Velocity CONTROL PANEL

Operation and Maintenance Manual



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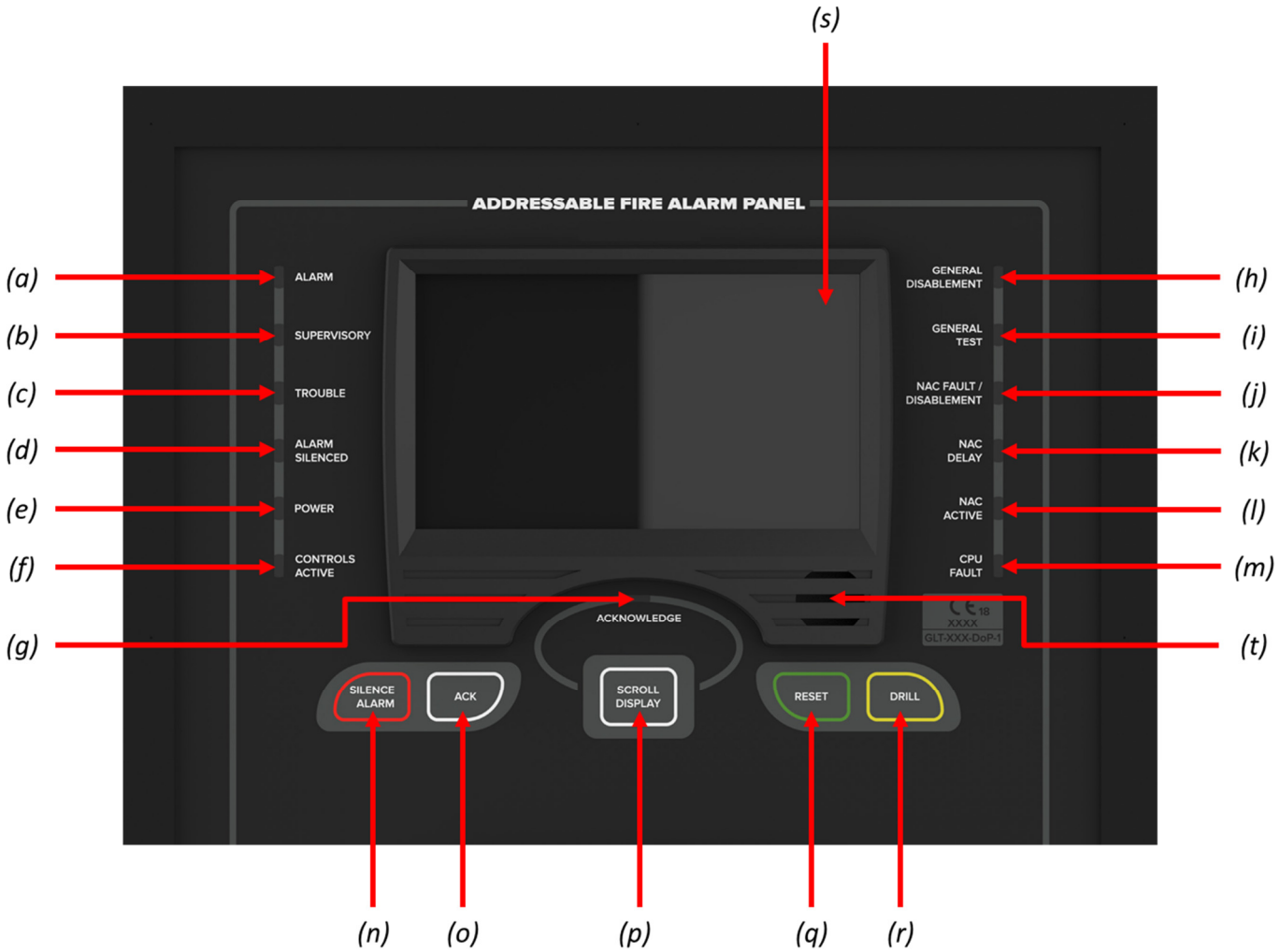
Controls and Indicators

Figure #1 below 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 or system component, when a circuit is disabled or when the panel is in an off-normal condition.
- 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 LED.
- 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 touchscreen 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.

g) **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.

j) **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 SOUNDERS' message to the printers 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)
- 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.

p) Function Button: Scroll (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.

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 touchscreen.
- 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 will not 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 provided.

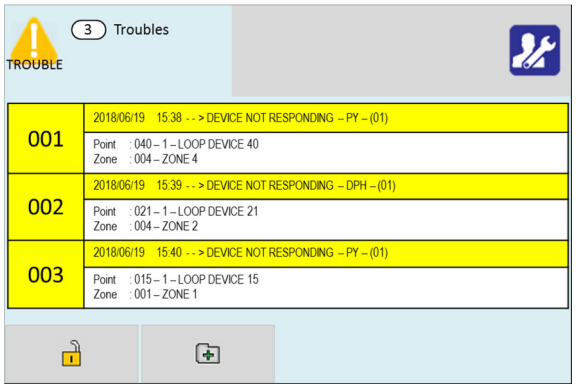
System Operating Modes and Annunciation

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

Trouble Condition

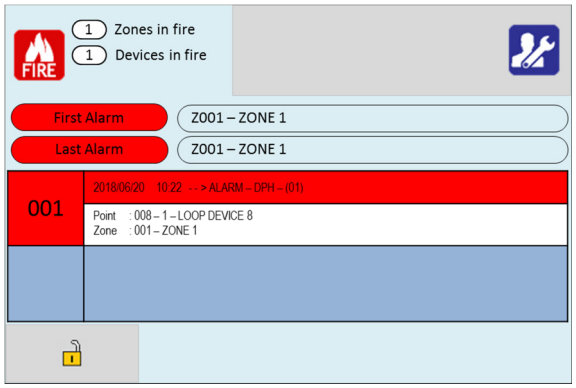
The following functions will be performed when in the trouble condition: • Will cause the panel's internal buzzer to sound with a pulsed output. • The system Trouble LED will illuminate and flash. • Any relevant Trouble LED's will illuminate. • A trouble message will be displayed on the LCD screen. • 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 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.

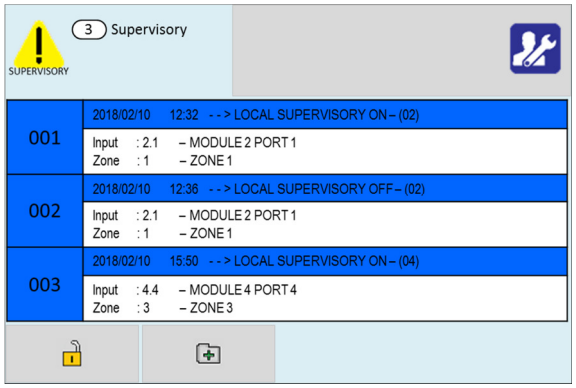
The following functions will be performed when in the supervisory condition:

- Will cause the panel's internal buzzer to sound with a pulsed output.
- The system 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 is not 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.

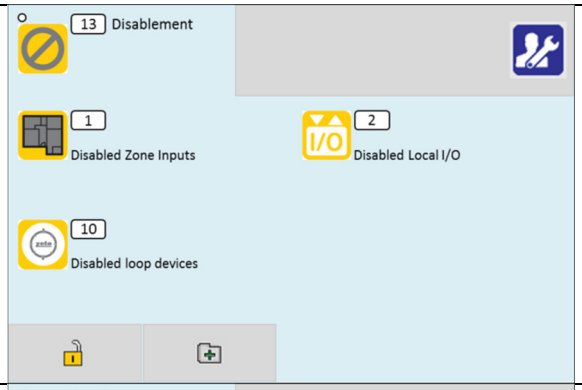
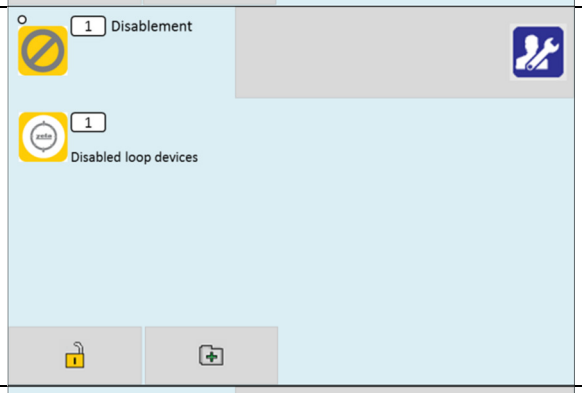
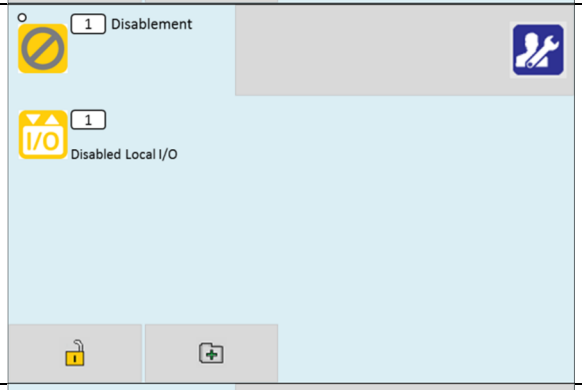
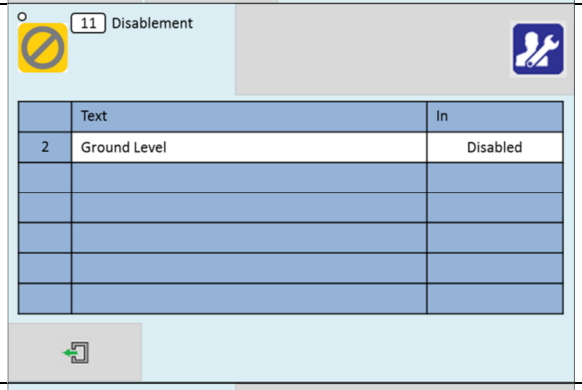
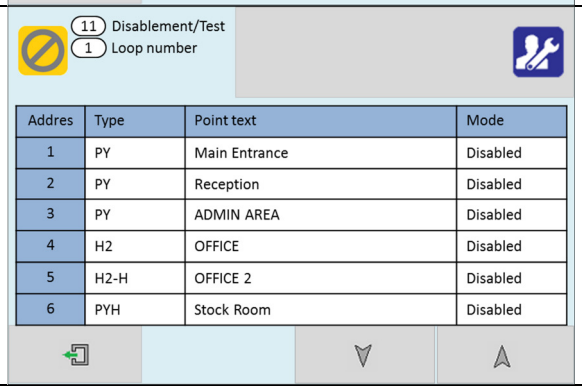
A typical supervisory display would be as illustrated below:



On the screen, the panel shows:

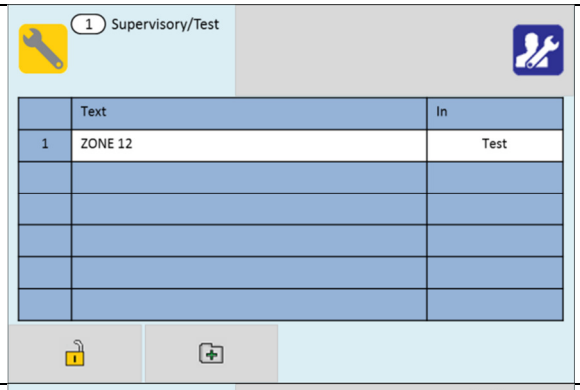
- Supervisory Icon
- Number of supervisory events
- Details of supervisory in chronological order (showing type, zone number & label, device address & label)
- Scroll arrows for displaying further events

Disablement Condition

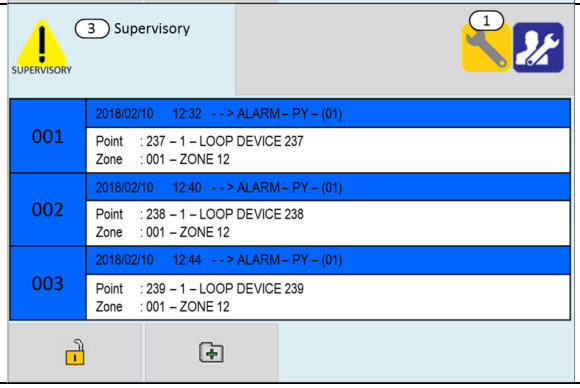
Disablements are indicated with the general disablement LED, and a mixture of LCD/LED indications. In this example, zone 1 is disabled. The panel shows that one zone is disabled, and that the 10 Loop (SLC) devices and 2 module inputs/outputs in that zone are also disabled. Press the zone icon, SLC device icon or local I/O for details of the disablements.	
In this example, there is a single SLC addressable device disabled. Press the Device icon for details of the disablement	
In this example, one of the Inputs on a Zone Monitor Class B module has been disabled.	
Pressing one of the zone disablement icons will give further details about which zone has been disabled.	
Or pressing the disabled SLC devices icon will give details about which devices are disabled.	

Test Condition

In this example, one Zone 3 is in test mode. A number of zones can be put into test at the same time if required. The test can be silent, or with sounders. If the sounder option is chosen, only sounders within the same zone as the test device are operated.



As devices are tested, the screen changes to show the recent tests. Use the arrow to scroll to view older tests if required.



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 supressed events, press the icon of that event.

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

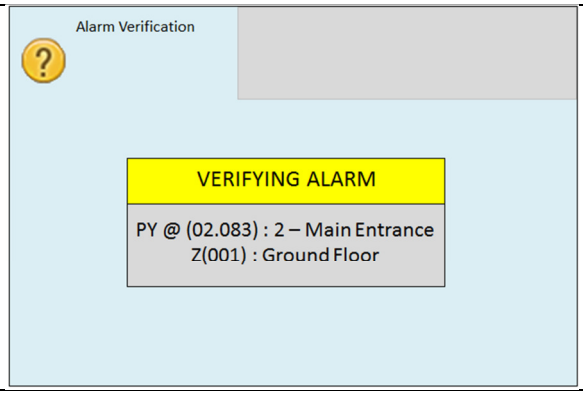


Alarm Verification Conditions

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 it`s 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 it`s usual alarm screen.



Accessing the Panel

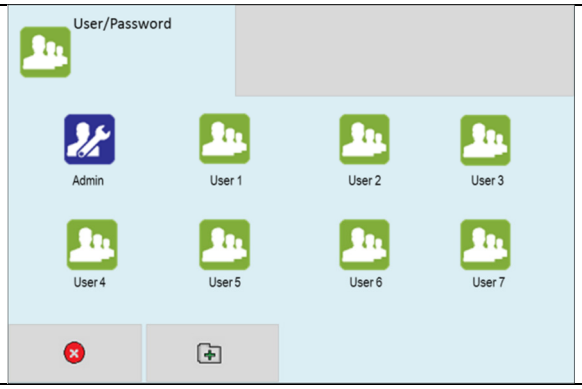
The VELOCITY panel has 2 user access levels and one installer access level.

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.

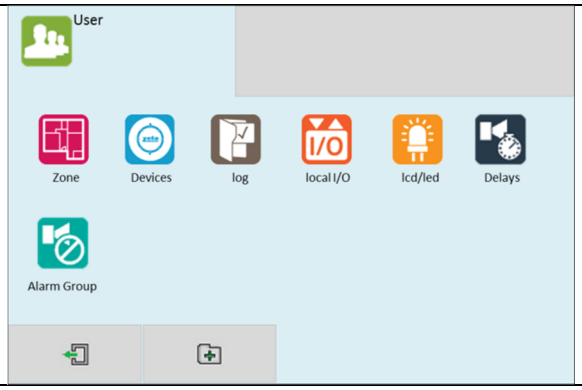


Full user access (Access level 2b)

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.

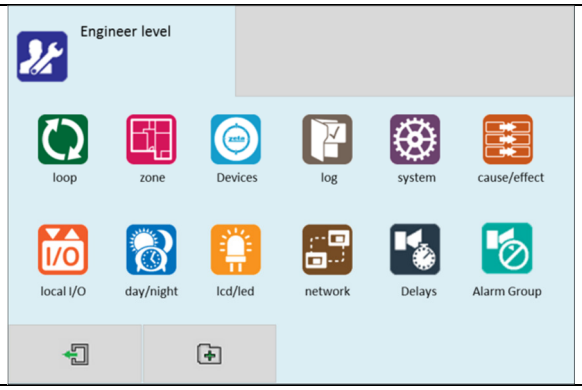
It is indicated by a steady Controls Active LED, and an open padlock icon in the bottom left corner of the LCD screen.



Engineer Access (Access level 3a)

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.

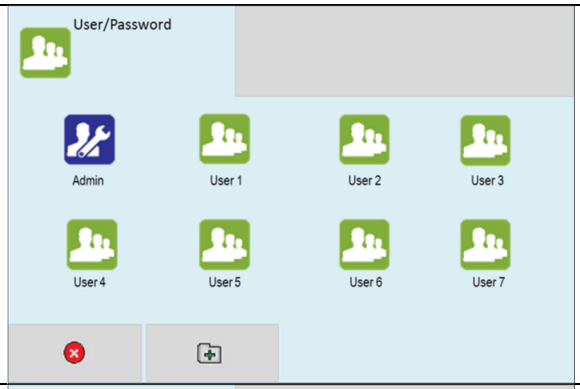
Press the padlock icon  in the bottom left corner. The controls active LCD will turn off and the padlock icon will turn off.

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



Navigating the Panel Menus

The Velocity panel has 2 menus, user and engineer. Entering the user code (Default 0001) accesses the user menu. Entering the Engineer password (Default 9999) enables access level 3. Press the access menu icon  to access the Engineer menu.



The menus are in the form of icons with a text label underneath. To select a particular menu, press the relevant icon.

The sub screens are in the form of tabbed screens if there is more than one sub-option, the data will either be displayed in a table, or as separate data fields, depending on the function of the sub screen

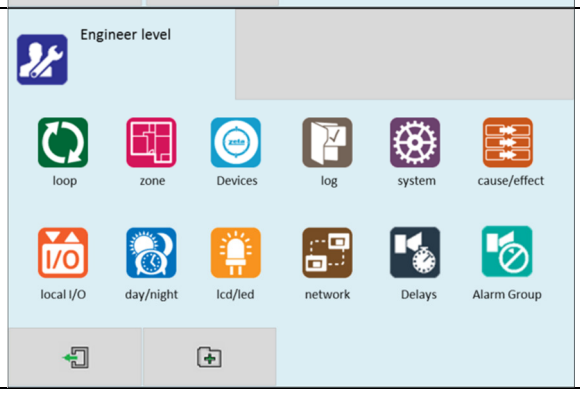
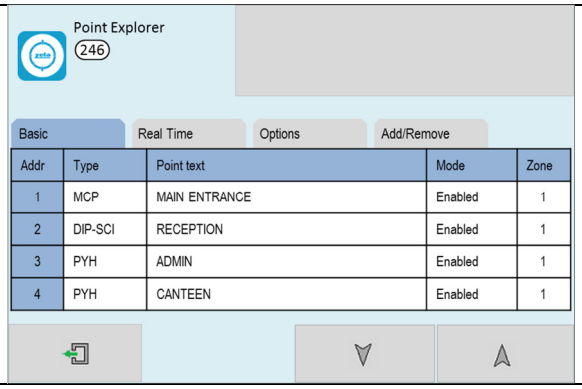


Table View Screen (Example)

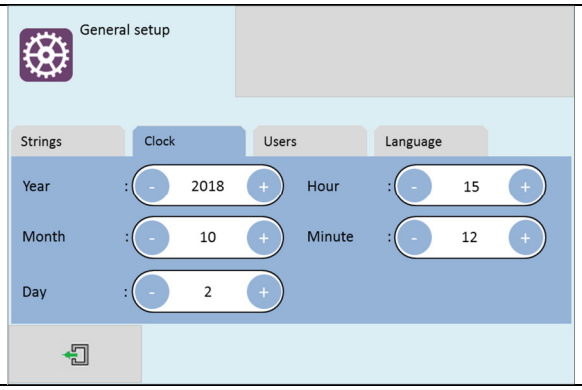
Information is presented in a table, there is editable data (e.g. device labels), and non-editable data (e.g. device types). Tapping on an editable data field will allow it to be edited.



Data Field Screen (Example)

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

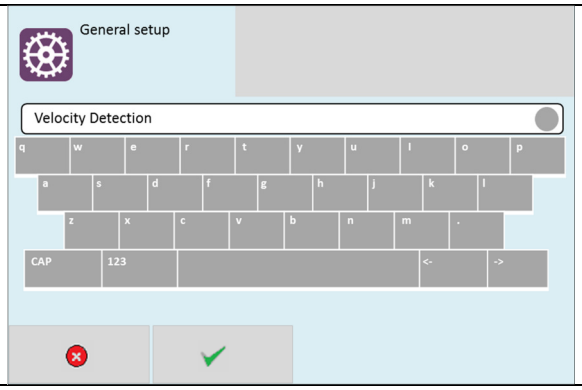
Clicking on the field will allow it to be edited



Text Keyboard

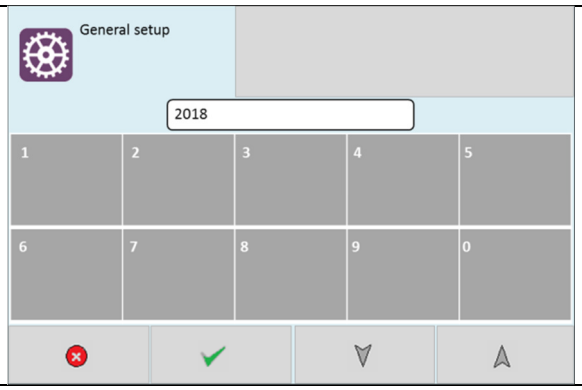
Used to enter text. Use <- and -> to position the keyboard. Press the circle at the end of the text field to delete text as required. The 123 key brings up the numeric keyboard. And the CAP key turns on the caps lock.

Press  when finished to confirm the text entry.



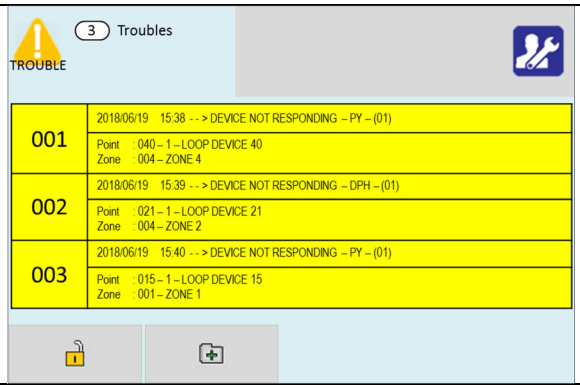
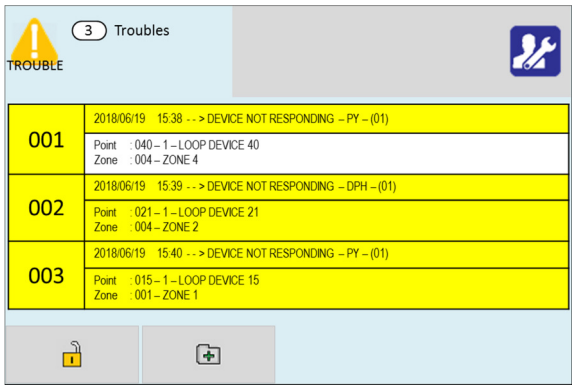
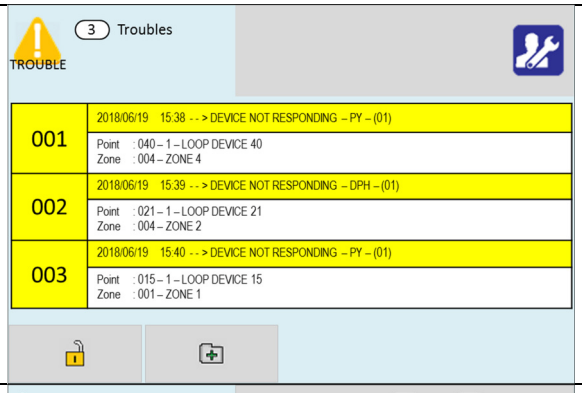
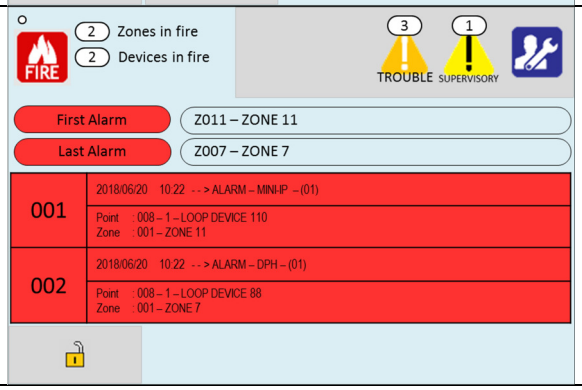
Number Keyboard

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



Acknowledge

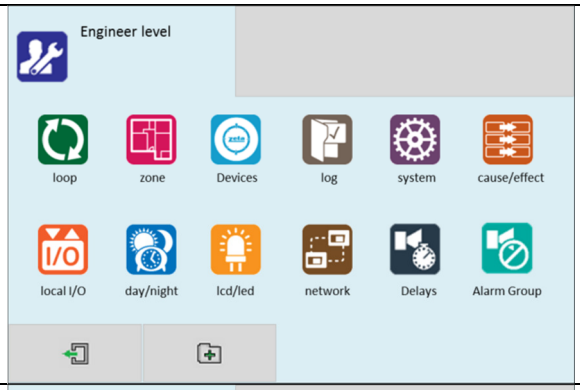
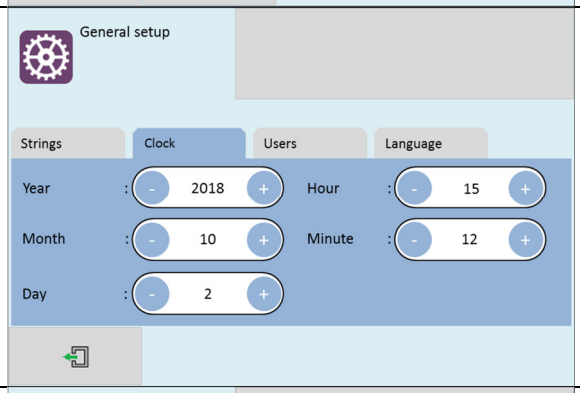
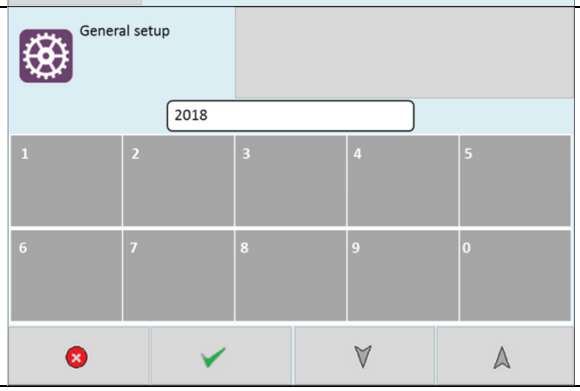
When an Alarm, Supervisory or Trouble event occurs in the system, the display enters the off-normal mode automatically. The events are displayed in priority order (Alarm, Supervisory, and Trouble), the local audible sounds and the appropriate LED's will blink. After all events have been acknowledged, the buzzer will deactivate and the associated LED will stop flashing and remain on continuously. To acknowledge an event, do the following:

When the panel receives an event that needs to be acknowledged, it will display the relevant event status screen. Events that are unacknowledged will be highlighted (Yellow for Trouble, Red for Alarm and Blue for supervisory.). The event that is next in the queue to be acknowledged will be blinking.	
Press the ACK (ACK) button to acknowledge the blinking event. When an event has been acknowledged, it will no longer be highlighted and blinking, instead it will change to solid white. The panel internal buzzer will also be silenced. If there are multiple events in the queue to be acknowledged, press & to scroll through the pages. The SCROLL DISPLAY (SCROLL DISPLAY) button can also be pressed to scroll through event pages.	
Once all events have been acknowledged, panel status LED's (Alarm, Supervisory, Trouble) and the Acknowledgment LED, will change from flashing to steady to indicate that there are no pending events to be acknowledged.	
If there are multiple event types waiting to be acknowledged on the panel, press either the FIRE, SUPERVISORY or TROUBLE icon to navigate to the required event screen.	

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

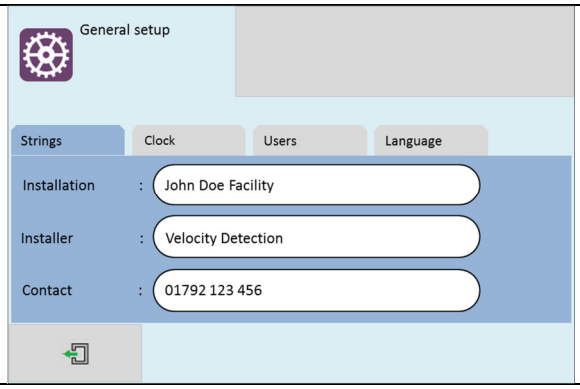
Press the screen. The panel prompts for a user and password. Select Engineer, and enter the Engineer (Access Level 3) password (default is 9999) Press the access menu icon, followed by the 'system' icon .	
Select the Clock tab. Edit the time and date as required. Press the exit button to leave the menu.	
Pressing the + or - changes the setting by 1. To make a bigger adjustment, press the number field and a keypad appears to enter the new value. Press the green tick to accept the value. When all values are correct, press the exit menu icon.	

Creating an Installation Name

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

Enter the Installation Name, Maintenance Company and contact number.

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

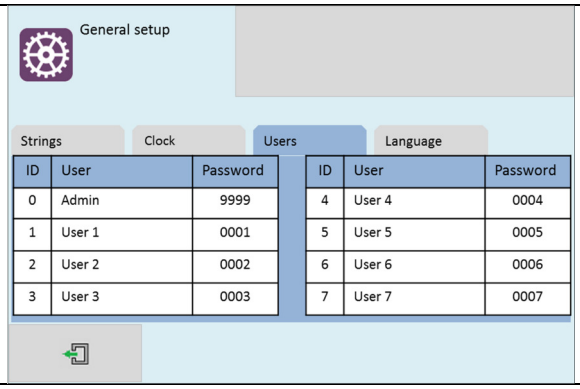


Passwords

From the installer menu, press the ‘system’ icon.

Select the USERS tab.
To change a user name, press user name.
To change a password, press the password. The panel prompts 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.

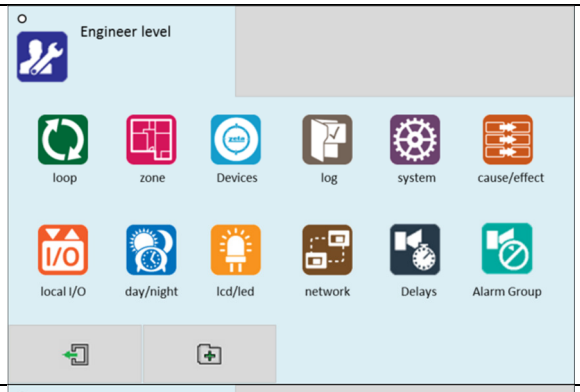


Configuring the SLC Modules

Press the screen. The panel prompts for a password.

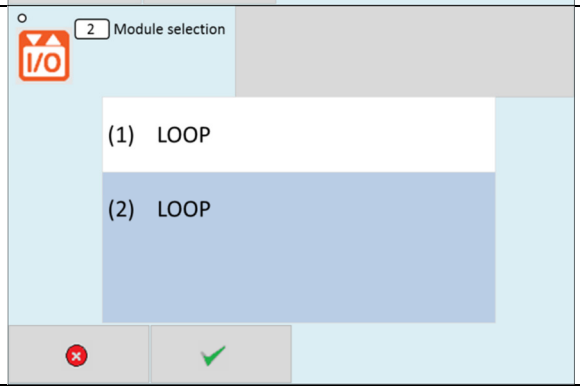
Enter the Engineer (Access Level 3) password (default is 9999)

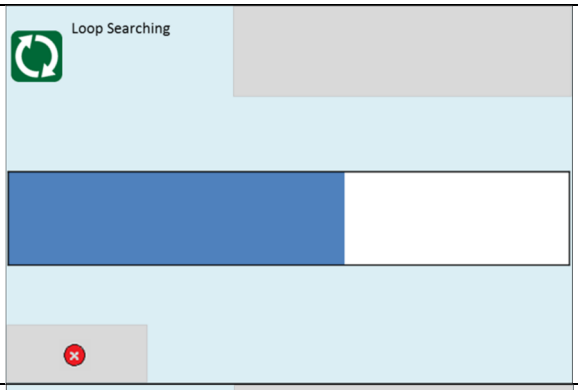
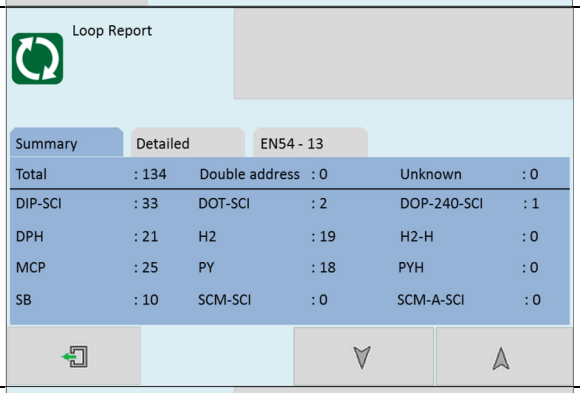
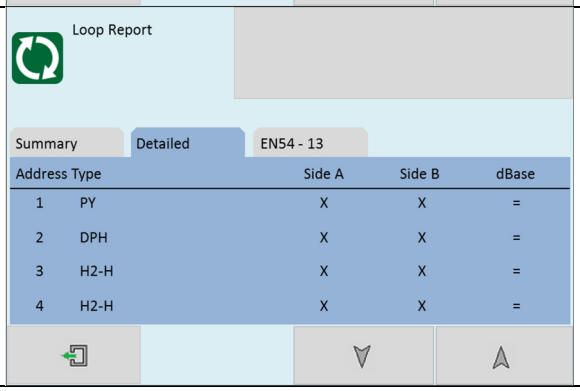
Press the ‘loop’ Icon.



On the module selection screen, select the correct SLC port number. The port number is shown in the brackets on the left. When you select the SLC it will become highlighted. Press the green tick to confirm the selection.

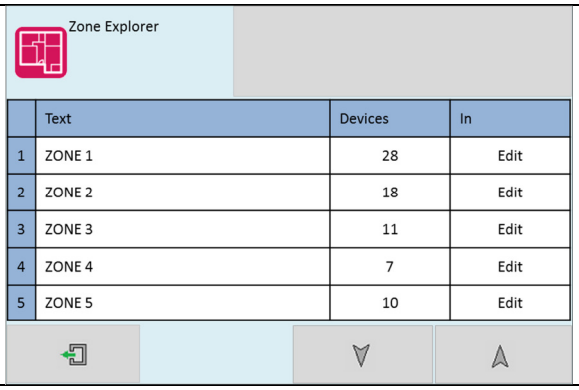
The port number will be labelled on the TRM PCB inside the panel and are also shown in the Velocity Installation manual (Doc: GLT-261-7-1).

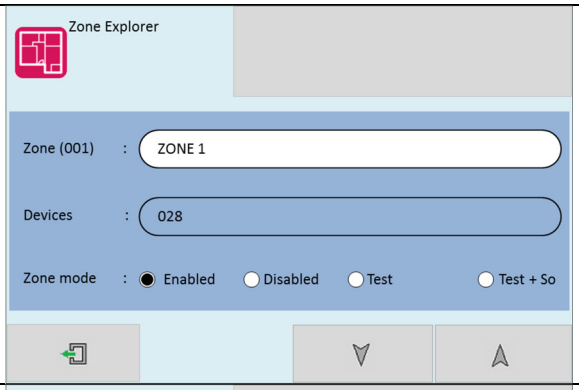
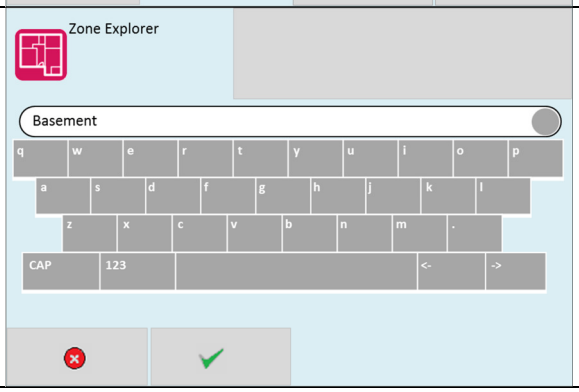


The panel will proceed to learn the loop.	
When the configuration is complete, the panel displays a summary of the devices found.	
To view details of the configuration, click the detail tab. This shows the device type found at each address, and also shows whether it was seen from Side A or Side B (to help locate CABLE BREAKS). It also shows if the device seen is different to the previous database [!!] (i.e. has the device type been changed), or if it is the same as previously configured [=] Press  to exit and either confirm or dismiss the changes.	

Zone Labels

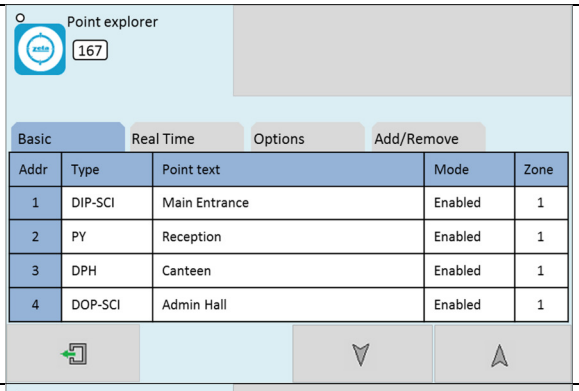
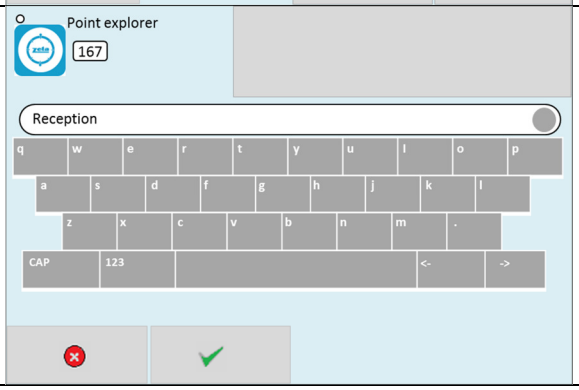
All fire alarm systems must be subdivided into zones, which represent the geographical areas of the building. The Velocity fire system allows any number of devices to be allocated to a zone. However, it is assumed that a zone will not contain more than 32 fire detectors and/or manual call points, since 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 touchscreen 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.

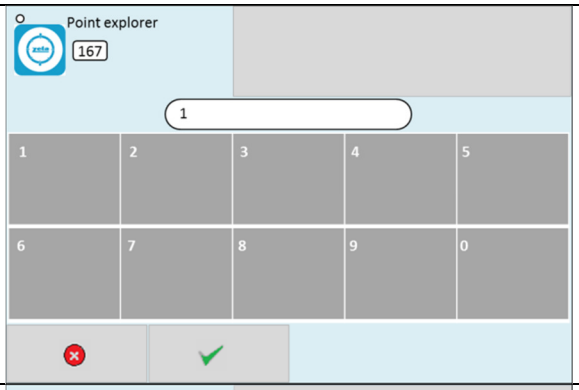
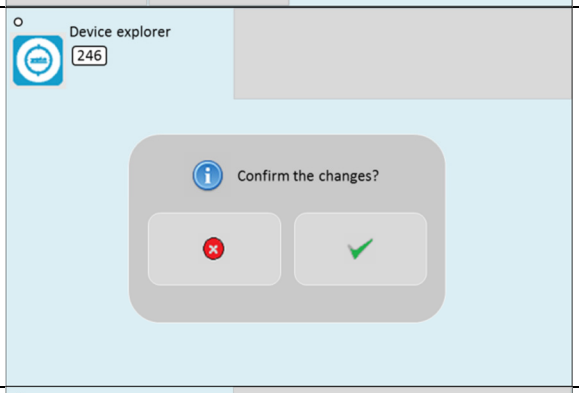
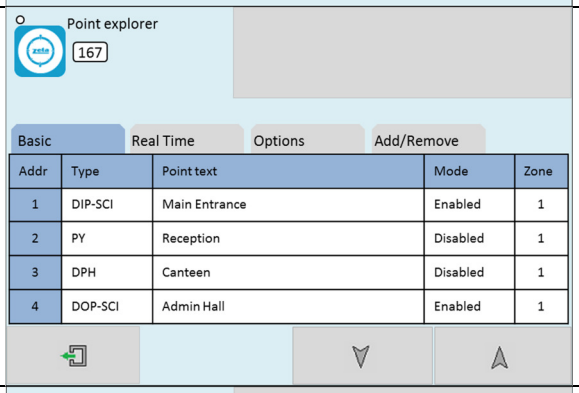
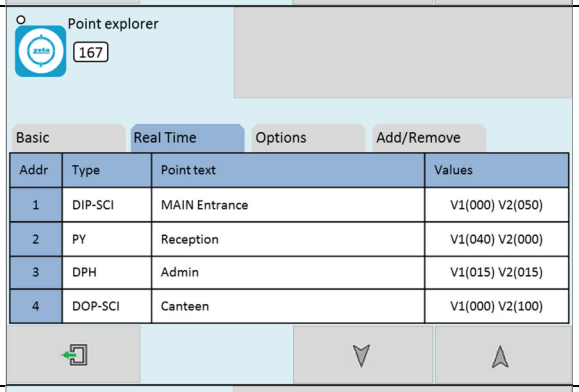
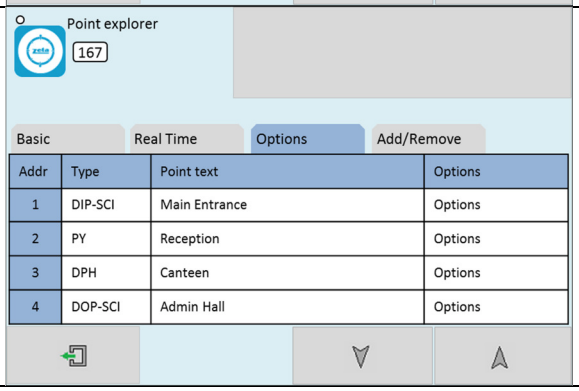
Enter the engineer password and select the ‘zone’ icon. Press on the zone that you wish to edit.	

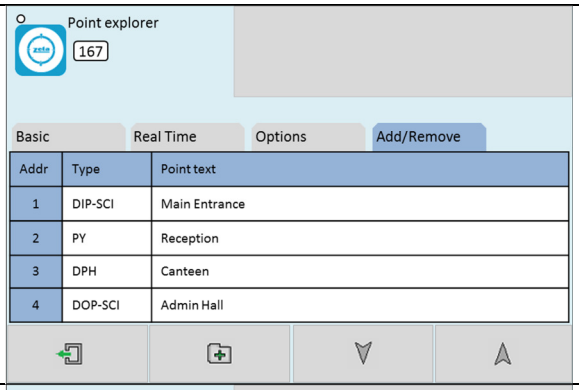
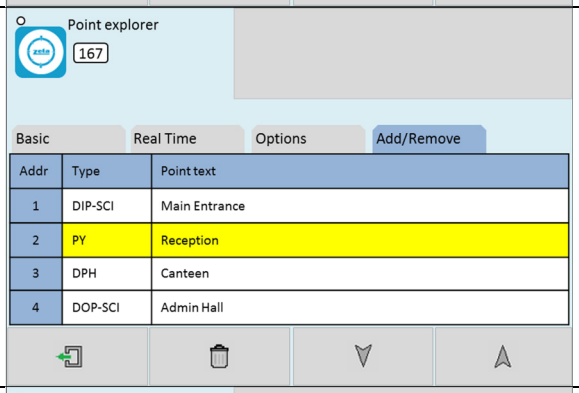
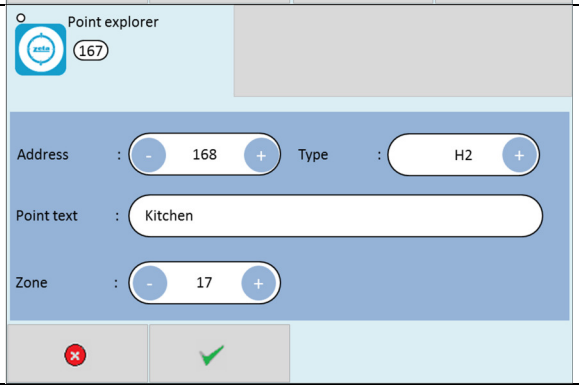
This will show the zone explorer settings menu. Press on the zone text field to edit it. The and arrows can be pressed to cycle through the zone numbers.	
Use <- and -> to place the cursor, and to delete unwanted text. Type the zone name, and press exit when done. Repeat for all required zones.	

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 tool VDOT-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 and this stage.

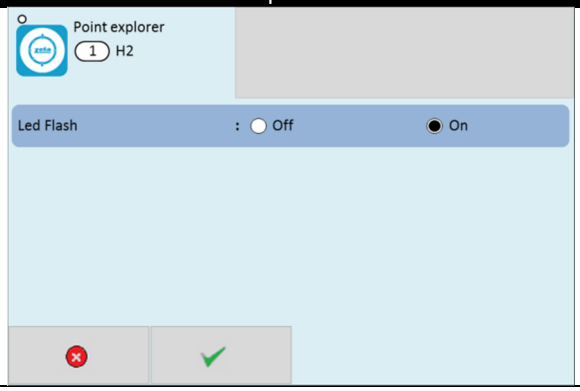
From the ENGINEER MENU, press the ‘point’ icon. Press the text field of the device to be edited.	
The Panel shows the on screen keyboard. Enter the required device label (up to 24 characters). Press the green tick to confirm the text.	

Press the ‘zone’ field to edit the device`s zone number if required.	
Edit another device, or press  to exit the device list and save the changes.	
The Device list screen also shows the current mode of each device, i.e. ENABLED or DISABLED Press the MODE field of a device to toggle its state between enabled and disabled.	
The analogue values can be displayed by pressing the ‘Real Time’ tab. Press the  &  arrows to scroll through the device list.	
Device specific options can be set via the ‘Options’ tab. See following section (SLC Device Options) for details. Press the Options field for the required device to edit its options.	

The Add / Remove tab allows devices to be manually added or removed from the system. This is useful if it is not possible to perform a loop learn (e.g., if a detector is to be changed to a different model, and the replacement is not available, or, if the loop is disconnected to perform maintenance / repair work).	
To manually remove a device, tap the device so that it's highlighted yellow, then press the delete icon .	
To manually add a device, press the add icon . Select the address and device type of the item being added. Enter the point text for the device, and select which zone it will be in.	

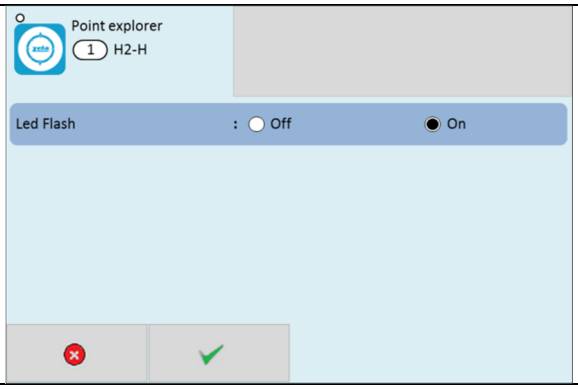
SLC Device Options

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:-

Device	Options
VDOT-H2 *(Addressable Heat Detector)* <u>Available options:</u> Led Flash: (Off) / (On)	

VDOT-H2-H
(Addressable High Heat Detector)

Available options:
Led Flash:
(Off) / (On)

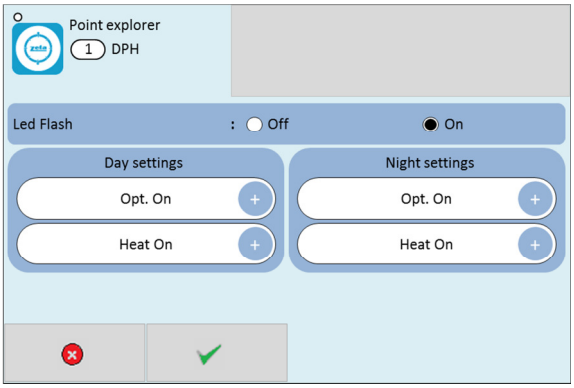


VDOT-DPH
(Addressable Dual Optical/Heat Detector)

Available options:
Led Flash:
(Off) / (On)

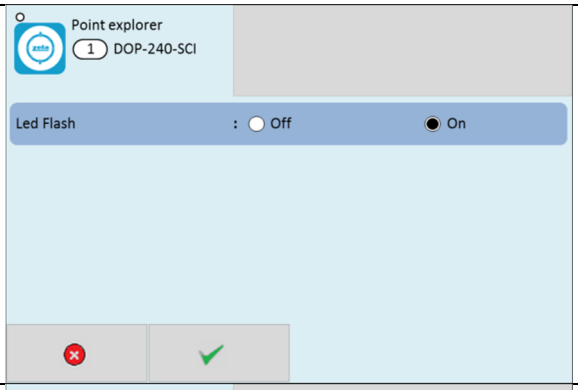
Day settings:
(Opt. On) / (Opt. Off)
(Heat On) / (Heat Off)

Night settings:
(Opt. On) / (Opt. Off)
(Heat On) / (Heat Off)



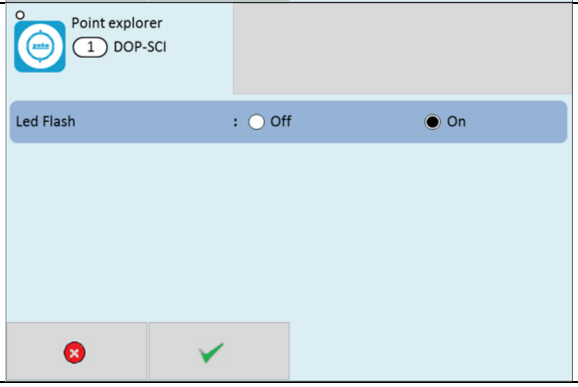
VDOT-DOP-AC240-SCI
(Addressable Relay Dual Output Module For AC240V with SCI)

Available options:
Led Flash:
(Off) / (On)



VDOT-DOP-SCI
(Addressable Relay Dual Output with SCI)

Available options:
Led Flash:
(Off) / (On)



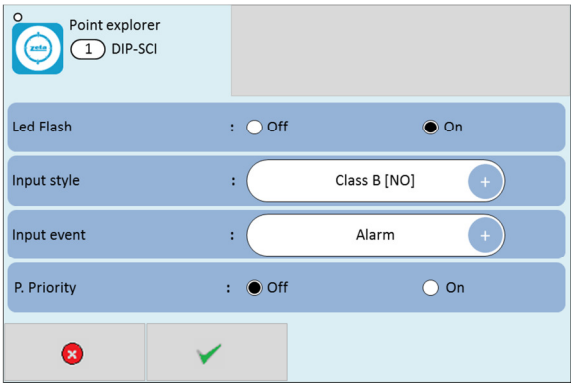
VDOT-DIP-SCI
(Addressable Dual Input Module with SCI)

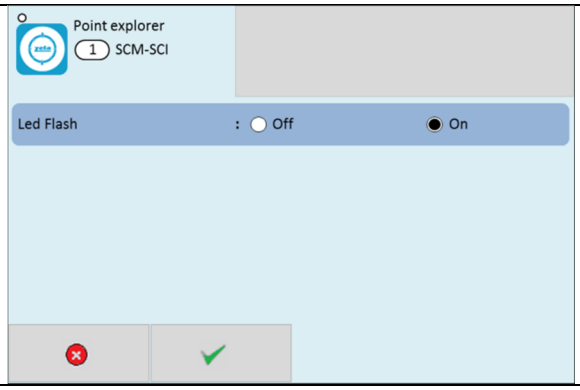
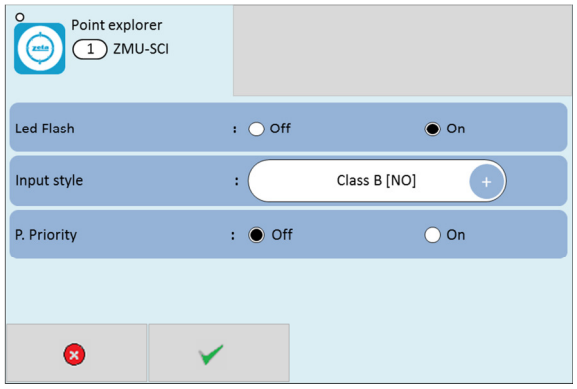
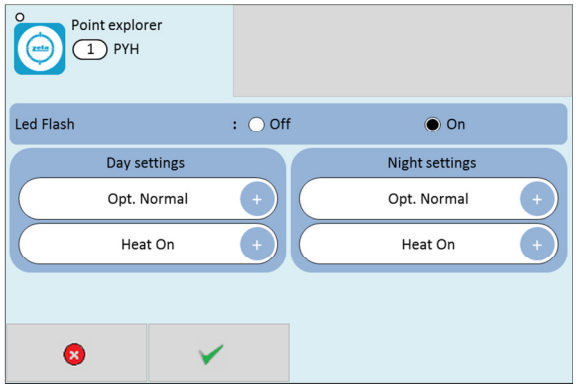
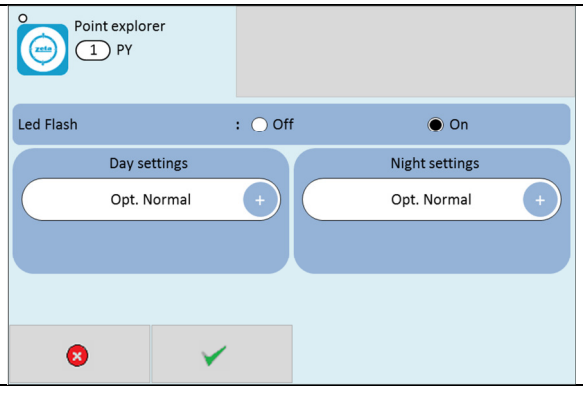
Available options:
Led Flash:
(Off) / (On)

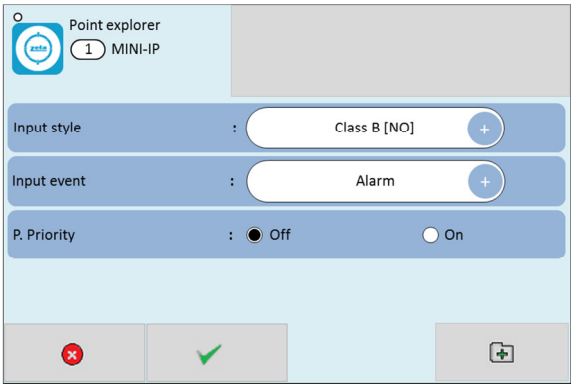
Input Style:
(ClassB [NO]) / (ClassA [NO]) / (ClassB [NC/SC]) / (ClassB [NO/SC]) / (ClassA [NO/SC])

Input Event:
(Alarm) / (Supervisory) / (Trouble)

P. Priority:



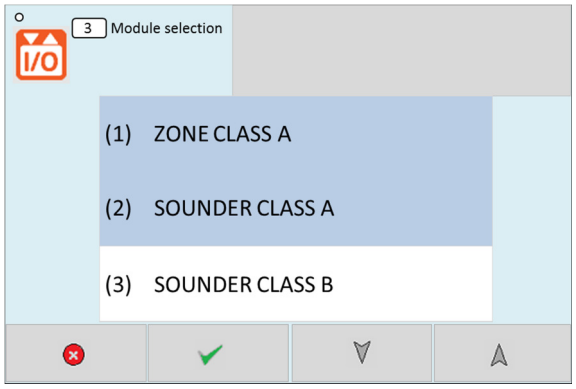
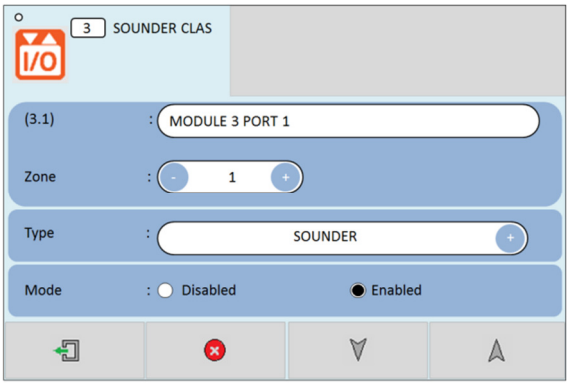
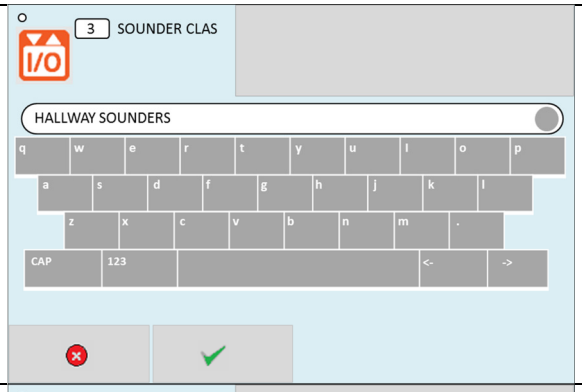
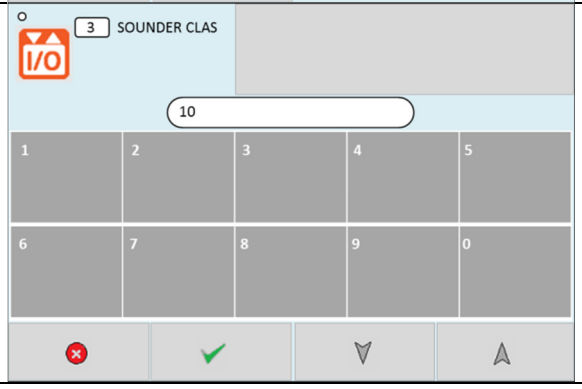
(Off) / (On) *Note: Turning on priority polling will make the panel prioritise events from this device. This can only be used on 50 devices per loop.*	
VDOT-SCM-SCI *(Addressable Sounder Control Module with SCI)* <u>Available options:</u> Led Flash: (Off) / (On)	
VDOT-ZMU-SCI *(Addressable Zone Monitor Module with SCI)* <u>Available options:</u> Led Flash: (Off) / (On) Input Style: (ClassB [NO]) / (ClassA [NO]) / (ClassB [NC/SC]) / (ClassB [NO/SC]) / (ClassA [NO/SC]) P. Priority: (Off) / (On) *Note: Turning on priority polling will make the panel prioritise events from this device. This can only be used on 50 devices per loop.*	
VDOT-SB *(Addressable Sounder base)* <u>Available options:</u> No options available	
VDOT-PYH *(Addressable Multisensory Detector)* <u>Available options:</u> Led Flash: (Off) / (On) Day settings: (Opt. Normal) / (Opt. High) / (Opt. Low) / (Opt. Off) (Heat On) / (Heat Off) Night settings: (Opt. Normal) / (Opt. High) / (Opt. Low) / (Opt. Off) (Heat On) / (Heat Off)	
VDOT-PY *(Addressable Photoelectric Smoke Detector)* <u>Available options:</u> Led Flash: (Off) / (On) Day settings: (Opt. Normal) / (Opt. High) / (Opt. Low) Night settings: (Opt. Normal) / (Opt. High) / (Opt. Low)	

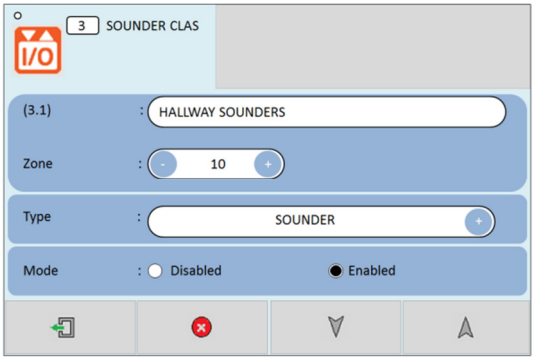
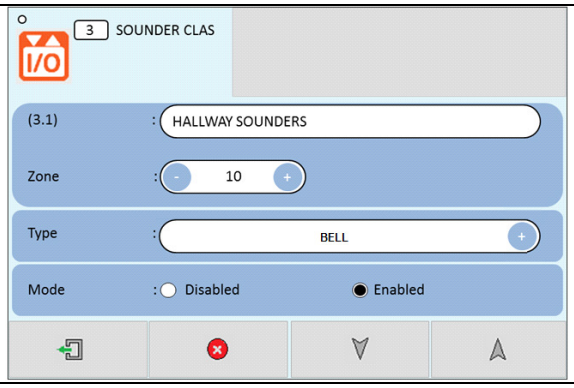
VDOT-MiniIP *(Addressable Photoelectric Smoke Detector)* Available options: Input Style: (ClassB [NO]) / (ClassB [NC/SC]) / (ClassB [NO/SC]) Input Event: (Alarm) / (Supervisory) / (Trouble) P. Priority: (Off) / (On) *Note: Turning on priority polling will make the panel prioritise events from this device. This can only be used on 50 devices per loop.* ***VDOT-MCP MODE:*** *To change a MiniIP into a MCP device type, press the*  *icon then*  *to accept the changes.*	
VDOT-MCP *(Addressable Manual Call Point)* Available options: No options available	

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.

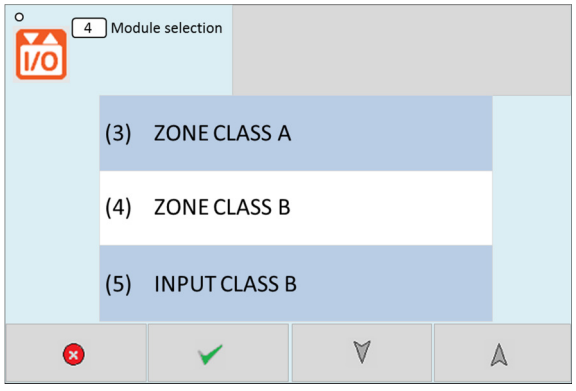
Note that the cause & effect for the Velocity MMP panel has 3 tone options for the NACs: ANSI -3 tone, March tone and continuous.

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/NCA (NAC – 1 x Class A) = Sounder Class A* *VL/NCB (NAC – 2 x Class B) = Sounder 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).*	
The module settings screen will be displayed. In this example, the output 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 output on the module itself. E.g. a NCB that is plugged into TRM port 3 would have the following addresses: (3.1) = TRM Port 3, Output 1 (3.2) = TRM Port 3, Output 2	
To change the text label of a module output, press on the text label field. This will display the panel keyboard. Enter the required text name, and then press the green tick to confirm.	
Each output can be assigned to a zone. To change the zone, press either the + or – button to increase or decrease the zone number. You can also type in the number via the panel numerical keyboard, to do this press on the zone number field. Type in the required zone number and press the green tick to confirm.	

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 provided a steady 24V, with sync pulses once per second. Bell 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. 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.

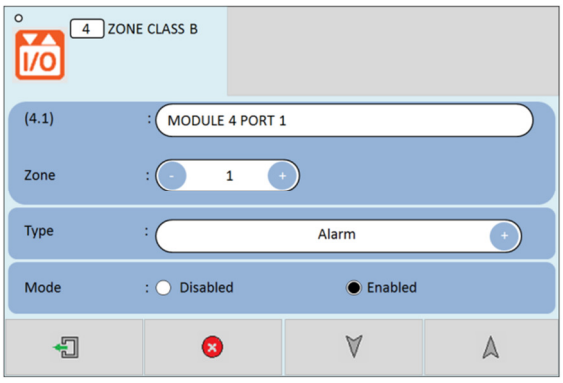
From the ENGINEER MENU, press the Local I/O Icon. The panel will show the module selection screen. Select the required port number. The port number is shown in the brackets on the left. When you select a module it will become highlighted. The up and down arrows can be used to cycle through pages. Press the green tick to confirm the selection. *Panel Designations:* *VL/ZMA (Zone Monitor – 3 x Class A) = Zone Class A* *VL/ZMB (Zone Monitor – 6 x Class B) = Zone Class B* *VL/MIM (Multi Input – 6 x 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).*	

The module settings screen will be displayed.

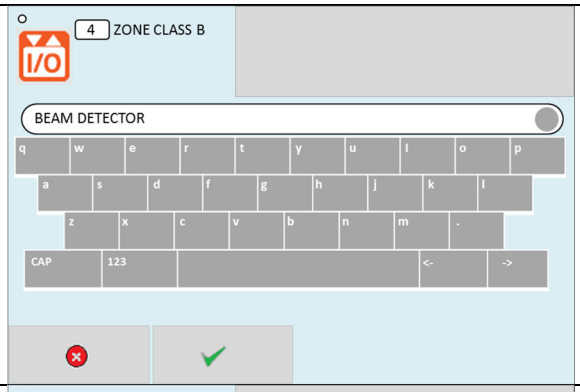
In this example, the input address is shown as: **(4.1)**. The first number represents the TRM port (The RJ45 port on the TRM PCB that the module is plugged into). The second number represents the input on the module itself.

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

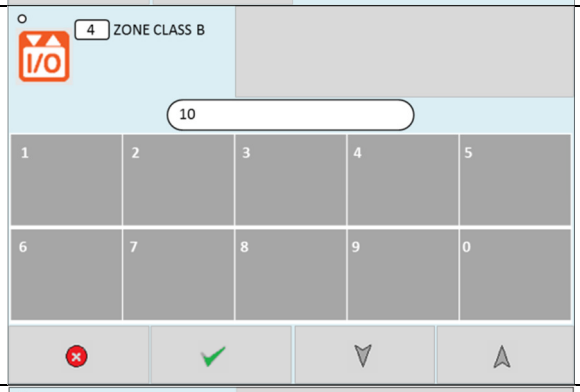


To change the text label of a module input, press on the text label field. This will display the panel keyboard. Enter the required text name, and then press the green tick to confirm.



Each input can be assigned to a zone. To change the zone, press either the + or – button to increase or decrease the zone number.

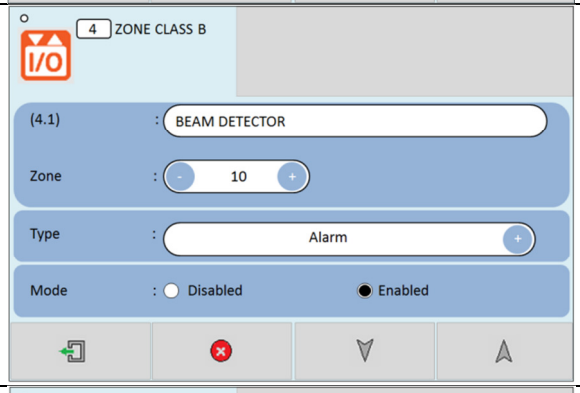
You can also type in the number via the panel numerical keyboard, to do this press on the zone number field. Type in the required zone number and press the green tick to confirm.



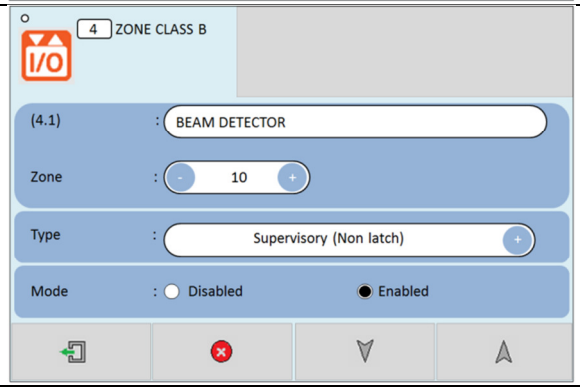
You can set each input to either an
Alarm,
Supervisory (Latching)
Supervisory (Non latching)

(See the *System Operating Modes and Annunciation* section for more details on how each of these settings affect the panel operation).

To change the input mode, simply press on + button to cycle through the options.



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



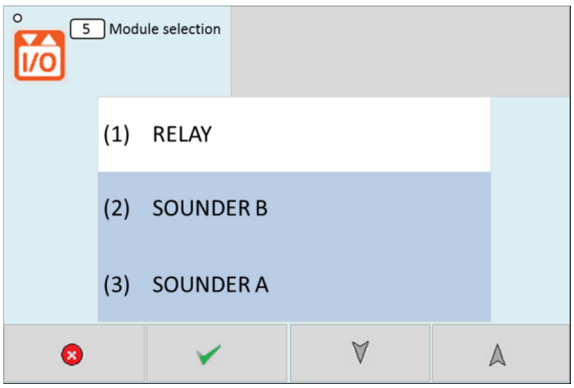
Setting MRM Module Options

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

The panel will show the module selection screen. Select the required module. The TRM 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/MRM (Multi Relay – 3 x Form C) = Relay

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).

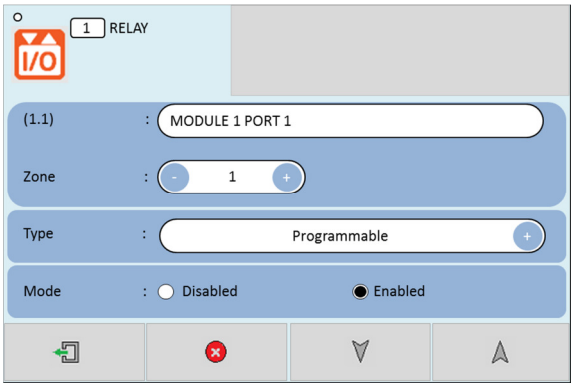


The module settings screen will be displayed.

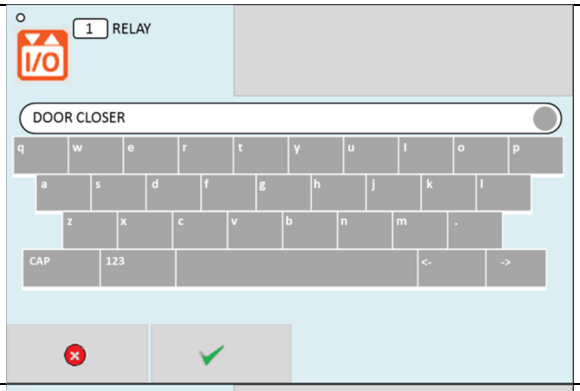
In this example, the output address is shown as: **(1.1)**. The first number represents the TRM port (The RJ45 port on the TRM PCB that the module is plugged into). The second number represents the output on the module itself.

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

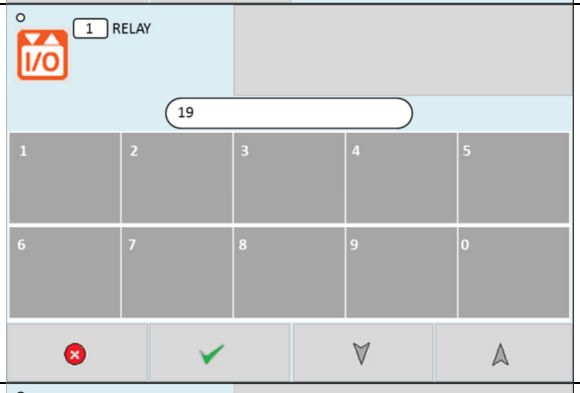


To change the text label of a module output, press on the text label field. This will display the panel keyboard. Enter the required text name, and then press the green tick to confirm.



Each output can be assigned to a zone. To change the zone, press either the + or – button to increase or decrease the zone number.

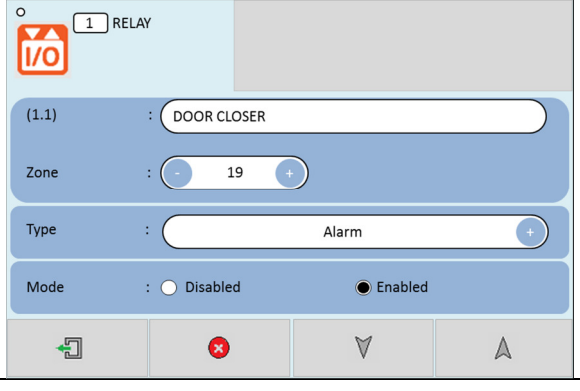
You can also type in the number via the panel numerical keyboard, to do this press on the zone number field. Type in the required zone number and press the green tick to confirm.



You can change the mode of each output to Programmable, Alarm, Trouble or Supervisory.

<u>Programmable:</u>
Relay will only react to cause & effects that have been programmed into the panel. This is the only setting that allows the relay to be disabled.

<u>Alarm:</u>
Relay will act as a common alarm relay, and will react to ANY alarm condition on the panel. Cannot be disabled or controlled by cause & effects.



<table>
<tr><td>

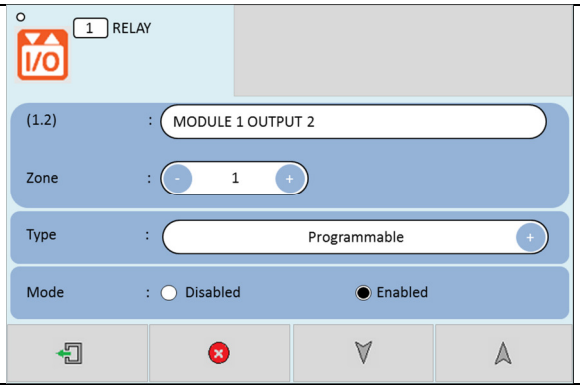
Trouble:
Relay will act as a common trouble relay, and will react to ANY trouble condition on the panel. Cannot be disabled or controlled by cause & effects. Relay will become normally energised.

Supervisory:
Relay will act as a common supervisory relay, and will react to ANY supervisory condition on the panel. Cannot be disabled or controlled by cause & effects.

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

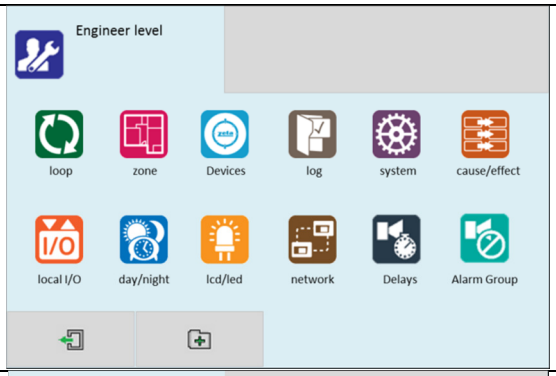
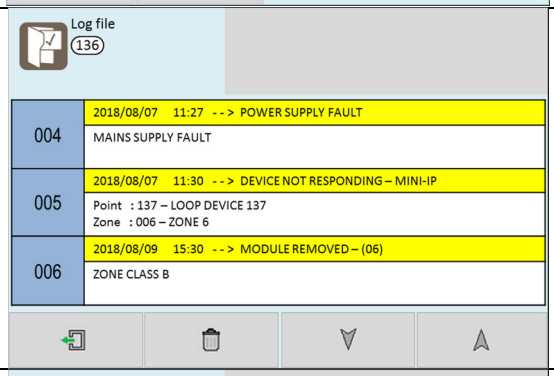
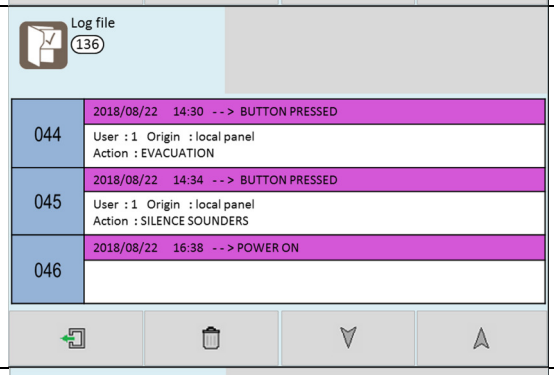
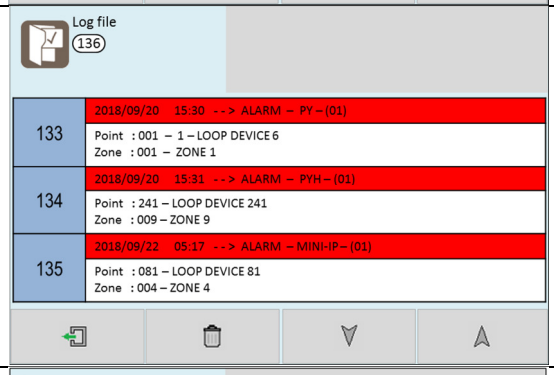
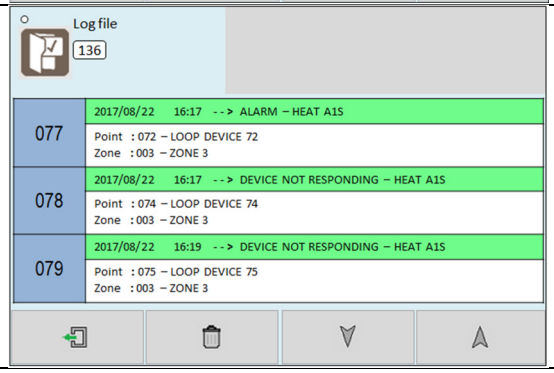
</td><td></td></tr>
<tr><td>

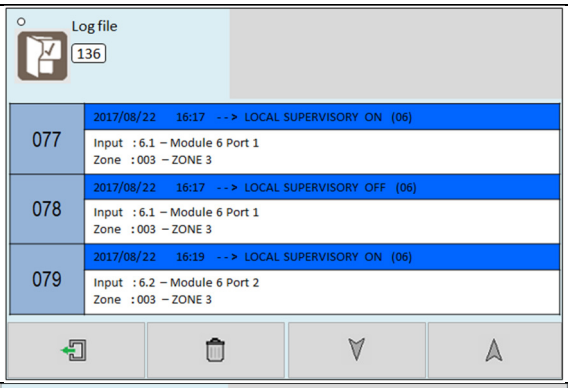
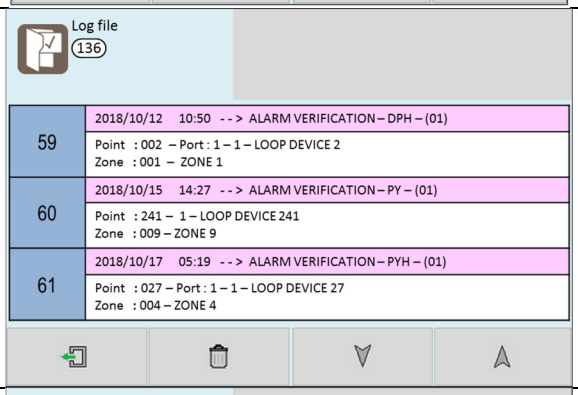
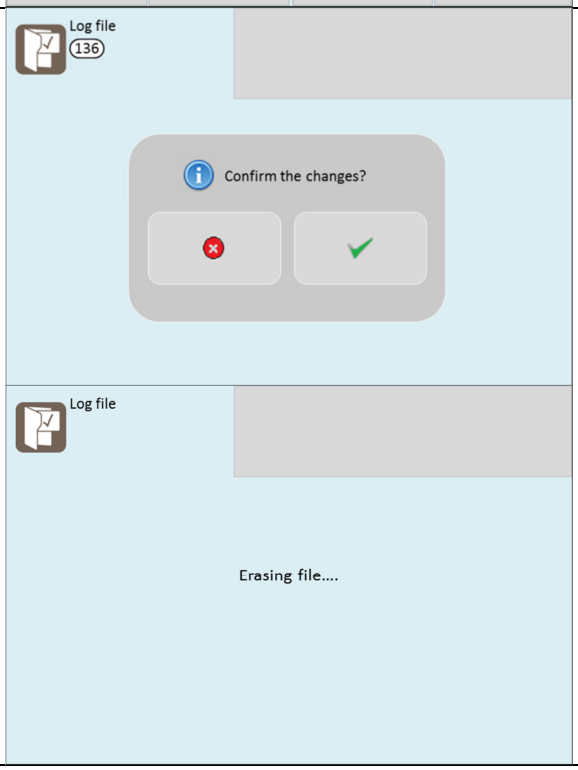
When you have finished configuring the module output, you can press the  or  arrows to change to the next output number on the module, or press  to exit and either confirm or dismiss the changes.

</td><td>
</td></tr>
</table>

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.

From the ENGINEER MENU, press the 'log' icon. The panel will display the log file.	
Trouble events are shown with a YELLOW highlight. The highlighted section gives the time, date and the general trouble information. The table shows more detail of the trouble event. The left hand column shows the event number.	
Operational events are shown with a MAGENTA highlight. The highlighted section gives the time, date and the operation information. The table shows more detail of the operation event. The left hand column shows the event number.	
Alarm events are shown with a RED highlight. The highlighted section gives the time, date and the device type that has caused the alarm. The table shows more detail of the Alarm event (Address, device text label, zone number, zone text label). The left hand column shows the event number.	
Test events are shown with a GREEN highlight. The highlighted section gives the time, date and the device type that has caused the alarm. The table shows more detail of the test event (Address, Device text label, zone, zone text label). The left hand column shows the event number.	

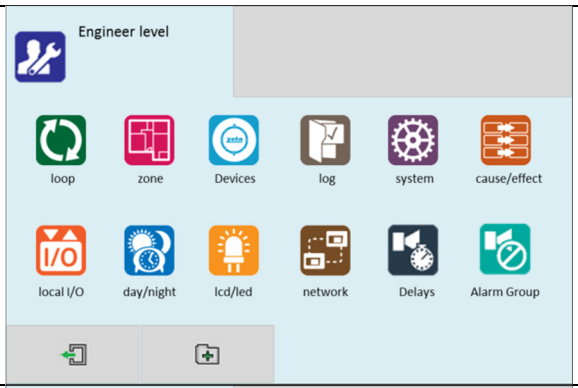
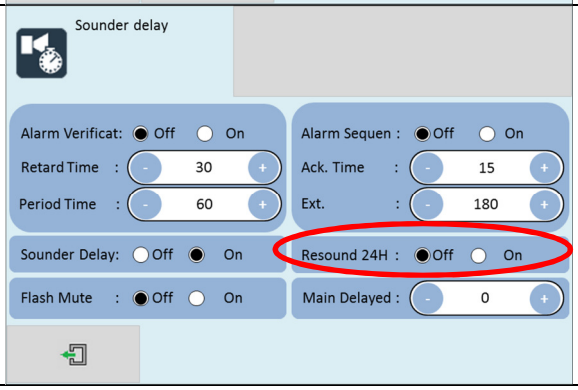
Supervisory events are shown with a BLUE highlight. The highlighted section gives the time, date and the device type that has caused the supervisory alarm. The table shows more detail of the supervisory event (Address, Device text label, zone, zone text label). The left hand column shows the event number.	
Alarm Verification events are shown with a LILAC highlight. The highlighted section gives the time, date and the device type that has entered alarm verification. The table shows more detail of the alarm verification event (Address, Device text label, zone, zone text label). The left hand column shows the event number.	
When viewing the event log from the engineer menu, there is an option to erase the event log by pressing the  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. If the delete is confirmed, the panel will show an indication that it is current erasing the log. When viewed from the user menu, there is no delete option.	

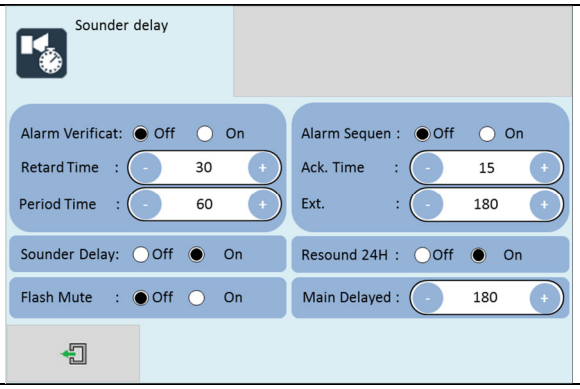
Programming

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	Y	ON OFF Retard Time: 1s-30s Confirmation Time: 1-60s	Retard Time: Maximum 30s Confirmation Time: 60s
MULTIPLE DETECTOR OPERATION	Y	Set on two optical detectors	Set on two optical detectors
POSITIVE ALARM SEQUENCE	Y	ON OFF	ON
PRE-SIGNAL	Y	?	?
NAC DELAYS	N	0-600s	0s
RELAY OUTPUT DELAYS	?	?	?
DAY/NIGHT MODE	?	?	?
BUZZER RESOUND 24H	Y	ON OFF	ON

Buzzer Resound 24H Settings

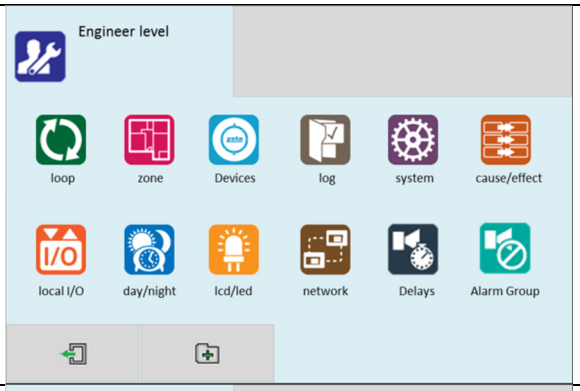
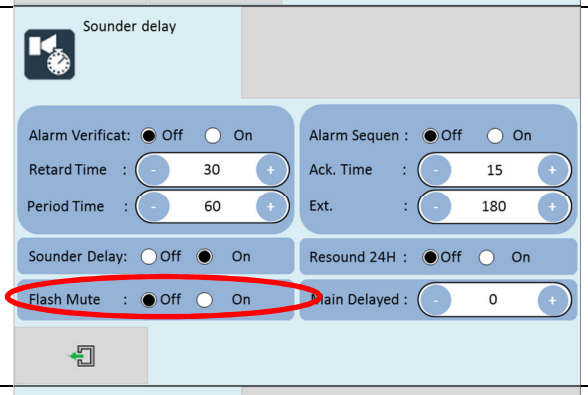
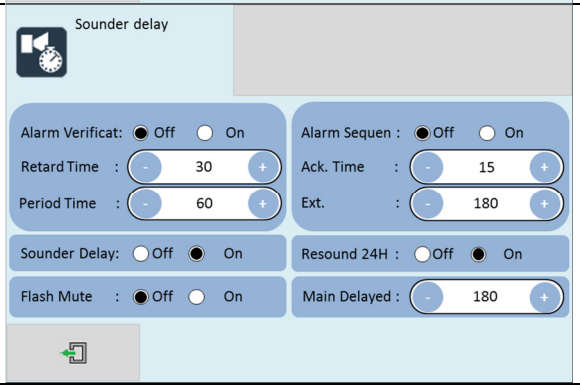
The Velocity has the option to configure whether the panel shall resound its internal buzzer every 24 hours. Any alarm, supervisory or trouble events that have been acknowledged but not cleared, will resound the buzzer every 24 Hours until they have been cleared from the panel. To set up the 24H buzzer resound, carry out the following:

Go to the engineer level menu, and select the Delays Icon .	
The panel shows the Delays screen. See the 'Resound 24H' section with Off & On options.	

Select ON to enable, or select OFF to keep the 24H buzzer resound disabled. When finished, press the exit icon . The panel will ask if you want to save the changes. Press tick  to save the changes, or press  to discard.	

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. The flashers can only be stopped by pressing the panel reset button to clear the event.

Go to the engineer level menu, and select the Delays Icon .	
The panel shows the Delays screen. See the 'Flash Mute' section with Off & On options.	
Select ON to enable, or select OFF to keep the Flash Mute disabled. When finished, press the exit icon . The panel will ask if you want to save the changes. Press tick  to save the changes, or press  to discard.	

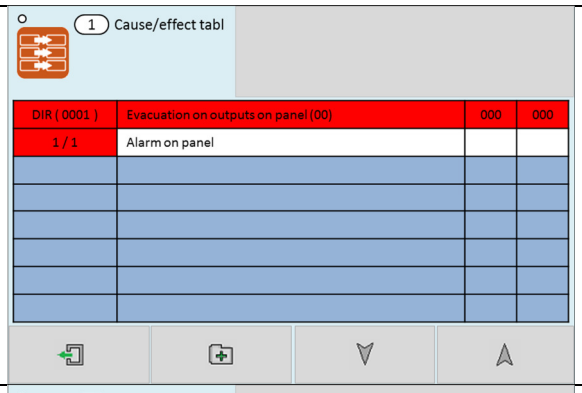
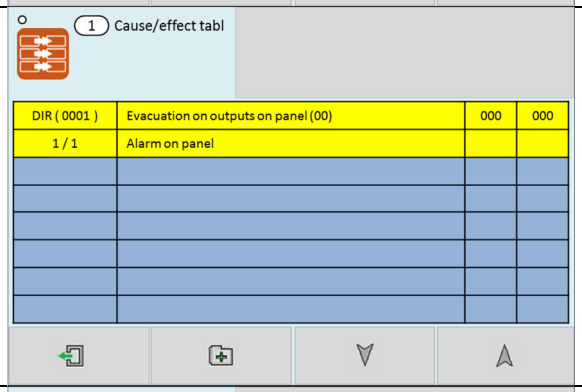
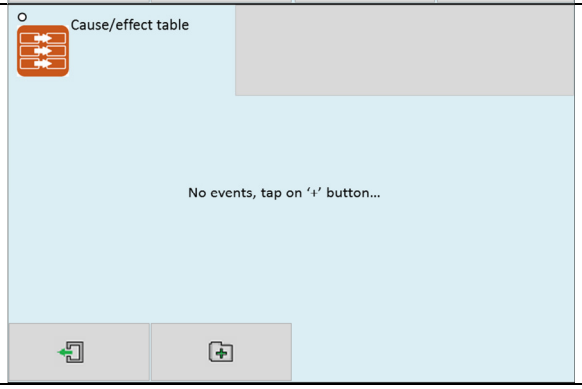
Cause and Effect

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).

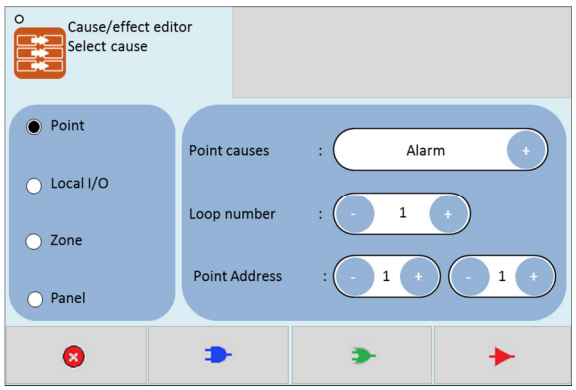
The inputs and outputs can be selected from 4 categories – Point, Local I/O, Zone & Panel.

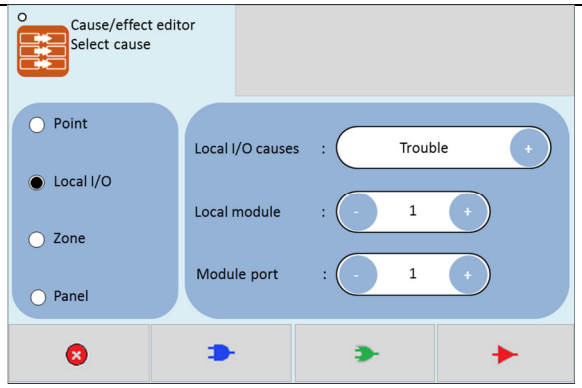
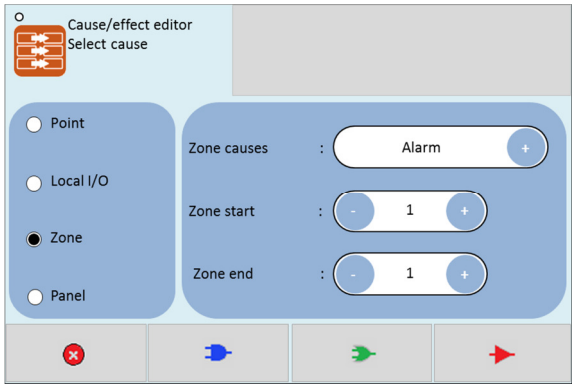
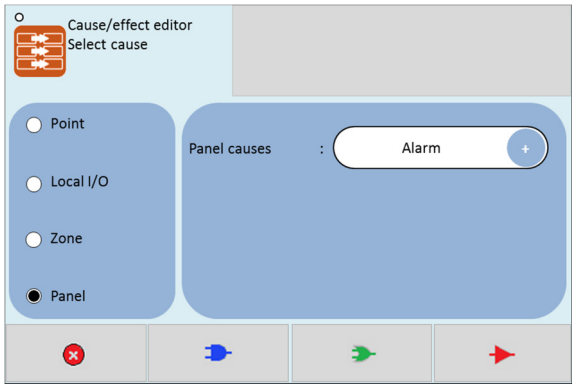
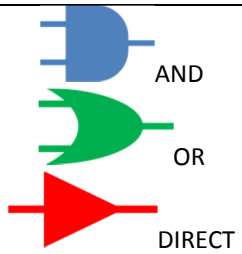
Example of Selecting a Cause & Effect (New Action):

<table>
<tr><td>Press Cause/ Effect icon.

The panel shows the default common cause & effect setting.</td><td>
</td></tr>
<tr><td>If this is not required, tap the action so that it’s highlighted yellow, and then press the  icon to delete it.</td><td>
</td></tr>
<tr><td>The screen will indicate that there are no current cause & effects programmed. Press the  button to create a new one.</td><td>
</td></tr>
<tr><td>The panel displays the ‘select cause’ screen, Choose the cause type (Point, Local I/O, zone or Panel). Depending on the input type chosen, the panel will display a list of sub options. For a ‘Point’ cause the options are:-

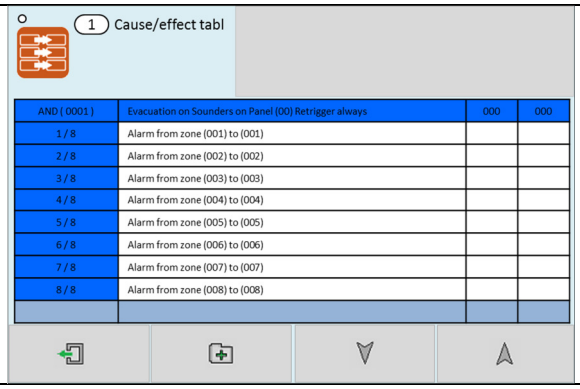
• Point causes:
▪ Alarm
▪ Detector Alarm
▪ MCP Alarm
▪ Trouble
▪ Maintenance
▪ Supervisory ON
▪ Supervisory OFF

• Loop Number:
▪ 1-26</td><td>
</td></tr>
</table>

• Point Address: ▪ Device Loop Address: 1-254 ▪ Device Port: 0-15 (Select 0 for all ports)	
For a **'Local I/O'** cause the options are:- • Local I/O causes: ▪ Trouble ▪ Alarm ▪ Supervisory ON ▪ Supervisory OFF • Local module: ▪ 1-26 • Module Port: ▪ 1-6	
For a **'Zone'** cause, the options are:- • Zone causes: ▪ Alarm ▪ Detector Alarm ▪ MCP Alarm ▪ Trouble ▪ Maintenance ▪ Supervisory ON ▪ Supervisory OFF ▪ Mlt. devices in alarm • Zone start: ▪ 1-254 • Zone end: ▪ 1-254	
For a **'Panel'** cause, the options are:- • Panel causes: ▪ Alarm ▪ Detector Alarm ▪ MCP Alarm ▪ Trouble ▪ Maintenance ▪ Supervisory ON ▪ Supervisory OFF ▪ Mlt. devices in alarm ▪ Mlt. zones in alarm ▪ Panel Keyswitch ON ▪ Panel Keyswitch OFF	
Select whether this will be an 'AND' cause, an 'OR' cause, or a single 'DIRECT' cause.	

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

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



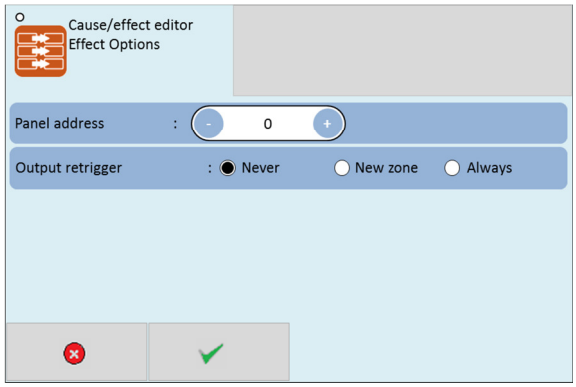
After selecting the input cause(s), the panel displays a screen to select the following effect options:

<u>Panel address:</u>
Leave as zero if the output effect is on this local panel, otherwise set to the network address of the destination panel.

<u>Output retrigger:</u>
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, zone 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

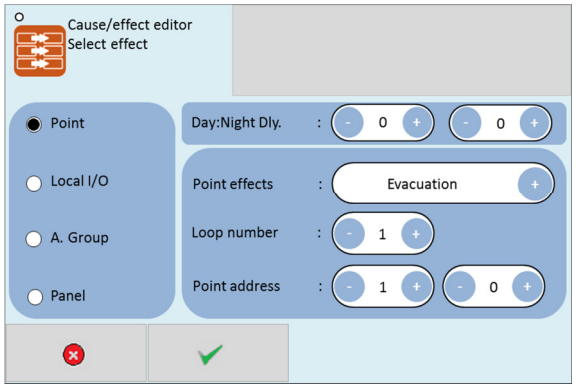
- Night Delay:
  - 0-600 seconds

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

- Point Effects:
  - Evacuation
  - Warning
  - 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)

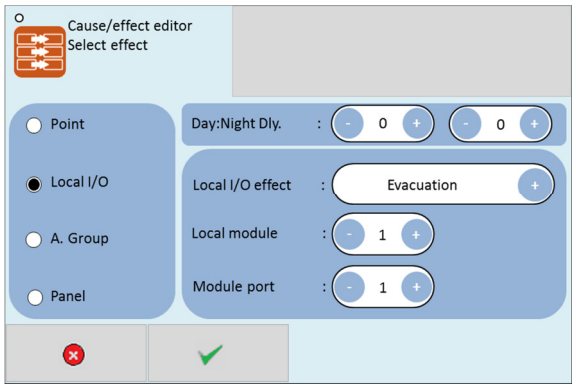


For **Local I/O** effects, the options are:-

- 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 effect:
  - Evacuation
  - Warning
  - Beacon
  - Switch OFF
  - Enable
  - Disable

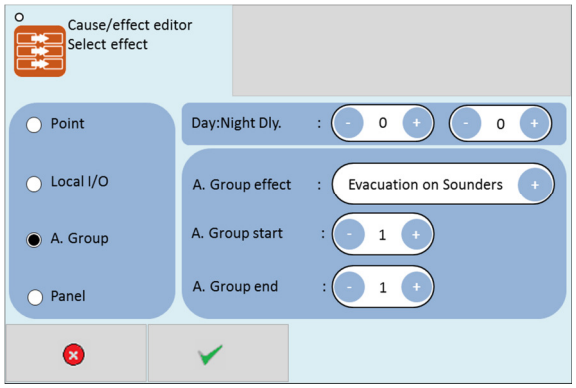


For **A.Group** effects, the options are:-

- 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:
  - Evacuation on sounders
  - Warning on sounders
  - Activate Beacon
  - Switch OFF SND/Beacon
  - Switch ON Relays
  - Switch OFF Relays
  - Evacuation on outputs
  - Warning 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

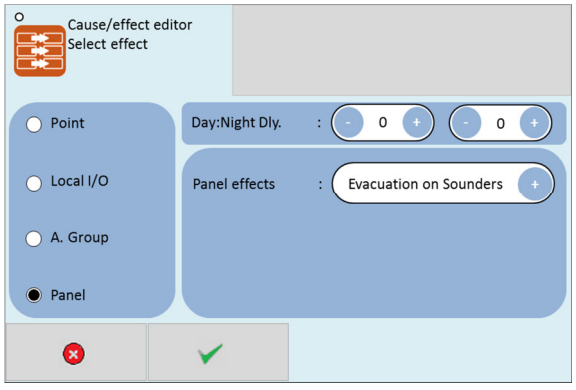


For a **Panel** effect, the options are:-

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

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

- Panel Effects:
  - Evacuation on sounders
  - Warning on sounders
  - Activate Beacon
  - Switch OFF SND/Beacon
  - Switch ON relays
  - Switch OFF relays



<table>
<tr><td>

- Evacuation on outputs
- Warning on outputs
- Switch OFF output
- Disable sounders
- Enable sounders
- Disable relays
- Enable relays
- Disable output
- Enable output

</td><td></td></tr>
<tr><td>

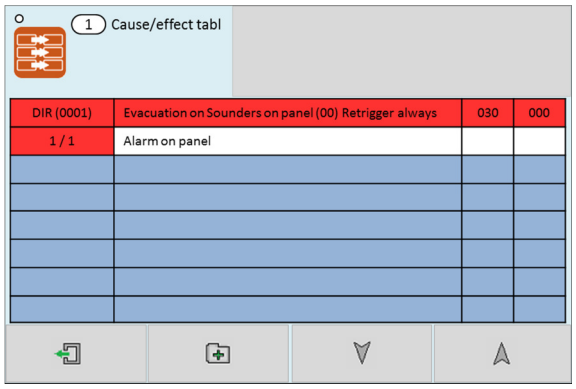
The panel shows the Programmed cause and effect.

It shows:
First row

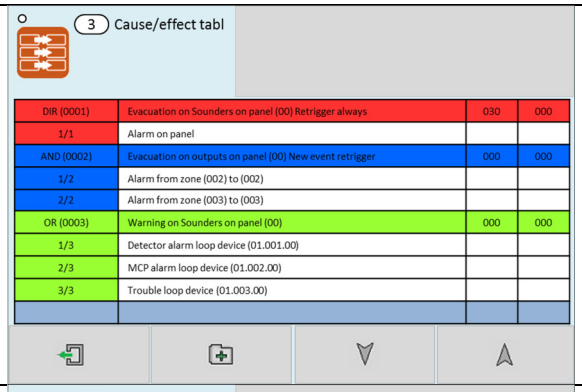
- Event type (Direct, AND, OR), and entry number
- The programmed output (effect)
- Day time delay (seconds)
- Night time delay (seconds)

Second row

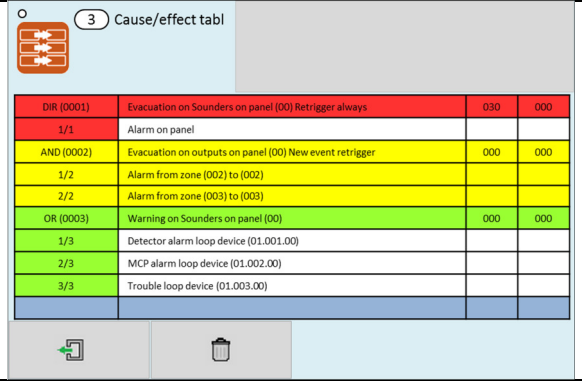
- Input number & number of inputs (for And & OR statements)
- The programmed input (cause)

</td><td>
</td></tr>
<tr><td>

The panel displays direct actions with a red header, AND actions with a blue header, and OR actions with a green header.

</td><td>
</td></tr>
<tr><td>

It’s not possible to edit a cause& effect line. If a line needs to be altered it must be deleted (tap the cause & effect so that it becomes highlighted yellow, and then press the delete icon ). The new statement can now be entered.

</td><td>
</td></tr>
</table>

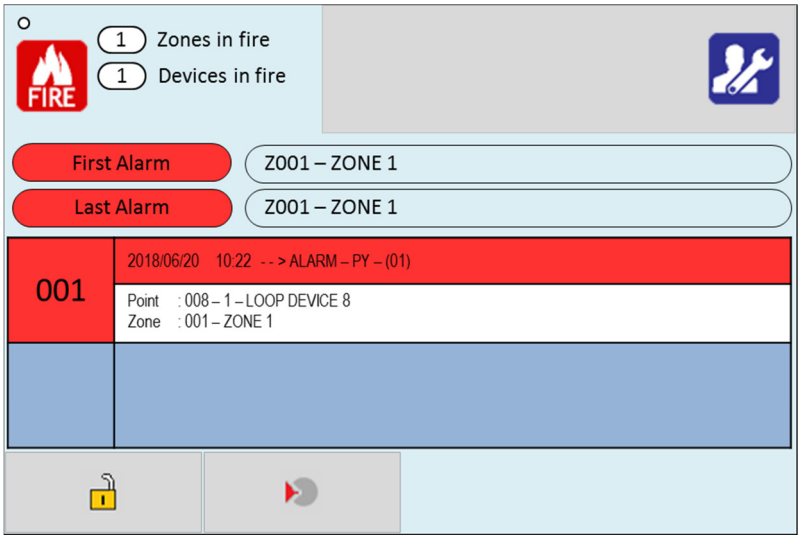
Outputs and Delays

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  at the bottom of the screen, as shown.

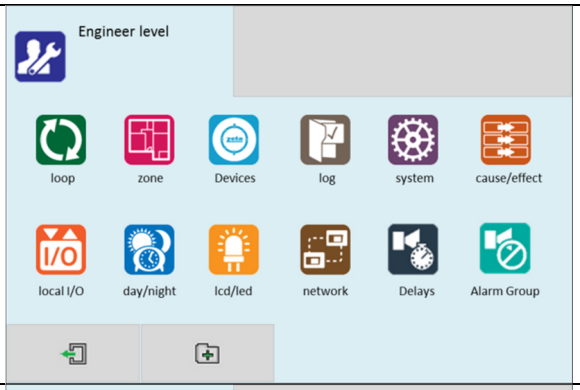
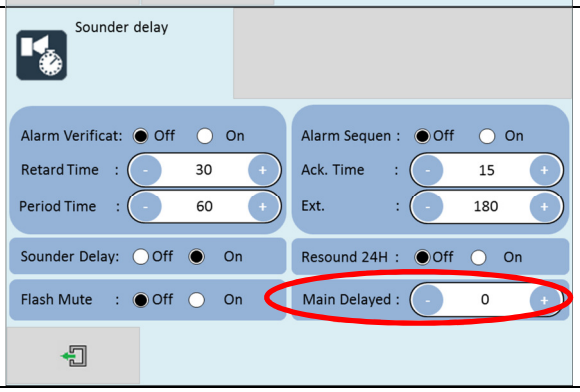


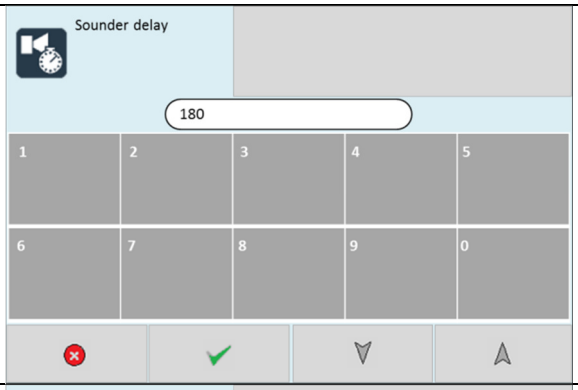
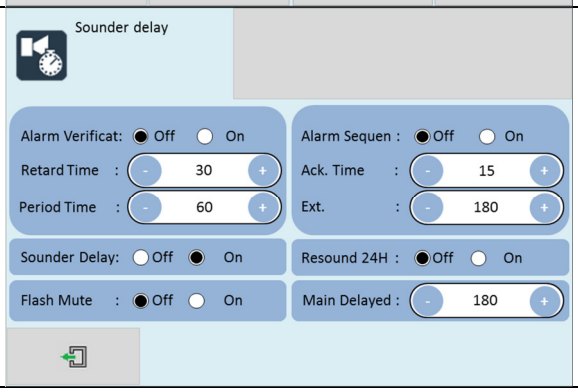
SLC & Local/IO Relay Output Delays

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 Fault 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.

Go to the engineer menu, and select the Delays Icon	
The panel shows the Delays screen. See the 'Main Delayed' with the number input field.	

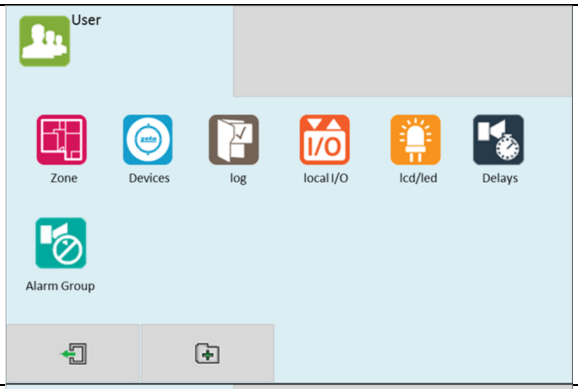
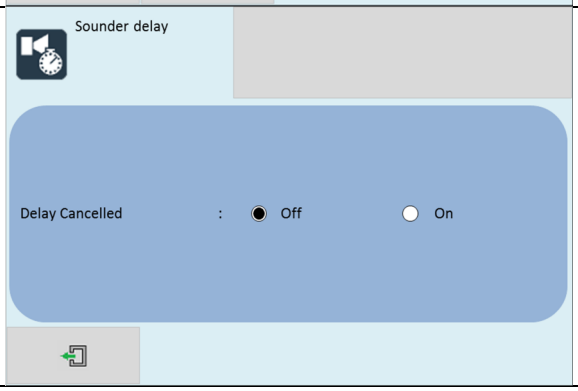
Enter the required mains relay delay time using the onscreen number pad. The time entered is in **MINUTES.** Press tick to save the changes, or press to discard.	
When finished, press the exit icon . The panel will ask if you want to save the changes. Press tick to save the changes, or press to discard.	

Programming Delays

Delays to relays and/or sounders 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.

Enter the user menu in the usual way. (This option is also available in the Access level 3 Engineer menu)	
The panel shows 'Delay Cancelled' with Off & On options. Select ON to cancel the delay, or select OFF to keep the delay. Press Exit icon and save changes as prompted.	

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.*

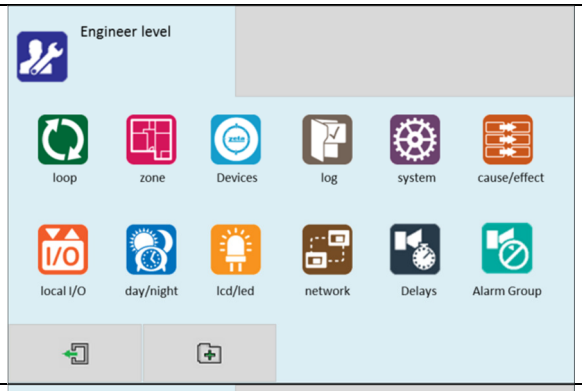
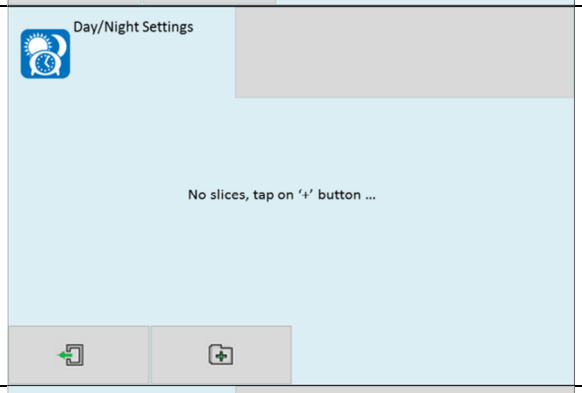
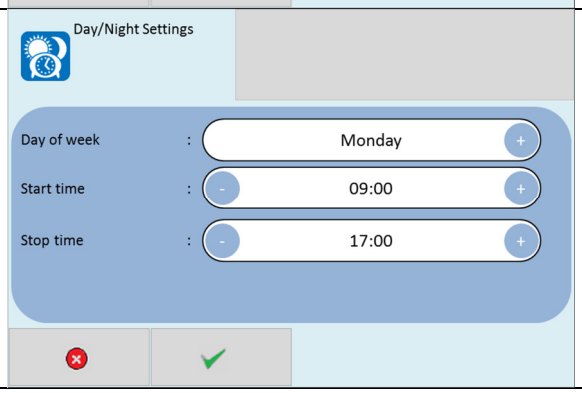
Day/Night Mode

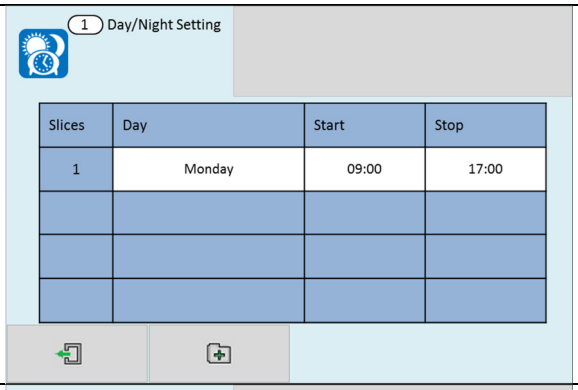
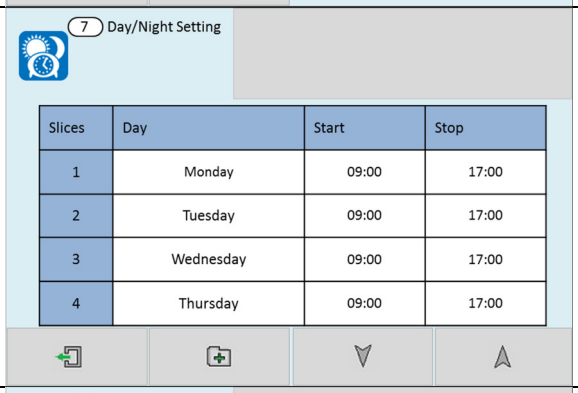
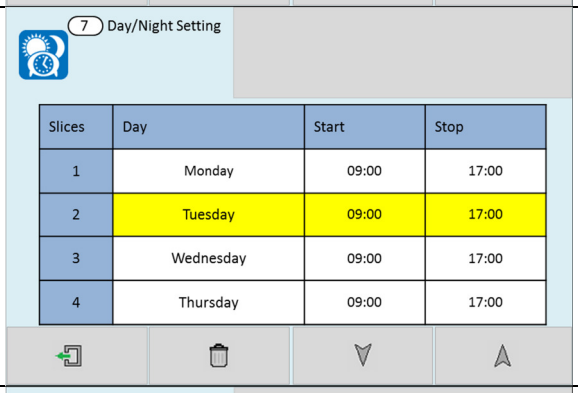
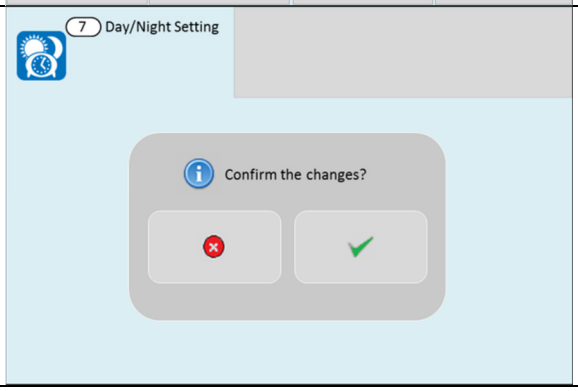
The Velocity panel has a day night timer that allows certain system responses to be altered at certain times of the day. It allows for different delays for the day and night times, and it also allows the sensitivity of certain detectors to be set differently for the day and night.

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

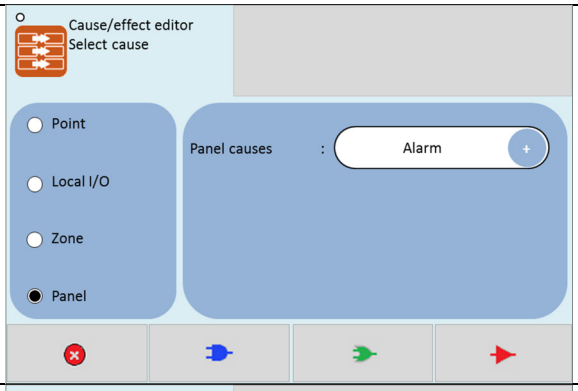
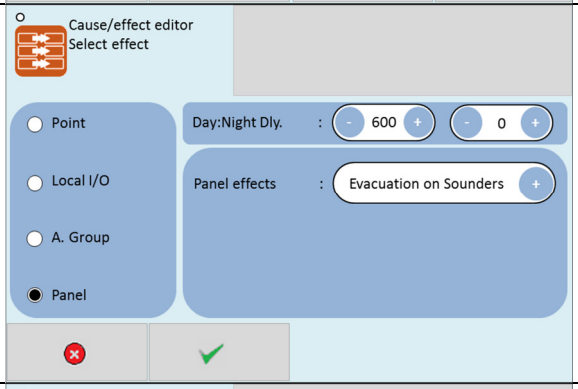
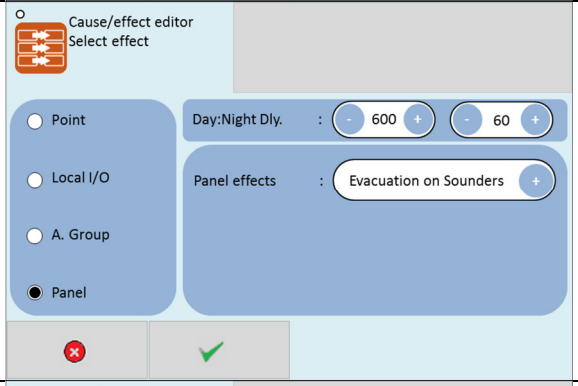
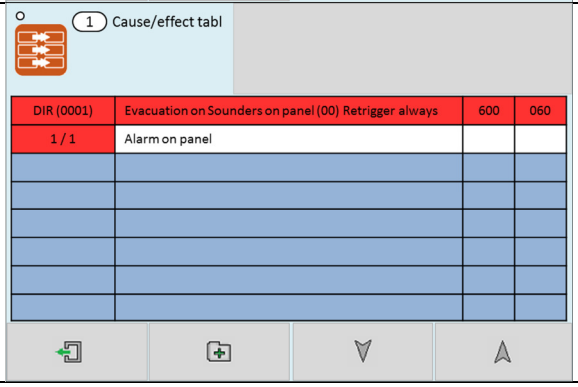
To allow for maximum flexibility, the panel allows for more than one Day-time period each day. For example, if a site closes for a 2 hour break, the panel could be configured with 2 day-time periods eg 8:00 – 12:00 and 14:00 – 18:00. Because of this, the panel refers to each setting as a day-time slice.

Enter the engineer menu	
Select the Day/Night Menu icon  The panel shows that there are no daytime slices set. Press the add icon  to add a slice.	
Select the day of the week, the start of the day slice and the end of the day slice. Press the tick  to accept.	

The screen shows the programmed day slice(s). Press the add icon to add a slice, or press exit icon if all slices are entered.	
When there are more than 4 slices programmed, the panel displays up /down scroll arrows in order to view the other slices.	
To edit a slice, tap that slice so that it is highlighted yellow, and then press the delete icon . Press the add icon to add a replacement slice if required.	
When finished, press the exit icon . The panel will ask if you want to save the changes. Press tick to save the changes, or press to discard.	

Setting Day-Time and Night-Time Delays

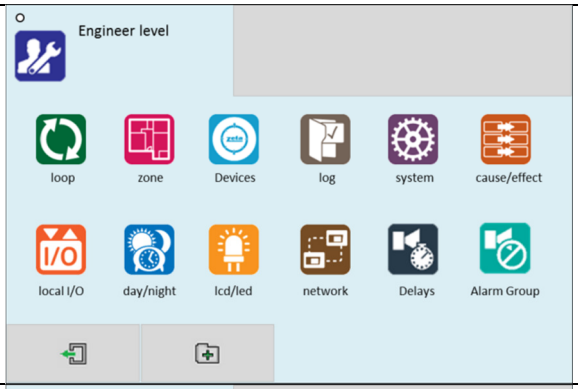
The day and night time delays are set through the cause and effect programming.

Enter the required cause (as described in the Cause and Effect section).	
When the panel asks for the output effect, enter the **day time delay in the first delay field**. The delay is entered in seconds. The maximum delay is 600 seconds (10 minutes). If no night time delay is needed, set the night time delay to Zero in the second field.	
If a night time delay is needed (e.g. to allow security staff to investigate an alarm), a delay can be entered into the night time delay field.	
Press the tick  to save the changes. The panel shows the cause & effect table, with the daytime delay & night time delays shown in the last 2 columns.	

Setting Day-Time and Night-Time Detector Sensitivity

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

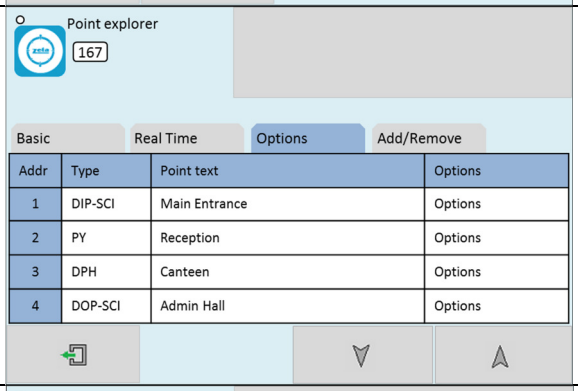
Go to the engineer menu, and select the point Icon



Select the Option tab. The panel displays the Options table. Press the Options field of the device to be edited.

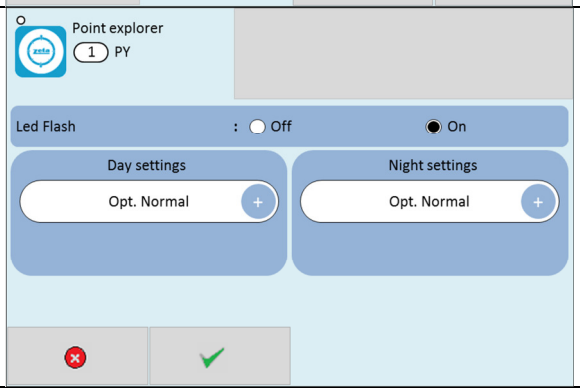
Note that only the following detectors can have their sensitivity altered:-

VDOT-PY: Addressable Photoelectric Smoke Detector
VDOT-PYH: Addressable Multisensory Detector
VDOT-DPH: Addressable Dual Optical/Heat Detector



For the VDOT-PY (Addressable Photoelectric Smoke Detector), the sensitivity can be set to Low, Normal or High.

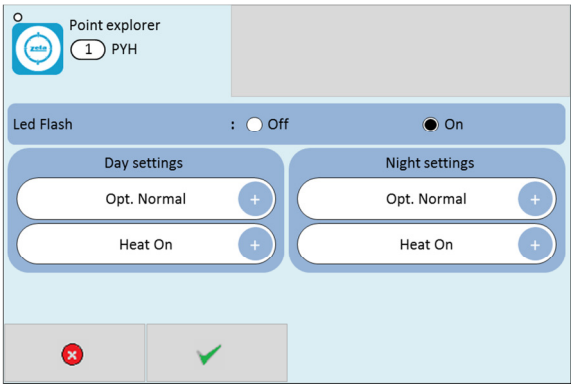
There can be different settings for day-time & night-time.



For the VDOT-PYH (Addressable Multisensory Detector), there are settings for the smoke sensor, and for the heat sensor.
The smoke sensor can be set to Off, Low, Normal or High *(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)*.

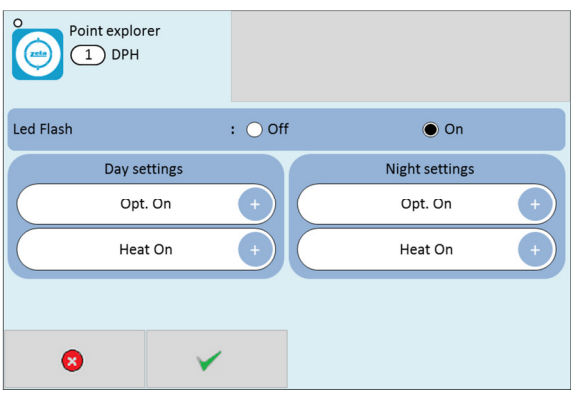
(Note: Setting both sensors to Off will turn off the detector, so it will no longer report an alarm)



For the VDOT-DPH (Addressable Dual Optical/Heat Detector), 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)*.

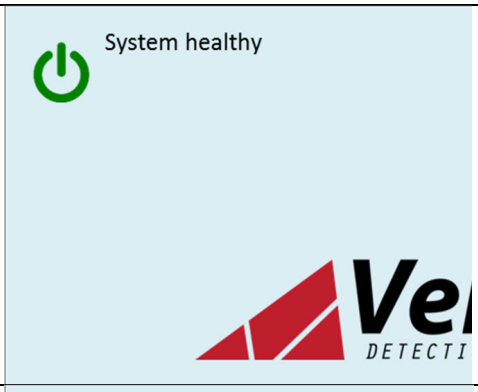
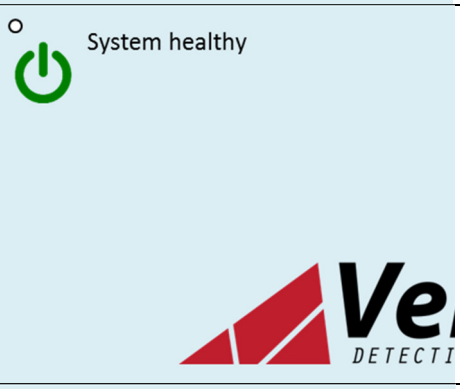
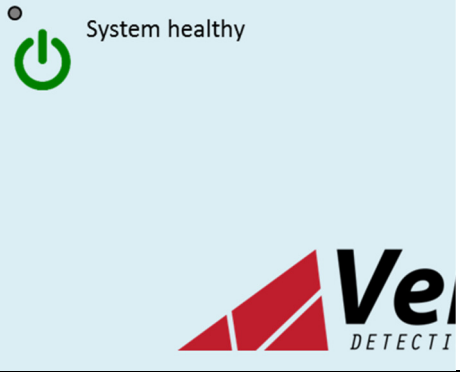
The heat sensor can be set to Off or ON. *(Note: setting to off will make the detector work as a smoke detector only)*.

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



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.

No Day / Night timer set. No circle in top left corner.		
Day / Night timer set. Panel in **Day Mode**. White circle in top left corner.		
Day / Night timer set. Panel in **Night Mode**. Black bar in top left corner.		

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 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.

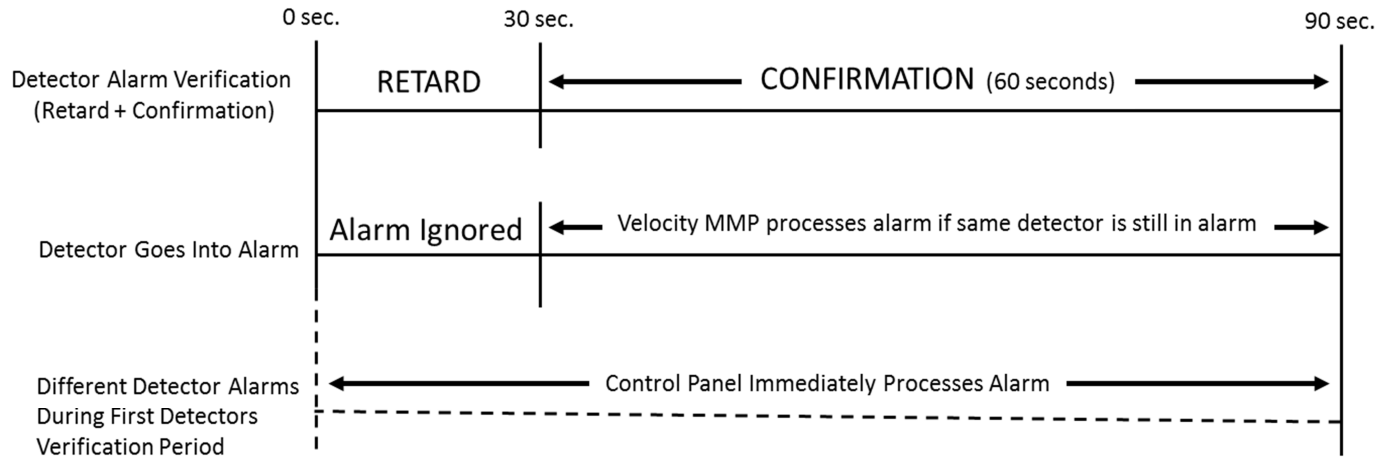
Alarm verification on the Velocity MMP panel is accomplished on a system wide basis.

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.

EG. 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

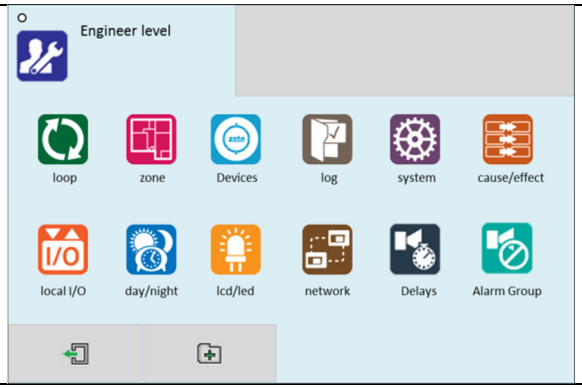
Alarm verification timing diagram

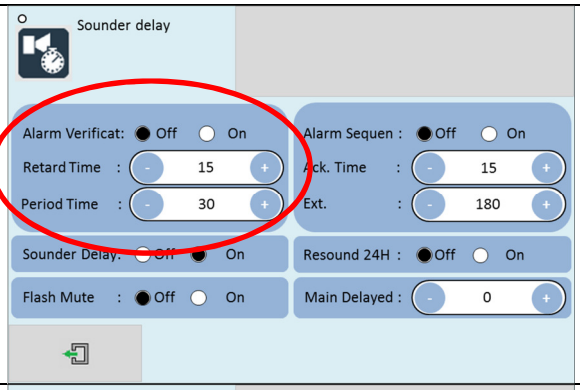
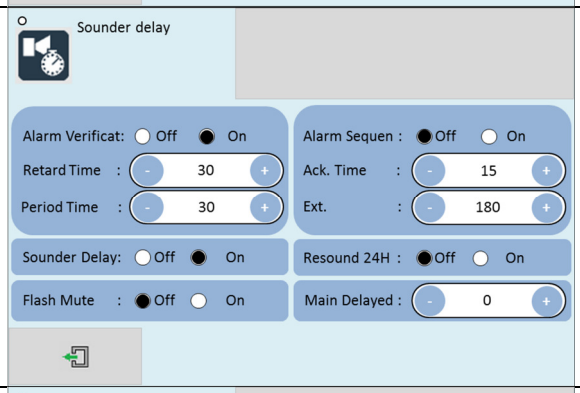
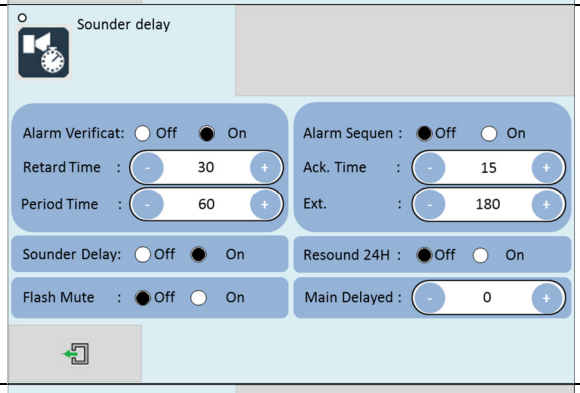
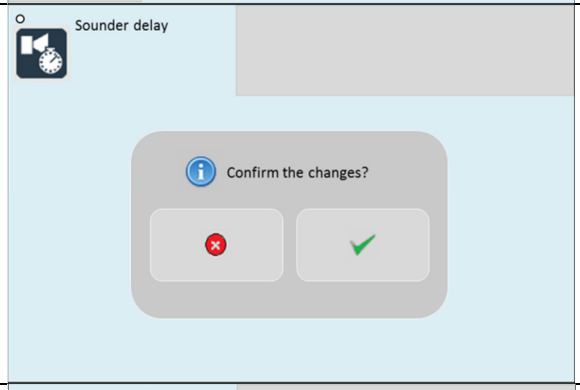
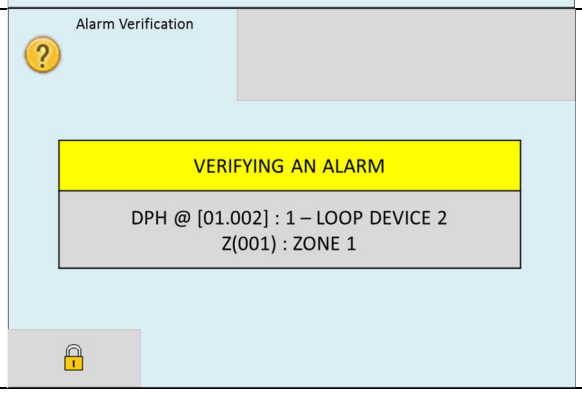


NOTE: *Alarm Verification is available only for addressable smoke detectors. Cannot be used with addressable heat detectors, or any conventional detectors.*

Alarm Verification Setup

Alarm verification can be set up as follows:

Go to the engineer menu, and select the Delays Icon	

The panel shows the Delays screen. See the 'Alarm Verificat' with Off & On options. Select ON to enable, or select OFF to keep the verification disabled.	
The 'Retard Time' is the duration that the alarm signal is initially delayed and can be configured between 1-30 seconds. To change the time, press either the + or – button to increase or decrease the zone number. You can also type in the number via the panel numerical keyboard, to do this press on the zone number field. Type in the required zone number and press the green tick to confirm.	
The 'Period Time' is the confirmation time after the delay and can be configured between 1-60 seconds. To change the time, press either the + or – button to increase or decrease the zone number. You can also type in the number via the panel numerical keyboard, to do this press on the zone number field. Type in the required zone number and press the green tick to confirm.	
When finished, press the exit icon  . The panel will ask if you want to save the changes. Press tick  to save the changes, or press to discard.	
When a smoke detector has entered the alarm verification sequence, the panel will display an onscreen message to indicate that an alarm is currently being verified accompanied with a zone and device address. At the same time, the smoke detector that is currently in the alarm verification sequence will light up its alarm LED's while it is in the RETARD phase. The panel will record this verification event and store it in the event log.	

Multiple Detector Operation

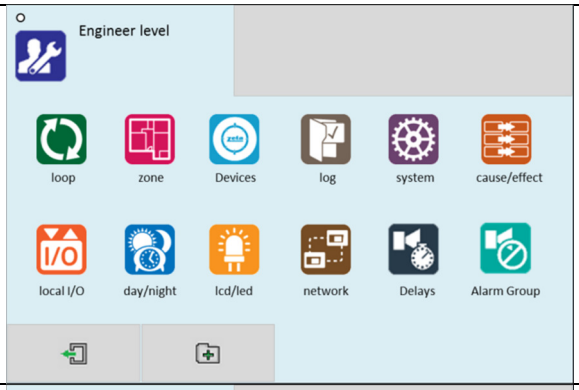
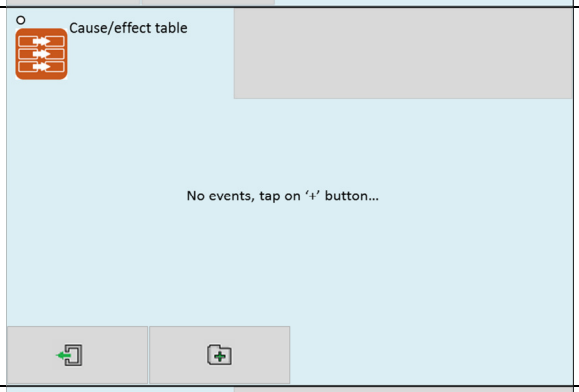
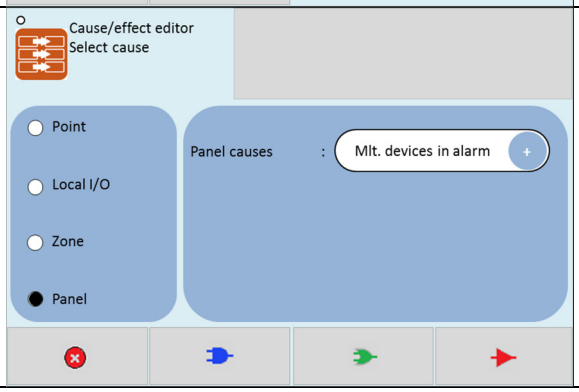
The panel is equipped to satisfy those who require a Multiple Detector Operation feature that is used to reduce unwanted false alarms. If a multiple detector operation has been programmed, the panel will require the activation to two automatic detection devices before it will enter the alarm condition.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

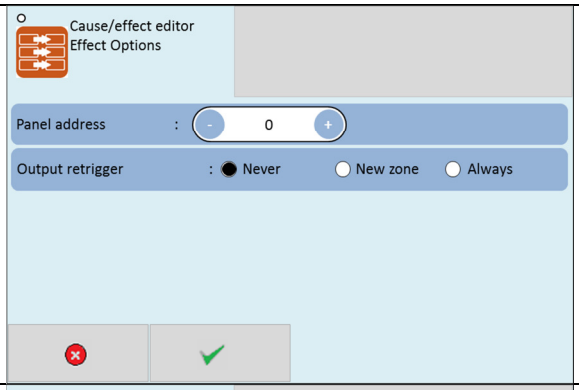
Multiple Detector Operation Setup

Multiple detector operation can be set up as follows:

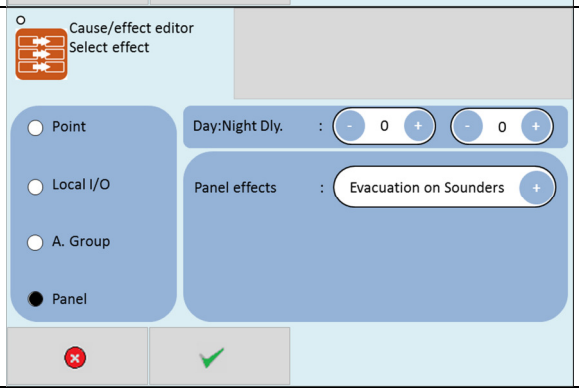
Go to the engineer menu, and select the 'Cause/Effect' icon.	
The cause and effect table screen will be shown. Press the button to create a new cause and effect.	
The panel displays the 'select cause' screen; choose the cause type (Zone or Panel). A list of sub options will be displayed. For a multi detector operation, select the cause **'Mlt. devices in alarm'**.	
Select the 'DIRECT' cause icon.	

<table>
<tr>
<td>After selecting the input cause, the panel displays a screen to select the following effect options:

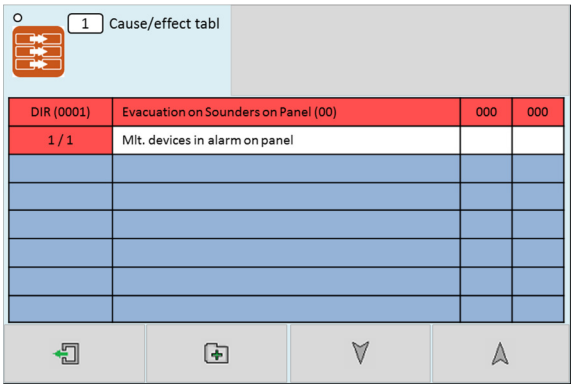
<u>Panel address:</u>
Leave as zero if the output effect is on this local panel, otherwise set to the network address of the destination panel.

<u>Output retrigger:</u>
This defines whether the sounders will resound from a new alarm if they had been previously silenced.</td>
<td>
</td>
</tr>
<tr>
<td>Select the output type (Point, Local I/O, zone or Panel). Depending on the OUTPUT type chosen, the panel will display a list of sub options. For more information on output options see the Cause & effect section of this manual.

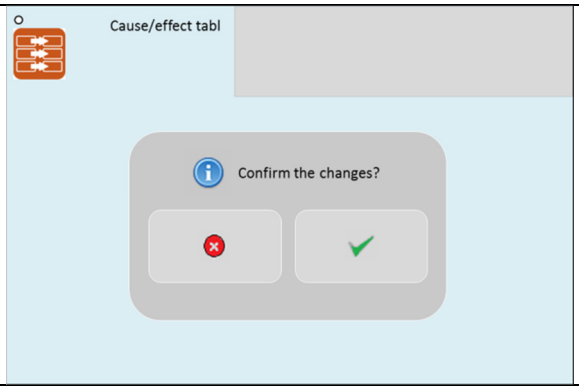
For this example we will select ‘Panel (Evacuation on Sounders)’ as the effect.

Press the  to confirm the selections.</td>
<td>
</td>
</tr>
<tr>
<td>The panel shows the Programmed cause and effect.

It shows:
First row
• Event type (Direct, AND, OR), and entry number
• The programmed output (effect)
• Day time delay (seconds)
• Night time delay (seconds)

Second row
• Input number & number of inputs (for And & OR statements)
The programmed input (cause)</td>
<td>
</td>
</tr>
<tr>
<td>When finished, press the exit icon  . The panel will ask if you want to save the changes.

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

Multiple detector operation will now be programmed, and ready for testing.</td>
<td>
</td>
</tr>
</table>

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.

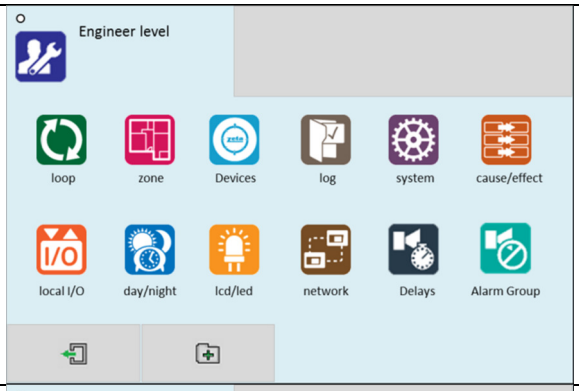
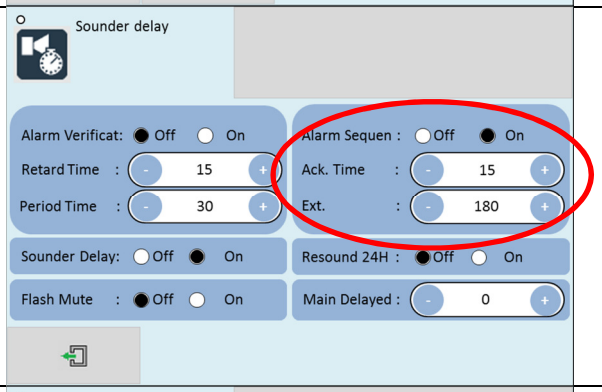
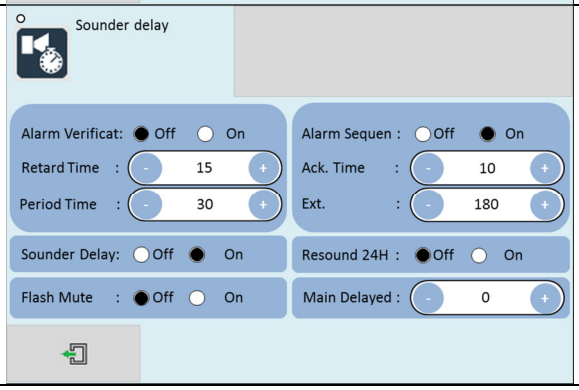
Positive Alarm Sequence

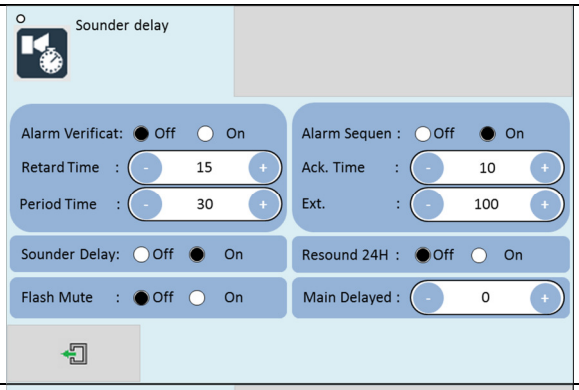
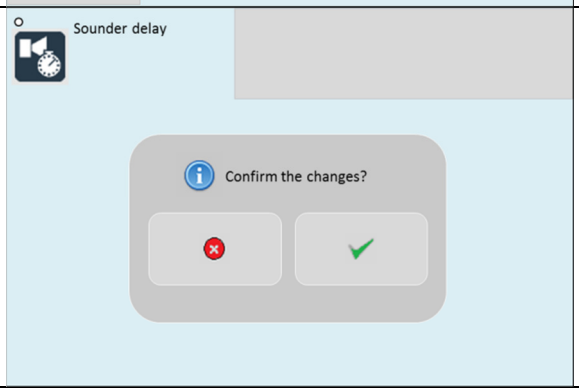
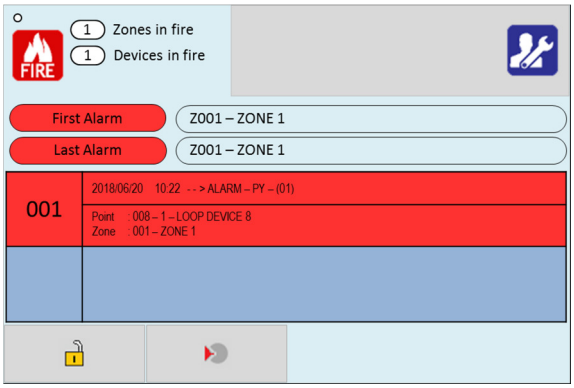
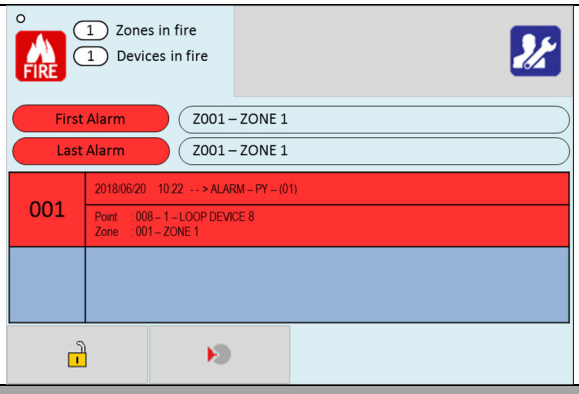
The Velocity MMP is equipped with a positive alarm sequence that will program a delay to the NAC's, Alarm relays and Auxiliaries for a period of between **1-15 seconds**. If the alarm is acknowledged, it will silence the piezo sounder and start a timer which will prevent activation of these outputs for 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 detection devices.*

Positive Alarm Sequence Setup

Positive alarm sequence can be set up as follows:

Go to the engineer menu, and select the Delays Icon	
The panel shows the Delays screen. See the 'Alarm Sequen' with Off & On options. Select ON to enable, or select OFF to keep the alarm sequence disabled.	
The 'Ack. Time' is the duration of the first time delay and can be configured between 1-15 seconds. To change the time, press either the + or – button to increase or decrease the zone number. You can also type in the number via the panel numerical keyboard, to do this press on the zone number field. Type in the required zone number and press the green tick to confirm.	

The 'Ext. Time' is the duration of the second time delay and can be configured between 1-180 seconds. To change the time, press either the + or – button to increase or decrease the zone number. You can also type in the number via the panel numerical keyboard, to do this press on the zone number field. Type in the required zone number and press the green tick to confirm.	
When finished, press the exit icon . The panel will ask if you want to save the changes. Press tick  to save the changes, or press to discard.	
When an alarm from an automatic device is received, the first delay timer will start. The alarm will need to be acknowledged in order to start the secondary delay timer. An acknowledged alarm event will change from flashing red to a solid white colour. If the alarm is not acknowledged or reset during the first time delay of 15 seconds, all the appropriate outputs will be activated If the delay needs to be overridden, then press the  icon to cancel the delay and immediately activate the programmed outputs.	
During the secondary delay timer, if the alarm is not reset during the time delay of 180 seconds, all the appropriate outputs will be activated. If the delay needs to be overridden, then press the  icon to cancel the delay and immediately activate the programmed outputs.	
A second alarm indication during any of the delays, or if a manual alarm is activated, will immediately cause the activation of the appropriate outputs.	

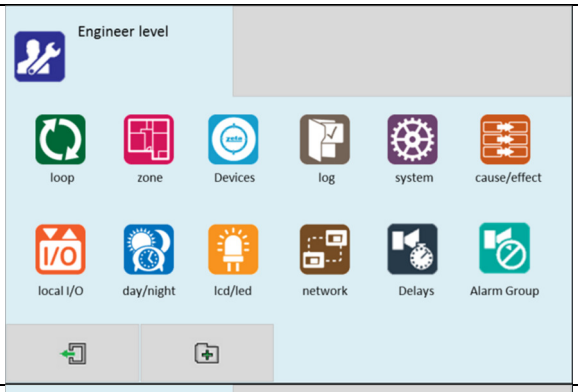
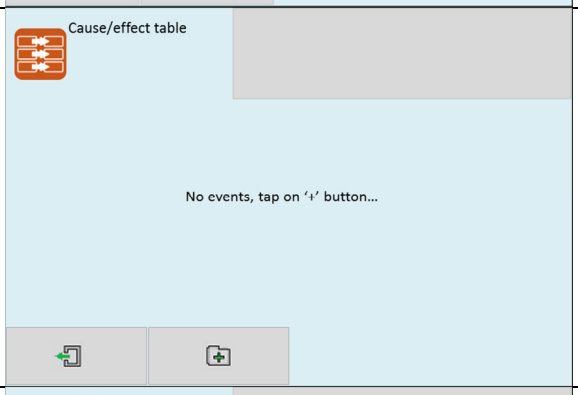
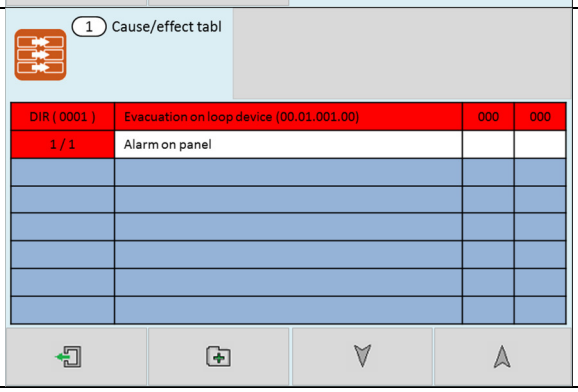
Pre-Signal

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.

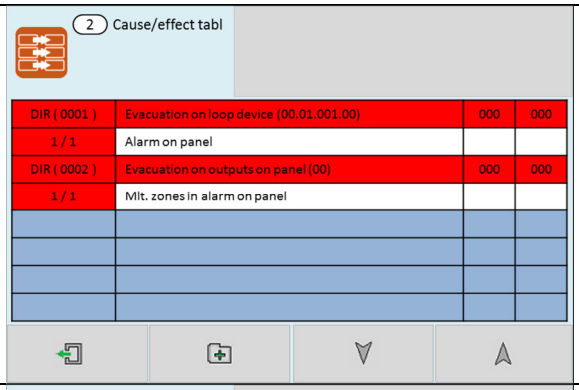
NOTE: *PRE-SIGNAL shall only be used when the panel is constantly monitored by an Operator.*

Pre-Signal Setup

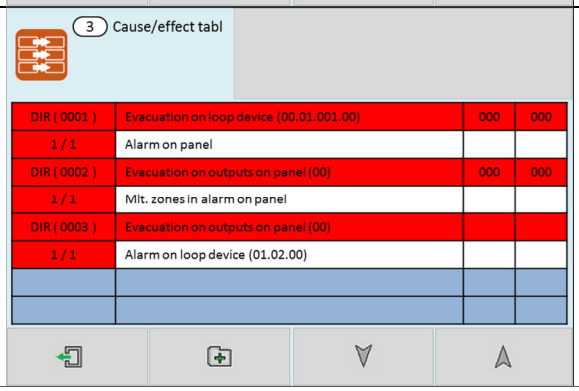
Below is just an example of how pre-signal can be achieved on a Velocity MMP system. Ensure that when pre-alarm operation is used, that it complies with UL864 10th Edition requirements.

Go to the engineer menu, and select the 'Cause/Effect' icon.		
The cause and effect table screen will be shown. Press the button to create a new cause and effect.		
The first cause and effect that will need to be programmed is to turn on a NAC appliance that will notify key personnel during any alarm signal (normally located in the same room as the panel). For this example we will use a VDOT-SB *(Addressable Sounder base)* at address Loop:1 Point:1 *For more information on how to add cause and effects, refer to the Cause and Effect Section.*		

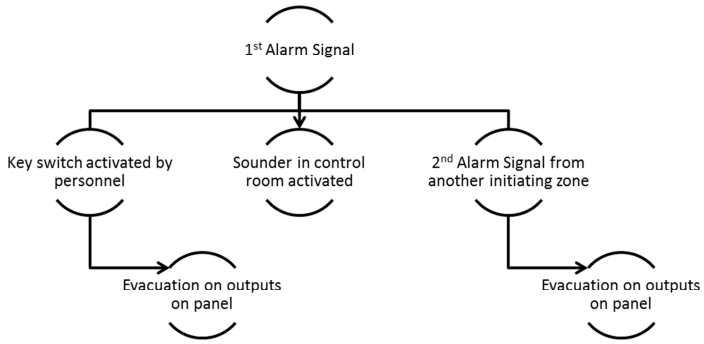
Next, we will add a cause and effect that will ensure that a subsequent actuation of alarm initiating devices on another initiating zone of the system shall result in the activation of all the outputs.



Finally, in this example we will use a key switch connected to a VDOT-DIP-SCI *(Addressable Dual Input Module with SCI)* at address Loop: 1 Point 2, to allow manual activation of the general alarm evacuation signal.



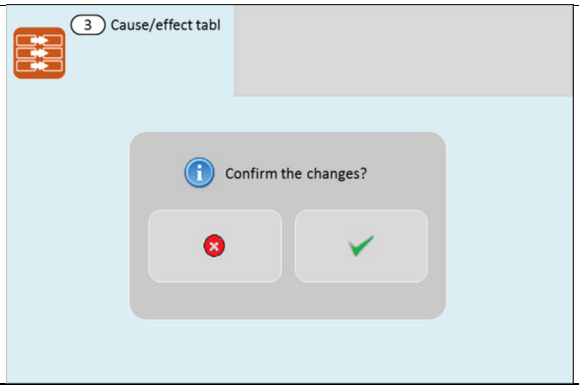
This flow chart is a breakdown of the pre-signal operation that has been programmed into the Velocity MMP cause & effects.



When finished, press the exit icon . The panel will ask if you want to save the changes.

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

Multiple detector operation will now be programmed, and ready for testing.



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

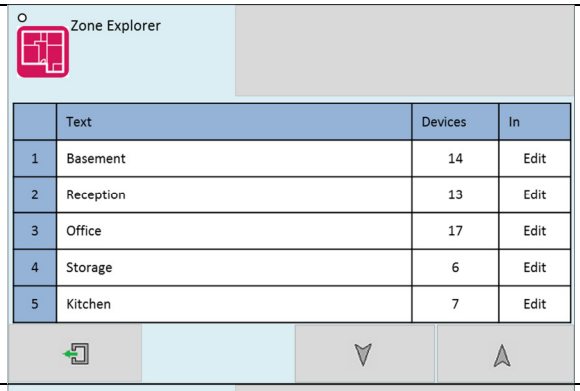
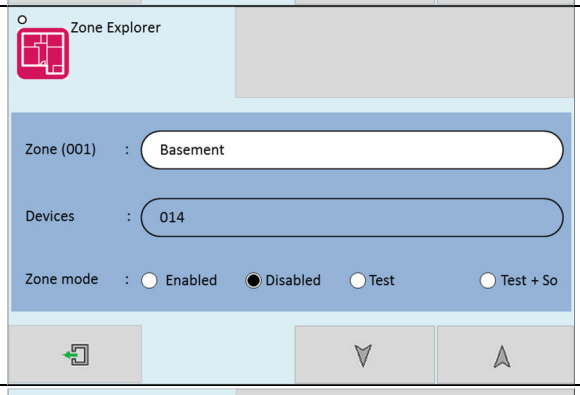
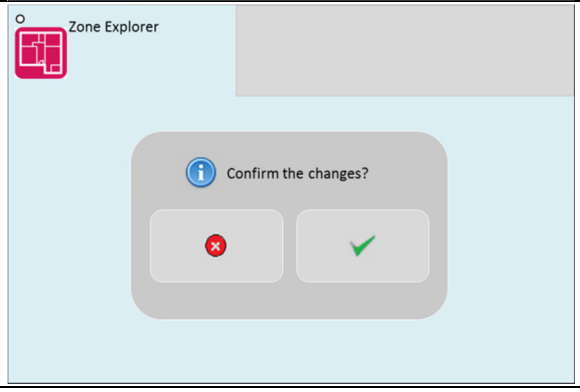
The following options can be selected when disabling a zone:

Disabled = The input devices in the zone **will not** an alarm, supervisory, or trouble signal.
Enabled 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.

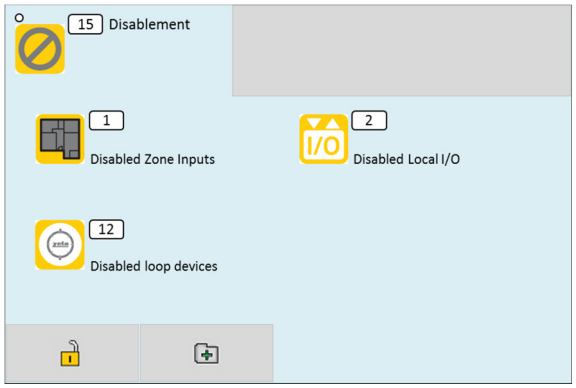
A zone can be disabled as follows:

Enter the Engineer or User Password, Press the menu access icon . Select the zone icon  (The disabling function is available to engineer & users). The panel shows the Zone menu. To change the disablement options, press the "In" field.	
This will display the zone options menu. Change the Zone mode to 'Disable' by pressing on the selection circle. The  and  icons can be used to scroll to other zone numbers. When finished press the exit icon .	
The panel will return to the Zone Explorer menu. Select more zones to disable, or if finished, press the exit icon . The panel will ask if you want to save the changes. Press tick  to save the changes, or press  to discard.	

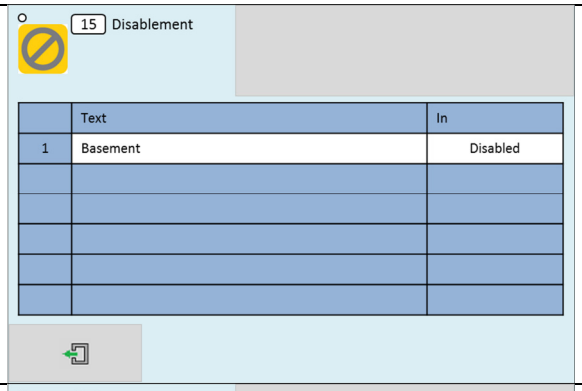
When zones have been disabled, the LCD display changes from SYSTEM NORMAL to Disablement/Test. The screen shows:-

The number of zones disabled.
The number of zones with just their inputs disabled.
The total number of disabled devices in those zones.
The number of module inputs/outputs disabled.

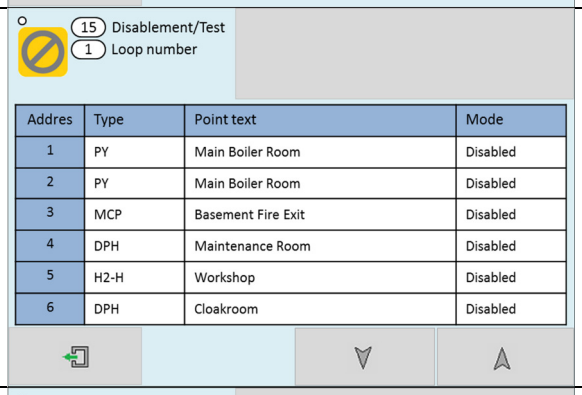
The General Disablement LED will be lit and also the zonal disablement LEDs will be lit for any zone that is fully disabled.
(The zonal disablement LEDs only apply to panels that have a ZLX PCB fitted).



Details of the disabled zones can be viewed by pressing the disabled zones icon .



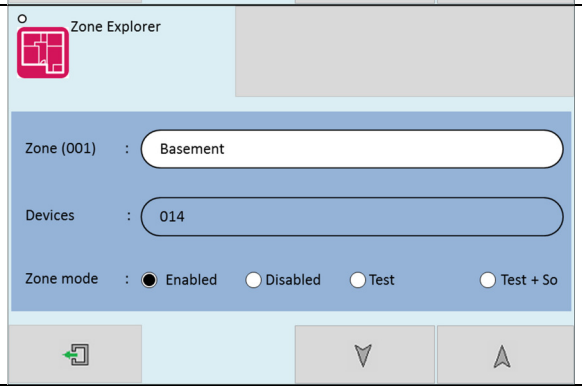
Details of the individual disabled SLC devices can be viewed by pressing the disabled loop devices icon .



To re-enable a zone, use the same procedure, pressing the 'Enabled' selection circle.

Zone Mode Options:-

- Enabled
- Disabled
- Test
- Test + Sounder

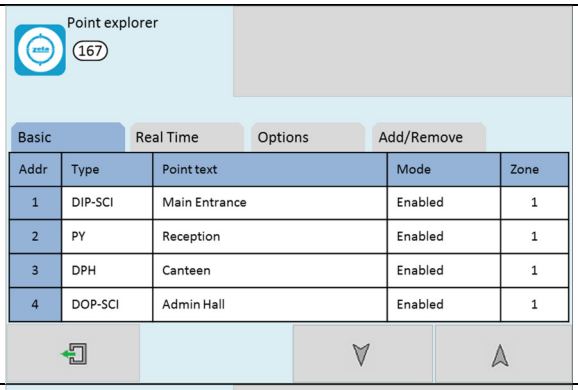


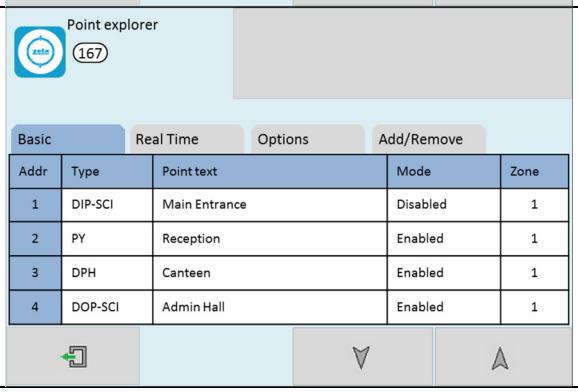
SLC Device Disablement

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.

<table>
<tr>
<td>Enter the Engineer or User password , Press the menu access icon, and select the Point icon .

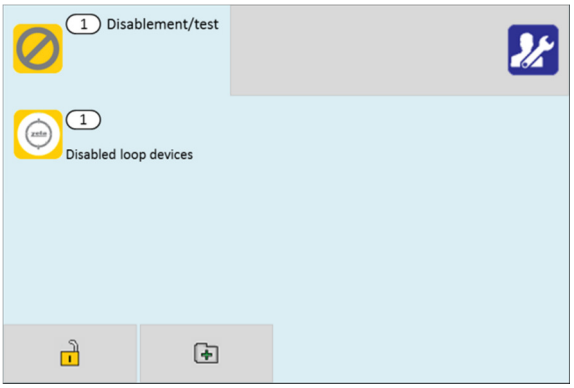
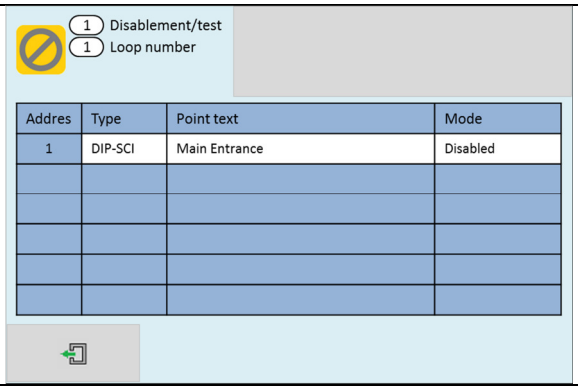
(The disabling function is available to engineer & users).

The panel shows the Point menu.</td>
<td>
</td>
</tr>
<tr>
<td>Press on the ‘Mode’ field for the device to be disabled.

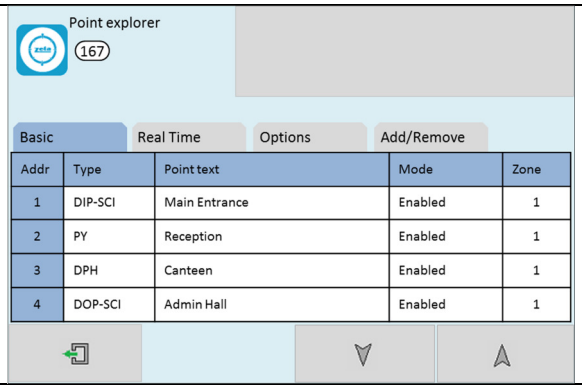
Select further devices to disable if necessary, and then press Exit to save.</td>
<td>
</td>
</tr>
<tr>
<td>When SLC devices have been disabled, the LCD display changes from SYSTEM NORMAL to Disablement/Test, as shown.

The screen shows the number of devices disabled.

The General Disablement LED will be lit, but the zonal disablement LEDs will not light, unless all devices in that zone have been disabled.

Note: If an input on a module is in the same zone as loop devices, the loop devices, and the module inputs will need to be disabled before the Zone disabled indication appears.</td>
<td>
</td>
</tr>
<tr>
<td>Details of the individual SLC devices disabled can be viewed by pressing the ‘Disabled loop devices’ icon .</td>
<td>
</td>
</tr>
</table>

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



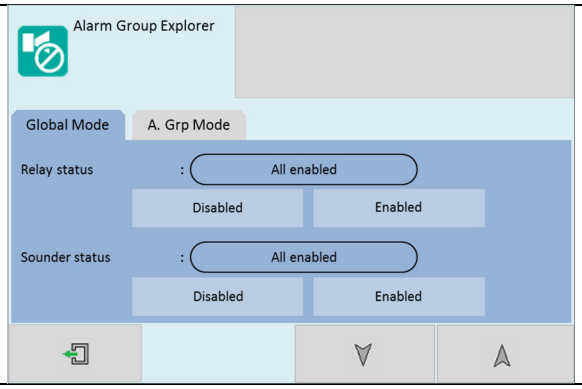
Once a SLC device is disabled, the panel ignores any alarm or trouble generated by the device. If all devices in a zone are disabled, the panel will indicate a zone disablement. If subsequently one or more devices in that zone are re-enabled then the zone disablement indication will be automatically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

Alarm Group Disablement

Enter the Engineer or User Password, Press the menu access icon , and select the Alarm group Icon

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

The panel shows the Alarm Group Explorer.



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.

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

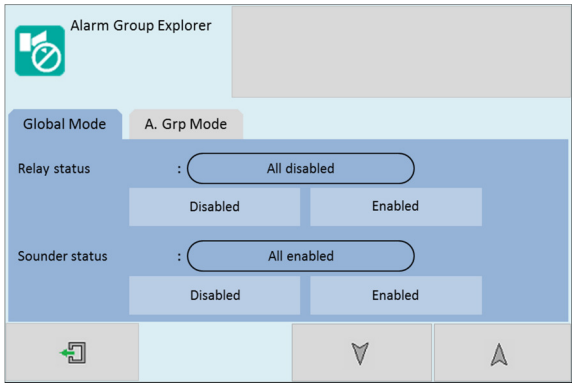
Global mode can be disabled as follows:

Change the global mode for relay status to disable by pressing the ‘Disabled’ selection area. The text will change from ‘All enabled’ to ‘All disabled’ for relay status.

This will disable **ALL** panel relay output interfaces.

Press the exit icon . The panel will ask if you want to save the changes.

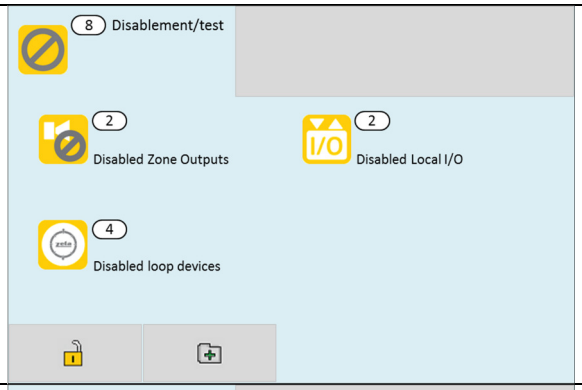
Press tick to save the changes, or press to discard.



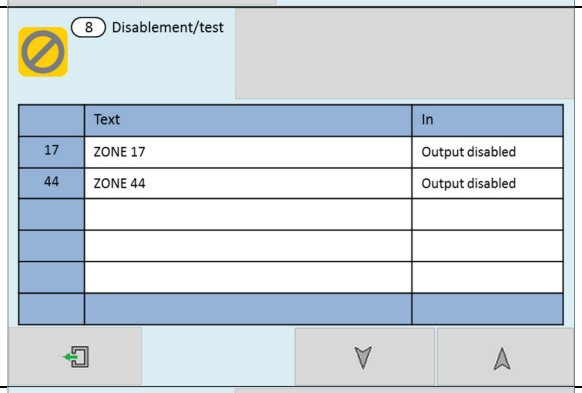
When global relays have been disabled, the LCD display changes from SYSTEM NORMAL to Disablement, as shown.

The screen shows the number of relay output interfaces disabled.

The General Disablement LED will be lit.



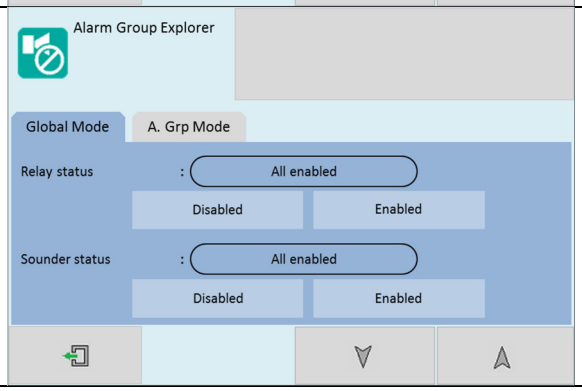
Details of the disabled relay outputs can be viewed by pressing the disabled loop devices icon or the disabled local I/O icon. If any zones have all of their outputs disabled, it will be indicated by the disabled zone outputs icon.



To re-enable the relay status, press the 'Enabled' selection area. The text will change from 'All disabled' to 'All Enabled' for relay status.

Press the exit icon. The panel will ask if you want to save the changes.

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

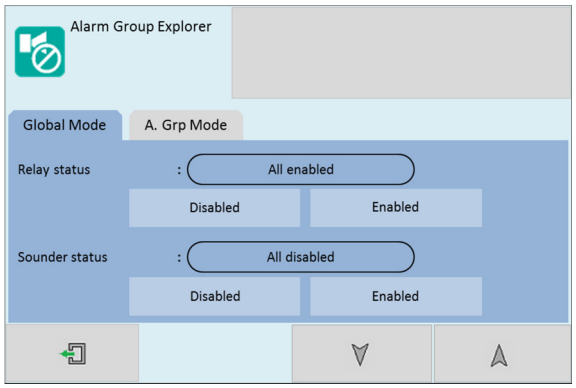


Change the global mode for sounder status to disable by pressing the 'Disabled' selection area. The text will change from 'All enabled' to 'All disabled' for sounder status.

This will disable **ALL** panel sounder output interfaces.

Press the exit icon. The panel will ask if you want to save the changes.

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

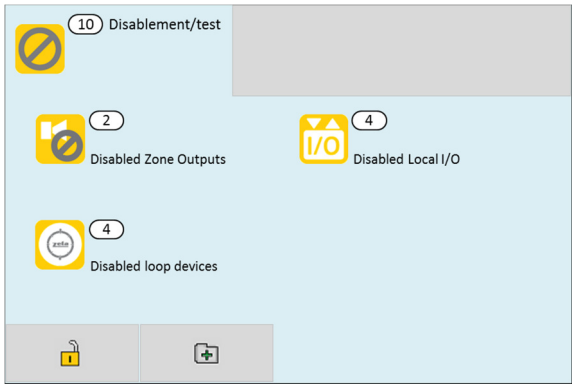


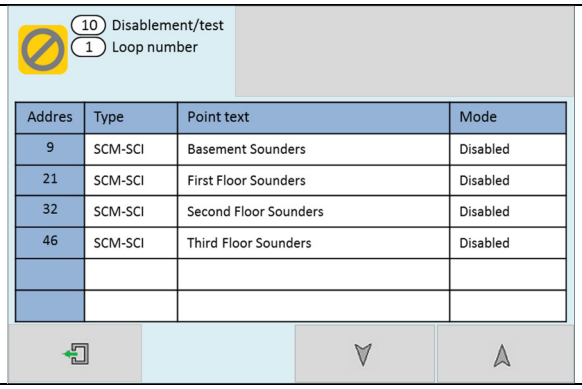
When sounder status has been disabled, the LCD display changes from SYSTEM NORMAL to Disablement. The screen shows:-

The number of disabled SLC sounder devices.
The number of disabled NAC outputs.
The General Disablement and NAC Disablement LED will be lit

If there are any output relays on the system that are not disabled, the Disabled Alarm Group icon will not be displayed.

If there are no relays fitted, or if the relays have been disabled as well , the Disabled Alarm Group icon will be displayed



Details of the disabled sounder outputs can be viewed by pressing the disabled loop devices icon or the disabled local I/O icon. If any zones have all of their outputs disabled, it will be indicated by the disabled zone outputs icon.	

Alarm Group Mode

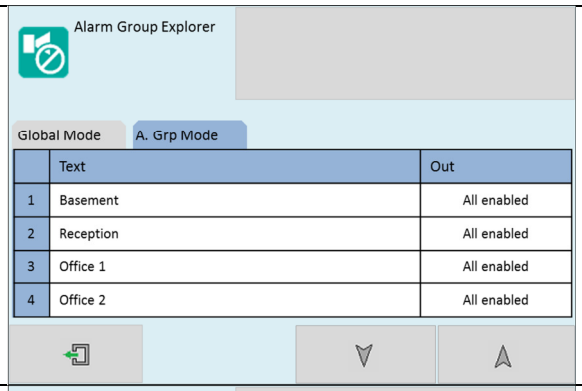
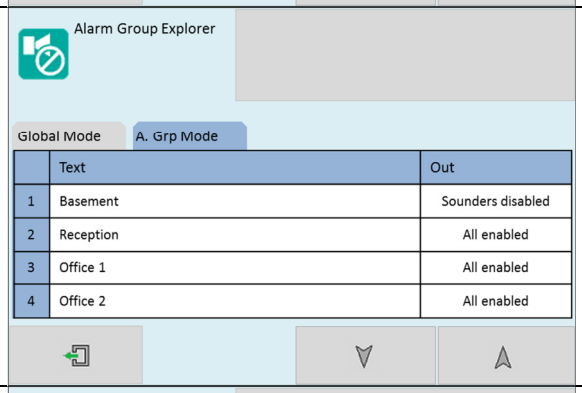
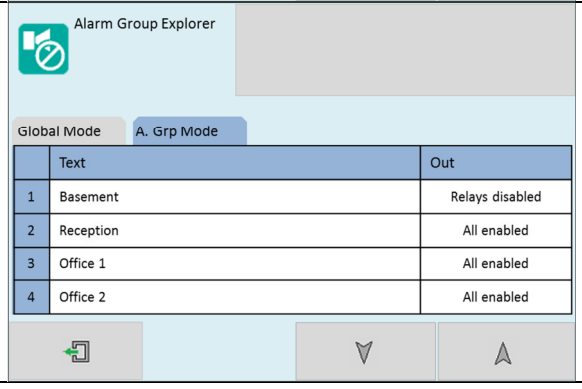
When Alarm group mode is disabled, the panel will not activate any output devices on that alarm group (zone).

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.

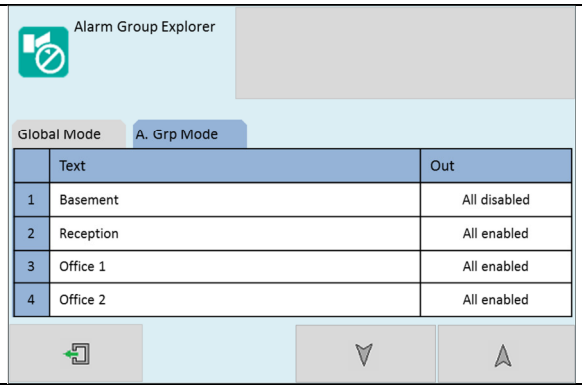
Any number of alarm group (zones) can be disabled, but it is good practice to only disable one alarm group/zone at a time.

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

Enter the Engineer or User Password, Press the menu access icon, select the Alarm group Icon and select the A. Grp Mode tab. (The disabling function is available to engineer & users). The panel shows the Alarm Group mode menu.	
Set the alarm group to disable by pressing the 'Out' field. The status will change from all enabled to Sounder Disabled. This would disable all sounder outputs in that alarm group (zone). Disable further alarm groups in the same way, or press exit to save.	
For further options, press the 'Out' field again. The status will change from 'Sounder disabled' to 'Relay disabled'. This would disable all relay outputs in that alarm group (zone).	

For further options, press the ‘Out’ field again. The status will change from ‘Relay disabled’ to ‘All disabled’.

This would disable all sounder and relay outputs in that alarm group (zone).

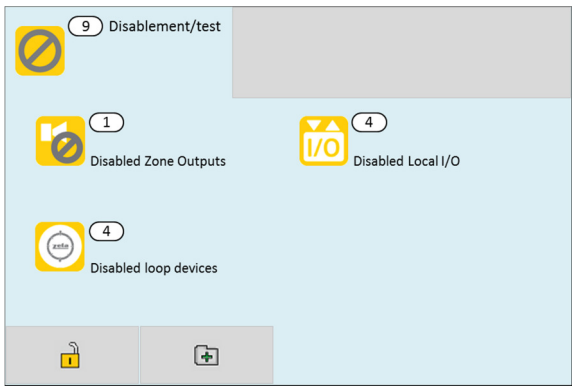


When Alarm group mode has been disabled, the LCD display changes from SYSTEM NORMAL to Disablement. The screen shows:-

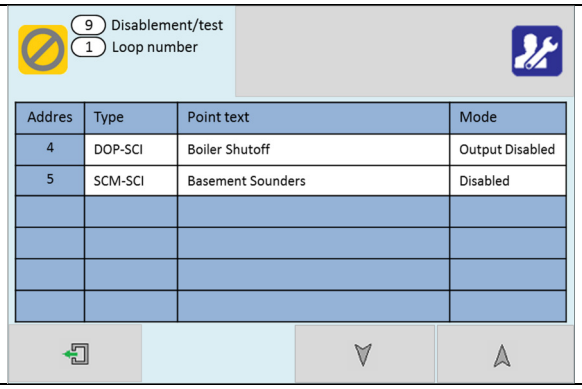
The number of disabled alarm groups.
The number of disabled SLC devices.
The number of disabled module outputs.

The General Disablement and NAC disablement LED will be lit if Sounder disabled or All disabled was selected.

Only the General Disablement LED will be lit if just Relay disabled was selected.



Details of the disabled alarm group outputs can be viewed by pressing the disabled loop devices icon or the disabled local I/O icon. If any zones have all of their outputs disabled, it will be indicated by the disabled zone outputs icon.



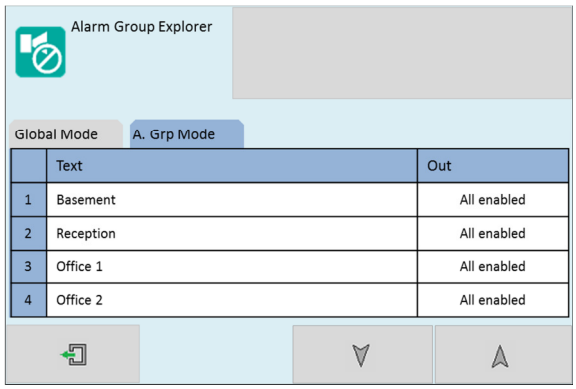
To re-enable a zone, use the same procedure, pressing the “Out” field until it shows ‘All Enabled’.

It cycles through:-

- All enabled
- Sounder disabled
- Relay Disabled
- All Disabled

Press the exit icon. The panel will ask if you want to save the changes.

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



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.

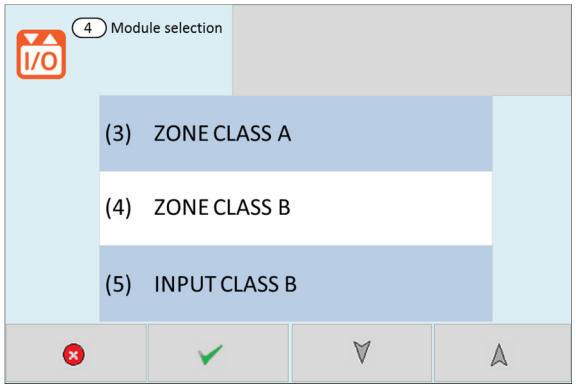
A local I/O can be disabled as follows:

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.

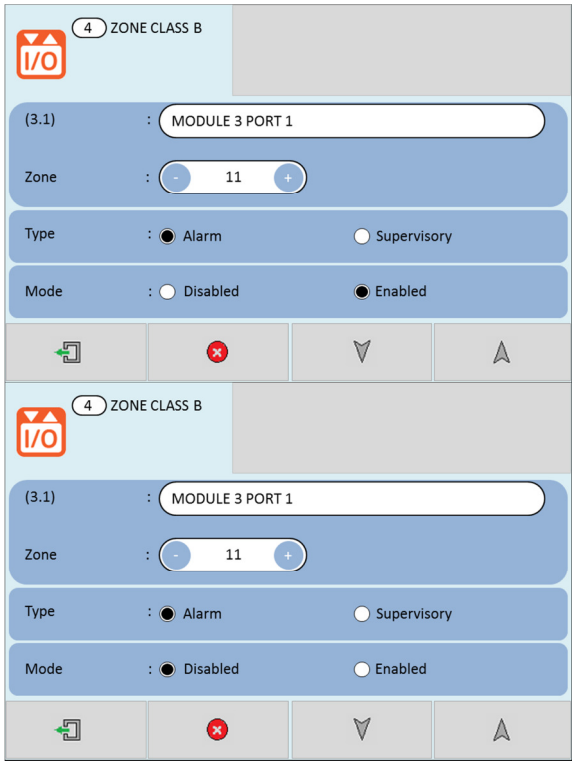
E.g. a ZMA that is plugged into TRM port 3 would have the following addresses:

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

To disable an input, change the mode by pressing on the 'Disabled' selection circle, then press or to cycle through more inputs, or the exit icon. The panel will ask if you want to save the changes.

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')

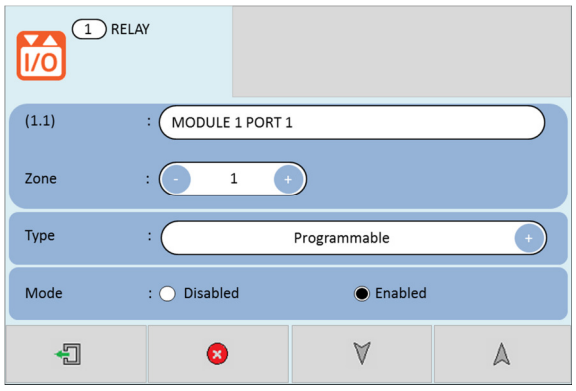
The module settings screen will be displayed.

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:

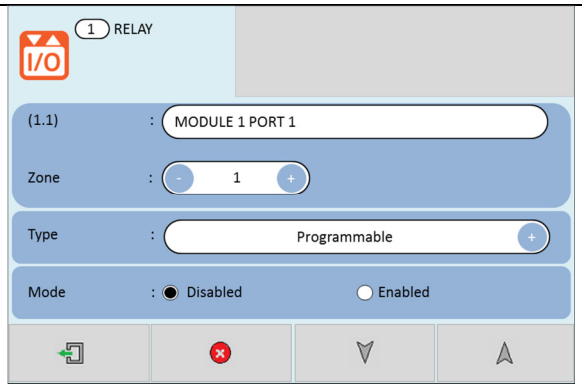
(1.1) = TRM Port 1, Output 1
(1.2) = TRM Port 1, Output 2
(1.3) = TRM Port 1, Output 3

To disable an input, change the mode by pressing on the



‘Disabled’ selection circle, then press or to cycle through more outputs, or the exit icon. The panel will ask if you want to save the changes.

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



NCA/NCB Disablement

The module settings screen will be displayed.

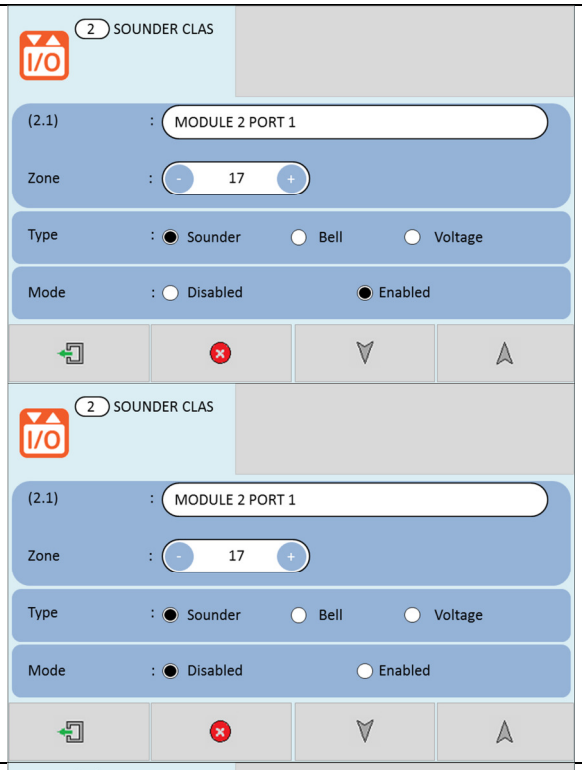
In this example, the output address is shown as: **(2.1)**. The first number represents the TRM port (The RJ45 port on the TRM PCB that the module is plugged into). The second number represents the output on the module itself.

E.g. a NCB that is plugged into TRM port 2 would have the following addresses:

(2.1) = TRM Port 2, Output 1
(2.2) = TRM Port 2, Output 2

To disable an input, change the mode by pressing on the ‘Disabled’ selection circle, then press or to cycle through more inputs, or the exit icon. The panel will ask if you want to save the changes.

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

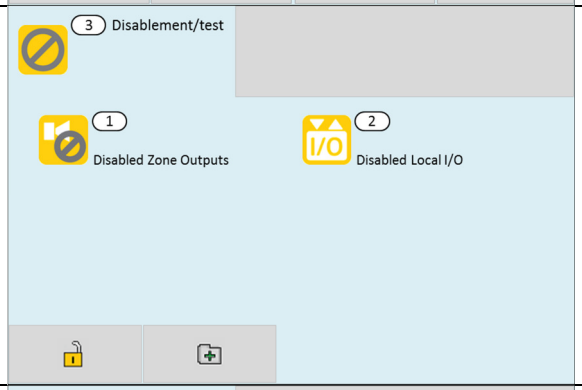


When a module has a disablement, the LCD display changes from SYSTEM NORMAL to Disablement. The screen shows:-

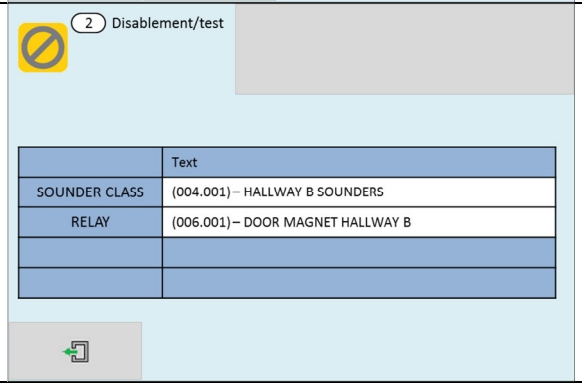
The number of disabled alarm groups.
The number of disabled local I/O.

The General Disablement LED will be lit with any module disablement.

The General Disablement and NAC disablement LED will be lit if a NCA or NCB port is disabled.



Details of the disabled module inputs/outputs can be viewed by pressing the disabled local I/O icon. If any zones have all of their outputs disabled, it will be indicated by the disabled zone outputs icon.



Test Mode

Why Use Test Mode?

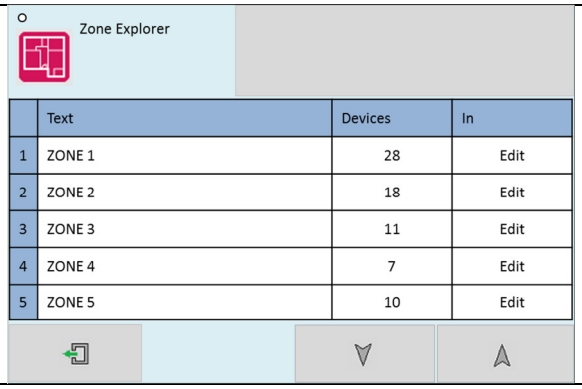
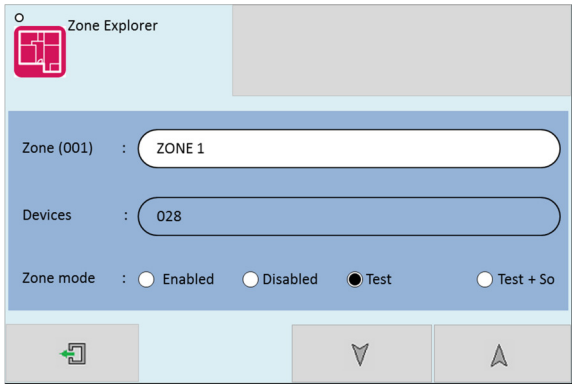
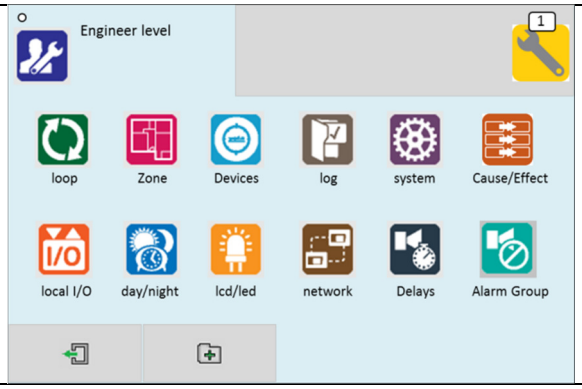
To aid commissioning and assist routine maintenance checks, a non-latching 'one man test' facility is available. Test mode can be used either with or without sounder operation, depending on the engineer's requirements.

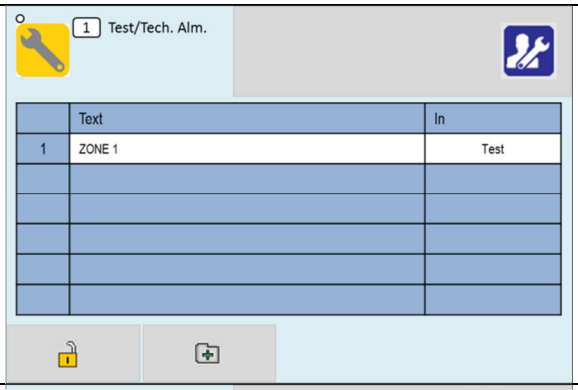
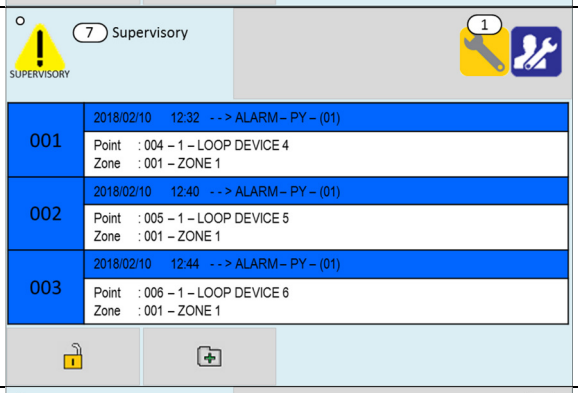
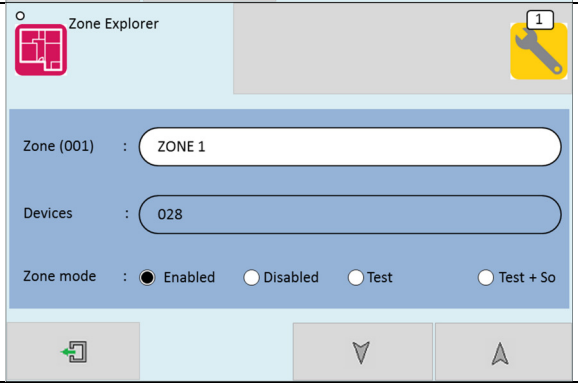
When a detector, manual call point or input unit is triggered on any zone in Test, the Alarm sounders operate for approximately 3 seconds on and then switch off (If selected). The triggered device is automatically reset. The panel will display the tested device on a test alarm screen, with the event 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

Enter the Engineer or User password, Press the menu access icon, and select the zone icon. (The test function is available to engineer & users). The panel shows the zone menu. Select the zone(s) to be placed into test by pressing on the 'In' Field.	
The panel will show the zone options menu. There will be two test modes to choose from: <u>Test</u> This will give a silent test, with no sounders operating. <u>Test + Sounder</u> This will operate all the sounders in that zone for approximately 10 seconds, regardless of the cause and effect programming. Change the Zone mode to either 'Test' or 'Test + Sounder' by pressing on the selection circle.	
When all required zones have been selected, press exit and accept the change. The panel will return to the menu, showing that there is a Disablement or test condition present.	

To view which zones are in test mode, press the zones in test icon .	
Proceed to test the devices. As we are checking the devices, the test alarms are reported on the supervisory screen.	
When the testing is complete, take the panel out of test mode by entering the Engineer level menu and selecting the ‘zone’ icon. Select the zone(s) to be taken out of test by pressing on the ‘In’ Field. Change the Zone mode to ‘Enabled’ by pressing on the selection circle. Press exit and save changes in order to return the panel to normal.	

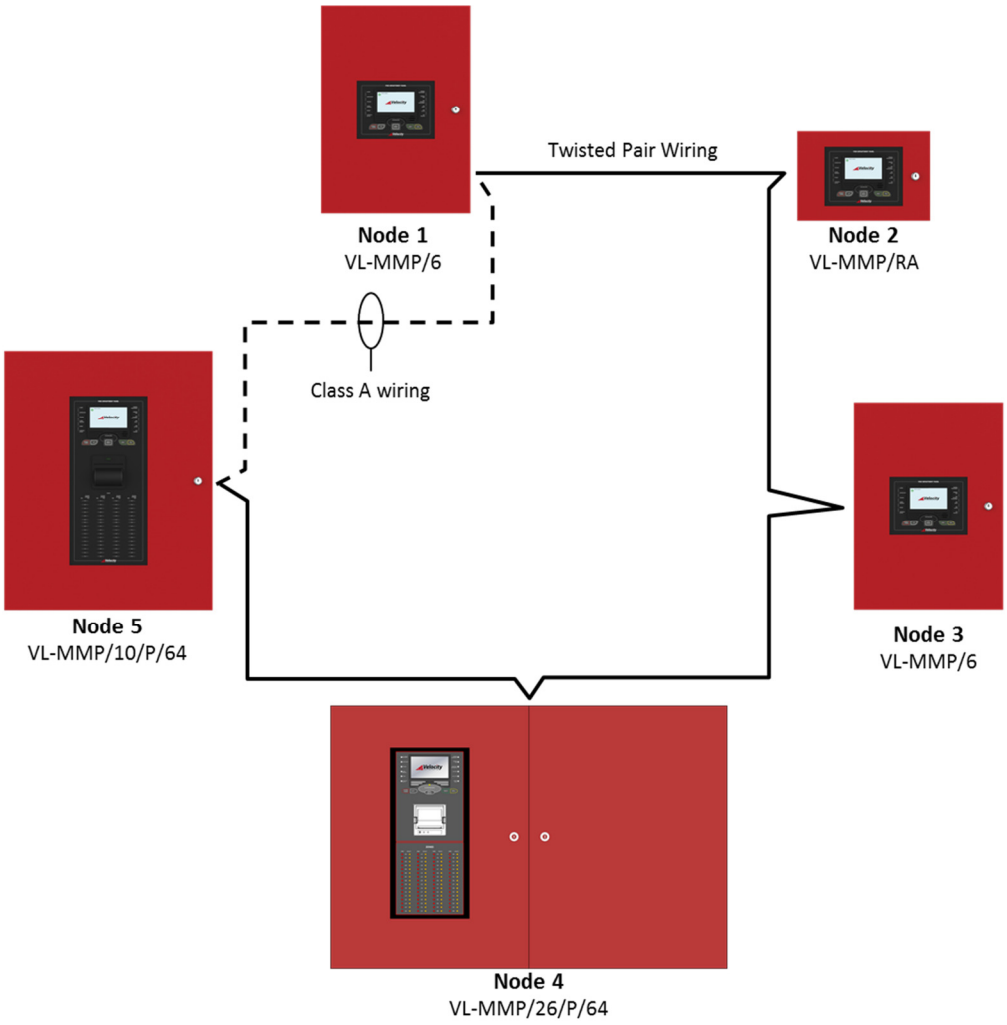
NETWORKING

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 1 km using a screened data cable, or 100m 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)

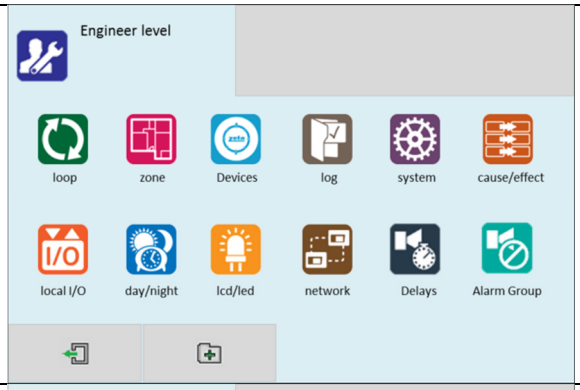
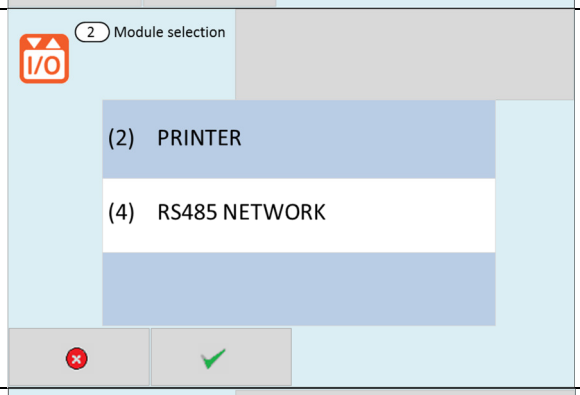
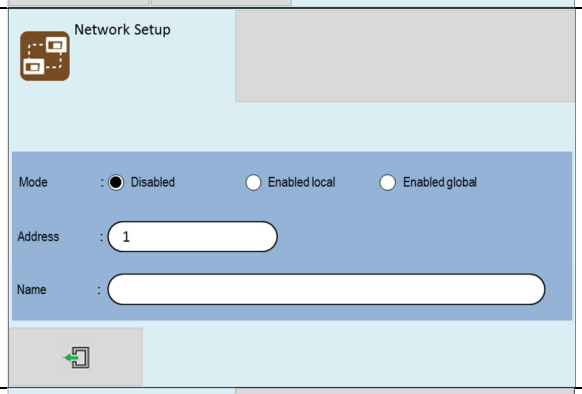
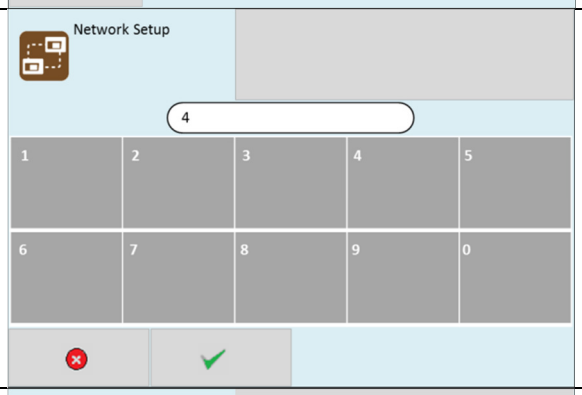
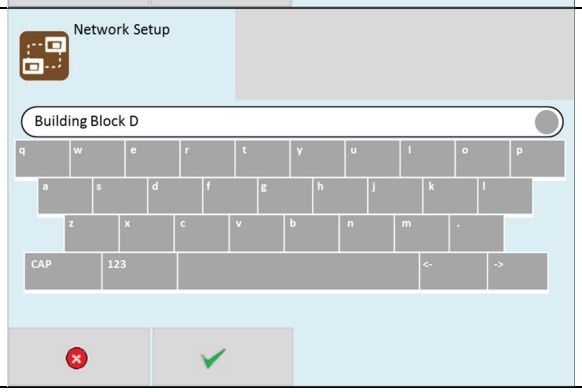
In a ring network, each control panel is connected to 2 other control panels to form a ring. This has the same topology as the loops of addressable devices connected to each CIE. This has the advantage that no panels are lost if there is a single break in the network.

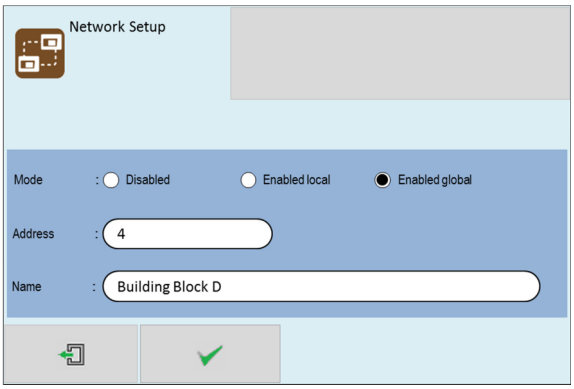
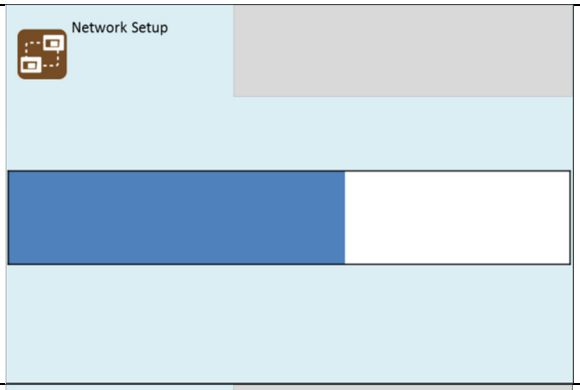
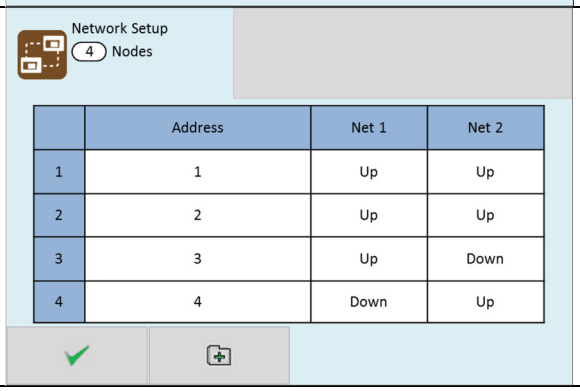
NOTE: *It is recommended that you install and wire your network in a ring topology for better stability and redundancy.*

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

Enter the engineer menu.	
Select the Network options icon. The panel will show the module selection screen, select the correct 'RS485 Network'. The port number is shown in the brackets on the left. When you select the module it will become highlighted. Press the green tick to confirm the selection. *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).*	
The panel shows that the network connection is disabled (It`s default state).	
Press the 'Address' field to edit the velocity panel network address if required (Range 1-64). **(NOTE: A velocity network does not allow for duplicate node addresses. Each panel much has a unique address number)** Press tick to save the changes, or press to discard.	
Press the 'Name' field to edit the velocity panel network text label if required (43 characters max). Press tick to save the changes, or press to discard.	

Next, configure the network mode. <u>Disabled:</u> The network connection is disabled <u>Enabled local:</u> The local panel will not receive alarm and fault messages from remote panels. <u>Enabled global:</u> The local panel will receive alarm and fault messages from remote panels. Press tick to save the changes.	
Repeat the above steps for every Velocity panel on the network. Then press the Add icon to search and configure the network.	
When the search is complete, the panel shows a list of network node addresses seen, and whether the panel sees a connection on Network port A (NET 1), and Network port B (NET 2). If the panel sees a connection it reports the port as UP. If it does not see a connection, it reports the port as down. (In this example we have a four panel network) The icon can be pressed to rescan the network.	

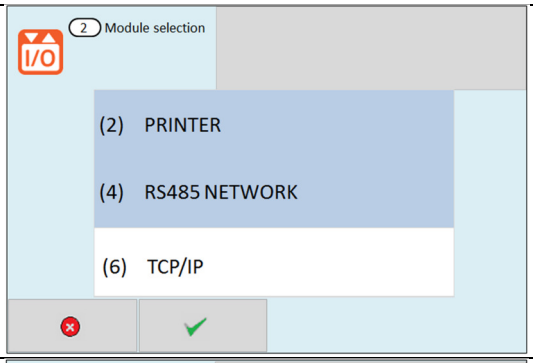
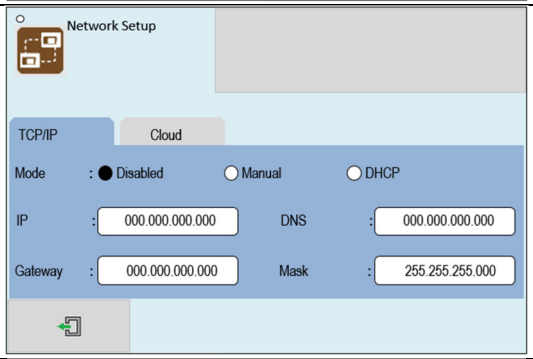
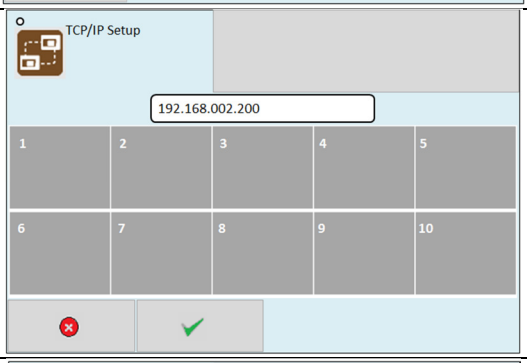
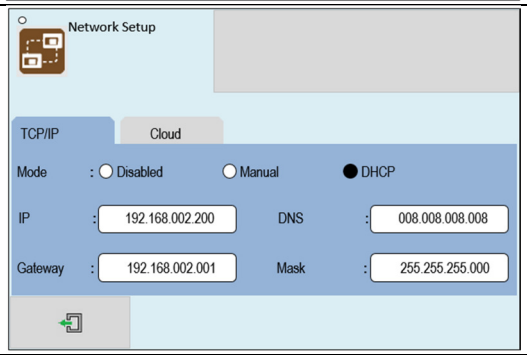
Running the Network

On a Velocity panel, running in a network, all events are reported at all panels. All panels are able to silence & reset the system, 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 TCP/IP Connection

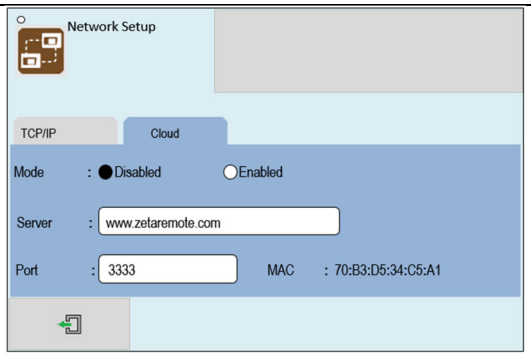
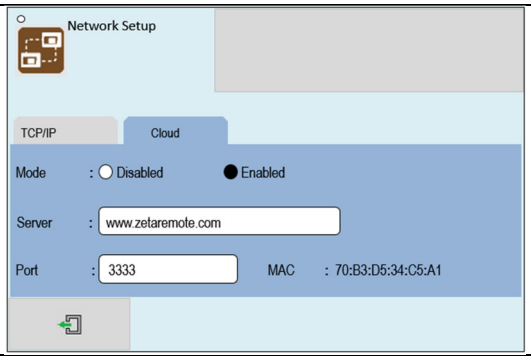
The Velocity panel has an optional TCP/IP module that allows the panel to report events to a central server. To do this, first the TCP/IP address must be set.

From the Network Menu, select the TCP/IP module.	
The panel shows that the TCP/IP connection is disabled (It`s default state).	
Select DHCP for the LAN to assign the settings, or select manual to enter the settings by hand. If entering the settings by hand, just type the numbers. The panel will automatically insert the dots.	
	

With only the TCP/IP configured, the panel will sit on a network, but would need 3rd party software on a PC to do anything useful. The cloud settings will need to be configured in order for the panel to link to the remote server.

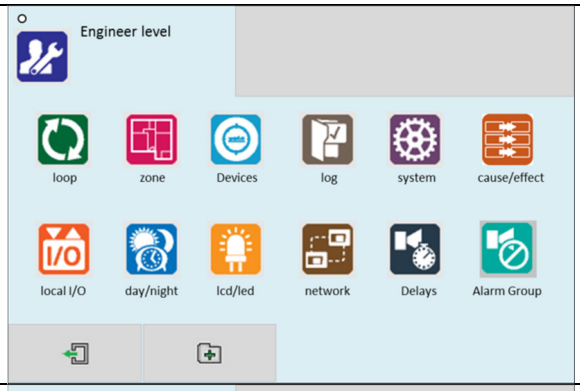
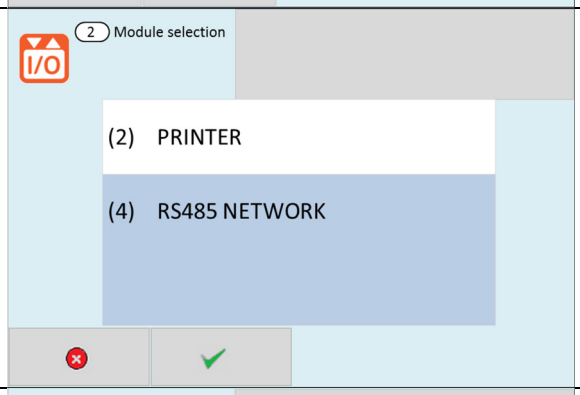
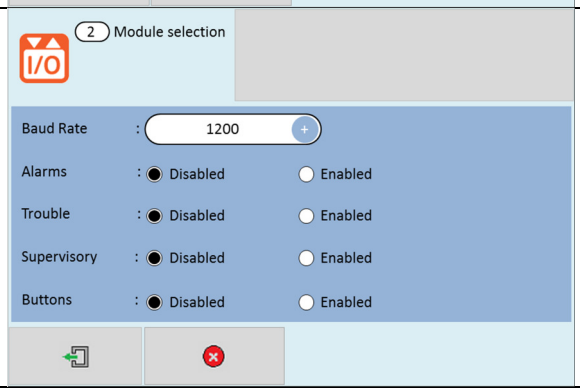
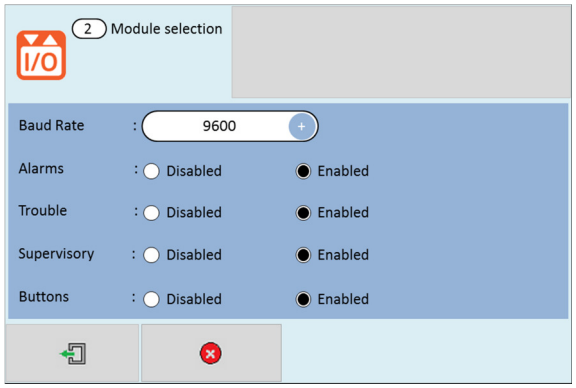
Configuring the Cloud Settings

The Velocity MMP panel has been designed to report events to a central server. This will allow authorised users to view the current status of the panel. The settings are usually set at the factory, but can be configured by the installer if required.

From the Network menu , press the Cloud tab. Enter Server and Port details as required. Make a note of the MAC address, as this will be needed to register the panel at the server. Note: That the server can be entered as a URL, or an IP address	
The Mode setting determines whether remote access to the panel is enabled or disabled. To allow an engineer to interrogate the panel remotely, this should be set to enable. This is to prevent access to a panel without a responsible person physically at the fire panel. This setting wills time out after a short period of inactivity.	

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.

Enter the engineer menu.	
Select the Network options icon . The panel will show the module selection screen, select the correct 'Printer'. The port number is shown in the brackets on the left. When you select the module it will become highlighted. Press the green tick to confirm the selection. *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).*	
The panel shows the RS232 printer options menu.	
If a panel printer is used, set the Baud Rate to '**9600**' (as this is the default baud rate of the panel printer). Next, select what real time printing options you want to be enabled, you can choose from: • Alarm Real-Time Printing • Fault Real-Time Printing • Tech Alarm Real-Time Printing • Button Press Real-Time Printing To enable the options, press on the relevant selection circle. When done, press the exit icon . The panel will ask if you want to save the changes. Press tick  to save the changes, or press  to discard.	

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 fault LEDs lit, or the green Power LED is not lit, report the fault(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.

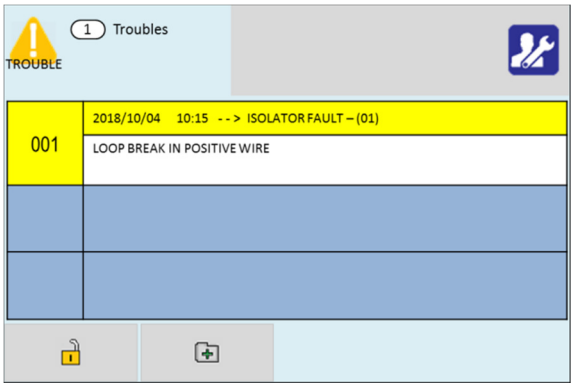
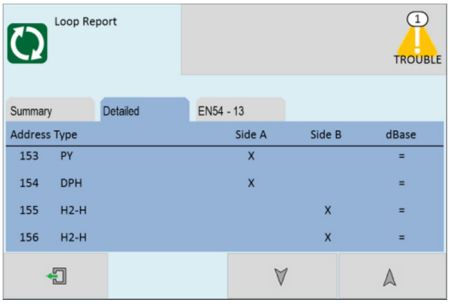
Should the control panel become defective; some electronic assemblies can be replaced.
To do this, any configured options should be noted then both mains and battery power should be removed before the work is started.
Internal panel and field wiring should be carefully labelled and removed from the terminals.

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

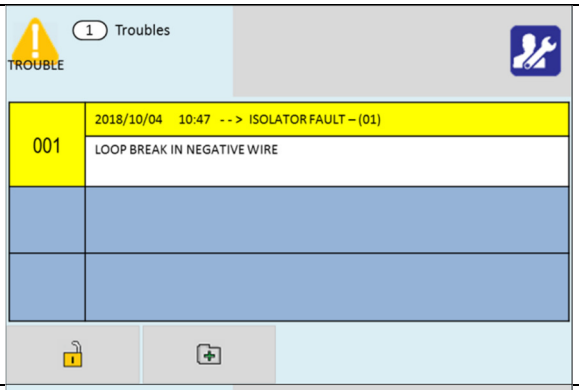
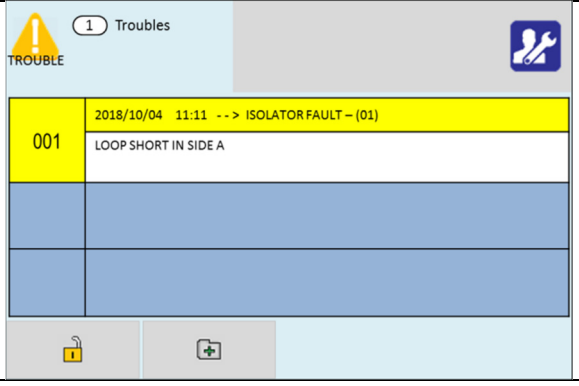
SLC Trouble Finding

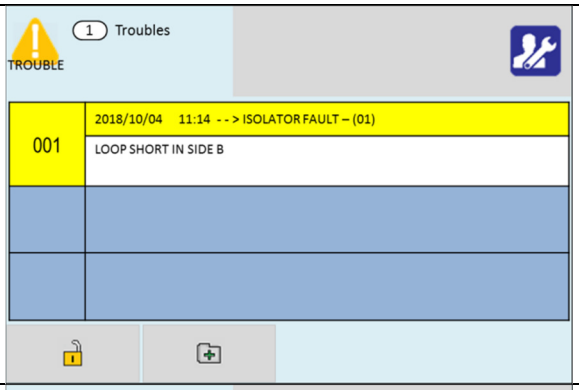
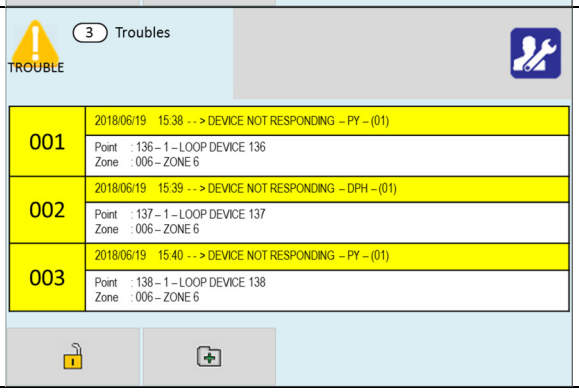
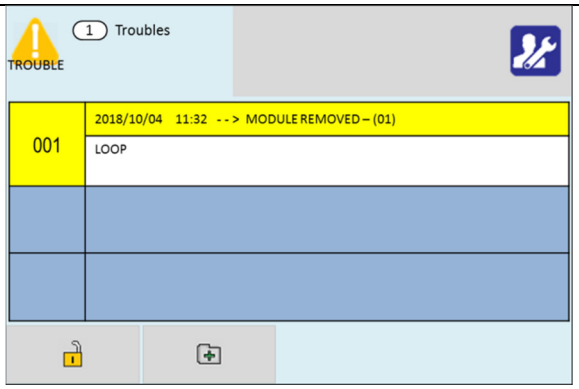
The Velocity panel will monitor the SLC for open or short circuit faults. The panel's SLC isolator monitors for both open and short circuit faults; the faults are reported as ISOLATOR FAULTS along with a description. The faults reported are:-

<table>
<tr>
<td>Break in +ve wire</td>
<td>
</td>
<td>To help locate a +ve cable break, re-run the SLC loop search, and check the detailed loop report after the search is complete.


In this example, the break is between address 154 (which is seen from side A only), and address 155 (which is seen from side B only)

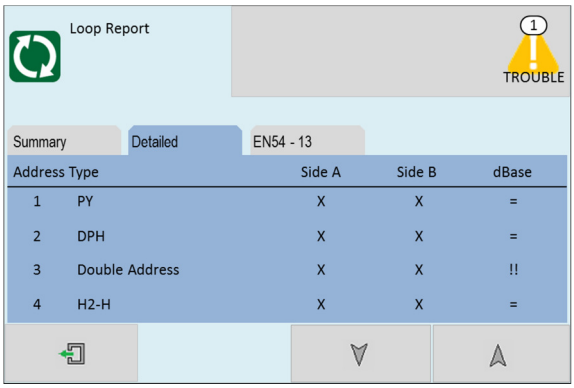
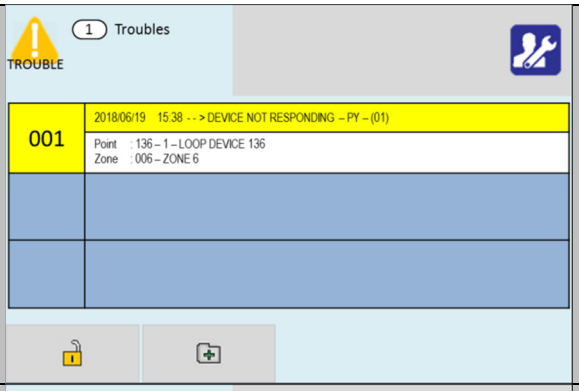
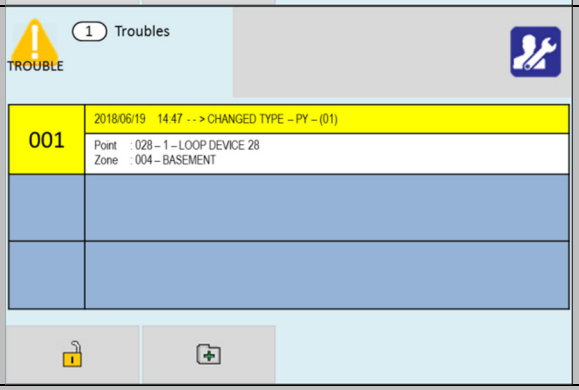
(This only applies if the loop is addressed sequentially)

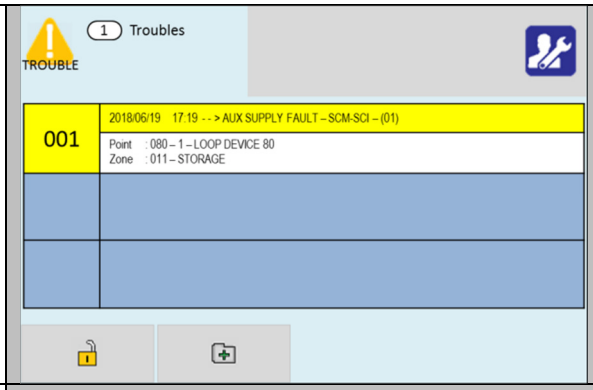
If a system uses spurs (Not recommended for more than a few devices), a cable break in the spur will not be seen. Look for missing device addresses in the loop report.</td>
</tr>
<tr>
<td>Break in -ve wire</td>
<td>
</td>
<td>Use the same method as above to locate a –ve break.</td>
</tr>
<tr>
<td>Short circuit on side A</td>
<td>
</td>
<td>If the panel reports a loop short side A , then there is a short circuit fault on the SLC, somewhere between the panel (side A), and the first device with a short circuit isolator on the loop.</td>
</tr>
</table>

Short circuit on side B		If the panel reports a loop short side B , then there is a short circuit fault on the SLC, somewhere between the panel (side B), and the last device with a short circuit isolator on the loop.
A short circuit in the middle of the SLC, will usually cause two devices' short circuit isolators to activate, and will cause the devices between the isolators to go missing (as they are no longer powered).		The short circuit will be somewhere between the 2 operated S/C isolators. Check which addresses are missing to help determine its location.
LOOP BREAK (BIG SERIAL RES)		The panel has detected that the loop wiring has higher than expected resistance, and could give problems under alarm load. •Check that no external wiring has been connected to the loop. •Split the loop and check each half at a time, trying to find the over current fault. Continue splitting the side reporting a problem until the source is found
LOOP OVER CURRENT		The panel has detected that the loop quiescent current is higher than expected. •Check that no external wiring has been connected to the loop. •Split the loop and check each half at a time, trying to find the over current fault. Continue splitting the side reporting a problem until the source is found
SLC Failure/Missing		The panel has stopped communicating to the SLC module unexpectedly. NOTE: MODULES MUST NOT BE ADDED OR REMOVED WHILE TH SYSTEM IS POWERED. •Check if heartbeat LED is flashing on that module •Power down the panel •Check that the cable is connected securely to the termination PCB, and the module •Power back on, and check what the panel sees at that port •If nothing seen, power down and try the module in a different expansion port.

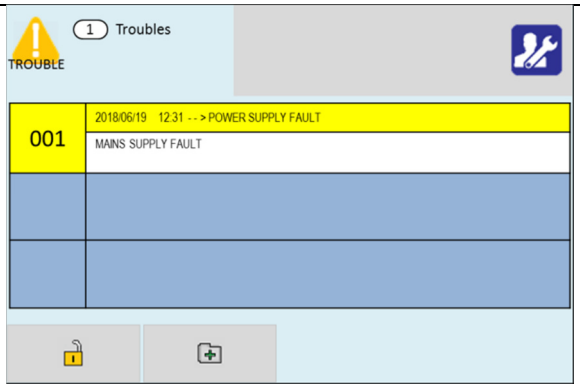
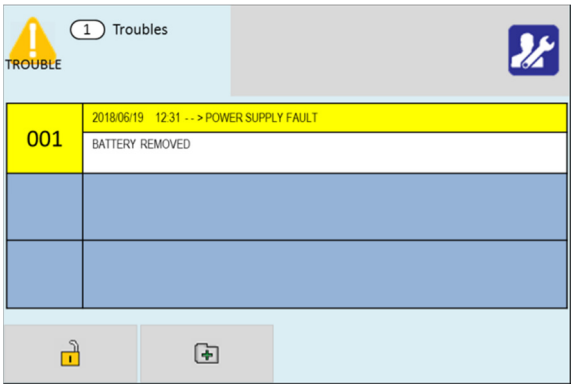
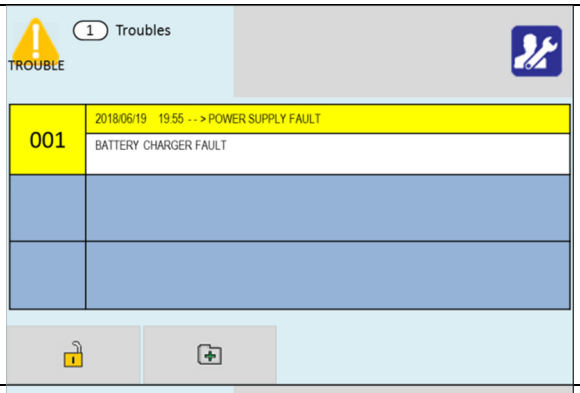
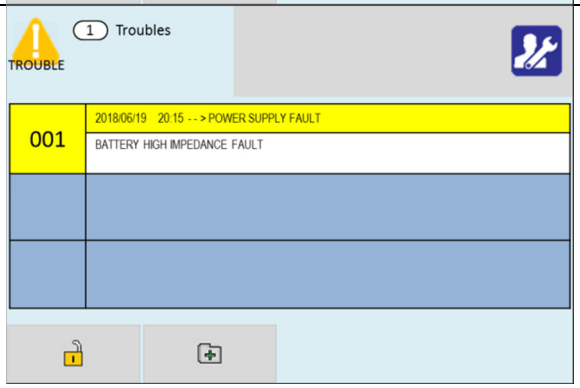
SLC Contents Trouble Finding

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

DOUBLE ADDRESS / MULTIPLE ANSWER FAULT.		The panel has detected two or more devices answering at the same address (each device on the loop should have a unique address) •If a device has just been added or replaced, and the system was ok before, check that device has the correct address programmed. •To turn on the LED of the double addressed devices, perform a loop search, view the detailed tab, then tap on the address showing double address. Walk around the site to find the devices with their LEDs on (Note: will not work on devices with no LEDs, such as Mini-IP, and Sounder base) •Try removing the known device for that address, and perform a loop learn. The detail screen should indicate what type of device is now seen at that address, which should help reduce the search •If a new installation, check the site plans, and compare with empty addresses seen on that loop
DEVICE NOT RESPONDING		Check if that device has been removed Check for any cable breaks to that device Check that the devices address has not been changed Try a replacement device
CHANGED TYPE		The panel has seen that the device type fitted to an address is different to it`s last saved configuration. Replace the device with the correct type of device If the change was deliberate, relearn the loop.
SENSOR FAULT		A device has detected an internal fault, and should be replaced
MAINTENANCE WARNING		A device (usually a smoke detector) has reached the end of it`s drift compensation limit, and should be replaced

AUX SUPPLY FAULT		An interface has lost it`s external 24V power. Investigate the PSU powering the interfaces
IN/OUT SHORTED		An interface unit has detected a short circuit in it`s field wiring, Investigate & rectify. Check that the correct end of line resistor is fitted.
IN/OUT OPEN		An interface unit has detected an open circuit in it`s field wiring, Investigate & rectify. Check that the correct end of line resistor is fitted.
OUTPUT STUCK		An Output interface has detected that its output relay has stuck. Reset the panel and test again. If the fault returns, the interface will need to be replaced.
ISOLATOR FAULT		The internal short circuit isolator on a device has activated. (Usually 2 devices operate together). Investigate the wire & devices between the two isolator fault devices to find the source of the short circuit.
AUX SUPPLY LOW		An interface has detected t`s external 24V power is low. Investigate the PSU powering the interfaces
Devices not seen on a loop search		Check that the wiring polarity to the device is correct. Check that the device has the correct address Check that the device is compatible with the MMP panel

Power Supply Trouble

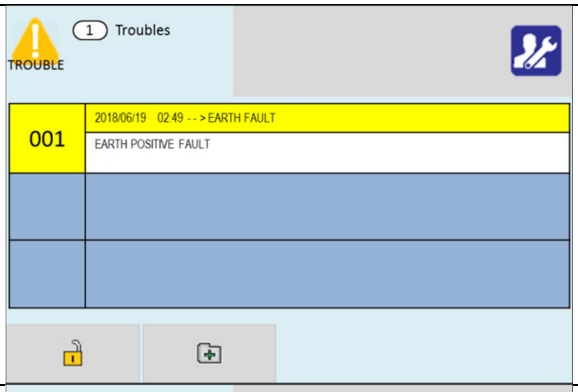
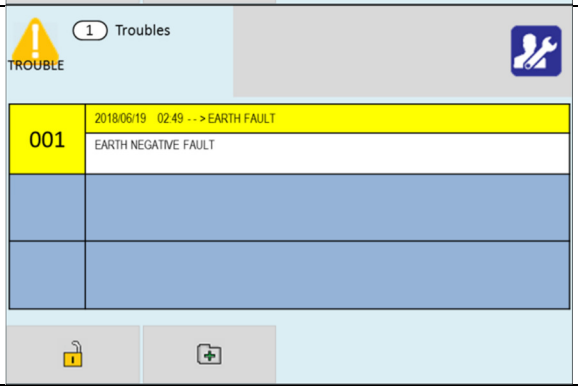
Mains Supply Fault		Carefully check that you have mains voltage at the fused terminal block Check that the mains fuse is intact If mains & fuse are OK, Check that the PSU cage is giving out 30V DC (will need charger cover to be removed to check. Only attempt this if suitably trained) Check PSU Status LED's.
Battery Removed		Check battery fuse (Fuse E). Check that battery connections are secure. Check battery voltage (should be around 26-27V for well charged batteries). Check that 2 x 12V VRLA batteries are connected in series to give 24V Check the date on the batteries and replace if necessary. (Batteries normally have to be replaced every 4-5 years).
Charger Fault		The panel has determined that the power supply is not charging the batteries. Try power cycling the panel. If the fault returns within 30 minutes, it is likely to be a problem with the Charger PCB. Contact your supplier to arrange a replacement charger PCB
Battery High Impedance Fault		Battery internal resistance check. Usually disabled on a UL system. Check battery condition of both batteries with a battery load test meter Check that all connections to batteries are tight. Check that batteries are less than 5 years old. Replace batteries if necessary.
24V OUTPUT FAULT		The panel has detected a problem with one of the PSU output fuses Fuse 0 & 1 are auxiliary fuses Fuse 2 & 3 are used to power the panel Check the fuse in the reported output and replace if necessary.

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 it is a Positive or Negative voltage shorting to earth.

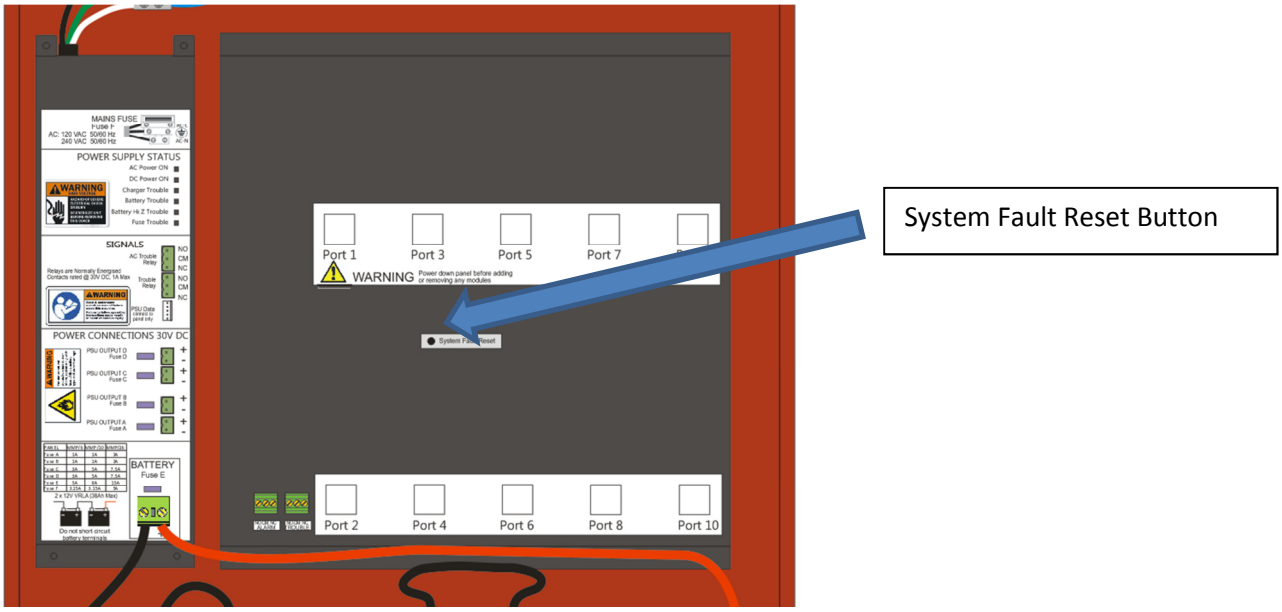
NOTE: The NAC circuits are reverse polarity when they are not running. A ground fault to the NAC + terminal would produce a negative earth fault message. Similarly, a A ground fault to the NAC - terminal would produce a positive earth fault message.

Earth Positive Fault		Most Earth faults occur on the field wiring. As a first check, disconnect field wiring from the Velocity Panel. If no earth fault is reported then fault is on the field wiring. Locate the fault by reconnecting one field wiring circuit at a time until the earth fault reports, then sub divide the “bad circuit”. Look for a cable screen shorting to loop +ve.
Earth Negative Fault		Use the same method as above, but look for shorts to –ve.

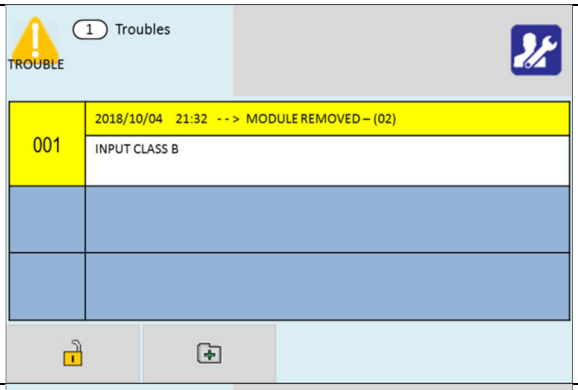
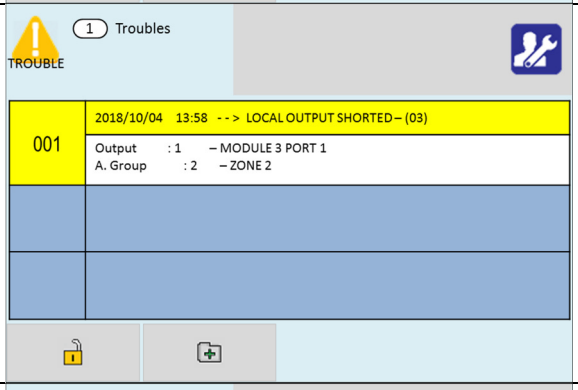
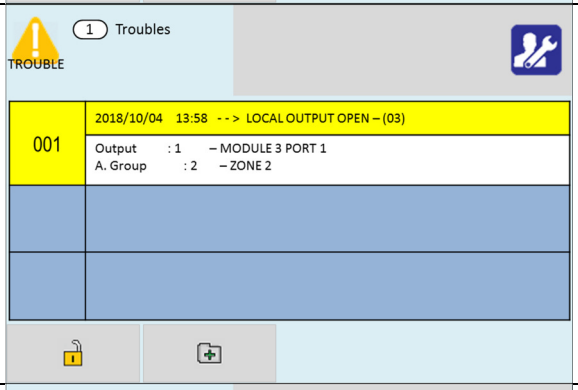
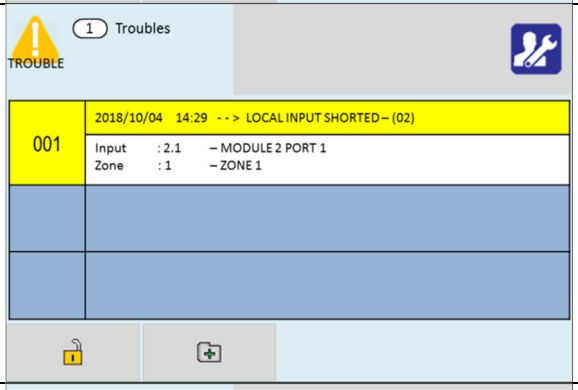
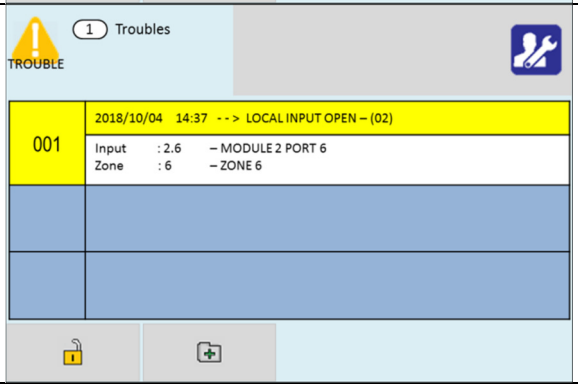
CPU Trouble

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

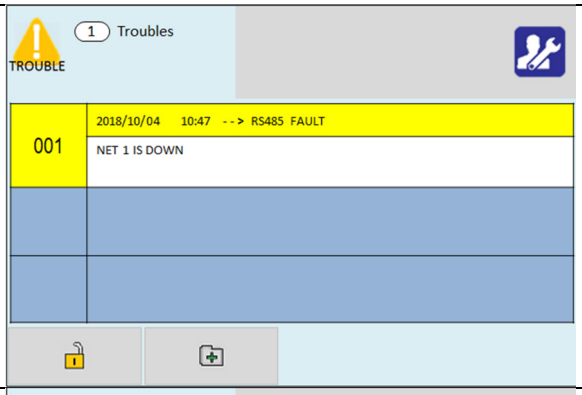
This will result in the panel attempting to correct itself. Should this fault occur, the CPU Trouble LED, Common Trouble LED, Common Trouble relays and internal Trouble buzzer will be constantly active. A CPU trouble indication can be cleared by pressing the CPU reset button located on the TRM PCB. If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



Local I/O Faults

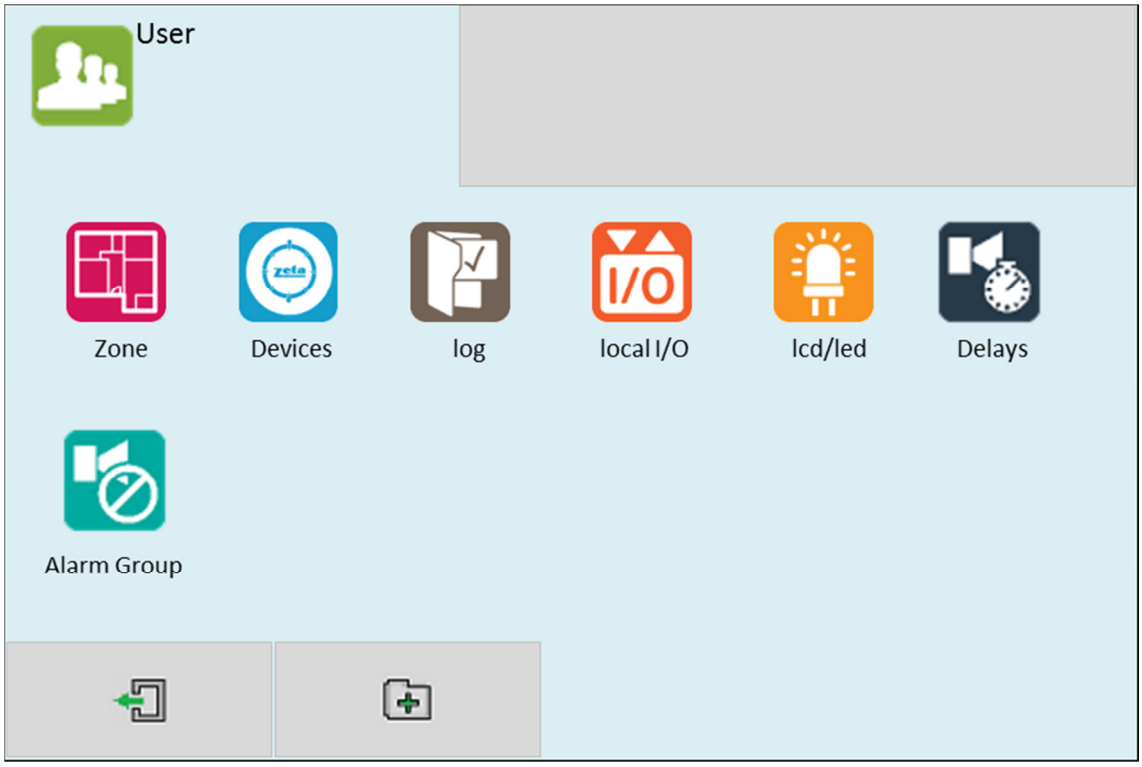
Module Removed		The panel has stopped communicating to the module unexpectedly. Check coms heartbeat LED on front of module, it should be blinking. Check the RJ45 connection between the module and the TRM PCB. If the above is all OK, perform a CPU reset on the Panel.
Local Output Shorted		The output 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		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		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		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

NET 1 IS DOWN		The network module has lost communications with the panel connected to it`s NET 1 Port. Check for cable breaks Check for cable shorts. Check the heartbeat LED on the network module in both panels
NET 2 IS DOWN		The network module has lost communications with the panel connected to it`s NET 2 Port. Check for cable breaks Check for cable shorts. Check the heartbeat LED on the network module in both panels
NODE IS UNREACHABLE		The panel has lost communications with the reported node. This can happen with a single fault if wired as a bus. If wired as a ring, it would require two separate faults to cause this message. Check for cable breaks Check for cable shorts. Check the heartbeat LED on the network module in both panels

Appendix A: User Menu Summary

Default Password 0001 – Access level 2b

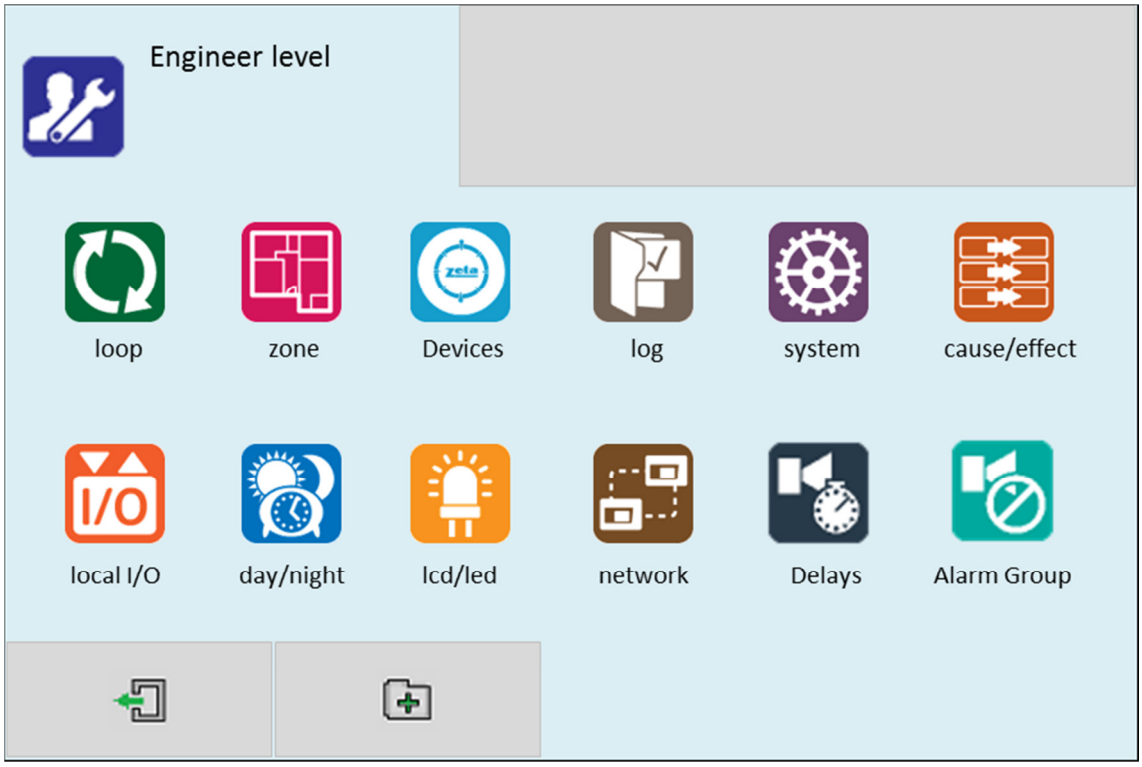


Icon	Tab Screen	Description
Zone	Zone Explorer	View Zone text label View Quantity of devices per zone
	Zone Edit	View Zone text label View Quantity of devices per zone View/Edit zone mode (Enabled/Disabled/Test/Test+Sounder)
Point	Basic	View Address & Device type View Device text label View/Edit device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

		View/Edit output (1) mode (Disabled/Enabled)
	Sounder Class B	View output (1-2) text label 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) View/Edit Sounder Status (Disabled/Enabled)
	A. Grp Mode	View text label View/Edit A. Grp mode (All enabled/Sounder disabled/Relay disabled/All disabled)

Appendix B: Engineer Menu Summary

Default Password 9999 – Access level 3



Icon	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 details)
Local I/O	Zone Class A	View/Edit input (1-3) text label View/Edit input (1-3) zone allocation View/Edit input (1-3) type (Alarm/Supervisory) View/Edit input (1-3) status (Disabled/Enabled)
	Zone Class B	View/Edit input (1-6) text label View/Edit input (1-6) zone allocation View/Edit input (1-6) type (Alarm/Supervisory) View/Edit input (1-6) status (Disabled/Enabled)
	Input Class B	View/Edit input (1-3) text label View/Edit input (1-3) zone allocation View/Edit input (1-3) type (Alarm/Supervisory) View/Edit input (1-3) status (Disabled/Enabled)
	Relay	View/Edit output (1-3) text label View/Edit output (1-3) zone allocation View/Edit output (1-3) type (Alarm/Trouble/Supervisory/Programmable) View/Edit output (1-3) mode (Disabled/Enabled)
	Sounder Class A	View/Edit output (1) text label View/Edit output (1) zone allocation View/Edit output (1) type (Sounder/Bell/Voltage) View/Edit output (1) mode (Disabled/Enabled)
	Sounder Class B	View/Edit output (1-2) text label View/Edit output (1-2) zone allocation View/Edit output (1-2) type (Sounder/Bell/Voltage) View/Edit output (1-2) mode (Disabled/Enabled)
Day/Night	-	Configure day/night timer (add day settings)
LCD/LED	-	Test panel LEDs, LCD & Buzzer
Network	RS485 Network	View/Edit RS485 Port status (Disabled/Enabled local/Enabled Global) View/Edit Network Node Address View/Edit RS485 text label
	Printer	View/Edit Baud Rate (1200/2400/4800/9600/19200/38400/57600/115220) View/Edit Alarm printing (Disabled/Enabled) View/Edit Fault printing (Disabled/Enabled) View/Edit Tech. Alarm printing (Disabled/Enabled) View/Edit Button printing (Disabled/Enabled)
	TCP-IP	TCP-IP Tab View/Edit TCP/IP Port status (Enabled/Disabled) View/Edit IP Address View/Edit IP Port used View/Edit IP Gateway Address View/Edit IP Subnet Mask Cloud Tab View/Edit Remote access mode (Enabled / disabled) View/Edit cloud server IP address / URL View/Edit IP Port used View panels MAC address
Delays		View/Edit Alarm Verification (Off/On) View/Edit Retard Time View/Edit Period Time View/Edit Sounder Delays (Off/On) View/Edit Flash Mute (Off/On) View/Edit Alarm Sequence (Off/On) View/Edit Ack. Time View/Edit Ext. Time View/Edit Resound 24H (Off/On) View/Edit Main Delayed (Off/On)
Alarm Group	Global Mode	View/Edit Relay Status (Disabled/Enabled) View/Edit Sounder Status (Disabled/Enabled)
	A. Grp Mode	View text label View/Edit A. Grp mode (All enabled/Sounder disabled/Relay disabled/All disabled)

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)	• Alarm • Detector Alarm • MCP Alarm • Trouble • Maintenance • Supervisory ON • Supervisory OFF
Local I/O	Local Module (1-26)	Module Port (1-6)	• Trouble • Alarm • Supervisory ON • Supervisory OFF
Zone	Zone Start (1 -254)	Zone End (1-254)	• Alarm • Detector Alarm • MCP Alarm • Trouble • Maintenance • Supervisory ON • Supervisory OFF • Mlt. devices in alarm
Panel	-	-	• Alarm • Detector Alarm • MCP Alarm • Trouble • Maintenance • Supervisory ON • Supervisory OFF • Mlt. devices in alarm • Mlt. Zones in alarm • Panel KeySwitch ON • Panel KeySwitch OFF

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)	• Evacuation • Warning • Beacon • Switch off • Enable • Disable
Local I/O	Local module (1-26)	Module Port (1-6)	(0-600)	(0-600)	• Evacuation • Warning • Switch off • Enable • Disable
A.Group	A. Group start (1-254)	A. Group end (1-254)	(0-600)	(0-600)	• Evacuation on sounders • Warning on sounders • Activate Beacon • Switch OFF SND/Beacon • Switch ON Relays • Switch OFF Relays • Evacuation on Outputs • Warning on Outputs • Switch off Output • Disable sounders • Enable sounders • Disable relays

					• Enable relays • Disable Output • Enable Output
Panel	-	-	(0-600)	(0-600)	• Evacuation on sounders • Warning on sounders • Activate Beacon • Switch off SND/Beacon • Switch ON Relays • Switch OFF Relays • Evacuation on Outputs • Warning on Outputs • Switch off Output • Disable sounders • Enable sounders • Disable relays • Enable relays • Disable output • Enable Output