowledged.
- Off when there are no events.

#### h) LED: General Disablement

- Yellow LED.
- On steady when any part of the system has been disabled.
- Off when there are no current disablements.

### i) **LED: General Test**

- Yellow LED.
- On steady when any part of the system is in test mode.
- Off when there are no current circuits/devices in test mode.

### i) LED: NAC Trouble/Disablement

- Yellow LED.
- On steady if there is a fault detected on an NAC circuit.
- On steady when an NAC has been disabled.
- Off when the NAC's are in the normal condition.

### k) LED: NAC Delay

- Yellow LED.
- On when an NAC has been configured to delay its output.
- Off when there is no configured delay to the NAC's output.

#### l) LED: NAC Active

- Red LED.
- On when the output of any NAC is currently active.
- Off when there are no NAC's with their outputs active.

### m) LED: CPU Trouble

- Yellow LED.
- On when there is an abnormal microprocessor running condition due to various unexpected phenomena.
- Off when the microprocessor is running correctly.

## n) Function Button: Silence Alarm

- A minimum of Level 2 access (By entering the user password) is required.
- When the **SILENCE ALARM** key is pressed, the panel's Notification Alarm Appliances will be silenced.
- The Alarm Silenced LED will start flashing and remain until either the panel is reset, or until another alarm
- retriggers the notification appliances. The RED ALARM LED shall be maintained.
- NOTE: to silence the panels' internal buzzer, the alarm must be acknowledged.
- It also sends a 'SILENCE ALARM' message to the panel printer and history log.

### o) Function Button: ACK (Acknowledge)

- A minimum of Level 2 access (By entering the user password) is required.
- When the ACKNOWLEDGE button is pressed, the control panel will silence its internal sounder (buzzer). The internal buzzer will only be silenced after all events have been acknowledged.
- Change all related active LED indicators from flashing to steady.
- Sends acknowledgment confirmation the LCD status screen.
- The acknowledge message is sent to the printer and the history log.
- The button is used to acknowledge and silence the internal buzzer for Alarm, Supervisory and Trouble events.
- Pressing the ACK button will acknowledge events cross network.

### p) Function Button: Scroll Display (Scroll Acknowledge Display)

- If there is an event waiting to be acknowledged, then the Acknowledgment LED will be lit.
- Press the scroll button to view each current Alarm, Supervisory and trouble event on the panel.
- The priority will be (Alarm, Supervisory, and then Trouble).

### q) Function Button: Reset

- A minimum of Level 2 access (By entering the user password) is required.
- Pressing the RESET button will return the panel to normal operating mode, clear any off-normal condition from the status display; restore the alarm and trouble relays to their normal states; extinguish all status LEDs except the green POWER LED, and yellow test/disablement/delay LED's.
- If any alarm or trouble still exists after you press the SYSTEM RESET button, all NACs, control outputs, and panel audio and visual indicators will reactivate.
- The reset message is sent to the printer and the history log.
- The reset button will not operate unless all the events have been acknowledged (*User level only*). When in Admin (Engineering level), the panel can be reset without acknowledging all events.
- The reset button will not operate if any NAC devices are active.

### r) Function Button: Drill

- A minimum of Level 2 access (By entering the user password) is required.
- To start a drill, press the Drill button.
- Using the DRILL button will manually activate all silenceable outputs and Notification Appliance Circuits.
- It will not activate the alarm relays.
- It creates a history log entry of the drill and also sends it to installed printers.
- The drill can be cancelled via a press of the SILENCE ALARM button, and will also cancel if the panel receives an ALARM or SUPERVISORY event.

#### s) 4.3"Touch Screen Display

- Full colour resistive touch screen.
- Designed to make status information clear and system control functions simple to operate.
- Each system event presents the user with a message describing the location of the alarm report and the type of event (manual alarm, smoke, or heat).
- NOTE: To help increase the lifetime of the LCD display, the screen will go into standby mode if left idle for 10 minutes.
   The panel will still be fully operational and any event will cause the screen to wake up. The screen won't timeout into standby mode if there are any current events on the panel.

### t) Internal Buzzer

- Gives an audible indication if there is an alarm, trouble or supervisory event.
- Audible distinction between alarm and trouble/supervisory provided.
- The internal buzzer will only be silenced after all events have been acknowledged.

# System Operating Modes and Annunciation

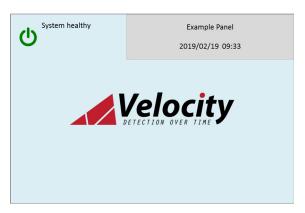
During normal operation the panel will be in one of the following states depending on the status of the devices connected to the panel, and user intervention. Below is a summary of the different conditions:

# **Normal Condition (Quiescent)**

The following functions will be performed at regular intervals when in normal mode:

- Supervises all SLC devices, network devices and the notification appliance circuits.
- Checks for valid replies, alarms, troubles, etc.
- Checks for power supply and battery condition.
- Refreshes LCD displays and updates time.
- Scans keypad for System RESET.
- Supervises Network communications.
- Performs time-scheduled actions (day/night sensitivity and on/off schedules).

A typical normal display would be as illustrated below:



In the quiescent condition, the panel displays:

- System Healthy
- Velocity Logo
- Panel Site Name
- Time & Date

### **Trouble Condition**

The following functions will be performed when in the trouble condition:

- Will cause the panel's internal buzzer to sound with a pulsed output.
- The general Trouble LED will illuminate and flash.
- Any relevant Trouble LED's will illuminate.
- A trouble message will be displayed on the LCD screen.
- The trouble relays will be switched.
- The message is sent to the history log and printer.

If there is a trouble signal indicated from an addressable SLC device, the reported message will show device address, zone and the TRM port information to aid in locating the problem. The time and date of the trouble indication will also be shown to aid in record keeping.

A typical trouble display would be as illustrated below:



On the screen, the panel shows:

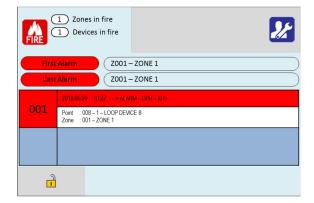
- Trouble Icon
- Number of trouble events
- Details of trouble events in chronological order (showing trouble type, zone number & label, device address & label)
- Scroll arrows for displaying further events (if there are any).

### **Alarm Condition**

The following functions will be performed when in the alarm condition:

- Will cause the panel's internal buzzer to sound with a steady output.
- The general Alarm LED will illuminate and flash.
- The LCD displays the Alarm along with the device name, type, address, associated zones and time/date.
- Alarms latch and are not allowed to clear automatically.
- Alarms activate cause & effects if programmed.
- Alarm relays are activated.
- The trouble relays are not activated.
- Stores event in history log and sends message to printer.

A typical alarm display would be as illustrated below:



On the screen, the panel shows:

- Fire Icon
- Number of zones in alarm
- Number of devices in alarm
- First & last zones in alarm
- Details of alarms in chronological order (showing device type, Zone number & label, Device address & label)
- Scroll arrows for displaying further events

# **Supervisory Condition**

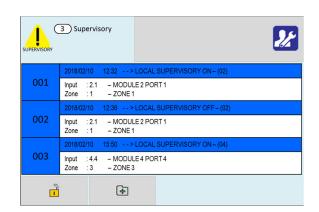
The Supervisory condition can be configured as latching or non-Latching for each supervisory input.

The following functions will be performed when in the supervisory condition:

- Will cause the panel's internal buzzer to sound with a pulsed output.
- The general Supervisory LED will illuminate and flash
- The LCD displays the Supervisory status label along with the device name, type, address, associated zones and time/date.
- Any supervisory relays are activated.
- The alarm relay <u>is not</u> activated.
- The trouble relay <u>is not</u> activated.
- Silenced alarms are not resounded.
- Stores event in history log and sends message to printer.

If the supervisory input is configured as non-latching, and there are no active trouble or alarm events, when the supervisory event clears, the screen will clear.

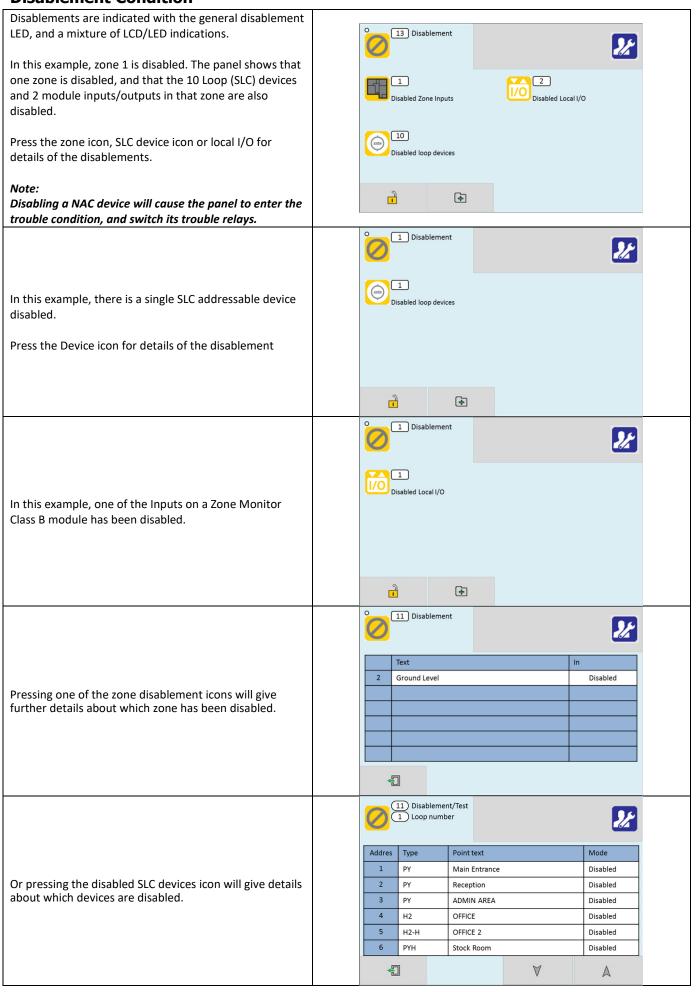
If the supervisory input is configured as latching, when the supervisory event clears, the screen will display Local supervisory off, and the panel will need to be reset to clear the screen. A typical supervisory display would be as illustrated below:



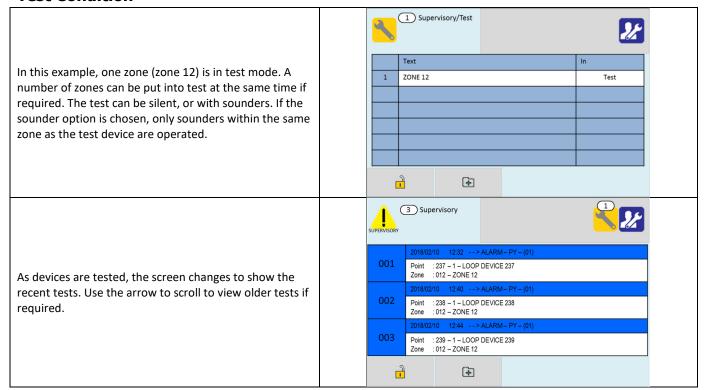
On the screen, the panel shows:

- Supervisory Icon
- Number of supervisory events
- Details of supervisory in chronological order (showing type, zone number & label, device address & label)
- Scroll arrows for displaying further events

# **Disablement Condition**



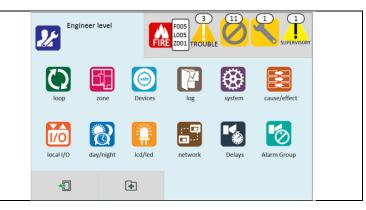
### **Test Condition**



# **Multiple Conditions**

In the event of multiple conditions, the panel will display the highest priority event. It will display the presence of suppressed events as icons on the top right of the screen. The number of events for each category is shown on the icon. To display any of the suppressed events, press the icon of that event.

(Priority: Alarms >Supervisory>Trouble> Disablement/Test)

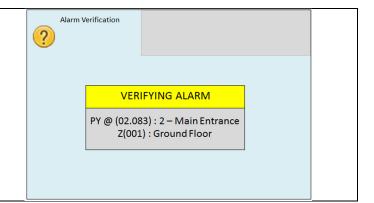


# **Alarm Verification Conditions**

If Alarm verification has been enabled on the control panel, the panel will indicate the verification as a pop-up window, giving the device type, along with its address, text label and zone.

If the alarm clears, the panel will clear it's screen when the verification time ends.

If the alarm is still present, the panel will confirm this as an alarm, and display its usual alarm screen.



# Accessing the Panel

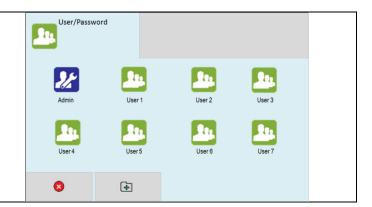
The VELOCITY panel has 2 user access levels and one installer access level.

# Basic user access (Access level 2a)

Tap LCD. Select user icon . Enter user access code (Default 0001)

This allows the user to have access to the main control buttons, to silence alarms, acknowledge events and reset the panel.

It is indicated by a steady Controls Active LED, and an open padlock icon in the bottom left corner of the LCD screen.



# Full user access (Access level 2b)

From access level 2a press the menu access icon.

This allows the user to view the user menus, to view device status, event logs etc.

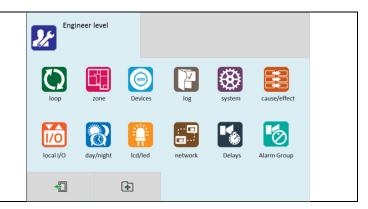
It is indicated by a steady Controls Active LED, and an open padlock icon in the bottom left corner of the LCD screen.



# **Engineer Access (Access level 3)**

Tap LCD. Select Engineer icon . Enter the Engineer access code (Default 9999). This allows the engineer to configure the panel, set zone & device text, allocate zones, enter panel cause & effect etc.

It is indicated by a Controls Active LED, and an open padlock icon in the bottom left corner of the LCD screen.

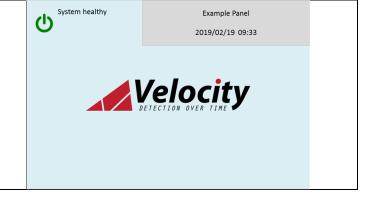


# **Turning Off Access**

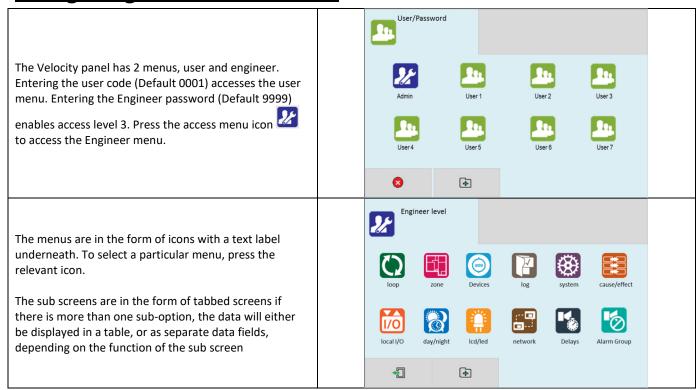
If the panel is in one of the menus, press the exit menu icon in the bottom left corner.

Press the padlock icon in the bottom left corner.
The controls active LCD will turn off and the padlock icon will turn off.

(To help keep the panel secure, access will automatically timeout if the panel is left idle for approx. 5 minutes)

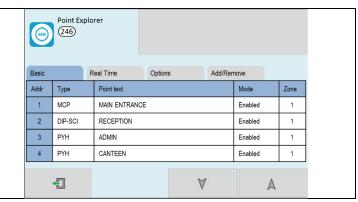


# Navigating the Panel Menus



# **Table View Screen**

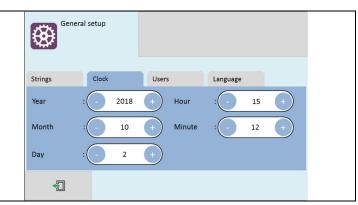
Information is presented in a table, there is editable data (e.g. device labels), and non-editable data (e.g. device types). Tapping on an editable data field will allow it to be edited.



### **Data Field Screen**

Information is presented in data fields, the data will either be values, or option buttons.

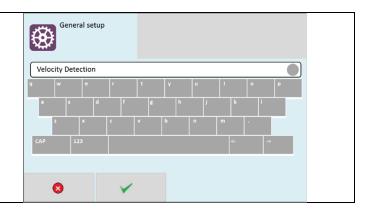
Clicking on the field will allow it to be edited



# **Text Keyboard**

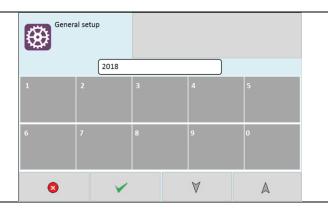
Used to enter text. Use <- and -> to position the keyboard. Press the circle at the end of the text field to delete text as required. The '123' key brings up the numeric keyboard. And the 'CAP' key turns on the caps

Press when finished to confirm the text entry.



# **Number Keyboard**

Use the up & down Icons to increase or decrease the number, or enter the number via the keypad.

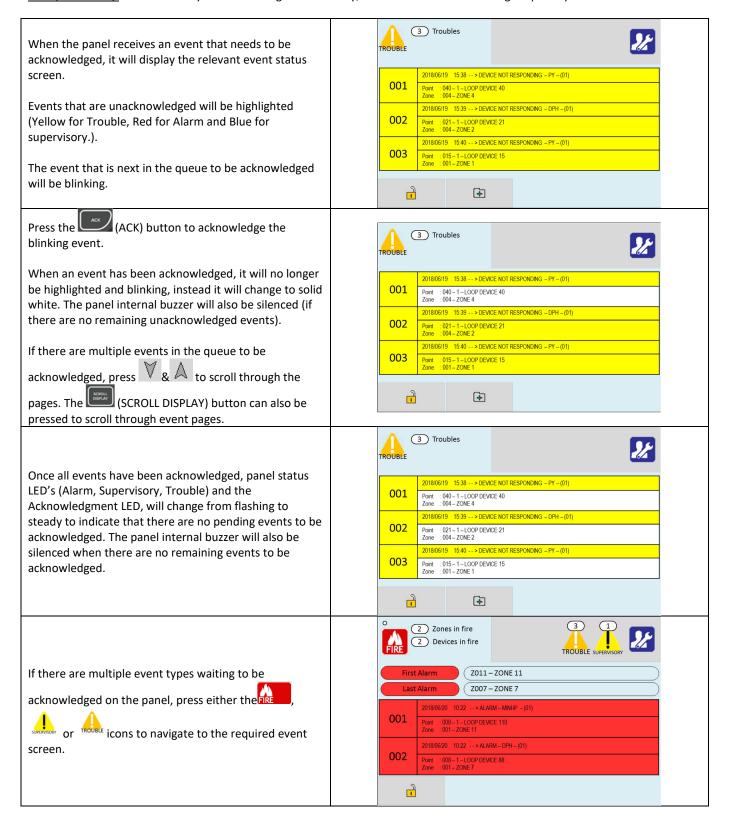


# <u>Acknowledge</u>

When an Alarm, Supervisory or Trouble event occurs in the system, the display enters the off-normal mode automatically. The events are displayed in priority order (Alarm, Supervisory, and Trouble), the local audible buzzer sounds and the appropriate LED's will blink. After all events have been acknowledged, the buzzer will deactivate and the associated LED will stop flashing and remain on continuously. If the panel is networked, the events will be acknowledged across the network. The way the panel responds to acknowledgement will depend on the current access level.

Admin (Engineer Level): Events can be mass acknowledged, pressing ACK will mass acknowledge each event by event type.

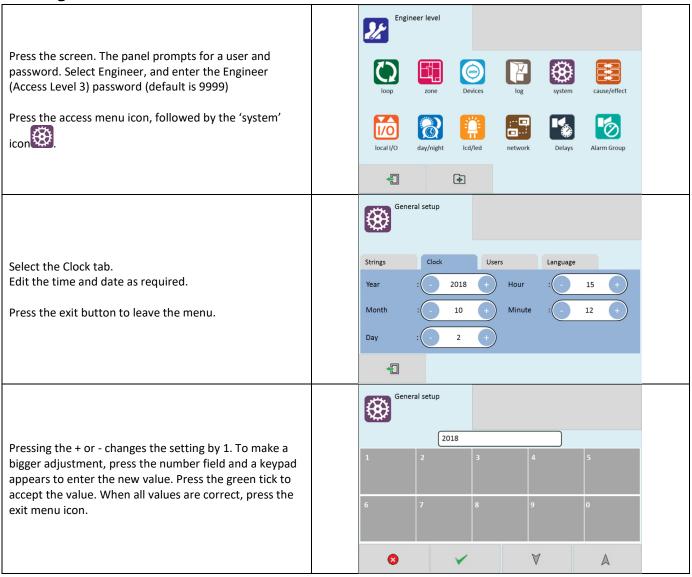
User (User Level): Events can only be acknowledged individually, there is no mass acknowledge capability.



# **Initial Panel Setup**

The Velocity panel is supplied configured ready for installation. But there are a few settings that may need to be altered.

# **Setting Date and Time**



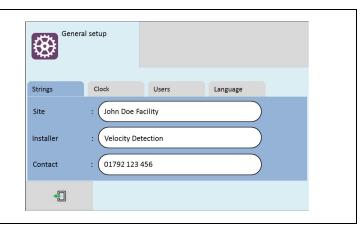
# **Creating an Installation Name**

From the installer menu, press the 'system' Icon. Then select the strings tab.

Enter the Site Name, Installation/Maintenance Company and their contact number.

**Note:** The site name that is entered here will be what is displayed on the panel home screen.

Press the exit button to leave the menu. Press the green tick to confirm the changes.



### **Passwords**

From the installer menu, press the 'system' icon.

Select the USERS tab.

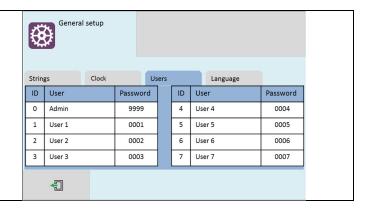
To change a user name, tap a user field.

To change a password, tap a password field. The panel will prompt to enter the new password twice.

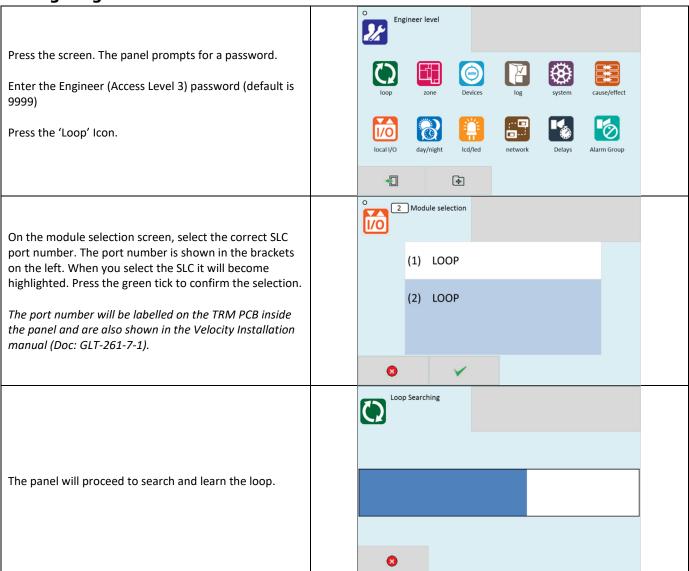
To delete a user, enter the password as blank.

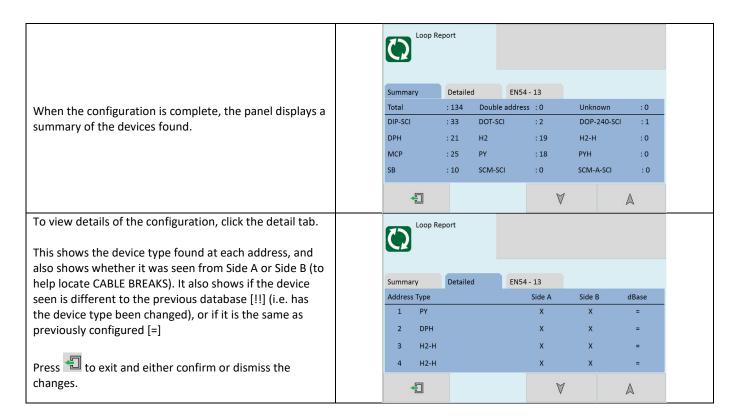
Any unused user should have the password left blank

Press the exit button to leave the menu. Press the green tick to confirm the changes.



# **Configuring the SLC Modules**

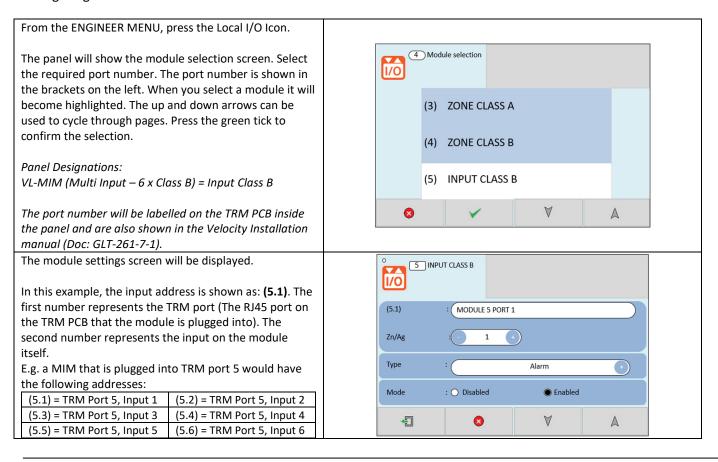


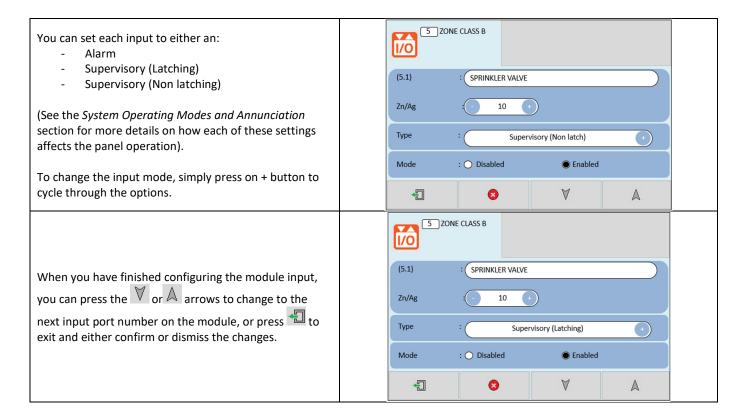


# **Configuring Supervisory signals**

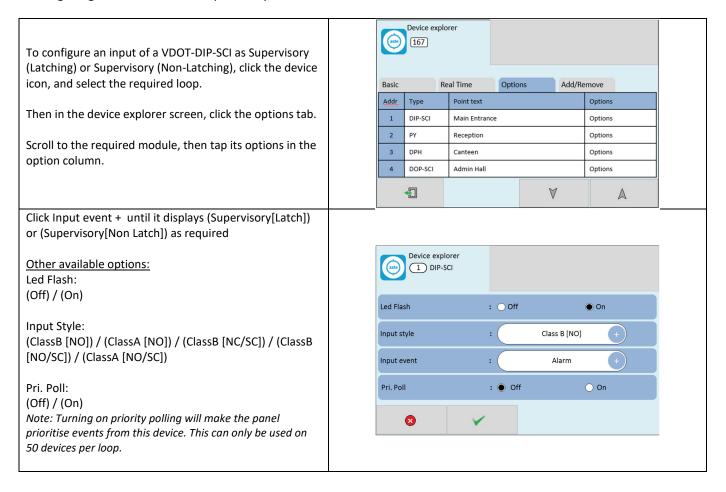
The Velocity MMP system allows panel-based Inputs (VL-MIM), and SLC loop based inputs (VDOT-DIP-SCI) to be configured to report alarm or supervisory conditions. When configured to report a supervisory condition, Latching (message stays on screen if event clears), or Non-latching (Panel returns to normal, clearing LEDS and screen) can be selected.

### Configuring VL-MIM





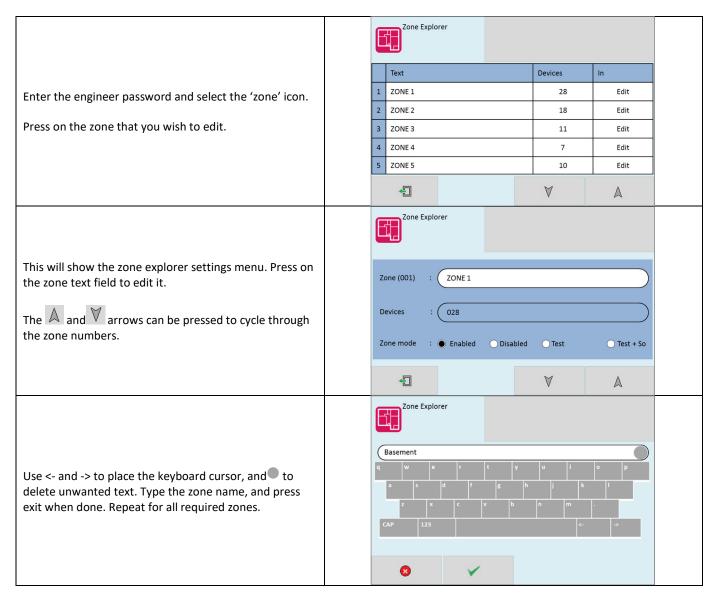
### Configuring VDOT-DIP-SCI as Supervisory



Note: to operate an output during a supervisory, program suitable cause and effect for Supervisory on event. If the output is required to turn off when the supervisory clears, you will need to program suitable cause and effect for the Supervisory off event (see PROGRAMMING: CAUSE AND EFFECT section of this manual)

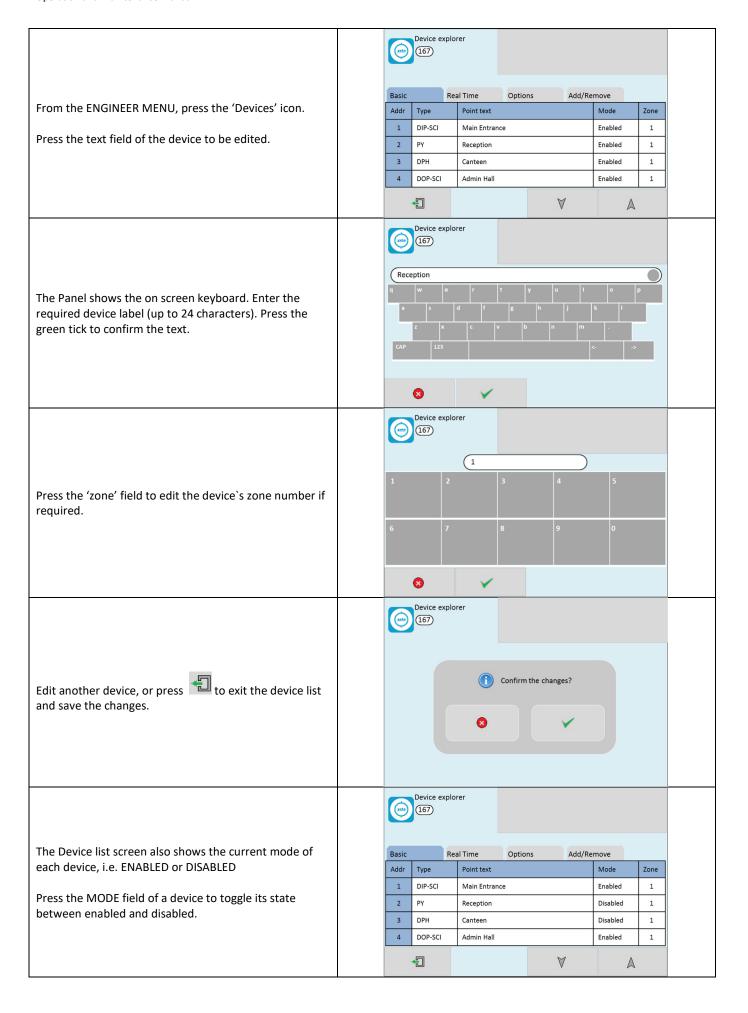
### **Zone Labels**

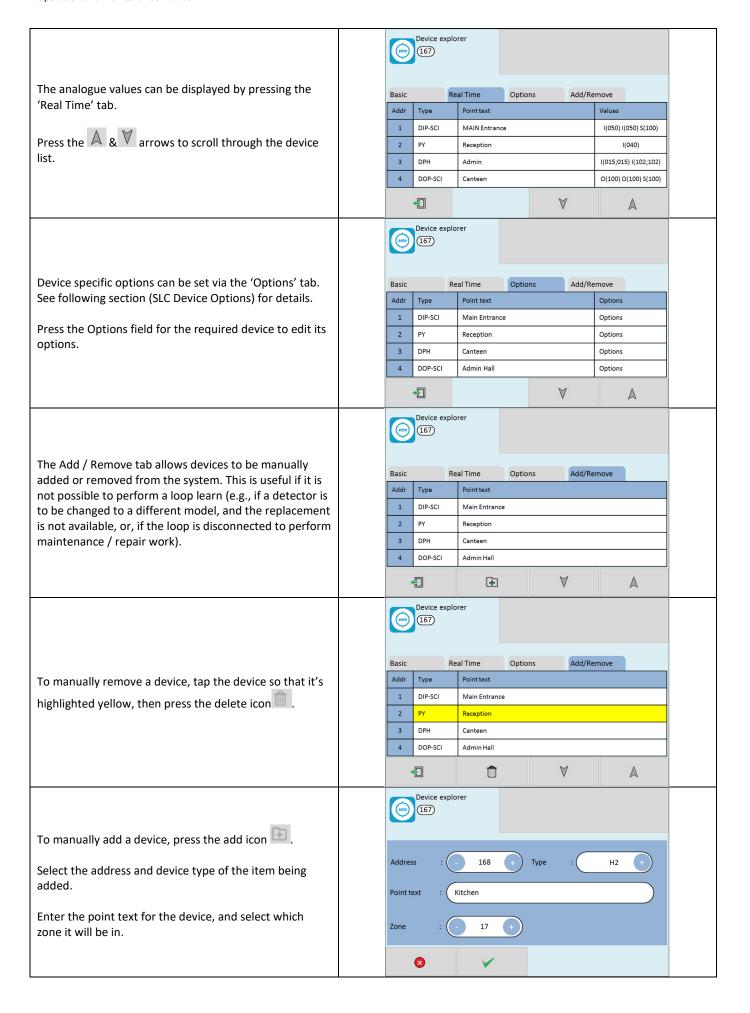
All fire alarm systems must be subdivided into zones, which represent the geographical areas of the building. The Velocity fire system allows any number of devices to be allocated to a zone. However, it is assumed that a zone will not contain more than 32 fire detectors and/or manual call points, since this would correspond to an unacceptably large search area. The Velocity panel has 254 zones. There is capability in some panel models (MMP10/64 &MMP26/64) to have LED indications for the first 64 zones. When a fire is reported, the zone number in which the fire is located is indicated on the panel touch screen display. In addition to its numerical description, a zone can be identified by a text label, e.g. 3rd floor west ext. If the installer associates a text label with each zone of a fire alarm system, this will be displayed on the LCD when a fire is detected. The maximum length of the zone text label is 39 characters.



### SLC Device Text and Zoning

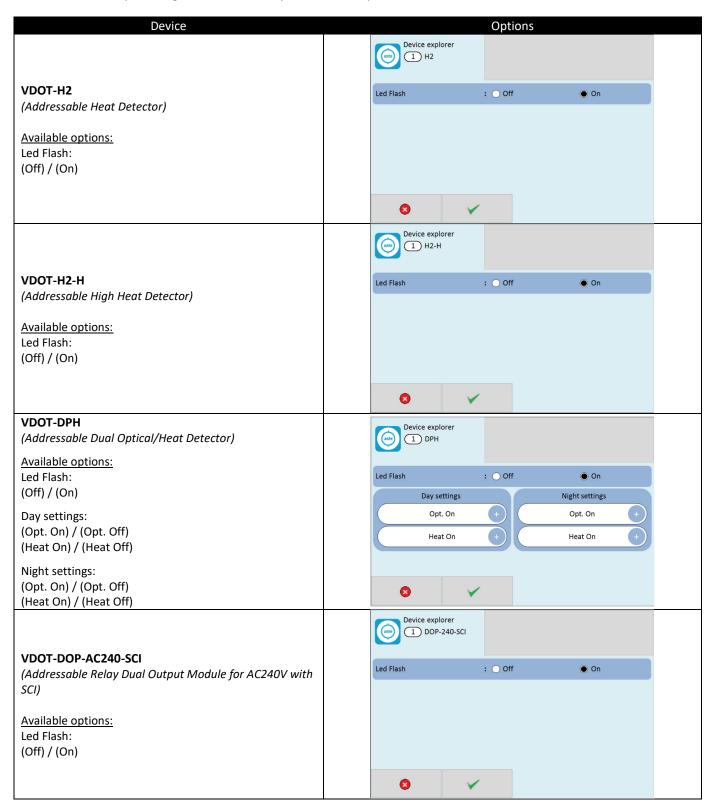
Velocity is an addressable panel, i.e. it will indicate the address or location of a fire that has been detected. The address number of each point or device on the loop has already been set with the address programming toolVDOT-AD2. See Manual GLT-303-7-1 for details. The installation engineer must now assign a label or location for each device, e.g. ROOM 107. A maximum of 24 characters can be used for each label. Devices can also be allocated to their correct zones at this stage.

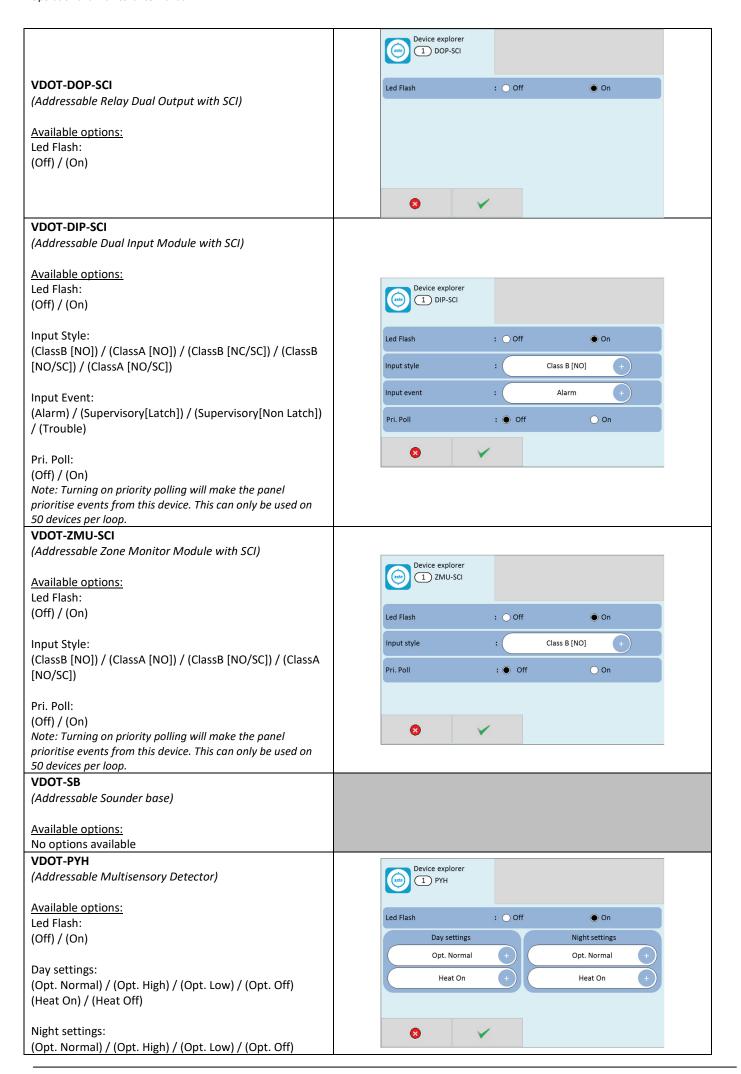


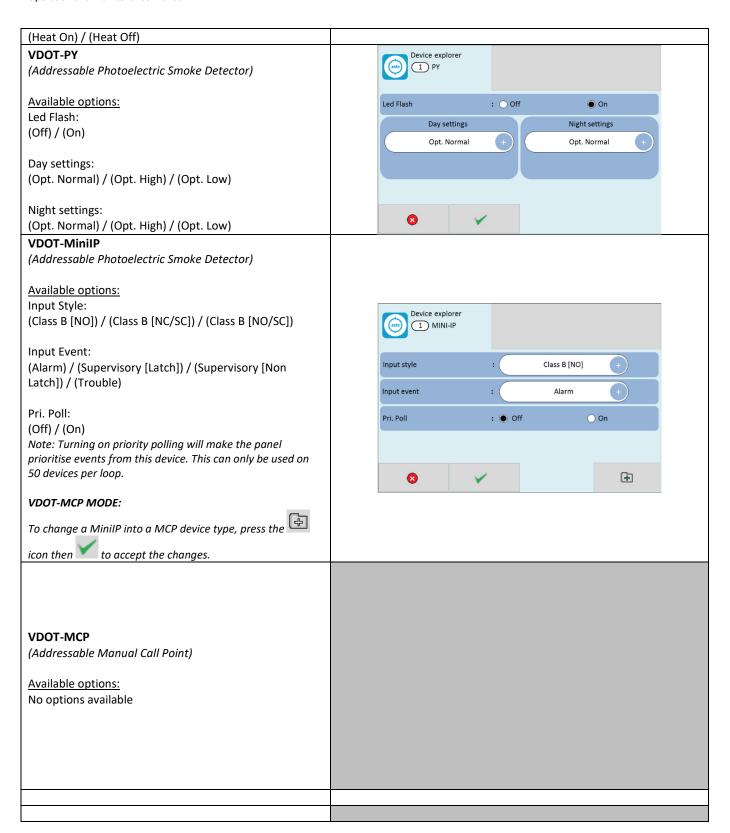


# **SLC Device Options**

Each addressable Velocity device has a number of configuration settings that can be programmed at the panel. The configuration screen is accessed by selecting the device on the options tab. The options for each device are:-



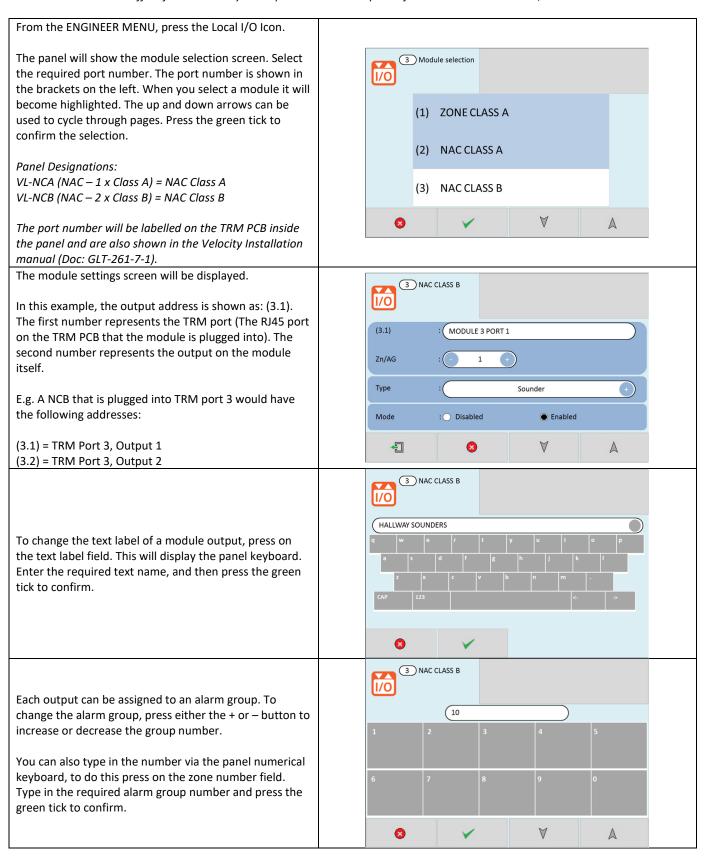




# **Setting NCA & NCB Module Options**

The below is an example on how to change the VL-NCB options. The procedure to change the settings for the VL-NCA is the same.

Note that the cause & effect for the Velocity MMP panel has 3 tone options for the NACs: ANSI -3 tone, March tone and continuous.



You can change the type of each output to either 'Sounder', 'Bell' or 'Voltage'.

#### Sounder

Provides power for, and handles communications to the non-addressable notification appliances (horns and sirens). Sounder mode provides a synchronized output (on velocity NAC devices only). It provides a steady 24V, with sync pulses once per second.

#### <u>Bell</u>

Provides a 24v output for use with mechanical fire alarm bells. This output will pulse the 24V on and off to achieve the required sound pattern. This option is unsynchronized.

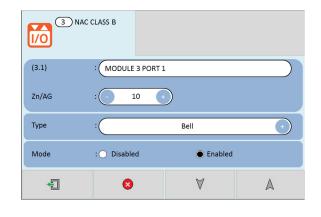
#### **Voltage**

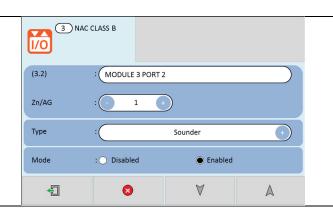
Provides a continuous 24v DC output for use with auxiliary equipment.

To change the output type, press on the + button to cycle through the options.

(NOTE: When NCA/NCB has been set to 'Voltage' mode, the module '24V ON' LED will be lit [Green constant]). When it is set to Bell, the 24V on LED will be flashing.

When you have finished configuring the module output, you can press the or arrows to change to the next output number on the module, or press to exit and either confirm or dismiss the changes.





### **Setting ZMA & ZMB & MIM Module Options**

The below is an example on how to change the VL-ZMB options. However, the procedure to change the settings for the VL-ZMA & VL-MIM is the same.

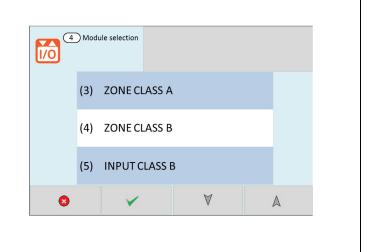
From the ENGINEER MENU, press the Local I/O Icon.

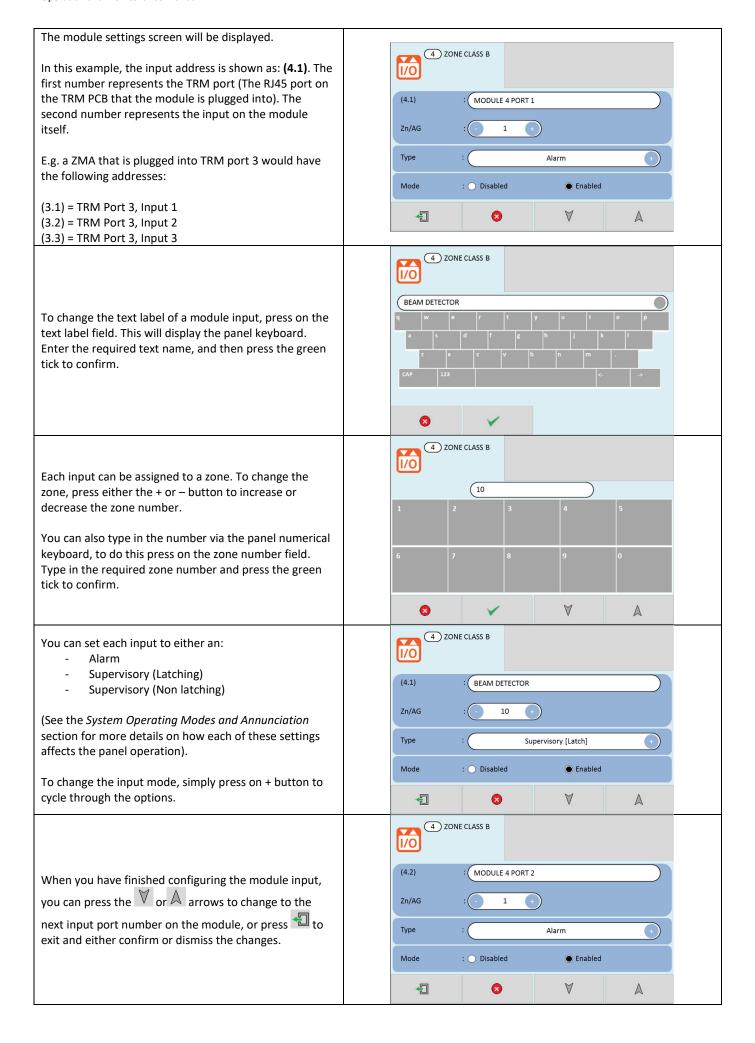
The panel will show the module selection screen. Select the required port number. The port number is shown in the brackets on the left. When you select a module it will become highlighted. The up and down arrows can be used to cycle through pages. Press the green tick to confirm the selection.

### Panel Designations:

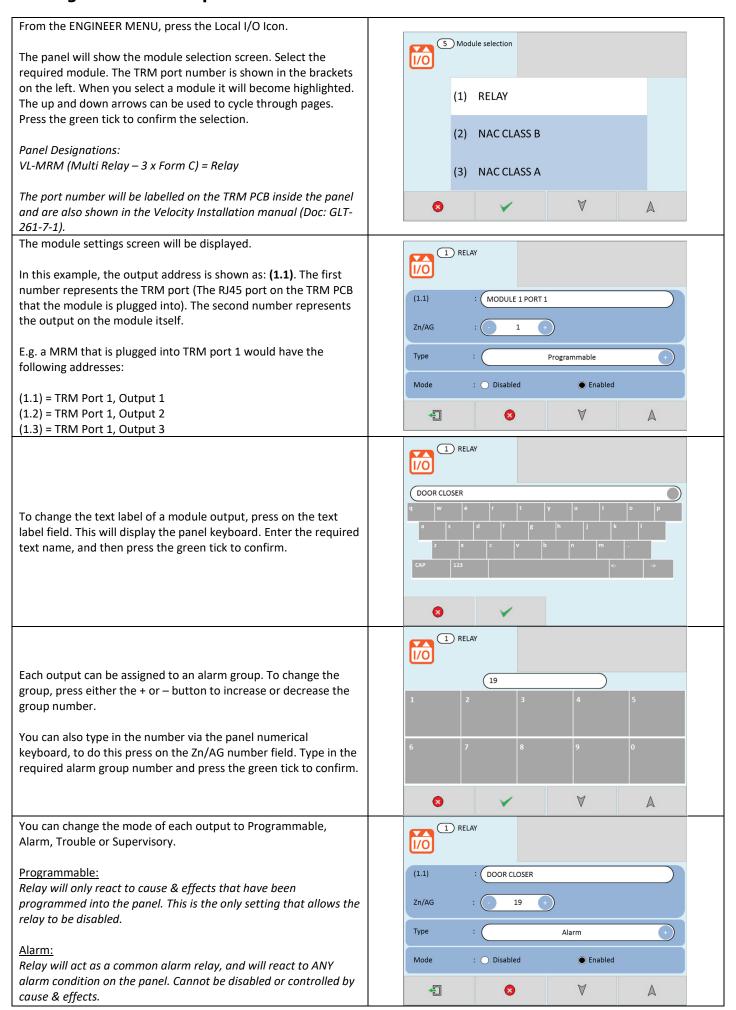
VL-ZMA (Zone Monitor  $-3 \times Class A$ ) = Zone Class A VL-ZMB (Zone Monitor  $-6 \times Class B$ ) = Zone Class B VL-MIM (Multi Input  $-6 \times Class B$ ) = Input Class B

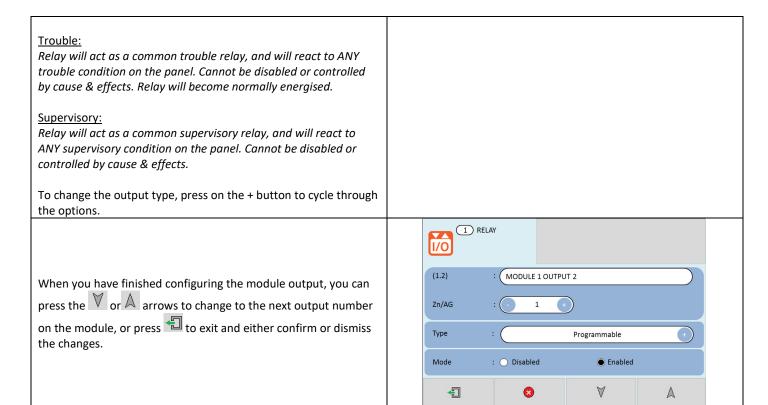
The port number will be labelled on the TRM PCB inside the panel and are also shown in the Velocity Installation manual (Doc: GLT-261-7-1).





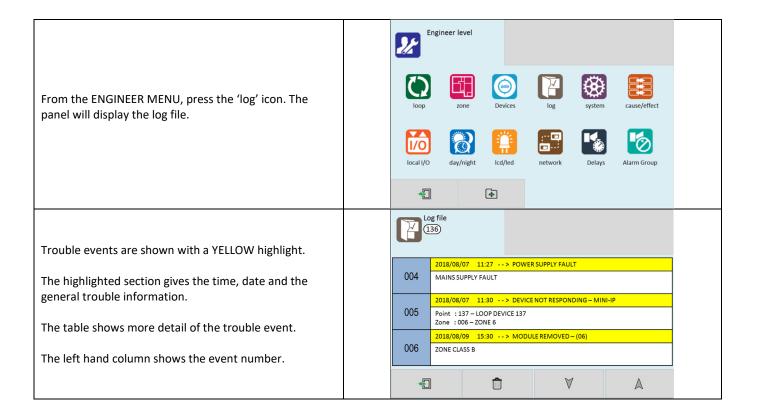
# **Setting MRM Module Options**

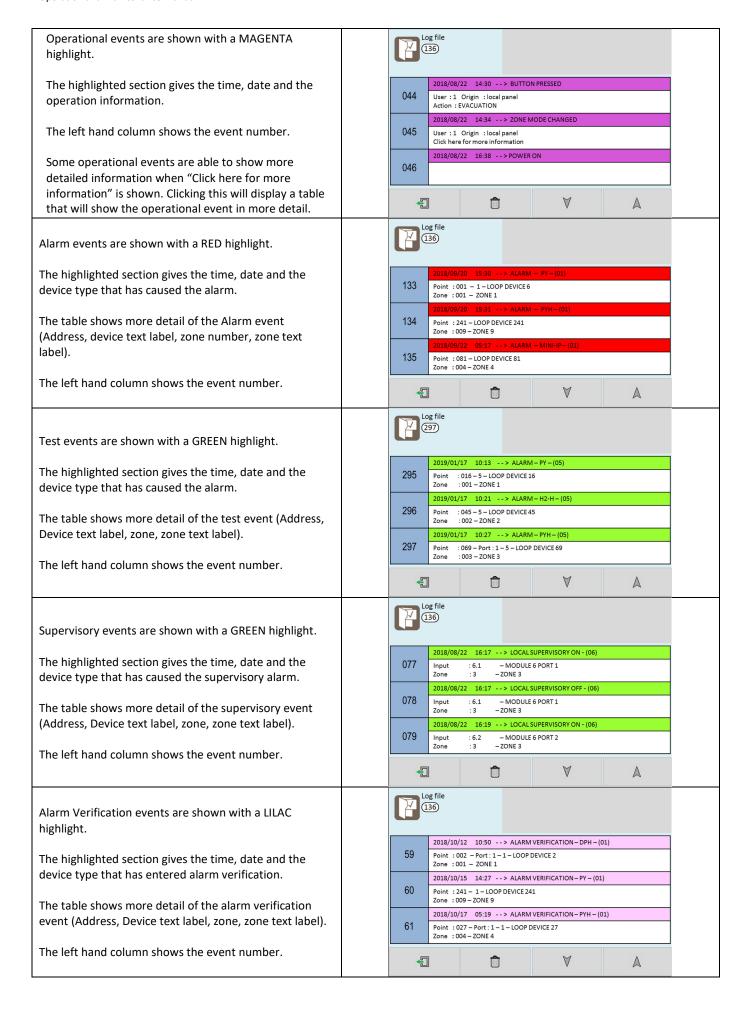




# **Event Logs**

The Velocity event log has a capacity of storing **8032** events. It saves all alarm, trouble, supervisory and test events that occur on the system.





136 When viewing the event log from the engineer menu, there is an option to erase the event log by pressing the Confirm the changes? delete icon. The panel will ask to confirm this action. Press the green tick to continue to delete the log, or cancel to leave the log in the panel. Log file If the delete is confirmed, the panel will show an indication that it is currently erasing the log. When viewed from the user menu, there is no delete option. Erasing file.... **Note:** The event log cannot be erased if there are any events on the system.

# **Programming**

### NOTICE TO USERS, INSTALLERS. AUTHORITIES HAVING JURISDICTION. AND OTHER INVOLVED PARTIES

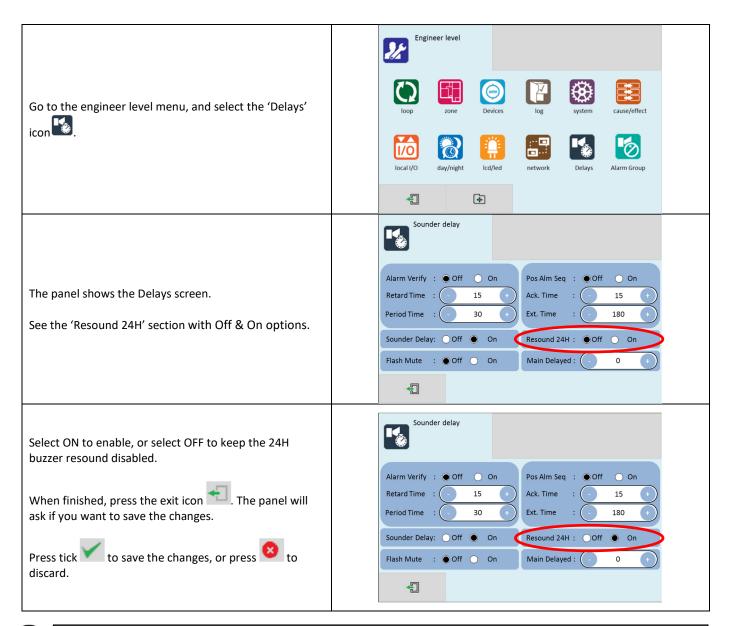
This product incorporates field-programmable software. In order for the product to comply with the requirements in the Standard for Control Units and Accessories for Fire Alarm Systems, UL 864, certain programming features or options must be limited to specific values or not used at all as indicated below.

Program feature or option	Permitted in UL 864? (Y/N)	Possible settings	Settings permitted in UL 864
ALARM VERIFICATION		ON OFF	Retard Time: Maximum 30s
	Υ	Retard Time: 1s-30s	Confirmation Time: 60s
		Confirmation Time: 1-60s	
MULTIPLE DETECTOR OPERATION	Υ	Set on two optical detectors	Set on two optical detectors
POSITIVE ALARM SEQUENCE	Υ	ON OFF	ON
PRE-SIGNAL	Υ	ON OFF	ON OFF
NAC DELAYS	N	0-600s	Os
MAINS RELAY OUTPUT DELAY	Υ	0-240 minutes	60-180 minutes
DAY/NIGHT MODE	N	NAC Delay 0-600s Smoke Alarm On/Off Heat Alarm On/Off	NAC Delay 0s Smoke Sensor On Heat Sensor On
BUZZER RESOUND 24H	Υ	ON OFF	ON
NAC AUTOMATIC TURN OFF ("Switch off" in C&E effect options)	Υ	1-600 seconds	NAC's must operate for a minimum of 180 seconds prior to turn off.

# **Buzzer Resound 24H Settings**

The Velocity has the option to configure whether the panel shall re-sound its internal buzzer every 24 hours. Any alarm, supervisory or trouble events that have been acknowledged but not cleared will resound the buzzer every 24 Hours until they have been cleared from

the panel. To set up the 24H buzzer resound, carry out the following:

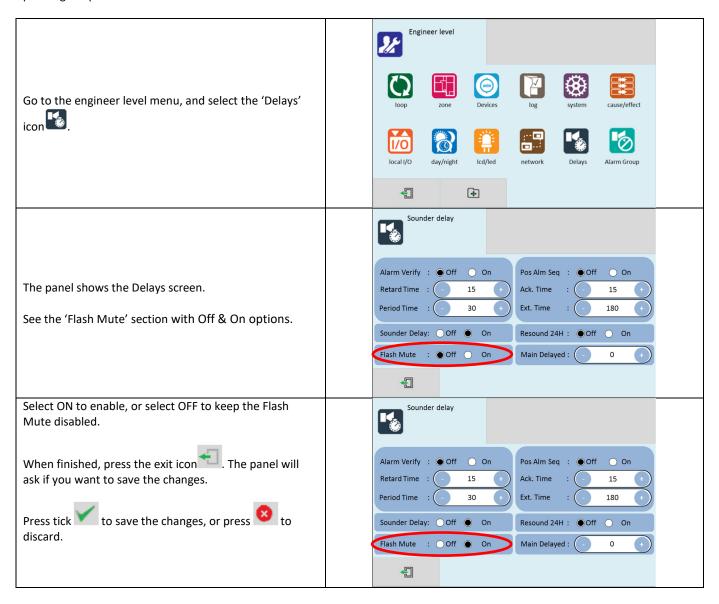




**NOTE:** If it is required to have 24 hour buzzer resound across a network of systems, each MMP panel on the network must have the "Resound 24H" option set to ON.

# **Flash Mute Settings**

The Velocity MMP has the ability to control the flasher operation of the panel. The flashers of a notification appliance can be configured to remain flashing after the chimes/horns have been silenced. With this setting, the flashers can only be stopped by pressing the panel reset button to clear the event.

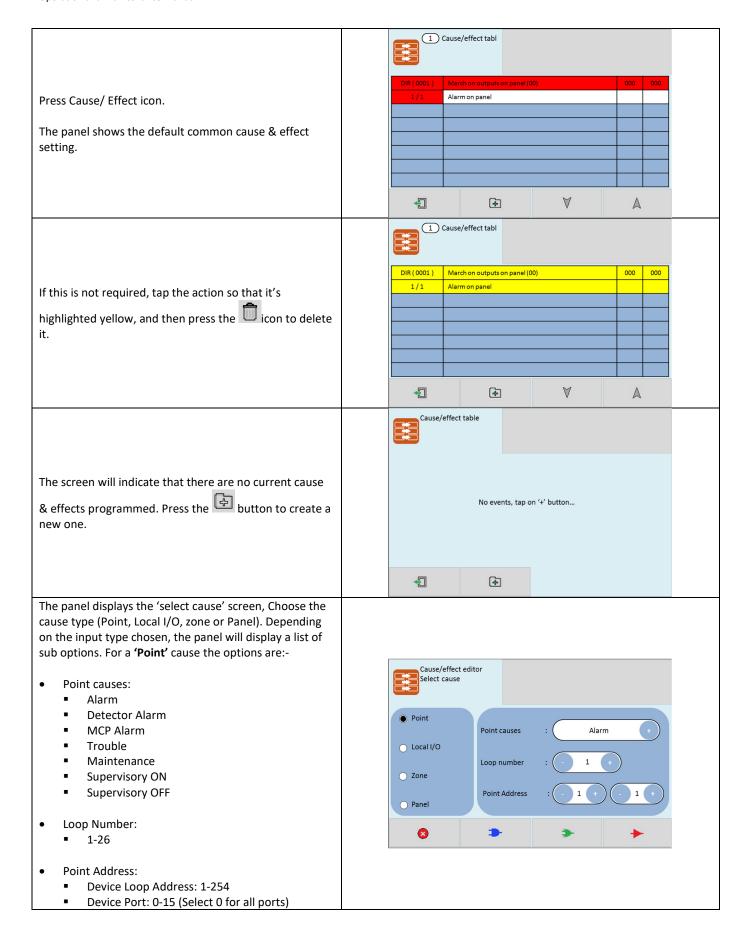


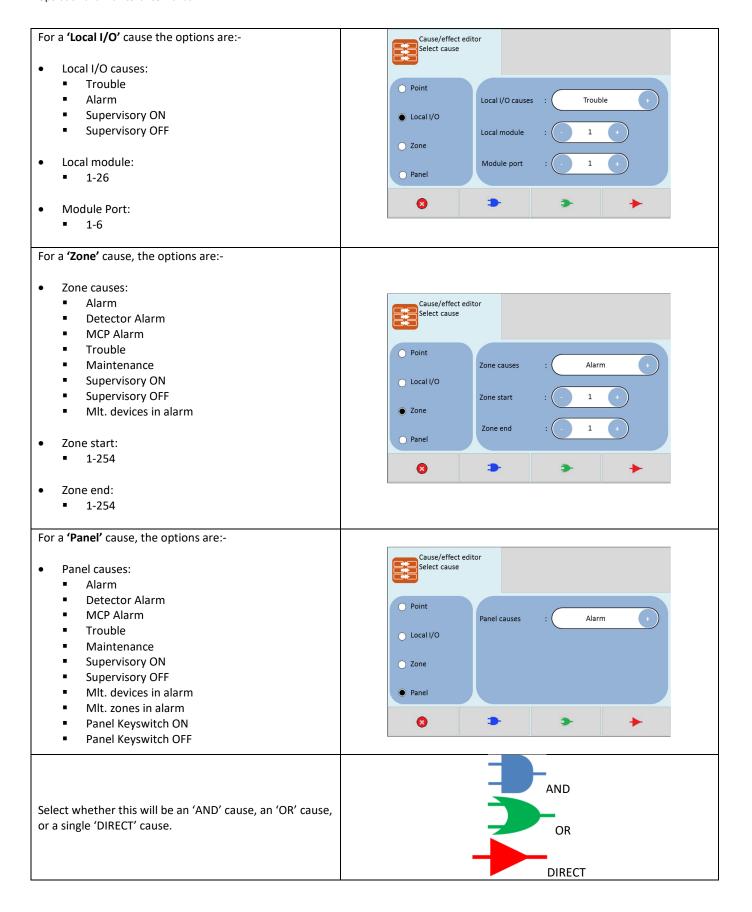
### **Cause and Effect**

The Velocity system has very comprehensive, but simple to use Cause and Effect capabilities. The Default factory configuration is that any alarm will activate all outputs on the panel. Like most addressable systems, the panel allows comprehensive programming of the sounders, NAC outputs and relays. It is the responsibility of the commissioning engineer to verify that the programmed panel actions operate the outputs as required. Any input (or cause) can generate any output (or effect). For example, if the input is an Alarm in zone 1 (e.g. an optical detector triggered by smoke), the system can be programmed to generate output(s) (e.g. operate one or more NAC or relay outputs in one or more zones).

The inputs and outputs can be selected from 4 categories – Point, Local I/O, Zone (or alarm group) & Panel.

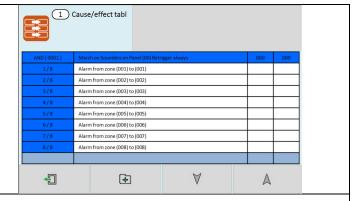
Example of Selecting a Cause & Effect (New Action):





An AND / OR cause will request more inputs before activating the output.

Select up to 8 causes. Press the OUTPUT icon when finished.



After selecting the input cause(s), the panel displays a screen to select the following effect options:

### Panel address:

Leave as zero if the output effect is on this local panel, otherwise set to the network address of the destination panel.

### Output retrigger:

This defines whether the sounders will resound from a new alarm if they had been previously silenced.

# The options are:-

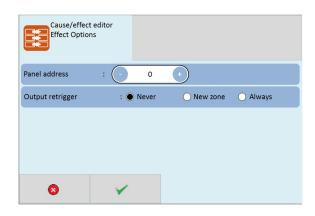
- Never resound
- Resound on an alarm from a New zone
- Always resound for any new alarm.

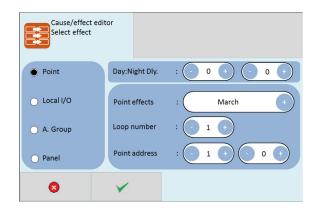
Select the output type (Point, Local I/O, A. Group or Panel). Depending on the OUTPUT type chosen, the panel will display a list of sub options. For 'Point' effects, the options are:-

- Day Delay:
  - 0-600 seconds
- Night Delay:
  - 0-600 seconds

(This is the delay used if Day/Night timer is not set)

- Point Effects:
  - March
  - ANSI-3
  - Continuous
  - Beacon
  - Switch OFF
  - Enable
  - Disable
- Loop number:
  - 1-26
- Point address:
  - Device Loop Address: 1-254
  - Device Port: 0-15 (Select 0 for all ports)





For Local I/O effects, the options are:-

- Day Delay:
  - 0-600 seconds
- Night Delay:
  - 0-600 seconds

(This is the delay used if Day/Night timer is not set)

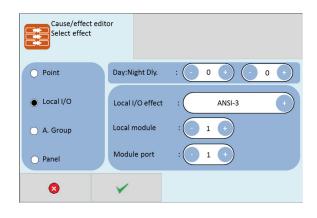
- Local I/O effects:
  - March
  - ANSI-3
  - Continuous
  - Switch OFF
  - Enable
- Local module:
  - **1**-26
- Module port
  - **■** 1-6

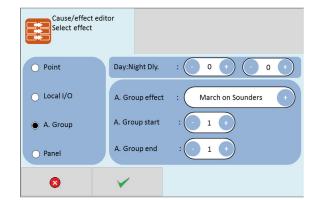
For A.Group effects, the options are:-

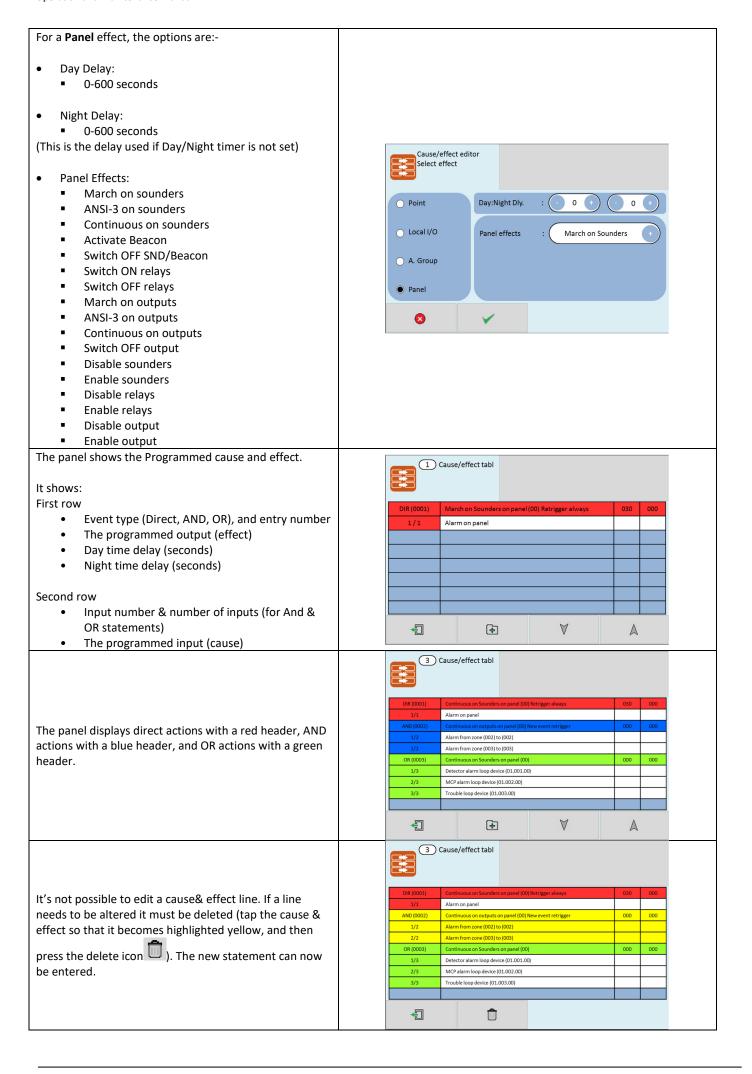
- Day Delay:
  - 0-600 seconds
- Night Delay:
  - 0-600 seconds

(This is the delay used if Day/Night timer is not set)

- A. Group Effects:
  - March on sounders
  - ANSI-3 on sounders
  - Continuous on sounders
  - Activate Beacon
  - Switch OFF SND/Beacon
  - Switch ON Relays
  - Switch OFF Relays
  - March on Outputs
  - ANSI-3 on outputs
  - Continuous on outputs
  - Switch OFF output
  - Disable sounders
  - Enable sounders
  - Disable relays
  - Enable relays
  - Disable output
  - Enable Output
- A.Group start:
  - **1**-254
- A. Group end:
  - **1**-254







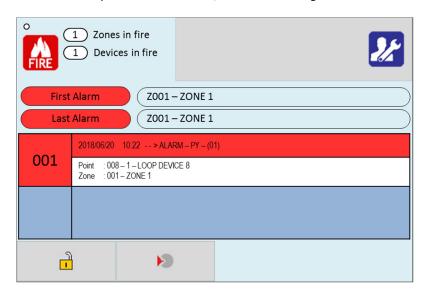
#### **Outputs and Delays**

Following the indication of a fire, the panel will activate outputs (i.e. NACs and/or relays) according to the cause and effect rules that have been programmed. In certain circumstances, the activation of outputs may be delayed whilst the alarm is being investigated.

# **NAC Delays**

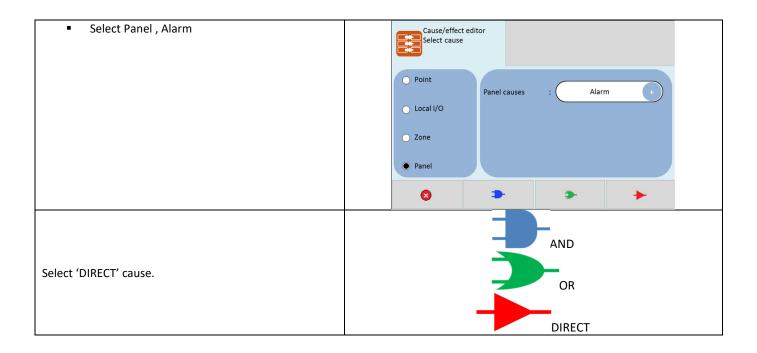
If the operation of NACs has been delayed in one or more of the programmed ACTIONS, then this will be indicated by the illumination of the **NAC DELAY LED**.

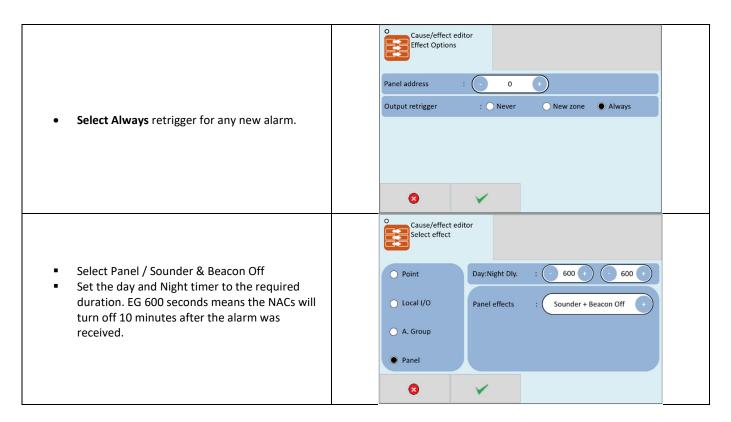
During a fire alarm it is possible to override all the NAC delays (at any access level) by pressing the delay override icon bottom of the screen, as shown. When a delay has been overridden, the icon will change to.



#### **NAC Time Limit Cut Out**

If required, it is possible to turn of the NAC outputs after a certain period of time. To achieve this, add an extra line of cause and effect that turns off the NACs



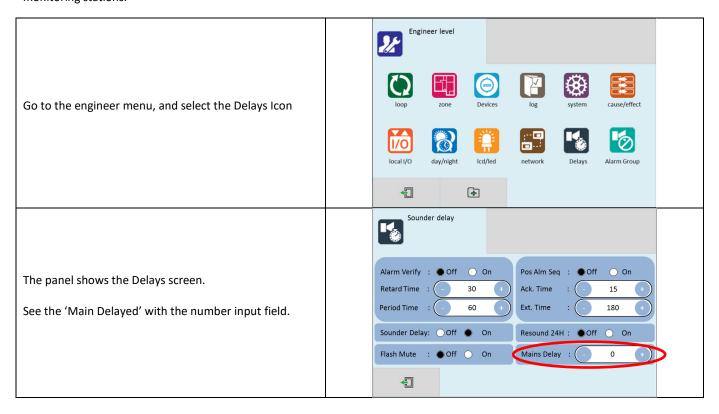


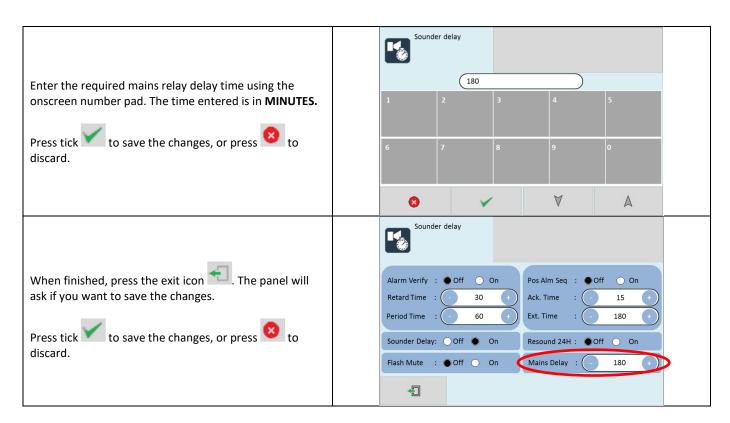
## **SLC & Local/IO Relay Output Delays**

Relay outputs can also be delayed via the cause and effect actions. In this case, no LED is lit to indicate a delay (since this type of output is not mandatory).

## **Mains Trouble Relay Output Delay**

In the event of a mains power failure, the Velocity can be programmed to delay its TRM trouble relay for a time of between 0-240 minutes. This is normally used when operators do not require momentary mains power failures to send trouble notifications to monitoring stations.



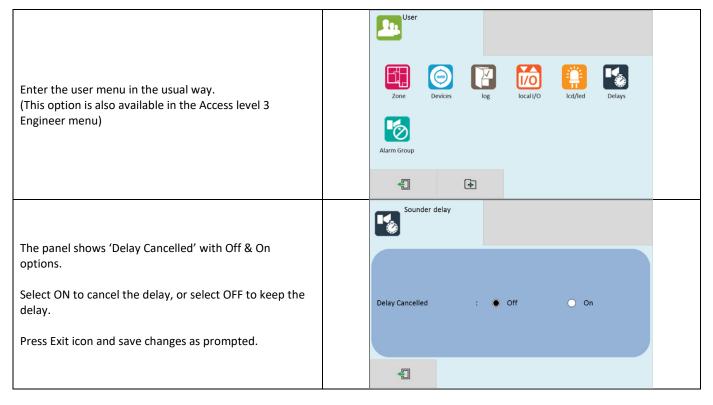


# **Programming Delays**

Delays to relays and/or NACs can be programmed as part of the cause and effect programming (See previous section). If the delay will be permanently set, the delay should be entered into the NIGHT time delay field. If the delay is only to be set at certain times of the day, the panel should be configured for day/night mode. See the following DAY/NIGHT section for more details.

# **Switching Off Delays at Access Level 2**

The panel allows any programmed delays to be turned off by the user, as this may be required as part of the normal operation of the panel.





**NOTE:** As the delays can be toggled on & off via the user menu. If the delay is not working as expected, check in the user menu if the delays have been turned off.

# Day/Night Mode

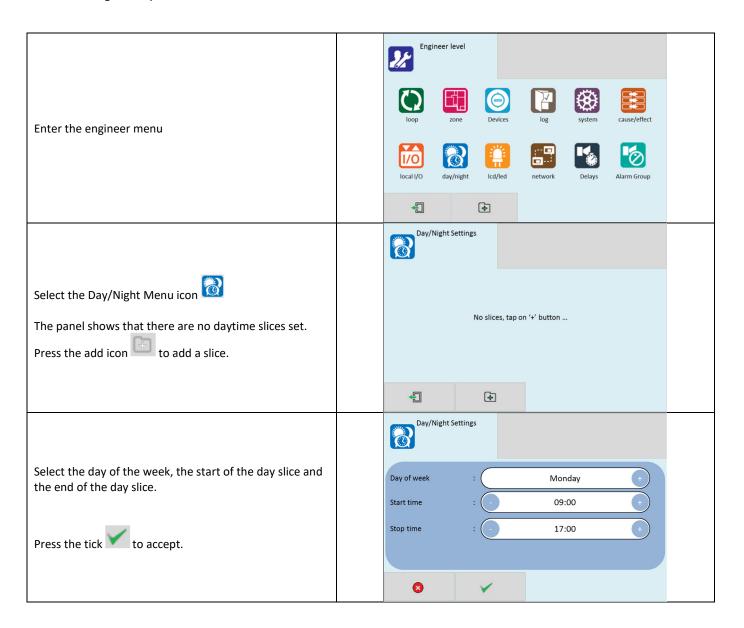
The Velocity panel has a day night timer that allows certain system responses to be altered at certain times of the day. It allows for different delays for the day and night times, and it also allows the sensitivity of certain detectors to be set differently for the day and night.

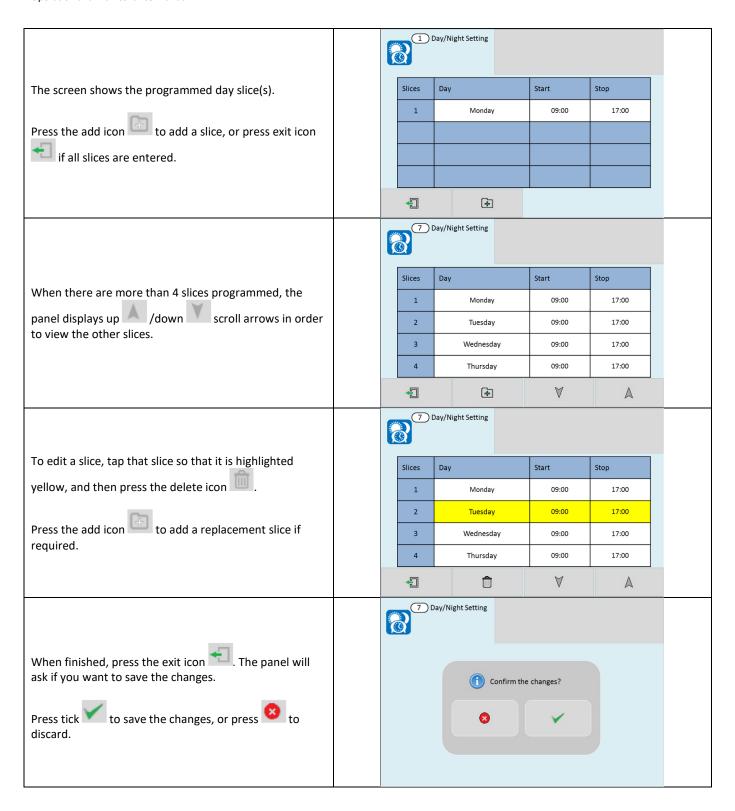


**NOTE:** The default state of the panel is with no day/night settings programmed. It will use the "night time" delays, and the night time detector sensitivity settings.

# **Defining Day and Night Times**

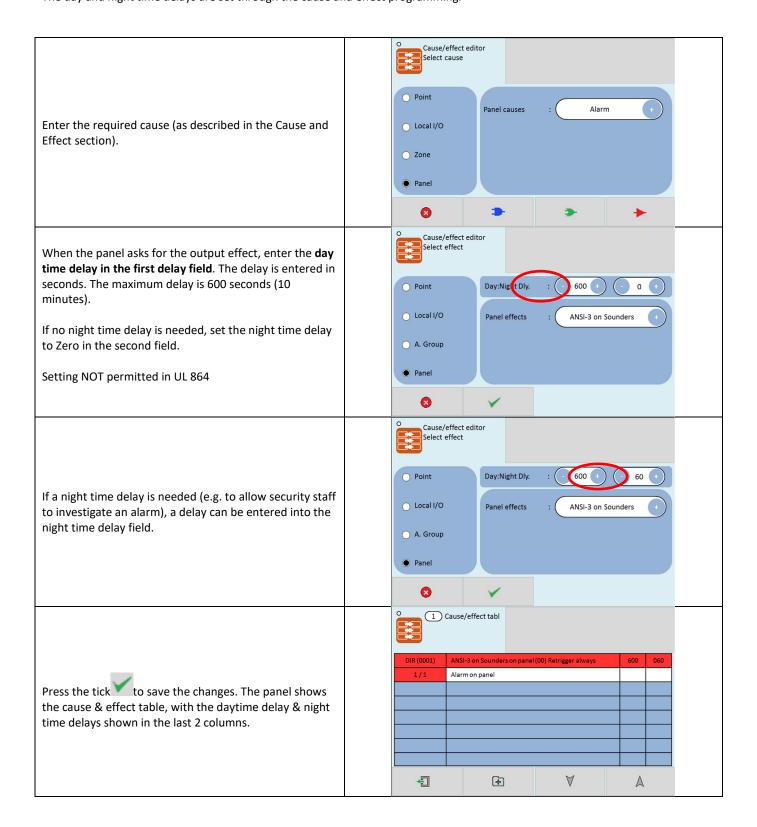
To allow for maximum flexibility, the panel allows for more than one Day-time period each day. For example, if a site closes for a 2 hour break, the panel could be configured with 2 day-time periods e.g. 8:00-12:00 and 14:00-18:00. Because of this, the panel refers to each setting as a day-time slice.





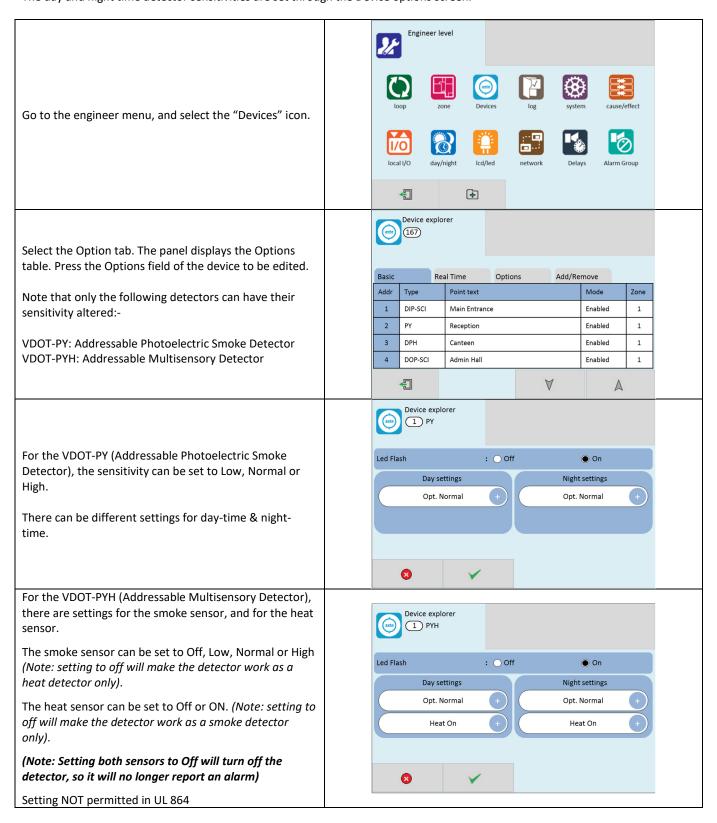
# **Setting Day-Time and Night-Time Delays**

The day and night time delays are set through the cause and effect programming.



### **Setting Day-Time and Night-Time Detector Sensitivity**

The day and night time detector sensitivities are set through the Device options screen.



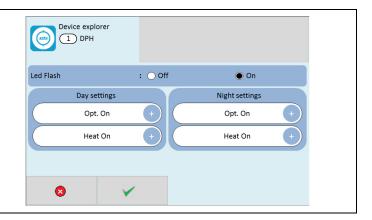
For the VDOT-DPH & there are settings for the smoke sensor, and for the heat sensor.

The smoke sensor can be set to Off or On (Note: setting to off will make the detector work as a heat detector only).

The heat sensor can be set to Off or ON. (Note: setting to off will make the detector work as a smoke detector only).

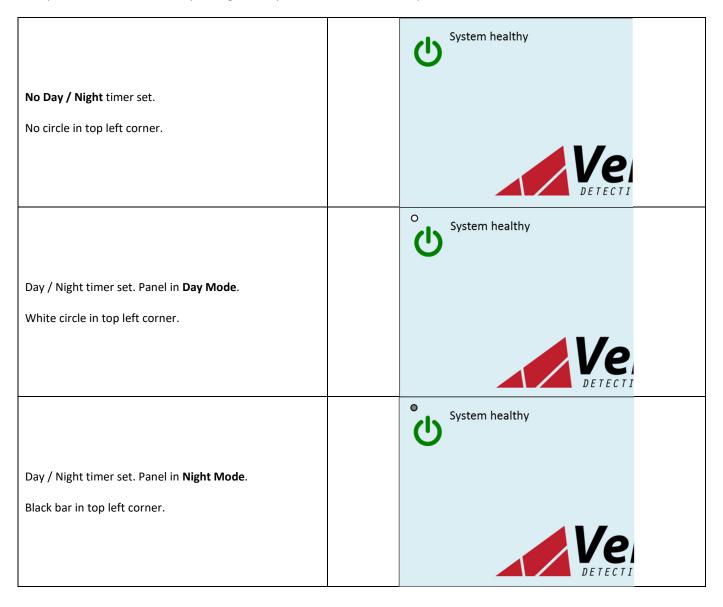
(Note: Setting both sensors to Off will turn off the detector, so it will no longer report an alarm)

Setting NOT permitted in UL 864



# **Indication of Day/Night Mode**

The panel indicates its current operating mode by means of a circle in the top left corner of the LCD.



# **Alarm Verification**

The panel is equipped with an Alarm verification feature that is used to reduce unwanted false alarms. If alarm verification is selected, an addressable smoke detector's alarm is ignored for a retard time of up to 30 seconds and then the detector's alarm condition is automatically reset. There will be no alarm indication at the Velocity MMP panel during the Retard period, only an indication that an alarm is being verified. A confirmation period that is configurable of a time between 1-60 seconds follows, during which a subsequent alarm from the same detector will cause the panel to immediately activate the appropriate outputs and indicate the alarm condition at the panel. If a different detector alarms any time during the first detector's verification period, the panel will immediately activate all appropriate outputs and indicate the alarm condition. If no additional detector alarms occur within 90 seconds of the first alarm (30 second Retard plus 60 second Confirmation), the timer resets and the panel is ready to verify any new detector alarms which may occur.

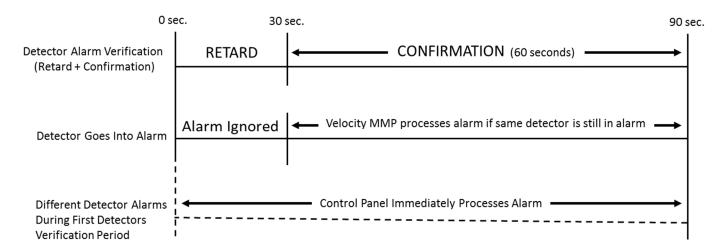
Alarm verification on the Velocity MMP panel is accomplished on a system wide basis.

## **Local indication of Verification**

If a local indication of the verification is required, a base sounder (VDOT-SB) can be used. The sounder base should be configured to be the next address after the detector.

E.g. the smoke detector at address 83 sees smoke and starts the verification. If there is a sounder base at address 84, it will operate during the verification

#### Alarm verification timing diagram

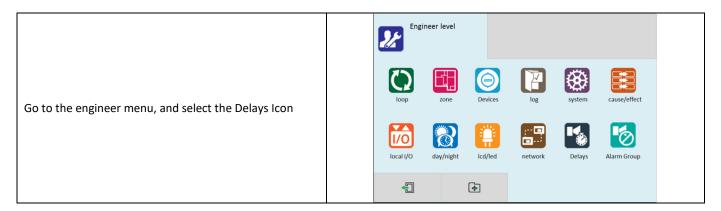


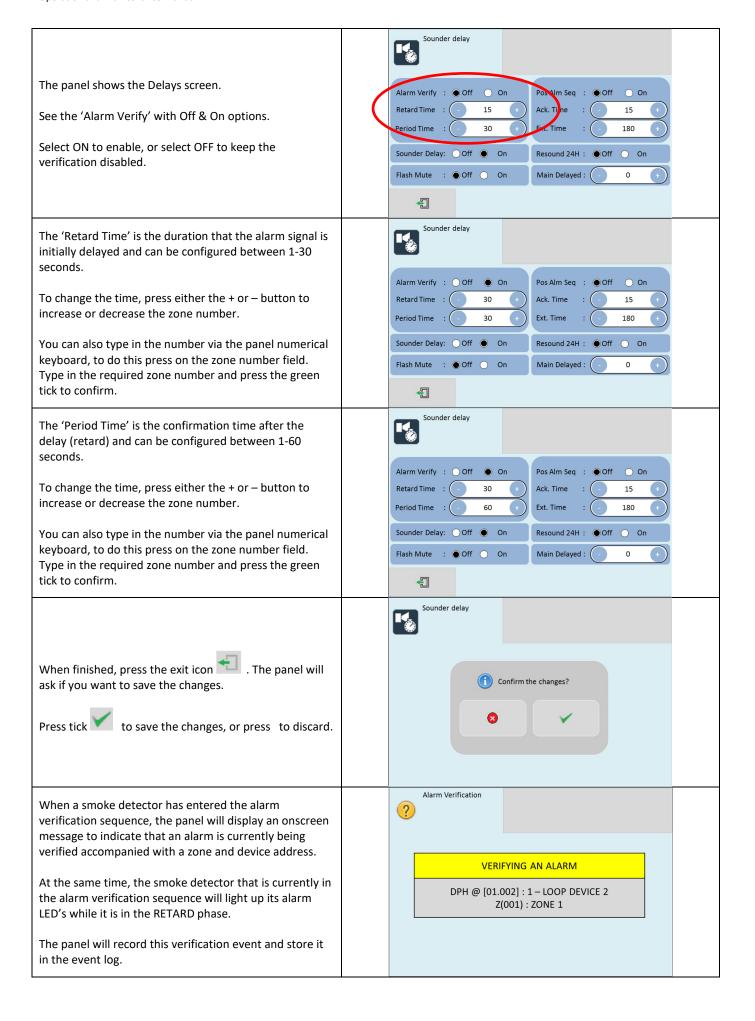


**NOTE:** Alarm Verification is available only for addressable smoke detectors. It cannot be used with addressable heat detectors, or any conventional detectors.

#### **Alarm Verification Setup**

Alarm verification can be set up as follows:

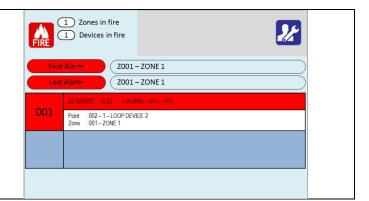




When the detector is in the confirmation phase (period time), the detector alarm LED's will turn off and the panel will begin processing if the same detector is still in an alarm state.

If the detector is still in the alarm state, the panel will enter the ALARM condition.

If the detector is no longer in the alarm state, the panel will clear the alarm verification screen and return to quiescent (normal) condition.





**NOTE:** In a networked system, any verification settings applied to one panel will be applied to all the panels on the network.

The alarm verification onscreen message will show on all networked panels set to show global events

# **Multiple Detector Operation**

The panel is equipped to satisfy those who require a Multiple Detector Operation feature that is used to reduce unwanted false alarms. If a multiple detector operation has been programmed, the panel will require the activation to two automatic detection devices before it will enter the alarm condition. If a manual detection device is activated, then the panel will immediately enter the alarm condition.



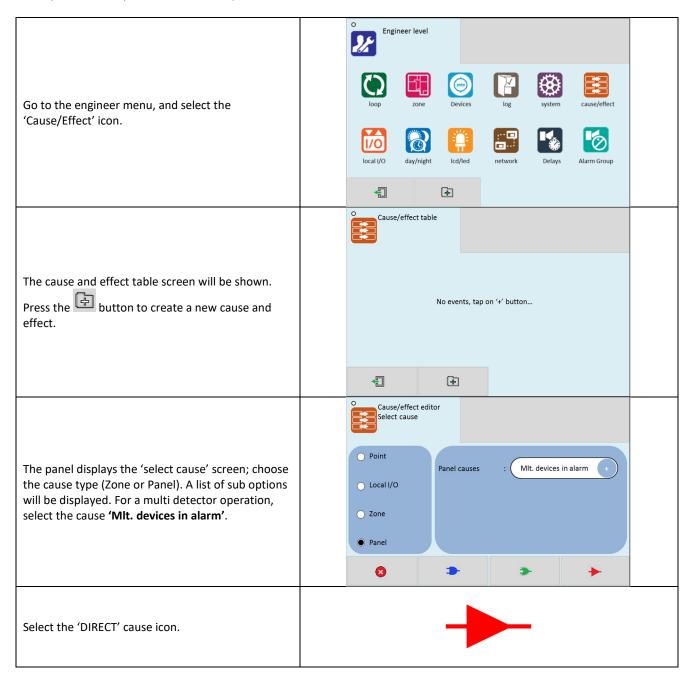
**NOTE:** Multiple detector operation should not be used with detectors that are also using the Alarm Verification feature.

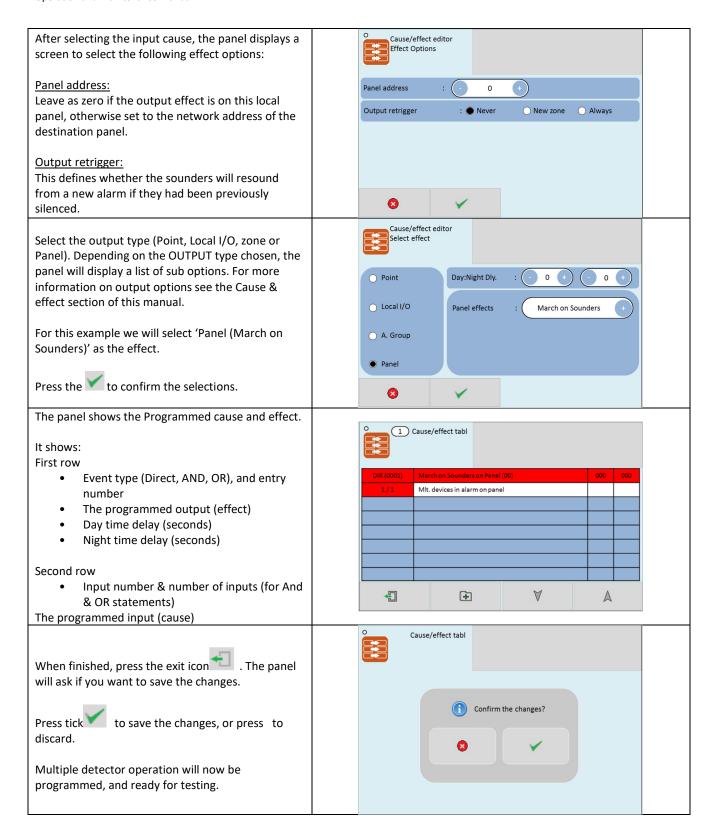


**NOTE:** Multiple detector operation should only be used on automatic addressable devices.

## **Multiple Detector Operation Setup**

Multiple detector operation can be set up as follows:





When using multiple detector operation in an area, the system design should allow for a minimum of two detectors in that area.

NFPA 72 requires that the spacing of those detectors is reduced to 0.7 times the usual detector spacing to help prevent unnecessarily long alarm response times.

NOTE: When using multi-detector operation, it may be beneficial to add a "backstop Cause and effect" that will operate the sounders after a delay if no second alarm is reported and the panel is not reset.

# Positive Alarm Sequence

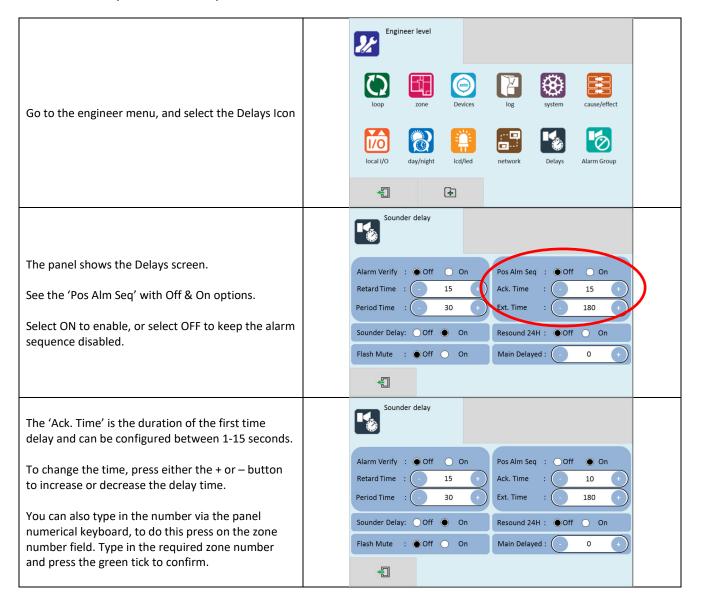
The Velocity MMP is equipped with a positive alarm sequence that will program a delay to the NAC's, Alarm relays and Auxiliaries for a period of between **1-15 seconds**. If the alarm is acknowledged, it will silence the piezo sounder and start a timer which will prevent activation of these outputs for an additional time duration which can be user programmed between **1-180 seconds**. After the programmed delay, if the source of the alarm is not cleared, all the outputs will activate. If the alarm is not acknowledged or reset during the first time delay of 15 seconds, all the appropriate outputs will be activated. If a second alarm occurs during either time delays, or if a manual alarm is activated, this will immediately cause the activation of the appropriate outputs.

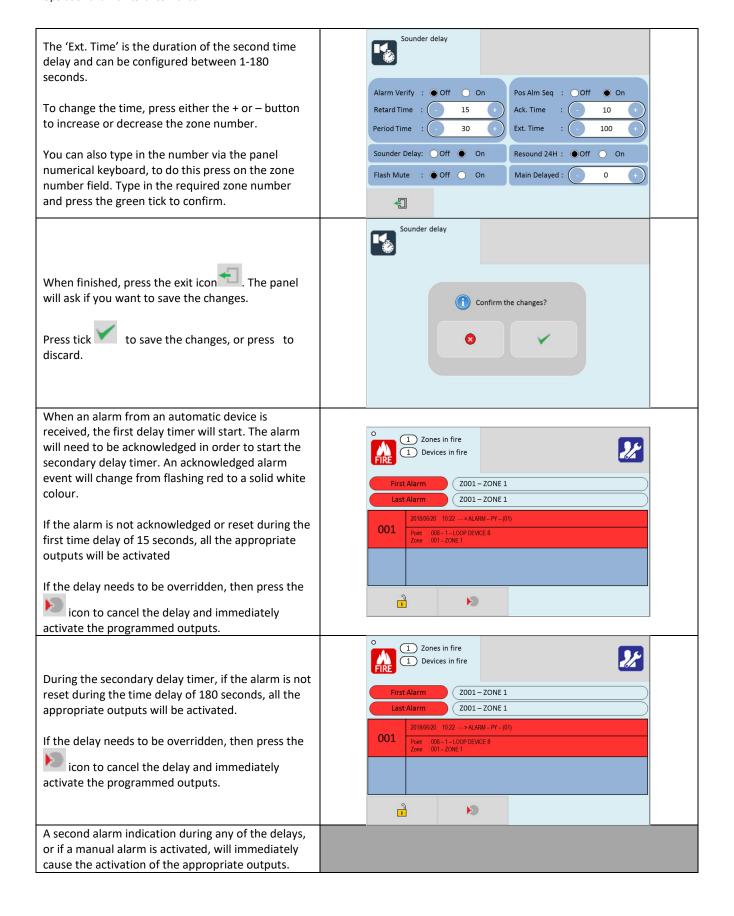


**NOTE:** Positive alarm sequence can only be used for alarm signals from automatic smoke detection devices.

### **Positive Alarm Sequence Setup**

Positive alarm sequence can be set up as follows:





# **Pre-Signal**

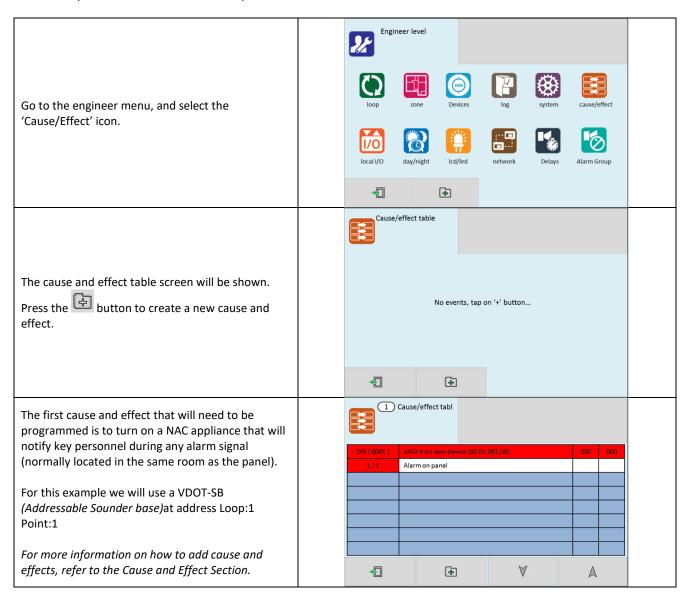
The panel is equipped with a means of setting up a Pre-signal where the operation of an automatic detector or initial operation of manual station will only activate selected devices for the purpose of notifying key personnel who then have the option of initiating a general alarm. Any subsequent actuation of an alarm initiating device from a different zone on the system will result in the activation of a general alarm.

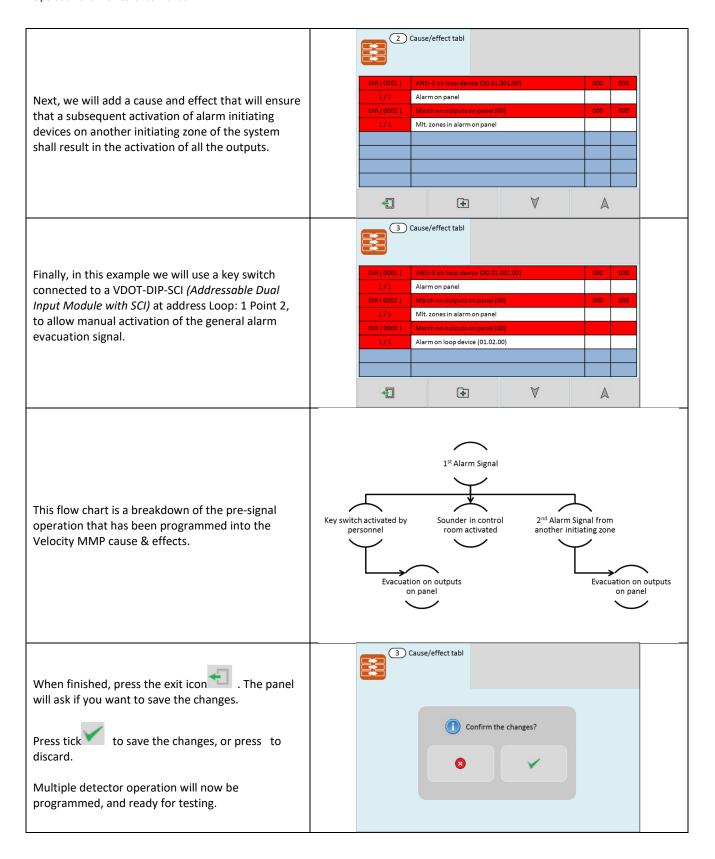


**NOTE:** PRE-SIGNAL shall only be used when the panel is constantly monitored by an Operator.

# **Pre-Signal Setup**

Below is just an example of how pre-signal can be achieved on a Velocity MMP system. Ensure that when pre-alarm operation is used, that it complies with UL864 10<sup>th</sup> Edition requirements.





# **Disablements**

To aid commissioning and assist routine maintenance checks, various functions of the Velocity fire alarm system can be disabled. The Velocity allows disablement of Inputs in a zone, Outputs in an alarm group, individual devices and individual module ports.

#### **Zone Disablement**

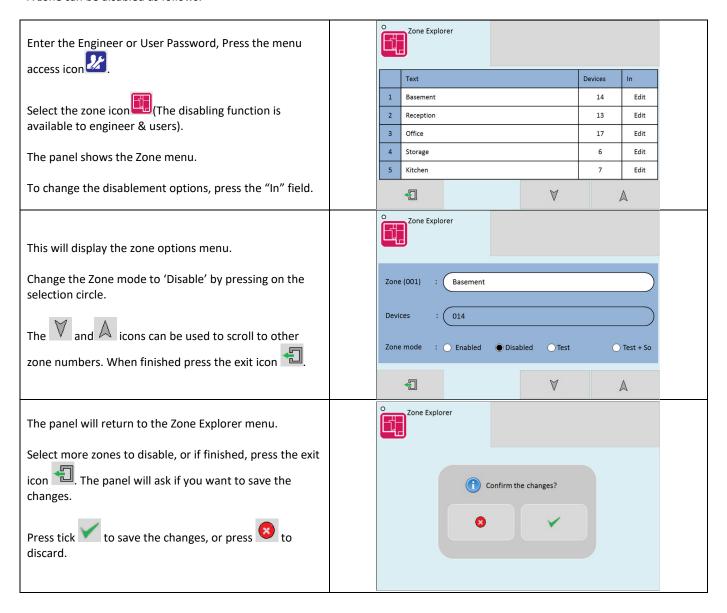
The following options can be selected when disabling a zone:

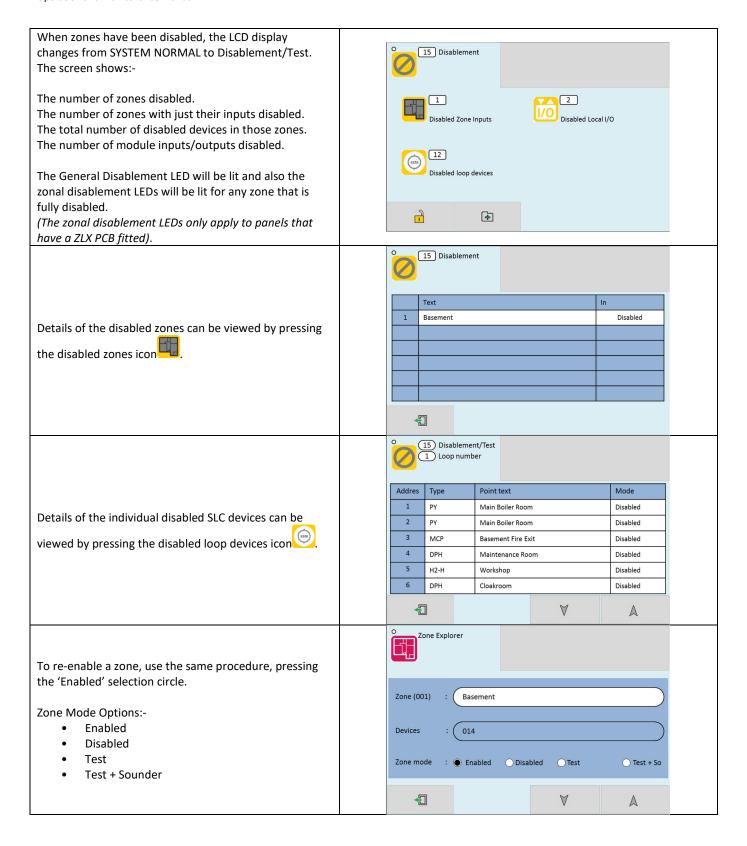
<u>Disabled</u> = the input devices in the zone **will not** trigger an alarm, supervisory, or trouble signal. <u>Enabled</u> = the input devices in the zone **will** trigger an alarm, supervisory, or trouble signal.

This might be used if the system requires routine maintenance, and the user needs the rest of the system to continue running, but doesn't want spurious false alarms.

The panel will respond in the usual manner to any events in any non-disabled zones. Any number of zones can be disabled, but it is good practice to only disable one zone at a time.

A zone can be disabled as follows:

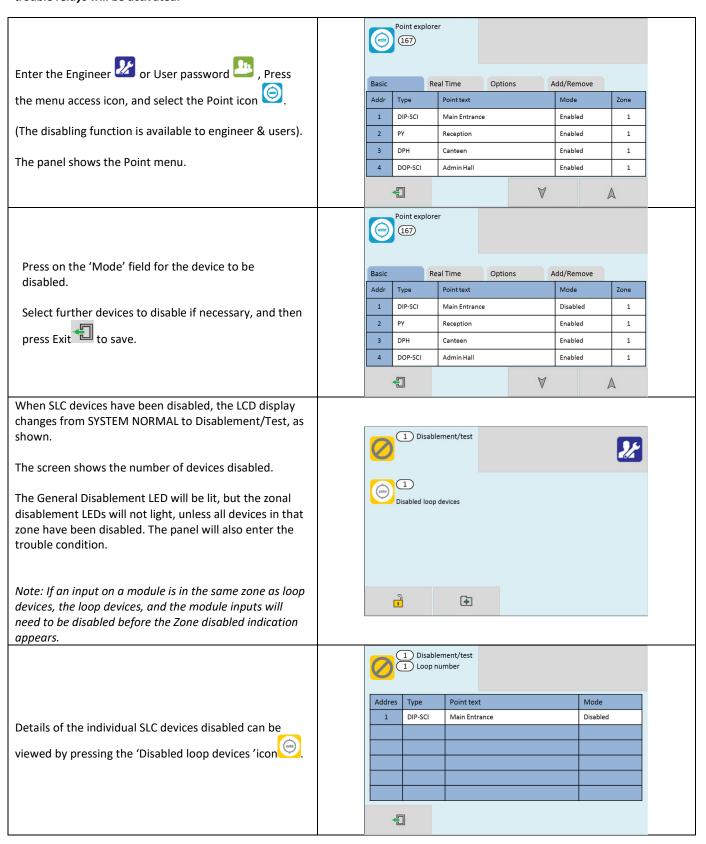




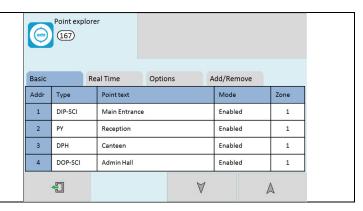
### **SLC Device Disablement**

Rather than disable an entire zone, it is often useful to just disable one or more devices or points (detector, call point, interface or sounder) within a zone, especially if they are malfunctioning and likely to cause an unwanted alarm or repeatedly indicate a trouble condition.

NOTE: Disabling any device or circuit will cause the panel to enter the trouble condition. The trouble buzzer, trouble LED's and trouble relays will be activated.

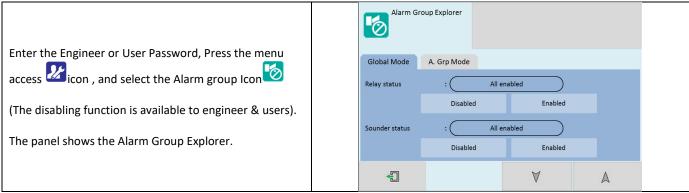


To re-enable a device, use the same procedure, pressing the 'Mode' field until it shows 'Enabled'.



Once a SLC device is disabled, the panel ignores any alarm or trouble generated by the device. If all devices in a zone are disabled, the panel will indicate a zone disablement. If subsequently one or more devices in that zone are re-enabled then the zone disablement indication will be automatically cancelled. The trouble condition will be automatically cancelled when all disabled circuits/devices are re-enabled.

# **Alarm Group Disablement**



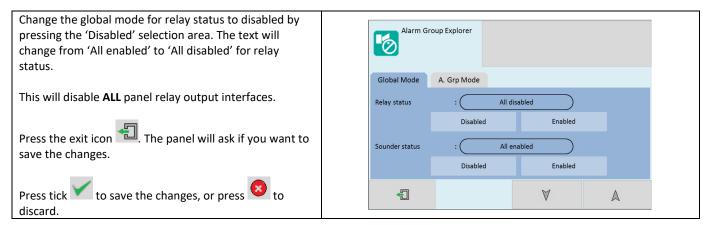
#### **Global Mode Disablement**

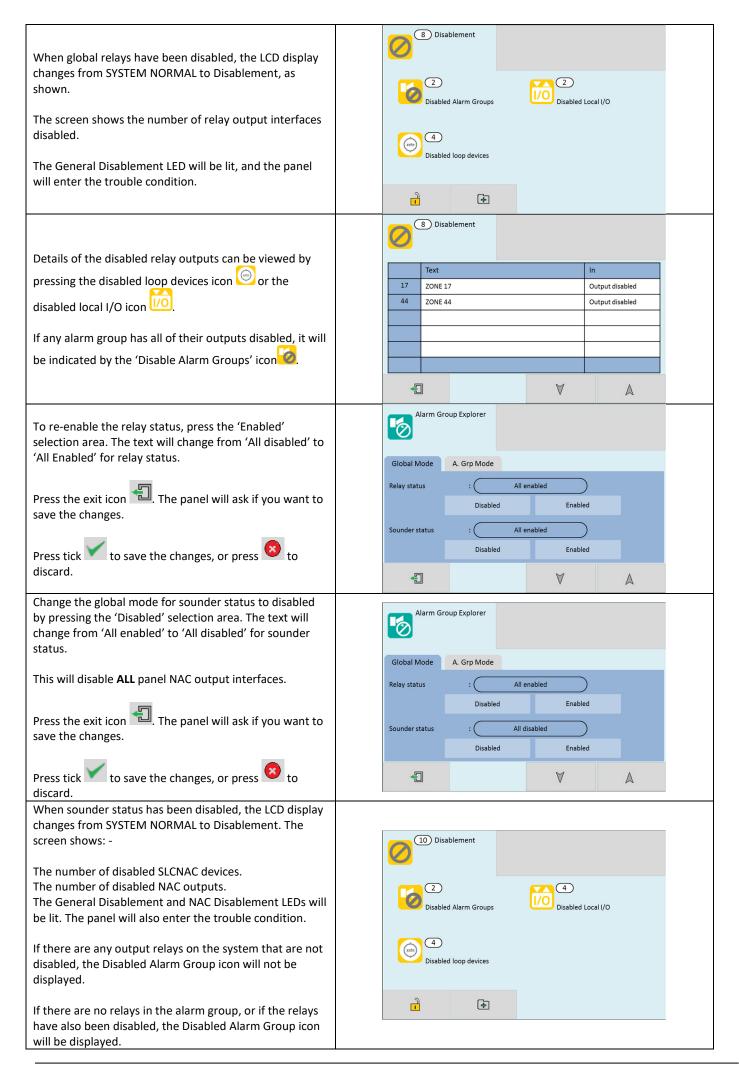
When Global mode is set to disabled, the panel will not activate any alarm group devices. This might be used if the system requires routine maintenance, and the user needs the rest of the system to continue running, but doesn't want spurious NAC activations. The panel will respond in the usual manner to any events in any non-disabled zones.

NOTE: Disabling any circuit or device will cause the panel to enter the trouble condition. The trouble buzzer, trouble LED's and trouble relays will be activated.

Global mode can be disabled, but it is good practice to only disable one alarm group at a time.

Global mode can be disabled as follows:





10 Disablement 1 Loop number Details of the disabled NAC outputs can be viewed by Point text Туре pressing the disabled loop devices icon or the SB Boiler Room Disabled disabled local I/O icon 1/0 SB Disabled Reception 32 SB Room A2 Disabled 46 SB Room B4 Disabled If any alarm groups have all of their outputs disabled, it will be indicated by the 'Disabled Alarm Groups' icon **4** V

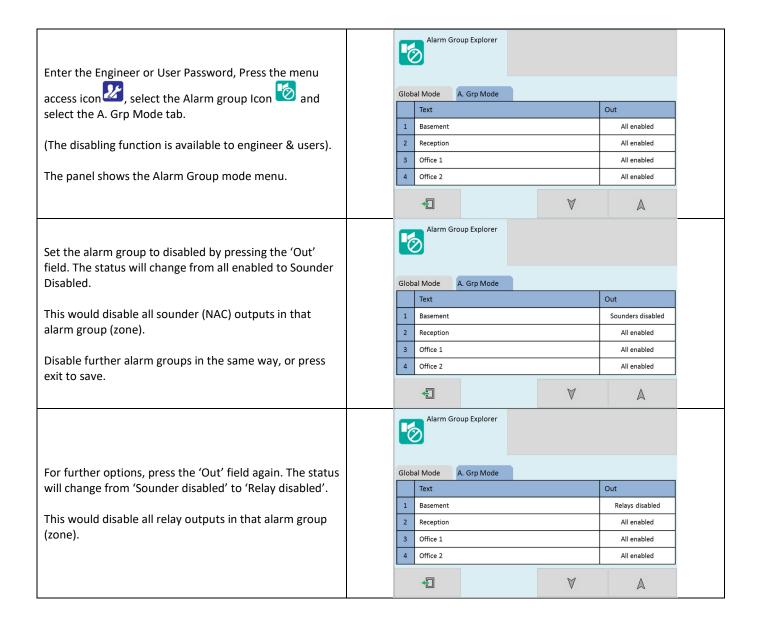
## **Alarm Group Mode**

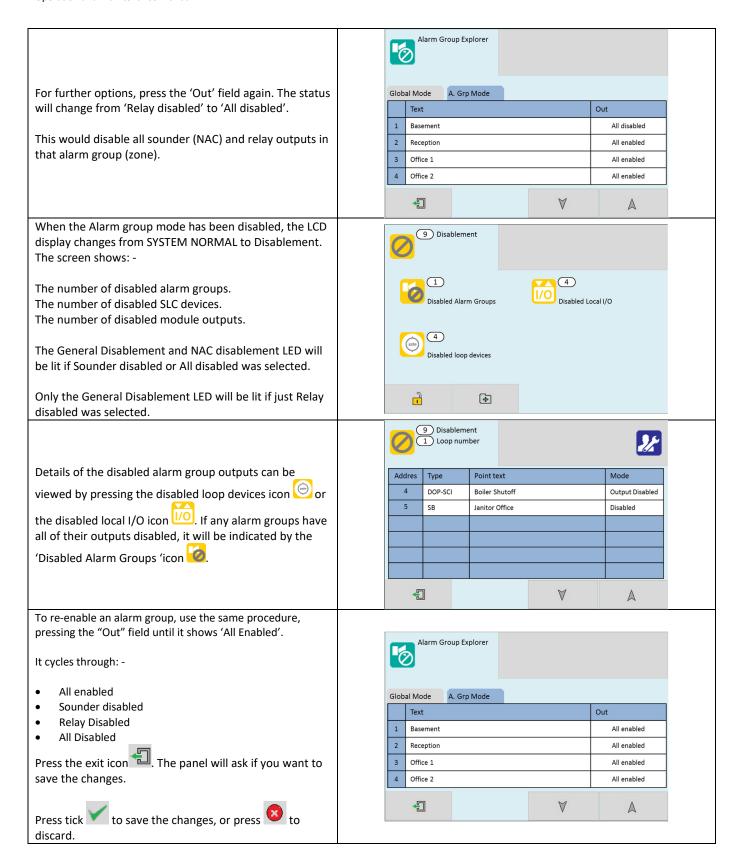
When Alarm group mode is disabled, the panel will not activate any output devices on that alarm group (zone). This might be used if the system requires routine maintenance, and the user needs the rest of the system to continue running, but doesn't want spurious output activations. The panel will respond in the usual manner to any events in any non-disabled zones.

Any number of alarm group (zones) can be disabled, but it is good practice to only disable one alarm group/zone at a time.

NOTE: Disabling any circuit or device will cause the panel to enter the trouble condition. The trouble buzzer, trouble LED's and trouble relays will be activated.

An alarm group (zone) can be disabled as follows:





#### Local I/O (Module) Disablement

When a local I/O is disabled, the panel will not react to any alarm or trouble signal from that local I/O (module).

This might be used if the system requires routine maintenance, and the user needs the rest of the system to continue running, but doesn't want spurious input/output activations.

The panel will respond in the usual manner to any events in any non-disabled parts of the system.

Any number of local I/O's can be disabled, but it is good practice to only disable one at a time.

A local I/O can be disabled as follows:

Enter the Engineer or User Password, Press the menu access icon , select the 'local I/O' Icon .

(The disabling function is available to engineer & users).

The panel shows the module selection menu.

Select the required port number. The port number is shown in the brackets on the left. When you select a module, it will become highlighted. The up and down arrows can be used to cycle through pages. Press the green tick to confirm the selection.

#### MIM/ZMA/ZMB Disablement

The module settings screen will be displayed.

In this example, the input address is shown as: **(3.1)**. The first number represents the TRM port (The RJ45 port on the TRM PCB that the module is plugged into). The second number represents the input on the module itself.

E.g. a ZMA that is plugged into TRM port 3 would have the following addresses:

- (3.1) = TRM Port 3, Input 1
- (3.2) = TRM Port 3, Input 2
- (3.3) = TRM Port 3, Input 3

ask if you want to save the changes.

To disable an input, change the mode by pressing on the 'Disabled' selection circle, then press or  $\triangle$  to cycle through more inputs, or the exit icon. The panel will

Press tick to save the changes, or press to discard.

(NOTE: When an input has been disabled, the module Short & Trouble LED's will be lit [Yellow constant] to indicate the disablement)

### MRM Disablement

# (NOTE: A MRM output can only be disabled if the output type is set to 'Programmable')

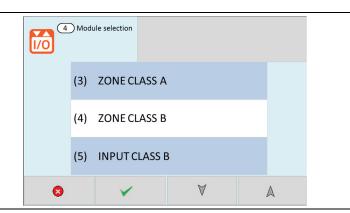
The module settings screen will be displayed.

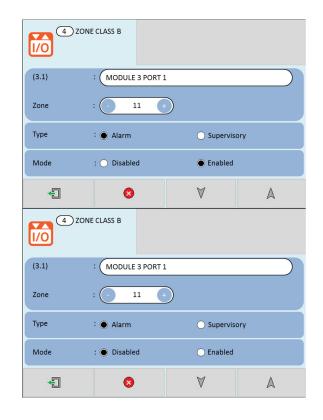
In this example, the relay address is shown as: **(1.1)**. The first number represents the TRM port (The RJ45 port on the TRM PCB that the module is plugged into). The second number represents the output on the module itself.

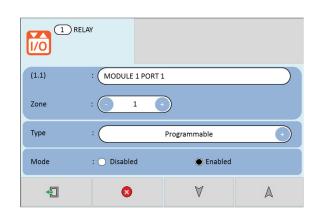
E.g. a MRM that is plugged into TRM port 1 would have the following addresses:

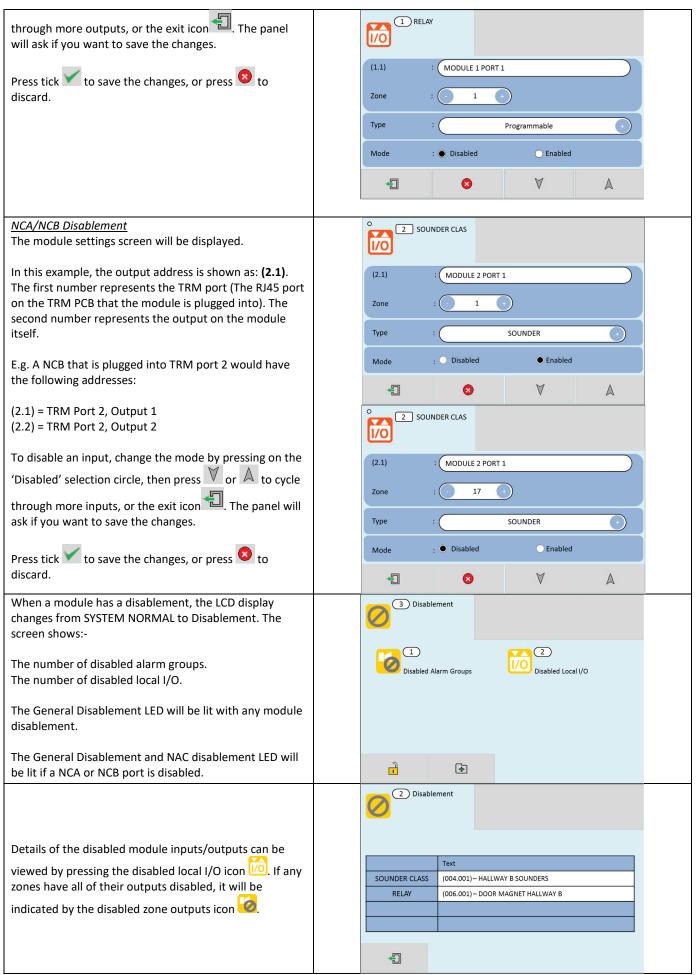
- (1.1) = TRM Port 1, Output 1
- (1.2) = TRM Port 1, Output 2
- (1.3) = TRM Port 1, Output 3

To disable an input, change the mode by pressing on the 'Disabled' selection circle, then press or to cycle









NOTE: Disabling a circuit will cause the panel to enter the trouble condition. The trouble buzzer, trouble LED's and trouble relays will be activated.

# Test Mode

#### Why Use Test Mode?

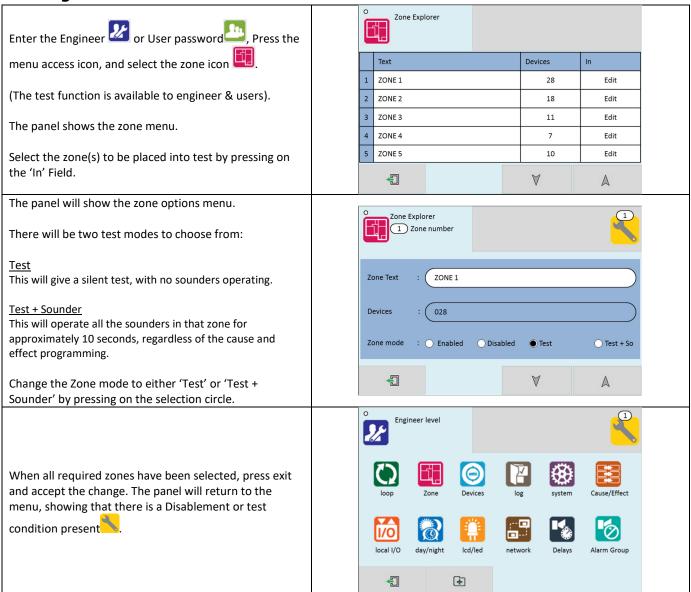
To aid commissioning and assist routine maintenance checks, a non-latching 'one man test' facility is available. Test mode can be used either with or without sounder operation, depending on the engineer's requirements.

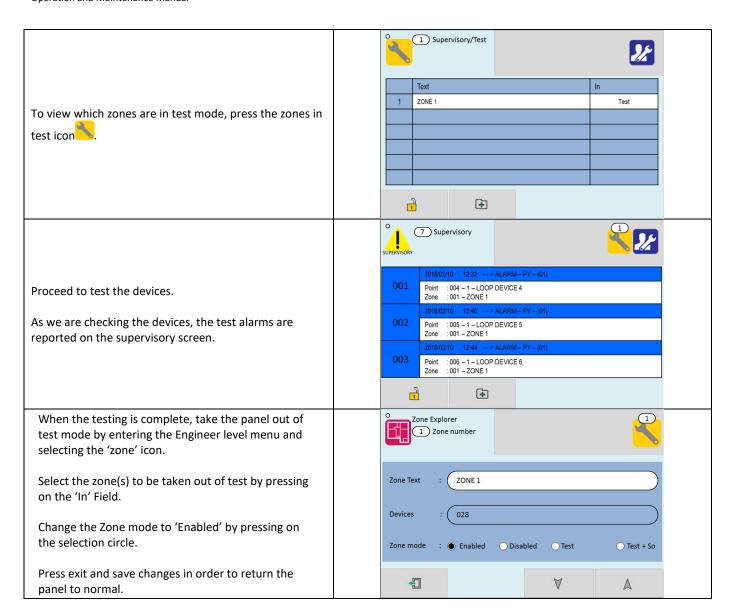
When a detector, manual call point or input unit is triggered on any zone in Test, the Alarm sounders operate for approximately 3 seconds on and then switch off (If selected). The triggered device is automatically reset. The panel will display the tested device on a test alarm screen, with the event highlighted in blue. The device automatically resets from the fire condition, but the LCD indication remains until the panel is manually reset.

If the device is still in the fire condition, e.g. MCP still activated or the analogue value of a detector still above the alarm threshold, the device will be triggered again and the Alarm sounders will operate again.

Should an Alarm occur on a zone that is not programmed to test, the Fire Alarm Panel will operate as normal and signal an alarm.

## To Programme a Zone into Test Mode







NOTE: Zones that are placed into test mode will be automatically re-enabled after 60 minutes.

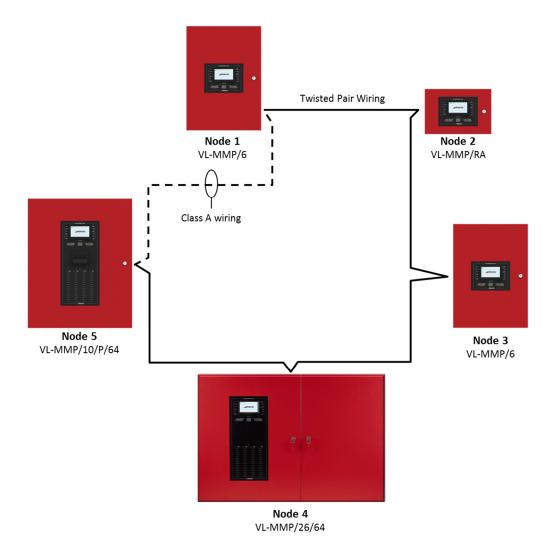
# **Networking**

The Velocity requires a VL-NWM module to network to another Velocity system.

Up to 64 control panels (CIEs) can be connected together, i.e. networked. The maximum distance between nodes is 1KM when using a screened data cable, or 100M when using a standard fireproof cable.

The network can be configured with a ring or bus topology, but would recommend the network is wired as a ring for better fault tolerance.

# **Network Typologies**



#### Ring Network (Class A)

In a ring network, each control panel is connected to 2 other control panels to form a ring. This has the same topology as the loops of addressable devices connected to each CIE. This has the advantage that no panels are lost if there is a single break in the network.

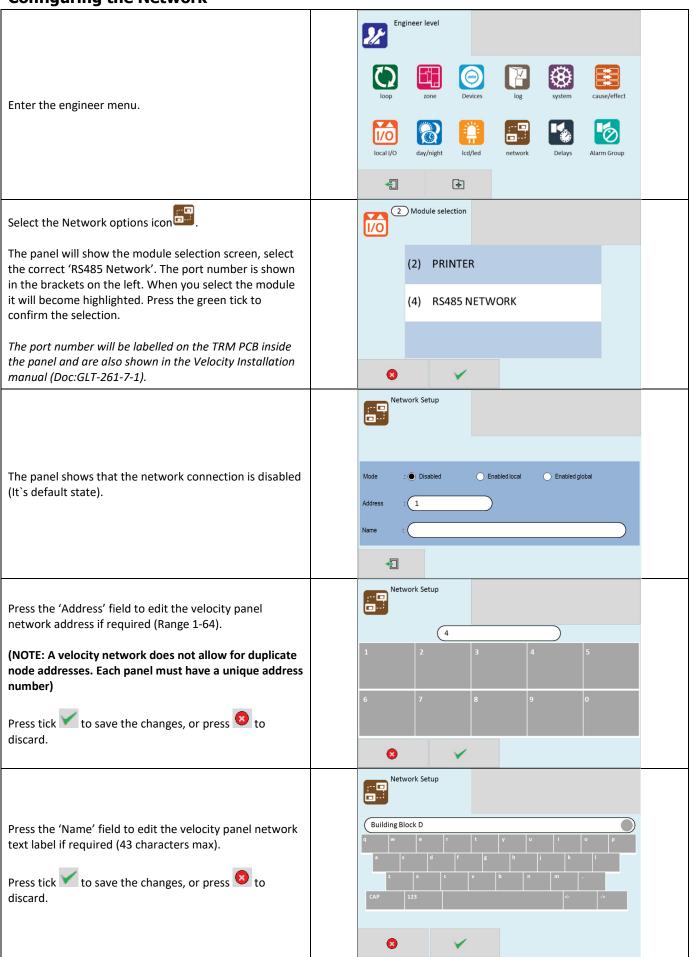


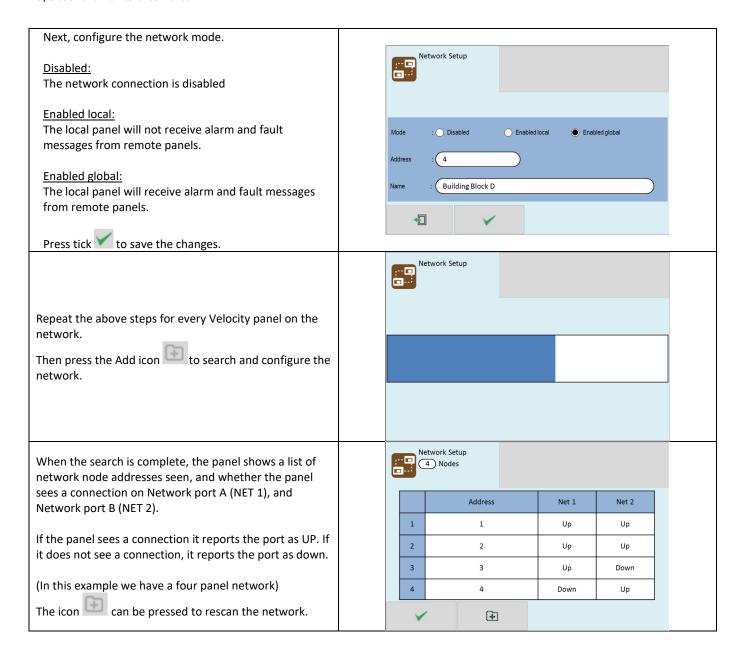
**NOTE:** It is recommended that you install and wire your network in a ring topology for better stability and redundancy.

#### **Bus Network (Class B)**

This is similar to a ring network but wired panel to panel without a return connection from last panel to first panel. It could also be referred to as a radial or spur network.

# **Configuring the Network**





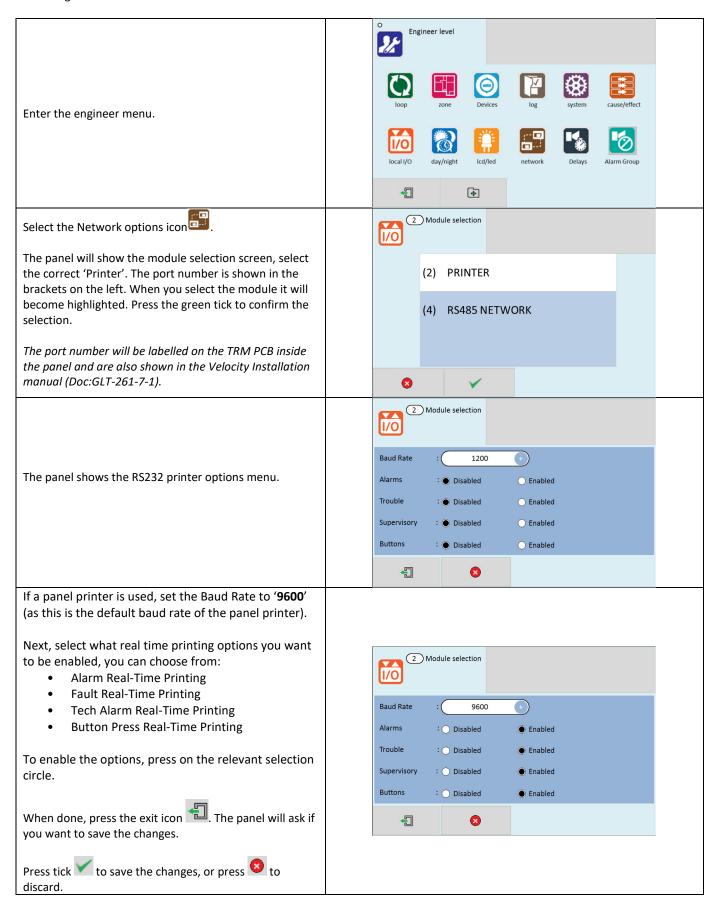
#### **Running the Network**

On a Velocity panel, running in a network, all events are reported at all panels. All panels are able to silence sounders, reset the systems, and acknowledge events across the network when a suitable access code has been entered.

Operation of outputs over the network is determined by the programmed cause & effect. Any input on the network can be programmed to operate any output. The cause & effect is entered at the panel that has the INPUT CAUSE connected.

# Configuring the RS232 Panel Printer

The Velocity panel has been designed to report events to a panel printer. This will provide automatic, or on demand copy listings of the event log or status information.



# Maintenance

It is recommended that the owner or person having control of the premises should appoint a responsible person to oversee the effective operation of the Fire Alarm System.

VELOCITY control panels do not require any specific maintenance but should the control panel become dirty it can be wiped over with a damp cloth and should then be dried with a dry, lint free cloth. Solvents or detergents should not be used to clean the panel and take care not to allow any water to enter the enclosure.

Below is a summary of the main functions the "Responsible Person" is expected to carry out. This summary is intended to give a brief outline of user responsibilities for the safe upkeep of the Fire Alarm System.

The responsible person must:-

- 1. Have sufficient authority to carry out the duties associated with being the responsible person
- 2. Check the system at least once every 24 hours to ensure there are no faults present
- 3. Ensure there are arrangements for testing and maintaining the system
- 4. Ensure the log book is up to date, and available for inspection
- 5. Instruct all relevant occupants on the basic operation of the system, including start evacuation, silence alarms, silence troubles and system reset if applicable.
- 6. Take appropriate action to limit the rate of false alarms, by reporting events to the company maintaining the system
- 7. Ensure that all detectors and manual call points remain unobstructed at all times
- 8. Liaise with maintenance personnel to ensure that cleaning, maintenance or building work does not interfere with the functioning and reliability of the fire alarm system
- 9. Ensure any changes to the system are recorded with updated drawings, operating instructions etc.
- 10. Ensure that there are spare parts held on site
- 11. In the event of a pre-alarm, determine the cause & take appropriate action (predetermined fire routine if the cause is the start of a fire, arrange maintenance if the cause is a contaminated detector head)

With the Velocity MMP Fire Alarm Panel, we recommend the following tests are carried out: -

# **Daily Inspection**

- Check that the green Power LED is lit.
- If there are any yellow trouble LEDs lit, or the green Power LED is not lit, report the troubles(s) to the designated site maintenance engineer.

# Weekly Test (you may wish to temporarily disable any relay outputs during the following Tests – See Alarm Group section)

- Set off a manual call point or sensor to test the Fire Alarm panel responds and all the sounders activate.
- Do not test the same device each week. Test a different zone each week using a different call point or detector so that eventually, all the devices will be tested.
- To reset the System, enter access code, then press the Reset button).
- Check that no call points or fire detectors are obstructed in any way. (e.g. New furniture or decorations)

## **Quarterly Test (to be carried out by authorised service personnel only)**

Check that any servicing or repairs required by all previous logbook entries has been undertaken.

- Visual inspection of the batteries and connections. Check the alarm sounders work on battery only.
- Activate a device from each zone to test the fire alarm. (As per weekly test).
- Enter access code and go to the menu. Press the LED Test icon. Check that all LEDs light and the buzzer sounds.

# Annual Test (to be carried out by authorised service personnel only)

- Check every detector, call point, sounder and all auxiliary equipment for correct operation.
- Check Switch Mode cage Voltage (30 VAC), Charger Voltage (27.3V off load, adjusted with VR1) & Battery Voltage (25-27V)
- Check the backup batteries condition with a suitable test meter

## **Every Five Years (to be carried out by authorised service personnel only)**

Carry out a complete wiring check in accordance with the testing and inspection requirements of the relevant National
wiring regulations (in the UK this is the IEE Wiring Regulations). The Batteries should be replaced because SLA batteries have
a working life of 5 years.

Should the control panel become defective; some electronic assemblies can be replaced.

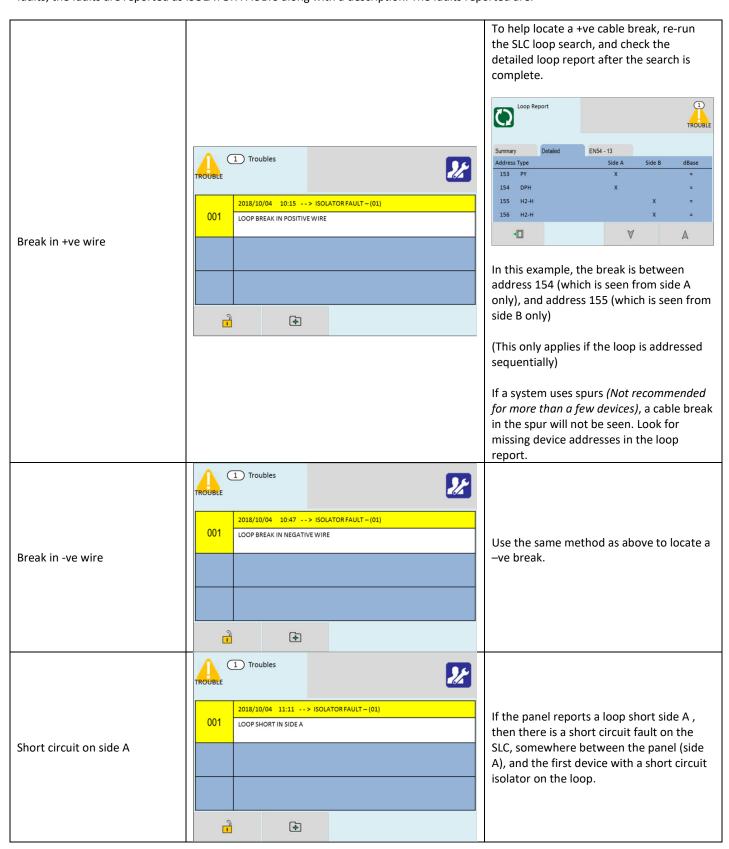
To do this, any configured options should be noted and the panel configuration should be downloaded and saved (if available), then both mains and battery power should be removed before the work is started. Internal panel and field wiring should be carefully labelled and removed from the terminals.

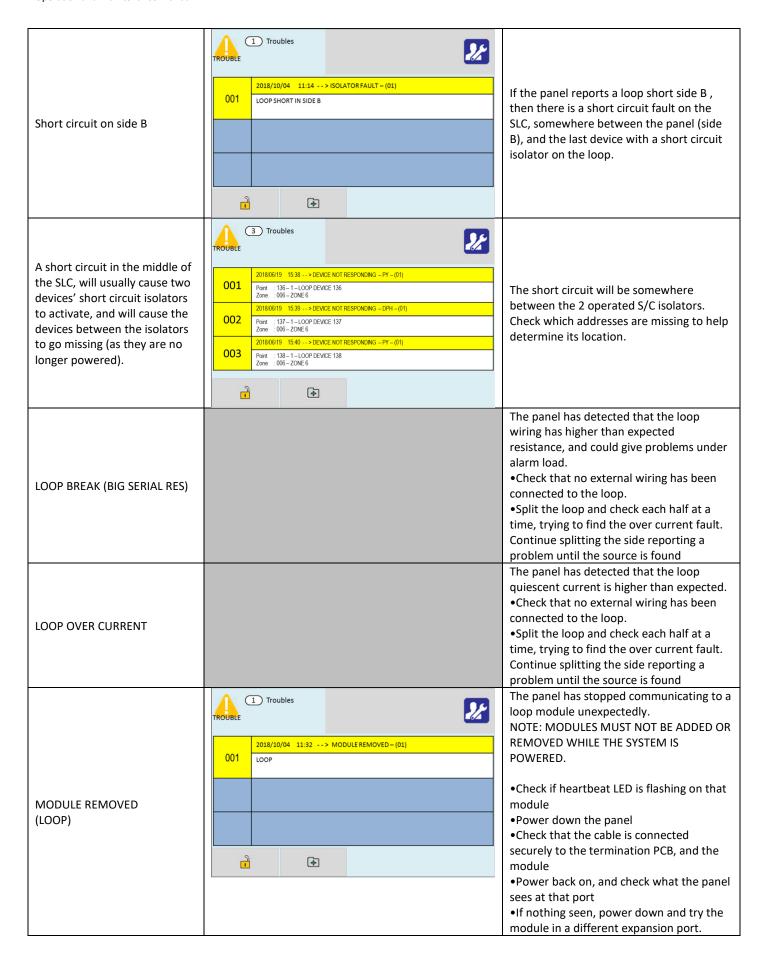
The Module or PCB can now be taken out of the panel by removing any securing bolts or nuts. Fitting the new part is the reverse of the procedure for removing the board

# **Troubleshooting**

### **SLC Trouble Finding**

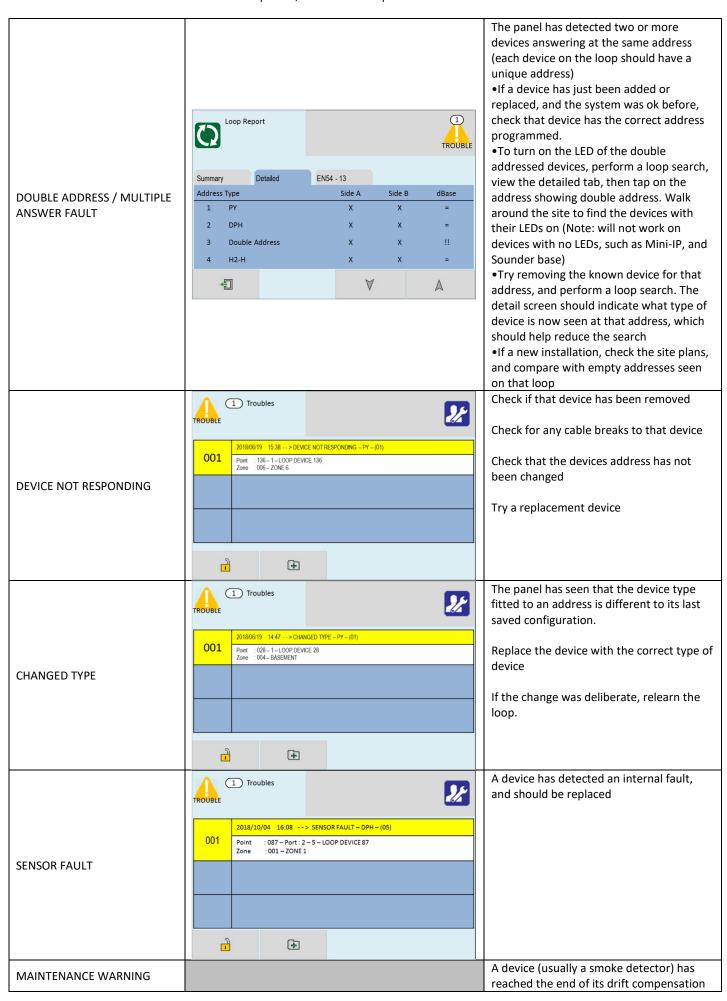
The Velocity panel will monitor the SLC for open or short circuit faults. The panel's SLC isolator monitors for both open and short circuit faults; the faults are reported as ISOLATOR FAULTS along with a description. The faults reported are:-

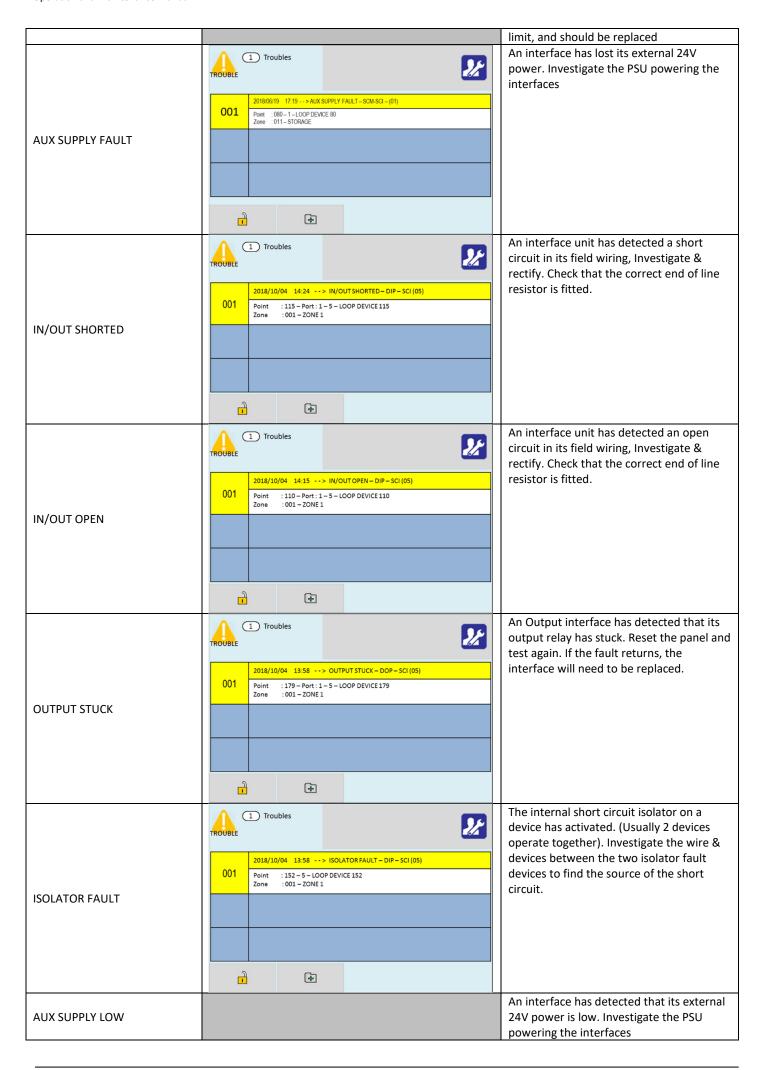




### **SLC Contents Trouble Finding**

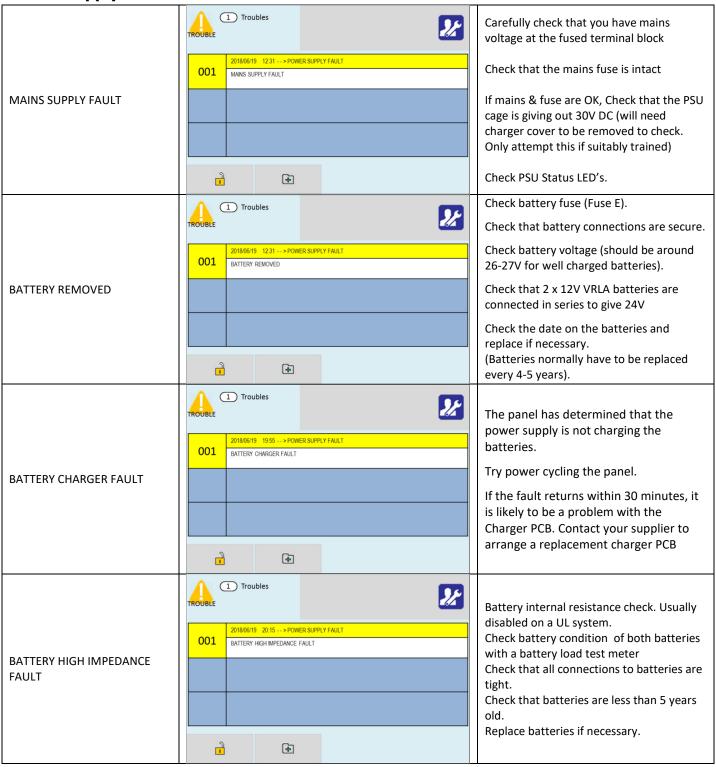
If the SLC contents are different to what was expected, then there two probable causes:

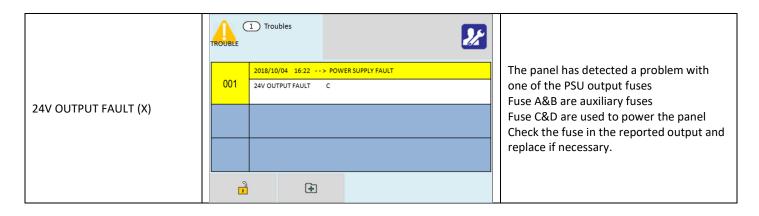




	Check that the wiring polarity to the device is correct.
Devices not seen on a loop search	Check that the device has the correct address
	Check that the device is compatible with the MMP panel

## **Power Supply Trouble**

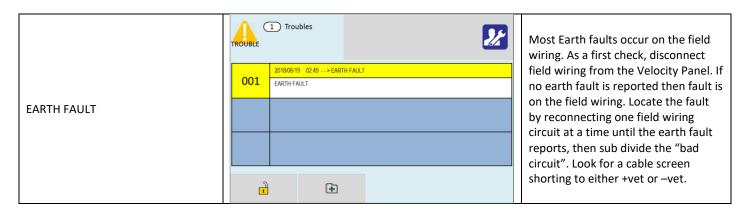




### **Earth Trouble**

An EARTH fault indicates that something is shorting to earth (usually through the cable screen). Disconnect the earth screens one at a time to determine the problem line. (Note: connecting other equipment, e.g. a mains powered laptop, to the panel can give an earth fault)

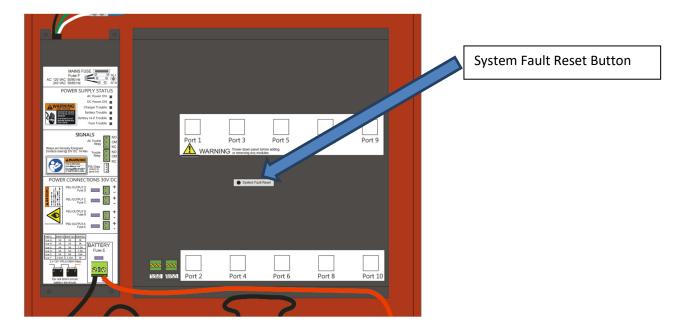
The earth fault message will indicate if voltage is shorting to earth.



#### **CPU Trouble**

A CPU fault is an abnormal microprocessor running condition due to various unexpected phenomena.

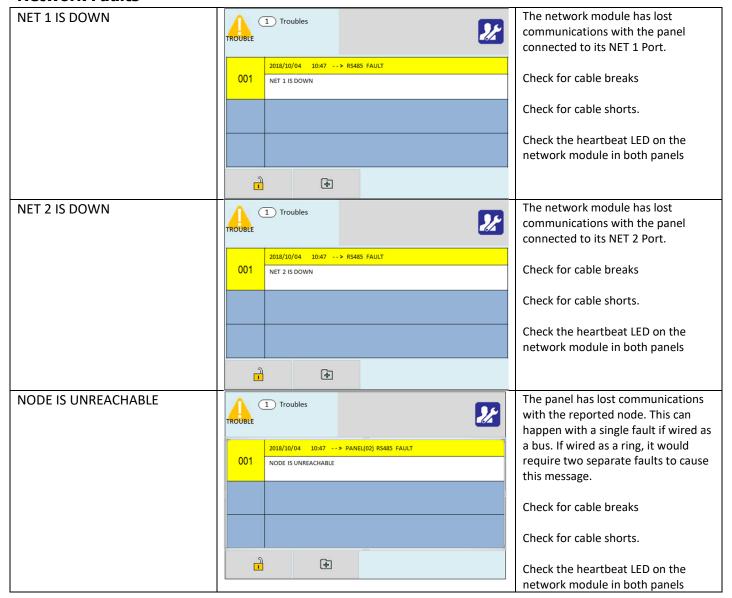
This will result in the panel attempting to correct itself. Should this fault occur, the CPU Trouble LED, Common Trouble LED, Common Trouble relays and internal Trouble buzzer will be constantly active. A CPU trouble indication can be cleared by pressing the CPU reset button located on the TRM PCB. If the trouble condition does not clear please consult your distributor.



## **Local I/O Faults**

Local 1/O Faults		
	1 Troubles	The panel has stopped communicating to the module unexpectedly.
MODULE REMOVED	001 2018/10/04 21:32> MODULE REMOVED - (02) INPUT CLASS B	Check coms heartbeat LED on front of module, it should be blinking.
		Check the RJ45 connection between the module and the TRM PCB.
		If the above is all OK, perform a CPU reset on the Panel.
LOCAL OUTPUT SHORTED	1 Troubles 2018/10/04 13:58> LOCAL OUTPUT SHORTED - (03) Output :1 - MODULE 3 PORT 1 A. Group :2 - ZONE 2	The output on one of the module ports has detected a short circuit.  Check that there is not a short circuit between the cores on the wiring.  Check that the End of Line resistor is the correct value (if required).
LOCAL OUTPUT OPEN	1 Troubles 2018/10/04 13:58> LOCAL OUTPUT OPEN - (03) 001 Output :1 - MODULE 3 PORT 1 A. Group :2 -ZONE 2	The output on one of the module ports has detected an open circuit.  Check that the wiring connections are making good contact.  Check that the End of Line resistor is present and the correct value (if required).
LOCAL INPUT SHORTED	1 Troubles 2018/10/04 14:29> LOCALINPUT SHORTED - (02) 1	The input on one of the module ports has detected a short circuit.  Check that there is not a short circuit between the cores on the wiring.  Check that the End of Line resistor is the correct value (if required).
LOCAL INPUT OPEN	1 Troubles 2018/10/04 14:37> LOCALINPUT OPEN - (02) Input : 2.6 - MODULE 2 PORT 6 Zone : 6 - ZONE 6	The input on one of the module ports has detected an open circuit.  Check that the wiring connections are making good contact.  Check that the End of Line resistor is present and the correct value (if required).

## **Network Faults**



# Appendix A: User Menu Summary

Default Password 0001 (User 1) – Access level 2b

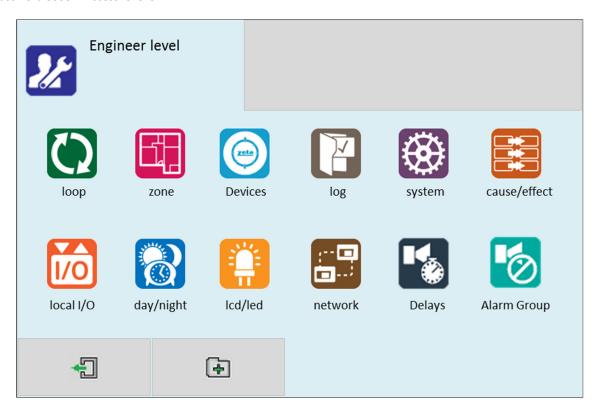


lcon	Tab Screen	Description
Zone	Zone Explorer	View Zone text label
Zone	Zone Explorer	View Quantity of devices per zone
		View Zone text label
	Zone Edit	View Quantity of devices per zone
		View/Edit zone mode (Enabled/Disabled/Test/Test+Sounder)
		View Address & Device type
Point	Basic	View Device text label
rome	Dasic	View/Edit device mode (Enabled/disabled) View Device Zone
		allocation
		View Address & Device type
	Real Time	View Device text label
		View device Analogue Values
Log	-	View Event Log
		View input (1-3) text label
Local I/O	Zone Class A	View input (1-3) zone allocation
Localiyo		View input (1-3) type (Alarm/Supervisory)
		View/Edit input (1-3) status (Disabled/Enabled)
		View input (1-6) text label
	Zone Class B	View input (1-6) zone allocation
		View input (1-6) type (Alarm/Supervisory)
		View/Edit input (1-6) status (Disabled/Enabled)
		View input (1-3) text label
	Input Class B	View input (1-3) zone allocation
		View input (1-3) type (Alarm/Supervisory)
		View/Edit input (1-3) status (Disabled/Enabled)
		View output (1-3) text label
		View output (1-3) zone allocation
	Relay	View output (1-3) type
		(Alarm/Trouble/Supervisory/Programmable)
		View/Edit output (1-3) mode (Disabled/Enabled)
		View output (1) text label
	Sounder Class A	View output (1) zone allocation
		View output (1) type (Sounder/Bell/Voltage)

		View/Edit output (1) mode (Disabled/Enabled)
		View output (1-2) text label
	Sounder Class B	View output (1-2) zone allocation
		View output (1-2) type (Sounder/Bell/Voltage)
		View/Edit output (1-2) mode (Disabled/Enabled)
LCD/LED	-	Test panel LEDs, LCD & Buzzer
Delays	-	Toggle panel delays on or off
Alarm Group Global Mode		View/Edit Relay Status (Disabled/Enabled)
Alai III Gioup	Global Mode	View/Edit Sounder Status (Disabled/Enabled)
		View text label
	A. Grp Mode	View/Edit A. Grp mode (All enabled/Sounder disabled/Relay
		disabled/All disabled)

# Appendix B: Engineer Menu Summary

Default Password 9999 - Access level 3



lcon	Tab Screen	Description		
Loop	Module Selection	Select Loop Module to automatically search for all devices on the loop.		
	Summary	Summary of all devices found on loop		
	Detail	Detailed view of all devices found on loop		
Zone	Zone Explorer	View Zone text label View Quantity of devices per zone		
	Zone Edit	View/Edit Zone text label View quantity of devices per zone View/Edit Zone mode (Enabled/Disabled/Test/Test+Sounder)		
Point	Basic	View Address & Device type View/Edit Device text label View/Edit Device mode (Enabled / disabled) View/Edit Device Zone allocation		
	Real Time	View Address & Device type View Device text label View Device Analogue Values		
	Options	View/Configure device specific options.		
	Add/Remove	Add new device Remove a configured device		
Log	-	View Event Log Erase Event Log		
System	Strings	Edit Site Name Edit Installer Name Edit Installer/Maintenance Contact Number		
	Clock	Edit Date & Time		
	Users	Set Admin name label Set Admin password Set User name label Set User password Set the number of user passwords		
	Language	Set Panel Language (English/Espanyol/Romana/Portuguese)		
Cause & Effect		View / Enter / Delete Cause & Effect (See Cause & Effect Section		

		for dataila)
		for details)
Local I/O		View/Edit input (1-3) Text label
	Zone Class A	View/Edit input (1-3) Zone allocation
		View/Edit input (1-3) Type (Alarm/Supervisory)
		View/Edit input (1-3)Status (Disabled/Enabled)
		View/Edit input (1-6) Text label
	Zone Class B	View/Edit input (1-6) Zone allocation
	ZOTIE Class B	View/Edit input (1-6) Type (Alarm/Supervisory)
		View/Edit input (1-6)Status (Disabled/Enabled)
		View/Edit input (1-3) Text label
		View/Edit input (1-3) Zone allocation
	Input Class B	View/Edit input (1-3) Type (Alarm/Supervisory)
		View/Edit input (1-3)Status (Disabled/Enabled)
		View/Edit output (1-3) Text label
		View/Edit output (1-3) Zone allocation
	Relay	View/Edit output (1-3) Type
	Relay	(Alarm/Trouble/Supervisory/Programmable)
		View/Edit output (1-3)Mode (Disabled/Enabled)
		View/Edit output (1) Text label
	Sounder Class A	View/Edit output (1) A. Grp allocation
		View/Edit output (1) Type (Sounder/Bell/Voltage)
		View/Edit output (1) Mode (Disabled/Enabled)
		View/Edit output (1-2)Text label
	Sounder Class B	View/Edit output (1-2) A. Grp allocation
	Souriuer Class B	View/Edit output (1-2) Type (Sounder/Bell/Voltage)
		View/Edit output (1-2)Mode (Disabled/Enabled)
		view, Earl Galpat (1 2) violate (Bisablea) Enablea)
Day/Night	-	Configure day/night timer (add day settings)
Day/Night LCD/LED	-	
	-	Configure day/night timer (add day settings)
LCD/LED	-	Configure day/night timer (add day settings) Test panel LEDs, LCD & Buzzer
	- - RS485 Network	Configure day/night timer (add day settings)  Test panel LEDs, LCD & Buzzer  View/Edit RS485 Port status (Disabled/Enabled local/Enabled
LCD/LED	-	Configure day/night timer (add day settings)  Test panel LEDs, LCD & Buzzer  View/Edit RS485 Port status (Disabled/Enabled local/Enabled Global)
LCD/LED	-	Configure day/night timer (add day settings)  Test panel LEDs, LCD & Buzzer  View/Edit RS485 Port status (Disabled/Enabled local/Enabled Global)  View/Edit Network Node Address
LCD/LED	-	Configure day/night timer (add day settings)  Test panel LEDs, LCD & Buzzer  View/Edit RS485 Port status (Disabled/Enabled local/Enabled Global)  View/Edit Network Node Address  View/Edit RS485 text label
LCD/LED	- RS485 Network	Configure day/night timer (add day settings)  Test panel LEDs, LCD & Buzzer  View/Edit RS485 Port status (Disabled/Enabled local/Enabled Global)  View/Edit Network Node Address  View/Edit RS485 text label  View/Edit Baud Rate
LCD/LED	-	Configure day/night timer (add day settings)  Test panel LEDs, LCD & Buzzer  View/Edit RS485 Port status (Disabled/Enabled local/Enabled Global)  View/Edit Network Node Address  View/Edit RS485 text label  View/Edit Baud Rate (1200/2400/4800/9600/19200/38400/57600/115220)
LCD/LED	- RS485 Network	Configure day/night timer (add day settings)  Test panel LEDs, LCD & Buzzer  View/Edit RS485 Port status (Disabled/Enabled local/Enabled Global)  View/Edit Network Node Address  View/Edit RS485 text label  View/Edit Baud Rate (1200/2400/4800/9600/19200/38400/57600/115220)  View/Edit Alarm printing (Disabled/Enabled)  View/Edit Trouble printing (Disabled/Enabled)
LCD/LED	- RS485 Network	Configure day/night timer (add day settings)  Test panel LEDs, LCD & Buzzer  View/Edit RS485 Port status (Disabled/Enabled local/Enabled Global)  View/Edit Network Node Address  View/Edit RS485 text label  View/Edit Baud Rate (1200/2400/4800/9600/19200/38400/57600/115220)  View/Edit Alarm printing (Disabled/Enabled)  View/Edit Trouble printing (Disabled/Enabled)  View/Edit Supervisory printing (Disabled/Enabled)
LCD/LED	- RS485 Network	Configure day/night timer (add day settings)  Test panel LEDs, LCD & Buzzer  View/Edit RS485 Port status (Disabled/Enabled local/Enabled Global)  View/Edit Network Node Address View/Edit RS485 text label  View/Edit Baud Rate (1200/2400/4800/9600/19200/38400/57600/115220)  View/Edit Alarm printing (Disabled/Enabled)  View/Edit Trouble printing (Disabled/Enabled)  View/Edit Supervisory printing (Disabled/Enabled)  View/Edit Button printing (Disabled/Enabled)
LCD/LED	- RS485 Network	Configure day/night timer (add day settings)  Test panel LEDs, LCD & Buzzer  View/Edit RS485 Port status (Disabled/Enabled local/Enabled Global)  View/Edit Network Node Address View/Edit RS485 text label  View/Edit Baud Rate (1200/2400/4800/9600/19200/38400/57600/115220)  View/Edit Alarm printing (Disabled/Enabled)  View/Edit Trouble printing (Disabled/Enabled)  View/Edit Supervisory printing (Disabled/Enabled)  View/Edit Button printing (Disabled/Enabled)  View/Edit Alarm Verification (Off/On)
LCD/LED	- RS485 Network	Configure day/night timer (add day settings)  Test panel LEDs, LCD & Buzzer  View/Edit RS485 Port status (Disabled/Enabled local/Enabled Global)  View/Edit Network Node Address View/Edit RS485 text label  View/Edit Baud Rate (1200/2400/4800/9600/19200/38400/57600/115220)  View/Edit Alarm printing (Disabled/Enabled)  View/Edit Trouble printing (Disabled/Enabled)  View/Edit Supervisory printing (Disabled/Enabled)  View/Edit Button printing (Disabled/Enabled)  View/Edit Alarm Verification (Off/On)  View/Edit Retard Time
LCD/LED	- RS485 Network	Configure day/night timer (add day settings)  Test panel LEDs, LCD & Buzzer  View/Edit RS485 Port status (Disabled/Enabled local/Enabled Global)  View/Edit Network Node Address  View/Edit RS485 text label  View/Edit Baud Rate (1200/2400/4800/9600/19200/38400/57600/115220)  View/Edit Alarm printing (Disabled/Enabled)  View/Edit Trouble printing (Disabled/Enabled)  View/Edit Supervisory printing (Disabled/Enabled)  View/Edit Button printing (Disabled/Enabled)  View/Edit Alarm Verification (Off/On)  View/Edit Retard Time  View/Edit Period Time
LCD/LED	- RS485 Network	Configure day/night timer (add day settings)  Test panel LEDs, LCD & Buzzer  View/Edit RS485 Port status (Disabled/Enabled local/Enabled Global)  View/Edit Network Node Address  View/Edit RS485 text label  View/Edit Baud Rate (1200/2400/4800/9600/19200/38400/57600/115220)  View/Edit Alarm printing (Disabled/Enabled)  View/Edit Trouble printing (Disabled/Enabled)  View/Edit Supervisory printing (Disabled/Enabled)  View/Edit Button printing (Disabled/Enabled)  View/Edit Alarm Verification (Off/On)  View/Edit Retard Time  View/Edit Period Time  View/Edit Sounder Delays (Off/On)
LCD/LED	- RS485 Network	Configure day/night timer (add day settings)  Test panel LEDs, LCD & Buzzer  View/Edit RS485 Port status (Disabled/Enabled local/Enabled Global)  View/Edit Network Node Address  View/Edit RS485 text label  View/Edit Baud Rate (1200/2400/4800/9600/19200/38400/57600/115220)  View/Edit Alarm printing (Disabled/Enabled)  View/Edit Trouble printing (Disabled/Enabled)  View/Edit Supervisory printing (Disabled/Enabled)  View/Edit Button printing (Disabled/Enabled)  View/Edit Retard Time  View/Edit Retard Time  View/Edit Sounder Delays (Off/On)  View/Edit Flash Mute (Off/On)
LCD/LED  Network	- RS485 Network	Configure day/night timer (add day settings)  Test panel LEDs, LCD & Buzzer  View/Edit RS485 Port status (Disabled/Enabled local/Enabled Global)  View/Edit Network Node Address View/Edit RS485 text label  View/Edit Baud Rate (1200/2400/4800/9600/19200/38400/57600/115220)  View/Edit Alarm printing (Disabled/Enabled)  View/Edit Trouble printing (Disabled/Enabled)  View/Edit Supervisory printing (Disabled/Enabled)  View/Edit Button printing (Disabled/Enabled)  View/Edit Alarm Verification (Off/On)  View/Edit Retard Time  View/Edit Period Time  View/Edit Flash Mute (Off/On)  View/Edit Alarm Sequence (Off/On)
LCD/LED  Network	- RS485 Network	Configure day/night timer (add day settings)  Test panel LEDs, LCD & Buzzer  View/Edit RS485 Port status (Disabled/Enabled local/Enabled Global)  View/Edit Network Node Address View/Edit RS485 text label  View/Edit Baud Rate (1200/2400/4800/9600/19200/38400/57600/115220)  View/Edit Alarm printing (Disabled/Enabled)  View/Edit Trouble printing (Disabled/Enabled)  View/Edit Supervisory printing (Disabled/Enabled)  View/Edit Button printing (Disabled/Enabled)  View/Edit Retard Time  View/Edit Retard Time  View/Edit Period Time  View/Edit Flash Mute (Off/On)  View/Edit Alarm Sequence (Off/On)  View/Edit Ack. Time
LCD/LED  Network	- RS485 Network	Configure day/night timer (add day settings)  Test panel LEDs, LCD & Buzzer  View/Edit RS485 Port status (Disabled/Enabled local/Enabled Global)  View/Edit Network Node Address View/Edit RS485 text label  View/Edit Baud Rate (1200/2400/4800/9600/19200/38400/57600/115220)  View/Edit Alarm printing (Disabled/Enabled)  View/Edit Trouble printing (Disabled/Enabled)  View/Edit Supervisory printing (Disabled/Enabled)  View/Edit Button printing (Disabled/Enabled)  View/Edit Retard Time  View/Edit Retard Time  View/Edit Period Time  View/Edit Sounder Delays (Off/On)  View/Edit Alarm Sequence (Off/On)  View/Edit Ack. Time  View/Edit Ext. Time
LCD/LED  Network	- RS485 Network	Configure day/night timer (add day settings)  Test panel LEDs, LCD & Buzzer  View/Edit RS485 Port status (Disabled/Enabled local/Enabled Global)  View/Edit Network Node Address View/Edit RS485 text label  View/Edit Baud Rate (1200/2400/4800/9600/19200/38400/57600/115220)  View/Edit Alarm printing (Disabled/Enabled)  View/Edit Trouble printing (Disabled/Enabled)  View/Edit Supervisory printing (Disabled/Enabled)  View/Edit Button printing (Disabled/Enabled)  View/Edit Retard Time  View/Edit Retard Time  View/Edit Period Time  View/Edit Flash Mute (Off/On)  View/Edit Alarm Sequence (Off/On)  View/Edit Ack. Time  View/Edit Resound 24H (Off/On)
LCD/LED  Network	- RS485 Network	Configure day/night timer (add day settings)  Test panel LEDs, LCD & Buzzer  View/Edit RS485 Port status (Disabled/Enabled local/Enabled Global)  View/Edit Network Node Address View/Edit RS485 text label  View/Edit Baud Rate (1200/2400/4800/9600/19200/38400/57600/115220)  View/Edit Alarm printing (Disabled/Enabled)  View/Edit Trouble printing (Disabled/Enabled)  View/Edit Supervisory printing (Disabled/Enabled)  View/Edit Button printing (Disabled/Enabled)  View/Edit Retard Time  View/Edit Retard Time  View/Edit Period Time  View/Edit Flash Mute (Off/On)  View/Edit Alarm Sequence (Off/On)  View/Edit Ack. Time  View/Edit Resound 24H (Off/On)  View/Edit Resound 24H (Off/On)  View/Edit Main Delayed (Off/On)
Network  Delays	- RS485 Network  Printer	Configure day/night timer (add day settings)  Test panel LEDs, LCD & Buzzer  View/Edit RS485 Port status (Disabled/Enabled local/Enabled Global)  View/Edit Network Node Address  View/Edit RS485 text label  View/Edit Baud Rate (1200/2400/4800/9600/19200/38400/57600/115220)  View/Edit Alarm printing (Disabled/Enabled)  View/Edit Trouble printing (Disabled/Enabled)  View/Edit Supervisory printing (Disabled/Enabled)  View/Edit Button printing (Disabled/Enabled)  View/Edit Retard Time  View/Edit Retard Time  View/Edit Period Time  View/Edit Flash Mute (Off/On)  View/Edit Alarm Sequence (Off/On)  View/Edit Ack. Time  View/Edit Resound 24H (Off/On)  View/Edit Main Delayed (Off/On)  View/Edit Relay Status (Disabled/Enabled)
LCD/LED  Network	- RS485 Network	Configure day/night timer (add day settings)  Test panel LEDs, LCD & Buzzer  View/Edit RS485 Port status (Disabled/Enabled local/Enabled Global)  View/Edit Network Node Address  View/Edit RS485 text label  View/Edit Baud Rate (1200/2400/4800/9600/19200/38400/57600/115220)  View/Edit Alarm printing (Disabled/Enabled)  View/Edit Trouble printing (Disabled/Enabled)  View/Edit Supervisory printing (Disabled/Enabled)  View/Edit Button printing (Disabled/Enabled)  View/Edit Retard Time  View/Edit Retard Time  View/Edit Period Time  View/Edit Flash Mute (Off/On)  View/Edit Alarm Sequence (Off/On)  View/Edit Ack. Time  View/Edit Resound 24H (Off/On)  View/Edit Relay Status (Disabled/Enabled)  View/Edit Relay Status (Disabled/Enabled)  View/Edit Relay Status (Disabled/Enabled)
Network  Delays	- RS485 Network  Printer	Configure day/night timer (add day settings)  Test panel LEDs, LCD & Buzzer  View/Edit RS485 Port status (Disabled/Enabled local/Enabled Global)  View/Edit Network Node Address  View/Edit RS485 text label  View/Edit Baud Rate (1200/2400/4800/9600/19200/38400/57600/115220)  View/Edit Alarm printing (Disabled/Enabled)  View/Edit Trouble printing (Disabled/Enabled)  View/Edit Supervisory printing (Disabled/Enabled)  View/Edit Button printing (Disabled/Enabled)  View/Edit Retard Time  View/Edit Retard Time  View/Edit Period Time  View/Edit Flash Mute (Off/On)  View/Edit Alarm Sequence (Off/On)  View/Edit Ack. Time  View/Edit Resound 24H (Off/On)  View/Edit Resound 24H (Off/On)  View/Edit Relay Status (Disabled/Enabled)  View/Edit Sounder Status (Disabled/Enabled)  View/Edit Sounder Status (Disabled/Enabled)
Network  Delays	- RS485 Network  Printer	Configure day/night timer (add day settings)  Test panel LEDs, LCD & Buzzer  View/Edit RS485 Port status (Disabled/Enabled local/Enabled Global)  View/Edit Network Node Address  View/Edit RS485 text label  View/Edit Baud Rate (1200/2400/4800/9600/19200/38400/57600/115220)  View/Edit Alarm printing (Disabled/Enabled)  View/Edit Trouble printing (Disabled/Enabled)  View/Edit Supervisory printing (Disabled/Enabled)  View/Edit Button printing (Disabled/Enabled)  View/Edit Retard Time  View/Edit Retard Time  View/Edit Period Time  View/Edit Flash Mute (Off/On)  View/Edit Alarm Sequence (Off/On)  View/Edit Ack. Time  View/Edit Resound 24H (Off/On)  View/Edit Relay Status (Disabled/Enabled)  View/Edit Relay Status (Disabled/Enabled)  View/Edit Relay Status (Disabled/Enabled)

# Appendix C: Cause and Effects Settings Summary

The table below shows the list of options available for each type of input (cause) and Output (Effect):

Select CAUSE			
Input Type	Selection 1	Selection 2	Causes
Point	Loop Number (Port 1-26)	Point Address (1 - 254) Device Port (1-15)	<ul> <li>Alarm</li> <li>Detector Alarm</li> <li>MCP Alarm</li> <li>Trouble</li> <li>Maintenance</li> <li>Supervisory ON</li> <li>Supervisory OFF</li> </ul>
Local I/O	Local Module (1-26)	Module Port (1-6)	<ul><li>Trouble</li><li>Alarm</li><li>Supervisory ON</li><li>Supervisory OFF</li></ul>
Zone	Zone Start (1 -254)	Zone End (1-254)	<ul> <li>Alarm</li> <li>Detector Alarm</li> <li>MCP Alarm</li> <li>Trouble</li> <li>Maintenance</li> <li>Supervisory ON</li> <li>Supervisory OFF</li> <li>MIt. devices in alarm</li> </ul>
Panel	-	-	<ul> <li>Alarm</li> <li>Detector Alarm</li> <li>MCP Alarm</li> <li>Trouble</li> <li>Maintenance</li> <li>Supervisory ON</li> <li>Supervisory OFF</li> <li>Mlt. devices in alarm</li> <li>Mlt. Zones in alarm</li> <li>Panel KeySwitch ON</li> <li>Panel KeySwitch OFF</li> </ul>

Select EFFECT	Select EFFECT				
Output Type	Selection 1	Selection 2	Day Delay	Night Delay	Effect
Point	Loop number (1-26)	Point Address (1 - 254) Device Port (1-15)	(0-600)	(0-600)	<ul> <li>March</li> <li>ANSI-3</li> <li>Continuous</li> <li>Warning</li> <li>Beacon</li> <li>Switch off</li> <li>Enable</li> <li>Disable</li> </ul>
Local I/O	Local module (1-26)	Module Port (1-6)	(0-600)	(0-600)	<ul> <li>March</li> <li>ANSI-3</li> <li>Continuous</li> <li>Warning</li> <li>Switch off</li> <li>Enable</li> <li>Disable</li> </ul>
A.Group	A. Group start (1-254)	A. Group end (1-254)	(0-600)	(0-600)	<ul> <li>March on sounders</li> <li>ANSI-3 on sounders</li> <li>Continuous on Sounders</li> <li>Activate Beacon</li> <li>Switch OFF SND/Beacon</li> <li>Switch ON Relays</li> <li>Switch OFF Relays</li> <li>March on Outputs</li> <li>ANSI-3 on Outputs</li> </ul>

					<ul> <li>Continuous on Outputs</li> <li>Switch off Output</li> <li>Disable sounders</li> <li>Enable sounders</li> <li>Disable relays</li> <li>Enable relays</li> <li>Disable Output</li> <li>Enable Output</li> </ul>
Panel	-	-	(0-600)	(0-600)	<ul> <li>March on sounders</li> <li>ANSI-3 on sounders</li> <li>Continuous in sounders</li> <li>Activate Beacon</li> <li>Switch off SND/Beacon</li> <li>Switch OFF Relays</li> <li>March on Outputs</li> <li>ANSI-3 on Outputs</li> <li>Continuous on Outputs</li> <li>Switch off Output</li> <li>Disable sounders</li> <li>Enable relays</li> <li>Enable relays</li> <li>Disable output</li> <li>Enable Output</li> </ul>

### **Operation and Maintenance Manual Modification History**

Issue	Date	Changes
003	30/07/2019	<ul> <li>Edited acknowledgement sections due to MMP changes.</li> <li>Edited function button sections due to MMP changes.</li> <li>Edited UL programming table due to MMP changes.</li> <li>Edited network sections due to MMP changes.</li> <li>Removed VDOT-SCM-SCI device from manual.</li> <li>Edited fault finding section.</li> </ul>
004	25/9/2019	<ul> <li>Updated NAC disablement screens</li> <li>Edited Verification operation</li> <li>Added further information on zone test mode.</li> </ul>