Velocity
DETECTION OVER TIME

Fire Alarm Systems

Technical Document Collection

24 supplied documents | Product data sheets and technical manuals

Compiled by High Secure System from the supplied manufacturer documents.
Original document content and notices are retained. This is a compiled collection.

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VL-MMP/6

MODULAR MULTILOOP FIRE ALARM CONTROL PANEL

Description



The Velocity is a powerful and sophisticated Analogue Addressable Fire Alarm Control Panel that offers a variety of modular components which allow it to meet a wide variety of applications.

The graphical touch screen provides a clear, uncluttered and intuitive interface which results in the end user requiring minimal training.

The control panel has the capability to support complex cause and effect programming and a wide range of user controllable functions that make the panel suitable for a vast range of projects from multi-site commercial developments through to industrial applications.

The addressable devices of the Velocity panel use soft addressing using the VDOT-AD2 handheld programming tool which helps minimise the potential for error and reduce the installation time associated with hard addressing.

It can operate as part of a networked system of up to 64 panel's Peer-to-Peer, or a standalone panel. It has powerful programming options that allow configurable control over whether messages from specific panels are transmitted around the network or remain local.

Each system component has been specifically designed to operate as part of a Velocity UL Listed system providing assurance that the detectors, interfaces, NAC devices, and panel are all fully compatible with each other and that the full range of system functionality is supported by all devices.

Features:

- Modular construction allows a panel to be specified using just the required modules.
- Up to 4 SLC modules.
- 4.3" colour touch screen display.
- Capacity for up to 6 intelligent modules.
- Full system redundancy.
- Connection to TCP/IP module.
- Extensive Day/Night mode programming.
- Full cause & effect programming via front panel or the Velocity Connect PC Software.
- 8032 Events Log.
- Using multiple VL-ZMA & VL-ZMB modules, the panel can be configured into a fully functioning conventional panel.
- 254 Velocity devices per SLC.
- 254 available programmable zones.
- Up to 64 panel peer-2-peer network.
- Positive Alarm Sequence.
- Automatic Drift Compensation.
- Alarm Verification.
- Mains Trouble output delay programmable from 0 to 240 minutes.
- NAC special application 24V mode.
- 240W Power Supply

NOT TO BE USED FOR INSTALLATION PURPOSES.
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Specifications

Code	
Description	UL Intelligent Addressable Control Panel
Standard	UL864 10th Edition
Main Primary Supply	
Mains AC Supply Voltage	240/120 VAC
Mains AC Supply Frequency	50/60 Hz
Power Supply DC Rating	30VDC 10A
Battery Secondary Supply	
Battery Voltage	24Vdc
Battery Charge Current	1.1A (Max)
Battery Capacity (Supervised)	2 x 12Ah, 12 VDC Sealed Lead Acid (Max)
Notification Appliance Circuits (VL-NCA & VL-NCB)	
NAC Voltage	29VDC Nominal (19V - 29V)
Maximum Current	1A (VL-NCA) / 500mA per Circuit (VL-NCB)
Maximum Line Resistance	1.8Ω Total (VL-NCA) / 3.6Ω Total (VL-NCB)
Wiring Class	Class A (VL-NCA) & Class B (VL-NCB) [Power limited & Supervised]
Special Applications	Auxiliary 24VDC Output [Power limited & Unsupervised]
Signaling Line Circuits (VL-SLC)	
Rated Voltage	35VDC Nominal (24V - 39V)
Maximum Current	500mA
Maximum Device Capacity	254 Addresses
Maximum Line Resistance	50Ω (200mA) / 20Ω (500mA)
Maximum Capacitance	100nF
Wiring Class	Class X or Class A [Power limited & Supervised]
VL-TRM Relay Outputs	
Alarm	(C,NO,NC) Contact rating: 125VAC @ 0.5A / 30VDC @ 1A
Trouble	Normally Energised (C,NO,NC) Contact rating: 125VAC @ 0.5A / 30VDC @ 1A
Network	
Maximum Network Size	64 Nodes
Maximum Distance Between Nodes	1KM
Software	
Maximum Software Zones	254 Zones
Maximum Event Log	8032 Events
Software Programming	Touchscreen LCD or Velocity Connect PC Software
Display	
LCD	4.3” Resistive Touch Screen. 480 x 272 Pixel Resolution
LED Indicators	1 Red (1 x Alarm), 1 Green (Power), 10 Yellow (1 x Supervisory, 1 x Trouble, 1 x Alarm Silenced, 1 x Controls Active, 1 x NAC Active, 1 x General Disablement, 1 x General Test, 1 x NAC Trouble/Disablement, 1 x NAC Delay, 1 x CPU Trouble).
Button Controls	Silence Alarm, Ack, Scroll, Reset, Drill
Enclosure	
Dimensions H x W x D (mm)	535mm x 385mm x 150mm
Weight	9KG
Cable Entries	34
Max Module Capacity	6
Environmental	
Operating Temperature	0°C (32°F) to 49°C (120°F)
Relative Humidity	93% Non-Condensing

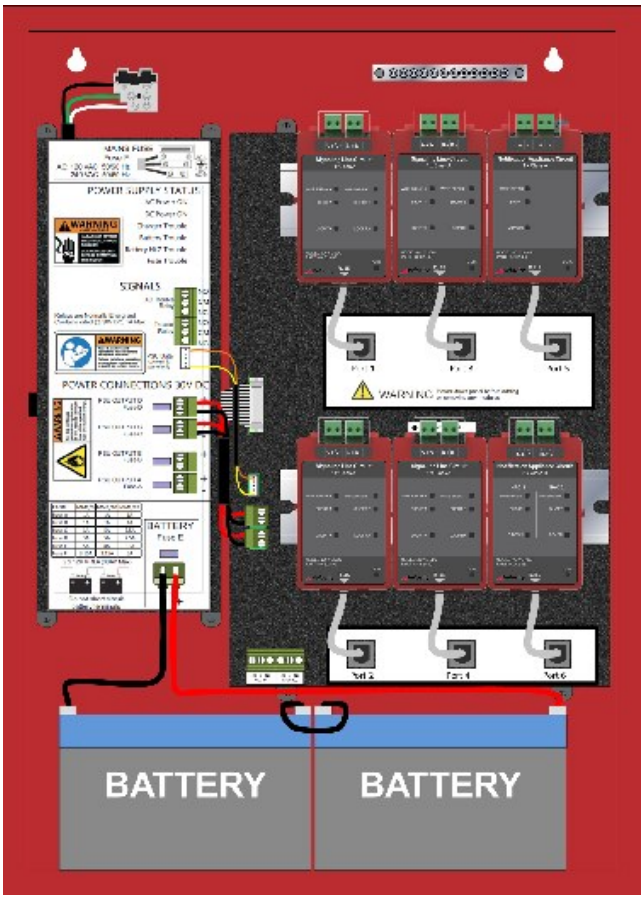
Product Codes

Description	Codes
Velocity MMP6 Addressable Control Panel (Red)	VL-MMP/6
Velocity MMP6 Addessable Control Panel (Black)	VL-MMP/6-B

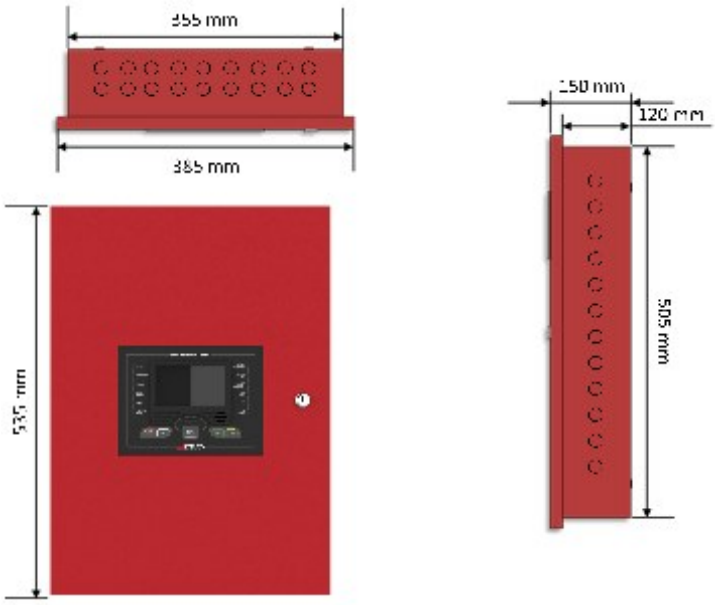
Module List

Description	Codes
Signaling Line Circuit Module - 1 x Class A	VL-SLC
Multi Input Module - 6 x Class B	VL-MIM
Zone Monitor Module - 3 x Class A	VL-ZMA
Zone Monitor Module - 6 x Class B	VL-ZMB
Multi Relay Module - 3 x Form C	VL-MRM
NAC Module - 1 x Class A	VL-NCA
NAC Module - 2 x Class B	VL-NCB
Netwrok Module - 2 x RS485	VL-NWM
Local Area Network Module	VL-LAN
Modbus Module - 1 x RS485	VL-MBM
RS232 Printer Module - 1 x RS232	VL-232

Panel Interior View



Dimensions



Benefits

- Troubleshooting and programming time minimised by utilising a range of feature such as SLC auto search, walk test, system details menu's etc.
- Full system redundancy.
- Menu driven graphical touch screen user interface for ease of operation.
- Supports a comprehensive range of DIN mounted panel modules and devices for greater flexibility in design.
- Available in a variety of different panel enclosure sizes to better suit a sites requirements.
- Touch screen full functioning annunciator available.

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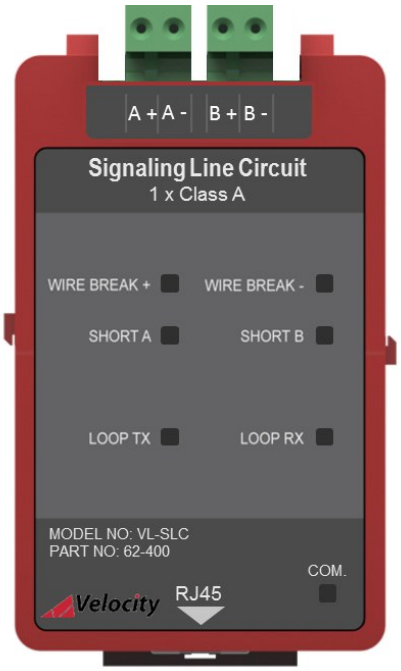
SIGNALING LINE CIRCUIT MODULE VL-SLC

Description

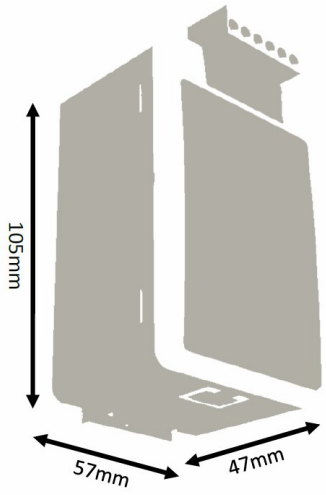
The plug-in SLC module provides power for and handles communications to the analogue addressable devices. The SLC continuously monitors the analogue values of all devices and displays this value on the control panel as a percentage of the alarm threshold value. Up to 254 addresses (500mA max load) can be connected to a single SLC. The addressable devices use soft addressing using the VDOT-AD2 handheld programming tool which helps minimise the potential for error and reduce the installation time associated with traditional hard addressing. The AUTO-LEARN facility provided in the Velocity series control panel saves considerable time and effort when installing a new loop or when changing device configuration. It allows the system to learn for itself what devices have been installed on the loop.



Features

- Designed to meet UL864 10th Edition requirements.
- Supports up to 254 addresses.
- Supports Class X & Class A wiring configurations.
- “Heartbeat LED” that shows communication between the module and the motherboard.
- Extensive front unit status indications.
- Time saving AUTO-LEARN facility.
- Quick and easy to install.
- 500mA max load (20 ohms loop resistance), or 200mA (50 ohms loop resistance.
- Double address detection.

Dimensions



Front Unit Indications

LED Indication	Description
Wire Break + (Yellow)	Illuminated yellow when a loop break on the positive line is detected.
Wire Break - (Yellow)	Illuminated yellow when a loop break on the negative line is detected.
Short A (Yellow)	Illuminated yellow when a short circuit on the loop A side is detected.
Short B (Yellow)	Illuminated yellow when a short circuit on the loop B side is detected.
Loop TX (Green)	Flashing Green when the loop card is transmitting information.
Loop RX (Green)	Flashing Green when the loop card is receiving information.
Com. (Green)	Pulses to show communication between the module and the motherboard.

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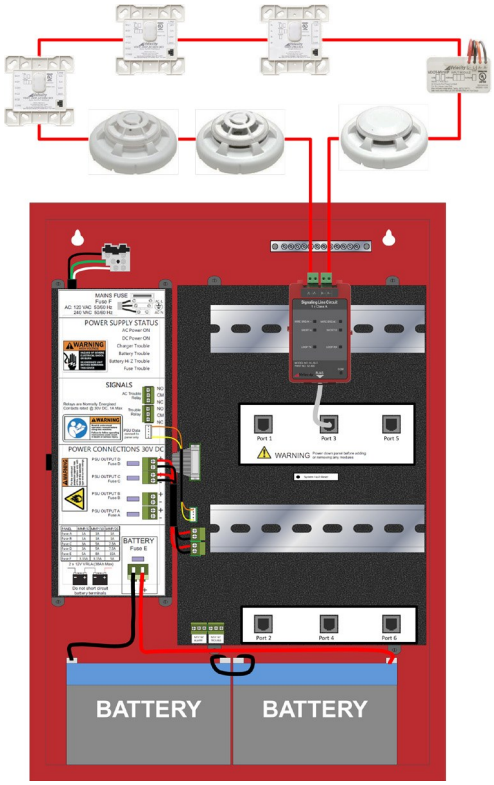
Specification

Specification	VL-SLC	
Part Number	62-400	
Design Standard	UL864 10th Edition	
Approval	UL Laboratories	
Rated Voltage	35VDC Nominal (24V - 39V)	
Maximum SLC Current	200mA	500mA
Maximum SLC Resistance	50Ω (25Ω per core)	20Ω (10Ω per core)
Maximum SLC Capacity	254 Addresses	
Maximum SLC Cable Length	*2KM	
Maximum SLC Capacitance	100nF	
Maximum SLC Baud Rate	4334 bits per second (typical)	
Wiring Class	Class X or Class A [Power Limited & Supervised]	
Operating Temperature	0˚C (32˚F) to 49˚C (120˚F)	
Max Humidity	93% Non-Condensing	
Size (mm) (HxWxD)	105mm x 57mm x 47mm	
Weight	0.15KG	
Recommended Cable Sizes	18 AWG to 14 AWG (0.8mm² to 2.5mm²)	

Interior Panel View

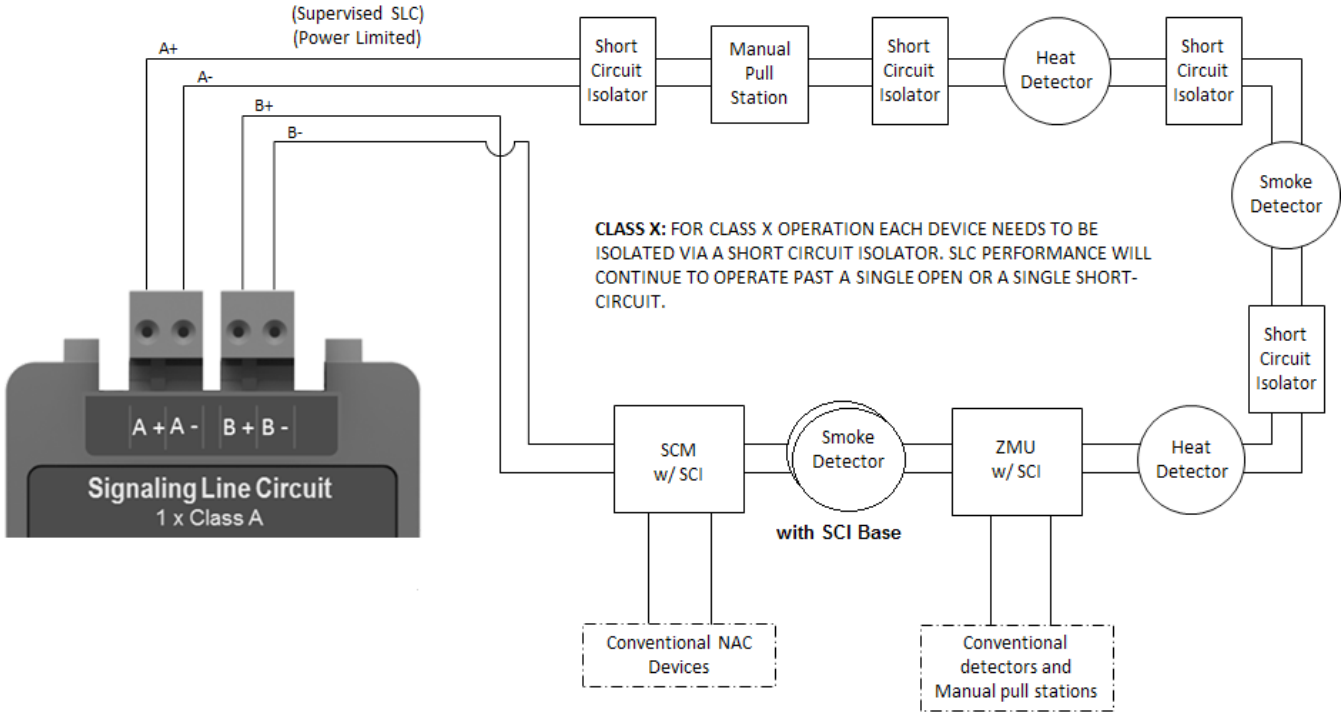


Compatible Devices/Accessories

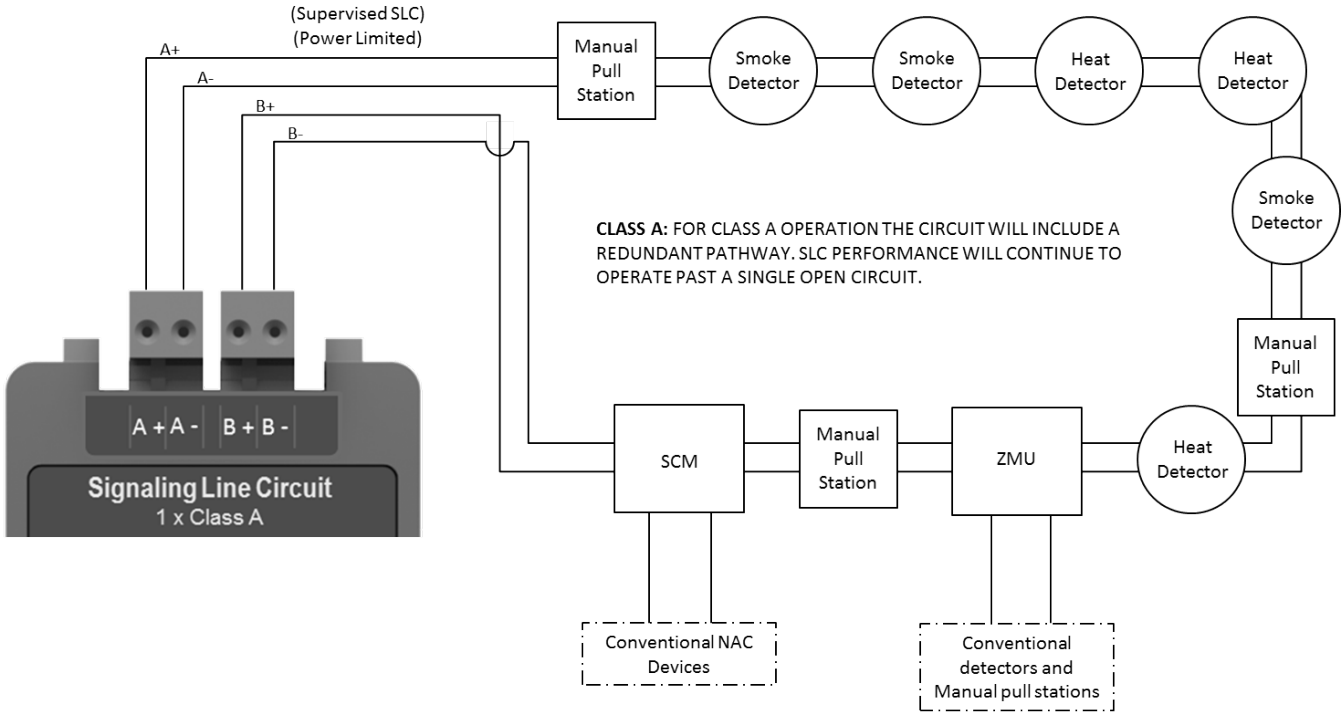
Model No.	Description
VDOT-PY	Addressable Photoelectric Smoke Detector
VDOT-PYH	Addressable Multisensory Detector
VDOT-H2	Addressable Heat Detector
VDOT-H2-H	Addressable High Temperature Heat Detector
VDOT-DPH	Addressable Dual Optical/Heat Detector
VDOT-MiniIP	Addressable Mini Input Module
VDOT-DIP-SCI	Addressable Dual Input Module with SCI
VDOT-DOP-SCI	Addressable Relay Dual Output with SCI
VDOT-DOP-AC240V-SCI	Addressable Relay Dual Output Module for AC240v with SCI
VDOT-ZMU-SCI	Addressable Conventional Zone Module with SCI
VDOT-S6 BASE	Addressable Sounder Base
VDOT-SCI	Short Circuit Isolator
VDOT-STB-RL	Low Power Relay Base
VDOT-STB-SCI	Short Circuit Isolator Base
VDOT-UB4	Standard Detector Mounting 4” Base
VDOT-UB4-6	Standard Detector Mounting 6” Base
VDOT-ADP	Adaptor Plate
VDOT-AD2	Handheld Address Programmer

▪ Typical Wiring Diagram (Class X)

(For more information on wiring, please refer to the VL-SLC installation guide (Doc:_____)



▪ Typical Wiring Diagram (Class A)



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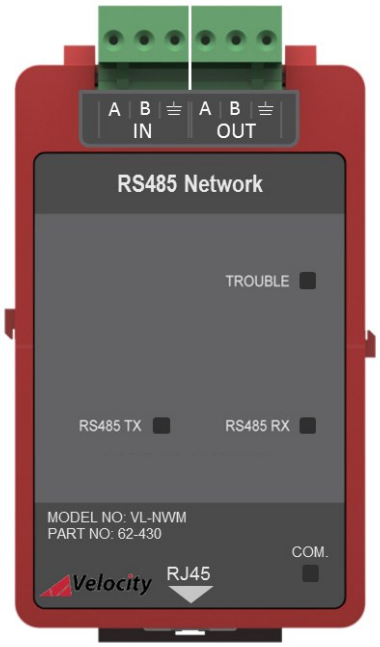
NETWORK MODULE VL-NWM

Description

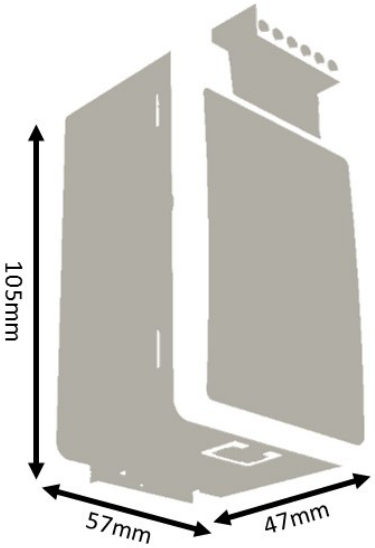
The Velocity MMP system network has the facility to monitor, indicate and control the functions of a fire alarm installation, thus allowing signals to be distributed around a large site. The network will accommodate up to 64 nodes. The network uses RS485 data communication and a total network cable length of up to 10km is possible. All panels will continue to function in stand-alone mode, even if the network fails. On a Velocity MMP running in a network, all events are reported at all panels and all panels are able to remotely program other MMP panels sitting on the network. Operation of outputs over the network is determined by the programmed cause & effects. Any input on the network can be programmed to operate any output.



Features

- Designed to meet UL864 10th Edition requirements.
- Peer-to-peer networking.
- Comprehensive cross network cause & effects.
- Up to 64 panels may be networked together.
- Remote programming over the network.
- The network can be configured with either a ring or bus topology.
- Fault tolerant design.
- Extensive front unit status indications (See table below).
- Quick and easy to install by plugging the RJ45 cable into the module and control panel (cable supplied with unit).

Dimensions



Front Unit Indications

LED Indication	Description
Trouble (Yellow)	Flashing yellow when a fault on the RS485 circuit is detected.
RS485 TX (Green)	Flashing green when the RS485 is transmitting information.
RS485 RX (Green)	Flashing green when the RS485 is receiving information.
Com. (Green)	Pulses green to show communication between the module and the motherboard.

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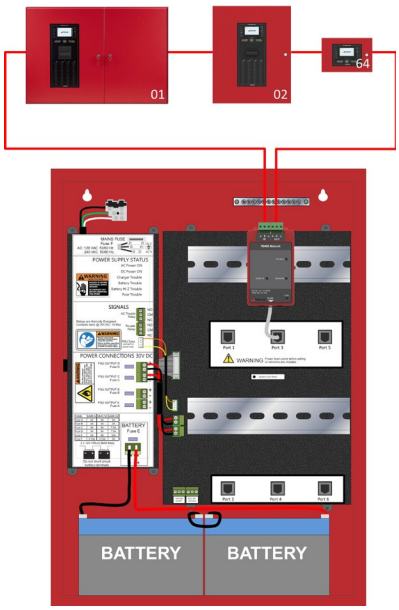
Specification

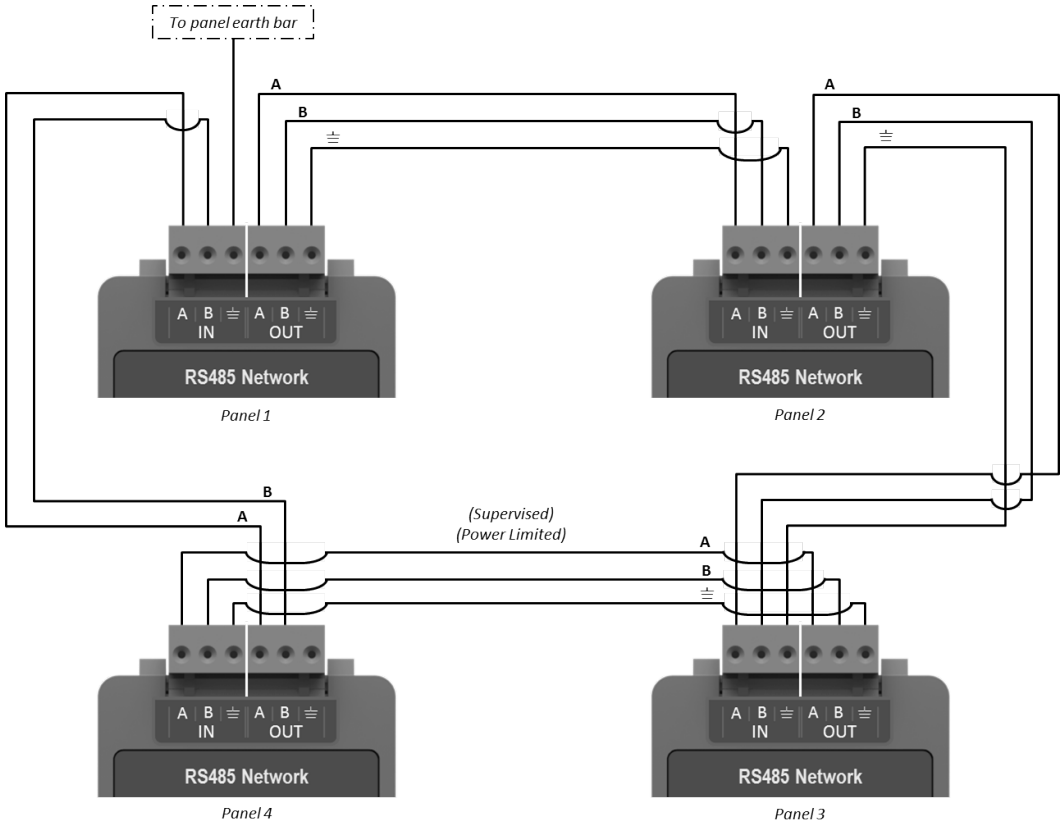
Specification	VL-NWM
Part Number	62-430
Design Standard	UL864 10th Edition
Approval	UL Laboratories
Communication Protocol	RS485
Maximum Network Size	64 Nodes
Maximum Distance Between Nodes	1KM (using a screened data cable) 100M (using a standard fireproof cable)
Network Wiring Typologies	Bus Ring (recommended)
Operating Temperature	0˚C (32˚F) to 49˚C (120˚F)
Max Humidity	93% Non-Condensing
Size (mm) (HxWxD)	105mm x 57mm x 47mm
Weight	0.15KG
Recommended Cable	Belden Screened Data Cable

Interior Panel View



Typical Wiring Diagram

(For more information on wiring, please refer to the VL-NWM installation guide).



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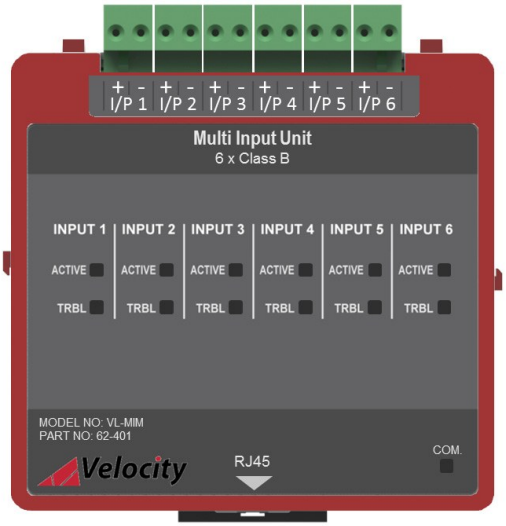
MULTI INPUT MODULE - CLASS B VL-MIM

Description

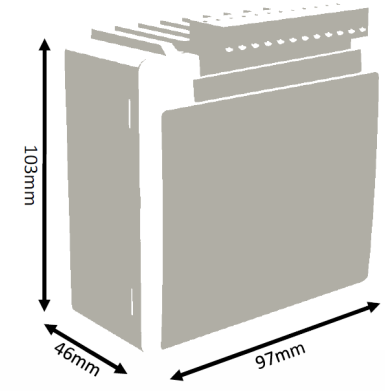
The VL-MIM is a six input module that is designed to be DIN mounted inside of a Velocity control panel. It's powered and interfaced to the Velocity MMP via a RJ45 connection. The module has six class B inputs that are commonly used to monitor and raise alarms from any ancillary equipment such as sprinkler flow switches, aspiration detectors, secondary fire control panels, beam detectors, and external power supplies etc. The module monitors and transmits the status (normal, open, short, or alarm) of inputs to a control panel. Each input can be programmed to either give a supervisory or alarm signal when active.



Features

- Designed to meet UL864 10th Edition requirements.
- 6 x Class B input circuits.
- Each input is monitored for open & short circuits.
- Extensive front unit status indications (see table below).
- Quick and easy to install by plugging the RJ45 cable into the module and control panel (cable supplied with unit).
- Each input can be configured as either Alarm or Supervisory.

Dimensions



Front Unit Indications

LED Indication	Description
Active (Red)	On steady when the input is in an alarm/supervisory condition.
Trouble (Yellow)*	Flashing when the input is in a trouble condition.
Com. (Green)	Pulses to show communication between the module and the motherboard.

**When a VL-MIM circuit is disabled, the Trouble LED will be on steady (yellow).*

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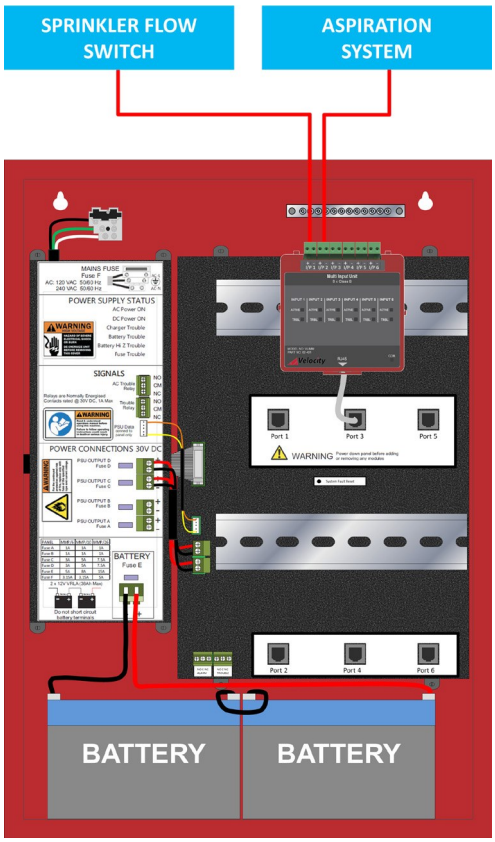
Specification

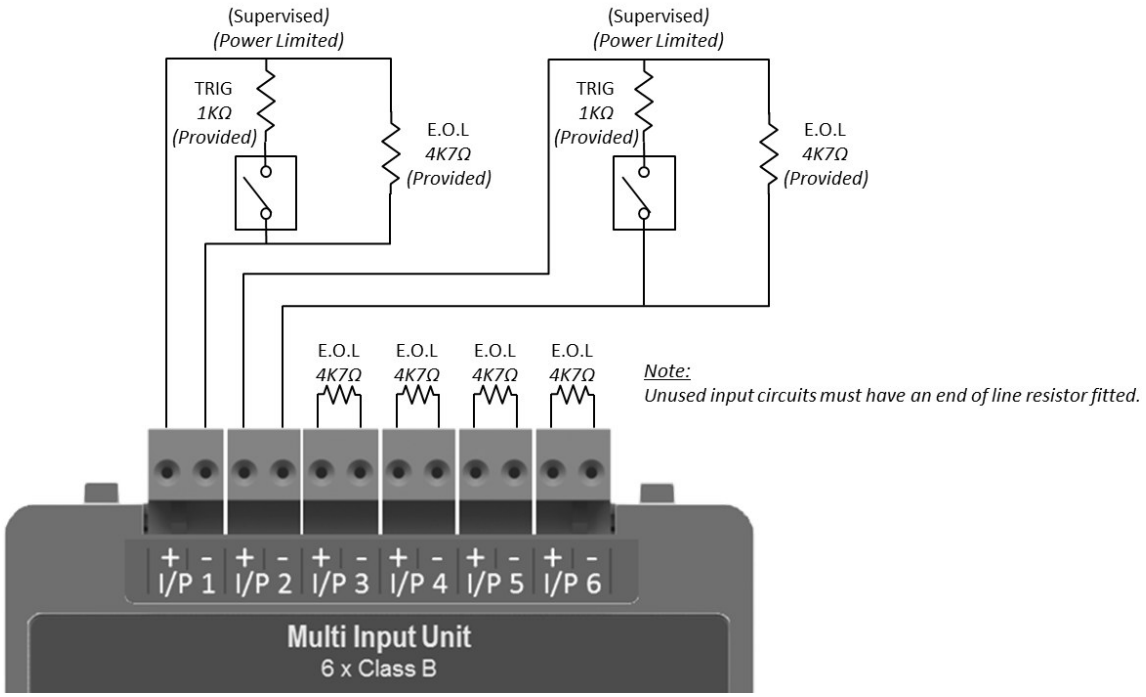
Specification	VL-MIM
Part Number	62-401
Design Standard	UL864 10th Edition
Approval	UL Laboratories
Wiring Class	6 x Class B [Power limited & Supervised]
Circuit Voltage	24VDC Nominal (16V - 24.5V with EOL fitted)
Input Max Line Impedance	10Ω
End of Line Resistor	4K7Ω
Triggering Resistor	1KΩ
Operating Temperature	0˚C (32˚F) to 49˚C (120˚F)
Max Humidity	95% Non-Condensing
Size (mm) (HxWxD)	103mm x 97mm x 46mm
Weight	0.2KG
Recommended Cable Sizes	22 AWG to 18 AWG (0.3mm² to 0.8mm²)

Interior Panel View



Typical Wiring Diagram

(For more information on wiring, please refer to the VL-MIM installation guide (Doc:_____)



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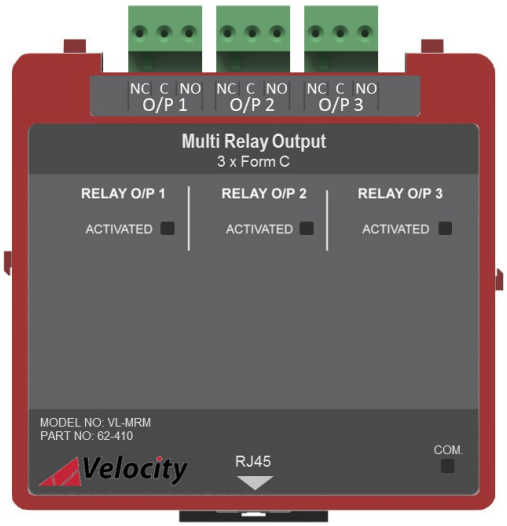
MULTI RELAY MODULE - FORM C VL-MRM

Description

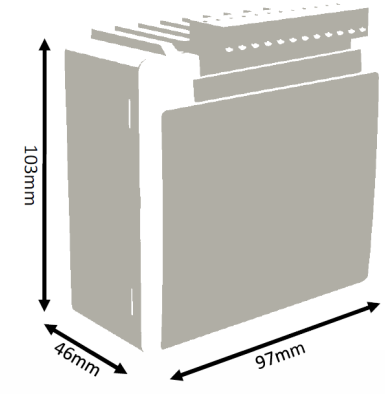
The VL-MRM is a relay module that is designed to be DIN mounted inside of a Velocity control panel. It's powered and is interfaced to the Velocity MMP via a RJ45 connection. The module has three form C relays which can be typically used to control lift operation during an alarm, start fire pumps or stop ventilation fans etc. Each relay output can be configured as a common alarm, common trouble, common supervisory or a programmable output via the Velocity MMP settings.



Features

- Designed to meet UL864 10th Edition requirements.
- 3 x Form C relay outputs.
- Each relay can be programmed to activate on alarm, supervisory, or trouble.
- Extensive front unit status indications (See table below).
- Quick and easy to install by plugging the RJ45 cable into the module and control panel (cable supplied with unit).

Dimensions



Front Unit Indications

LED Indication	Description
Activated (Red)	On steady when the relay is active for each relay.
Com. (Green)	Pulses to show communication between the module and the motherboard.

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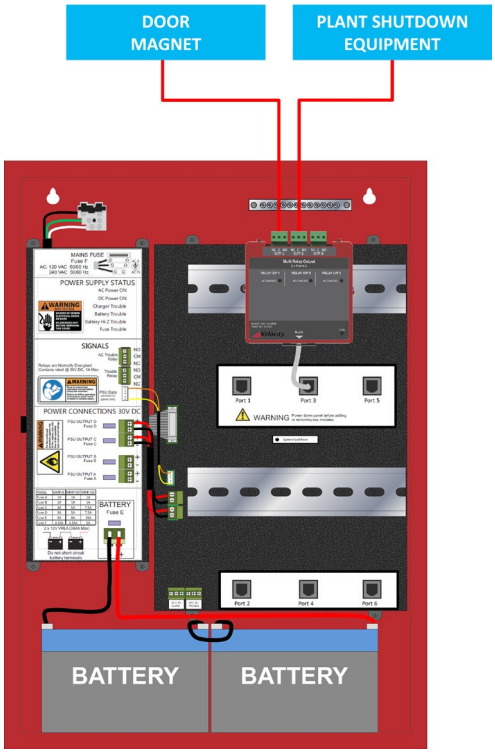
Specification

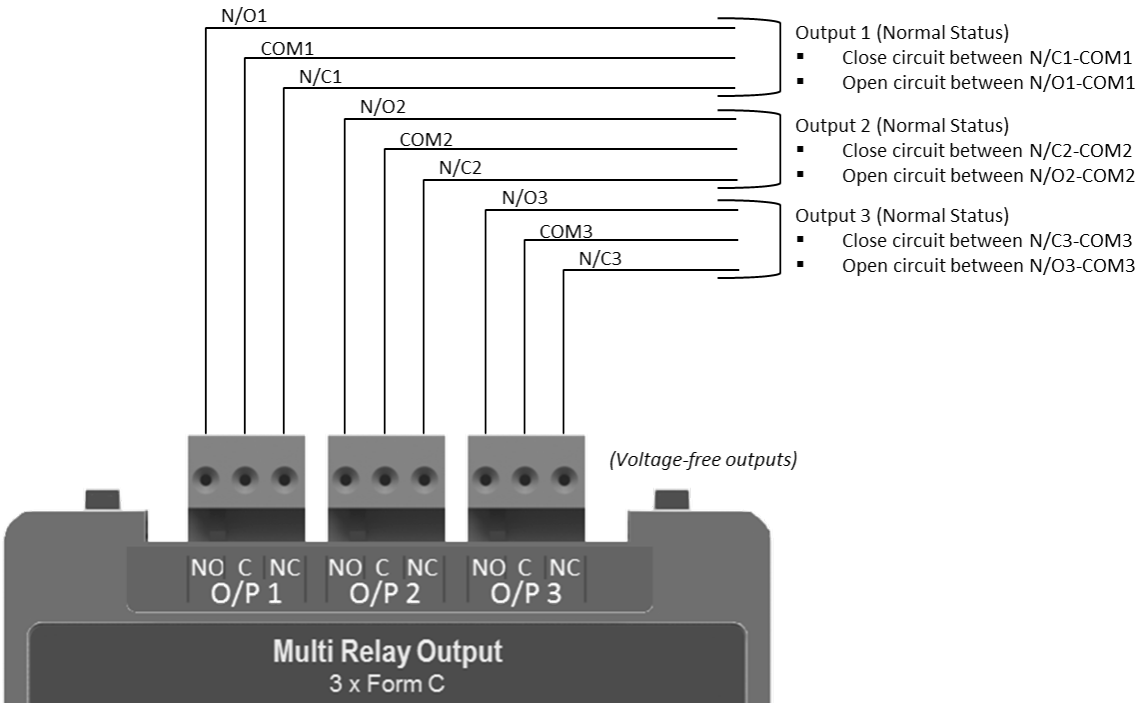
Specification	VL-MRM
Part Number	62-410
Design Standard	UL864 10th Edition
Approval	UL Laboratories
Relay Type	Form C x 3
Switching Capacity	5 A, 30 VDC (resistive) 5 A, 250 VAC (general use)
Operating Temperature	0˚C (32˚F) to 49˚C (120˚F)
Max Humidity	93% Non-Condensing
Size (mm) (HxWxD)	103mm x 97mm x 46mm
Weight	0.2KG
Terminal Wiring Size	18 AWG to 14 AWG (0.8mm² to 2.5mm²)
Relay Modes	Common alarm, common trouble, Common supervisory or Programmable

Interior Panel View



Typical Wiring Diagram

(For more information on wiring, please refer to the VL-MRM installation guide (Doc:_____)



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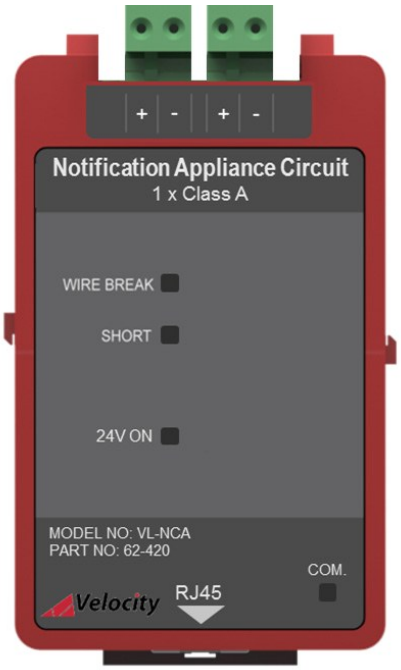
NOTIFICATION APPLIANCE CIRCUIT MODULE - CLASS A VL-NCA

Description

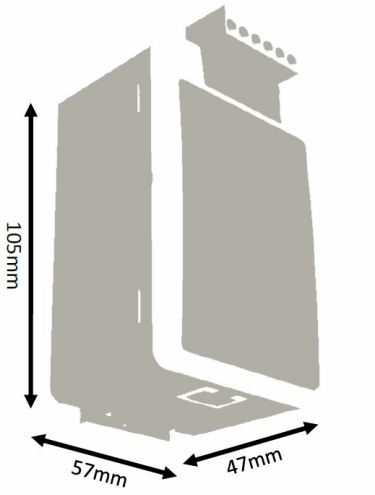
The plug-in VL-NCA module provides power for, and handles communications to the non-addressable notification appliances. It has one notification appliance circuit that can be wired in the class A configuration. Up to a maximum of 1A can be connected to a single class A circuit. The circuit is supervised for open, short and earth trouble conditions and will report this status back to a Velocity MMP fire alarm control panel. An additional feature that is included in the VL-NCA module is that it has the ability to be programmed as a 24v auxiliary special application class A output, which can be used to provide power to external equipment.



Features

- Designed to meet UL864 10th Edition requirements.
- Bulit-in synchronization circuitry (only compatible with Velocity devices).
- Can be programmed for either unsynchronized bells or synchornized horns/chimes & beacons.
- 1 x Class a NAC output circuit (1A maximum load).
- Extensive front unit status indications (see table below).
- Can be programmed as a 24v auxiliary output (1A maximum load).
- Quick and easy to install by plugging the RJ45 cable into the module and control panel (cable supplied with unit).
- Power Limited.

Dimensions



Front Unit Indications

LED Indication	Description
Wire Break (Yellow)	Flashing yellow when a wire break in the circuit is detected.
Short (Yellow)	Flashing yellow when a short in the circuit is detected.
24v On (Green)	Flashing green when the module is programmed as an unsynchronised bell output. Solid green when the module is programmed to provide a 24v auxiliary output.
Com. (Green)	Pulses green to show communication between the module and the motherboard.

NOT TO BE USED FOR INSTALLATION PURPOSES.
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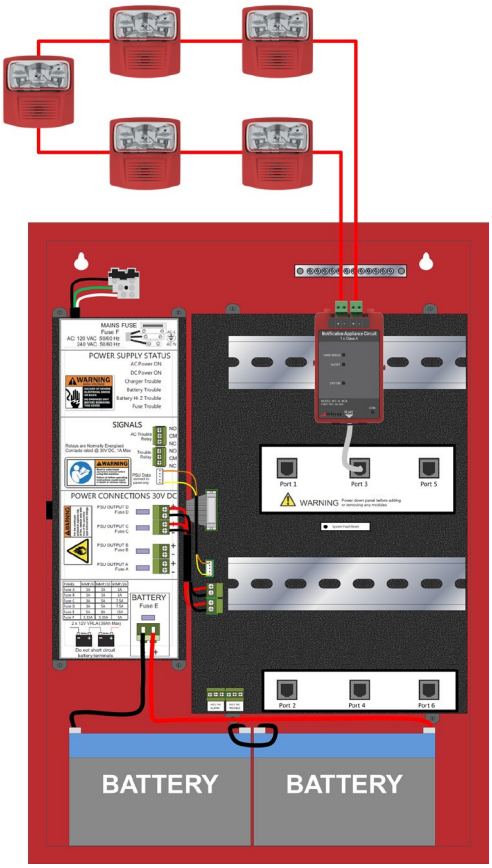
Specification

Specification	VL-NCA
Part Number	62-420
Design Standard	UL864 10th Edition
Approval	UL Laboratories
Circuit Type	Regulated 24V DC. Power Limited & Supervised.
Maximum NAC Current	1A
Maximum RMS current for a single notification appliance	700mA
Maximum Line Impedance	1.8Ω total (0.9Ω per core)
Wiring Class	1 x Class A [Power limited & Supervised]
Special Applications	Auxiliary 24 VDC Output [Power limited & Unsupervised]
Synchronisation	Selectable at each module as :- Sounder (Uses synchronisation protocol for horn strobes) or Bell (Will pulse the output voltage to give the required temporal pattern)
Operating Temperature	0˚C (32˚F) to 49˚C (120˚F)
Max Humidity	93% Non-Condensing
Size (mm) (HxWxD)	105mm x 57mm x 47mm
Weight	0.15KG
Terminal Wiring Size	18 AWG to 14 AWG (0.8mm² to 2.5mm²)

Interior Panel View

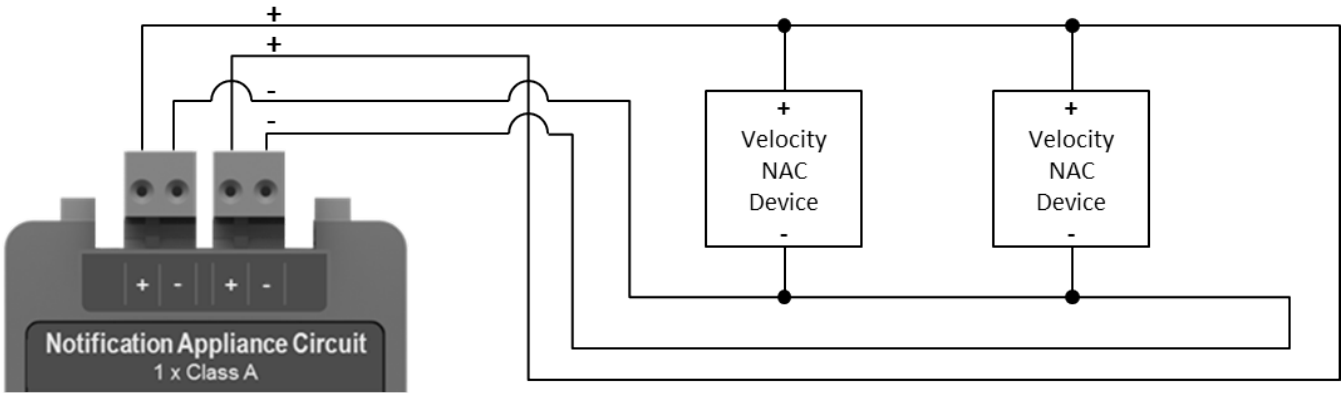


Compatible Devices/Accessories

Model No.	Description
VL-MH-W	Mini Horn Notification Appliance (White)
VL-MH-R	Mini Horn Notification Appliance (Red)
VL-W-C-W	Chime Notification Appliance (Wall Mount) (White)
VL-W-C-R	Chime Notification Appliance (Wall Mount) (Red)
VL-W-M-W	Multi-Tone Chime Notification Appliance (Wall Mount) (White)
VL-W-M-R	Multi-Tone Chime Notification Appliance (Wall Mount) (Red)
VL-W-CS-W	Chime & Multi-Candela Notification Appliance (Wall Mount) (White)
VL-W-CS-R	Chime & Multi-Candela Notification Appliance (Wall Mount) (Red)
VL-C-CS-W	Chime & Multi-Candela Notification Appliance (Ceiling Mount) (White)
VL-C-CS-R	Chime & Multi-Candela Notification Appliance (Ceiling Mount) (Red)
VL-W-MS-W	Multi-Tone & Multi-Candela Notification Appliance (Wall Mount) (White)
VL-W-MS-R	Multi-Tone & Multi-Candela Notification Appliance (Wall Mount) (Red)
VL-C-MS-W	Multi-Tone & Multi-Candela Notification Appliance (Ceiling Mount) (White)
VL-C-MS-R	Multi-Tone & Multi-Candela Notification Appliance (Ceiling Mount) (Red)
VL-W-S-W	Multi-Candela Notification Appliance (Wall Mount) (White)
VL-W-S-R	Multi-Candela Notification Appliance (Wall Mount) (Red)
VL-C-S-W	Multi-Candela Notification Appliance (Ceiling Mount) (White)
VL-C-S-R	Multi-Candela Notification Appliance (Ceiling Mount) (Red)

▪ Typical Wiring Diagram (Class A) - Synchronized Velocity NAC Devices

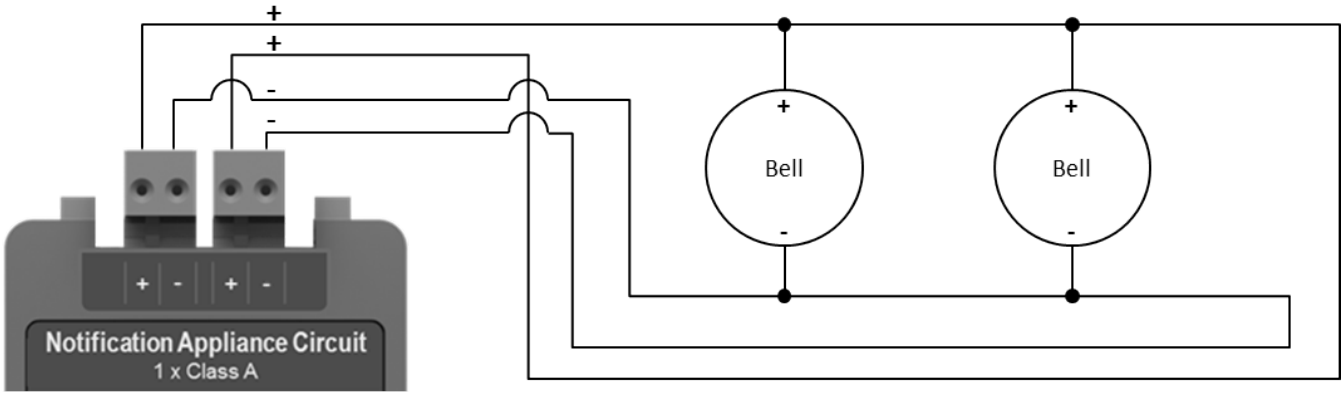
(For more information on wiring, please refer to the VL-NCA installation guide (Doc:_____)



(VL-NCA)
(Configured for synchronized Velocity NAC devices)

(Supervised)
(Synchronized)
(Power Limited)

▪ Typical Wiring Diagram (Class A) - Unsynchronized Velocity Bell Devices

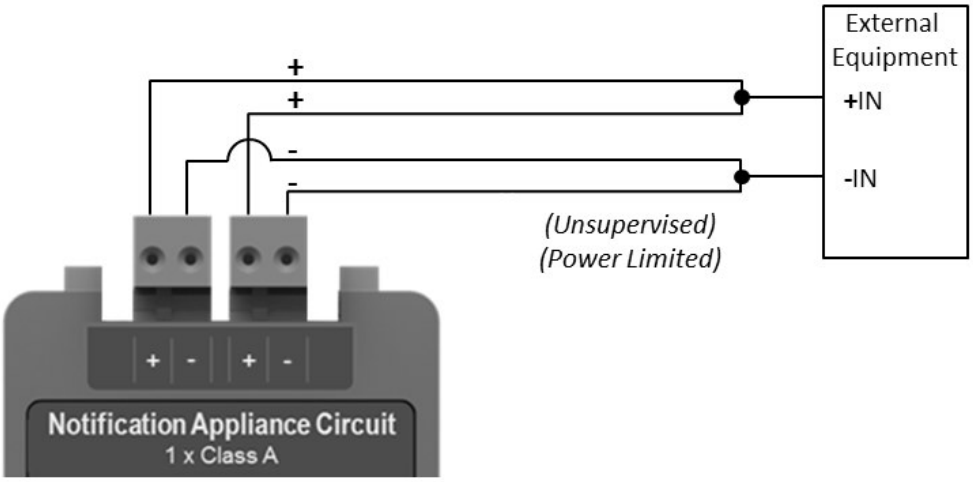


(VL-NCA)
(Configured for unsynchronized bell devices)

(Supervised)
(Unsynchronized)
(Power Limited)

▪ Typical Wiring Diagram (Auxiliary 24VDC)

(For more information on wiring, please refer to the VL-NCA installation guide (Doc:_____)



(VL-NCA)
(Configured as a 24v Auxiliary Output)

to program
DC output

All specifications are subject to change without any notice.
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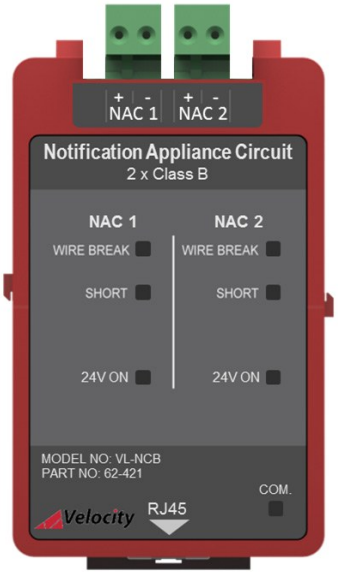
NOTIFICATION APPLIANCE CIRCUIT MODULE - CLASS B VL-NCB

Description

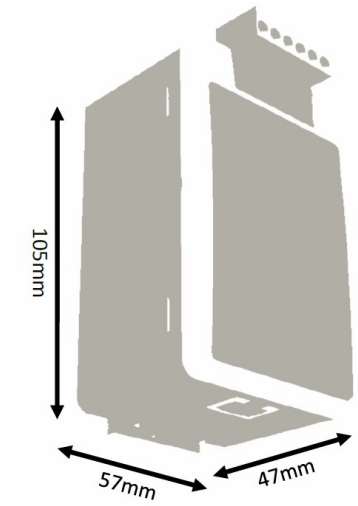
The plug-in VL-NCB module provides power for, and handles communications to the non-addressable notification appliances. It has two notification appliance circuits' that can be wired in the class B configuration. Up to a maximum of 500mA can be connected to each class B circuit. Each circuit is supervised for open, short and earth trouble conditions and will report this status back to a Velocity MMP fire alarm control panel. An additional feature that is included in the VL-NCB module is that it has the ability to program a circuit as a 24v auxiliary special application class B output, which can be used to provide power to external equipment.



Features

- Designed to meet UL864 10th Edition requirements.
- Bulit-in synchronization circuitry (only compatible with Velocity devices).
- Can be programmed for either unsynchronized bells or synchornized horns/chimes & beacons.
- 2 x Class B NAC output circuit (500mA maximum load
- per circuit).
- Extensive front unit status indications (see table below).
- Each circuit can be programmed as a 24v auxiliary (500mA maximum load per circuit).
- Quick and easy to install by plugging the RJ45 cable into the module and control panel (cable supplied with unit).
- Power Limited.

Dimensions



Front Unit Indications

LED Indication	Description
Wire Break (Yellow)	Flashing yellow when a wire break in the circuit is detected.
Short (Yellow)	Flashing yellow when a short in the circuit is detected.
24v On (Green)	Flashing green when the module is programmed as an unsynchronised bell output. Solid green when the module is programmed to provide a 24v auxiliary output.
Com. (Green)	Pulses green to show communication between the module and the motherboard.

NOT TO BE USED FOR INSTALLATION PURPOSES.
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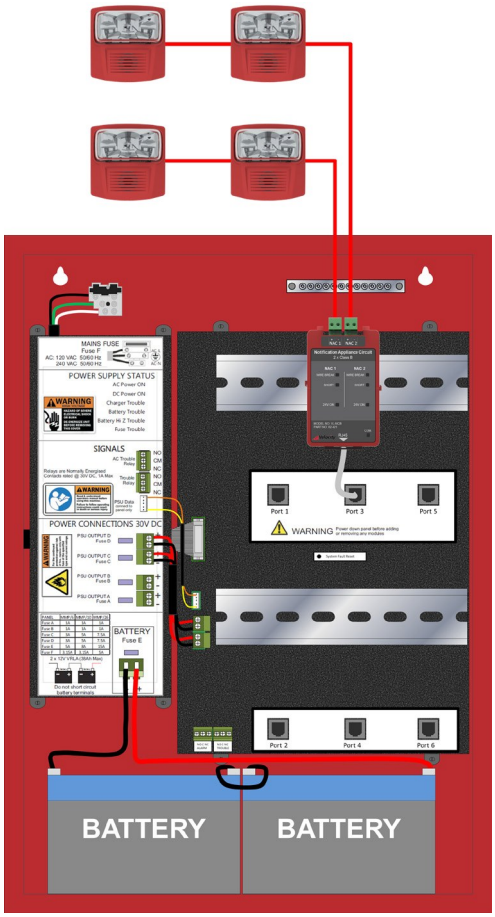
Specification

Specification	VL-NCB
Part Number	62-421
Design Standard	UL864 10th Edition
Approval	UL Laboratories
Circuit type	Regul;ated 24V DC. Powe limited & Supervised.
Maximum NAC Current	2 x 500mA
Maximum RMS current for a single notification appliance	350mA
Maximum Line Impendance	3.6Ω (1.8Ω per core)
Wiring Class	2 x Class B [Power limited & Supervised]
Special Applications	Auxiliary 24 VDC Output [Power limited & Unsupervised]
Synchronisation	Selectable at each module as :- Sounder (Uses synchronisation protocol for horn strobes) or Bell (Will pulse the output voltage to give the required temporal pattern)
Operating Temperature	0˚C (32˚F) to 49˚C (120˚F)
Max Humidity	95% Non-Condensing
Size (mm) (HxWxD)	105mm x 57mm x 47mm
Weight	0.15KG
Terminal Wiring Size	18 AWG to 14 AWG (0.8mm² to 2.5mm²)

Interior Panel View

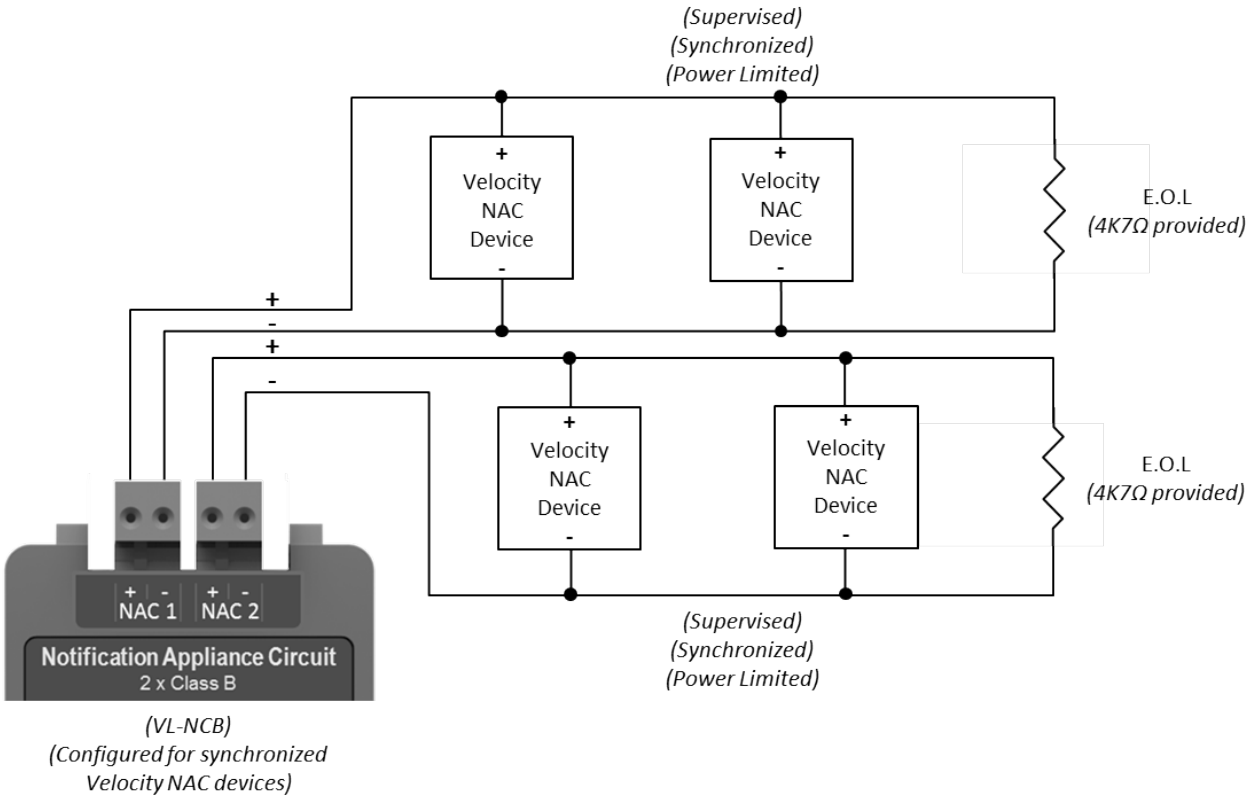


Compatible Devices/Accessories

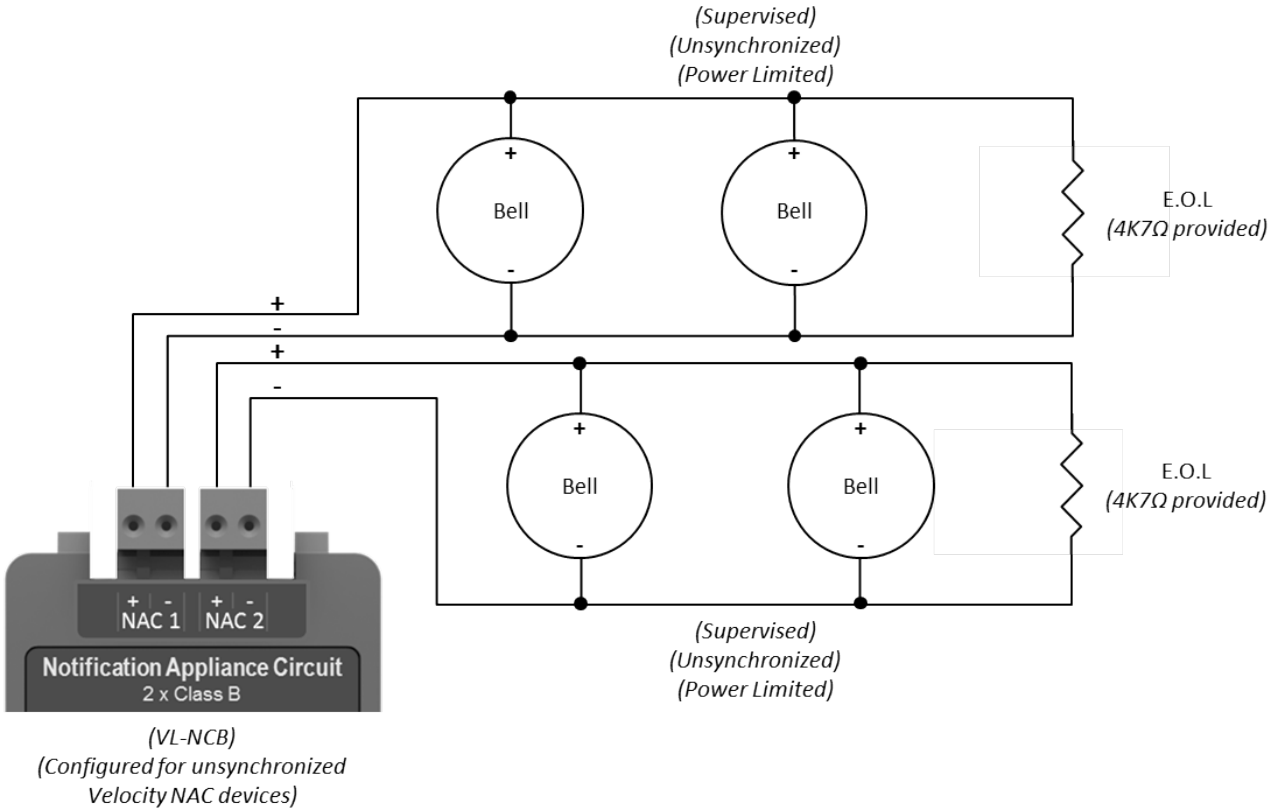
Model No.	Description
VL-MH-W	Mini Horn Notification Appliance (White)
VL-MH-R	Mini Horn Notification Appliance (Red)
VL-W-C-W	Chime Notification Appliance (Wall Mount) (White)
VL-W-C-R	Chime Notification Appliance (Wall Mount) (Red)
VL-W-M-W	Multi-Tone Chime Notification Appliance (Wall Mount) (White)
VL-W-M-R	Multi-Tone Chime Notification Appliance (Wall Mount) (Red)
VL-W-CS-W	Chime & Multi-Candela Notification Appliance (Wall Mount) (White)
VL-W-CS-R	Chime & Multi-Candela Notification Appliance (Wall Mount) (Red)
VL-C-CS-W	Chime & Multi-Candela Notification Appliance (Ceiling Mount) (White)
VL-C-CS-R	Chime & Multi-Candela Notification Appliance (Ceiling Mount) (Red)
VL-W-MS-W	Multi-Tone & Multi-Candela Notification Appliance (Wall Mount) (White)
VL-W-MS-R	Multi-Tone & Multi-Candela Notification Appliance (Wall Mount) (Red)
VL-C-MS-W	Multi-Tone & Multi-Candela Notification Appliance (Ceiling Mount) (White)
VL-C-MS-R	Multi-Tone & Multi-Candela Notification Appliance (Ceiling Mount) (Red)
VL-W-S-W	Multi-Candela Notification Appliance (Wall Mount) (White)
VL-W-S-R	Multi-Candela Notification Appliance (Wall Mount) (Red)
VL-C-S-W	Multi-Candela Notification Appliance (Ceiling Mount) (White)
VL-C-S-R	Multi-Candela Notification Appliance (Ceiling Mount) (Red)

▪ Typical Wiring Diagram (Class B) - Synchronized Velocity NAC Devices

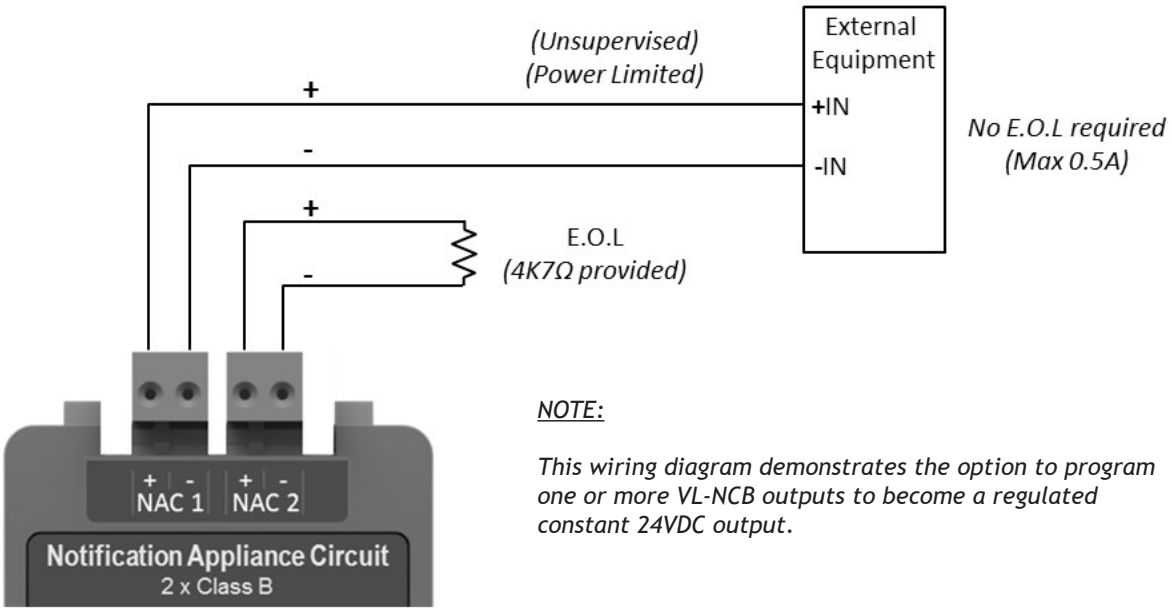
(For more information on wiring, please refer to the VL-NCB installation guide (Doc:_____)



▪ Typical Wiring Diagram (Class B) - Unsynchronized Velocity NAC Devices



▪ Typical Wiring Diagram (Auxiliary 24VDC)



(VL-NCB)
(NAC 1 configured for as a 24v Auxiliary Output)

NOTE:

This wiring diagram demonstrates the option to program one or more VL-NCB outputs to become a regulated constant 24VDC output.

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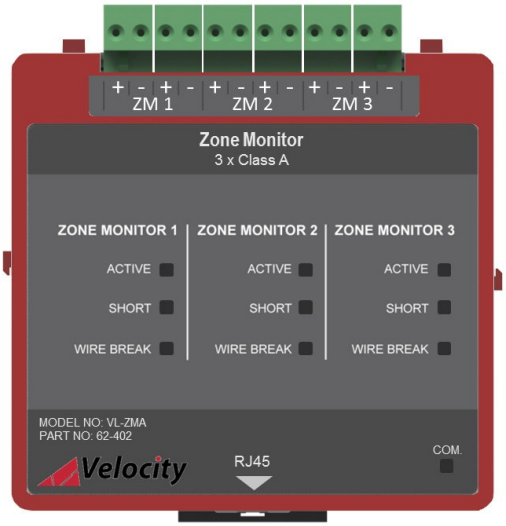
ZONE MONITOR - CLASS A VL-ZMA

Description

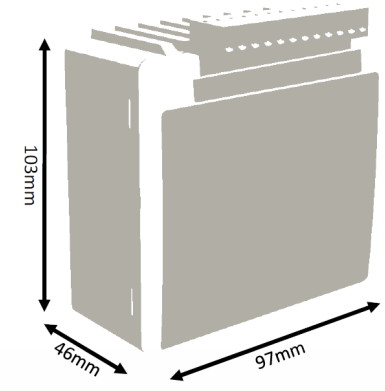
The VL-ZMA is a three zone monitor module that is designed to be DIN mounted inside of a Velocity control panel. It's powered and interfaced to the Velocity MMP via a RJ45 connection. The module has three class A zone monitors which can be typically used for conventional devices and/or for special detectors that are not available in addressable form such as UV detectors, aspiration and beam detectors etc. The module monitors and transmits the status (normal, open, short, or alarm) of zones with the detectors to a control panel. Each zone input can be programmed to either give a supervisory or alarm signal when active.



Features

- Designed to meet UL864 10th Edition requirements.
- 3 x Class A initiating device circuits.
- Each zone is monitored for open & short circuit.
- Extensive front unit status indications (see table below).
- Quick and easy to install by plugging the RJ45 cable into the module and control panel (cable supplied with unit).
- Each zone input can be configured as either Alarm or Supervisory.

Dimensions



Front Unit Indications

LED Indication	Description
Active (Red)	On steady when an alarm/supervisory on the zone is active.
Short (Yellow)*	Flashing when a short circuit condition has been detected.
Wire Break (Yellow)*	Flashing when an open circuit condition has been detected.
Com. (Green)	Pulses to show communication between the module and the motherboard.

** When a VL-ZMA circuit is disabled, the Short & Wire Break LED's will be on steady (Yellow)*

NOT TO BE USED FOR INSTALLATION PURPOSES.
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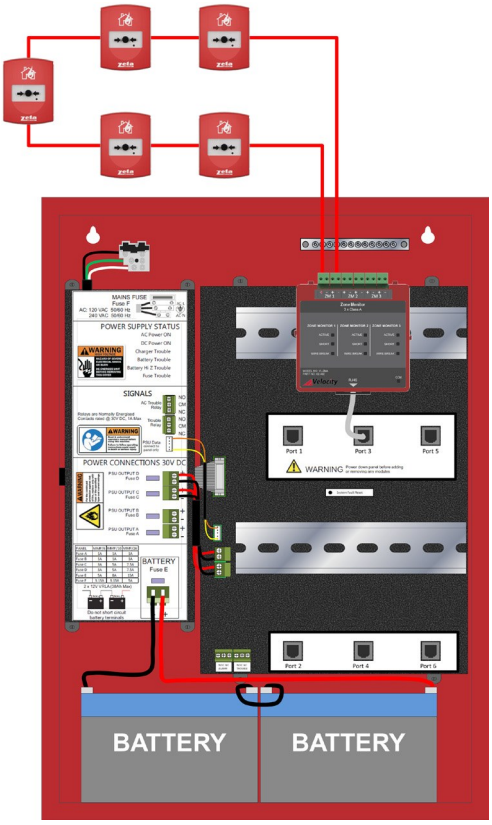
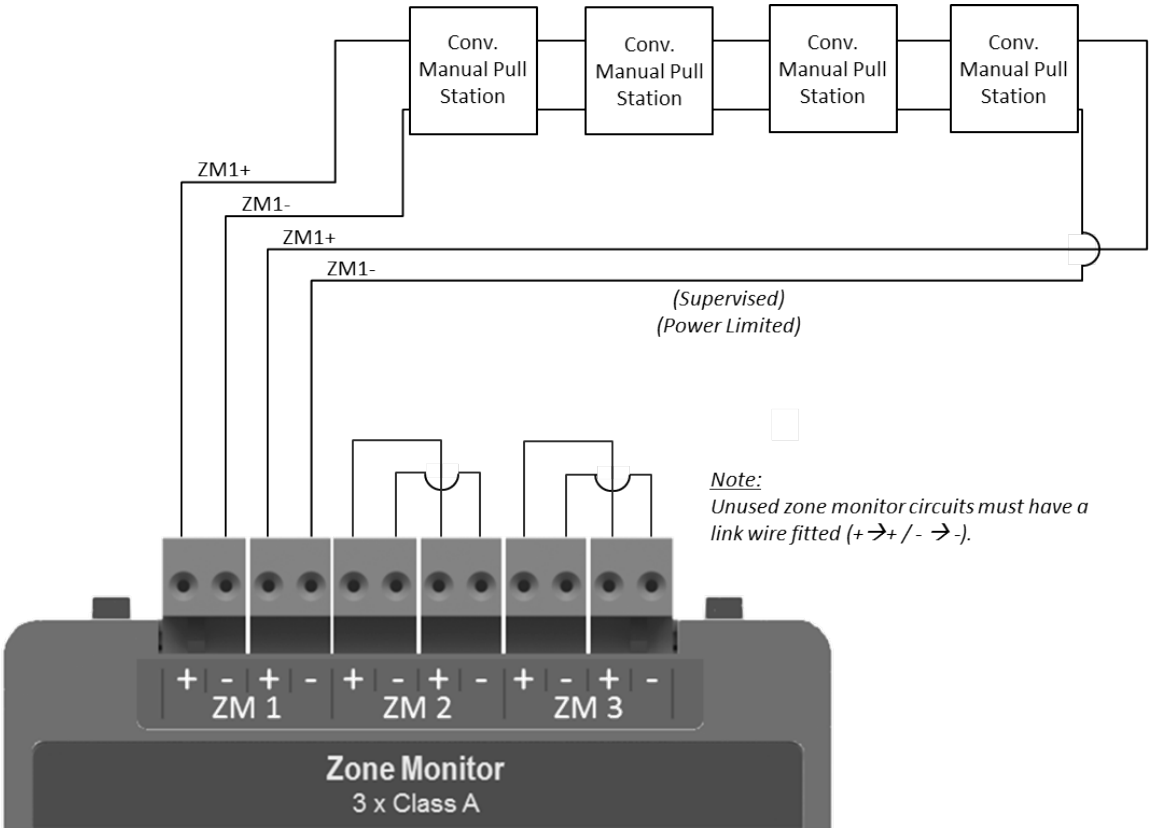
Specification

Specification	VL-ZMA
Part Number	62-402
Design Standard	UL864 10th Edition
Approval	UL Laboratories
Wiring Class	3 x Class A [Power Limited & Supervised]
Circuit Voltage	29VDC Nominal (19.5 - 30V)
Zone Max Current (under S/C conditions)	56mA
Zone Max Line Impedance	20Ω total (10Ω per core)
End of Line Resistor	N/A
Triggering Resistor	1KΩ
Operating Temperature	0˚C (32˚F) to 49˚C (120˚F)
Max Humidity	93% Non-Condensing
Size (mm) (HxWxD)	103mm x 97mm x 46mm
Weight	0.2KG
Recommended Cable Sizes	22 AWG to 14 AWG (0.3mm² to 2.5mm²)
Compatible Devices	VL-RS-01 (UL38 Listed)
Maximum Detectors Per Zone	20

Interior Panel View



Typical Wiring Diagram (Class A)



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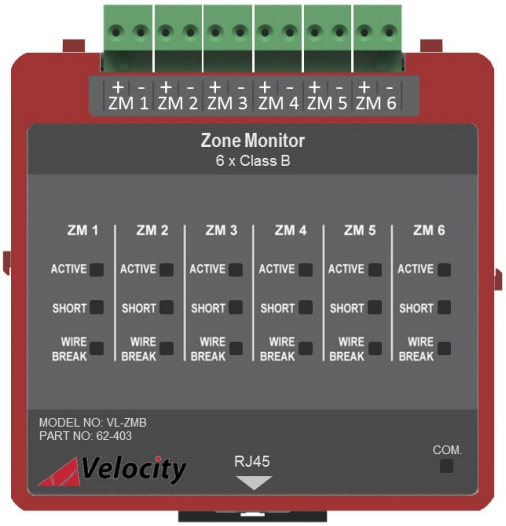
ZONE MONITOR - CLASS B VL-ZMB

Description

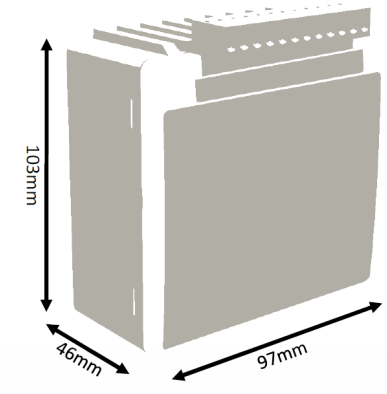
The VL-ZMB is a six zone monitor module that is designed to be DIN mounted inside of a Velocity control panel. It's powered and interfaced to the Velocity MMP via a RJ45 connection.
The module has six class B zone monitor's which can be typically used for conventional devices and/or for special detectors that are not available in addressable form such as UV detectors, aspiration and beam detectors etc. The module monitors and transmits the status (normal, open, short, or alarm) of a zone with the detectors to a control panel. Each zone input can be programmed to either give a supervisory or alarm signal when active.



Features

- Designed to meet UL864 10th Edition requirements.
- 6 x Class B initiating device circuits.
- Each zone is monitored for open & short circuit.
- Extensive front unit status indications (see table below).
- Quick and easy to install by plugging the RJ45 cable into the module and control panel (cable supplied with unit).
- Each zone input can be configured as either Alarm or Supervisory.

Dimensions



Front Unit Indications

LED Indication	Description
Active (Red)	On steady when an alarm/supervisory on the zone is active.
Short (Yellow)*	Flashing when a short circuit condition has been detected.
Wire Break (Yellow)*	Flashing when an open circuit condition has been detected.
Com. (Green)	Pulses to show communication between the module and the motherboard.

** When a VL-ZMB input is disabled, the Short & Wire Break LED's will be on steady (Yellow)*

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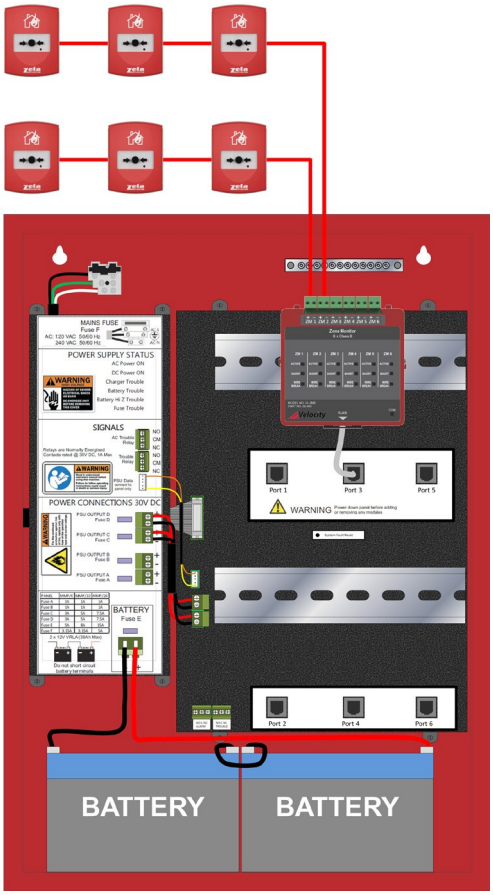
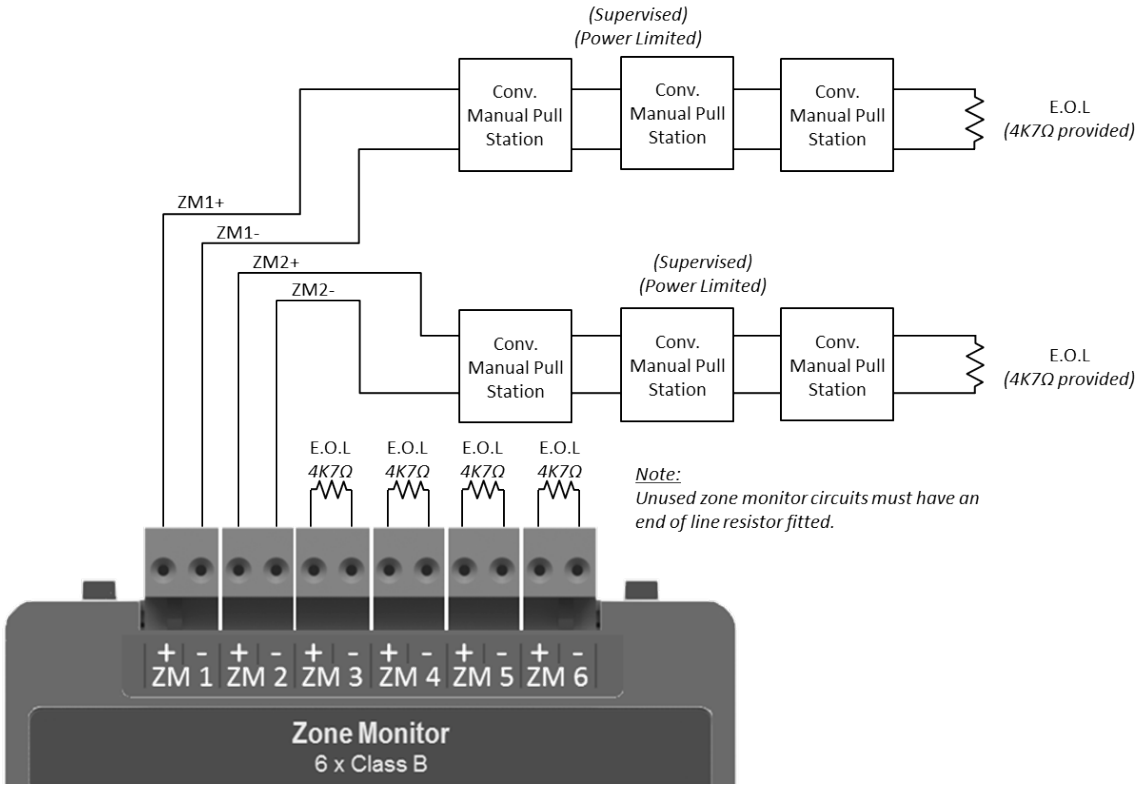
Specification

Specification	VL-ZMB
Part Number	62-403
Design Standard	UL864 10th Edition
Approval	UL Laboratories
Circuit Voltage	26VDC Nominal (17.5V - 26.5V with EOL connected)
Wiring Class	6 x Class B [Power Limited & Supervised]
Zone Max Current (under S/C conditions)	56mA
Zone Max Line Impedance	10Ω
End of Line Resistor	4K7Ω
Triggering Resistor	1KΩ
Operating Temperature	0˚C (32˚F) to 49˚C (120˚F)
Max Humidity	93% Non-Condensing
Size (mm) (HxWxD)	103mm x 97mm x 46mm
Weight	0.2KG
Recommended cable Sizes	22 AWG to 14 AWG (0.3mm² to 2.5mm²)
Compatible Devices	VL-RS-01 (UL38 Listed)
Maximum Detectors Per Zone	20

Interior Panel View



Typical Wiring Diagram (Class B)



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ADDRESSABLE PHOTOELECTRIC SMOKE DETECTOR VDOT-PY



Description

Introduction

The VDOT-PY is an attractively-styled, low profile, analog addressable, hotoelectric smoke detector for use with the VelocityMMP control panel series in analog fire alarm systems. This analog addressable photoelectric smoke detector has a specific detector address to provide exact detector locations throughout the installation. his allows for constant monitoring of the detector sensitivity and reports the detectors condition to the fire alarm control panel.

Detector Models

The VDOT-PY has a new sophisticated smoke chamber design and an orange sensor LED which can provide the same sensitive detection regardless of the type of smoke.

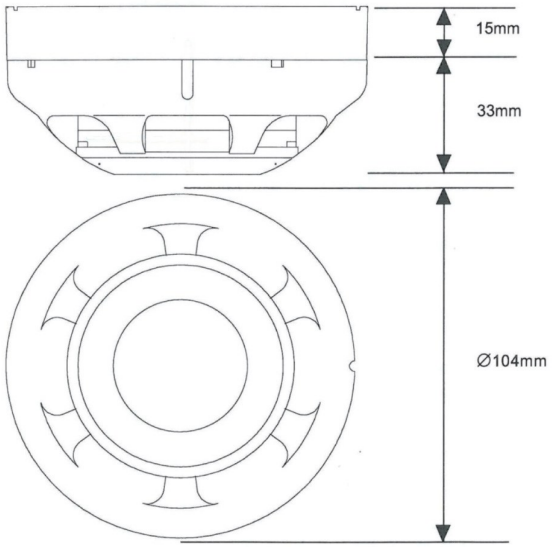
This detector has a chemically etched, stainless steel insect screen, therefore reducing the ingress of insects and airborne contaminants.

The VDOT-PY has two terminals for connection onto the two wire loop. The remaining terminal provides a switched current sink function which operates when the detector goes into alarm condition, suitable or the operation of an auxiliary function such as a remote indicator. Terminal 3 (RIL) is limited to 2mA.

Features

- Responds well to both black and white smoke.
- Low Profile, stylish appearance.
- Low monitoring current.
- OMNIVIEW™ 360º LED.
- Remote indicator output.
- Locking mechanism to avoid unauthorised removal.
- Supplied with protective dust cover.
- Address settable from 001 to 254 by a dedicated programmer.
- Automatic sensitivity compensation.
- Adjustable sensitivity via control panel software.
- Corresponds to auto-test function of Velocity MMP series control panel.

Dimensions:



Mounting Base Models

Model	Description	Instruction Manuals	Diameter	Number of Terminals
VDOT-UB4	Standard Mounting Base	GLT-299-7-6	104 mm (4 Inch)	4
VDOT-UB4-6*	Larger Mounting Base	GLT-299-7-7	160 mm (6 Inch)	4
VDOT-S6 BASE	Sounder Mounting Base	GLT-299-7-10	160 mm (6 Inch)	5
VDOT-STB-RL	Relay Mounting Base	GLT-299-7-9	104 mm (4 inch)	6
VDOT-STB-SCI	Short Circuit Isolator Base	GLT-299-7-8	104 mm (4 Inch)	4
VDOT-ADP**	Adaptor Mounting Plate	GLT-299-7-11	160 mm (6 Inch)	NONE

* *The Model VDOT-UB4-6 base is intended for applications where a 4 inch square or octagonal electrical junction box is required.*

** *The VDOT-ADP Adaptor Mounting Plate is intended for the VDOT-STB-RL Relay Mounting Base and VDOT-STB-SCI Short Circuit Isolator base for applications where a 4 inch square or octagonal electrical juntion box is required.*

NOT TO BE USED FOR INSTALLATION PURPOSES.
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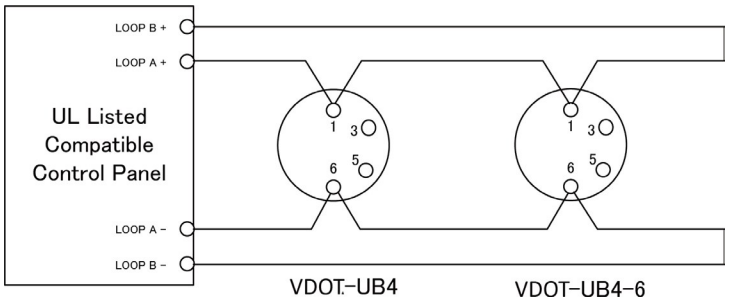
Wiring

SLC Line impedance is 50Ω at maximum and the maxiumum length is 2km. Use cable AWG12-20 for wiring.



Terminals

The VDOT-PY detectors all have three terminal connections and the terminals are configured as follows:

Terminal	Description
1	SLC Positive
6	SLC Negative
3	To activate the VDOT-STB-RL Relay Base

Note: Terminal 3 is used for the Relay Mouting Base VDOT-STB-RL

▪ Specifications

Specifications	VDOT-PY
Detector Element	LED : Peak wavelength 630 nm Photodiode : High-output, high-speed silicon photodiode
LED Visual Indicator	Stand-by - Flashing green LED Alarm - Solid red LED with flashing green
Operating Voltage	20 VDC to 38 VDC Peak
System Voltage	35 VDC
Stand-by Current	200 μA
Alarm Current (with red LED)	5 mA
Sensitivity	0.69 %/Ft. to 2.86 %/Ft
Operating Temperature	-10 °C to +55 °C (14 °F to 131 °F)
Storage Temperature	-20 °C to +60 °C (-4 °F to 140 °F)
Relative Humidity	≤ RH 95 % non-condensing
Addressing Method	Soft addressing, Non-Volatile EEPROM
Address	1 to 254 (decimal)
Maximum Quantity Per loop	254 units
Material	IDEMITSUKOSAN R2200
Dimensions	φ104 mm x H 33 mm (Detector head only) φ104 mm x H 48 mm (Detector head and VDOT-UB4 Base)
Weight	105 g (Detector head only) 170 g (Detector head and VDOT-UB4)
Standard	UL268

All specifications are subject to change without any notice.
For more information, contact with VELOCITY.

Velocity® DETECTION OVER TIME
Zeta Alarms Limited
72-78 Morfa Road, Swansea
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UL RESETTABLE CONVENTIONAL CALL POINT / NO/NC CONTACT VR-Rx-01



③ Key Features

- Resettable call point simulates break glass activation with no broken glass while offering the user the benefits and environmental advantages of a resettable element.
- Three year guarantee against breakage of polycarbonate in normal use (one year on electromechanical and electronic components).
- An indicator drops into view at the top of the window upon activation. The unit simply resets with a key and is immediately ready for re-use.
- Extremely attractive, high value look and feel: glass appearance maintains operator deterrence, while a visible warning flag confirms activation.
- Easy installation with no glass elements that could be broken or incorrectly fitted.
- Versatile mounting plate fits U.S., European, double-gang and single-gang mounting box.
- Powered by 2-wire DC 24V.
- Five colours available.

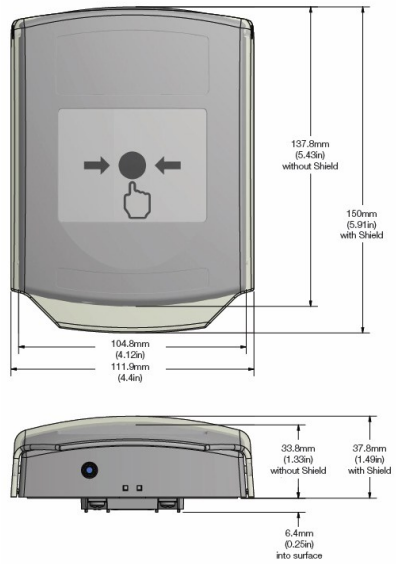
③ Description

The Global ReSet is a unique resettable call point that simulates break glass activation with no broken glass. It is safe to use in areas where glass cannot be used such as food processing plants and common areas. As the units can be simply reset with a key, they provide an ideal solution for locations that suffer from a high number of false activations such as schools, shopping centres and public areas.

③ How it Works

The 'ReSet' uses a simple yet ingenious patented mechanism which consists of a rigid plastic operating element and an over the center spring mechanism. This arrangement provides the feel of real action on operation and simulates break glass activation. Global ReSet is a single-action non-coded initiating station. The signal is activated by pushing the clear operating plate (indicated by the arrows and hand symbol). Once activated, a yellow and black warning flag drops into view. To reset, a special key is inserted into a hole in the bottom and rotated. This eliminates the maintenance requirement to replace broken glass.

③ Dimensions



③ Product Codes

Flush Mount	VR-RF-01
Surface Mount	VR-RS-01

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SINGLE & DUAL ACTION PULL STATIONS

VDOT-42SK*



Dual Action

③ Key Features

- Single or Dual Action.
- Screw Terminal Connections.
- DC and AC Voltage Contact Ratings.
- Gold Plated Alarm Contacts.
- Surface or Weatherproof Back-box.

③ Specifications

Listings	UL, ULC, FM, CSFM, MEA
Temperature	-40^0 to 150^{0}F; 40^0 to 65^{0}C, 90% relative humidity @ 100^{0}F; 38^{0}C
Switch rating	2 Amps @ 125 VDC, 2 Amps @ 240 VAC,
Screw Terminal Block	#22 to #14 gauge wire
Weight	1.2 lbs, 0.55 kg
Dimensions (Pull Station)	12.1 x 8.3 x 2.8 cm
Dimensions (Backboxes)	12.1 x 8.3 x 5.7 cm (Outside) 5.4 cm (Inside Depth)
Lock	CAT30 aka “B” keylock is standard
Break-Rod	Optional, not required for operation. One break-rod is included with each pull station

③ Description

The VDOT-42SK* Series are key-reset, manual pull stations designed to meet the requirements for many applications. They are constructed from a rugged, but lightweight, die-cast metal alloy for increased performance and longevity. This series of stations is available in single action (PULL lever) or dual action (PUSH bar and PULL lever) models.

Velocity VDOT Series pull stations include a terminal strip that can accommodate wiring from #22 to #14 AWG. Contacts are gold plated to minimize risk of corrosion. All models have been tested by UL and found in compliance with the pull force requirements of the Americans with Disabilities Act (ADA).

③ Operation

The stations are operated by pulling the handle marked “PULL” on the front of the unit as far down as it will go. At that point, the handle will lock in place and is easily visible from up to 50 feet. The activation handle is reset by opening the station with the key, placing the “PULL” handle to its normal upright position and relocking the station. On the dual action, the “PUSH” bar moves inward allowing the “PULL” handle to be operated by a single hand.

③ Mounting Configurations

The stations are operated by pulling the handle marked “PULL” on the front of the unit as far down as it will go. At that point, the handle will lock in place and is easily visible from up to 50 feet. The activation handle is reset by opening the station with the key, placing the “PULL” handle to its normal upright position and relocking the station. On the dual action, the “PUSH” bar moves inward allowing the “PULL” handle to be operated by a single hand.



Single Action

③ Product Codes

Dual Action*	VDOT-42SK1
Single Action*	VDOT-42SK2
Indoor Back Box	VDOT-32S
Outdoor Back Box	VDOT-WP

All specifications are subject to change without any notice.
For more information, contact with VELOCITY.

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Velocity® DETECTION OVER TIME

HIGH Secure System
Your Security, Our highest priority

SINGLE & DUAL ACTION PULL STATIONS

VDOT-42SK*



Dual Action

③ Key Features

- Single or Dual Action.
- Screw Terminal Connections.
- DC and AC Voltage Contact Ratings.
- Gold Plated Alarm Contacts.
- Surface or Weatherproof Back-box.

③ Specifications

Listings	UL, ULC, FM, CSFM, MEA
Temperature	-40⁰ to 150⁰F; 40⁰ to 65⁰C, 90% relative humidity @ 100⁰F; 38⁰C
Switch rating	2 Amps @ 125 VDC, 2 Amps @ 240 VAC,
Screw Terminal Block	#22 to #14 gauge wire
Weight	1.2 lbs, 0.55 kg
Dimensions (Pull Station)	12.1 x 8.3 x 2.8 cm
Dimensions (Backboxes)	12.1 x 8.3 x 5.7 cm (Outside) 5.4 cm (Inside Depth)
Lock	CAT30 aka “B” keylock is standard
Break-Rod	Optional, not required for operation. One break-rod is included with each pull station

③ Description

The VDOT-42SK* Series are key-reset, manual pull stations designed to meet the requirements for many applications. They are constructed from a rugged, but lightweight, die-cast metal alloy for increased performance and longevity. This series of stations is available in single action (PULL lever) or dual action (PUSH bar and PULL lever) models.

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Dual Action*	VDOT-42SK1
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Indoor Back Box	VDOT-32S
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Distributed By

NON ADDRESSABLE MINI HORN NOTIFICATION APPLIANCE VL-MH



Features:

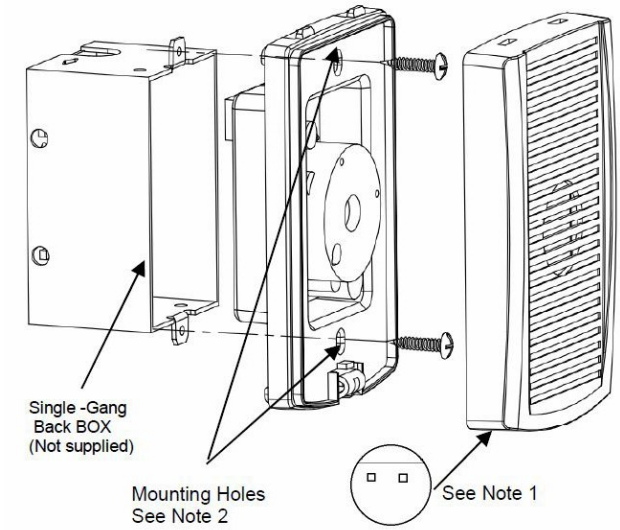
- Designed to meet UL requirements.
- Compatible with all Velocity NAC.
- Small & Compact design.
- Adjustable sound volume output levels.
- Designed to be wall mounted.
- Indoor use only.
- Powered by 2-wire DC 24V.
- Can be installed in a standard single gang box.
- Horns on the same NAC can be synchronized.

Description

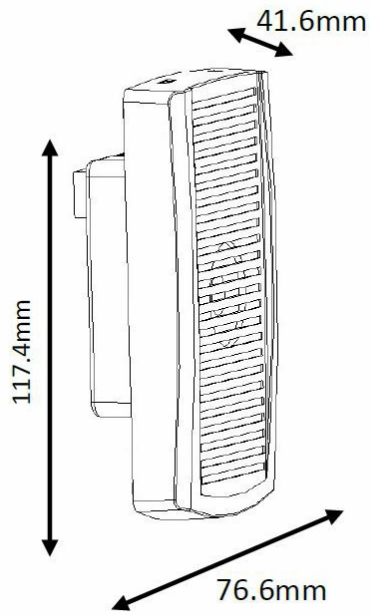
The VL-MH is an indoor only, 2-wired DC 24V non-addressable alarm notification appliance. It has the ability to adjust the sound volume output levels, and is intended to be mounted or installed onto a wall. It has been designed to be connected to a Velocity control panel NAC, where the sound between horns in the same circuit area can be synchronized. Caution: When an alarm signal is emitted, it means there may be an emergency, and should be payed attention to immediately.

Mounting

Products can be installed in standard single gang back box. Before installing and wiring, the power of the NAC must be powered off. After the completion of the terminal wiring, ensure that the terminals are locked.



Dimensions



Note:
Note 1: To remove the cover, depress the snap at the top of the Minihorn with a key(or flat tip screwdriver) while pulling the cover up with the other hand.

Note 2: The Minihorn attaches directly to a standard single-gang box (not supplied) flush mounted or surface mounted. Attach the mini horn to the electrical box using the two screws supplied.

NOT TO BE USED FOR INSTALLATION PURPOSES.
Velocity reserves the right to make changes at any time without notice in prices, colours, materials, components, equipment, specifications and models and also to discontinue models.

Specifications

Specification	VL-MH
Colour	White or Red Available
Design Standard	UL 464
Approval	UL Laboratories
Nominal Voltage	Regulated 24V DC
Operating Voltage Range	Regulated 16 VDC to 33 VDC
Operating Temperature	32° to 120° F (0° to 49°C)
Humidity Range	10% to 93%, non-condensing at 100°F
Dimensions (HxWxD)	117.4mm × 76.6mm × 41.6mm
Terminal Wiring Size	18 AWG to 12 AWG
Mounting Position	Wall
Material	PA-763
IP Rating	23
Mouting Box	Single Gang Box

Product Codes

Mini Horn (White)	VL-MH-W
Mini Horn (Red)	VL-MH-R

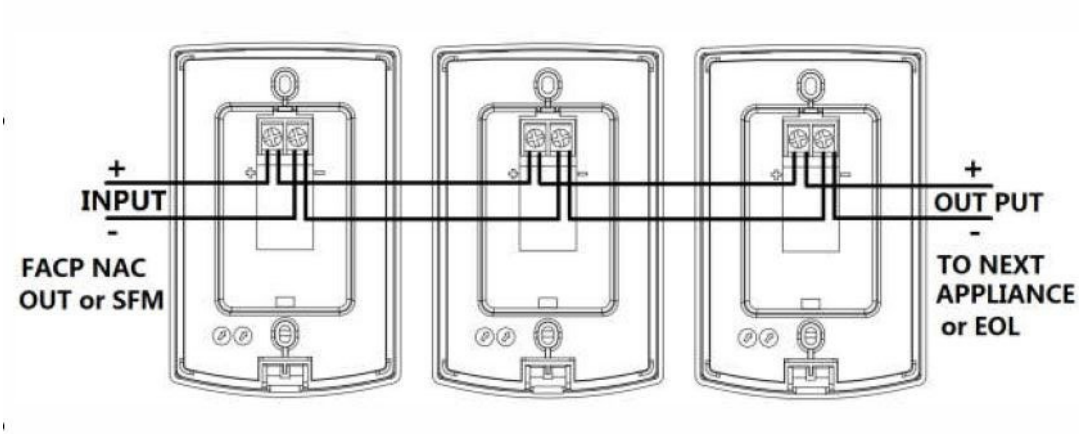
Sound Level

Output Sound Level	Maximum Operating Current RMS
High	55mA
Standard	55mA

Wiring

In order to ensure that the total current consumption of the circuit does not exceed the maximum load current of the NAC module, the device quantity must be considered in the design of system.

If a NAC has the maximum number of notification appliance connected, any loss of voltage must be calculated to ensure notification products work within their rated voltage range. Please refer to the FACP or NAC and other equipment installation instructions.



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VDOT-U5015

EXPLOSION PROOF SMOKE DETECTOR

Description

The Det-Tronics® SmokeWatch™ VDOT-U5015 Explosion Proof Smoke Detector has Division and Zone explosion-proof ratings and is suitable for industrial and commercial applications. The SmokeWatch smoke detector is designed to operate effectively with smoldering and rapidly growing fires and contains the ability to annunciate fault ensuring no undisclosed failures. The VDOT-U5015 Smoke Detector outputs include 0-20 mA, a localized LED, and relays.

Typical applications that use the VDOT-U5015 include:

- Combustible storage facilities
- Munitions manufacturing
- Volatile chemical storage
- Chemical processing plants
- petroleum refineries
- turbine enclosures
- Battery rooms
- HVAC applications

The hot-swappable sensor module is intrinsically safe and allows live maintenance while under power, without de-classifying the hazardous area. The integrated junction box is available in a variety of port configurations for simplified wiring and installation. See Figure 1 for all the U5015 Smoke Detector components.



Highlights

U5015 TECHNOLOGY FEATURES

- FM Approved for use in Class I, Deivision 1, and Zone 1 hazardous locations
- FM Approved for smoke detection performance
- IECEx Zone approved
- Trouble-free photoelectric operation
- 0-20 mA output for DCS integration
- Self-checking circuitry ensures reliable smkoe detection
- Alarm, Auxiliary, and Fault relays for controlling annunciating devices or fire panel interface
- LED provides a visual indication that an alarm has occured
- IP44 ingress protection level suitable for onshore or offshore requirements

BENEFITS

- Ideally suited for classified areas in the petrochemical, oil, and gas industry
- DCS, PLC, integration with milliamp, or relay outputs
- Rugged design for environmental extremes
- Visual confirmation of detector alarm
- Detects smoldering fires
- No undisclosed failures
- Able to mount on exterior of duct (with Q5016)

NOT TO BE USED FOR INSTALLATION PURPOSES.
Velocity reserves the right to make changes at any time without notice in prices, colours, materials, components, equipment, specifications and models and also to discontinue models.

Specifications

Operating Voltage	12-30 Vdc (24 Vdc nominal)
Power Consumption	3.5 watts maximum (2.75 watts at 24 Vdc)
Output Relays	Smoke alarm relay, Form C, 5 amperes at 30 Vdc: The smoke alarm relay has normally open/ normally closed contacts and normally de-energized operation. Fault relay, Form A, 5 amperes at 30 Vdc: The fault relay has normally open and normally energized operation. Auxiliary relay, Form C, 5 amperes at 30 Vdc: The auxiliary relay has normally open/ normally closed contacts and normally de-energized operation.
Temperature Range	Operating: -20°C to +65°C (-4°F to +149°F) Storgae: -55°C to +70°C (-67°F to +158°F)
humidity Range	5 to 95% relative humidity
Ingress Protection	IP44 (Applicable to ceiling mount only)
Current Output	0-20 mA (±0.30 mA) dc current, with maximum loop resistance of 300 ohms from 12-17.9 Vdc, 500 ohms from 18 to 19.9 Vdc, and 600 ohms from 20-30 Vdc
Terminals	UL/CSA rated 14-18 AWG or 2.5-0.75 mm^2 wire
Smoke Density	1.5% - 2.5% obscuration per foot (4.9% - 8.2% obscuration per meter)

Thread Options	3/4 inch NPT or M25
Enclosure Material	Polycarbonate / ABS - Smoke Detector Copper-free aluminium (painted) - Junction Box
Shipping Weight Approx)	7.85 lbs (3.56 kg)
Warranty Period	1 Year
Dimensions	See Figure 2
Certification	
FM APPROVED	IEC IECEx
Class 1 Div 1 Groups B, C, D (T4) Class 1 Div 2 Groups A, B, C, D (T4) Class 1 Zone 1 AEX db ia LLC (T4 Gb) Tamb -20°C to +65°C IP44	IECEx FMG15.0014X Ex db ia LLC T4 Gb Tamb - 20°C to +65°C IP44

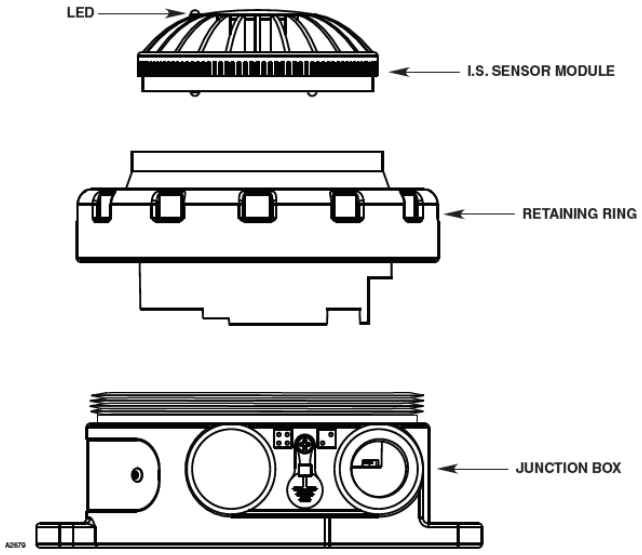

Figure 1—U5015 Components

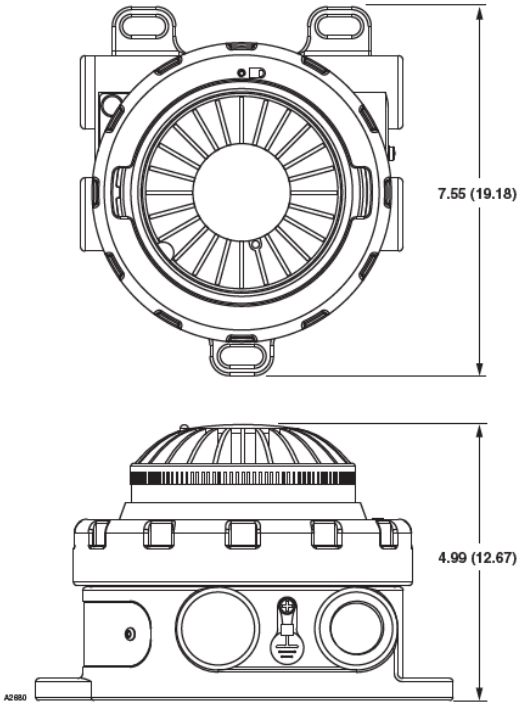

Figure 2—U5015 Dimensions in Inches (cm)

All specifications are subject to change without any notice.
For more information, contact with VELOCITY.

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Distributed By

VDOT-U5015

EXPLOSION PROOF SMOKE DETECTOR



Features

- FM Approved for use in Class I, Division 1, and Zone hazardous locations
- FM Approved for smoke detection performance
- IECEx Zone approved
- Trouble-free photoelectric operation
- 0-20 mA output for DCS integration
- Self-checking circuitry ensures reliable smoke detection
- Alarm, Auxiliary, and Fault relays for controlling annunciating devices or fire panel interface
- LED provides a visual indication that an alarm has occurred
- IP44 ingress protection level suitable for onshore or offshore
- requirements

Description

The Det-Tronics® SmokeWatchTM U5015 Explosion Proof Smoke Detector has Division and Zone explosion-proof ratings and is suitable for industrial and commercial applications. The SmokeWatch smoke detector is designed to operate effectively with smoldering and rapidly growing fires and contains the ability to annunciate fault ensuring no undis-closed failures. The U5015 Smoke Detector outputs include 0-20 mA, a localized LED, and relays.

Typical application that use the VDOT-U5015 include:

- Combustible storage facilities
- Munitions manufacturing
- Volatile chemical storage
- Chemical processing plants
- Petroleum refineries
- Turbine enclosures
- Battery rooms
- HVAC applications

The hot-swappable sensor module is intrinsically safe and allows live maintenance while under power, without de-classifying the hazardous area. The integrated junction box is available in a variety of port configurations for simplified wiring and installation. See Figure 1 for all the U5015 Smoke Detector components.

Benefits

- Ideally suited for classified areas in the petrochemical, oil,and gas industry
- DCS, PLC, integration with milliamp, or relay outputs
- Rugged design for environmental extremes
- Visual confirmation of detector alarm
- Detects smoldering fires
- No undisclosed failures
- Able to mount on exterior of duct (with Q5016)

NOT TO BE USED FOR INSTALLATION PURPOSES.
Velocity reserves the right to make changes at any time without notice in prices, colours, materials, components, equipment, specifi-cations and models and also to discontinue models.

Specifications

Specifications	VDOT-U5015	
Operating Voltage	12-30 Vdc (24 Vdc nominal)	
Power Consumption	3.5 watts maximum (2.75 watts at 24 Vdc)	
Output Relays	Smoke alarm relay, Form C, 5 amperes at 30 Vdc: The smoke alarm relay has normally open/normally closed contacts and normally de-energized operation	
	Fault relay, Form A, 5 amperes at 30 Vdc: The fault relay has normally open contacts and normally energized operation.	
	Auxiliary relay, Form C, 5 amperes at 30 Vdc: The auxiliary relay has normally open/normally closed contacts and normally de-energized operation.	
Temperature Range	Operating:	-20˚C to +65˚C (-4˚F to +149˚F)
	Storage:	-55˚C to +70˚C (-67˚F to +158˚F)
Humidity Range	5 to 95% relative humidity	
Ingress Range	IP44 (Applicable to ceiling mount only)	
Current Output	0-20 mA (±0.3 mA) dc current, with maximum loop resistance of 300 ohms from 12-17.9 Vdc, 500 ohms from 18 to 19.9 Vdc, and 600 ohms from 20-30 Vdc	
Terminals	UL/CSA rated for 14-18 AWG or 2.5-0.75 mm2 wire	
Smoke Density	1.5% - 2.5% obscuration per foot. (4.9% - 8.2% obscuration per meter)	
Thread Options	3/4 inch NPT or M25 Multi-port models available	
Enclosure Material	Polycarbonate / ABS - Smoke Detector Copper-free aluminum (painted) - Junction Box	
Shipping Weight (Approximate)	7.85 lbs (3.56 kg)	
Warranty Period	1 Year	
Dimensions	See Figure 2 Below	
Certification	FM APPROVED	Class 1 Div 1 Groups B, C, D (T4) Class 1 Div 2 Groups A, B, C, D (T4) Class 1 Zone 1 AEX db ia IIC (T4 Gb) Tamb -20˚C to +65˚C IP44
	IEC IECEx	IECEx FMG15.0014X Ex db ia IIC T4 Gb Tamb -20˚C to +65˚C IP44
	CSA	Class - C481804 - Signal Appliances - Systems - For Hazardous Locations Ex db ia IIC T4 IP44 Tamb -20˚C to +65˚C

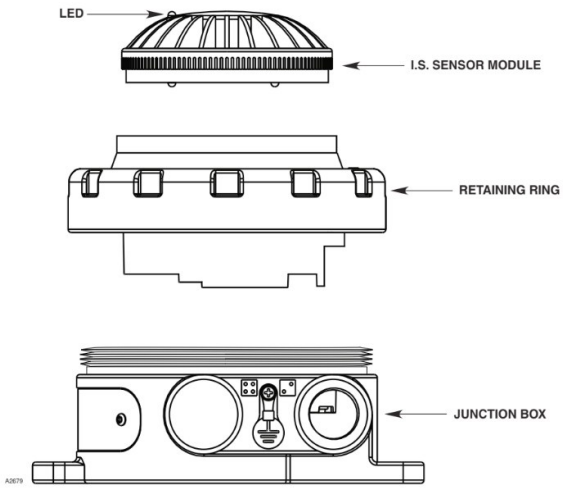

Figure 1—U5015 Components

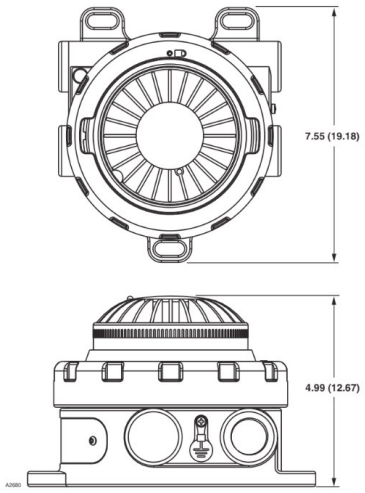

Figure 2—U5015 Dimensions in Inches (cm)

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VDOT-D2xC1X05

EXPLOSION PROOF ALARM HORN SOUNDER

Description

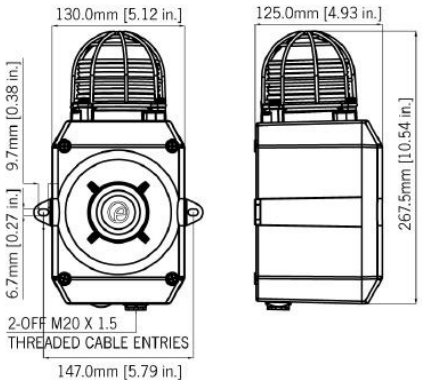
The VDOT-D2xC1X05 features a high output, 116dB(A) alarm horn sounder combined with a 5 Joule Xenon storbe warning light / beacon. Globally approved, the robust Type 4/4X, IP66 enclosure ensures suitability for all haz loc fire alarm and general signalling applications.

The corrosion proof, marine grade aluminium die cast enclosure is chromated and powder coated providing resilience in the harshest of hazardous location environments.



Features

- 5 Joule Xenon beacon with 116dB(A) alarm horn
- UL464/UL1638 Fire Alarm
- Effective Intensity: 94.78 cd
- Peak Candela: 33,410 cd
- 64 alarm tones, 4 remotely selectable alarm stages/ channels
- Automatic synchronisation on multi-sounder system
- Field replacable lens colour filters



Features

- UL File ref: E230764
- IECEx cert: UECEx ULD 14.0004X
- ATEX cert: DEMKO 14 ATEX 4786493904X
- CSFM listing: 7136-2279:0503

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③ Specifications

Alarm Horn Sounder:	
Maximum Output	116dB(A) @ 1 metre [107 dB(A) @ 10ft/3m]
Nominal Output	112 dB(A) @ 1m +/- 3dB - tone 2 [103dB(A) @ 10ft/3m]
No. of Tones	64 (UKOOA / PFEER compliant)
No. of Stages	4
Volume Control	Adjustable -12dB(A) [Tone 2]
Effective Range	125n/140ft @ 1KHz
Stage Switching	DC units - Positive or Negative line AC Units - Common supply line
Xenon Stage Beacon:	
Energy	5 Joules (5Ws)
Flash Rate	1Hz (60 fpm)
Peak Candela	500,000 cd - calculated from energy (J)
Effective Intensity cd	250 cd - calculated from energy (J)
Peak Candela	33,410 cd - measured ref. to I.E.S.
Effective Intensity	94.78 cs - measured ref. to I.E.S.
Lens Colours	Amber, Blue, Clear, Green, Magenta, Red & Yellow
Tube Life	Emissions are reduced to 70% after 8 millions flashes
General:	
Voltages DC	24V dc [20-28Vdc[; 48V dc [35-58Vdc]
Voltages AC	115V ac 50/60Hz; 230V ac 50/60Hz
Ingress Protection	EN60529: IP66 UL50E / NEMA250: 4 / 4X / 3R / 13
Housing Material	Marine grade aluminium Al Si 12 Cu
Colour	Red (RAL3000), grey (RAL7038)
Cable Entries	2 x M20 x 1.5mm threaded gland entries
Terminals	0.5 - 2.5mm^2 (20-14 AWG)
Grouding Stud	M5
Operating Temp	-40 to +70°C [-40° to +158°F] - Class I Div 2 -40 to +50°C [-40° to +122°F] - All other approvals
Relative Humidity	95%
Weight	DC: 2.80kg / 6.16lbs AC: 3.10kg / 6.82lbs

③ Part Codes

Version:	Part Code:	Description:
Product Type	D2C1X05	Haz Loc alarm horn sounder & xe-non strobe warning light / beacon
Voltage	DC024 DC048 AC115 AC230	24V dc - Ul / cUL Fire Alarm 48V dc 115V ac 230V ac
Cable Entry Type [e]	A B C D E F G	2 x M20x1.5mm 2 x 1/2" NPT - adaptors 2 x 3/4" NPT - adaptors 2 x M25x1.5mm - adaptors 1 x 1/2" NPT - adaptor 1 x 3/4" NPT - adaptor 1 x M25x1.5mm - adaptor
Adaptor/Stop-ping plug mate-rial [m]	B N S	Brass Nickel Plates Stainless Steel
Lens guard matl. & tag [s]	1 2 3 4	A2 304 Stainless Steel A4 316 Stainless Steel A2 304 St/St with Equip. Tag A4 316 St/St with Equip. Tag
Product Version [x]	A1	UL, cUL, IECEx & ATEX
Enclosure Colour	R G	Red RAL3000 Grey RAL7038
Lens Colour	A B C G M R Y	Amber Blue Clear Green Magenta Red Yellow
Accessories	SP65-0001-A2 SP65-0001-A4 SP65-0002-A2 SP65-0002-A4	Pole Mount bracket Kit 2" St/St A2 (304) Pole Mount Bracket kit 2" St/St A4 (316) Sunshade - St/St A2 (304) Sunshade - St/St A4 (316)
Alarm Sounder Version:		
Version:	**Voltage:**	**Current:**
24V dc	10-30V dc	313mA [at nominal voltage]
48V dc	38-58V dc	181mA [at nominal voltage]
115V ac 50/60Hz	+/-10%	90mA
230V ac 50/60Hz	+/-10%	52mA

All specifications are subject to change without any notice.
For more information, contact with VELOCITY.

Velocity
DETECTION OVER TIME
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VDOT-SGX-32 Series

EXPLOSION PROOF MANUAL PULL STATIONS

③ Description

The VDOT-SGX-32Series is a cast aluminum manual alarm pull station available in either single or dual action configurations. These explosion proof stations have a DPDT switch mounted in heavy duty cast aluminum housings, complete with screw terminals that accept #22 to 12AWG field wiring.

The solid design and rugged construction of the VDOT-SGX-32 station makes it ideal for use in harsh operating environments and hazardous locations. The VDOT-SGX-32 series of manual stationsis UL and FM listed for use in the various classifications of hazardous environments shownin the specification table. These devices have a NEMA type 4X rating foroperation in extreme weather conditions and plant washdown applications. They are also UL Marine listed for operation in highly corrosive environments.

The VDOT-SGX-32 series is available in red, yellow and blue for use in fire, hazmat,medical and weather applications. Please consult the factory for additional colors and other applications. Coloured adhesive labels are available for non-fire applications. These labels are affixed on the front of the station to indicate the particular application. Refer to the table on the back for a description of the available adhesive labels.

③ Operation

The VDOT-SGX-32SK2 single action station is operated by pulling the handle marked “PULL” on the front of the station as far down as it will go. At that point, the station will lock in place and is easily visible from up to 50 feet. The VDOT-SGX-32SK1 dual action model features a “PUSH” bar that moves inward, allowing the “PULL” handle to be grasped and operated by a single hand. The activated station isreset by opening the station with a key, placing the handle in the normal upright position, and re-locking the station.



③ Features

- Explosion Hazard Classsifications
  - Class I, Div. 1, Group B, C and D
  - Class II, Div. 1, Group E, F and G
  - Class III, Div. 1 (FM)
- Marine and NEMA type 4X Rated
- DPDT switch with screw terminal connection
- Single or Dual Action
- DC and AC Voltage Contact Ratings
- Key Reset
- Special application labels and colours

NOT TO BE USED FOR INSTALLATION PURPOSES.
Velocity reserves the right to make changes at any time without notice in prices, colours, materials, components, equipment, specifications and models and also to discontinue models.

▪ Specifications

Listings	UL, FM, CSFM, MEA, UL Marine
Temperature	-400⁰ to 1500⁰F, 90% relative humidity @ 1000⁰F
Switch Type	Double Pole, Double Throw (DPDT)
Switch rating	1 Amp @ 30 VDC, 10 Amp @ 120 VAC
Explosion Hazard Classifications	Class I, Div. 1, Group B, C and D Class II, Div. 1, Group E, F and G Class III, Div. 1 (FM) NEMA Type 4X (UL, FM)
Weatherproof Classifications	UL Marine Listed
Pull Station Weight	4.8 lbs, 2.2kg
Pull Station Dimensions	6-5/16'h x 3-1/4'w x 3-7/8'd; 16.03 x 8.25 x 9.85 cm
Conduit Fittings	Two - 3/4' - 14 NPT
Standard Colour	Red with raised white letters, white 'PULL' bar and white 'PUSH' bar (Dual Action) with raised red letters.
Optional Colours	Red, Blue or Yellow

Note: All stations are suppllied with one break-rod*, one 'B' key and installation instructions. Spare break-rods available: # SG-GR01, 12 pack of scored plastic (acrylic) break-rods. *Use of the break-rod is optional; it is not required for operation.

▪ Ordering

Part Number	Description
FIRE PULL STATIONS, RED;	
VDOT-32SK1-SC	Explosion Proof Pull Station, Dual Action, DPDT - Red
VDOT-32SK2-SC	Explosion Proof Pull Station, Single Action, DPDT - Red

VL-ETS-CP/R

Emergency Telephone System Control Panel - Red Handset





Description

The VL-ETS is designed as a fireman's telephone system and/or a disabled refuge system, or a combination of both.

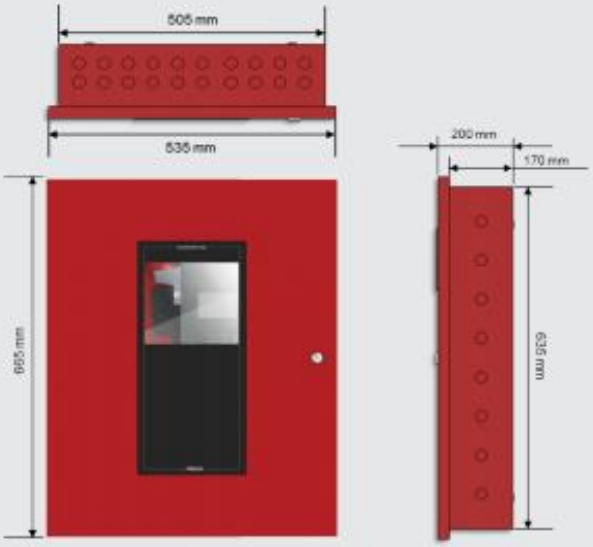
This system will enable the emergency services to maintain a constant contact with people in the refuge area who may seek assistance. It also allows fire fighters and others to communicate during an emergency situation.

The VL-ETS-CP control panel can accommodate up to 120 outstations (VL-TS-OS, VL-JS-OS & VL-HF-OS) on a 1000 metre loop.

Features

- Integral 24Vdc power supply 5 Amp
- LCD Display
- 7 Status LEDs
- Fault & alarm relay output
- 4 Wire system (2 x Power & 2 x Communication)

Dimensions (mm)



Technical Specifications

Handset Colour	Red
Total No. of Outstations	120
System Voltage	24Vdc
Max Bus Length	1000m
Bus Voltage	24Vdc
Standby Current	240mA
Full Load Current	500mA
Operating Temperature	< 50°C
Relative Humidity	< 90% RH
Integral Power Supply	5.0A
Max Battery Sizes	34.0A
Weight	18.50kg

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VDOT-MNS-100BAS

100 WATT VOICE EVACUATION PANEL - 4 SPEAKER CIRCUIT

Description

The Velocity VDOT-MNS-100BAS is a modular, voice evacuation system ideally suited as an extension to an existing fire alarm system.

The VDOT- MNS-100BAS accommodates virtually any host alarm system, integrating as quickly and easily as a single #primary connection to a NAC output from the FACP. Many of the pre-set configurations will provide a complete voice evacuation capability right out of the box. Additional activation is by a single supervised input from a dry contact closure.

Numerous audio inputs are provided for maximum control flexibility and system access. A supervised remote microphone input is provided for central placement for emergency personnel.

A high priority supervised audio input is provided that overrides lower priority activations. The system also provides a 25 VRMS speaker-level input to allow power booster operation (see below). An additional non-supervised audio input provided; this lowest- priority input can be used for paging or background music as application needs dictate.

A highly efficient, Class D, 100 Watt digital audio power amplifier drives four selectable power-limited speaker circuits in the standard configuration. All speaker circuits are continuously supervised, even while activated. Each speaker can be configured for Class A or B wiring without loss of speaker circuits. Amplifier output voltage is 25 VRMS standard.

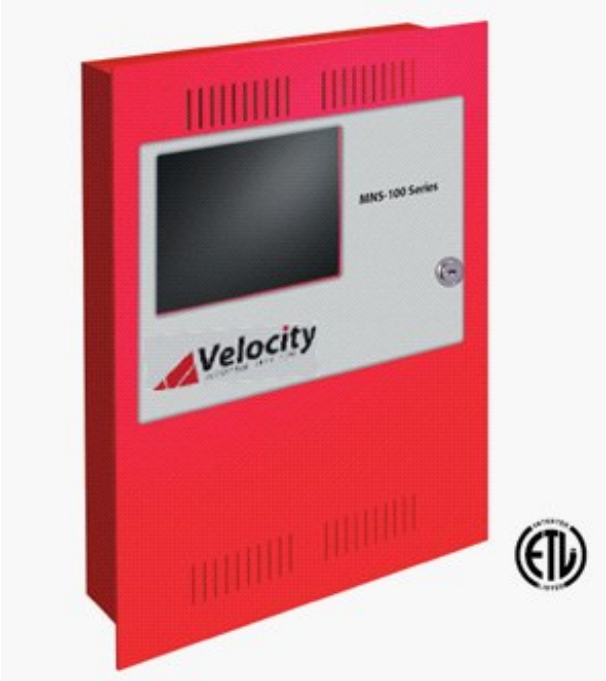
An optional transformer can be configured for 70 VRMS output for longer speaker runs with low signal loss.

An audio power boost option is also available for additional output power in multiples of 100 Watts.

The MNS-100BAS provides simple field programming of a variety of its features. These can be as simple as its response to contact closure inputs, or to the setting of internal SIP switch banks. It meets the stringent requirements of NFPA 72, UL864 9th edition, and UFC 4-021-01.

Applications

The power supply, battery back-up and charger are provided internally to the VDOT-MNS-100BAS. LED indicators are provided for POWER (green), ACTIVE (red), and SYSTEM FAULT (yellow).



The VDOT-MNS-100BAS is housed in a 14-3/16”W x 18-5/8”H x 4”D surface or semi-flush mounted painted steel enclosure. Available options for the MNS-100BAS include a remote microphone, a 70 VRMS transformer, common alarm and trouble.

Features

- 100 Watt, highley efficient Class D digital audio amplifier
- 4 Speaker Circuits (Class A or B wiring)
- Reverse polarity supervised FACP-NAC primary input
- Supervised dry contact primary activation input
- 2 Standard messages preloaded, ready to go
- Prioritise contact closure activation inputs
- Remote microphone input
- Aux audio inputs for paging, background music and
- remote system control.

Other Optimal Accessories

VDOT-70V-XMFR	70 Volt Transformer Kit
VDOT-MNS-REL	Common Alarm and Trouble 3-Relay Card
VDOT-MNS-APB	Auido Power Booster
VDOT-DVS-RM/B	Supervised Remote Microphone

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Description of Other Optional Accessories

70 VRMS Speaker Output

Compensate for audio power loss due to long speaker runs by installing the VDOT-MNS-70V-XFMR 70 Volt Transformer. The transformer is contained in a small external cabinet that connects to the VDOT-MNS-100BAS. All speaker circuits maintain active supervision and provide full output power. For more information, refer to the VDOT-MNS-70V-XFMR data sheet.)

Common Alarm and Trouble Relays

The VDOT-MNS-3-REL 3-Relay Card provides 3 Form-C relay contact outputs to signal external devices in the system.
The three outputs are typically used as Active and Trouble indicators, with the third used for other applications.
(For more information, refer to the VDOT-MNS-3-REL data sheet.)

Audio Power Booster

Need more power?
The VDOT-MNS-100APB Audio Power Booster panel can be added to act as a supervised remote 100 Watt power amplifier with its own 4 speaker outputs. As many VDOT-MNS-100APB cabinets may be connected to the VDOT-MNS-100BAS as needed to provide full facility coverage. In this configuration, the supervised audio input accepts a 25 VRMS typical speaker-level input, and broadcasts it to its speaker outputs. (For more information, refer to the VDOT-MNS-100APB data sheet.)

Specifications

Standard Configuration; no options installed. For specifications on options, please refer to their individual data sheets. Specifications are subject to change without notice due to product improvements.

Interface	
Inputs	
Primary Activation Supervised	1; reverse polarity NAC; 9-30 VDC,10 mA; steady, non-coded, or 1; supervised dry contact closure rated for 24 VDC, 10 mA
Secondary activation	8; dry contact closure rated for 24VDC, 10 mA
Auxiliary Audio	600 to 3600 Hz freq. response 1; supervised, with override priority (control station), 1 VRMS audio input 1; unsupervised, lowest priority (paging and background music), 1 VRMS audio input Audio
Remote Microphone	1; 1 VRMS audio input; power-limited 24 VDC, 100 Ohms max line resistance
External control/comm.	RS-232/RS-485, selectable
Outputs	
Audio	100 W; 25 VRMS (70 VRMS Optional)
Speaker circuits	1; power-limited to 60 W 3; power-limited to 25 W each; total power not exceeding 100W 10KOhm EOLR continuously monitored

Indicators	
LED	power (green) active (red) system fault (yellow)
LED bar graph	audio level; yellow 4-segment
Power Supply	
Primary Power	120 VAC, 60 Hz; 5 A nominal
Internal Power Supply	24 VDC regulated
Extrenal Power Supply	24 VDC regulated; listed for Fire Alarm Use
Internal Battery Backup	
Capacity	10 A-Hr
Standby Mode	24 hours
Alarm Mode	15 minutes
Recharge Time	48 Hours
Installation	surface or semi-flush mount; between 16” O.C. studs;
Enclosure	Indoor 18-5/8 ”h x 14-3/16 ”w x 4”d; painted steel
Temperature Range	32°F to 120°F (0°C to 9°C)
Humidity	90% maximum, non-codensing;
Approvals / Listings	ETL Listed for UL864 9th Edition (Control Units and Accessories for Fire Alarm Systems) and UL 1711 4th Edition (Amplifiers for Fire Protective Systems)

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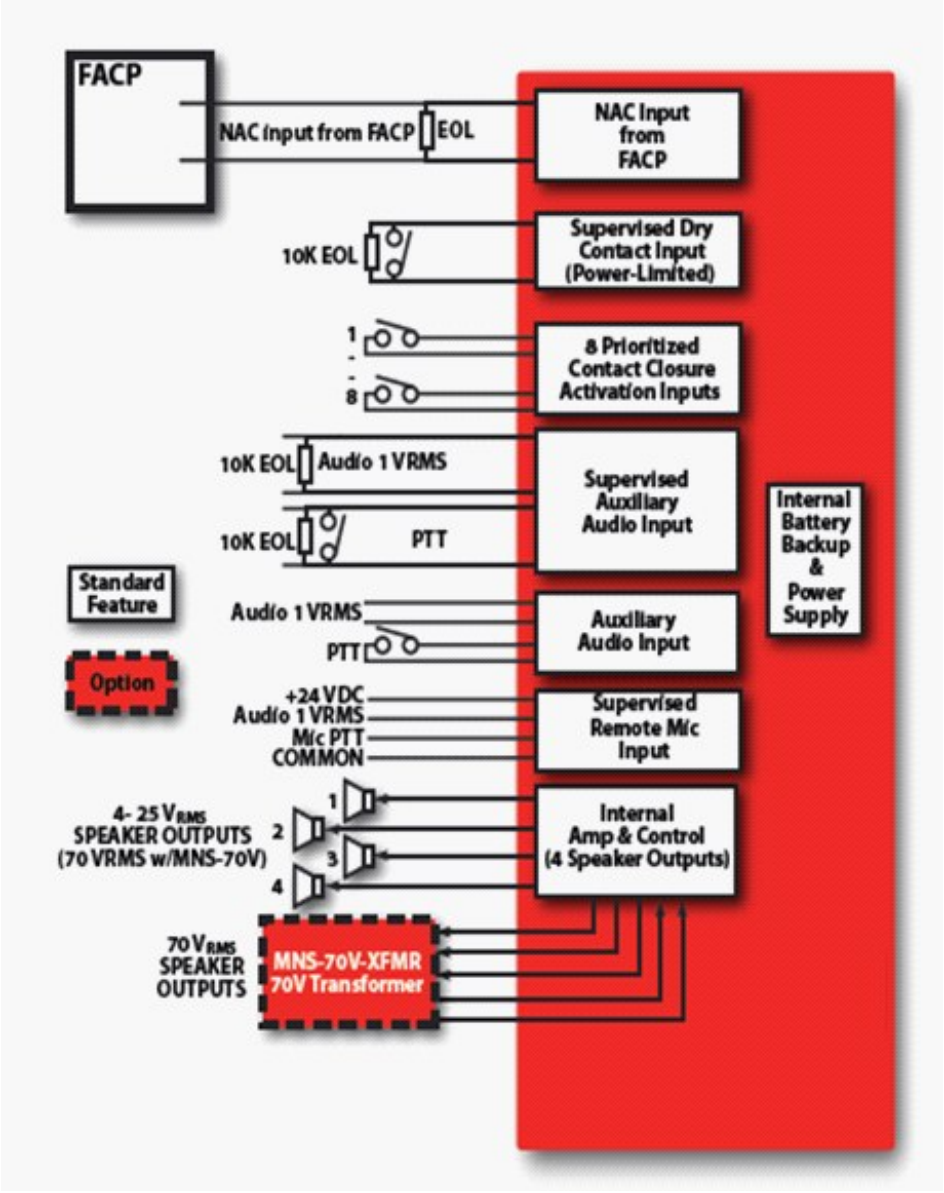
VDOT-MNS-100BAS

Panel Layout



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Distributed By

VDOT-MNS-100BAS

100 WATT VOICE EVACUATION PANEL - 4 SPEAKER CIRCUIT

Description

The Velocity VDOT-MNS-100BAS is a modular, voice evacuation system ideally suited as an extension to an existing fire alarm system.

The VDOT- MNS-100BAS accommodates virtually any host alarm system, integrating as quickly and easily as a single #primary connection to a NAC output from the FACP. Many of the pre-set configurations will provide a complete voice evacuation capability right out of the box. Additional activation is by a single supervised input from a dry contact closure.

Numerous audio inputs are provided for maximum control flexibility and system access. A supervised remote microphone input is provided for central placement for emergency personnel.

A high priority supervised audio input is provided that overrides lower priority activations. The system also provides a 25 VRMS speaker-level input to allow power booster operation (see below). An additional non-supervised audio input provided; this lowest- priority input can be used for paging or background music as application needs dictate.

A highly efficient, Class D, 100 Watt digital audio power amplifier drives four selectable power-limited speaker circuits in the standard configuration. All speaker circuits are continuously supervised, even while activated. Each speaker can be configured for Class A or B wiring without loss of speaker circuits. Amplifier output voltage is 25 VRMS standard.

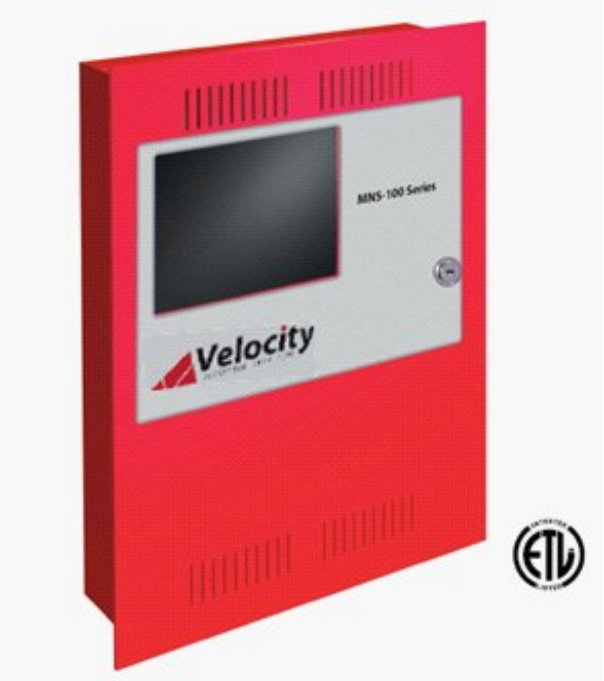
An optional transformer can be configured for 70 VRMS output for longer speaker runs with low signal loss.

An audio power boost option is also available for additional output power in multiples of 100 Watts.

The MNS-100BAS provides simple field programming of a variety of its features. These can be as simple as its response to contact closure inputs, or to the setting of internal SIP switch banks. It meets the stringent requirements of NFPA 72, UL864 9th edition, and UFC 4-021-01.

Applications

The power supply, battery back-up and charger are provided internally to the VDOT-MNS-100BAS. LED indicators are provided for POWER (green), ACTIVE (red), and SYSTEM FAULT (yellow).



The VDOT-MNS-100BAS is housed in a 14-3/16”W x 18-5/8”H x 4”D surface or semi-flush mounted painted steel enclosure. Available options for the MNS-100BAS include a remote microphone, a 70 VRMS transformer, common alarm and trouble.

Features

- 100 Watt, highley efficient Class D digital audio amplifier
- 4 Speaker Circuits (Class A or B wiring)
- Reverse polarity supervised FACP-NAC primary input
- Supervised dry contact primary activation input
- 2 Standard messages preloaded, ready to go
- Prioritise contact closure activation inputs
- Remote microphone input
- Aux audio inputs for paging, background music and
- remote system control.

Other Optimal Accessories

VDOT-70V-XMFR	70 Volt Transformer Kit
VDOT-MNS-REL	Common Alarm and Trouble 3-Relay Card
VDOT-MNS-APB	Auido Power Booster
VDOT-DVS-RM/B	Supervised Remote Microphone

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Description of Other Optional Accessories

70 VRMS Speaker Output

Compensate for audio power loss due to long speaker runs by installing the VDOT-MNS-70V-XFMR 70 Volt Transformer. The transformer is contained in a small external cabinet that connects to the VDOT-MNS-100BAS. All speaker circuits maintain active supervision and provide full output power. For more information, refer to the VDOT-MNS-70V-XFMR data sheet.)

Common Alarm and Trouble Relays

The VDOT-MNS-3-REL 3-Relay Card provides 3 Form-C relay contact outputs to signal external devices in the system.
The three outputs are typically used as Active and Trouble indicators, with the third used for other applications.
(For more information, refer to the VDOT-MNS-3-REL data sheet.)

Audio Power Booster

Need more power?
The VDOT-MNS-100APB Audio Power Booster panel can be added to act as a supervised remote 100 Watt power amplifier with its own 4 speaker outputs. As many VDOT-MNS-100APB cabinets may be connected to the VDOT-MNS-100BAS as needed to provide full facility coverage. In this configuration, the supervised audio input accepts a 25 VRMS typical speaker-level input, and broadcasts it to its speaker outputs. (For more information, refer to the VDOT-MNS-100APB data sheet.)

Specifications

Standard Configuration; no options installed. For specifications on options, please refer to their individual data sheets. Specifications are subject to change without notice due to product improvements.

Interface	
Inputs	
Primary Activation Supervised	1; reverse polarity NAC; 9-30 VDC,10 mA; steady, non-coded, or 1; supervised dry contact closure rated for 24 VDC, 10 mA
Secondary activation	8; dry contact closure rated for 24VDC, 10 mA
Auxiliary Audio	600 to 3600 Hz freq. response 1; supervised, with override priority (control station), 1 VRMS audio input 1; unsupervised, lowest priority (paging and background music), 1 VRMS audio input Audio
Remote Microphone	1; 1 VRMS audio input; power-limited 24 VDC, 100 Ohms max line resistance
External control/comm.	RS-232/RS-485, selectable
Outputs	
Audio	100 W; 25 VRMS (70 VRMS Optional)
Speaker circuits	1; power-limited to 60 W 3; power-limited to 25 W each; total power not exceeding 100W 10KOhm EOLR continuously monitored

Indicators	
LED	power (green) active (red) system fault (yellow)
LED bar graph	audio level; yellow 4-segment
Power Supply	
Primary Power	120 VAC, 60 Hz; 5 A nominal
Internal Power Supply	24 VDC regulated
Extrenal Power Supply	24 VDC regulated; listed for Fire Alarm Use
Internal Battery Backup	
Capacity	10 A-Hr
Standby Mode	24 hours
Alarm Mode	15 minutes
Recharge Time	48 Hours
Installation	surface or semi-flush mount; between 16” O.C. studs;
Enclosure	Indoor 18-5/8 ”h x 14-3/16 ”w x 4”d; painted steel
Temperature Range	32°F to 120°F (0°C to 9°C)
Humidity	90% maximum, non-codensing;
Approvals / Listings	ETL Listed for UL864 9th Edition (Control Units and Accessories for Fire Alarm Systems) and UL 1711 4th Edition (Amplifiers for Fire Protective Systems)

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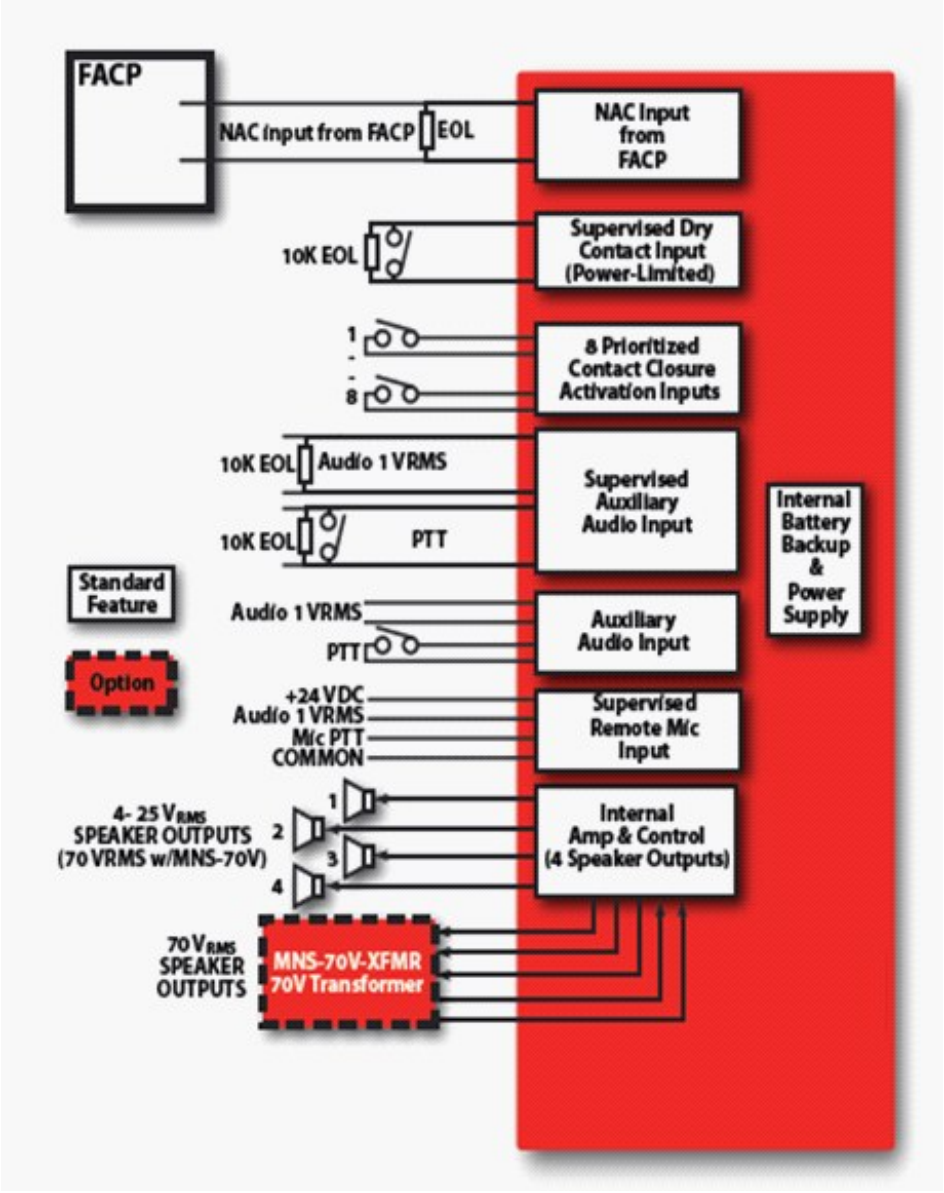
VDOT-MNS-100BAS

Panel Layout



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Velocity
DETECTION OVER TIME

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Distributed By

Before Installation

Please read these instructions carefully and keep for future reference.
The information in this document is subject to change without notice. For updates please refer to our website.

⚠ CAUTION

Do not use the products outside the rated power supply voltage range specified in the Specifications. It may cause a fire or damage to equipment.

⚠ CAUTION

Do not disassemble, repair, or modify the products. It may cause a fire or electric shock.

⚠ CAUTION

Make sure to turn the power off before commencing any wiring work. Otherwise it may cause electric shock or damage to equipment.

Note: Follow the requirements for the installation of the products in accordance with the Specifications. Otherwise it may cause malfunction.

Note: Do not install the product in any location where oil, dust, iron powder, chemicals, or hydrogen sulphide may occur or affect the product. It may cause damage to equipment.

Section 1 – INTRODUCTION

1.1 General description

The VOT-PY is an attractively-styled, low profile, analog addressable, photoelectric smoke detector for use with the Velocity MMP Panels in analog fire alarm systems.

This analog addressable photoelectric smoke detector has a specific detector address to provide exact detector locations throughout the installation. This allows for constant monitoring of the detector sensitivity and reports the detectors condition to the fire alarm control panel.

1.2 LED Indicator

LED Indicators for 360° visibility (OMNIVIEWTM 360°) of VDOT-PY operate as follows: Green LED flashes in normal operation. Red LED illuminates and Green LED flashes in an alarm condition.

1.3 VDOT-PY features

* Low profile, stylish appearance
* Soft addressing
* Low monitoring current
* Supplied with protective dust cover
* OMNIVIEWTM 360o LED Indicator for polling and fire alarm indication
* Photoelectric detector, detecting visible particles of combustion
* Automatic compensation for smoke detector contamination

Section 2 – GENERAL OPERATION

The VDOT-PY chamber consists of a light emitting diode (LED) and photodiode arrangement. The chamber contains a unique design which allows smoke to enter the chamber while preventing external light from affecting the photodiode.

The VDOT-PY has chemically etched, stainless steel insect screen therefore reducing the ingress of insects and airborne contaminants. The chamber is designed so that the light emitted by the LED is not directed to the photodiode. In the event of fire, particles of smoke enter the chamber and scatter the light in the active area of the chamber. The scattering effect increases the light in the chamber, causing more light to be detected by the photodiode. The photodiode input level is sampled to sense smoke density and transmitted as a digitally encoded value to the control panel. When the smoke density exceeds a preset threshold in the control panel, the control panel indicates a fire alarm condition.

The control panel can adjust the detector alarm threshold to compensate for contamination that might accumulate in the chamber within the smoke detector limits.

Section 3 – DIMENSIONS

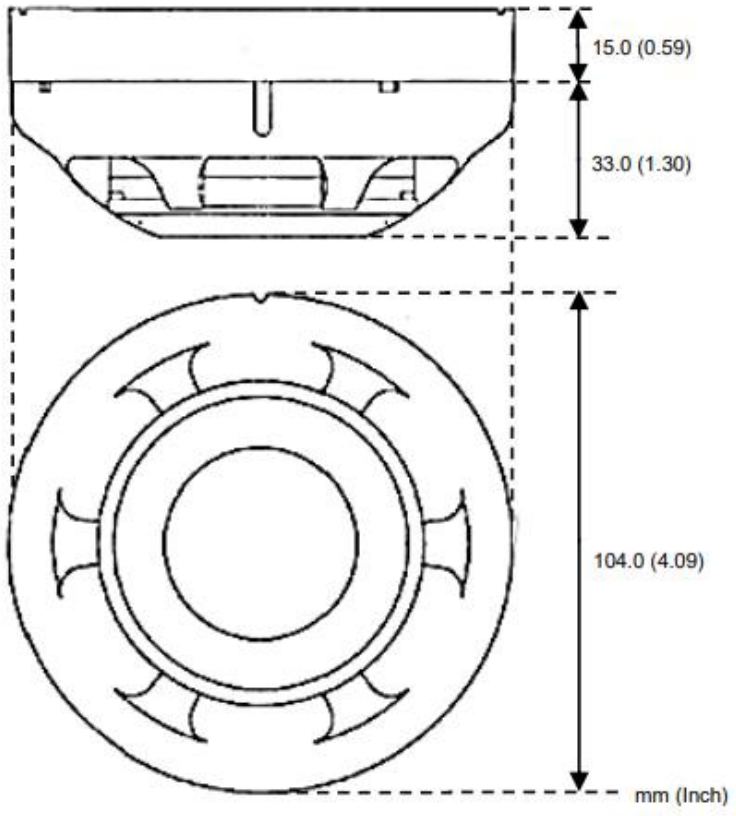


Figure1: Dimension of VDOT-PY

Section 4 – TERMINALS

The VDOT-PY smoke detectors have three terminal connections and the terminals are configured as follows:

Terminal Description
1 SLC Positive
6 SLC Negative
3 To activate VDOT-STB-RL Relay Base

Note: Terminal 3 is used for the Relay Mounting Base VDOT-STB-RL.

Section 5 – DETECTOR MODELS

VDOT-PY may be installed in the same signaling line circuit (SLC) as the detectors below:

VDOT-PYH	Combination photoelectric smoke and heat detector 57 °C (135 °F) with 8.3 °C (15 °F) rate of rise
VDOT-DPH	Combination photoelectric smoke (dual wave length) and heat detector 57 °C (135 °F) with 8.3 °C (15 °F) rate of rise
VDOT-H2	Analog addressable heat detector 57 °C (135 °F) with 8.3 °C (15 °F) rate of rise
VDOT-H2(-H)	Analog addressable heat detector 83 °C (181 °F)

Section 6 – BASE MODELS

There are 5 mounting bases that are available for use with the VDOT-PY. In order to operate correctly, it is important to use the appropriate mounting base as indicated in the table below. Refer to the specific mounting base instruction manuals for details.

VDOT-UB4	Standard mounting base	4 inch Dia	Terminals x4
VDOT-UB4-6*	Larger mounting base	6 inch Dia	Terminals x4
VDOT-S6	Base Sounder mounting base	6 inch Dia	Terminals x5
VDOT-STB-RL	Relay mounting base	4 inch Dia	Terminals x6
VDOT-STB-SCI	Short circuit isolator base	4 inch Dia	Terminals x4
VDOT-ADP**	Adapter mounting plate	6 inch Dia	

* The Model VDOT-UB4-6 mounting base is intended for applications where a 4 inch square or octagonal electrical junction box is required.

** The VDOT-ADP Adapter Mounting Plate is intended for the VDOT-STB-RL Relay Base and VDOT-STB-SCI Short Circuit Isolator Base for applications where a 4 inch square or octagonal electrical junction box is required.

Section 7 – ADDRESS SETTING

The VDOT-PY requires compatible addressable communications to the control panel in order to function properly. All detectors have random addresses from the factory before installation. The VDOT-AD2 Address Programmer is used for setting the address between 1 and 254 decimal of all devices prior to installation. See Annex A for the handling. Once addressed connect and configure these detectors to UL listed Velocity MMP Panels.

Section 8 – INSTALLATION

8.1 Before installing

These smoke detectors must be installed in compliance with the manuals of the Velocity Control Panels. The installation must meet the requirements of the Authority Having Jurisdiction (AHJ). The detectors offer maximum performance when installed in compliance with the National Fire Protection Association (NFPA); see NFPA 72.

Note: ZETA ALARM SYSTEMS LIMITED is not responsible for the product which is improperly installed, maintained and tested.

8.1.1 Location requirement

When installing the detector please consider the following items. Otherwise the detector might not provide optimum performance.

- Indoor use only.
- Place the detector away from a ventilation fan or the air outlet of air conditioner, at least 1.5 m (5 ft.).
- On the ceiling, place the detector at least 10 cm (4 in.) from the wall.
- On the wall, place the detector between 10 to 30 cm (4 to 12 in.) below the ceiling.

The detector should not be installed in places such as:
- Place with plenty of air flow (close to a ventilation fan, air conditioner, or place with drafts)
- Place close to heating appliance
- Place with a constantly high temperature or humidity
- Place with lots of dust or insects
- Place where vapor can directly come in
- Place with exhaust gas such as garage

8.2 Smoke Detector Applications

Smoke detectors are designed to sense the presence of smoke particles. In order to sense the particles, smoke detectors must be placed where smoke can reach them. When determining the location of smoke detectors, potential fire locations should first be evaluated, and paths of smoke flows should be determined. It is preferable to conduct actual field tests wherever it is practical to do so. It is desirable to locate smoke detectors at the points of intersection of smoke travel from potential fire sources throughout the area. Ceiling height, construction, and ventilation affect the performance of smoke detectors.

8.2.1 Avoidance of unwanted alarms

Smoke detectors can be affected by various environmental factors (other than smoke), which may accidentally activate the detectors. It is necessary to consider where smoke detectors should be installed in order to minimize unwanted alarms. Listed below are some common sources of unwanted alarms to be considered when locating smoke detectors

- Steam and moisture
- Chemical fumes
- Cooking equipment
- Welding, cutting, and industrial processes
- Dust or lint
- Engine exhaust
- Vibration or shock
- Excessive airflow
- Lightning
- Radio frequency radiation

The smoke detector signals a dirty sensor trouble to the control panel when it reaches the preset limit. The dirty sensor trouble indicates the detector is in need of servicing.

8.2.2 Spacing of Smoke Detectors

The recommended spacing of spot type smoke detector is maximum 9.1 m (30 ft.), based on the detector installation on a smooth ceiling at 3 m (10 ft.) high. All points on the ceiling shall have a detector within a distance equal to or less than 0.7 times the nominal 9.1 m (30 ft.) spacing.

Note: It is recommended that smoke detectors be installed on S = 9.1 m (30 ft.) centers, on smooth ceilings. Refer to NFPA 72 National Fire Alarm Code for additional information on spacing adjustments.

Spot-type smoke detectors must be located on the ceiling or, if on a sidewall, between the ceiling and 30 cm (12 in.) down from the ceiling to the top of the detector.

8.2.3 Stratification

Stratification of air in a room can hinder smoke from reaching ceiling-mounted smoke detectors. In order to improve detection response in situations where stratification exists, it might be necessary to install additional smoke detectors on sidewalls or at locations below the ceiling, as shown in Figure 2.

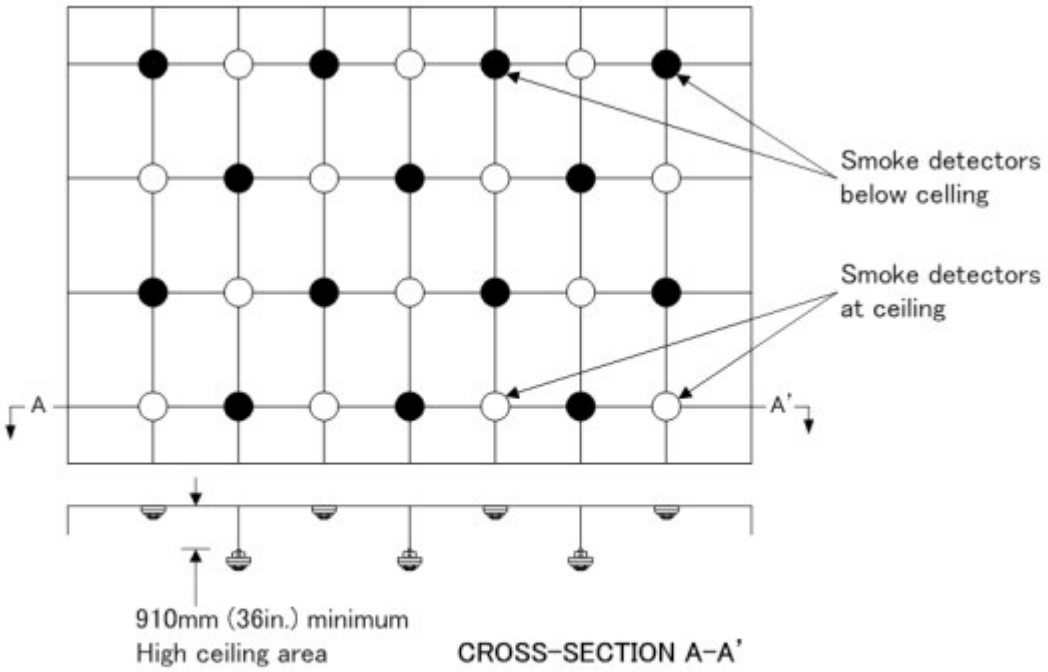


Figure 2: Smoke detector layout accounting for stratification

8.2.4 Partitions

It is recommended that the distance between smoke detectors should not exceed a nominal spacing of 9.1 m (30 ft.) and there should be detectors within a distance of one-half the nominal spacing, measured at right angles from all walls or partitions extending upward to within the top 15 percent of the ceiling height.

8.2.5 Exposed solid joists

Exposed solid joists may impede the flow of smoke to detectors. A joist is defined as greater than 10 cm (4 in.) in depth and spaced less than 91 cm (3 ft.) apart. The detectors must be mounted on the bottom of the joists.

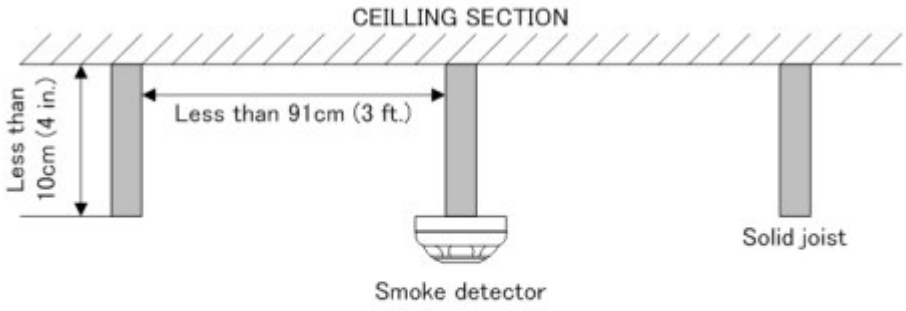


Figure 3: Smoke detector spacing — solid joist construction (side view)

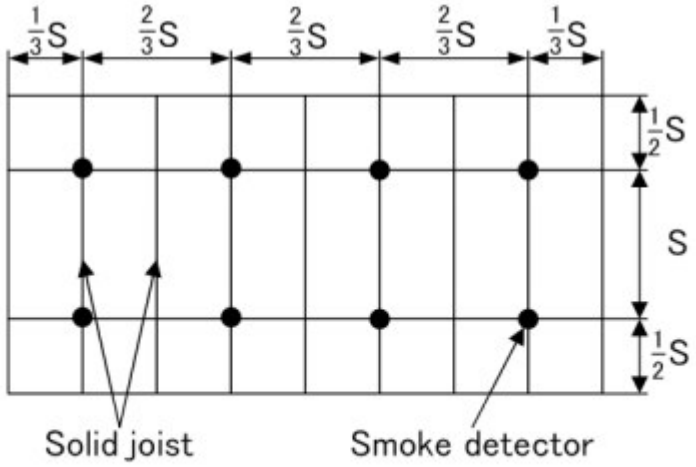


Figure 4: Smoke detector spacing — solid joist construction (plan view)

Note: Joists less than 10 cm (4 in.) deep are considered flat ceilings. Smoke detectors can be mounted on ceilings or on the bottom of joists.

8.2.6 Exposed beams

Beams are defined as any members extending 10 cm (4 in.) or more down from the ceiling and spaced more than 91 cm (3 ft.) apart. The spacing of smoke detectors must be reduced in the direction perpendicular to the beam.

Smoke detectors shall be located on the ceiling in each beam pocket if the ratio of beam depth (D) to ceiling height (H), D/H, is greater than 0.1, and the ratio of beam spacing (W) to ceiling height (H), W/H, is greater than 0.4. Smoke detectors shall be located on the bottom of each beam if either the ratio of beam depth (D) to ceiling height (H), D/H, is less than 0.1, or the ratio of beam spacing (W) to ceiling height (H), W/H, is less than 0.4.

Calculation:

D/H > 0.1 and W/H > 0.4 : Mount the detector on the ceiling
D/H < 0.1 or W/H < 0.4 : Mount the detector on the bottom of the beam

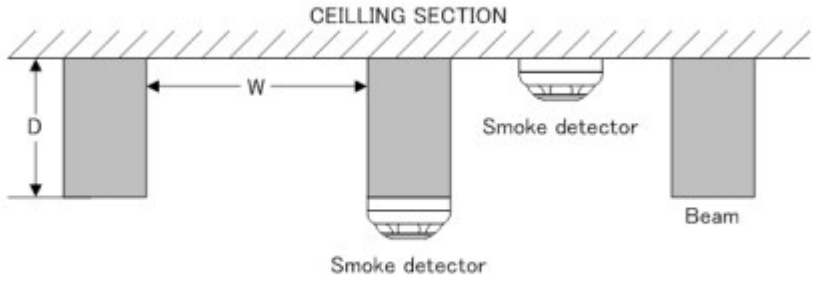


Figure 5: Smoke detector spacing — beam construction (side view)

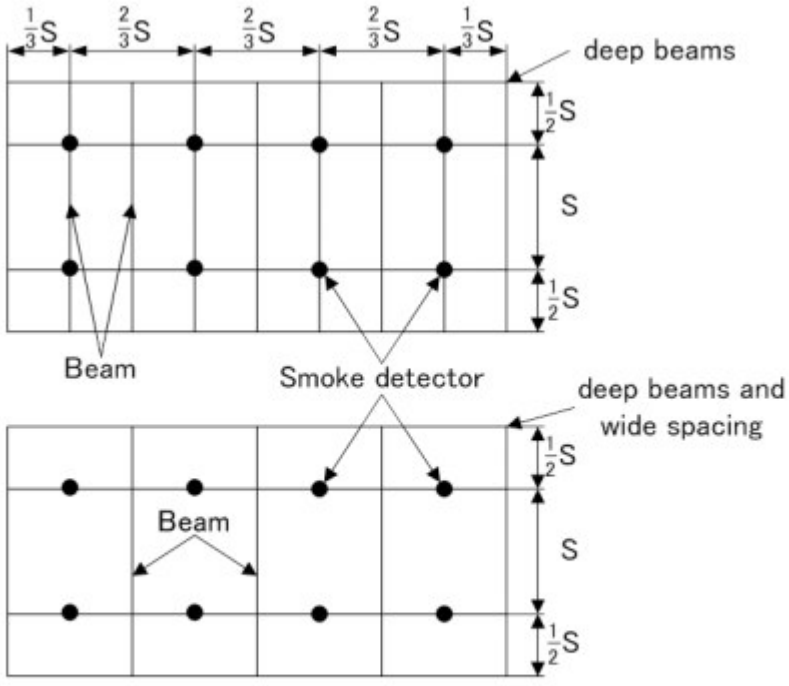


Figure 6: Smoke detector spacing — beam construction (plan view)

8.2.7 Sloped ceiling (peaked and shed)

In the rooms with peaked ceilings, the first row of detectors must be located within 1 m (3 ft.)(measured horizontally) of the ceiling peak, but not closer than 10 cm (4 in.) vertically to the peak.

Additional detectors, if required, must be located based on the horizontal projection of the ceiling and the type of ceiling construction. In the rooms with shed ceilings having a slope greater than 1 m in 8 m (1 ft. in 8 ft.), the first row of detectors must be located within 1 m (3 ft.) of the high end of the ceiling.

Additional detectors, if required, must be located based on the horizontal projection of the ceiling and the type of ceiling construction. For a ceiling slope of less than 30 degrees, all detectors must be spaced using the height at the peak. For a ceiling slope of 30 degrees or greater, all detectors must be spaced using the average slope height or the height of the peak.

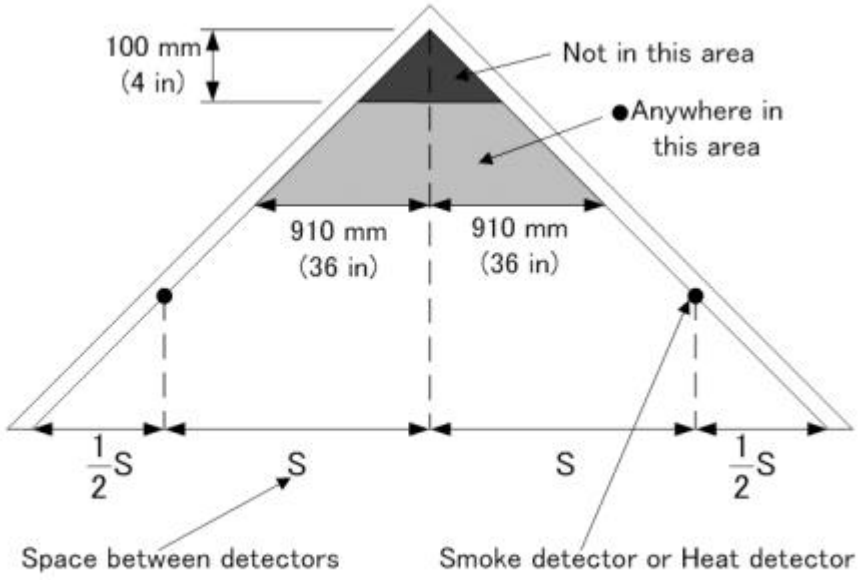


Figure 7: Smoke detector spacing — Sloped ceiling (peaked type)

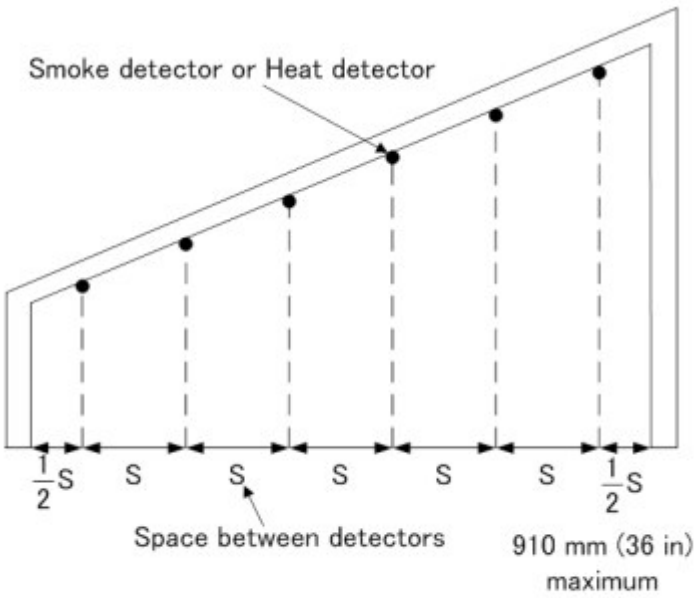


Figure 8: Smoke detector spacing — Sloped ceiling (shed type)

8.3 Procedure for installing

Note: All wiring must be installed in compliance with the National Electrical Code, applicable local codes and the Authority Having Jurisdiction.

Proper wire gauges should be used. The installation wires should be color coded to limit wiring mistakes and ease system troubleshooting. Improper connections will prevent a system from responding properly in the event of a fire.

Remove power from the communication line before installing detectors.

1. Pass the field wiring through the rear center cable opening in the mounting base. Install the base to the electrical box with screws via the base mounting holes. Connect the field wiring to the base terminals, as detailed in Figure 9,. Do not use looped wire under terminals (See Figure 10).

2. Using the VDOT-AD2 Address Programmer, set the desired address for each detector. See Annex A for the handling.

3. Install the detector into the mounting base, making sure the wiring does not obstruct mounting of the detector head. Push the detector into the mounting base while turning it clockwise until the detector locks into place. Use a small hexagonal wrench to set the tamper resist feature (if required), see Figure 11.

4. After the detector has been installed, snap on the supplied plastic dust cover onto the detector to keep out dust during construction.

5. Apply power to the control panel to configure the detectors to the fire alarm control panel.
6. Test the detector(s) as described in the TESTING section of this manual.

⚠ CAUTION

After commissioning has been completed remove and discard the dust cover.

⚠ CAUTION

Smoke and heat detectors are not to be used with detector guards unless the combination has been evaluated and found suitable for that purpose.

Notes:
- If the dust cover is not used while construction work is being completed exposure to a slightly dusty environment, can cause unwanted alarms after the commissioning the detectors.
- In the event of an unwanted alarm after commissioning clean the detector and re-install.
- If the detector still produces unwanted alarms replace the detector.

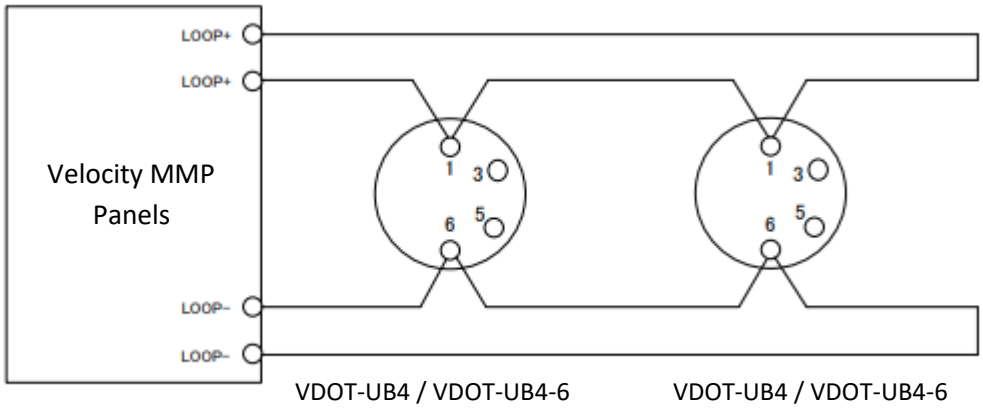


Figure 9: Wiring diagram for VDOT-UB4 and VDOT-UB4-6

SLC Line impedance is 50Ω at maximum and the maximum length is 2km.
Refer to the manual of control panel Velocity MMP series to determine correct maximum loop load and maximum loop resistance for devices connected to each loop.

⚠ CAUTION

Use cable AWG12-20 for wiring. Do not connect different gauge cables at one terminal in order to prevent loosening.

⚠ CAUTION

Do not connect cables in reverse polarity. Failure to connect the polarity correctly could result in damage to other equipment.

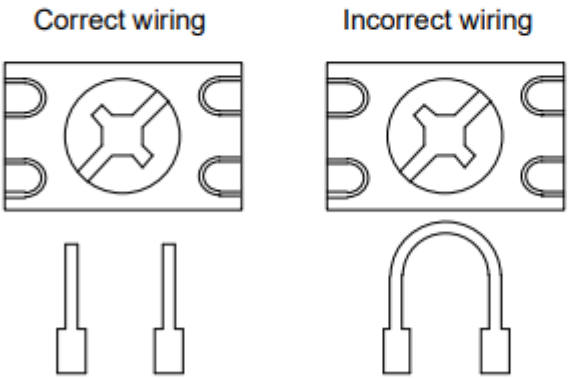


Figure 10: Correct and incorrect wiring method

⚠ CAUTION

For system monitoring — For terminals 1 and 6 do not use looped wire under terminals. Break wire run to provide monitoring of connections.

8.4 Tamper resistance feature

The VDOT-UB series, VDOT-S6 Base, and VDOT-STB series of smoke/heat detector mounting bases have a tamper resist feature that works in conjunction with the detectors. When this feature is enabled, the detectors cannot be removed from the base without the use of a small hexagonal wrench. To avoid unauthorized removal of the detector, turn the locking screw in the mounting base counter-clockwise until the screw extends out about 4 mm (3/16 in.) from the rim of the base, as shown in the Figure 11.

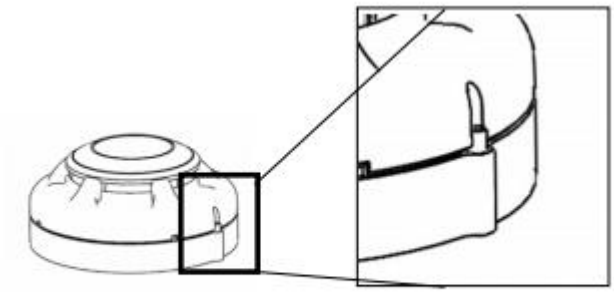


Figure 11: Position of the locking screw to lock the detector

Note: If the detector is installed on a high ceiling where a tool (ladder, etc.) is needed, it is not recommended to use the locking screw.

Section 9 – TESTING

Notes:
- Before testing, notify the proper authorities that the system is undergoing maintenance, and will temporarily be out of service.
- Disable the system to prevent unwanted alarms.
- All sensors must be tested after installation and periodically thereafter.
- Testing methods must satisfy the Authority Having Jurisdiction (AHJ).
- When carrying out site testing of the detector, the control panel must be set to “One Man Walk Test” mode prior to the test.

Sensors offer maximum performance when tested and maintained in compliance with NFPA 72. The sensor may be tested in the following ways:

A. For the smoke detector testing (Go / No-Go)

1. To test the optical detector, introduce a certain amount of aerosol into the detector’s head, using HSI FIRE & SAFETY Aerosol canned smoke testers “25S” or “30S”. Please follow the manufacturer’s recommendations on their use.

2. Check that the detector gives an alarm condition within 15 seconds. Check the red LED indicator is on and the green LED is flashing on the VDOT-PY detector. If the red LED fails to light, check the power to the detector and the wiring in the detector base.

3. After the detector has given the alarm condition, the detector automatically is reset by the control panel. It may be necessary to allow a short time to elapse before resetting the detectors, to allow any residual smoke from the test to disperse.

4. Detectors that fail these tests should be cleaned as described under MAINTENANCE Section and retested. If the detectors still fail these tests they should be returned for repair.

5. Before proceeding to the next detector, ensure that the detector previously tested does not re-operate due to the presence of residual aerosol.

B. For the smoke detector sensitivity

1. Detector sensitivity can be tested using Smoke Detector Sensitivity Analyzer Model 501-B (Gemini Scientific Corp.).
Please follow the manufacturer's recommendations on their use.
Where the sensitivity limits for the Analyzer are 0.6 %/ft. ~ 1.3 %/ft.

2. Check that the detector gives an alarm condition within 40 seconds after the aerosol of which the concentration controlled with the Analyzer was introduced into the detector's head. Check the red LED indicator is on and the green LED is flashing on the VDOT-PY detector. If the red LED indicator fails to light, check the power to the detector and the wiring in the detector base.

3. After the detector has given the alarm condition, the detector automatically is reset by the control panel. It may be necessary to allow a short time to elapse before resetting the detectors, to allow any residual aerosol from the test to disperse.

4. If the detector has a history of nuisance alarm, check that the detector doesn't give an alarm condition within 50 seconds when the aerosol less than low sensitivity limit was introduced into the detector's head.

5. Detectors that fail these tests should be cleaned as described under MAINTENANCE Section and retested. If the detectors still fail these tests they should be returned for repair.

6. Before proceeding to the next detector, ensure that the detector previously tested does not re-operate due to the presence of residual aerosol.

Section 10 - MAINTENANCE

Notes: •Before cleaning, notify the proper authorities that the system is undergoing maintenance, and therefore the system will temporarily be out of service.

•Disable the loop or system undergoing maintenance to prevent unwanted alarms. It is recommended that the sensor be removed from its mounting base for easier cleaning and that sensors be cleaned at least once a year.

⚠ CAUTION

Do not disassemble, repair, or modify the products. It may cause a fire or electric shock.

1. Carefully remove the detector head from its base.

2. Use a soft, lint-free cloth, moistened with alcohol for sticky deposits, to clean the plastic enclosure.

3. Using a soft bristle brush (e.g. an artist's paint-brush) carefully brush between the vanes of the photo chamber in a linear motion away from the apertures on the plastic enclosure.

4. Ensure that no debris remains on or around the photo chamber once cleaning is complete. If the unit needs further cleaning, or is damaged or corroded, please return the complete detector to Zeta Alarms Ltd for warranty service.

5. Reinstall the detector.

6. Test the detector according to Section 9 - TESTING.

7. Set the system back to normal operation mode.

8. Notify the proper authorities that the system is back on line.

Section 11 – SPECIFICATIONS

Detector Element LED	(Peak wavelength: 630 nm) PD (High-output, high-speed silicon photodiode)
LED Visual Indicator	Stand-by - Flashing green LED Alarm - Solid red LED with flashing green
Operating Voltage	20VDC to 38VDC peak
System Voltage	35VDC Stand-by Current 200 µA
Alarm Current (with red LED)	5 mA
Sensitivity	0.69 %/Ft. to 2.86 %/Ft.
UL Ambient Installation Temp	0 °C to +38 °C (32 °F to 100 °F)
Operating Temp	-10 °C to +55 °C (14 °F to 131 °F)
Storage Temp	-20 °C to +60 °C (-4 °F to 140 °F)
Relative Humidity	≦ RH95% non-condensing
Addressing Method	Soft addressing, Non-Volatile EEPROM
Address	1-254 (decimal)
Maximum Quantity per Loop	254 units (See Note 1)
Material	R2200 (Idemitsu Kosan Co.,Ltd)
Dimensions	Φ104mm D x 42mm H (Φ4.1” x 1.65” H) (Detector head) Φ104mm x 15mm H (Φ4.1” x 0.59” H) (with VDOT-UB4 base)
Weight	105g (Detector head only) 170g (Detector head and VDOT-UB4)
Standard	UL268

Note 1: Please refer to the Control Panel detailed procedures for complete instruction on additional technical details pertaining to this connection.

Annex A
Quick Instruction of VDOT-AD2

This quick instruction of VDOT-AD2 is prepared to VDOT-PY. Please refer to "VDOT-AD2 programmer instruction manual for details.

Preparation

1. EVA-AD2 requires two 9v PP3 batteries.
   a) Before inserting the batteries, confirm the VDOT-AD2 is switched off and check polarity of battery, or damage could result.

Indicate current address

1. Turn the power switch ON.
   a) For one second, all LED's are lit and the buzzer sounds.
2. Push the detector into the base on the VDOT-AD2 while turning it clockwise until the detector locks into place.

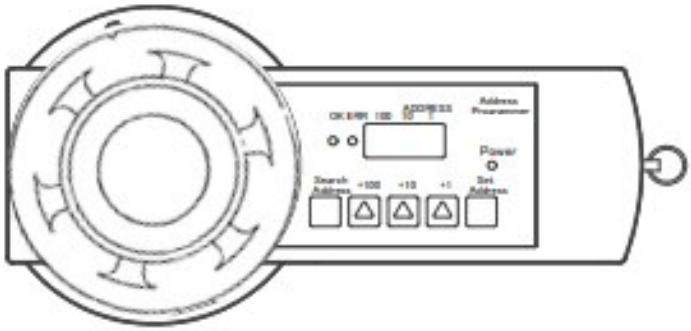
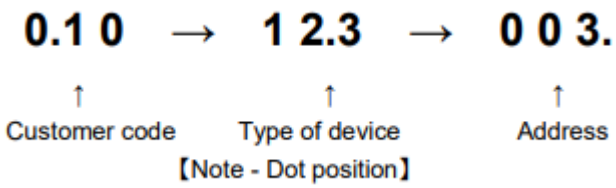


Figure A.1: Mounting a detector on VDOT-AD2

3. Press the [Search] Key
   a) Buzzer sounds, then the VDOT-AD2 starts transmitting to the detector.
   b) Do not remove the detector when transmitting, or damage could result.
4. The 7 segment LED reads [Customer code], [Type of device], [Address] in turn.
   a) The buzzer sounds, ERROR LED lights and the 7 segment LED display's an ERROR CODE when an unsupported or defective device is connected.



The 7 segment LED is distinguishes the Customer Code, Type and Address by the dot position in the LED. The information displayed by the 7 segment LED cycles every second and stops whilst displaying the [address] at the end of the second cycle.

Type of device is assigned to the detectors as below.

VDOT-PY: 152

Pressing any key at any time during the information collection cycle, forces the VDOT-AD2 to display the address, and await new address selection.

Set new address

1. +100, +10, +1 keys are used to select the new address.

2. Press the [Set] key
   a) The buzzer sounds, and all LED's are turned off. The VDOT-AD2 then starts transmitting to the detector.
   b) Do not remove the detector.

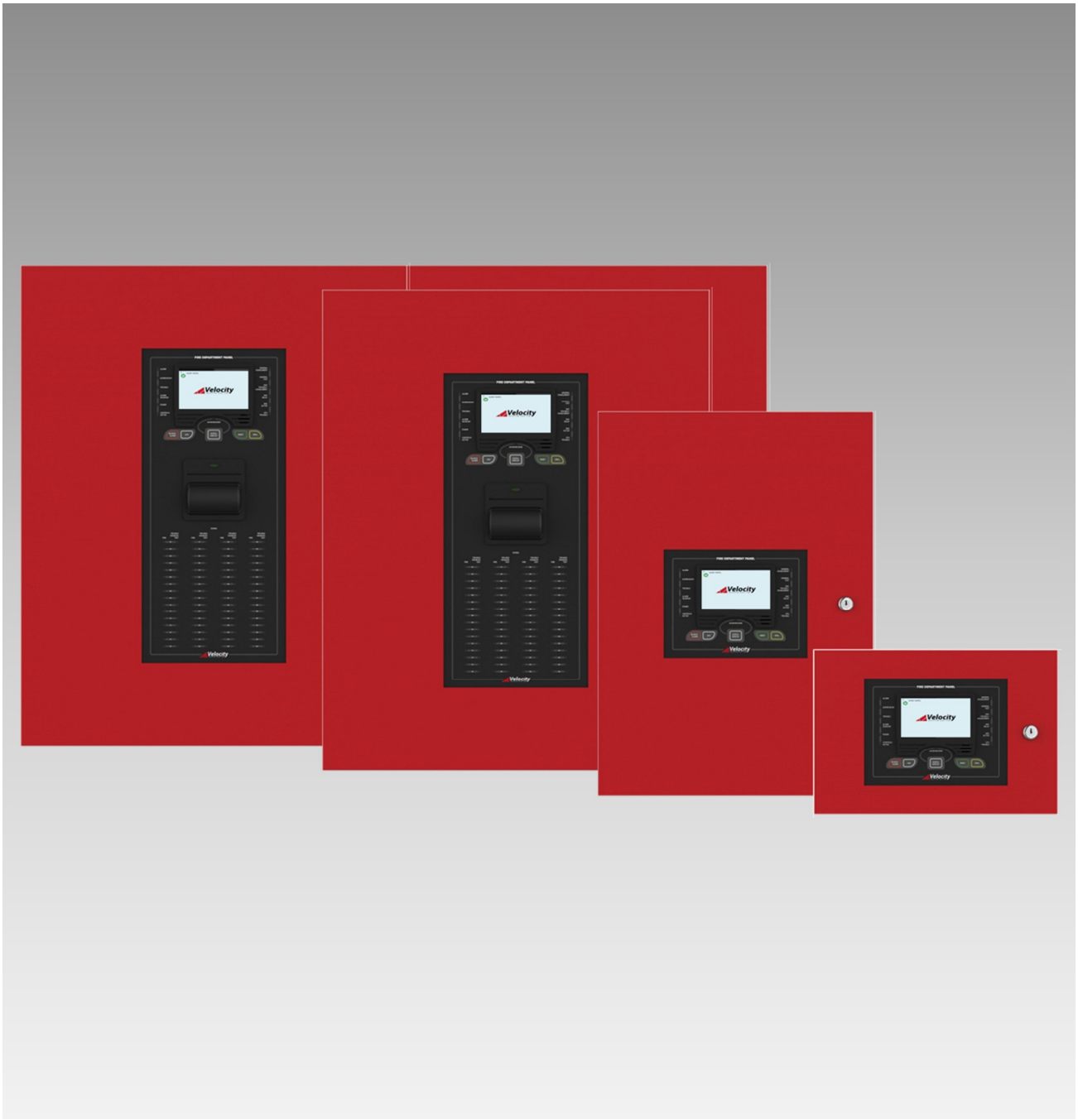
3. The 7 segment LED shows the new address and "complete" LED lights. If an unsupported or defective device is connected the buzzer sounds, ERROR LED is lit and the 7 segment LED reads ERROR CODE.

4. To continue changing the address for another device, change the detector and then repeat from paragraph 3.

To finish changing addresses, turn the POWER SW off

Velocity CONTROL PANEL

Installation Manual



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Introduction

About the Velocity Fire Alarm System

The Velocity Control Panel is a powerful intelligent fire alarm control system with a user friendly 4.3 inch touch screen display, which has been designed to provide reliable life safety and property protection, while also being easy to install, commission and operate. The Velocity system is totally modular which enables it to satisfy any size building fire alarm needs.

By adding intelligent loop modules, the Velocity can be upgraded to support up to 4000 detectors and devices spread across a flexible SLC loops (maximum of sixteen SLC). The system can also be expanded by adding Form C relay output modules, network interface modules, NAC modules, and zone monitor class A & B modules for conventional detectors and devices.

The Velocity system's touchscreen interface is designed to make status information clear, and system control functions simple to operate. Through the use of function buttons on the systems display the user can easily "Acknowledge" events, "Silence" or "Unsilence" building audibles, or "Reset" the system. The system status presentation is structured to allow the different types of system events (Alarms, Supervisory, and Trouble) to be viewed independently. 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). If additional details about the nature of the alarm report or its location are required, the user can add a text label to the device or zone.

The 32-bit microcontroller (MCU) at the heart of Velocity, rapidly processes logical decisions based on the status of the smoke detection and other initiating devices to control the system outputs. The Windows based software configuration tool Velocity Connect is used to configure the system's operation based on the customer specified operating requirements, and reduce commissioning/installation times.

The Velocity system continuously checks all software and hardware for proper operation. It checks all control panel electronic hardware, system memory components, and the system program. A hardware watchdog circuit is provided to ensure that System programs are functioning properly. If a problem develops with the program or processor, the watchdog circuit places the System into a trouble condition and resets it.

The Velocity system is equipped with a backup microprocessor on its termination board. To ensure reliable operation, if the main panel's CPU stops, the backup CPU will take over and allow the system to still be able to detect and annunciate alarms.
The fire alarm operation is always processed as the highest priority over all other operating modes.

Overall Features

- Modular construction allows a panel to be specified using just the required modules.
- Up to 4, 6 or 16 SLC modules (depending on panel model).
- 4.3" colour touch screen display.
- Capacity for up to 6 intelligent modules (depending on panel model).
- Full system redundancy.
- Extensive Day/Night mode programming.
- Full cause & effect programming via front of panel or the Velocity Connect PC software.
- 254 Velocity devices per SLC.
- 254 available programmable zones.
- Up to 64 panel peer-to-peer network.
- Positive Alarm Sequence.
- Automatic Drift Compensation.
- Alarm Verification.
- Mains Trouble output delay of up to 30 minutes.
- NAC special application 24V mode.
- 5, 10 or 15 AMP PSU available (depending on panel model).

Additional Features

There is PC configuration software, a mobile monitoring application, a remote annunciator and a LED Expander PCB available.
PC Configuration Software: Velocity Connect
Remote Annunciator: VL-MMP/RA
LED Expansion PCB: VL-MMP/ZLX

Document Conventions

Circuits and Zones

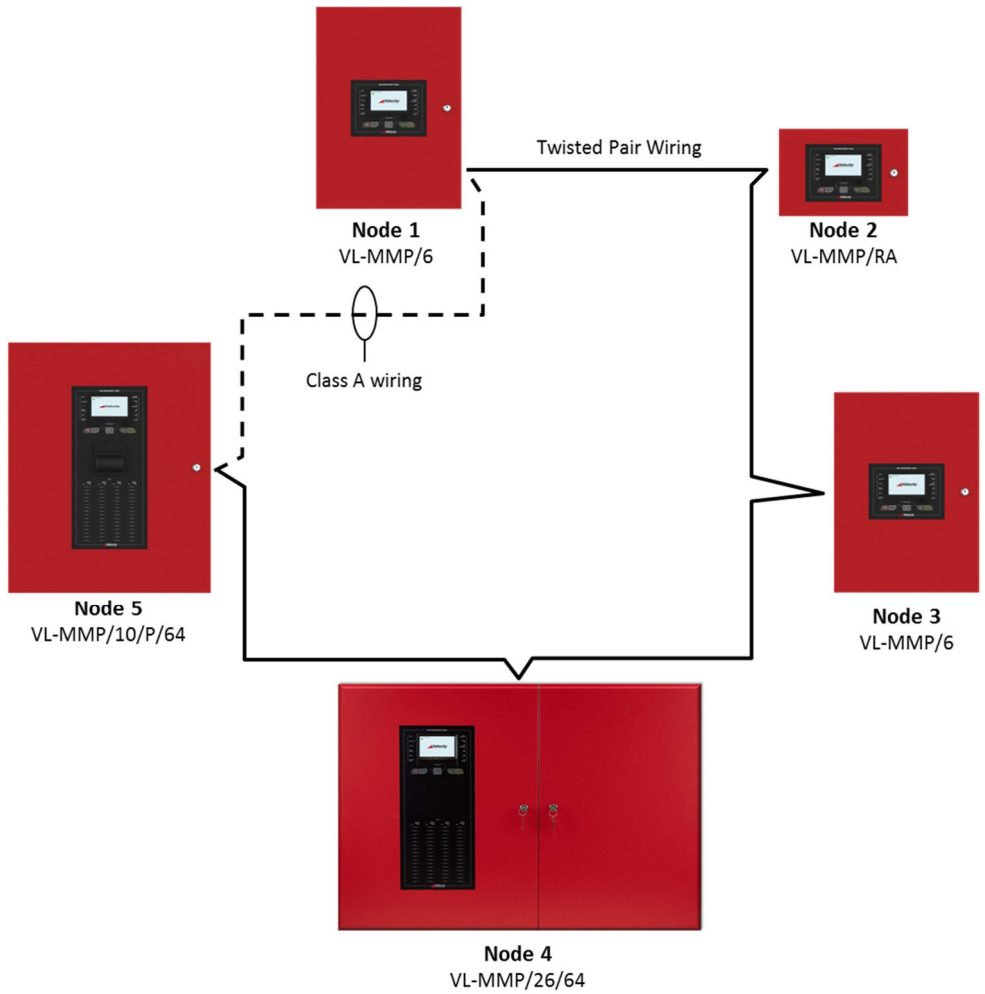
Circuit = this refers to an actual electrical interface, initiating (detection), indicating (signal), or relay.
Zone = this is a logical concept for a fire alarm protected area, and will consist of at least one circuit.
The terms zone and circuit are used interchangeably throughout this manual.
On the Velocity, circuits can be either conventional or addressable inputs or outputs. Both hardwired conventional inputs and outputs, and addressable inputs and outputs may be grouped together to form logical zones.

Wiring Styles

SLC Circuits have a redundant pathway (powered from both sides of the circuit) and are able to be wired either in the Class A designation or in the Class X designation (designed to operate past any a single short circuit with the addition of UL listed isolators).
ZM Circuits are available in two different wiring classes. The VL-ZMA has 1 Class A circuit that has a redundant path to operate past a single open circuit. The VL-ZMB has 2 Class B circuits that do not have a redundant path; they simply terminate at the last device.

NAC Circuits are available in two different wiring classes. The VL-NCA has 1 Class A circuit that has a redundant path to operate past a single open circuit. The VL-NCB has 2 Class B circuits that do not have a redundant path; they simply terminate at the last device.

Typical Velocity Network Fire Alarm Wiring



System Components

Panel Types

	Model	Description
	VL-MMP/6	• W:380mm x H:530mm • Space for up to 6 small modules • Supplied with a 5A PSU • Available in black or red • Space for 2 x 12Ah batteries.
	VL-MMP/10	• W:500mm x H:600mm • Space for up to 10 small modules • Supplied with a 10A PSU • Available in black or red • Space for 2 x 17Ah batteries
	VL-MMP/10/64	• W:500mm x H:600mm • Space for up to 10 small modules • Equipped with 64 zone LED expansion • Supplied with a 10A PSU • Available in black or red • Space for 2 x 17Ah batteries
	VL-MMP/10/P	• W:500mm x H:600mm • Space for up to 10 small modules • Equipped with UL listed panel printer • Supplied with a 10A PSU • Available in black or red • Space for 2 x 17Ah batteries
	VL-MMP/10/P/64	• W:500mm x H:600mm • Space for up to 10 small modules • Equipped with UL listed panel printer • Equipped with 64 zone LED expansion • Supplied with a 10A PSU • Available in black or red • Space for 2 x 17Ah batteries

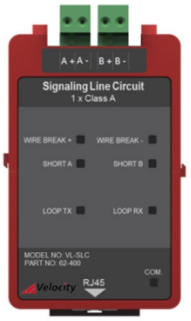
	VL-MMP/26	• W:1000mm x H:665mm • Space for up to 26 small modules • Supplied with a 15A PSU • Available in black or red • Space for 2 x 38Ah batteries
	VL-MMP/26/64	• W:1000mm x H:665mm • Space for up to 26 small modules • Equipped with 64 zone LED expansion • Supplied with a 15A PSU • Available in black or red • Space for 2 x 38Ah batteries
	VL-MMP/26/P	• W:1000mm x H:665mm • Space for up to 26 small modules • Equipped with UL listed panel printer • Supplied with a 15A PSU • Available in black or red • Space for 2 x 38Ah batteries
	VL-MMP/26/P/64	• W:1000mm x H:665mm • Space for up to 26 small modules • Equipped with UL listed panel printer • Equipped with 64 zone LED expansion • Supplied with a 15A PSU • Available in black or red • Space for 2 x 38Ah batteries
	VL-MMP/RA	• W:300mm x H:200mm • Velocity Remote Annunciator • Please refer to GLT-261-7-3 Velocity MMP Repeater Manual for further information

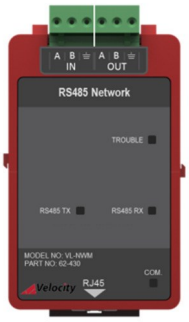
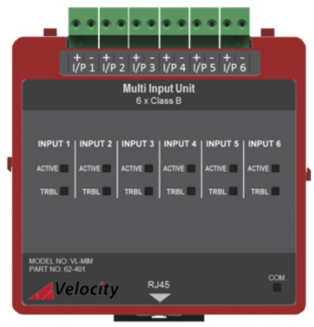
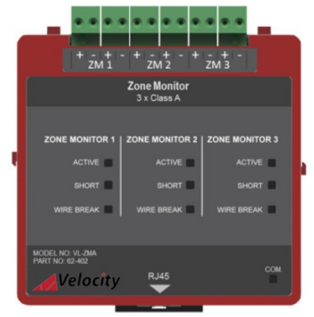
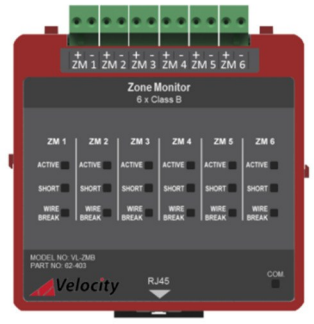
All panel versions are also available in black.

Model	Description
VL-MMP/6-B	Velocity MMP 6 expansion port panel, Black
VL-MMP/10-B	Velocity MMP 10 expansion port panel, Black
VL-MMP/10-B/64	Velocity MMP 10 expansion port panel, with zonal LED indication, Black
VL-MMP/10-B/P	Velocity MMP 10 expansion port panel, with built in printer, Black
VL-MMP/10-B/P/64	Velocity MMP 10 expansion port panel, with zonal LED indication and built in printer, Black
VL-MMP/26-B	Velocity MMP 10 expansion port panel, Black

VL-MMP/26-B/64	Velocity MMP 10 expansion port panel, with zonal LED indication, Black
VL-MMP/26-B/P	Velocity MMP 10 expansion port panel, with built in printer, Black
VL-MMP/26-B/P/64	Velocity MMP 10 expansion port panel, with zonal LED indication and built in printer, Black
VL-MMP/RA-B	Velocity MMP Remote annunciator, Black

Panel Modules

	Model No.	Description	Technical
	VL-SLC	Signaling Line Circuit Module The plug-in SLC module provides power for, and handles communications to the analogue addressable devices. It has 4 trouble status LED's for added fault finding assistance.	Maximum SLC Current: 500mA Maximum SLC Capacity: 254 Addresses Maximum SLC Length: 2KM Maximum SLC Resistance: 22Ω + to +, 22Ω - to -) Maximum SLC Capacitance: 100nF Maximum SLC Baud Rate: 4334 bits per second Wiring Class: Class A or Class X Compatible Devices: VDOT-PY, VDOT-PYH, VDOT-S6, VDOT-SCI, VDOT-SCM-SCI, VDOT-ZMU-SCI, VDOT-DIP-SCI, VDOT-DOP-AC240V-SCI, VDOT-DOP-SCI, VDOT-DPH, VDOT-H2, VDOT-MinilP
	VL-NCA	Notification Appliance Circuit Module (Class A) The plug-in NAC module provides power for, and handles the operation for the non-addressable notification appliances (horns and sirens). It has 1 x class A circuit and can be programmed to provide a 24VDC auxiliary output.	NAC Voltage: 29VDC Nominal Maximum NAC Current: 1A Maximum NAC Impedance: 4Ω Maximum NAC Length: Depends on AWG Wiring Class: Class A [Power limited & Supervised] Special Applications: Auxiliary 24 VDC Output [Power limited & Unsupervised] Compatible Devices: VL-MH, VL-W-C, VL-W-M, VL-W-CS-W, VL-W-CS-R, VL-C-CS-W, VL-C-CS-R, VL-W-MS-R, VL-W-MS-W, VL-C-MS-R, VL-C-MS-W, VL-W-S-W, VL-W-S-R, VL-C-S-W, VL-C-S-R.
	VL-NCB	Notification Appliance Circuit Module (Class B) The plug-in NAC module provides power for, and handles communications to the non-addressable notification appliances (horns and sirens). It has 2 x class B circuits and can be programmed to provide two 24v DC auxiliary outputs.	NAC Voltage: 29VDC Nominal Maximum NAC Current: 500mA **per circuit** Maximum NAC Impedance: 4Ω Maximum NAC Length: Depends on AWG Wiring Class: 2 x Class B [Power limited & Supervised] Special Applications: Auxiliary 24 VDC Output [Power limited & Unsupervised] End of Line Resistor: 4K7Ω Compatible Devices: VL-MH, VL-W-C, VL-W-M, VL-W-CS-W, VL-W-CS-R, VL-C-CS-W, VL-C-CS-R, VL-W-MS-R, VL-W-MS-W, VL-C-MS-R, VL-C-MS-W, VL-W-S-W, VL-W-S-R, VL-C-S-W, VL-C-S-R.
	VL-MRM	Multi Relay Module – Form C A Relay module that is designed to be DIN mounted inside of a Velocity control panel. It's powered and interfaced to the CIE via a RJ45 connection. Can be configured as a programmable relay or a common alarm, common trouble or common supervisory relay via the panel settings.	Relay Type: Form C x 3 Switching Capacity: 5 A, 30 VDC (resistive) 5 A, 250 VAC (general use) Quiescent Current @ 30V: 39.3mA Relay Operated Current (LEDs ON): 115.26mA

	VL-NWM	Network Module The Velocity system network has the facility to monitor, indicate and control the functions of a fire alarm installation, thus allowing signals to be distributed around a large site. The network will accommodate up to 64 nodes. The network uses RS485 data communication.	Communication Protocol: RS485 Maximum Network Size: 64 Nodes Maximum Distance Between Nodes: 1KM (using a screened data cable) or 100M (using a standard fireproof cable) Network Wiring Typologies: Bus or Ring NOTE: Only 1 network module allowed per panel. If a second module is fitted, it will be powered down when the panel starts.
	VL-MIM	Multi Input module (Class B) An input module that is used to monitor and raise alarm from any ancillary equipment such as sprinkler flow switch, aspiration detectors, secondary fire control panel, beam detectors, external power supplies etc.	Input Voltage: 23.7VDC Nominal Wiring Class: Class B x 6 Quiescent Current @ 30V: 39.3mA Input Max Impedance: 10Ω Input End of Line: 4K7Ω Alarm Triggering Resistor: 1KΩ
	VL-ZMA	Zone Monitor (Class A) A zone monitor that can be typically used for conventional devices and/or for special detectors that are not available in addressable form. It has 3 x Class A input circuits.	Zone Voltage 29VDC Wiring Class: Class A x 3 [Power limited & Supervised] Zone Maximum Line Impedance: 10Ω Alarm Triggering Resistor: 1KΩ Compatible Detectors: Nittan EVCA-P (UL268 Listed)
	VL-ZMB	Zone Monitor (Class B) A zone monitor that can be typically used for conventional devices and/or for special detectors that are not available in addressable form. It has 6 x Class B input circuits.	Zone Voltage: 26VDC Nominal Wiring Class: Class B x 6 [Power limited & Supervised] Zone Maximum Line Impedance: 10Ω End of Line Resistor: 4K7Ω Alarm Triggering Resistor: 1KΩ Compatible Detectors: Nittan EVCA-P (UL268 Listed)

Control Panel Installation and Dimensions

Enclosure Dimensions

See table 1 for full dimensions see table 1.

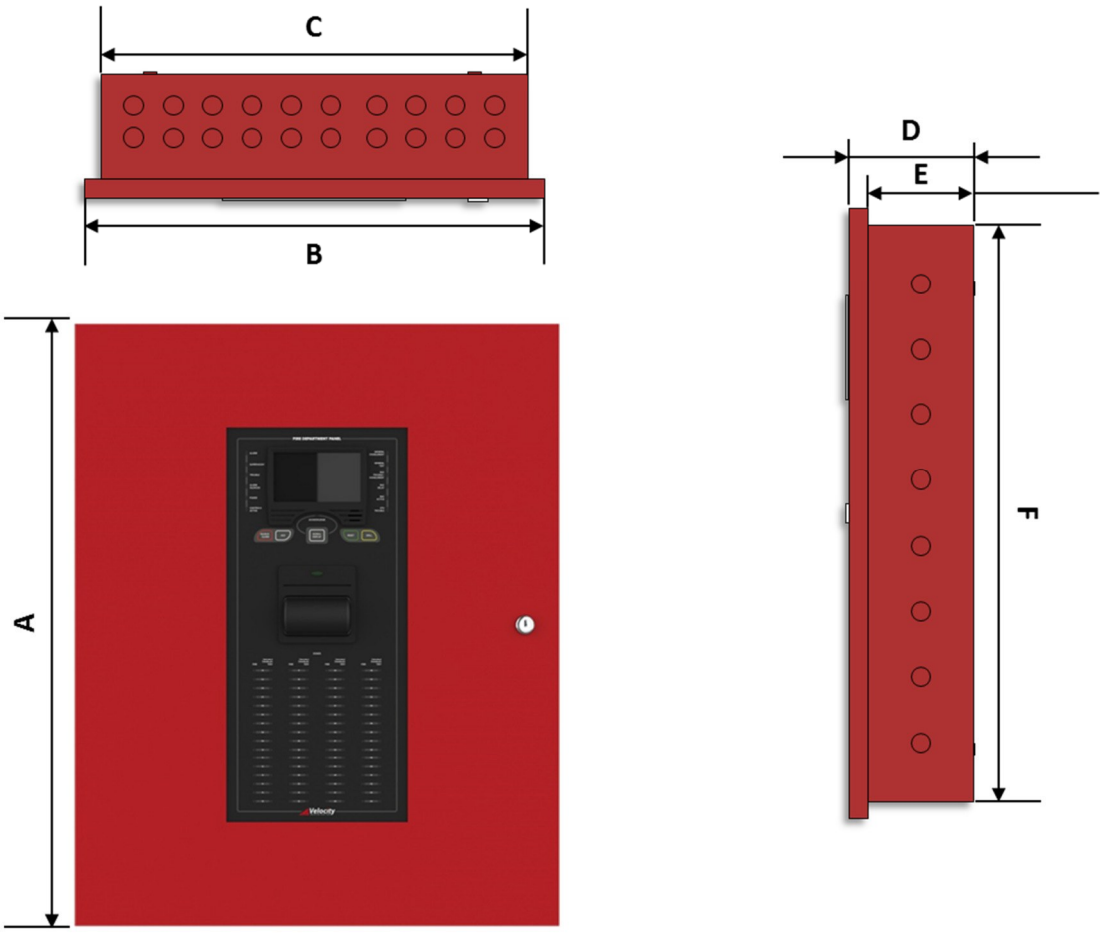


Table 1

Panel	A	B	C	D	E	F	Top Knock outs	Side Knock outs	Bottom Knock outs	Max Battery Size
VL-MMP/6	535mm	385mm	355mm	150mm	120mm	505mm	18	12	4	2 x 12Ah
VL-MMP/10	665mm	535mm	505mm	200mm	170mm	635mm	26	8	4	2 x 38Ah
VL-MMP/26	665mm	975mm	945mm	200mm	170mm	635mm	64	28	20	2 x 65Ah

Panel Construction Details

All components are manufactured from Zintec.

Large and Medium MMP Enclosures
- Back box and door 1.5 mm
- Door plate 0.9 mm
- All internal parts are 0.9 mm

Small MMP
- All parts are 0.9 mm

Repeater MMP
- All parts 0.9 mm.

The paint colour for the main box and door is RAL3020 Red Leatherette (Red Version) or RAL9005 Black Leatherette (Black version). The internals are RAL9005 Black Leatherette.

The control cabinet can be semi flushed into a wall or surface mounted.

Locating the Fire Alarm Control Panel

The control panel should be installed per NFPA 70 and NFPA 72 recommendations: -

The panel should be close to the main entrance of the building, so that it can be viewed by any fire-fighting personnel entering the building.

- It should be fitted to a sturdy wall that will not flex unnecessarily.
- It should ideally be mounted at eye level, for it to be viewed without need of a ladder.
- It should be installed in a dry, weatherproof place, preferably NOT in direct sunlight.
- It should be easily accessible, so that the responsible person can perform their regular fire alarm checks.

The panel must be in a clean, dry position, which is not subject to excessive shock or vibration and at least 2 meters away from pager systems or any other radio transmitting equipment. The operating temperature range is 0°C (32°F) to 49°C (120°F); maximum humidity is 95%.

Mounting the Enclosure

Fix the enclosure to the wall using all the mounting points provided:
MMP6: 4 x Mounting Points. See Fig 1
MMP10: 4 x Mounting Points See Fig 2
MMP26: 6 x Mounting Points. See Fig 3
Check the build and condition of the wall to decide a suitable screw fixing. The mounting holes are designed for No 8 roundhead or countersunk woodscrews (or similar). Remove any debris from the enclosure. Take care not to damage the FACP during installation.

ATTENTION: DO NOT DRILL ANY ENTRY HOLES INTO THE PSU SECTION OF THE ENCLOSURE WHICH IS LOCATED ON THE LEFT-HAND SIDE OF THE CONTROL PANEL CABINET.

Mounting Hole Dimensions

Fig 1

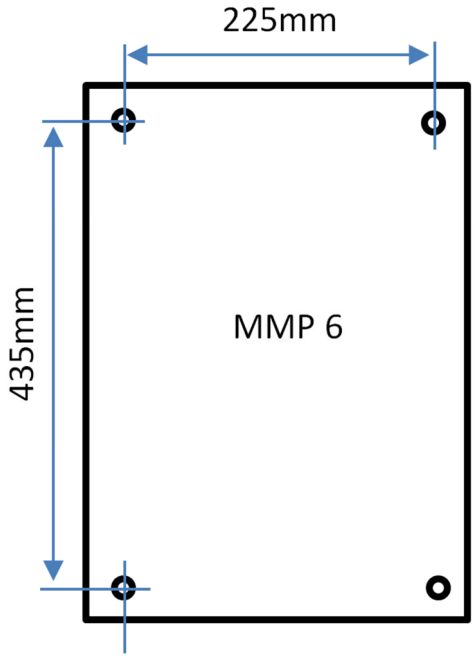


Fig 2

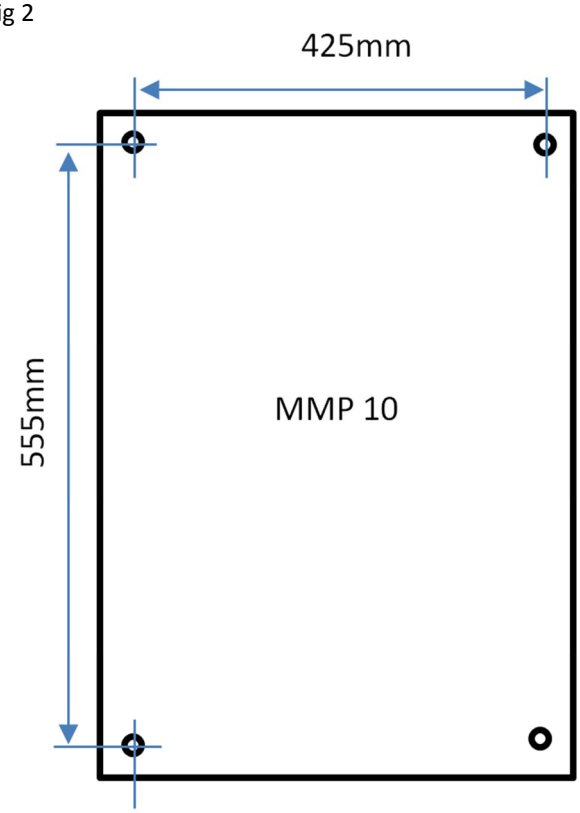
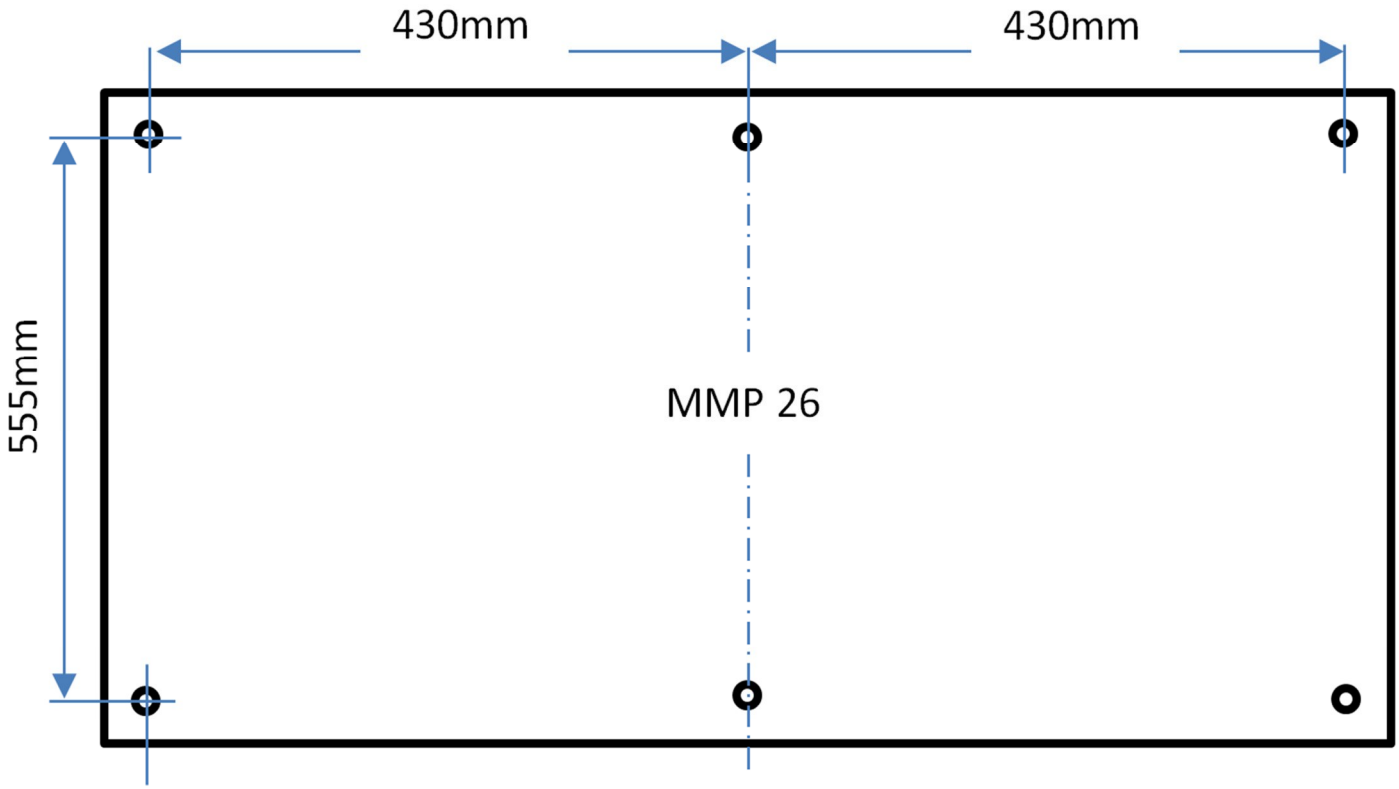


Fig 3



Planning Cable Entry

The Knock-out cable entries can be easily removed by Tapping with a suitable screwdriver or chisel from outside the control panel box. Alternatively, the entry can be drilled out, using a 20mm hole cutter. Care should be taken if using a drill. Consider removing the PCBs to prevent damaging them.

The VELOCITY MMP comes with many cable entry holes. If another entry hole is required, it is strongly recommended that the panel door is removed to avoid accidental damage. Also, the power supply and termination board should be removed and stored in a safe place. This would also help while fixing the back box to the wall.

ATTENTION: DO NOT DRILL ANY ENTRY HOLES INTO THE PSU SECTION OF THE ENCLOSURE.

Cable Grounding

The MMP panel provide earth bars located along the top of the panel for grounding incoming wiring if needed.

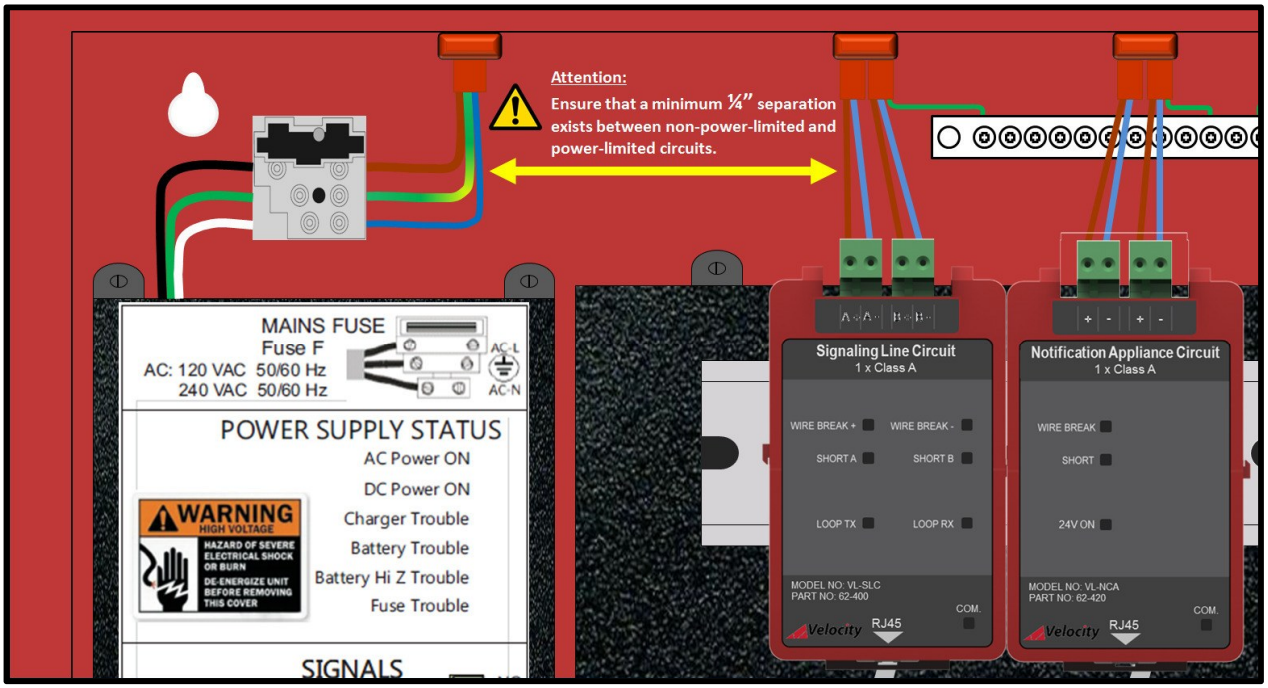
The MMP 6 panel has 1 x 12 way Earth bar

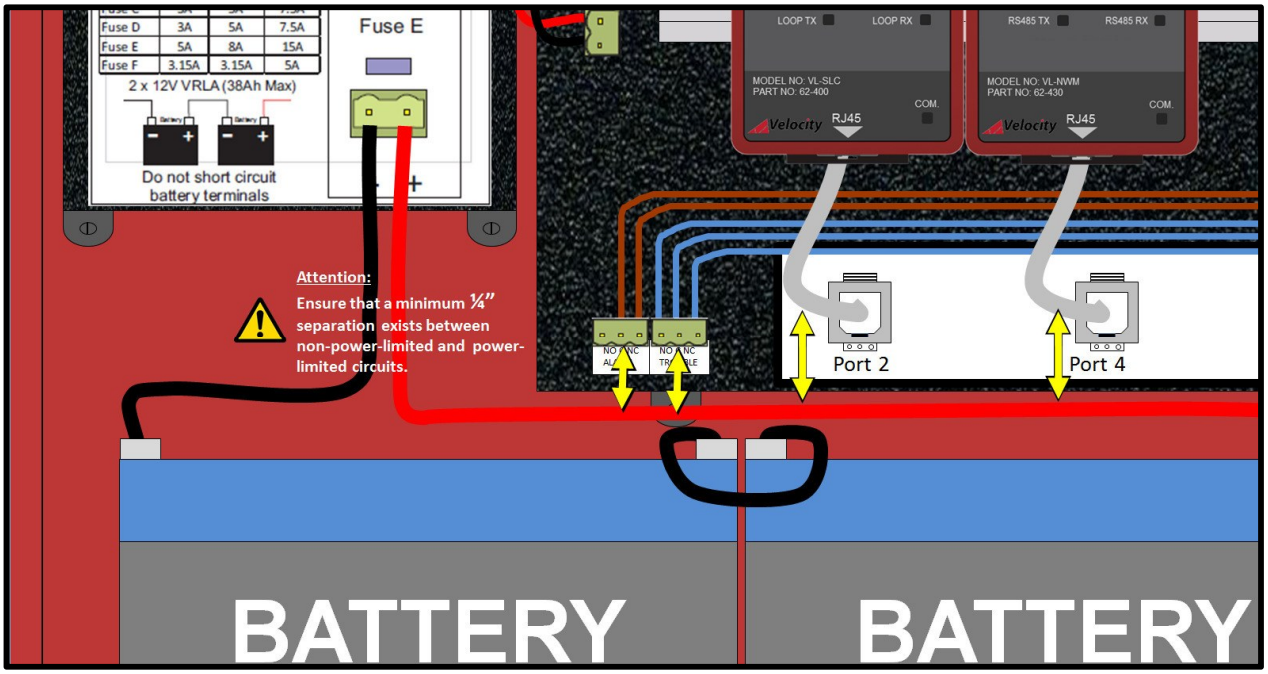
The MMP 10 panel has 2 x 12 way Earth bar

The MMP 26 panel has 3 x 12 way Earth bar

Mains Wiring

Note: *The AC (mains) input wiring, and the back-up battery connections are non-power-limited. All other connections on the MMP panel are power limited. Ensure that a minimum ¼" separation exists between non-power-limited and power-limited circuits.*





Recommendations

The Mains supply to the FACP is fixed wiring, using Fire resisting 3-core cable (Between 1 mm² and 2.5mm²), or equivalent, fed from an isolating double pole switch fused spur, and fused at 5A. This should be secure from unauthorized operation and be marked 'FIRE ALARM: DO NOT SWITCH OFF'. The supply must be exclusive to the Fire Panel.

Connecting the Mains Power

The AC Live (L), Earth (E) and Neutral (N) connections are marked on the power supply cage. It is essential that the mains Earth cable is connected to the PSU's Earth terminal. The incoming mains cable should be kept separate from the SLC cables to help minimise mains interference.

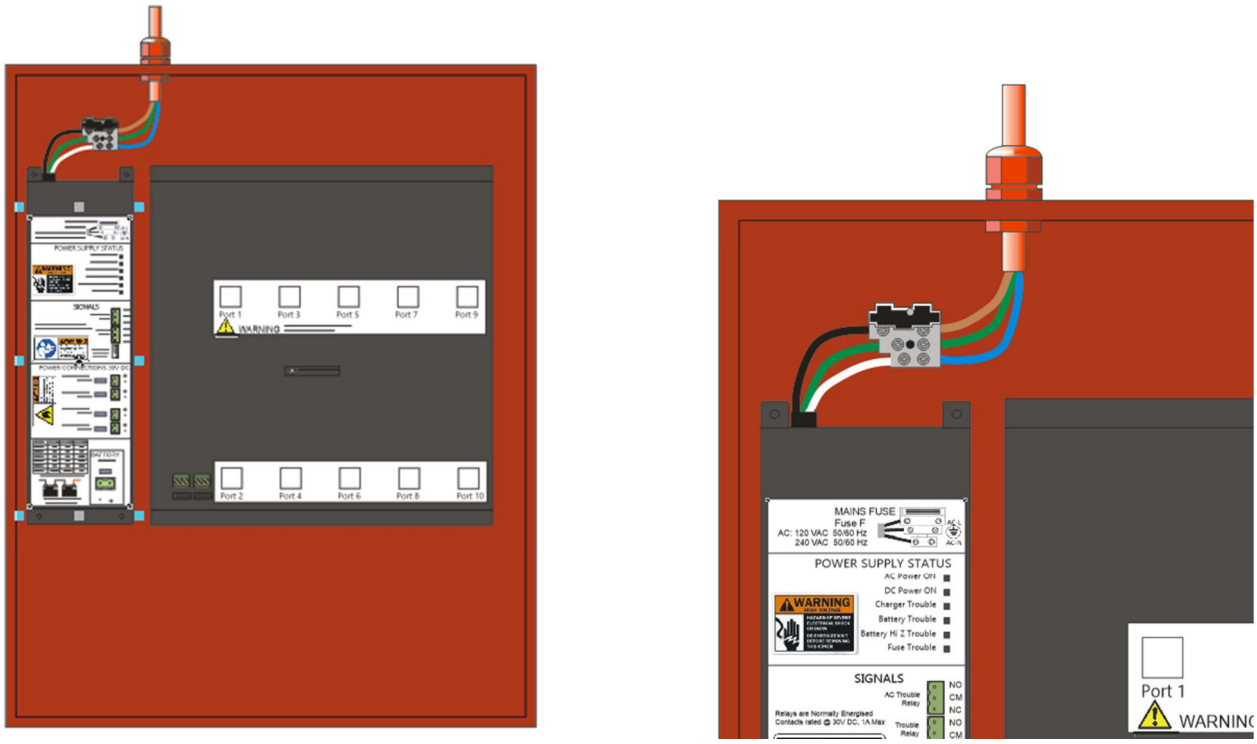
ATTENTION: MAKE SURE ANY SPARE ENTRY HOLES THAT HAVE BEEN OPENED, BUT NOT USED ARE COVERED WITH SUITABLE GROMMETS OR BLANKING SCREWS.

It is advisable to apply power to the panel before connecting any devices, to check for correct operation, and to familiarise yourself with the fire alarm panels controls.

If a knockout is removed, fill the hole with a suitable cable gland. If any knockout is removed, but subsequently not used, it should be covered up.

The AC Mains cable must be fed into the enclosure via one of the cable entries at the top left corner of the back box (Refer to Figure 3 below).

Figure 3: Wiring the mains power supply



Panel	Input Voltage	Input Frequency	PSU Cage Size	Max Input Current	Max Surge current	Fuse Installed
VL-MMP/6	120-240V AC	47-63 Hz	150W	1.4Amax@120Vac & Full-Load, 0.75Amax@220Vac & Full-Load	65A peak, 1.2ms duration, <0.25A2s@230Vac, Cold Start	3.15A
VL-MMP/10	120-240V AC	47-63 Hz	240W	2.2Amax@120Vac & Full-Load, 1.1Amax@220Vac & Full-Load	65A peak, 1.2ms duration, <0.25A2s@230Vac, Cold Start	3.15A
VL-MMP/26	120-240V AC	47-63 Hz	400W	3.6Amax@120Vac & Full-Load, 2.0Amax@220Vac & Full-Load	65A peak, 1.2ms duration, <0.25A2s@230Vac, Cold Start	5A

Battery Wiring

The Velocity MMP panel uses two 12 Volt batteries, wired in series to give a 24 Volt back-up supply.
The **+ve** of one battery is connected to the **red** battery lead.
The **–ve** of the other battery is connected to the **black** battery lead.
The –ve of the first battery is connected to the +ve of the second battery using the link wire supplied.

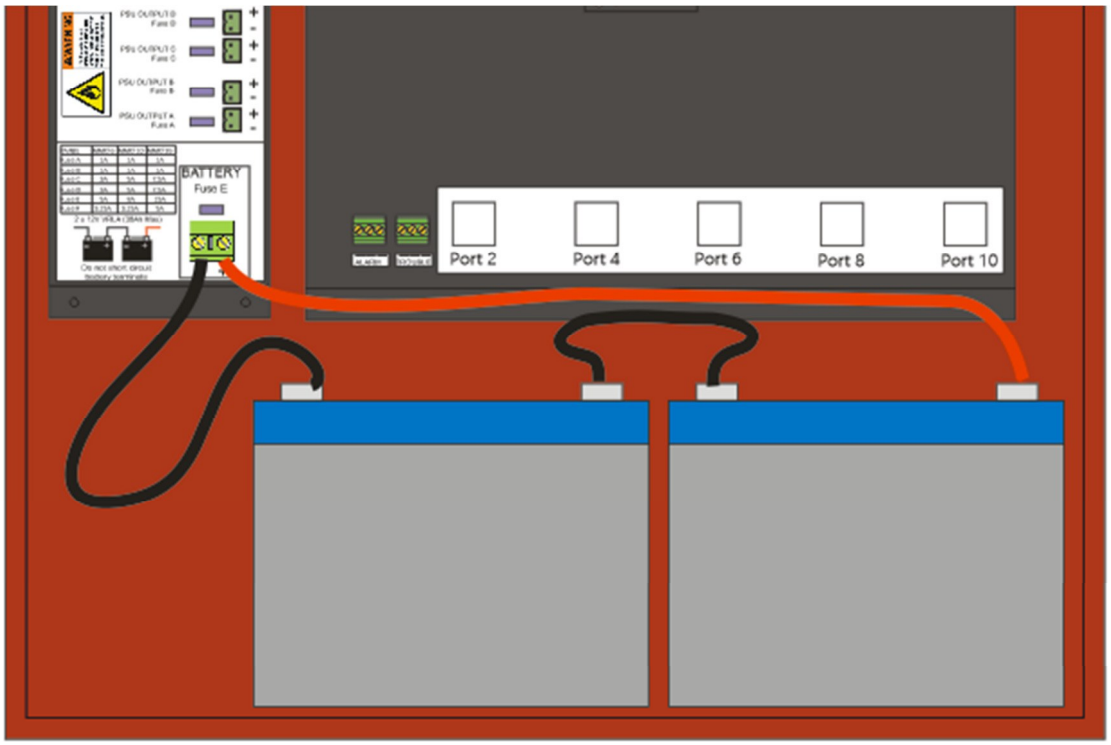
Recommended Battery Types:

Panel	Recommended Battery size
VL-MMP/6	2 x Powersonic 12V,12Ah
VL-MMP/10	2 x Powersonic 12V,38Ah
VL-MMP/26	2 x Powersonic 12V,65Ah

To calculate the required backup battery capacity, use the information in Appendix B

Other makes and sizes of battery may be suitable. Calculate the standby requirements to determine the most suitable size of battery

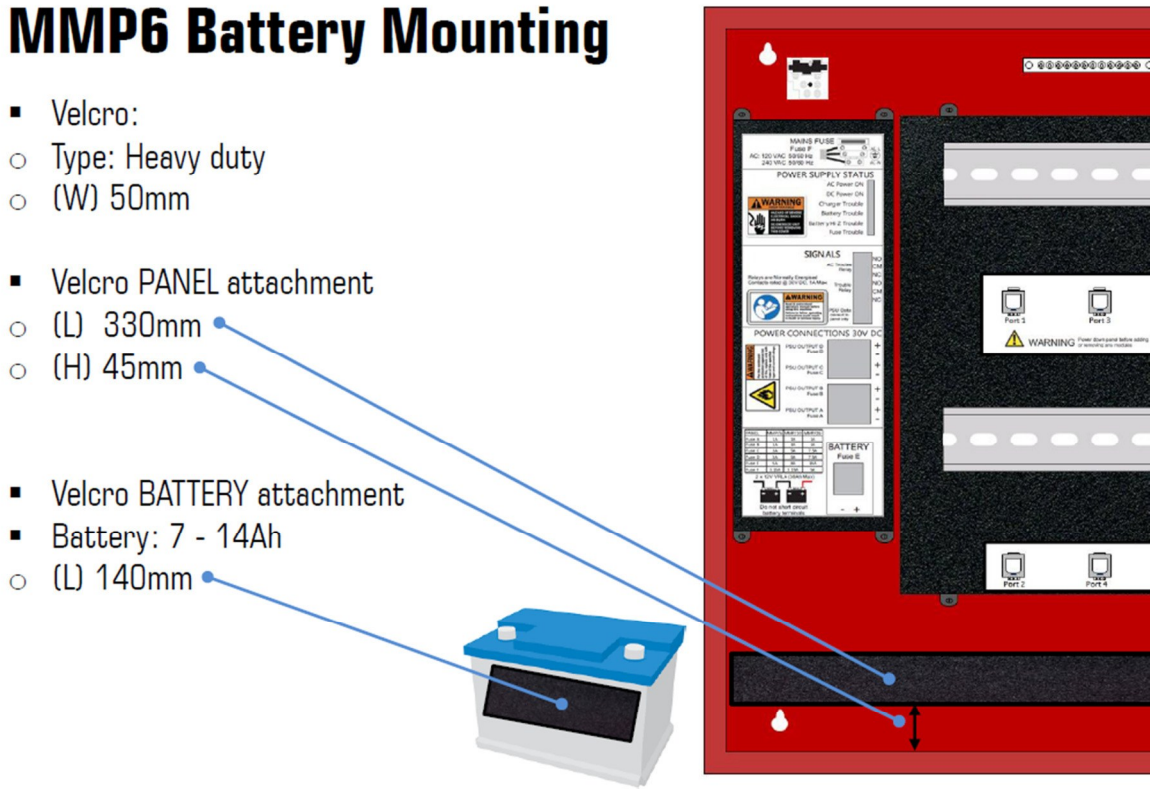
Figure 4: Battery location and connection



Panel	Charger Boost Voltage	Charger Float Voltage	PSU Cage Size	Max Charger Current	Max Battery Size	Fuse Installed
VL-MMP/6	29.5V DC	27.6V DC	150W	1.1A	2 x 12V, 12 Ah	5A
VL-MMP/10	29.5V DC	27.6V DC	240W	2.2A	2 x 12V, 38 Ah	8A
VL-MMP/26	29.5V DC	27.6V DC	400W	2.2A	2 x 12V, 65 Ah	15A

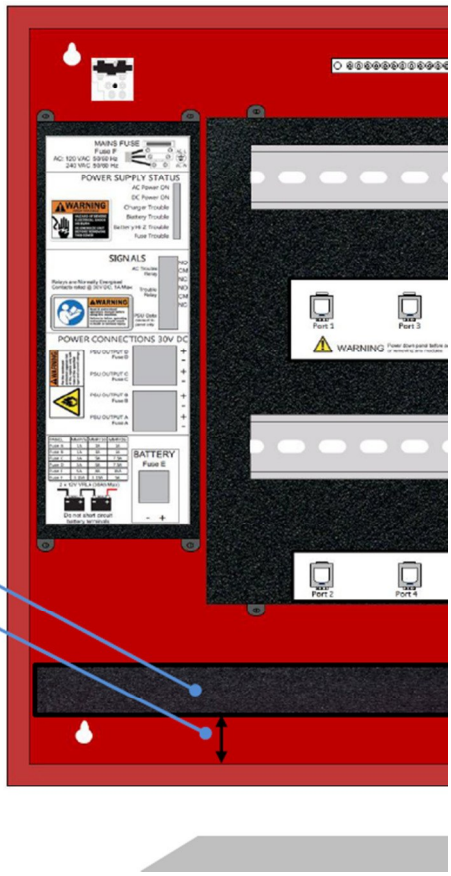
Securing the batteries

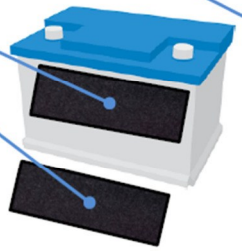
The MMP panel has been designed so that the batteries are secured in the panel with Velcro strips.



MMP10 Battery Mounting

- Velcro:
  - Type: Heavy duty
  - (W) 50mm
- Velcro PANEL attachment
  - (L) 480mm
  - (H) 45mm
- Velcro BATTERY attachment
- Battery: max 38Ah
  - (L) back: 180mm
  - (L) bottom: 110mm





MMP26 Battery Mounting

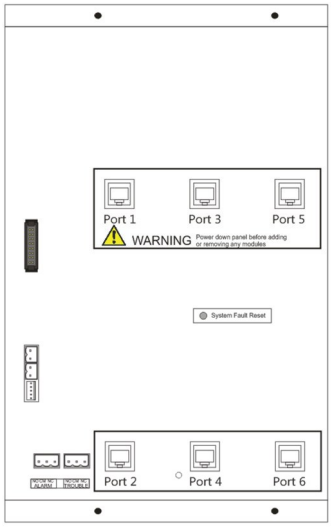
- Velcro:
  - Type: Heavy duty
  - (W) 50mm
- Velcro PANEL attachment
  - (L) 900mm
  - (H) 45mm
- Velcro BATTERY attachment
- Battery: max. 65 AH
  - (L) back: 280mm
  - (L) bottom: 200mm



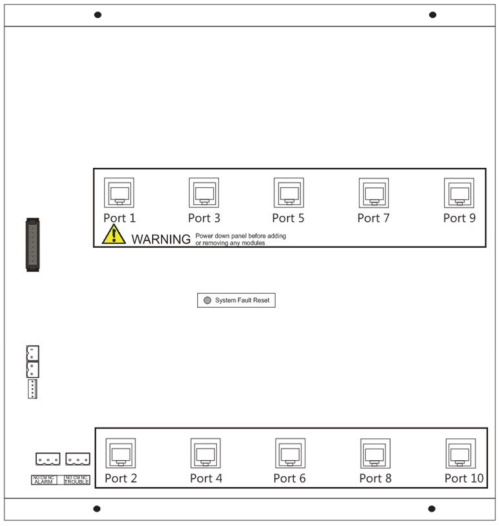
Assembling the MMP panel

The Velocity MMP is a modular panel, designed to be flexible to install. It will normally be supplied as the base panel with a number of expansion modules packed separately. The Modules are Din Rail Mounted, and connect to the panel's motherboard with a small RJ45 cable (supplied with the module). The Base panel is available in 3 sizes:

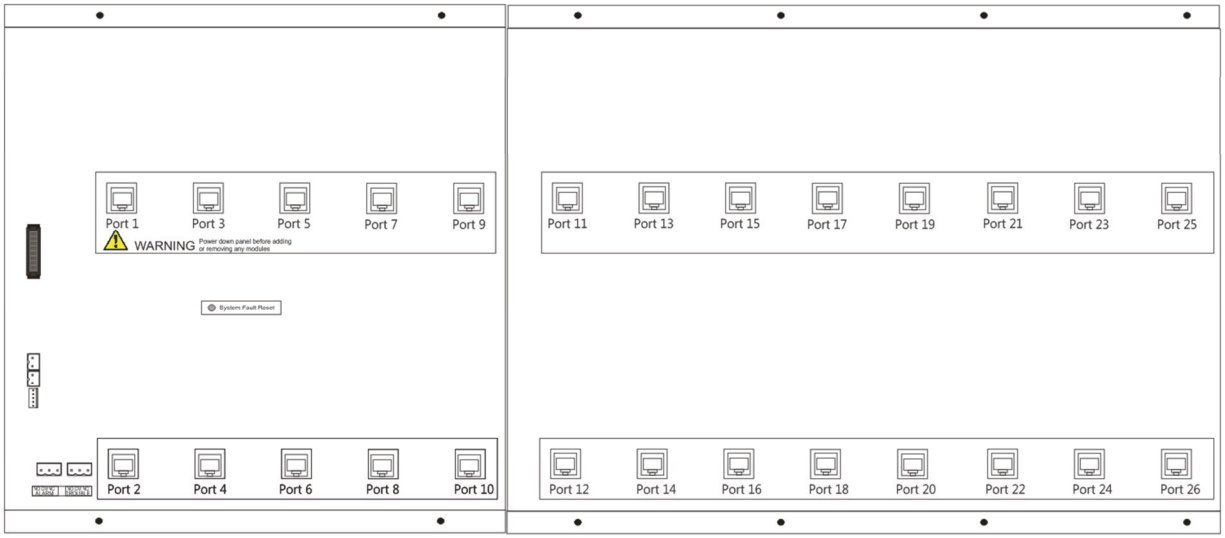
MMP6



MMP10



MMP26



The above diagrams show the port addresses for each panel size

A typical panel set up would include:-

At least one module for initiating devices (Either a conventional zone module, VL-ZMA or VL-ZMB, or an addressable loop (VL-SLC signalling line circuit module)
At least one Notification Appliance module (VL-NCA or VL-NCB)

Initial Power Up

It is recommended to initially power up the panel with no modules connected to confirm that the base panel is functioning as expected. To do this:-

1. Check that the AC cable is connected correctly and the proper grounding has been made.
2. Close the panel door
3. Turn on the mains power. The following will be observed:-
    a. Power, Trouble and CPU trouble LEDs will light for around 6 seconds
    b. Trouble and CPU trouble LEDs will turn off. Power Led will blink a few times
    c. LCD will show touch for calibration. Press the screen within 3 seconds to perform a screen calibration. (The screen is calibrated at the factory, so this step is not usually required)
    d. The LCD shows the velocity logo for a few seconds, while it checks to see what modules are fitted. (Note: the usual "System Healthy" banner is not shown during the module check.)
    e. If the panel finds no modules, it displays "no modules" on its LCD


No Modules

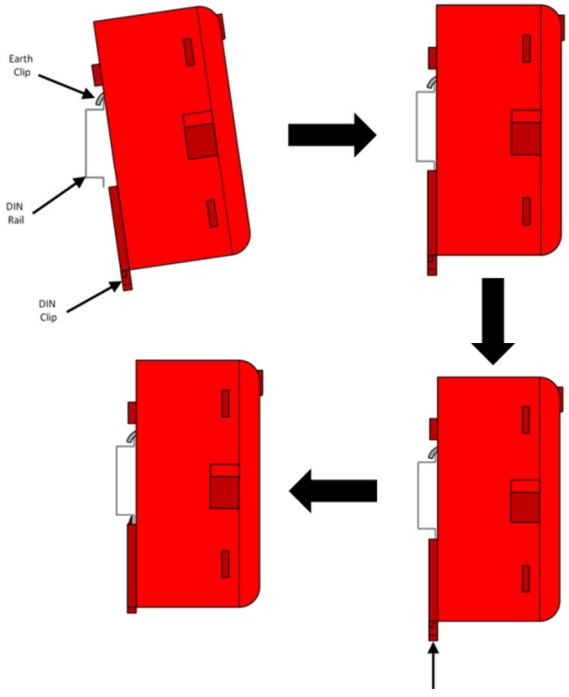
    f. The panel has passed its power on test, so can now be turned off for modules to be fitted.

Module Installation

The MMP panel uses the expansion port number to reference modules. It is recommended that any SLC modules are fitted first to the first expansion ports, so that the loop circuit numbers follow a logical sequence (loop 1 in port 1, loop 2 in port 2 etc.)

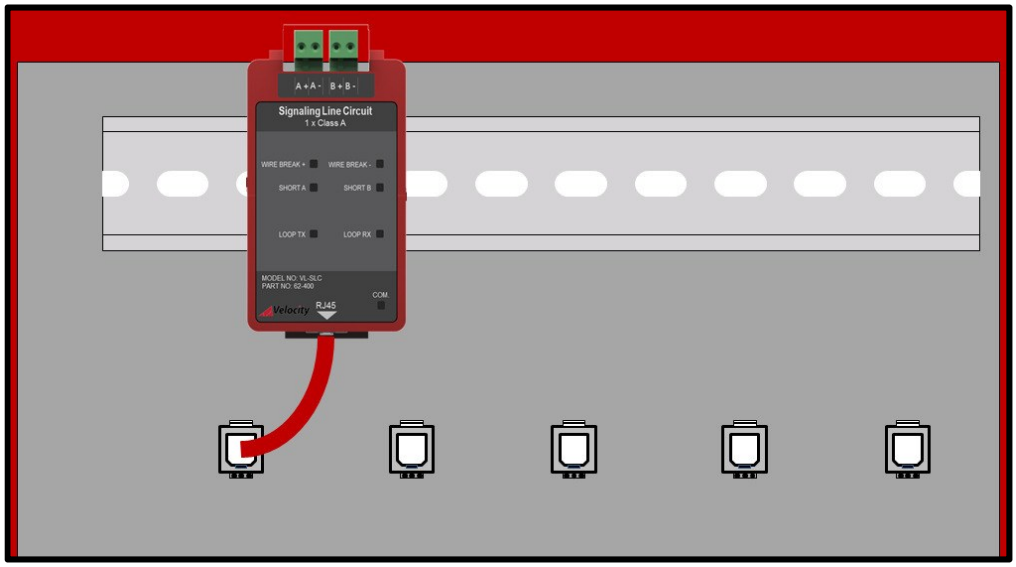
ATTENTION: THE PANEL MUST BE POWERED DOWN, AND DISCONNECTED FROM THE BATTERIES BEFORE INSTALLING OR REMOVING ANY MODULES.

1. Ensure that the installation area is free from any cables or wires that may get caught, and that there is enough space on the DIN rail to mount the module. Also ensure that the DIN clip underneath the module is in the open position.
2. Place the module onto the DIN rail, hooking the metal earth clip underneath onto the rail first.
3. Once the earth clip is hooked, push the bottom of the module onto the rail so that the module sits flat.
4. Push the plastic DIN clip (located at the bottom of the module) upwards to lock and secure the module into position.



Viewed from the side

5. Once the module is secured to the DIN rail, simply connect the supplied CAT5E cable to the module's RJ45 port.
6. Connect the other end of CAT5E cable to the nearest unoccupied RJ45 port on the termination PCB.



TRM RJ45 Port Address Designation

Each RJ45 port on the Velocity termination has its own unique port address. This port address is important to keep note of as it is displayed on Alarm/Trouble messages and is used when configuring or setting up cause and effects on the panel (See operation manual GLT-261-7-2).

Securing the modules

The modules are designed to clip together to make them more secure. In addition, the MMP panel is supplied with Din rail stoppers. These should be fitted before the first module, and after the last module on each rail.

Before Powering the Panel On

1. To prevent the risk of a spark, do not connect the batteries. Only connect the batteries after powering on the system from its main AC supply.
2. Check that all external field wiring is clear from any open, shorts and ground faults.
3. Check that all the modules have been installed properly, with correct connections and placement
4. Check that all switches and jumper links are at their correct settings.
5. Check that all interconnection cables are plugged in properly, and that they are secure.
6. Check that the AC power wiring is correct.
7. Ensure that the panel chassis has been correctly earth grounded (See NFPA 70).
8. Before powering on from the main AC supply, make sure that the front panel door is closed.

Power on Procedure

1. After the above has been completed, turn the panel on (Via AC Only). The panel will follow the same power up sequence described in initial power up section above
2. The panel will now display one of the following messages

Message	Meaning
 No Modules	The Panel has not detected any modules fitted during its power up check. Power down the panel and check that the expected modules are fitted, and that all module cables are correctly inserted. Note that the panel will need at least one module fitted to run.
001 New module : SOUNDER CLASS A 002 Empty port 003 Empty port 004 Empty port 005 Empty port	The panel has detected a new module added to a port that was previously empty. This is the usual message seen the first time a panel is configured
001 Changed module : SOUNDER CLASS A 002 Empty port 003 Empty port 004 Empty port 005 Empty port	The panel has detected a different type of module fitted to a port that was previously occupied.
001 Serial Number Changed : LOOP 002 Empty port 003 Empty port 004 Empty port 005 Empty port	The panel has detected a module fitted to a port that is the same type, but it`s serial number has changed. This could happen if a loop module was swapped with another one, for example.
001 Removed Module : LOOP 002 Empty port 003 Empty port 004 Empty port 005 Empty port	The panel has detected no module fitted to a port that was previously occupied.

	The panel has detected no module changes, so has powered up and started running

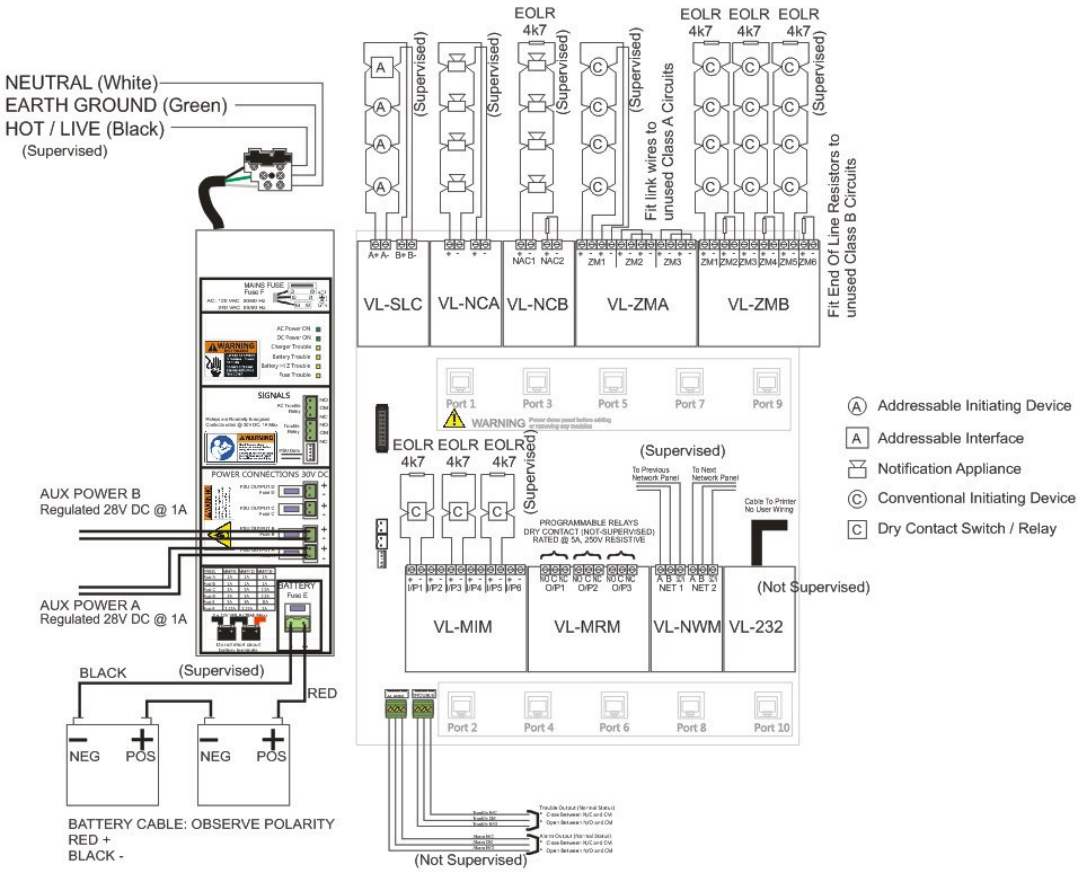
1. Check that the module configuration is as expected using the ⮝ and ⮟ to navigate the through the port numbers. Press the ✓ icon to confirm the changes.
2. The new module is now configured into the panel and is ready for use.
3. Since the batteries are not connected, the panel will report them as removed, lighting the yellow “Trouble” LED, intermittently sounding the trouble buzzer, and displaying battery removed message on the screen.
4. Connect the batteries, ensuring that the polarity is correct (Red wire = +ve) & (Black wire = -ve). Acknowledge the trouble event via the display screen, and reset the panel to clear the battery fault.
5. The panel should now remain in the normal condition, and you can configure the panel as normal.

Field Wiring

NOTE: *The terminal blocks are removable to make wiring easier.*

ATTENTION: DO NOT EXCEED POWER SUPPLY RATINGS, OR MAXIMUM CURRENT RATINGS.

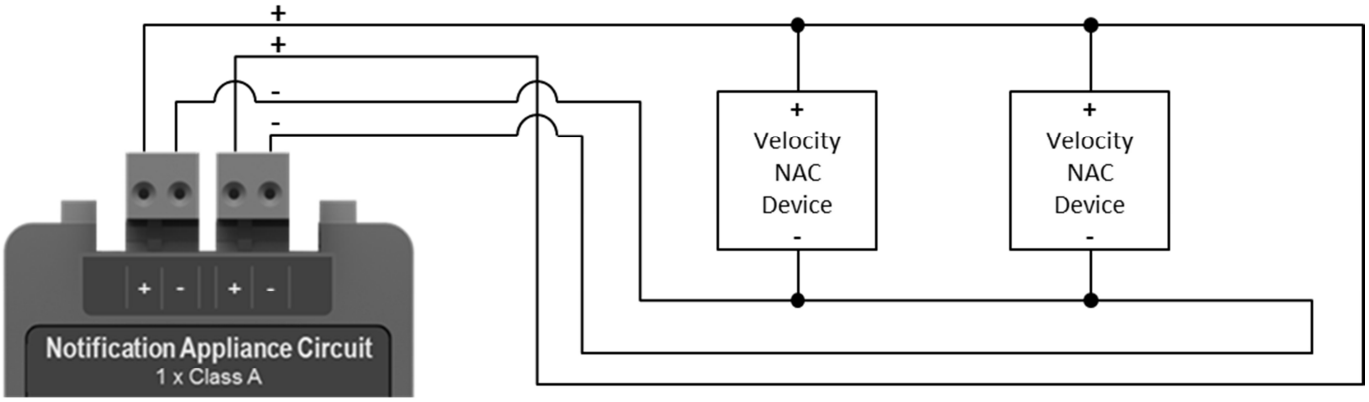
Wiring Overview



NOTE: The MMP panel is a modular system, where any module can be connected to any expansion port. The above diagram gives an example configuration for illustrative purposes.

VL-NCA Field Wiring Connections

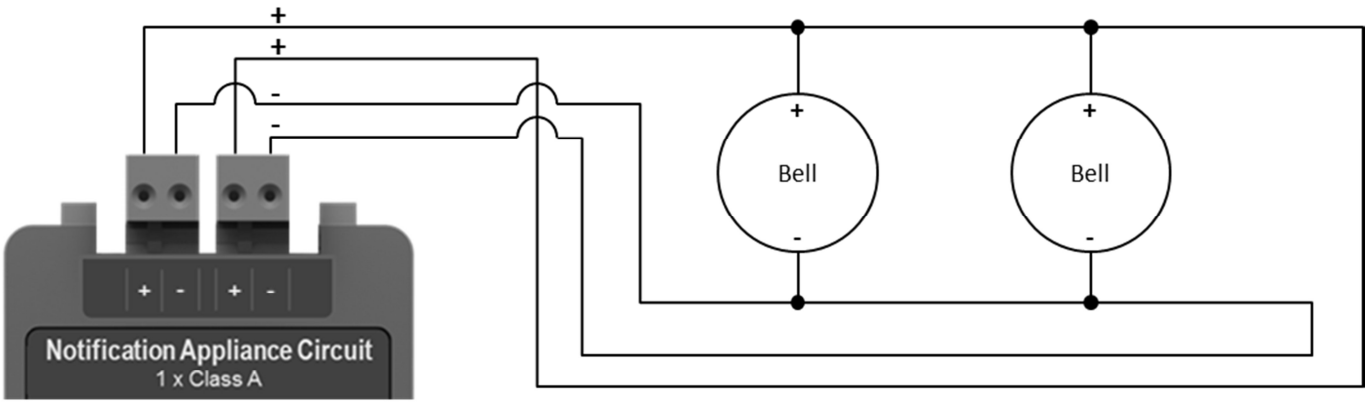
Typical Wiring Diagram (Class A) - Synchronized Velocity NAC Devices



(VL-NCA)
(Configured for synchronized Velocity NAC devices)

(Supervised)
(Synchronized)
(Power Limited)

Typical Wiring Diagram (Class A) - Unsynchronized Bell Devices

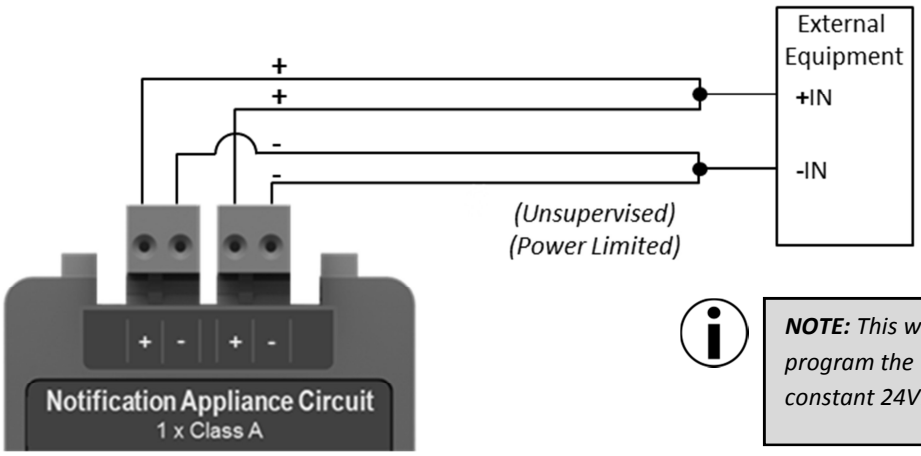


(VL-NCA)
(Configured for unsynchronized bell devices)

(Supervised)
(Unsynchronized)
(Power Limited)

NOTE: *When an NAC is configured as a bell output, the "24V On" LED on the front of the module will be flashing ON/OFF.*

Typical Wiring Diagram (Auxiliary 24VDC)



(Unsupervised)
(Power Limited)

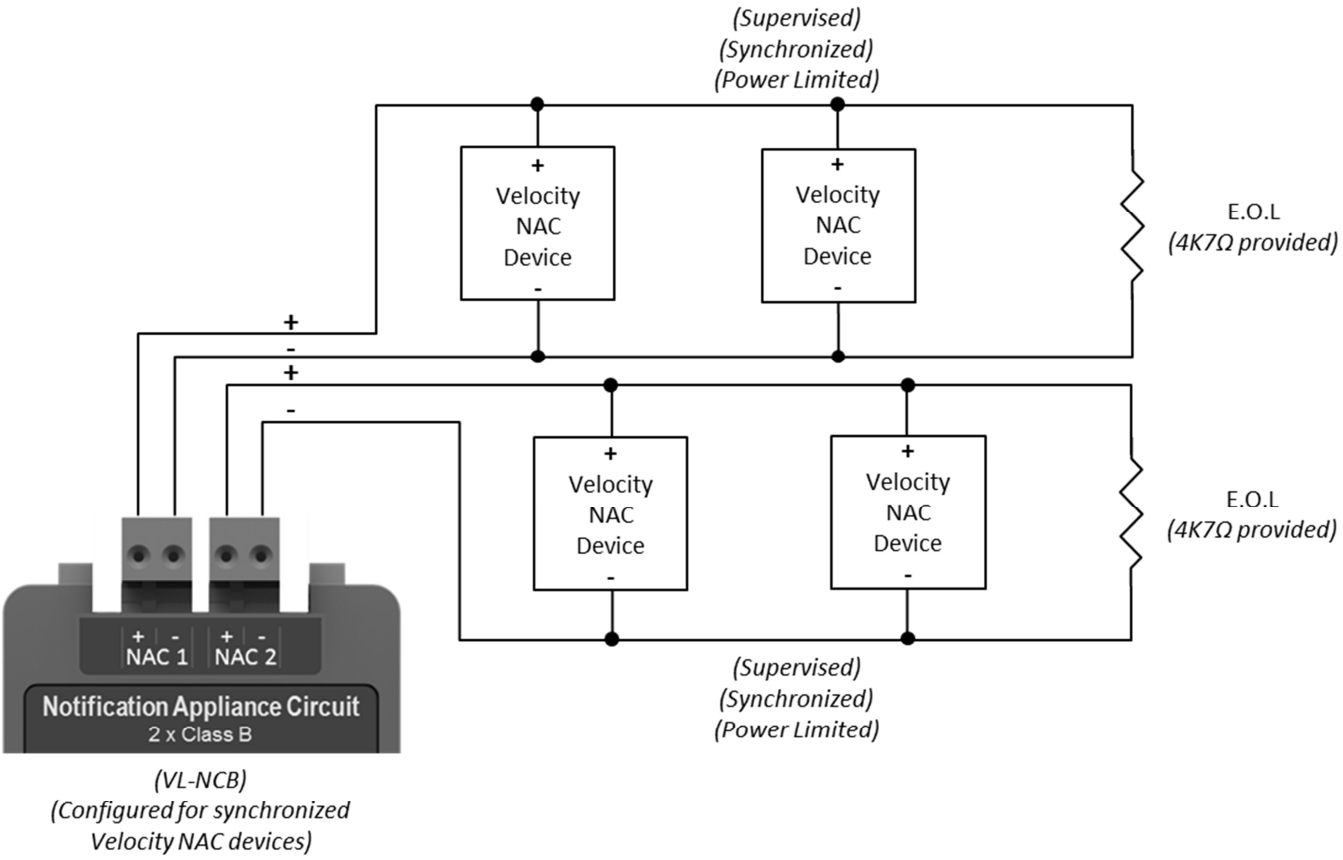
(VL-NCA)
(Configured as a 24v Auxiliary Output)

NOTE: *This wiring diagram demonstrates the option to program the VL-NCA output to become a regulated constant 24VDC output.*

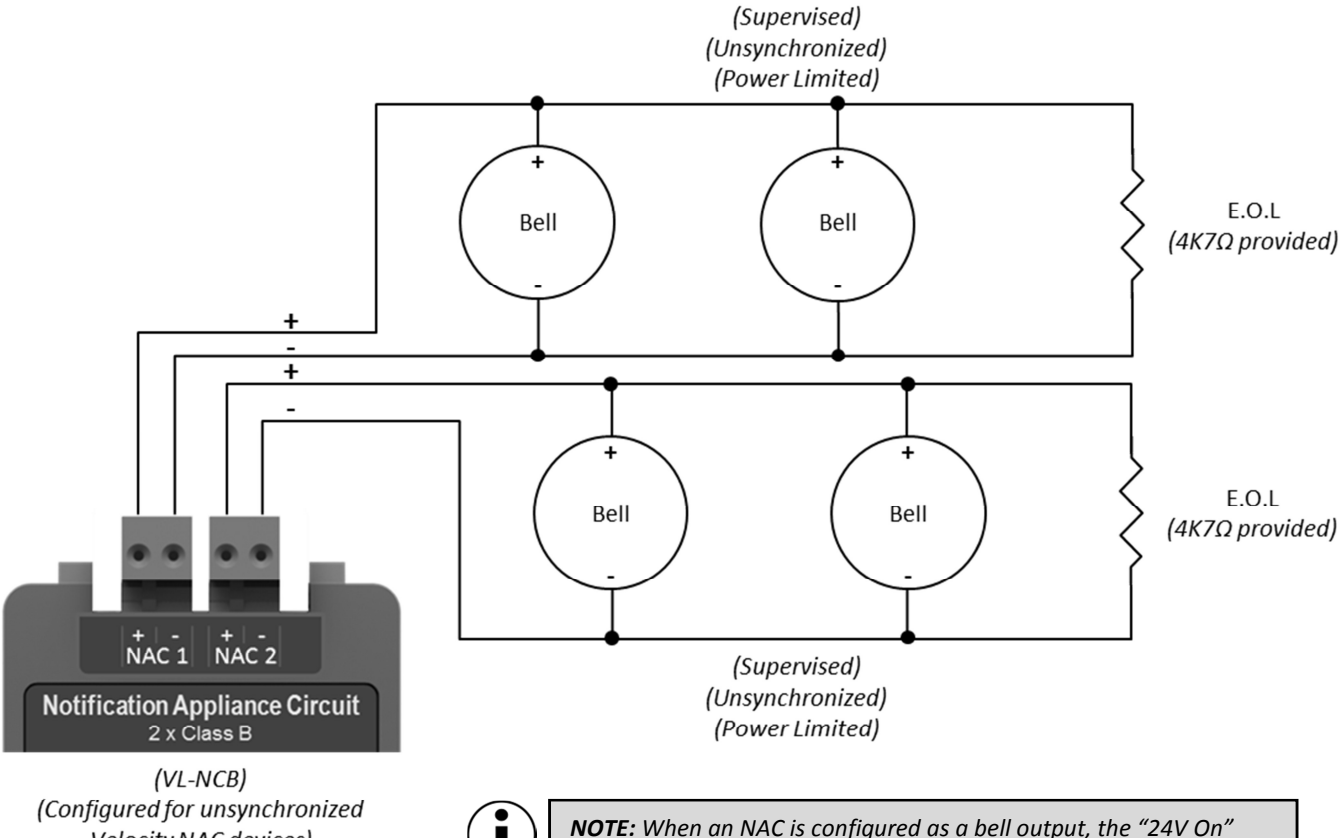
NOTE: *When an NAC is configured as a 24v aux output, the "24V On" LED on the front of the module will be ON.*

VL-NCB Field Wiring Connections

Typical Wiring Diagram (Class B) - Synchronized Velocity NAC Devices

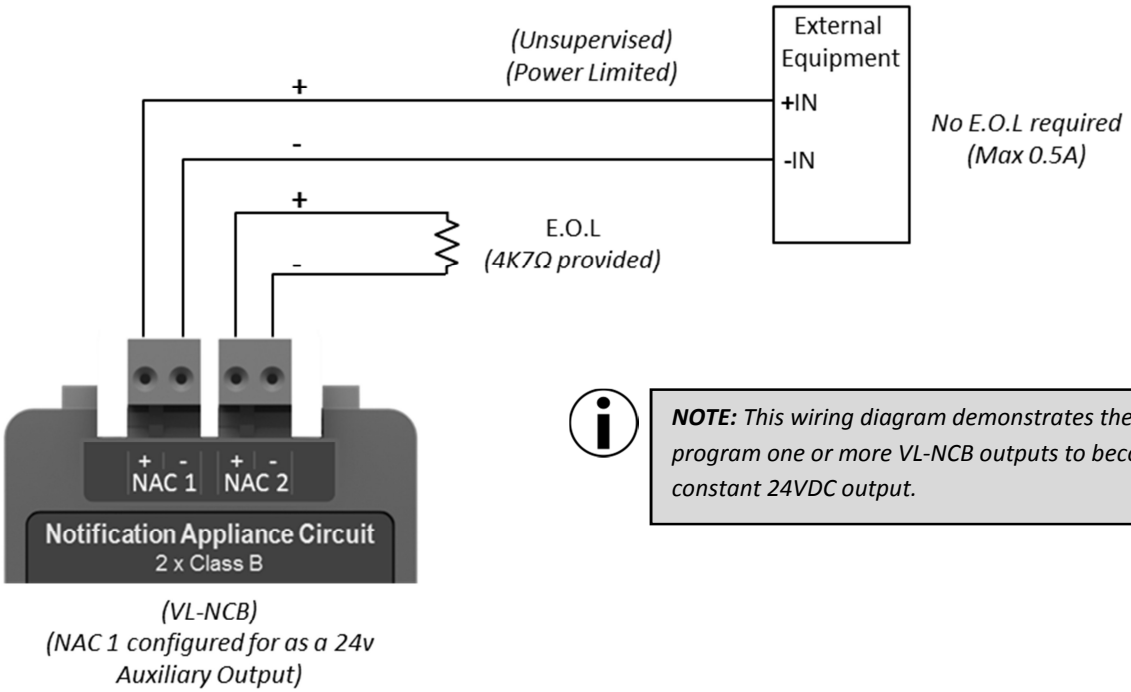


Typical Wiring Diagram (Class B) - Unsynchronized Bell Devices



***NOTE:** When an NAC is configured as a bell output, the "24V On" LED on the front of the module will be flashing ON/OFF.*

Typical Wiring Diagram (Auxiliary 24VDC)



(VL-NCB)
(NAC 1 configured for as a 24v Auxiliary Output)

NOTE: *This wiring diagram demonstrates the option to program one or more VL-NCB outputs to become a regulated constant 24VDC output.*

NOTE: *When an NAC is configured as a 24v aux output, the "24V On" LED on the front of the module will be ON.*

Wiring recommendations for Notification Appliance Circuits *(VL-NCA & VL-NCB)*

The VL-NCA circuit is rated for 1A each. The VL-NCB circuits are rated for 500mA each. The table shows the maximum wire run in metres for different wire gages and alarm loads.

Wire Gauge	125mA Load	250mA Load	500mA Load	1000mA Load
18 AWG	765 m	510 m	340 m	227 m
16 AWG	1530 m	1020 m	680 m	340 m
14 AWG	1869 m	1246 m	831 m	554 m

RECOMMENDED CABLE:
Cable should be UL listed FPL, FPLR, FPLP or equivalent.

VL-NCA & VL-NCB Specifications

Notification Appliance Circuit Modules (VL-NCA)	
Circuit Voltage	29VDC Nominal (19V – 29V)
Circuit Type	Regulated 24V DC. Power limited & Supervised.
Wiring Class	Class A
Maximum NAC Current	1A
Maximum RMS current for a single notification appliance	700mA
Maximum Line Impedance	4Ω
Wiring Class	1 x Class A (VL-NCA) [Power limited & Supervised]
End of Line Resistor	N/A
Recommended cable sizes	18 AWG to 14 AWG (0.8mm^2 to 2.5mm^2)
Synchronisation	Selectable at each module as :- Sounder (Uses synchronisation protocol for horn strobes) or Bell (Will pulse the output voltage to give the required temporal pattern)
Special Applications	24V auxiliary voltage output
Notification Appliance Circuit Modules (VL-NCB)	
Circuit Voltage	29VDC Nominal (19V – 29V)
Circuit Type	Regulated 24V DC. Power limited & Supervised.
Wiring Class	Class B

Maximum Current	2 x 500mA
Maximum RMS current for a single notification appliance	350mA
Maximum Line Impedance	4Ω
Wiring Class	2 x Class B (VL-NCB) [Power limited & Supervised]
End of Line Resistor	4K7Ω
Recommended cable sizes	18 AWG to 14 AWG (0.8mm^2 to 2.5mm^2)
Synchronisation	Selectable at each module as Sounder (Uses synchronisation protocol for horn strobes) or Bell (Will pulse the output voltage to give the required temporal pattern)
Special Applications	24V auxiliary voltage output

Compatible Notification Devices

NAC Devices	
Velocity Wall Mount Chime (White)	VL-W-C-W
Velocity Wall Mount Chime (Red)	VL-W-C-R
Velocity Wall Mount Multitone (White)	VL-W-M-W
Velocity Wall Mount Multitone (Red)	VL-W-M-R
Velocity Wall Mount Chime/Strobe (White)	VL-W-CS-W
Velocity Wall Mount Chime/Strobe (Red)	VL-W-CS-R
Velocity Wall Mount Multitone/Strobe (White)	VL-W-MS-W
Velocity Wall Mount Multitone/Strobe (Red)	VL-W-MS-R
Velocity Ceiling Mount Chime/Strobe (White)	VL-C-CS-W
Velocity Ceiling Mount Chime/Strobe (Red)	VL-C-CS-R
Velocity Ceiling Mount Multitone/Strobe (White)	VL-C-MS-W
Velocity Ceiling Mount Multitone/Strobe (Red)	VL-C-MS-R
Velocity Mini Horn (White)	VL-MH-W
Velocity Mini Horn (Red)	VL-MH-R
Velocity Wall Mount Strobe (White)	VL-W-S-W
Velocity Wall Mount Strobe (Red)	VL-W-S-R
Velocity Ceiling Mount Strobe (White)	VL-C-S-W
Velocity Ceiling Mount Strobe (Red)	VL-C-S-R
Wall Mount Bell 6”	GB6-24
Wall Mount Bell 10”	GB10-24

Maximum Notification Devices per Circuit

Some of the above notification devices have selectable settings for horn and strobe output. The table below gives an indication of the number of devices that can be connected to a NAC under different settings.

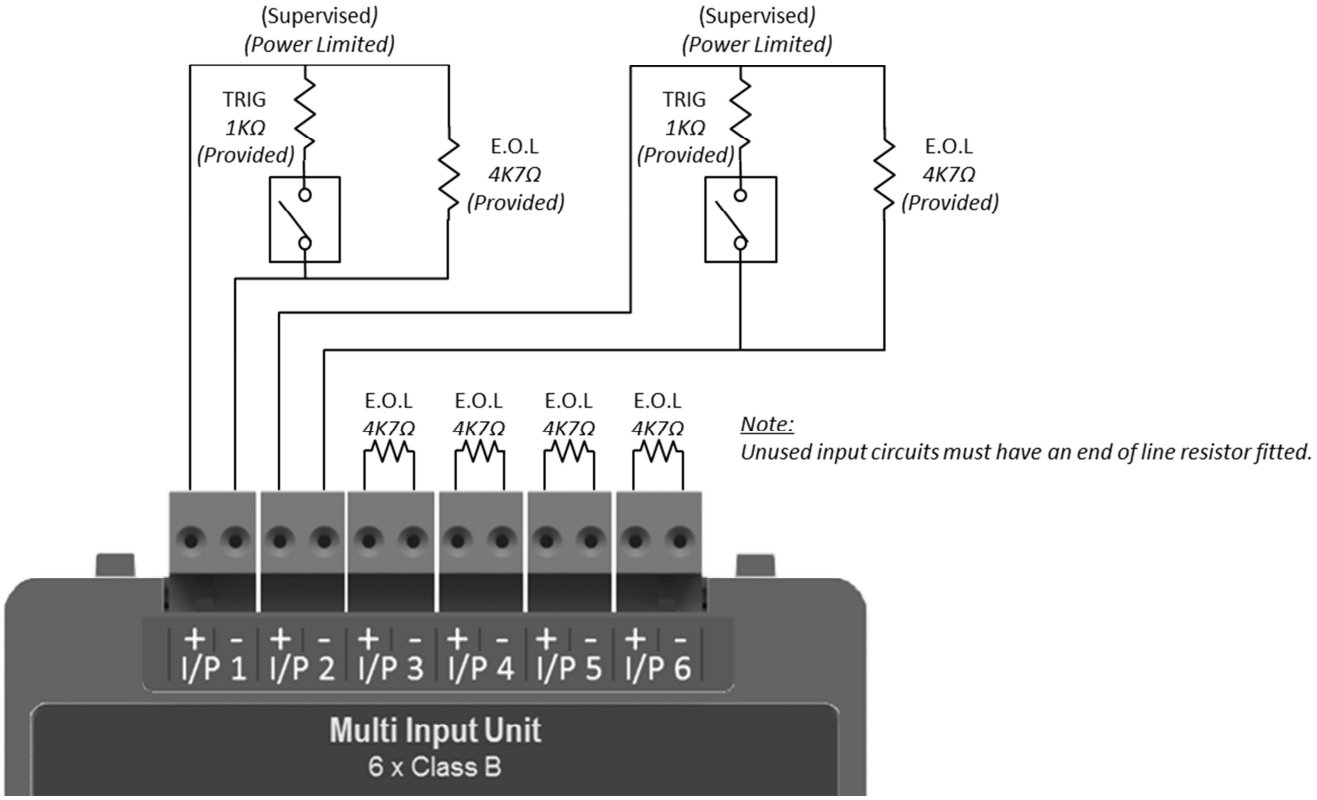
VL-NCB – Class B

Sound Setting	No Strobe	15 Candela	30 Candela	75 Candela	110 Candela
Chime	9	3	2	1	1
Multitone (low)	9	2	2	1	1
Multitone (High)	9	2	2	1	1
Mini Horn	9	-	-	-	-

VL-NCB – Class A

Sound Setting	No Strobe	15 Candela	30 Candela	75 Candela	110 Candela
Chime	18	7	5	3	2
Multitone (low)	18	5	4	2	2
Multitone (High)	18	5	4	2	2
Mini Horn	18	-	-	-	-

VL-MIM Field Wiring Connections



Wiring Recommendations for Initiating Device Circuits *(VL-MIM)*

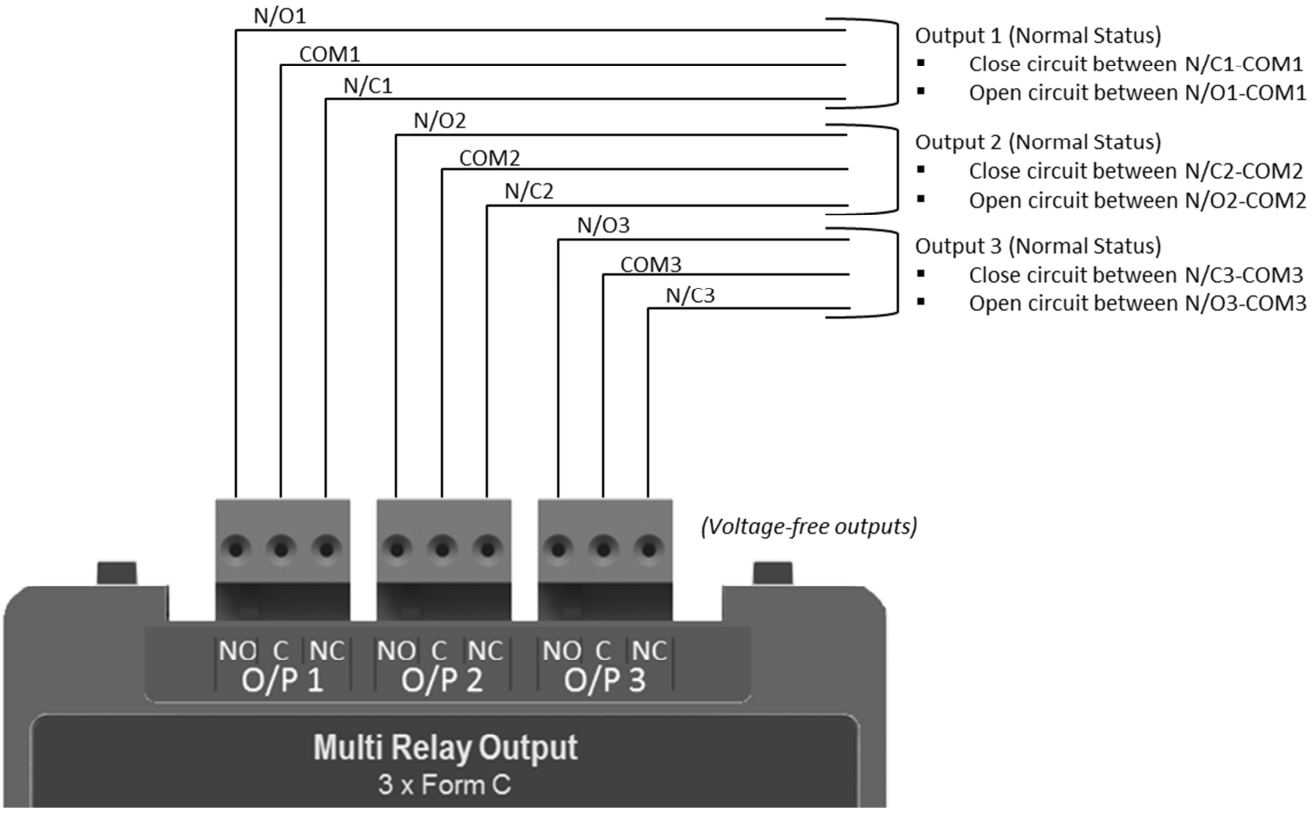
Wire Gauge (AWG)	Maximum Wiring Run (Metres)
22	910
20	1450
18	2300

RECOMMENDED CABLE:
Cable should be UL listed FPL, FPLR, FPLP or equivalent.

VL-MIM Specifications

Input Module (VL-MIM)	
Circuit Voltage	24VDC Nominal (16V – 24.5V with EOL fitted)
Wiring Class	6 x Class B circuits
Input Maximum Line Impedance	10Ω
End of Line Resistor	4K7Ω
Recommended cable sizes	22 AWG to 18 AWG (0.3mm^2 to 0.8mm^2)
Alarm Trigger Resistor	1KΩ

VL-MRM Field Wiring Connections

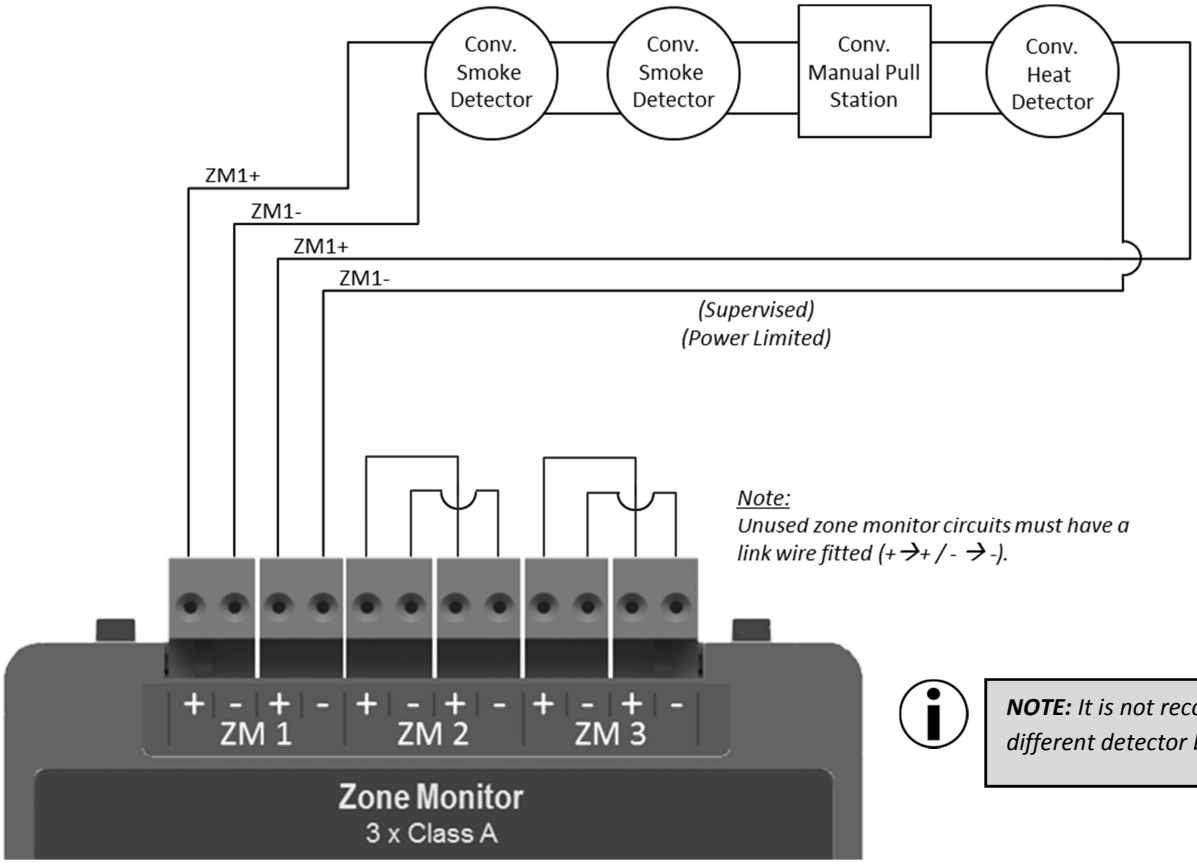


NOTE: *When an MRM relay is configured as an alarm output, it will act as a common alarm relay, and cannot be controlled by cause and effect.*

VL-MRM Specifications

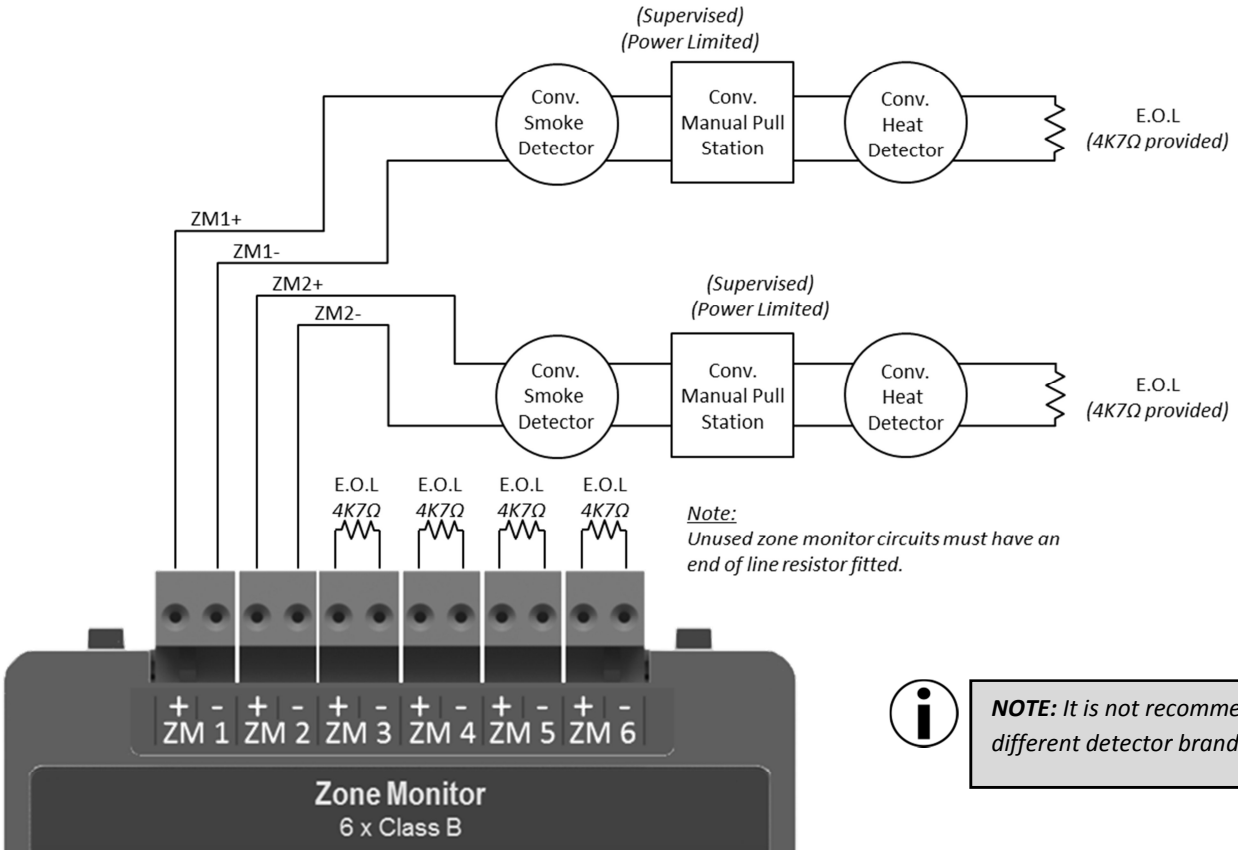
Multi Relay Modules (VL-MRM)	
Contact Form	3 x Form C
Switching Capacity	5 A, 30VDC (resistive) 5 A, 250VAC (general use)
Circuit Type	Power limited & Not Supervised.
Modes	Common alarm, Common trouble, Common supervisory or Programmable
Recommended cable sizes	18 AWG to 14 AWG (0.8mm^2 to 2.5mm^2)

VL-ZMA Field Wiring Connections



NOTE: *It is not recommended to mix different detector brands on a zone.*

VL-ZMB Field Wiring Connections



NOTE: *It is not recommended to mix different detector brands on a zone.*

Wiring Recommendations for Initiating Device Circuits *(VL-ZMA & VL-ZMB)*

Wire Gauge (AWG)	Maximum Wiring Run (Metres)
22	910
20	1450
18	2300



RECOMMENDED CABLE:

Cable should be UL listed FPL, FPLR, FPLP or equivalent.

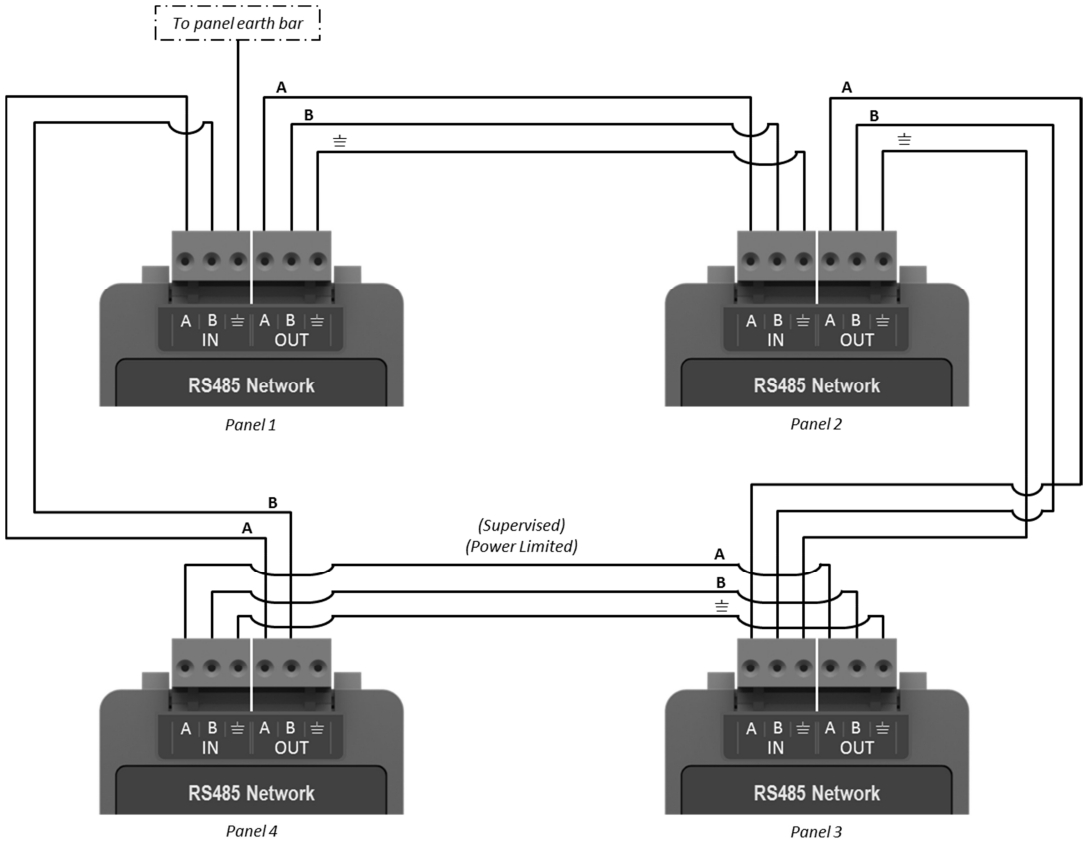
While Velocity conventional Zone modules can support cable runs greater than 2000m, it is generally better to plan the system to use more manageable lengths

VL-ZMA & VL-ZMB Specifications

Zone Monitor Modules (VL-ZMA)	
Circuit Voltage	29VDC Nominal (19.5 – 30V)
Circuit Type	Power limited & Supervised
Wiring Class	Class A
Zone Maximum Line Impedance	10Ω
Zone Maximum Current (under S/C conditions)	56mA
Wiring Class	3 x Class A
Recommended cable sizes	22 AWG to 14 AWG (0.3mm^2 to 2.5mm^2)
End of Line Resistor	N/A
Alarm Trigger Resistor	1KΩ
Compatible Devices	Nittan EVCA-P (UL268 Listed)
Maximum Detectors Per Zone	20
Zone Monitor Modules (VL-ZMB)	
Circuit Voltage	26VDC Nominal (17.5V - 26.5V with EOL connected)
Circuit Type	Power limited & Supervised
Wiring Class	Class B
Zone Maximum Line Impedance	10Ω
Zone Maximum Current (under S/C conditions)	56mA
Wiring Class	6 x Class B circuits
Recommended cable sizes	22 AWG to 14 AWG (0.3mm^2 to 2.5mm^2)
End of Line Resistor	4K7Ω
Alarm Trigger Resistor	1KΩ
Compatible Devices	Nittan EVCA-P (UL268 Listed)
Maximum Detectors Per Zone	20

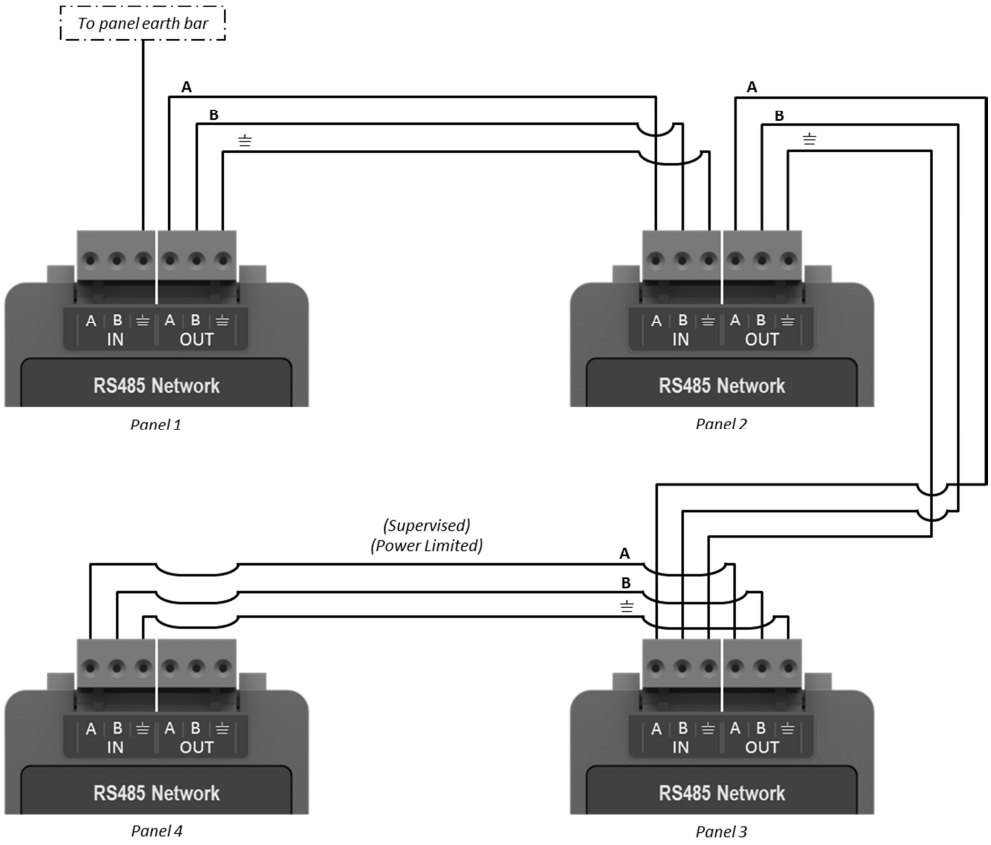
VL-NWM Field Wiring Connections

Ring Topology



NOTE: *It is recommended to install the network in a ring topology for protection against open circuit and short circuit faults.*

Bus Topology



Wiring Recommendations for Network Wiring *(VL-NWM)*

The Velocity network can support up to 64 panels.



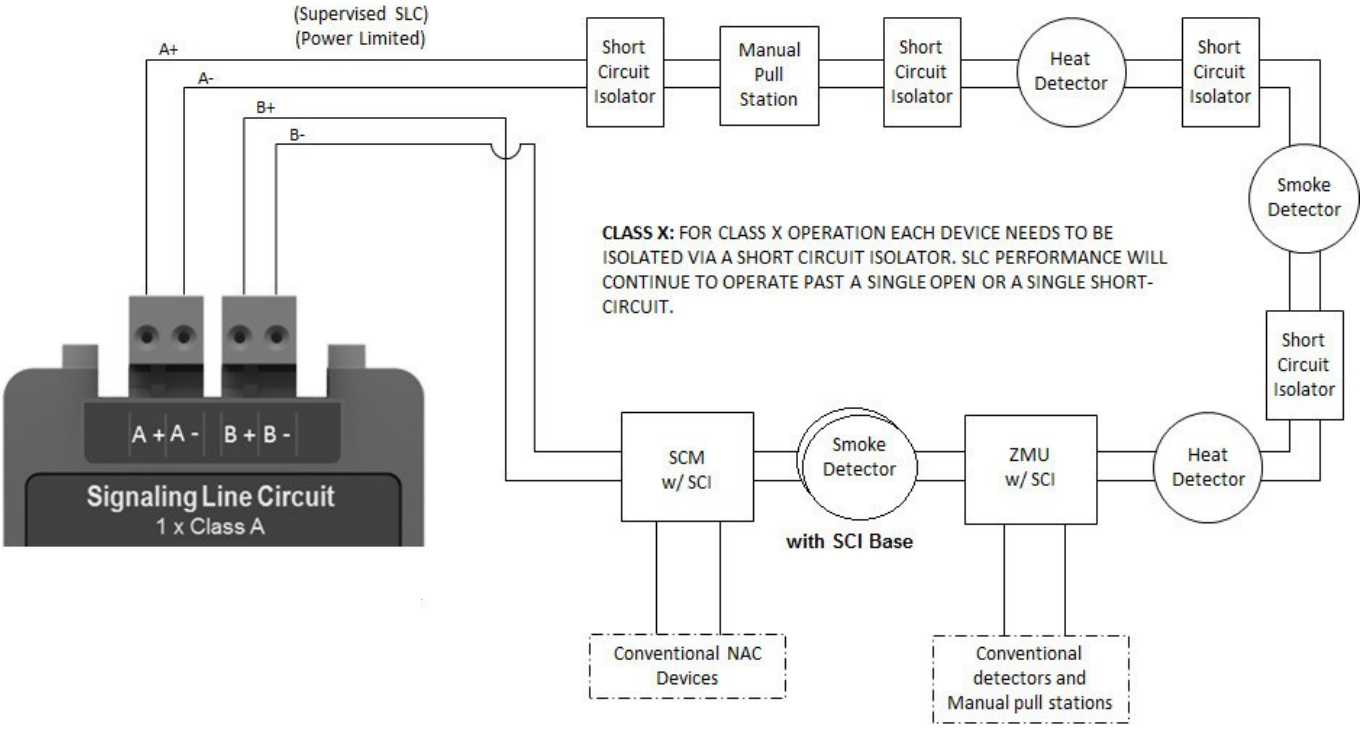
RECOMMENDED CABLE: *Belden type UL*

VL-NWM Specifications

Network Module (VL-NWM)	
Maximum Network Size	64 Nodes
Maximum Distance Between Nodes	1km (with screened data cable)
Communication Protocol	RS485
Network Wiring Typologies	Bus or Ring

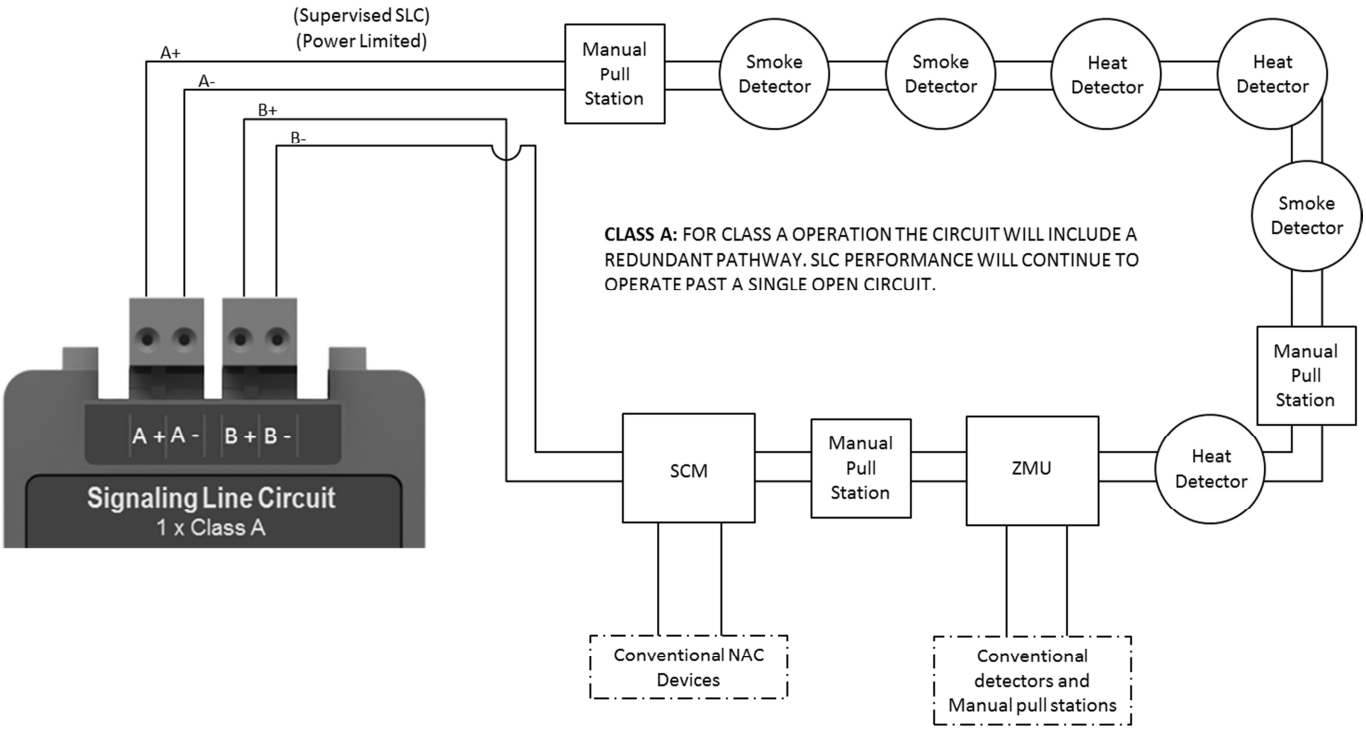
VL-SLC Field Wiring Connections

Class X Wiring



Note: *Detectors can be fitted to isolator bases, or fitted between isolator modules for Class X wiring. Manual stations should be fitted between isolator modules.*

Class A Wiring



Note: *If an SLC using Class A wiring is used for 2 or more detection zones, short circuit isolators, or devices with built in short circuit isolators (such as interfaces) should be fitted to the zone boundaries to prevent a single short circuit affecting more than one zone.*

Wiring Recommendations for Signalling Line Circuits *(VL-SLC)*

The VL-SLC's are rated for 500mA each, but in a typical UL installation (with no NAC devices powered from the loop, maximum quiescent current will be less than 60mA.

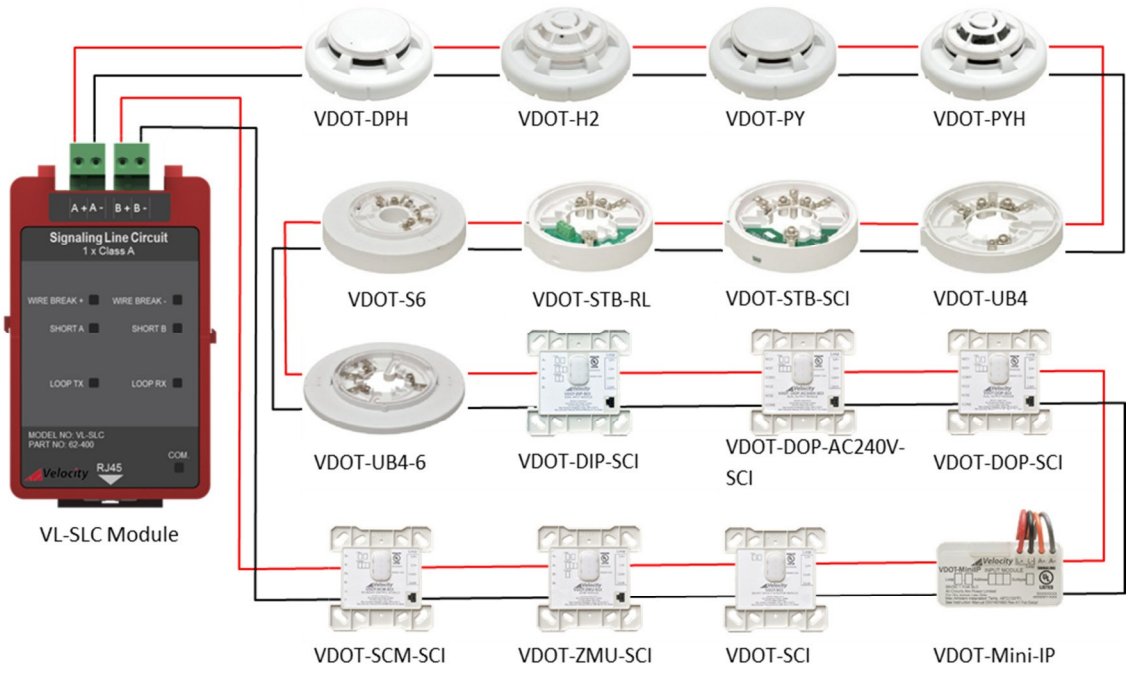
Wire Gauge (AWG)	Maximum Wiring Run (Metres)
18	861
16	1290
14	2000

NOTE:
- *Line capacitance shall not exceed 0.1µf (100nF)*
- *Inductance shall not exceed 1mH*
- *Resistance shall not exceed 50 Ohms.*

RECOMMENDED CABLE: *Twisted pair cable. Shield of cable should be terminated to the earth bar in the panel.*

SLC Device Wiring and Device Information

SLC device configuration for addressable devices



VDOT-DPH



VDOT-DPH - An attractively-styled, low profile combined dual optic photoelectric smoke and heat detector for use with the Velocity series of Fire Alarm Control panels. The VDOT-DPH Dual Optical Detector goes one step further and uses both IR and blue LEDs to provide a more accurate measurement of particles within the chamber.

VDOT-H2 and VDOT-H2-H



VDOT-H2 and VDOT-H2-H - Low profile, analogue addressable, heat detector. This analogue addressable heat detector has a specific detector address to provide exact detector locations throughout the installation. This allows for constant monitoring of the detector sensitivity and reports the detector's condition to the fire alarm control panel.

The VDOT-H2 is a 8.3 °C (15 °F) rate-of-rise temperature heat detector with 57 °C (135 °F) fixed temperature alarm.

The VDOT-H2-H is a high temperature heat detector with 83 °C (181 °F) fixed temperature alarm.

VDOT-PY

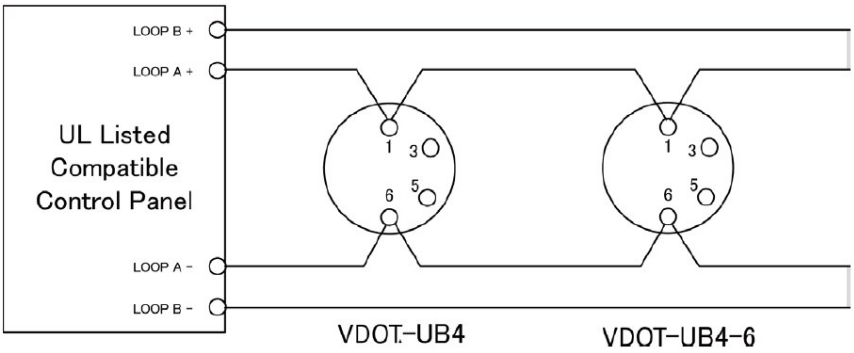


VDOT-PY - An attractively-styled, low profile, analogue addressable, photoelectric smoke detector for use with the Velocity series of Fire Alarm Control panels. The smoke sensitivity of the detector can be programmed using the control panel software to suit the environmental conditions. The detector status is continually monitored and reported to the panel and automatic compensation corrects the sensitivity for contamination build up with time.

VDOT-PYH



VDOT-PYH - An attractively-styled, low profile, analogue addressable, combined photoelectric smoke and heat detector for use with the Velocity series of Fire Alarm Control panels. The smoke sensitivity of the detector can be programmed using the control panel software to suit the environmental conditions. The detector status is continually monitored and reported to the panel and automatic compensation corrects the sensitivity for contamination build up with time.



Addressable device – Wiring diagram

VDOT-UB4



VDOT-UB4-6



VDOT-UB4 series base is detector base which is designed to be used with the model ***VDOT-PY, VDOT-PYH, VDOT-DPH, VDOT-H2,*** and ***VDOT-H2-H*** detector series heads. The series includes VDOT-UB4, which is 4 inch standard base, and VDOT-UB4-6, which is 6 inch standard base.

The terminals of the base are used depending on the detector heads.

- 12 –20AWG field wire can be connected to the terminals.
- VDOT-UB4 is mounted to a 3-1/2”octagonal electrical box.
- VDOT-UB4-6 is mounted to a 3-1/2” and 4” octagonal electrical box, or4” square electrical box.VDOT-UB4-6 can be also used to cover larger opening around an electrical box.

VDOT-UB4 / VDOT-UB4-6 are supplied with 4 terminals as standard. The Terminals of the bases are configured as follows.

- 1 – SLC Positive
- 3 – Not Used
- 5 – Not Used
- 6 – SLC negative

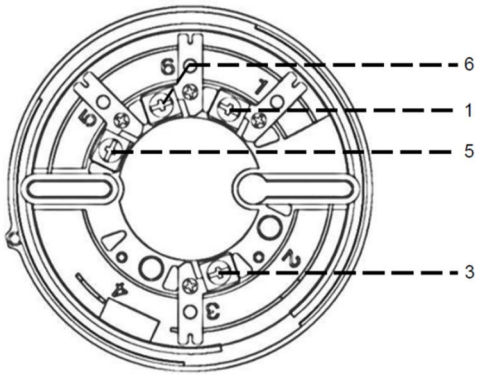


Figure1 Position of terminals (EVA-

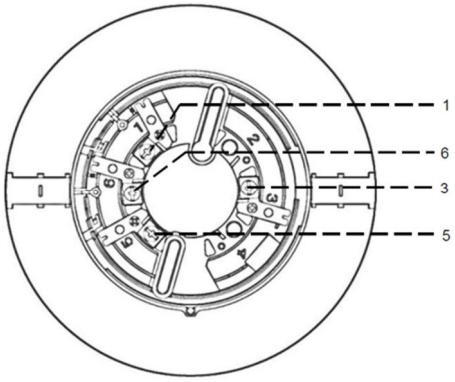


Figure2 Position of terminals (EVA-

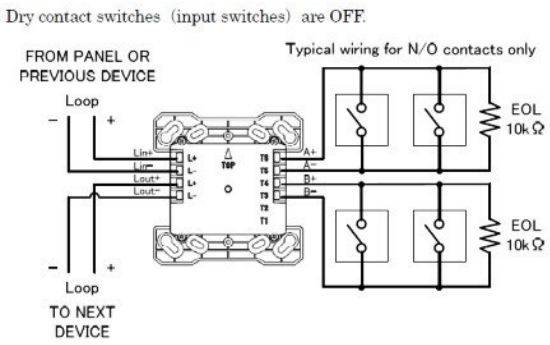
VDOT-DIP-SCI



VDOT-DIP-SCI - Dual Input Module with Short Circuit Isolator is intended for use in addressable two wire systems. The module monitors and transmits the status (normal, open, short, or active) of devices equipped with NC/NO dry contacts to a control panel. The initiating device circuit (IDC) can be wired on Class A (Style D & E) or Class B (Style B & C).

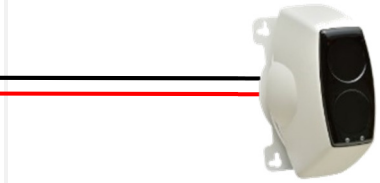
Note: Any conventional detector cannot be connected with the module.

EOL (10k ohm) is connected between A+ (B+) and A- (B-) in VDOT-DIP-SCI.



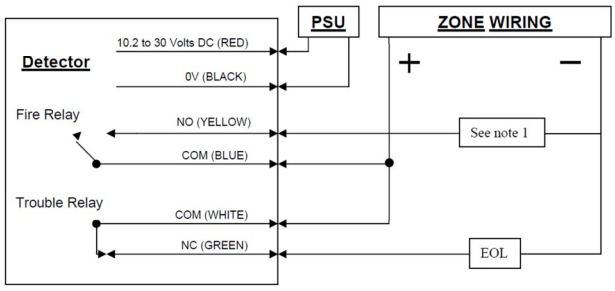
VDOT-DIP-SCI

FIRERAY 50RU/100RU



FIRERAY 50RU/100RU - The system comprises of a single unit incorporating an infra-red transmitter and receiver. The signal generated in the transmitter element and reflected by the prism back to the receiver element is analysed for the presence of smoke. The internal microprocessor determines an alarm condition when a predetermined level is reached.

For connection of a single conventional Detector to a zone:



FIRERAY 50RU/100RU

VDOT-DOP-AC240V-SCI



VDOT-DOP-AC240V-SCI - Dual Output Module with Short Circuit Isolator is an addressable dual output module that provides two dry contacts. The contact rating is 4.8A at AC250V. The status of each dry contact is controlled by a control panel.

Operation:

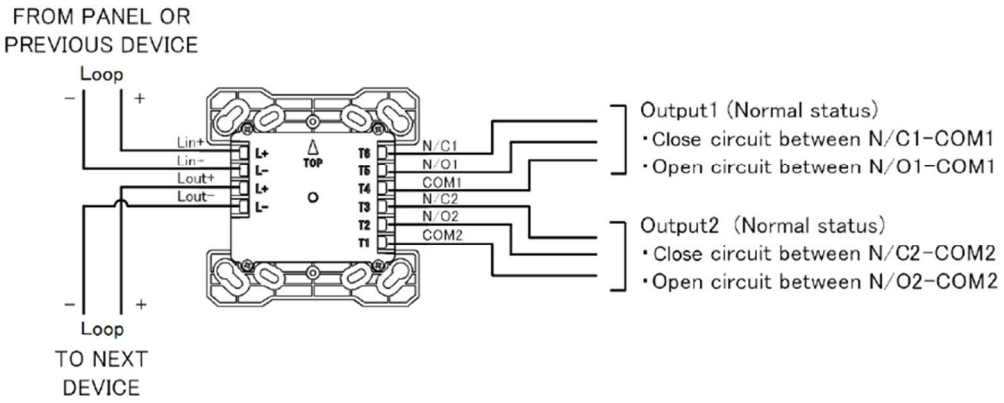
- Normal Standby condition: The module receives polling from the control panel at the regular interval. Polling LED (green) flashes.
- Active condition: When receiving a control signal from the control panel, the relay output is activated, and Output LED (red) illuminates.

- Trouble condition: If an overcurrent occurs because SLC (Signalling Line Circuit) is shorted, SCI LED (yellow) illuminates, and the module communicates to the control panel the short status.

SCI (Short Circuit Isolator) Function:
The module has a built-in short circuit isolator. SCI circuit prevents entire loop failure in the event of a short between L+ and L-on the loop. If a short is detected between L+ and L-, the yellow LED is illuminated. The line between Lin- and Lout- is disconnected automatically to isolate the short circuit, and short circuit status is communicated to the control panel. Upon removal of the short condition, the module will automatically connect between Lin-and Lout- to restores the entire loop to the normal stand by status.

VDOT-DOP-AC240V-SCI

Wiring



Relay Module contains two isolated sets of Form-C contacts, which operate as a DPDT switch. The module allows the control panel to switch these contacts on command. No supervision is provided for the relay contacts.

VDOT-DOP-SCI



VDOT-DOP-SCI - Dual Output Module with Short Circuit Isolator is an addressable dual output module that provides two dry contacts. The contact rating is 2A at DC30V. The status of each dry contact is monitored and controlled by a control panel.

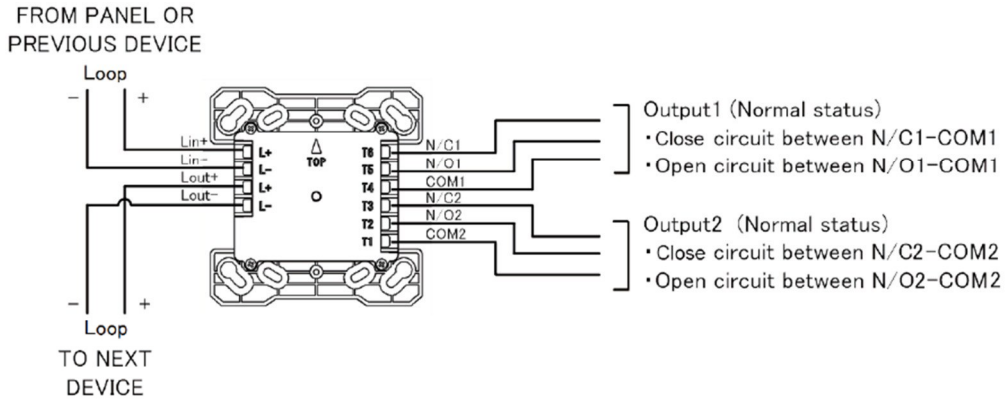
Operation:

- Normal standby condition: The module receives polling from the control panel at the regular interval. Polling LED (green) flashes.
- Active condition: When receiving a control signal from the control panel, the relay output is activated, and Output LED (red) illuminates.
- Trouble condition: If an overcurrent occurs because SLC (Signalling Line Circuit) is shorted, SCI LED (yellow) illuminates, and the module communicates to the control panel the short status.

SCI (Short Circuit Isolator) Function:
The module has a built-in short circuit isolator. SCI circuit prevents entire loop failure in the event of a short between L+ and L-on the loop. If a short is detected between L+ and L-, the yellow LED is illuminated. The line between Lin- and Lout- is disconnected automatically to isolate the short circuit, and short circuit status is communicated to the control panel. Upon removal of the short condition, the module will automatically connect between Lin-and Lout- to restores the entire loop to the normal operating status.

VDOT-DOP-SCI

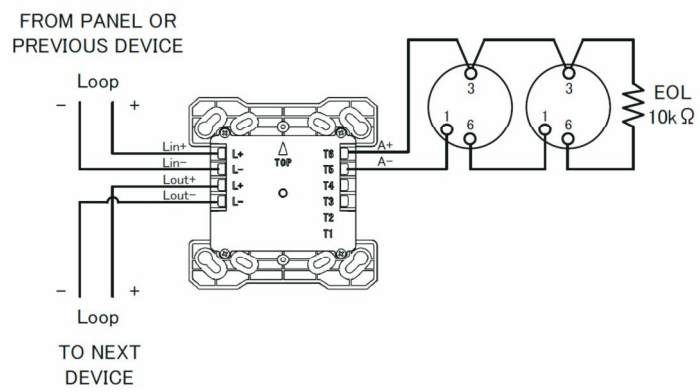
Wiring



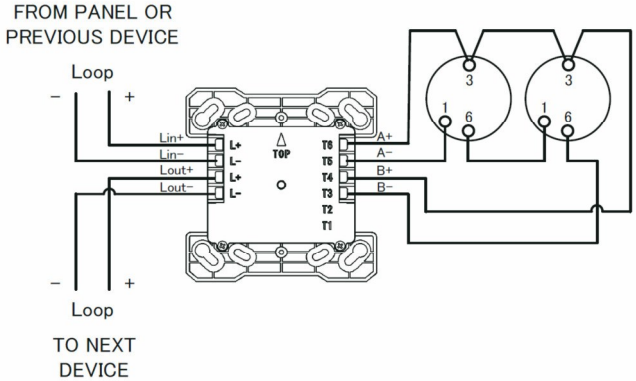
Relay Module contains two isolated sets of Form-C contacts, which operate as a DPDT switch. The module allows the control panel to switch these contacts on command. No supervision is provided for the relay contacts.

VDOT-ZMU-SCI (Part code: TBC)	VDOT-P + VDOT-UB4 base
	
VDOT-ZMU-SCI – Zone module with short circuit Isolator for addressable two wire systems, which can be connected with (2) wire conventional detectors. The module monitors and transmits the status (Normal, Open, Short, or Alarm) of zone with the detectors to a control panel. The initiating device circuit (IDC) can be wired on Class A or Class B.	***VDOT-P*** - Low profile photoelectric smoke detector for use in conventional fire detection systems. This detector is also for use in analogue fire alarm systems, when the detector is connected to the analogue addressable module VDOT-ZMU-SCI Zone Module.

Class B (Style B/C)



Class B (Style D/E)



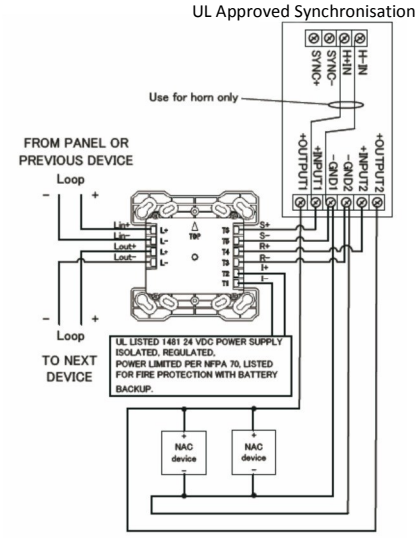
VDOT-SCM-SCI



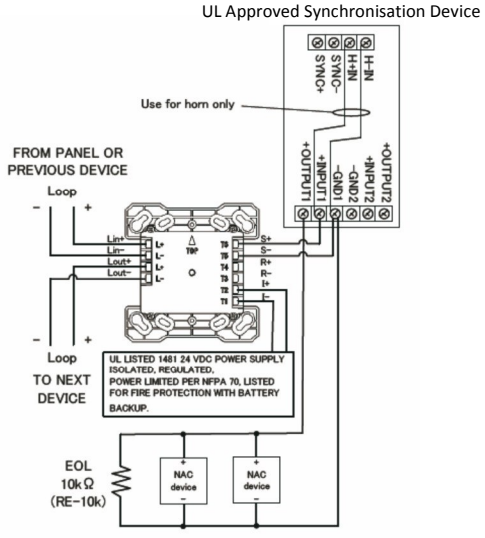
VDOT-SCM-SCI Sounder Control Module with Short Circuit Isolator is an output module intended for use in addressable two wire systems, which provides the control of NAC (Notification Appliance Circuit) devices. The Notification Appliance Circuit can be wired on Class A (Style Z) and Class B (Style Y).

OPERATION:

- Normal standby condition: The module receives polling from a control panel at the regular interval. Polling LED (green) flashes.
- Active condition: When receiving a control signal from the control panel, the module operates NAC devices, and Output LED (red) illuminates.
- Trouble condition: If an overcurrent occurs because SLC (Signaling Line Circuit) is shorted, SCI LED (yellow) illuminates, and the module communicates to the control panel the short status. The module also communicates to the control panel the open/short status of NAC.



VDOT-SCM-SCI Style Z



VDOT-SCM-SCI Style Y

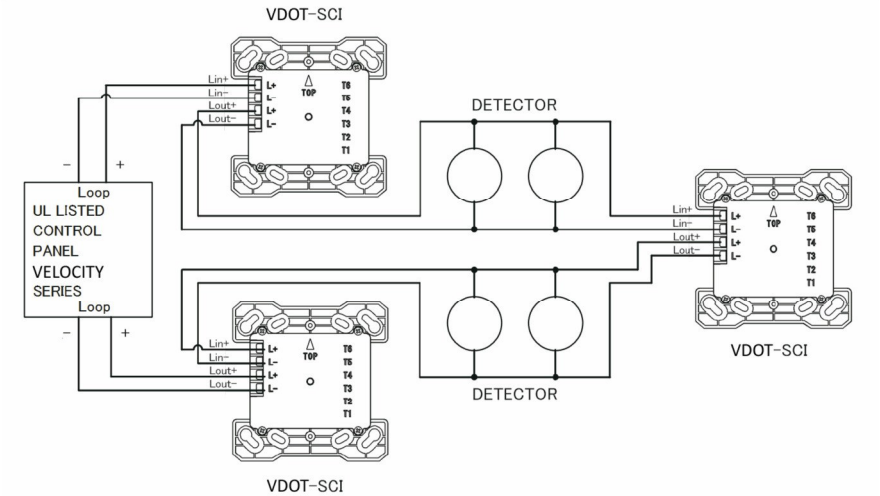
VDOT-SCI



VDOT-SCI Short Circuit Isolator Module is a short circuit isolator module that prevents an entire loop failure in the event of a short in the loop. If a short is detected the yellow LED indicator illuminates, and short - circuited area is isolated automatically. Upon removal of the short condition, the module automatically connects the area to restore the entire loop to the normal operating status. The module is not addressable.

OPERATION:

- Normal standby condition: The module monitors the voltage at the SLC (Signaling Line Circuit).
- Short condition: If an overcurrent occurs because SLC is shorted, SCI LED (yellow) illuminates, and the short circuit is isolated.



VDOT-SCI Wiring

VL-SLC Specifications

Signalling Line Circuit Modules (VL-SLC)	
Circuit Voltage	35VDC Nominal (24V - 39V)
Protocol Data	FSK Sin Wave (3030 Hz / 6667 Hz)
Circuit Type	Power limited & Supervised
Wiring Class	Class A / Class X
Recommended cable sizes	18 AWG to 14 AWG (0.8mm^2 to 2.5mm^2)
Maximum SLC Current	500mA
Maximum SLC Capacity	254 Addresses
Maximum SLC Resistance	50Ω (200mA) / 20Ω (500mA)
Maximum SLC Capacitance	100nF
Maximum SLC Baud Rate	4334 Bits Per Second (typical)

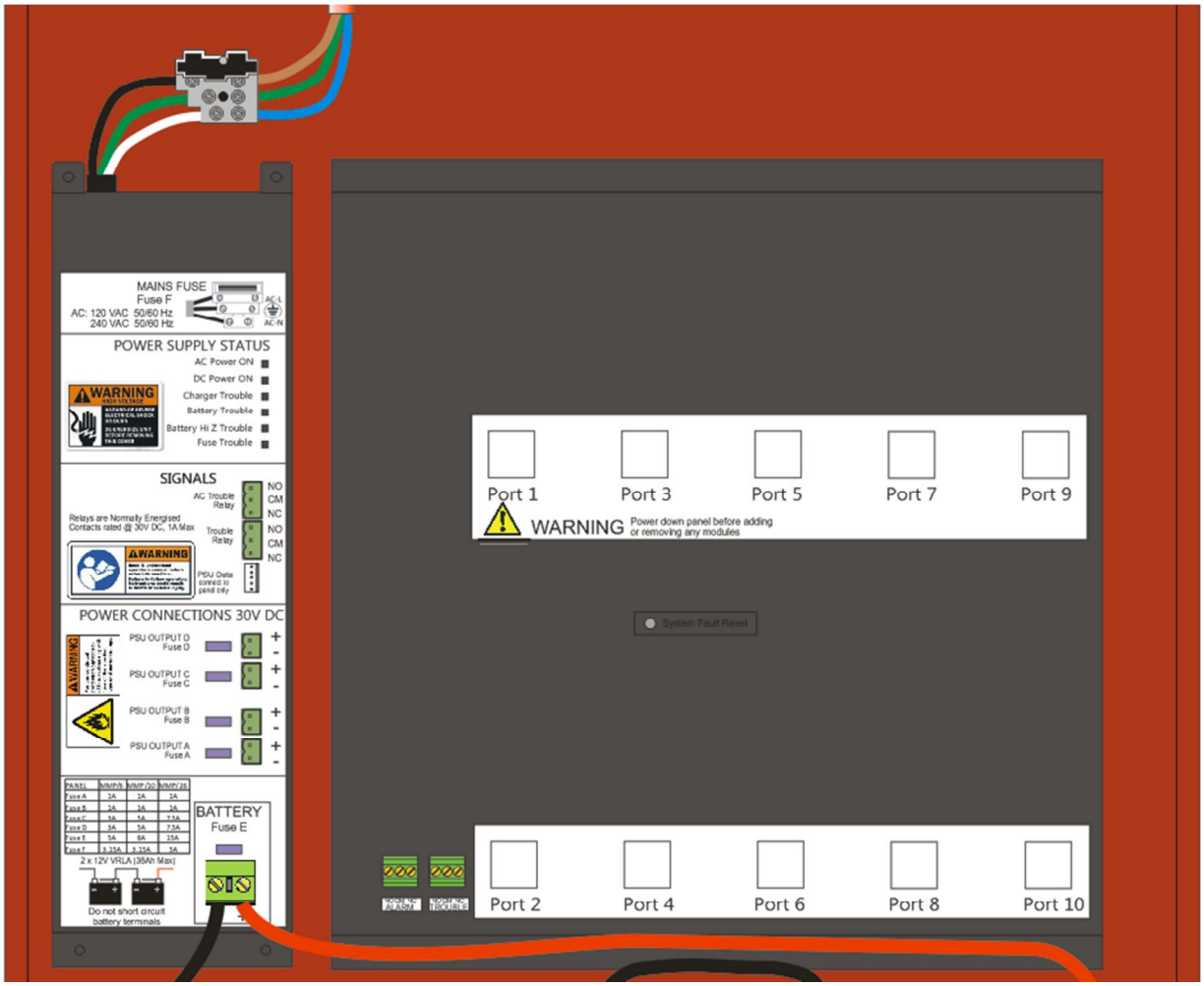
Compatible SLC Devices

SLC Devices	
Conventional Zone Module with SCI	VDOT-ZMU-SCI
Dual Input Module with SCI	VDOT-DIP-SCI
Relay Dual Output Module For AC240V with SCI	VDOT-DOP-AC240V-SCI
Relay Dual Output with SCI	VDOT-DOP-SCI
Addressable Dual Optical/Heat Detector	VDOT-DPH
Addressable Heat Detector	VDOT-H2(-H)
Mini Input Module	VDOT-MINIIP
Addressable Photoelectric Smoke Detector	VDOT-PY
Addressable Multisensory Detector	VDOT-PYH
Sounder Base	VDOT-S6 BASE
Short Circuit Isolator	VDOT-SCI
Sounder Control Module with SCI	VDOT-SCM-SCI
Low Power Relay Base	VDOT-STB-RL
Base Short Circuit Isolator	VDOT-STB-SCI
Standard Detector Mounting 4” Base	VDOT-UB4
Standard Detector Mounting 6” Base	VDOT-UB4-6

Power Supply

The Velocity MMP Power supply is located on the left hand size of the back box.

There are three different power sizes, depending on whether the panel is a 6 port, 10 port, or 26 port version.



PSU Specifications

	VL-MMP/6	VL-MMP/10	VL-MMP/26
AC Line Voltage	120 – 240 VAC	120 – 240 VAC	120 – 240 VAC
Power Supply Rating	150 Watts	240 Watts	400 Watts
DC Output Voltage	30 VDC	30 VDC	30 VDC
Maximum Output Current	3.9 Amp	5.8 Amp	11.1 Amp
Battery Voltage	27.6VDC	27.6VDC	27.6VDC
Battery Charging Capability	Up to 12.0Ah	Up to 38.0Ah	Up to 65.0Ah
Max Battery Charging Current	1.1 Amp	2.2 Amp	2.2 Amp

ATTENTION:

- DO NOT EXCEED POWER SUPPLY RATINGS, OR MAXIMUM CURRENT RATINGS.
- TO AVOID SPARKING, CONNECT BATTERIES AFTER THE SYSTEM'S MAIN A.C. POWER IS TURNED ON.
- COMPLY WITH VOLTAGE MARKINGS AS SPECIFIED ON LABELS.

PSU Fuses

All fuses are quick blow, rating as shown.

Panel Designation	MMP6	MMP10	MMP26
Fuse A	1A	1A	1A
Fuse B	1A	1A	1A
Fuse C	3A	5A	7.5A
Fuse D	3A	5A	7.5A
Fuse E	5A	8A	15A
Fuse F	3.15A	3.15A	5A

Power Supply Status Indications

LED Description	LED Colour	Indication Method	Event
AC Power ON	Green	ON	Mains power present, converter in operating state
		OFF	Mains power off
DC Power ON	Green	ON	No mains power or converter off
		OFF	When mains power present
Charger Trouble	Yellow	OFF	Normal
		Flashing	Charger Fault
Battery Trouble	Yellow	OFF	Normal
		Flashing	Battery disconnected / Battery fuse blown or removed/ Low Battery
Battery Hi Z	Yellow	OFF	Normal
		Flashing	Battery internal high impedance present
Blown Fuse	Yellow	OFF	Normal
		Flashing	Fuse A, B, C, or D, are blown

1. *Switch SW2 on the charger PCB is used to determine if temperature compensation is used or not. Power down panel completely before removing cover to change the setting.*
2. *Battery circuit resistance measurement is required by BS EN 54-4. The maximum resistance of several tens to hundreds of milliohms varies for different power supplies and depends on their nominal output voltage and power. It can be set on or off by using switch 4 of dip switch SW1 on the charger PCB. Power down panel completely before removing cover to change the setting.*

Power Supply Signals

Description	Details
MAINS FAULT	Continuity between NC & C in normal operating condition. When there is a fault/trouble condition on the mains power, continuity is switched to NO & C. Relay is normally energized and “fail-safe” as the relay will change over in the event of total power failure.
FAULT RELAY	Continuity between NC & C in normal operating condition. When there is any fault/trouble on the PSU or Charger, continuity is switched to NO & C. Relay is normally energized and “fail-safe” as the relay will change over in the event of total power failure.
PSU DATA	Serial data connection from PSU to termination PCB. TO BE USED TO CONNECT TO PANEL ONLY.

Panel Printer

(Velocity MMP systems with a fitted panel printer only)

Loading/Replacing the Printer Paper Roll

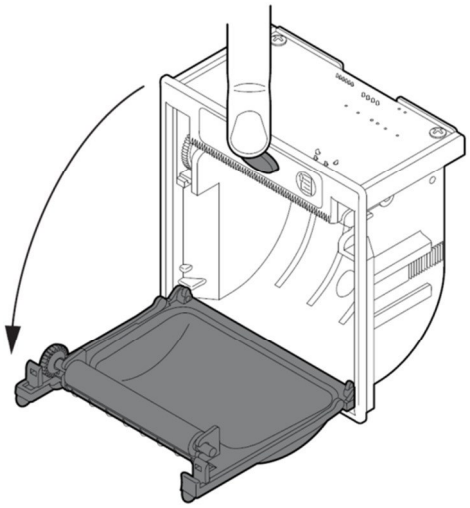
The Velocity MMP uses a CUSTOM PLUS2 RS232 panel printer. This printer will accept printer rolls that meet the following requirements:

Specification	PLUS2
Paper Type	Thermal Paper Roll
Paper Width	57mm
Roll Diameter	50mm
Roll Length	30m *(See note)*
Paper Weight	55 to 70gsm

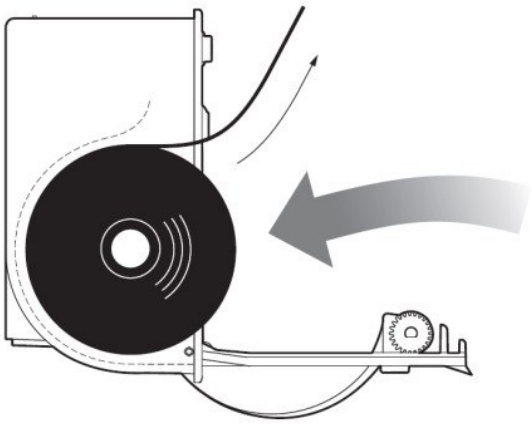
Note: *Paper roll length is approximate, based upon readily available UK sourced paper with 12.7mm core.*

To change the printer roll, proceed as follows. Every time the paper is changed, check inside the device to locate and remove any Scrap pieces of paper.

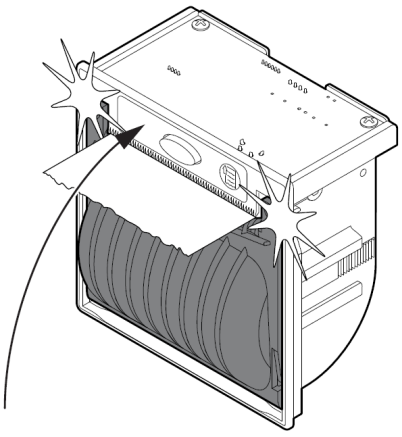
1. Open the printer cover.



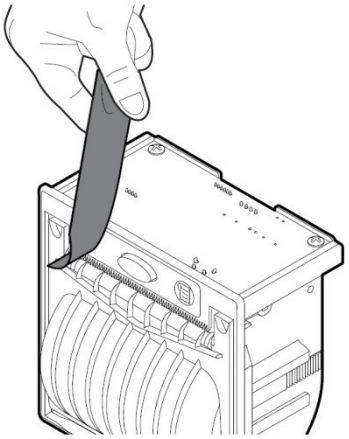
2. Place the roll in the paper compartment and pull out a few centimetres of paper.



3. Close the printer cover.



4. Remove any excess paper.



Status LED's

The status of the device is shown via visual feedback. The status LED identifies the hardware status of the printer. The table below shows the various LED signals and their corresponding status.

Status LED	LED Colour	Description
OFF	Green	Printer is off
ON	Green	Printer is on: No error
ON Flash x 2	Green	Printer head over temperature
ON Flash x 3	Green	Printer paper empty
ON Flash x 4	Green	Power supply voltage is incorrect
ON Flash x 5	Green	Reception errors (Parity, frame error, overrun error)
ON Flash x 6	Green	Command is not recognised
ON Flash x 7	Green	Command reception has timed out

Printer Maintenance

The regular cleaning of the panel printer will help maintain its print quality and extend its lifetime. The table below shows the recommended maintenance timeline and cleaning operations.

Every Paper Change	
Printer Head	Use Isopropyl Alcohol
Rollers	Use Isopropyl Alcohol
Every 5 Paper Changes	
Paper Path	Use Compressed Air
Sensors	Use Compressed Air
Every 6 Months or as Needed	
Printer Case	Use Compressed Air or a Soft Cloth

Note: *If the Velocity panel is installed in a dusty environment, the times between the cleaning operations should be reduced.*

FAULT FINDING

See troubleshooting section in Velocity MMP operation manual (Doc: GLT-261-7-2)

Appendix A: SPECIFICATIONS

Code			
Description	Velocity Fire Alarm Panel		
Standard	UL864 10th Edition (Pending)		
Main Supply			
Mains Voltage	120-240V AC		
Mains Frequency	50-60 Hz		
Battery Secondary Supply	VL-MMP/6	VL-MMP/10	VL-MMP/26
Battery Voltage	2 x 12V SLA	2 x 12V SLA	2 x 12V SLA
Battery Charge Current	1.1A	2.2A	2.2A
Battery Charge Voltage	27.3V @ 25°C	27.3V @ 25°C	27.3V @ 25°C
Battery Derating Factor			
On-board Relay Outputs			
Fire Relay (Termination PCB)	(C,NO,NC) Contact rating: 125VAC @ 0.5A / 30VDC @ 1A		
Trouble Relay (Termination PCB)	Normally Energised (C,NO,NC) Contact rating: 125VAC @ 0.5A / 30VDC @ 1A		
Mains Fault Relay (Charger PCB)	Normally Energised (C,NO,NC) Contact rating: 125VAC @ 0.5A / 30VDC @ 1A		
Trouble Relay (Charger PCB)	Normally Energised (C,NO,NC) Contact rating: 125VAC @ 0.5A / 30VDC @ 1A		
Power Supply outputs	VL-MMP/6	VL-MMP/10	VL-MMP/26
Output A (Auxiliary Power)	29V @ 1A	29V @ 1A	29V @ 1A
Output B (Auxiliary Power)	29V @ 1A	29V @ 1A	29V @ 1A
Output C (Control Panel Power)	29V @ 3A	29V @ 5A	29V @ 7.5A
Output D (Control Panel Power)	29V @ 3A	29V @ 5A	29V @ 7.5A
Display			
LCD Display	4.3” Resistive touch screen. 480 x 272 pixel resolution		
LED Indicators	Alarm, Supervisory, Trouble, Alarm Silenced, Power, Controls Active, General Disablement, General Test, NAC Fault/Disablement, NAC Delay, NAC Active, CPU Fault, Acknowledge (VL-ZLX 64 zone LED expansion also available)		
Button Controls	Alarm, Silence, Acknowledge, Scroll Display, Reset, Drill (All other controls via touchscreen)		
General Panel Information			
Maximum Software Zones	254 Zones		
Maximum Event Log	8032 Events		
Software Programming	Via touchscreen or Windows software		
Enclosure	VL-MMP/6	VL-MMP/10	VL-MMP/26
Dimensions H x W x D (mm)	H: 530mm x W: 380mm x D: 150mm	H: 665mm x W: 535mm x D: 190mm	H: 665mm x W: 975mm x D: 190mm
Weight	8.5 kg	15 kg	27 kg
Cable Entries	Top 18 Sides 12 Base 4	Top 26 Sides 8 Base 4	Top 66 Sides 28 Base 20
Module Capacity	6	10	26
Power Supply	5A	10A	15A
Battery Capacity	12Ah max	38Ah max	65Ah max
Environmental			
Operating Temperature	0°C to 49°C		
Relative Humidity	93% Non-condensing		

Appendix B: STANDBY BATTERY REQUIREMENTS

A spreadsheet is available for calculating the standby battery requirements. The information below is provided for information

Model Number	Description	Standby Current (mA) (Mains Fail Condition)	Alarm Current (mA)
VL-MMP/6	Velocity MMP 6 expansion port Fire alarm panel	110	
VL-MMP/10	Velocity MMP 10 expansion port Fire alarm panel	112	
VL-MMP/26	Velocity MMP 26 expansion port Fire alarm panel	120	
VL-SLC	Signalling Line Circuit Module - 1 x Class A	87*	87*
VL-MIM	Multi Input Module - 6 x Class B	48	73
VL-ZMA	Initiating Device Circuit Module - 3 x Class A	37	72
VL-ZMB	Initiating Device Circuit Module - 6 x Class B	62	97
VL-MRM	Multi Relay Module - 3 x Form C	28	116
VL-NCA	NAC Module - 1 x Class A	32	32+ alarm load
VL-NCB	NAC Module - 2 x Class B	32	32+ alarm load
VL-NWM	Network Module - RS485		
VL-MBM	Modbus Module - RS485	TBC	
VL-LAN	Local Area Network Module	TBC	
VL-232	RS232 Module (Printer Driver)	37	37**
VDOT-ZMU-SCI	Conventional Zone Module with SCI	2.6	35.9
VDOT-DIP-SCI	Dual Input Module with SCI	3.0	16.9
VDOT-DOP-AC240V-SCI	Relay Dual Output Module For AC240V with SCI	0.6	3.3
VDOT-DOP-SCI	Relay Dual Output with SCI	0.6	3.3
VDOT-DPH	Addressable Dual Optical/Heat Detector	0.2	5
VDOT-H2(-H)	Addressable Heat Detector	0.2	5
VDOT-MINIIP	Mini Input Module	1.7	7.2
VDOT-PY	Addressable Photoelectric Smoke Detector	0.2	5
VDOT-PYH	Addressable Multisensory Detector	0.2	5
VDOT-S6 BASE	Sounder Base	0.5	1.4
VDOT-SCI	Short Circuit Isolator	0.1 (22mA isolating)	0.1 (22mA isolating)
VDOT-SCM-SCI	Sounder Control Module with SCI	0.8	3.6
VDOT-STB-RL	Low Power Relay Base	0.024	0.11
VDOT-STB-SCI	Base Short Circuit Isolator	0.1 (22mA isolating)	0.1 (22mA isolating)
VL-W-C-W	Velocity Wall Mount Chime (White)	0	55
VL-W-C-R	Velocity Wall Mount Chime (Red)	0	55
VL-W-M-W	Velocity Wall Mount Multitone (White)	0	55
VL-W-M-R	Velocity Wall Mount Multitone (Red)	0	55
VL-W-CS-W	Velocity Wall Mount Chime/Strobe (White)	0	131-368***
VL-W-CS-R	Velocity Wall Mount Chime/Strobe (Red)	0	131-368***
VL-W-MS-W	Velocity Wall Mount Multitone/Strobe (White)	0	167-441***
VL-W-MS-R	Velocity Wall Mount Multitone/Strobe (Red)	0	167-441***
VL-C-CS-W	Velocity Ceiling Mount Chime/Strobe (White)	0	131-368***
VL-C-CS-R	Velocity Ceiling Mount Chime/Strobe (Red)	0	131-368***
VL-C-MS-W	Velocity Ceiling Mount Multitone/Strobe (White)	0	167-441***
VL-C-MS-R	Velocity Ceiling Mount Multitone/Strobe (Red)	0	167-441***
VL-MH-W	Velocity Mini Horn (White)	0	55
VL-MH-R	Velocity Mini Horn (Red)	0	55
VL-W-S-W	Velocity Wall Mount Strobe (White)	0	131-368***
VL-W-S-R	Velocity Wall Mount Strobe (Red)	0	131-368***
VL-C-S-W	Velocity Ceiling Mount Strobe (White)	0	131-368***
VL-C-S-R	Velocity Ceiling Mount Strobe (Red)	0	131-368***
GB6-24	Wall Mount Bell 6”	0	100
GB10-24	Wall Mount Bell 10”	0	100

*SLC Device current and alarm current not included. On batteries use 1.5x current to allow for DC-DC step up voltage

**Current for printing out alarm message not included

***depends on strobe setting

Appendix C: DEVICE ADDRESS SETTING (VDOT-AD2)

Addressable SLC Detectors

This quick instruction of VDOT-AD2 is using a **VDOT-PYH** as an example. Please refer to "VDOT-AD2 programmer instruction manual GLT-303-7-1 for further details.

Preparation

1. VDOT-AD2 requires two 9V PP3 batteries.

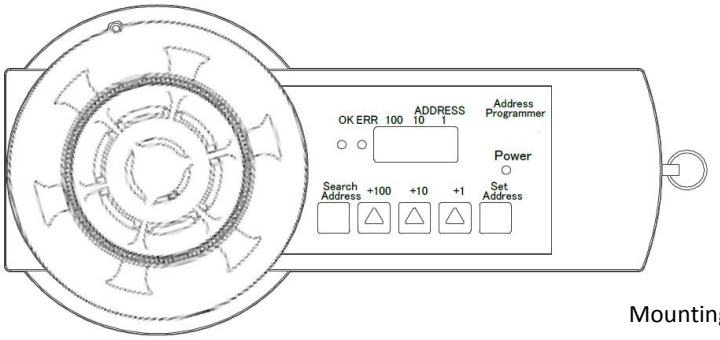
a) Before inserting the batteries, confirm the VDOT-AD2 is switched off and check polarity of battery, or damage could result.

Indicate current address

1. Turn the power switch ON.

a) For one second, all LED's are lit and the buzzer sounds.

2. Push the detector into the base on the VDOT-AD2 while turning it clockwise until the detector locks into place.



Mounting a detector on an VDOT-AD2

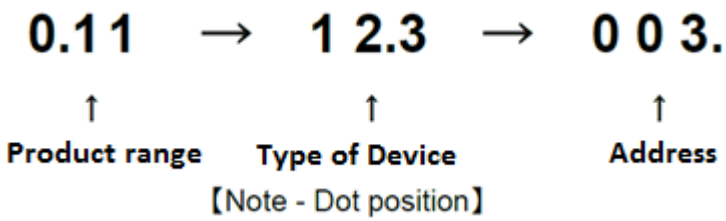
3. Press the [Search] Key

a) Buzzer sounds, and then the VDOT-AD2 starts transmitting to the detector.

b) Do not remove the detector when transmitting, or damage could result.

4. The 7 segment LED Cycles through the following information: [Product Range], [Type of device], [Address] in turn.

a) The buzzer sounds, ERROR LED lights and the 7 segment LED display are an ERROR CODE when an unsupported or defective device is connected.



The 7 segment LED distinguishes the Product Range, Device Type and Address by the dot position in the LED.
The information displayed by the 7 segment LED cycles every second and stops whilst displaying the [address] at the end of the second cycle.

Velocity UL Devices are Product range 011

Type of device is assigned to the detectors as below:
VDOT-PYH: 153

Pressing any key at any time during the information collection cycle, forces the VDOT-AD2 to display the address, and await new address selection.

Set new address

1. +100, +10, +1 keys are used to select the new address.

2. Press the [Set] key

a) The buzzer sounds, and all LED's are turned off. The VDOT-AD2 then starts transmitting to the detector.

b) Do not remove the detector.

3. The 7 segment LED shows the new address and "complete" LED lights. If an unsupported or defective device is connected the buzzer sounds, ERROR LED is lit and the 7 segment LED reads ERROR CODE.

4. To continue changing the address for another device, change the detector and then repeat from paragraph 3.

To finish changing addresses, turn the POWER SW off.

Addressable SLC Modules

This quick instruction of VDOT-AD2 is using a **VDOT-DIP-SCI** as an example. Please refer to "VDOT-AD2 programmer instruction manual GLT-303-7-1 for further details.

Address Setting

Use VDOT-AD2 Programmer for setting the address of the module prior to installation. VDOT-DIP-SCI has an address given at random from factory. Connect the Programmer with the address setting port to change the address to any of 1-254 (decimal), with reference to the instruction manual of VDOT-AD2 Programmer. The address can be set regardless of whether power supply from the control panel is turned on or off. During setting address, the module does not respond to the control panel.

Set the address of module according to Job data.

Appendix D: PRODUCT CODES

Description	Product Code
Panels	
6 Module Capacity – LCD Only (Red)	VL-MMP/6
10 Module Capacity – LCD Only (Red)	VL-MMP/10
10 Module Capacity – LCD & 64 Zonal LED's (Red)	VL-MMP/10/64
10 Module Capacity – LCD & Printer (Red)	VL-MMP/10/P
10 Module Capacity – LCD & Printer & 64 Zonal LED's (Red)	VL-MMP/10/P/64
26 Module Capacity – LCD Only (Red)	VL-MMP/26
26 Module Capacity – LCD & 64 Zonal LED's (Red)	VL-MMP/26/64
26 Module Capacity – LCD & Printer (Red)	VL-MMP/26/P
26 Module Capacity – LCD & Printer & 64 Zonal LED's (Red)	VL-MMP/26/P/64
Annunciator Panel (Red)	VL-MMP/RA
6 Module Capacity – LCD Only (Black)	VL-MMP/6-B
10 Module Capacity – LCD Only (Black)	VL-MMP/10-B
10 Module Capacity – LCD & 64 Zonal LED's (Black)	VL-MMP/10-B/64
10 Module Capacity – LCD & Printer (Black)	VL-MMP/10-B/P
10 Module Capacity – LCD & Printer & 64 Zonal LED's (Black)	VL-MMP/10-B/P/64
26 Module Capacity – LCD Only (Black)	VL-MMP/26-B
26 Module Capacity – LCD & 64 Zonal LED's (Black)	VL-MMP/26-B/64
26 Module Capacity – LCD & Printer (Black)	VL-MMP/26-B/P
26 Module Capacity – LCD & Printer & 64 Zonal LED's (Black)	VL-MMP/26-B/P/64
Annunciator Panel (Black)	VL-MMP/RA-B
Modules	
Signalling Line Circuit Module - 1 x Class A	VL-SLC
Multi Input Module - 6 x Class B	VL-MIM
Initiating Device Circuit Module - 3 x Class A	VL-ZMA
Initiating Device Circuit Module - 6 x Class B	VL-ZMB
Multi Relay Module - 3 x Form C	VL-MRM
NAC Module - 1 x Class A	VL-NCA
NAC Module - 2 x Class B	VL-NCB
Network Module - RS485	VL-NWM
Modbus Module - RS485	VL-MBM
Local Area Network Module	VL-LAN
RS232 Module (Printer Driver)	VL-232

Appendix E: Ground Fault Impedance values

Below is a table of the impedance values that will cause a ground fault on the MMP panel under normal operating conditions (running on mains power)

Circuit	Impedance that will signal a Ground Fault
PSU Output +	500kΩ
PSU Output -	47kΩ
NAC Class A +*	47kΩ
NAC Class A -*	330kΩ
NAC Class B +*	94kΩ
NAC Class B -*	330kΩ
SLC +	500kΩ
SLC -	47kΩ
Multi-Input Module (MIM) +	500kΩ
Multi-Input Module (MIM) -	47kΩ
Zone Class A +	500kΩ
Zone Class A -	47kΩ
Zone Class B +	500kΩ
Zone Class B -	47kΩ
Network Module, terminal A	N/A (Isolated from system voltage)
Network Module, terminal B	N/A (Isolated from system voltage)
Multi-Relay Module (MRM) NO	N/A (Isolated from system voltage)
Multi-Relay Module (MRM) CM	N/A (Isolated from system voltage)
Multi-Relay Module (MRM) NC	N/A (Isolated from system voltage)

*in quiescent condition, the NAC has a reverse voltage on its terminals. So that a ground fault to NAC + will cause a negative ground fault, and a ground fault to NAC - will cause a negative ground fault. When active, the impedance levels, and the fault messages reverse.

Velocity CONTROL PANEL

Operation and Maintenance Manual



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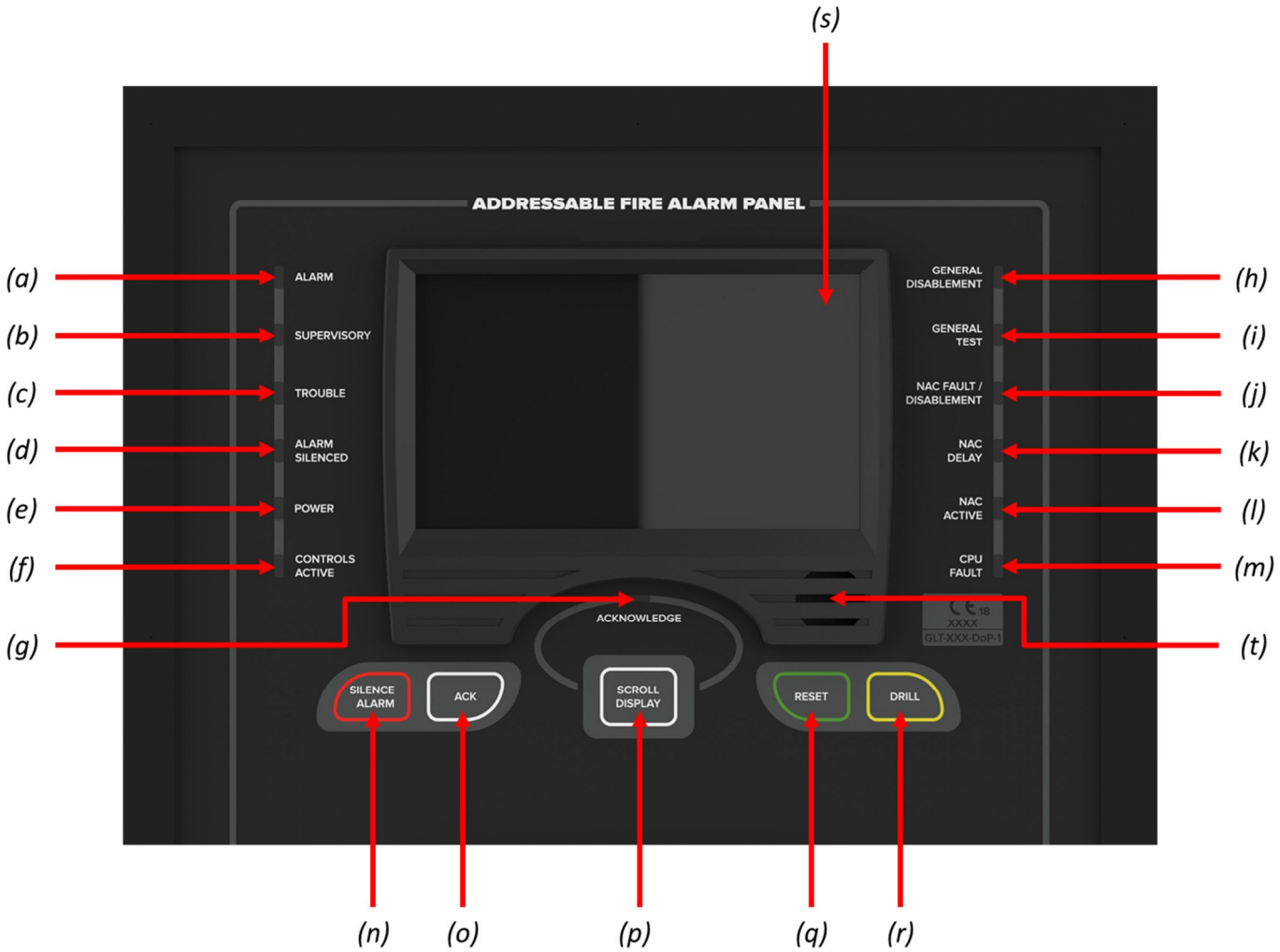
Controls and Indicators

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.***

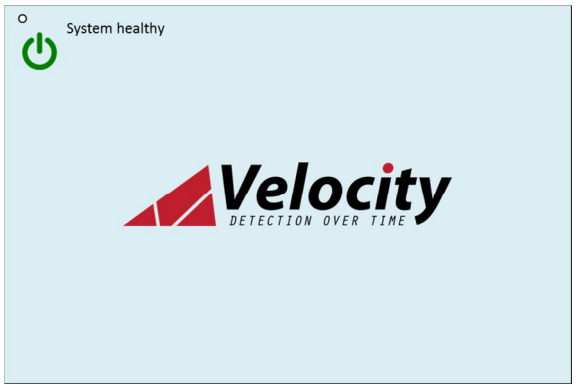
t) Internal Buzzer

- Gives an audible indication if there is an alarm, trouble or supervisory event.
- Audible distinction between alarm and trouble provided.

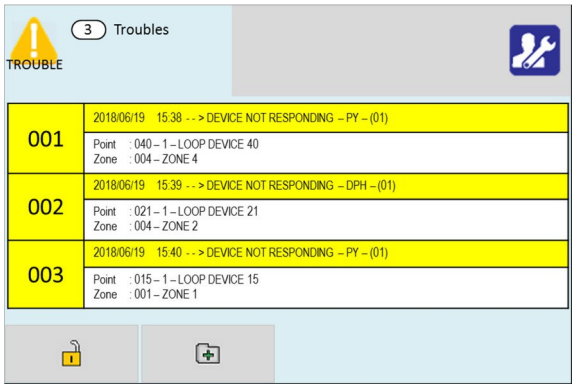
System Operating Modes and Annunciation

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

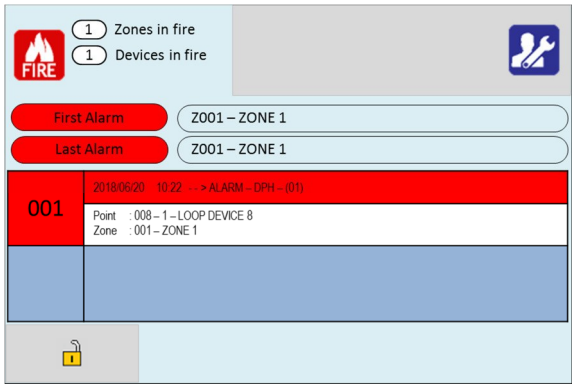
The following functions will be performed when in the trouble condition: • Will cause the panel's internal buzzer to sound with a pulsed output. • The system Trouble LED will illuminate and flash. • Any relevant Trouble LED's will illuminate. • A trouble message will be displayed on the LCD screen. •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

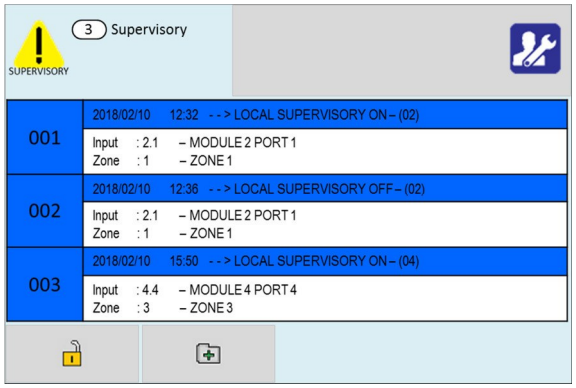
The following functions will be performed when in the supervisory condition:

- 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.

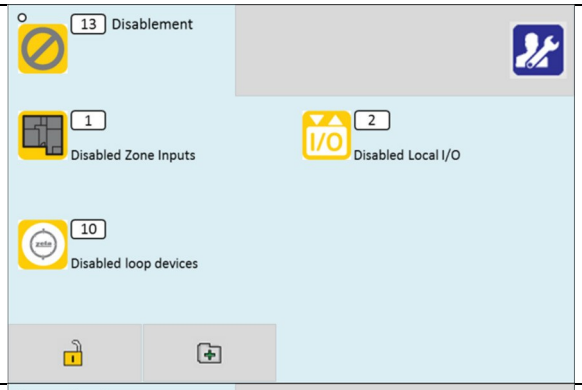
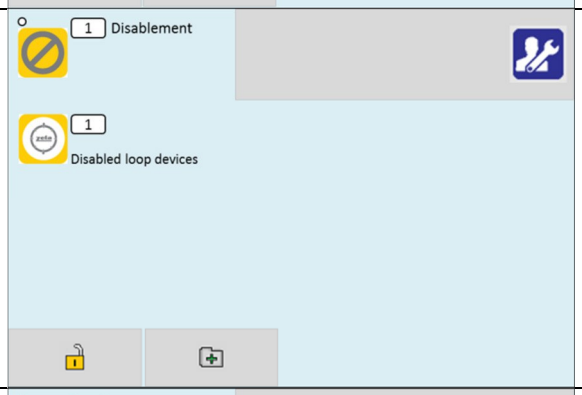
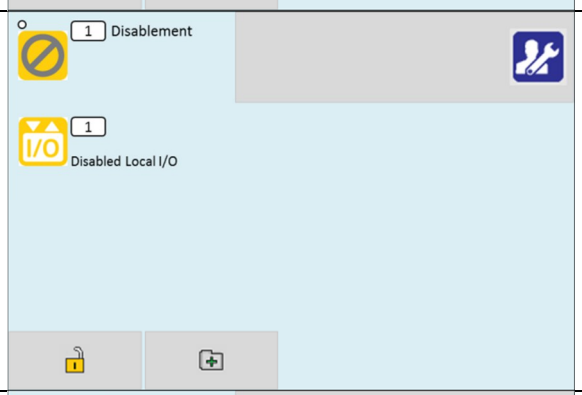
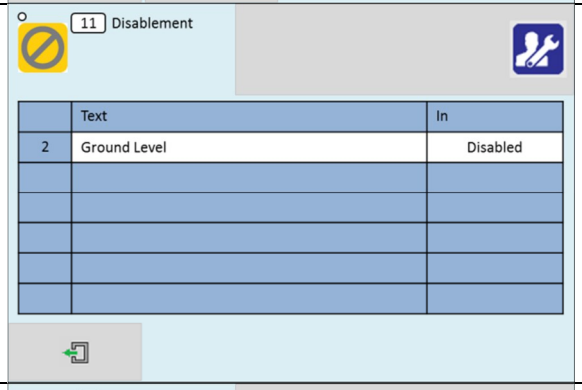
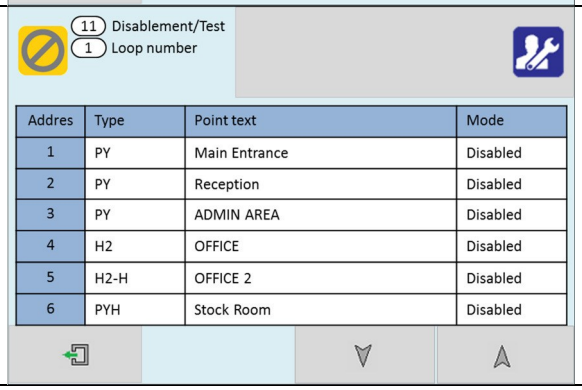
A typical supervisory display would be as illustrated below:



On the screen, the panel shows:

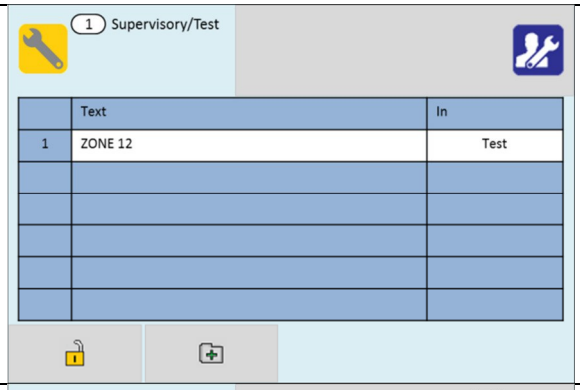
- Supervisory Icon
- Number of supervisory events
- Details of supervisory in chronological order (showing type, zone number & label, device address & label)
- Scroll arrows for displaying further events

Disablement Condition

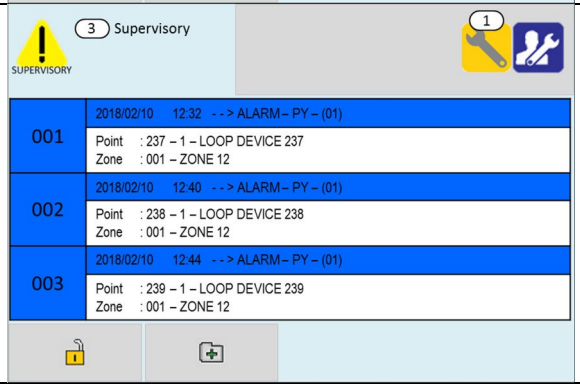
Disablements are indicated with the general disablement LED, and a mixture of LCD/LED indications. In this example, zone 1 is disabled. The panel shows that one zone is disabled, and that the 10 Loop (SLC) devices and 2 module inputs/outputs in that zone are also disabled. Press the zone icon, SLC device 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)

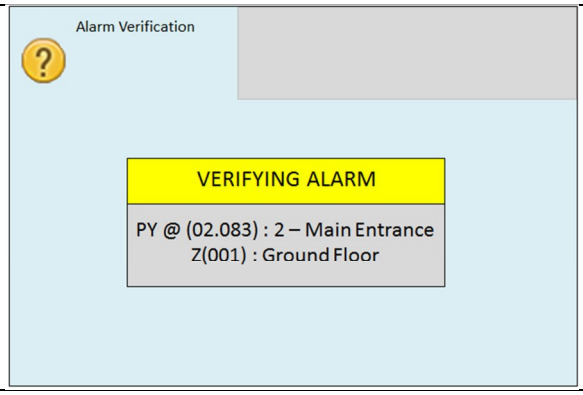


Alarm Verification Conditions

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

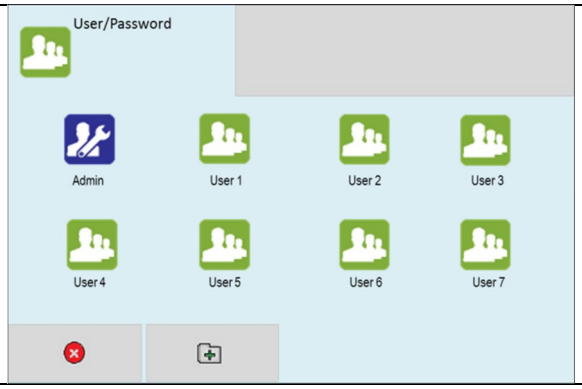
The VELOCITY panel has 2 user access levels and one installer access level.

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.

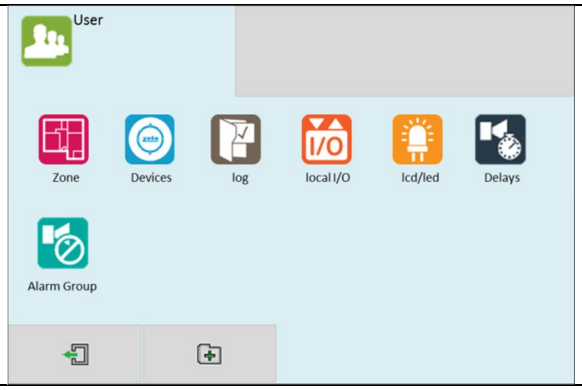


Full user access (Access level 2b)

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.

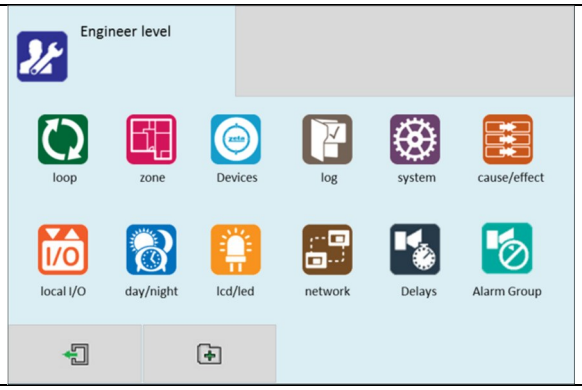
It is indicated by a steady Controls Active LED, and an open padlock icon in the bottom left corner of the LCD screen.



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.

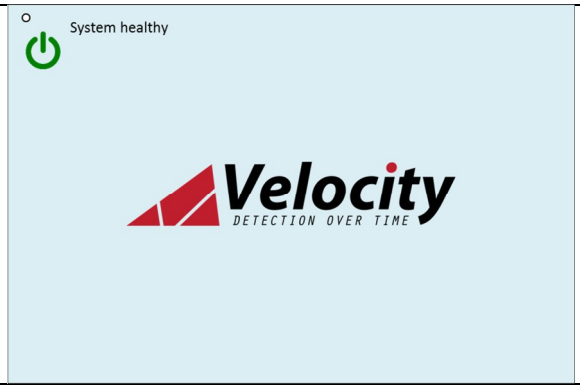


Turning Off Access

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

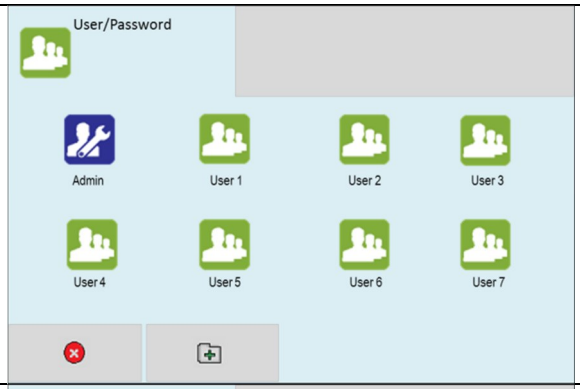
Press the padlock icon  in the bottom left corner. The controls active LCD will turn off and the padlock icon will turn off.

(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

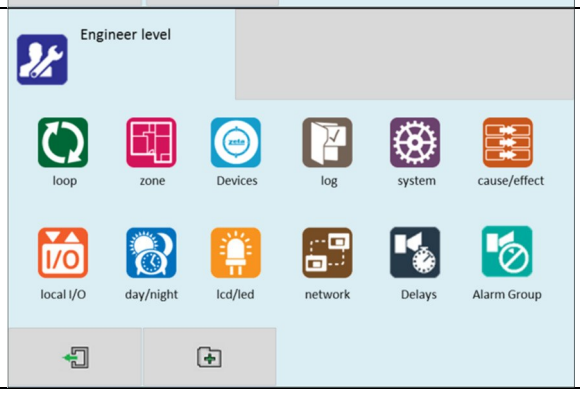
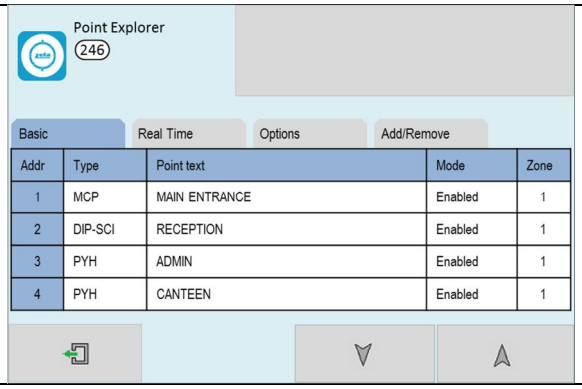


Table View Screen (Example)

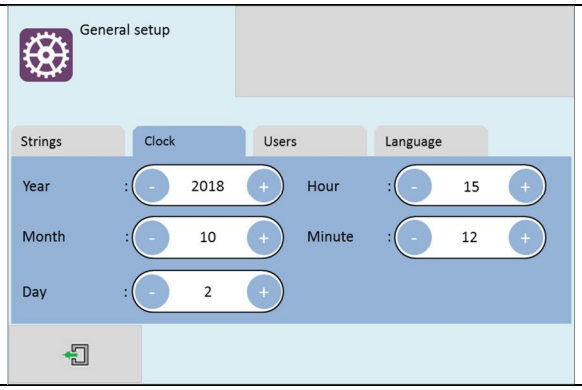
Information is presented in a table, there is editable data (e.g. device labels), and non-editable data (e.g. device types). Tapping on an editable data field will allow it to be edited.



Data Field Screen (Example)

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

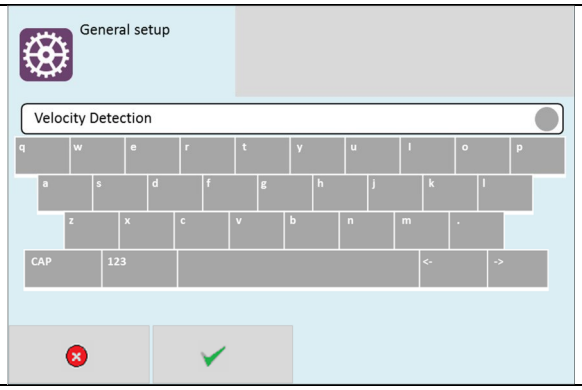
Clicking on the field will allow it to be edited



Text Keyboard

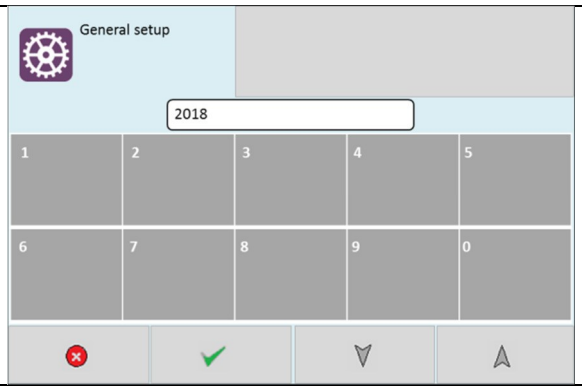
Used to enter text. Use <- and -> to position the keyboard. Press the circle at the end of the text field to delete text as required. The 123 key brings up the numeric keyboard. And the CAP key turns on the caps lock.

Press  when finished to confirm the text entry.



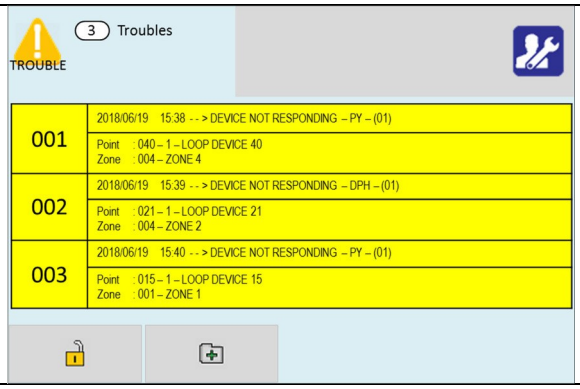
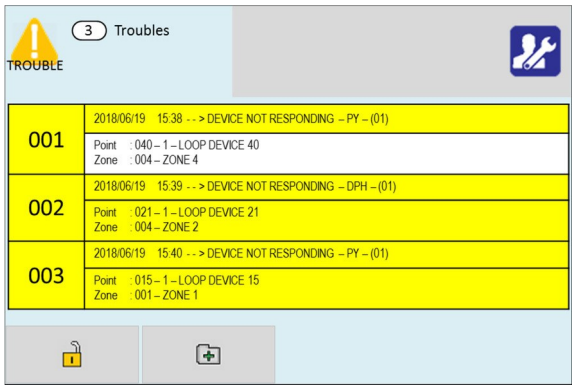
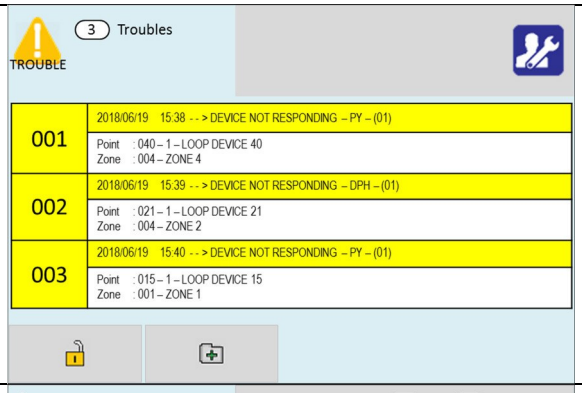
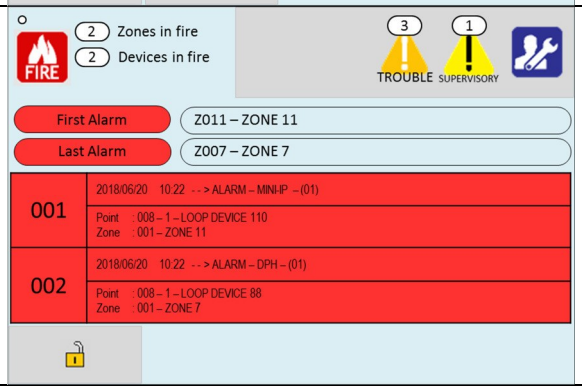
Number Keyboard

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



Acknowledge

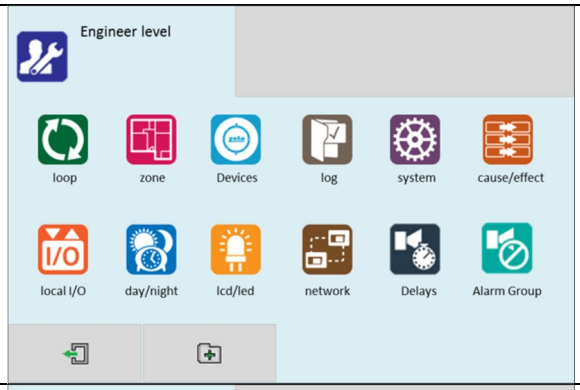
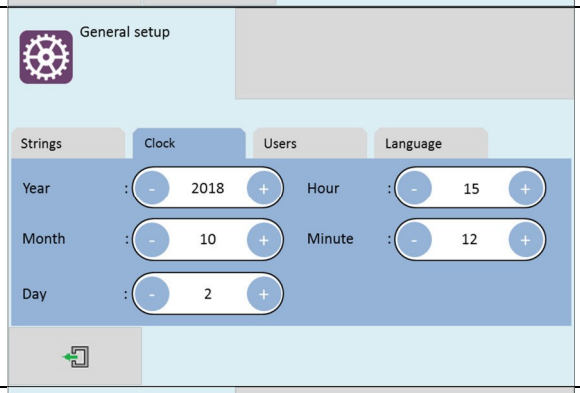
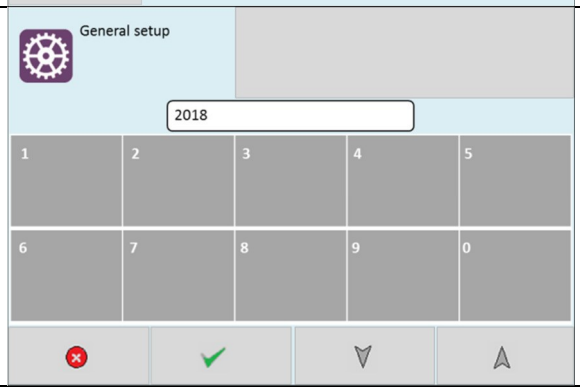
When an Alarm, Supervisory or Trouble event occurs in the system, the display enters the off-normal mode automatically. The events are displayed in priority order (Alarm, Supervisory, and Trouble), the local audible sounds and the appropriate LED's will blink. After all events have been acknowledged, 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

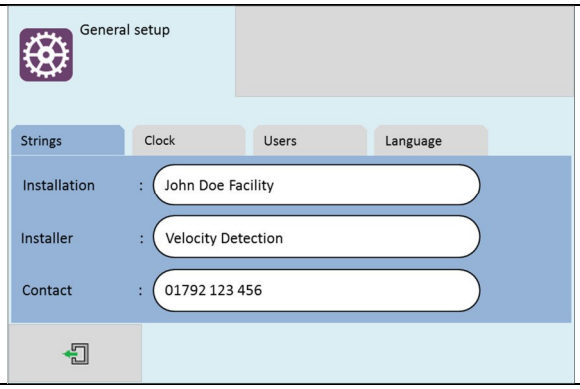
Press the screen. The panel prompts for a user and password. Select Engineer, and enter the Engineer (Access Level 3) password (default is 9999) Press the access menu icon, followed by the 'system' icon .	
Select the Clock tab. Edit the time and date as required. Press the exit button to leave the menu.	
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.

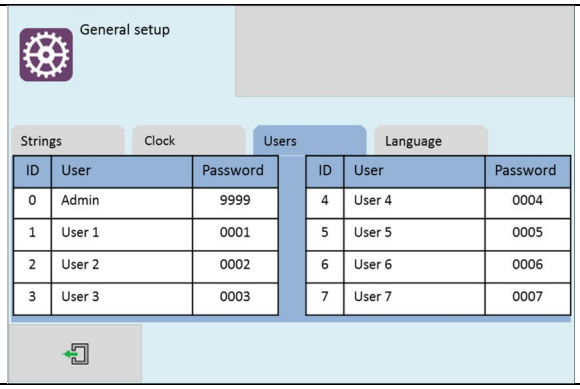


Passwords

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.



ID	User	Password
0	Admin	9999
1	User 1	0001
2	User 2	0002
3	User 3	0003

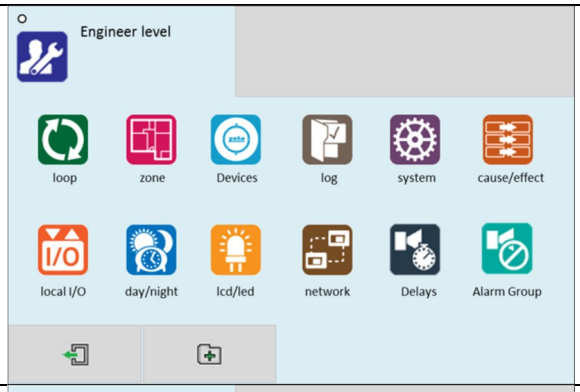
ID	User	Password
4	User 4	0004
5	User 5	0005
6	User 6	0006
7	User 7	0007

Configuring the SLC Modules

Press the screen. The panel prompts for a password.

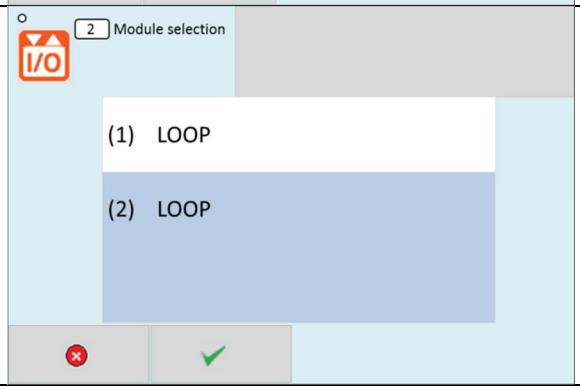
Enter the Engineer (Access Level 3) password (default is 9999)

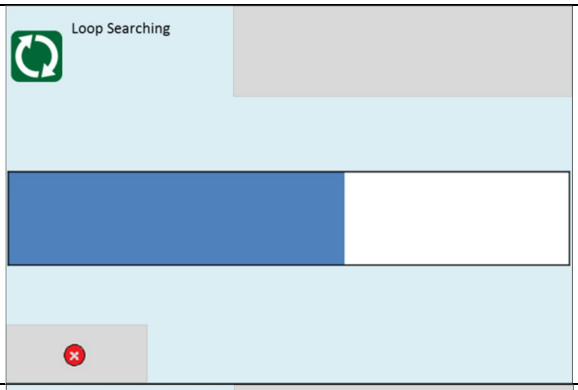
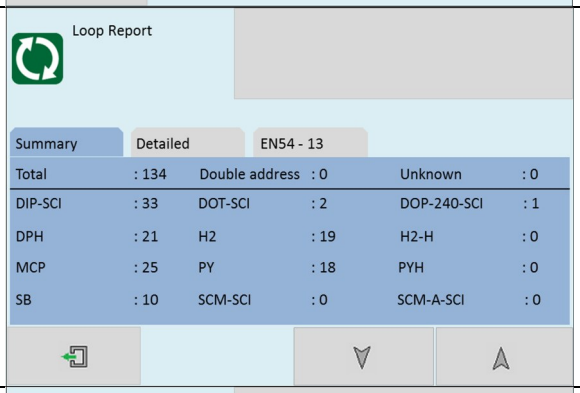
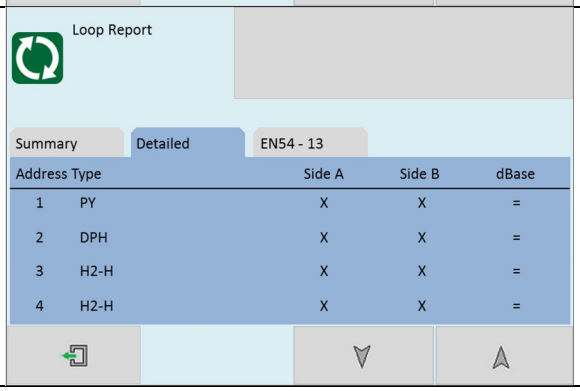
Press the ‘loop’ Icon.



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.

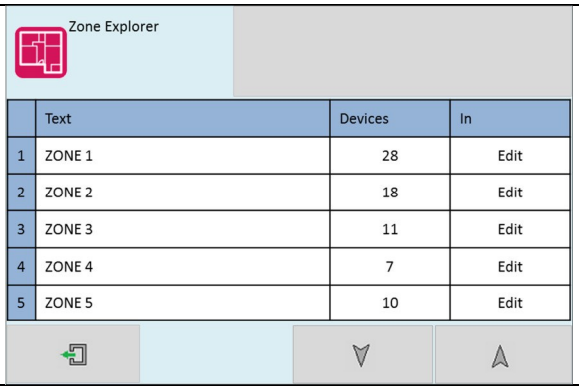
The port number will be labelled on the TRM PCB inside the panel and are also shown in the Velocity Installation manual (Doc: GLT-261-7-1).

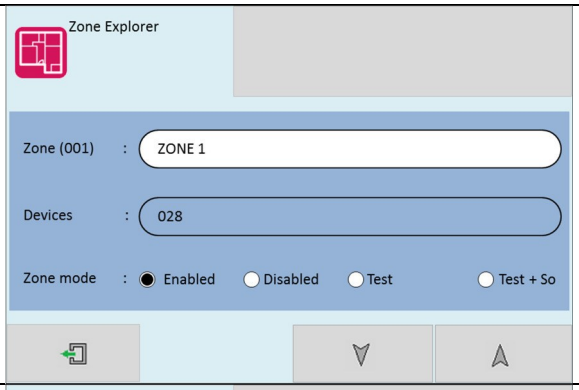
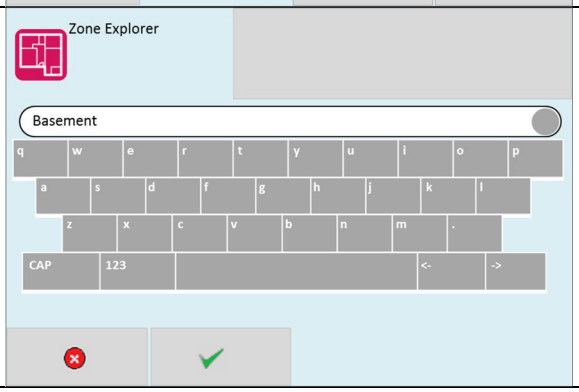


The panel will proceed to learn the loop.	
When the configuration is complete, the panel displays a summary of the devices found.	
To view details of the configuration, click the detail tab. This shows the device type found at each address, and also shows whether it was seen from Side A or Side B (to 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

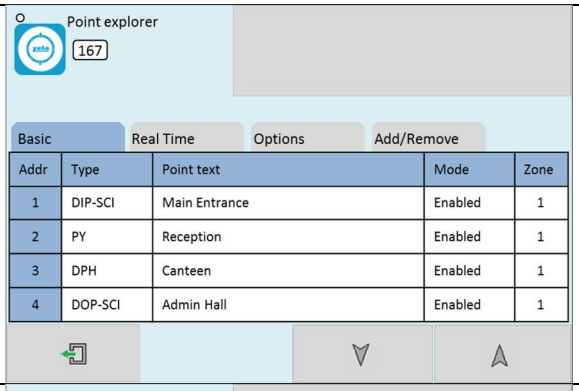
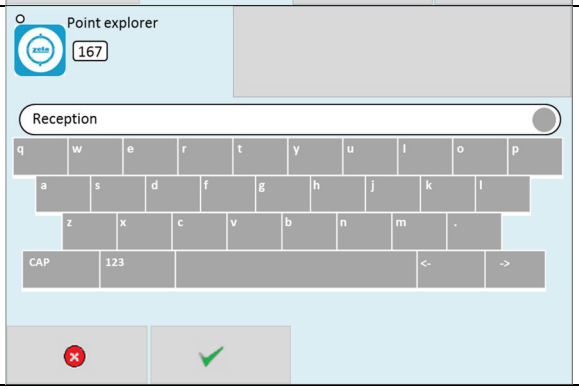
All fire alarm systems must be subdivided into zones, which represent the geographical areas of the building. The Velocity fire system allows any number of devices to be allocated to a zone. However, it is assumed that a zone will not contain more than 32 fire detectors and/or manual call points, since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

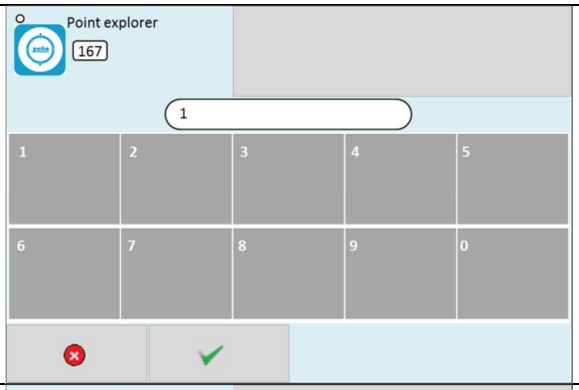
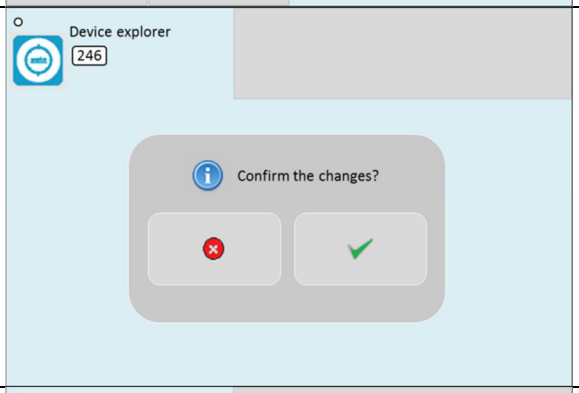
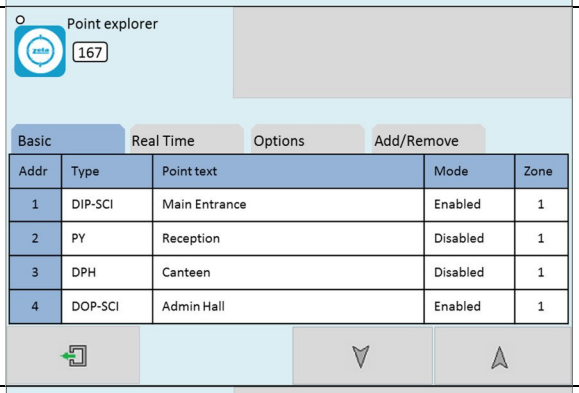
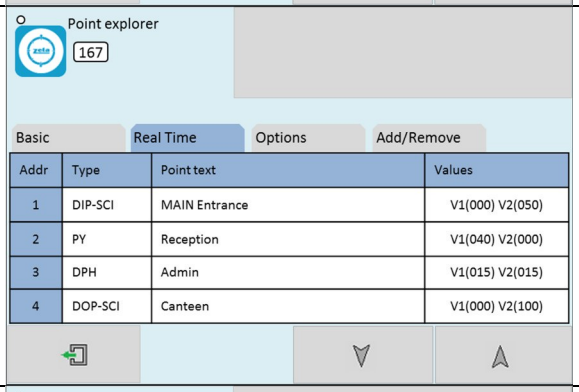
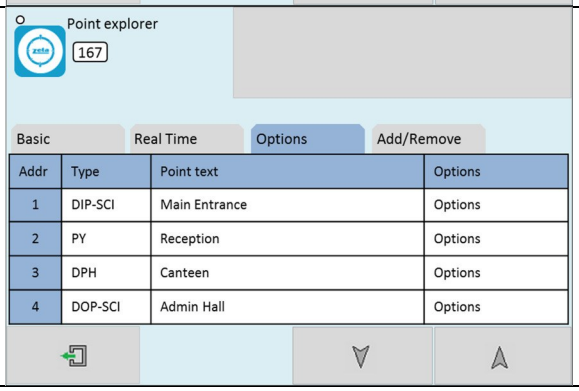
Enter the engineer password and select the ‘zone’ icon. Press on the zone that you wish to edit.	

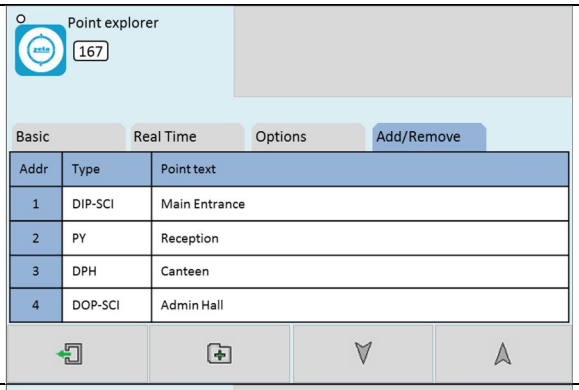
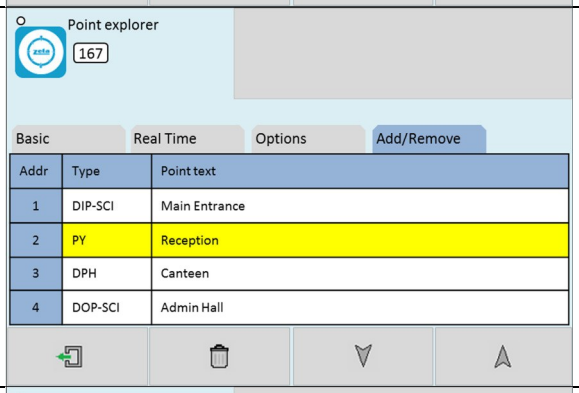
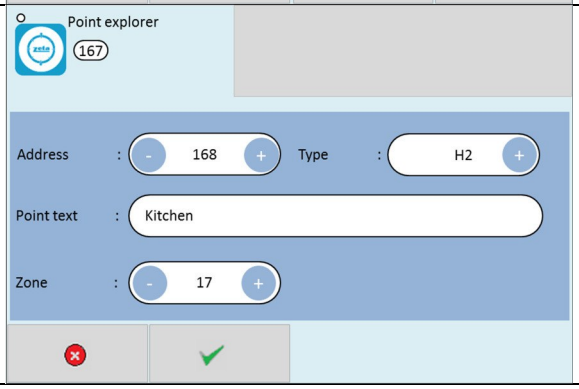
This will show the zone explorer settings menu. Press on the zone text field to edit it. The and arrows can be pressed to cycle through the zone numbers.	
Use <- and -> to place the cursor, and to delete unwanted text. Type the zone name, and press exit when done. Repeat for all required zones.	

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.

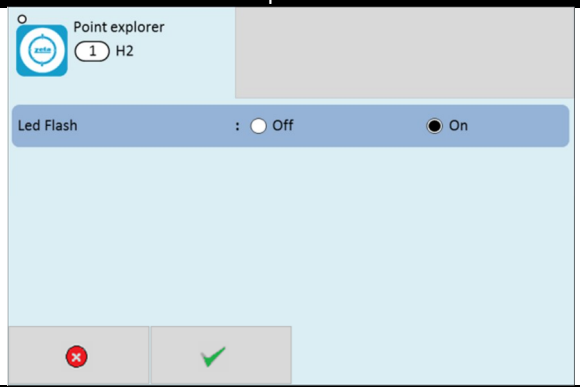
From the ENGINEER MENU, press the ‘point’ icon. Press the text field of the device to be edited.	
The Panel shows the on screen keyboard. Enter the required device label (up to 24 characters). Press the green tick to confirm the text.	

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.	

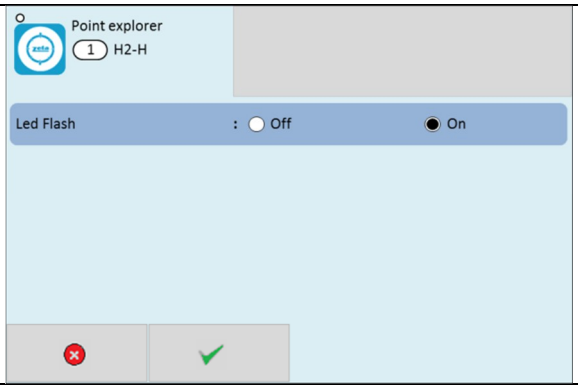
SLC Device Options

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)

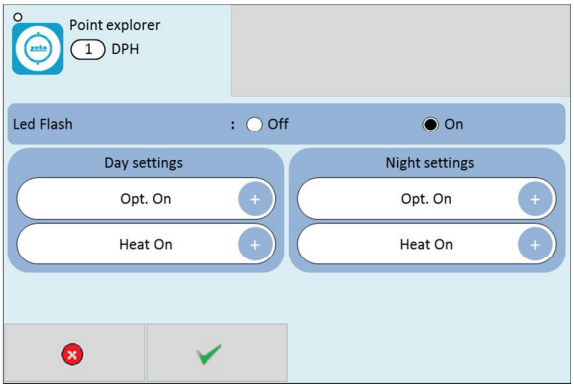


VDOT-DPH
(Addressable Dual Optical/Heat Detector)

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

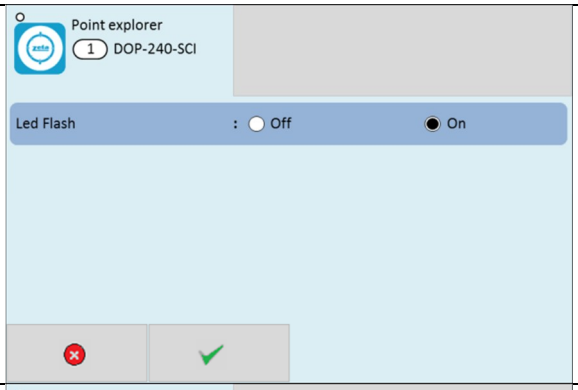
Day settings:
(Opt. On) / (Opt. Off)
(Heat On) / (Heat Off)

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



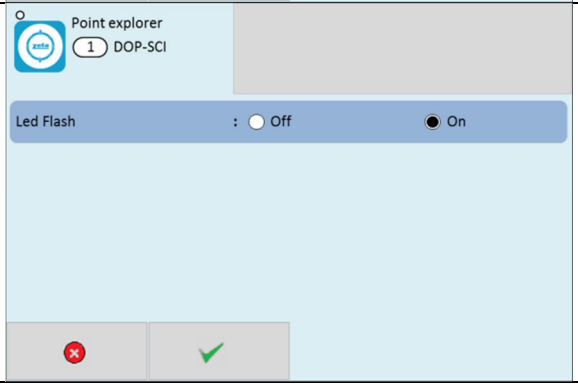
VDOT-DOP-AC240-SCI
(Addressable Relay Dual Output Module For AC240V with SCI)

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



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

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



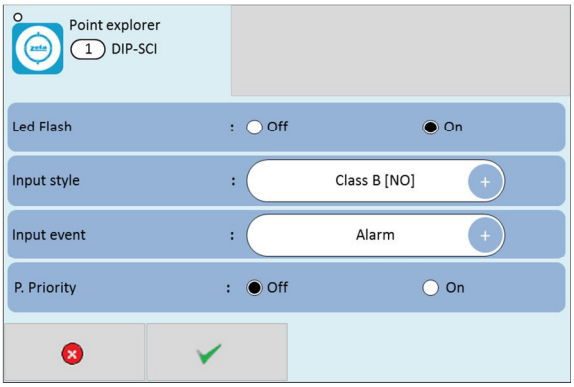
VDOT-DIP-SCI
(Addressable Dual Input Module with SCI)

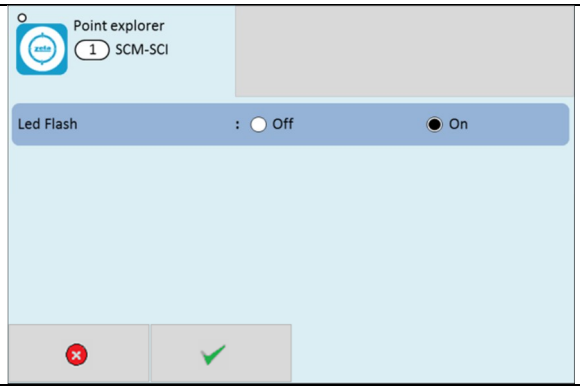
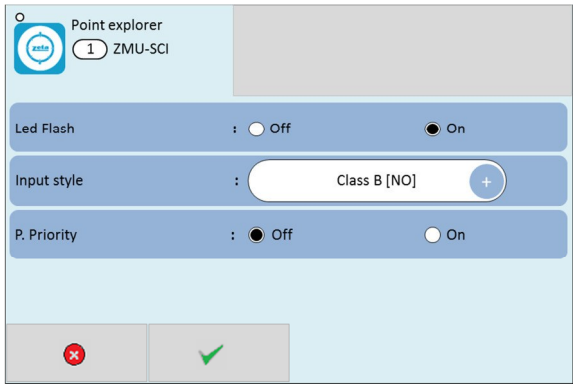
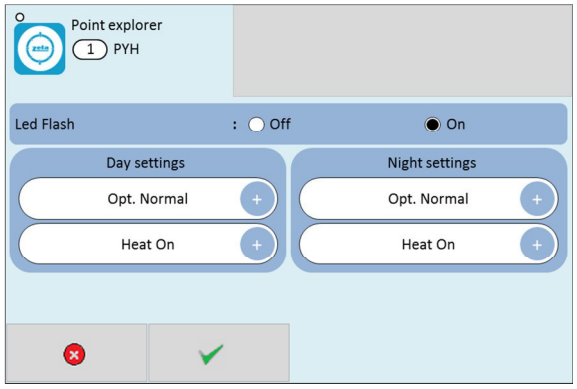
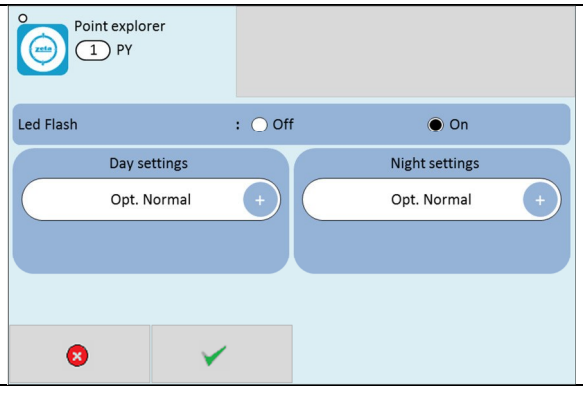
Available options:
Led Flash:
(Off) / (On)

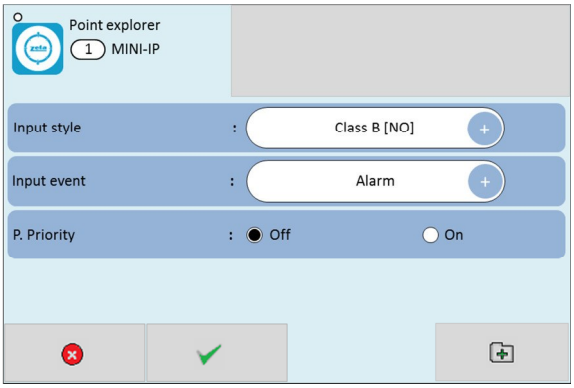
Input Style:
(ClassB [NO]) / (ClassA [NO]) / (ClassB [NC/SC]) / (ClassB [NO/SC]) / (ClassA [NO/SC])

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

P. Priority:



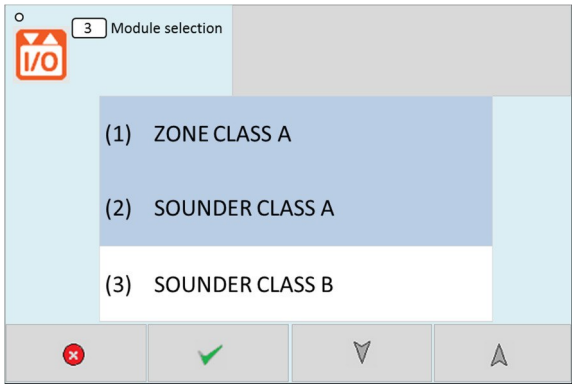
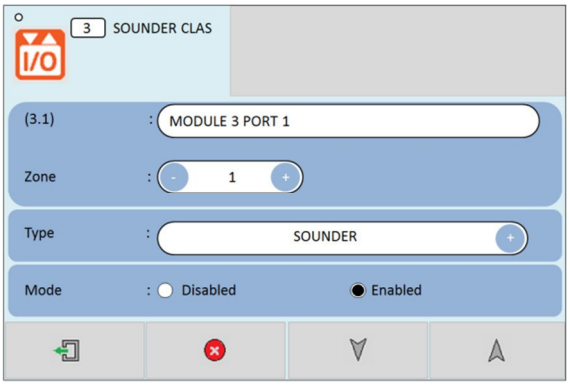
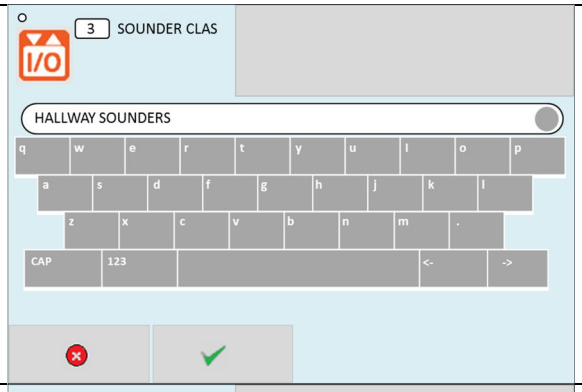
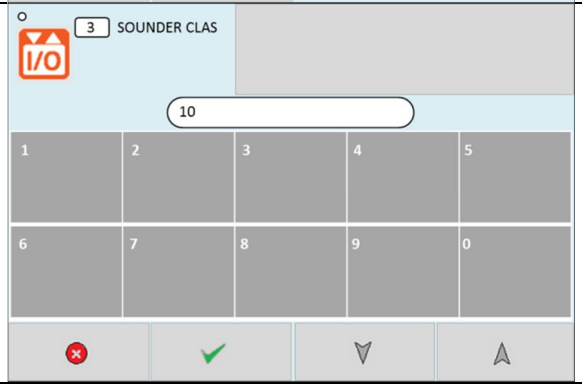
(Off) / (On) *Note: Turning on priority polling will make the panel prioritise events from this device. This can only be used on 50 devices per loop.*	
VDOT-SCM-SCI *(Addressable Sounder Control Module with SCI)* <u>Available options:</u> Led Flash: (Off) / (On)	
VDOT-ZMU-SCI *(Addressable Zone Monitor 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)	

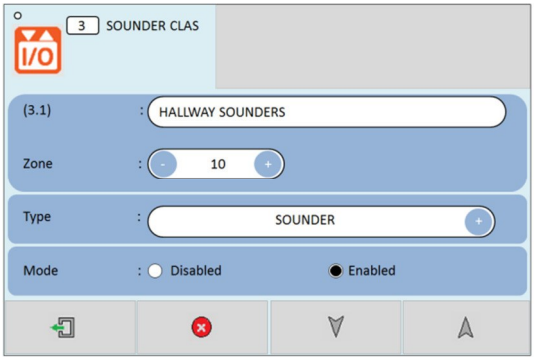
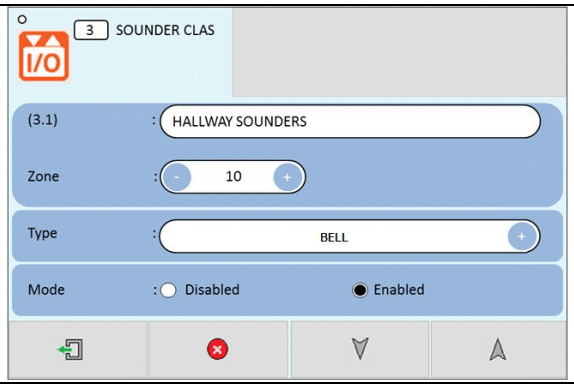
VDOT-MiniIP *(Addressable Photoelectric Smoke Detector)* <u>Available options:</u> Input Style: (ClassB [NO]) / (ClassB [NC/SC]) / (ClassB [NO/SC]) Input Event: (Alarm) / (Supervisory) / (Trouble) P. Priority: (Off) / (On) *Note: Turning on priority polling will make the panel prioritise events from 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)* <u>Available options:</u> 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.

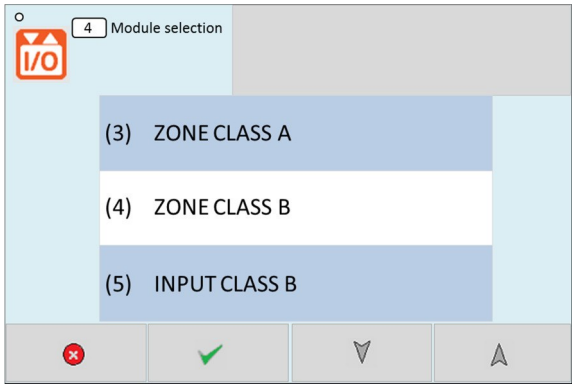
Note that the cause & effect for the Velocity MMP panel has 3 tone options for the NACs: ANSI -3 tone, March tone and continuous.

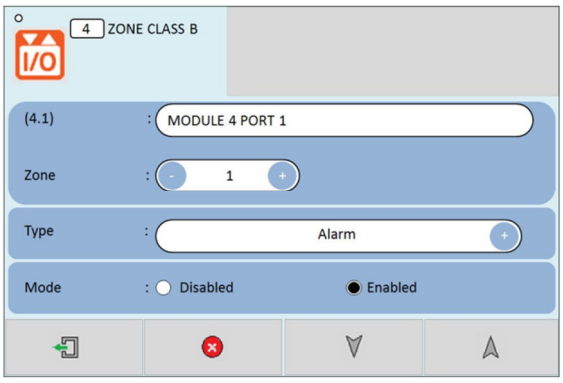
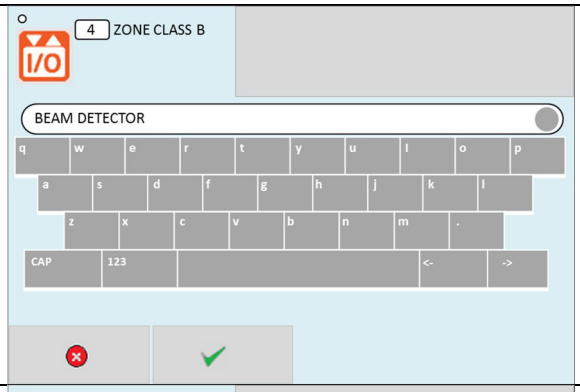
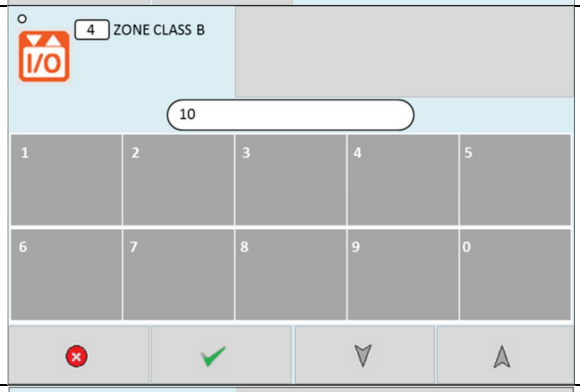
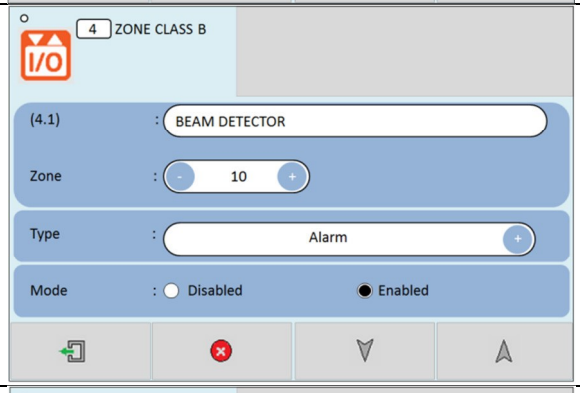
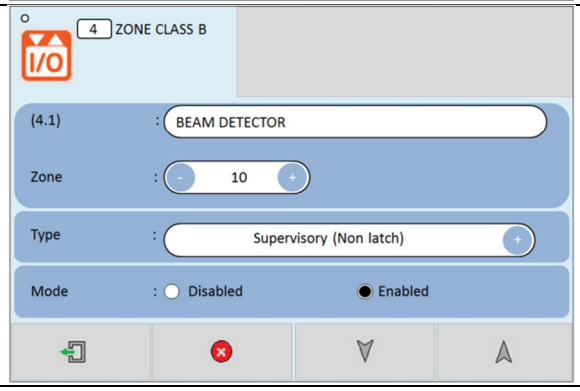
From the ENGINEER MENU, press the Local I/O Icon. The panel will show the module selection screen. Select the required port number. The port number is shown in the brackets on the left. When you select a module it will become highlighted. The up and down arrows can be used to cycle through pages. Press 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.	

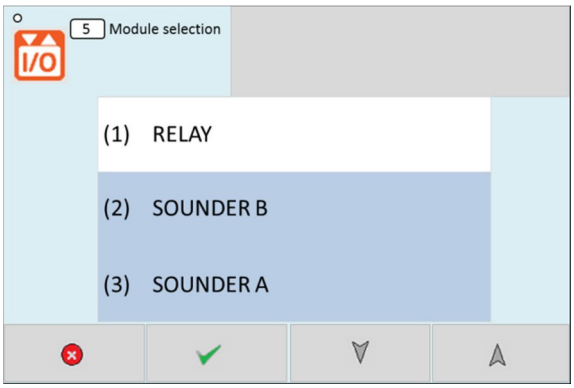
Setting MRM Module Options

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).

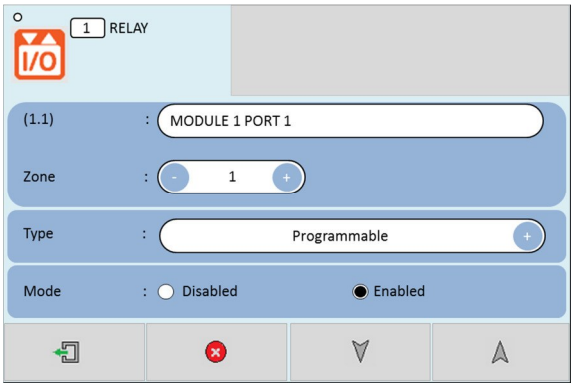


The module settings screen will be displayed.

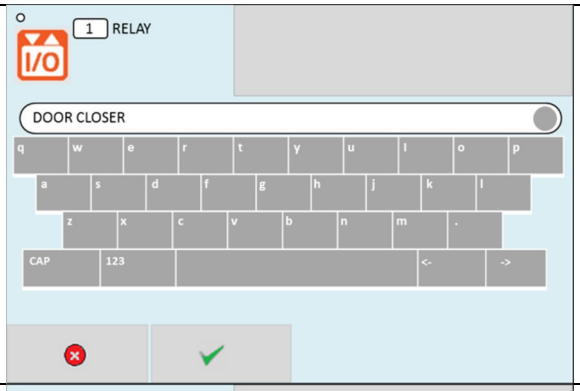
In this example, the output address is shown as: **(1.1)**. The first number represents the TRM port (The RJ45 port on the TRM PCB that the module is plugged into). The second number represents the output on the module itself.

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

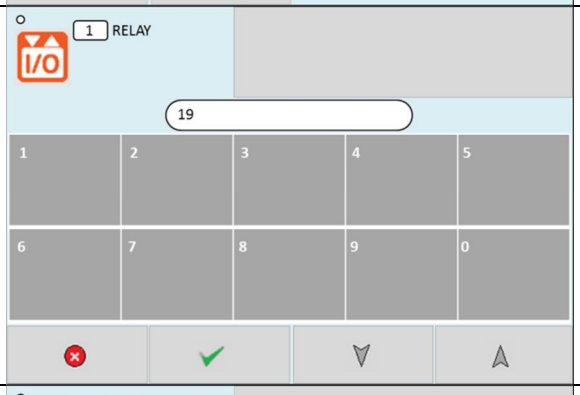


To change the text label of a module output, press on the text label field. This will display the panel keyboard. Enter the required text name, and then press the green tick to confirm.



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

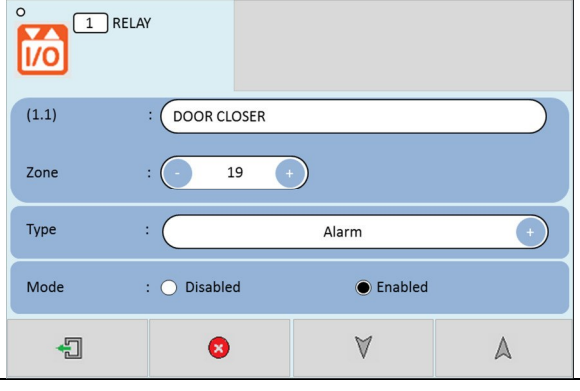
You can also type in the number via the panel numerical keyboard, to do this press on the zone number field. Type in the required zone number and press the green tick to confirm.



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>

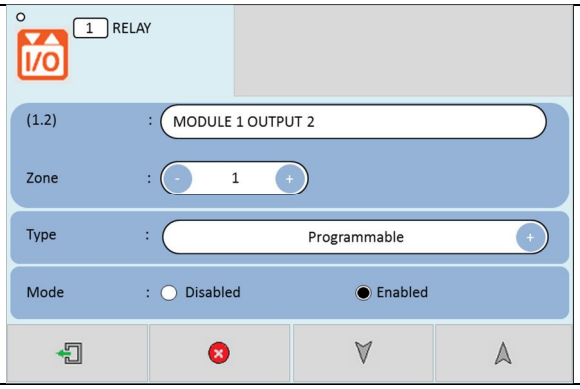
Trouble:
Relay will act as a common trouble relay, and will react to ANY trouble condition on the panel. Cannot be disabled or controlled by cause & effects. Relay will become normally energised.

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.

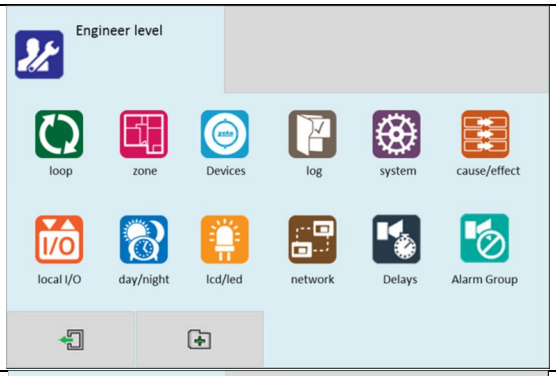
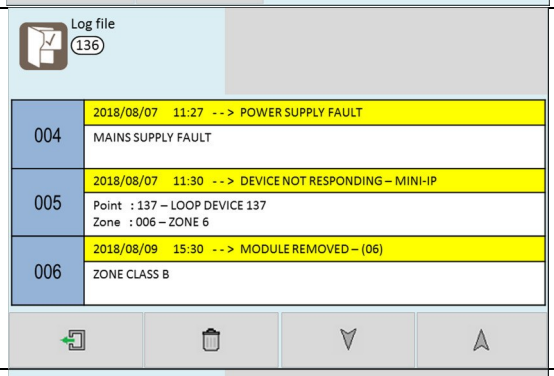
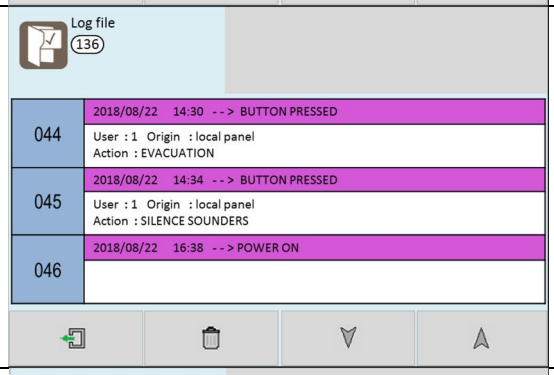
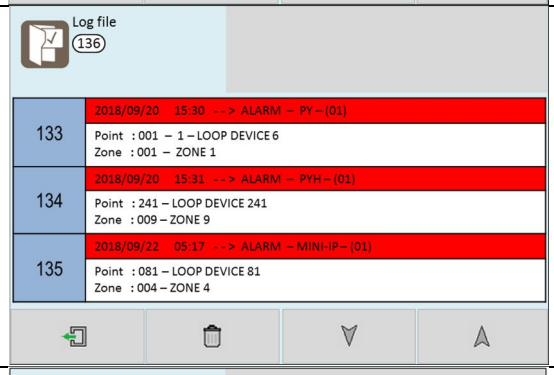
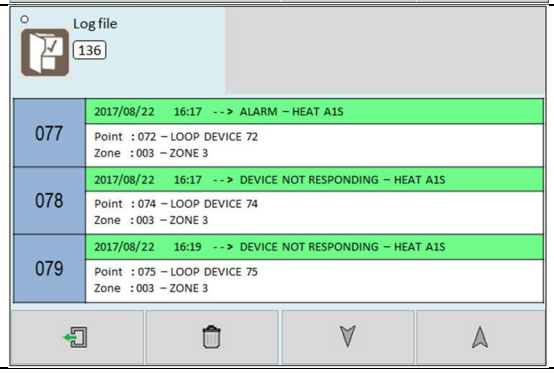
</td><td></td></tr>
<tr><td>

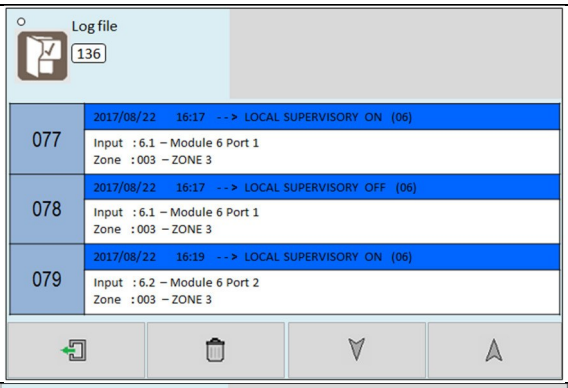
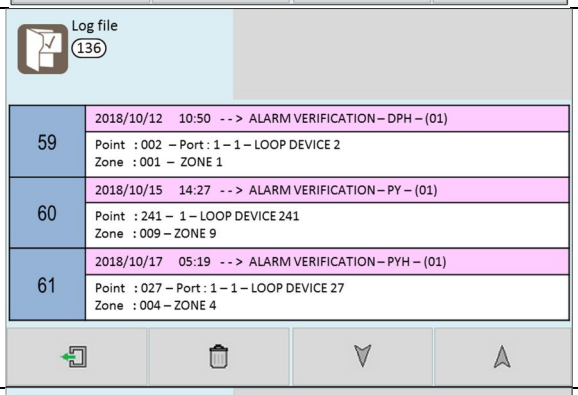
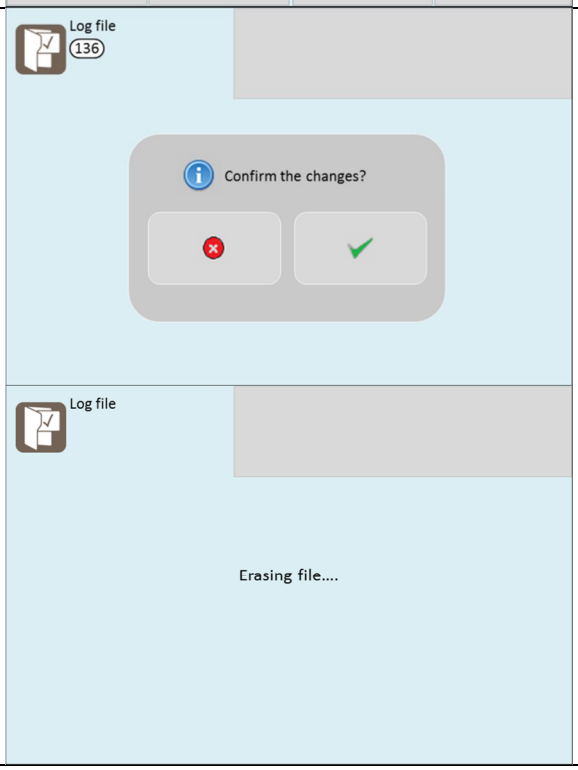
When you have finished configuring the module output, you can press the  or  arrows to change to the next output number on the module, or press  to exit and either confirm or dismiss the changes.

</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

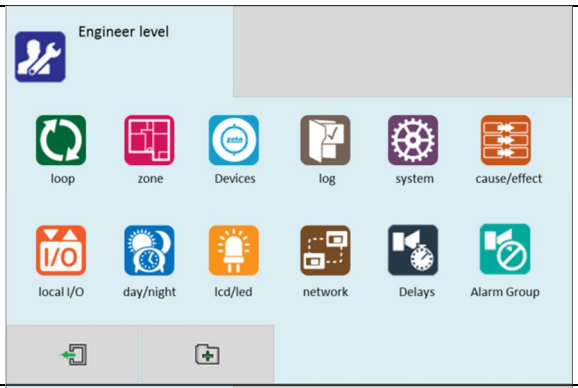
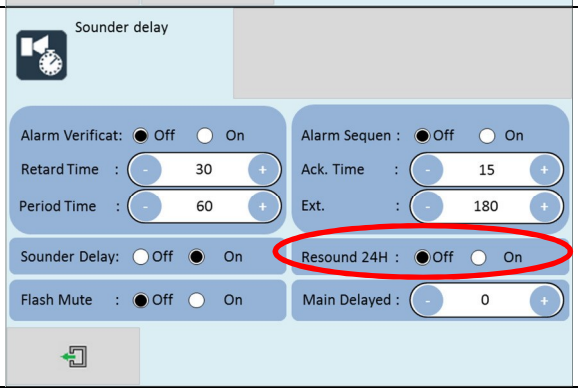
NOTICE TO USERS, INSTALLERS. AUTHORITIES HAVING JURISDICTION. AND OTHER INVOLVED PARTIES

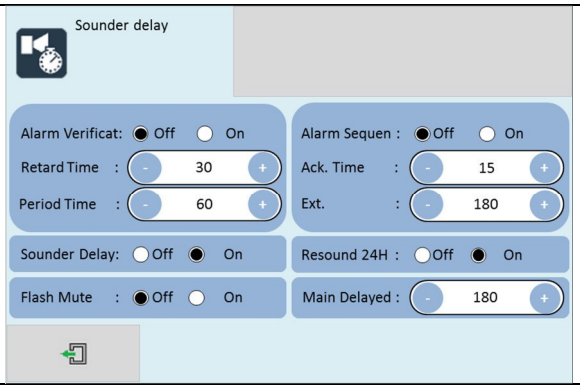
This product incorporates field-programmable software. In order for the product to comply with the requirements in the Standard for Control Units and Accessories for Fire Alarm Systems, UL 864, certain programming features or options must be limited to specific values or not used at all as indicated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

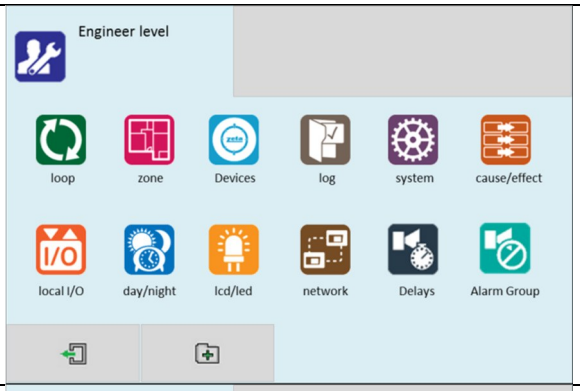
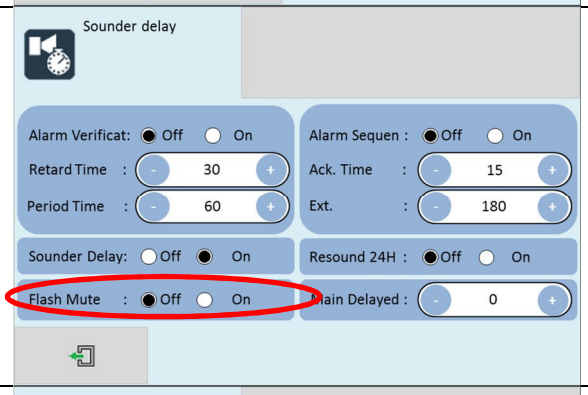
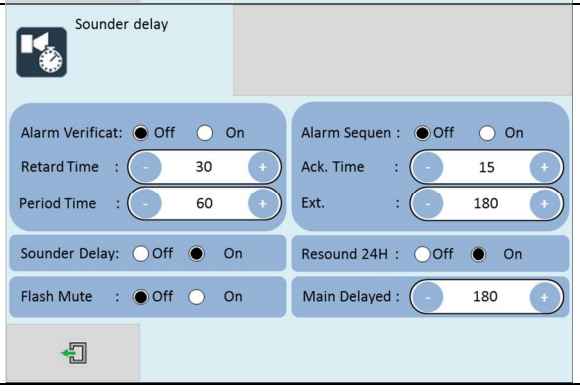
The Velocity has the option to configure whether the panel shall resound its internal buzzer every 24 hours. Any alarm, supervisory or trouble events that have been acknowledged but not cleared, will resound the buzzer every 24 Hours until they have been cleared from the panel. To set up the 24H buzzer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

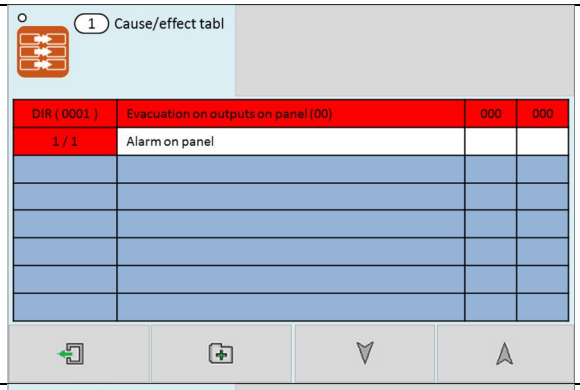
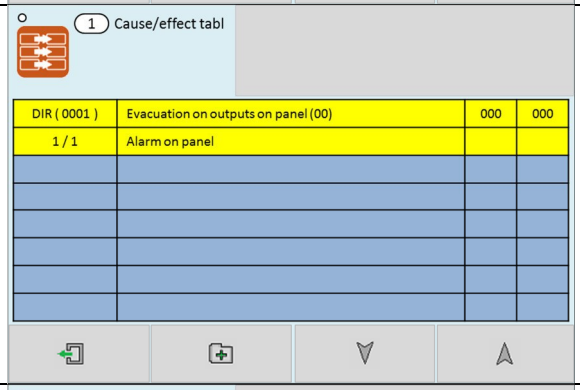
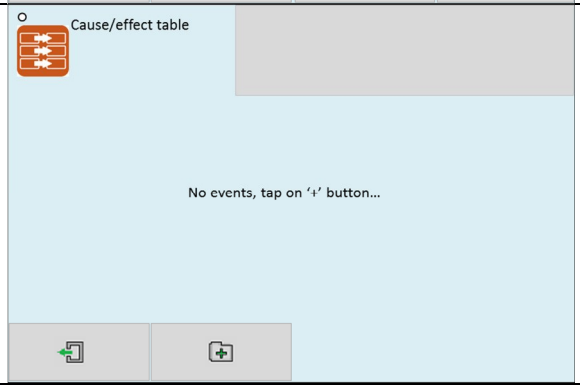
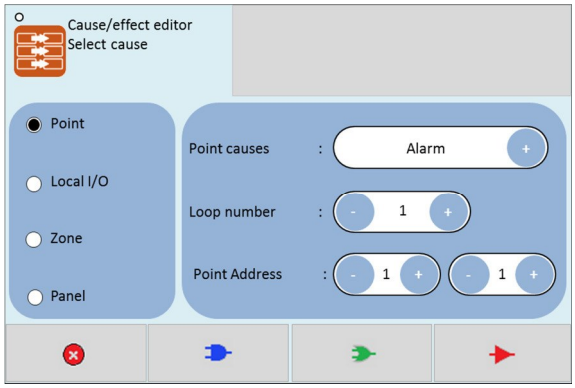
Go to the engineer level menu, and select the Delays Icon .	
The panel shows the Delays screen. See the 'Flash Mute' section with Off & On options.	
Select ON to enable, or select OFF to keep the Flash Mute disabled. When finished, press the exit icon . The panel will ask if you want to save the changes.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

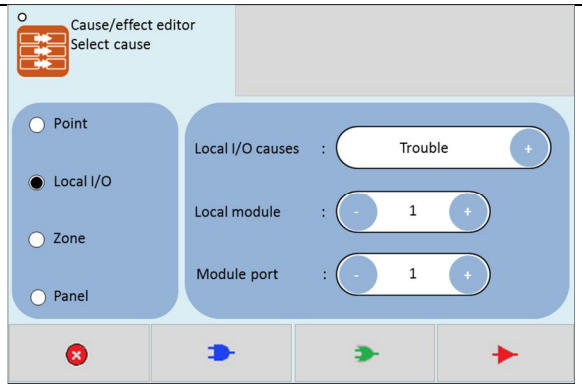
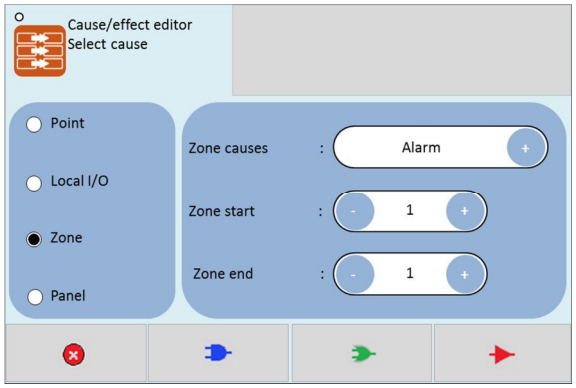
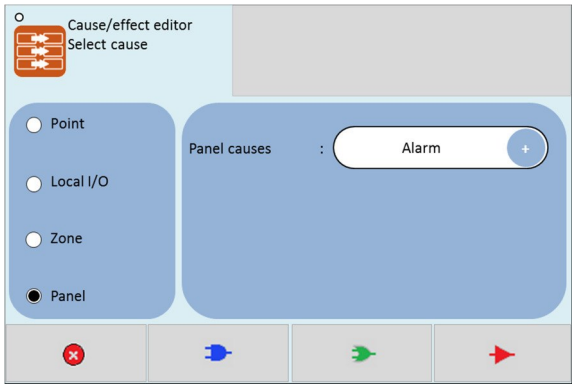
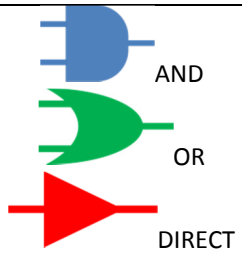
Cause and Effect

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.

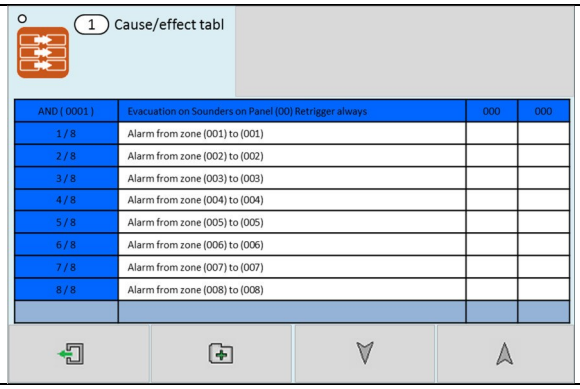
Example of Selecting a Cause & Effect (New Action):

Press Cause/ Effect icon. The panel shows the default common cause & effect setting.	
If this is not required, tap the action so that it's highlighted yellow, and then press the  icon to delete it.	
The screen will indicate that there are no current cause & effects programmed. Press the  button to create a new one.	
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	

• 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.



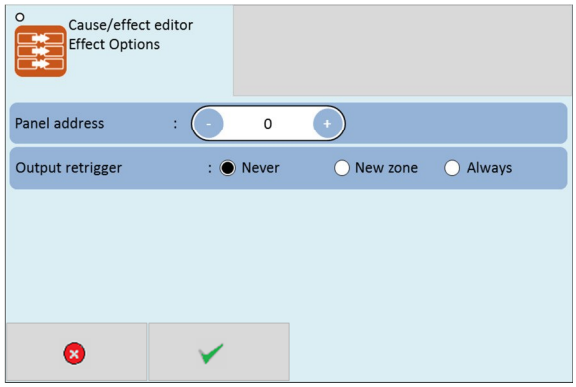
After selecting the input cause(s), the panel displays a screen to select the following effect options:

<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.

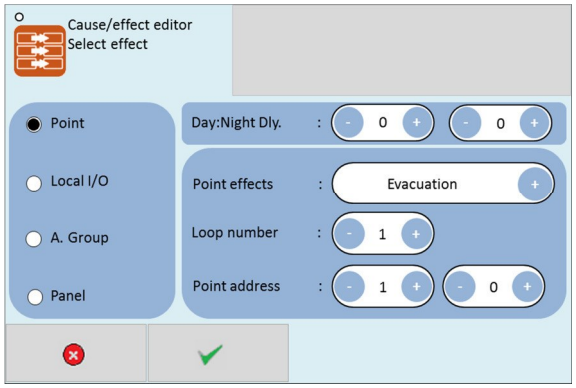


Select the output type (Point, Local I/O, zone or Panel). Depending on the OUTPUT type chosen, the panel will display a list of sub options. For '**Point'** effects, the options are:-

- 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)

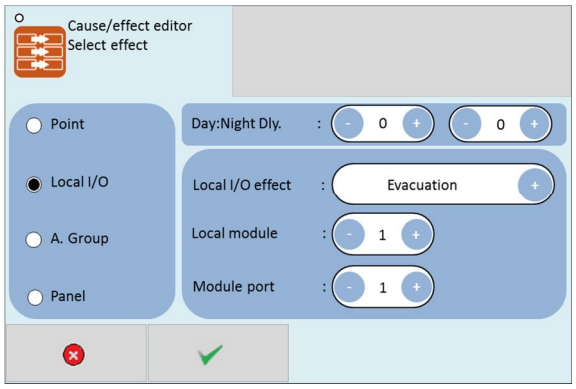


For **Local I/O** effects, the options are:-

- 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

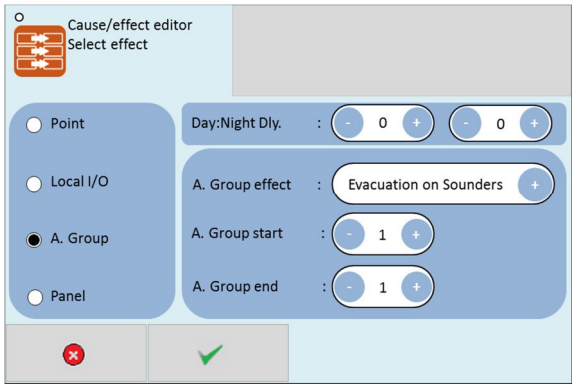


For **A.Group** effects, the options are:-

- 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

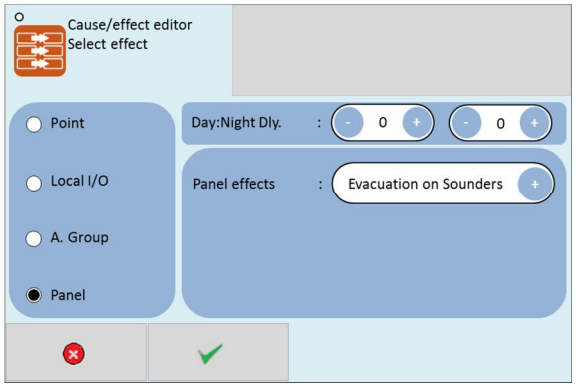


For a **Panel** effect, the options are:-

- 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>

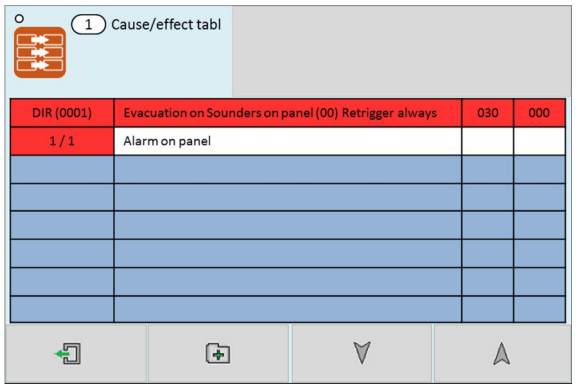
The panel shows the Programmed cause and effect.

It shows:
First row

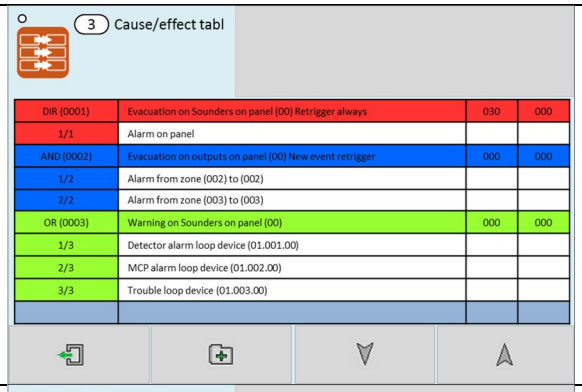
- Event type (Direct, AND, OR), and entry number
- The programmed output (effect)
- Day time delay (seconds)
- Night time delay (seconds)

Second row

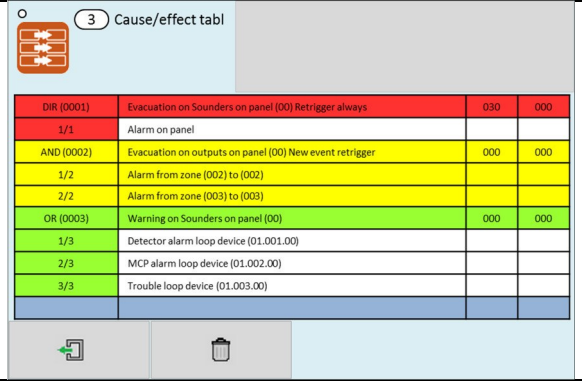
- Input number & number of inputs (for And & OR statements)
- The programmed input (cause)

</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>

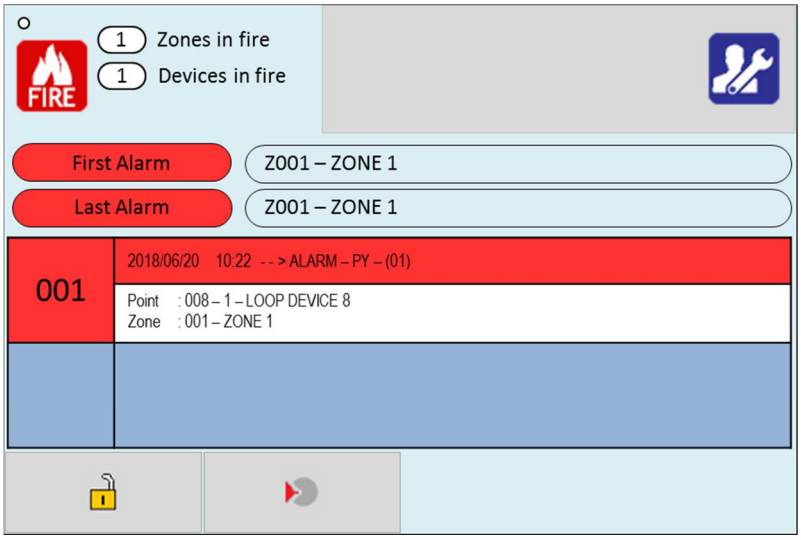
Outputs and Delays

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.

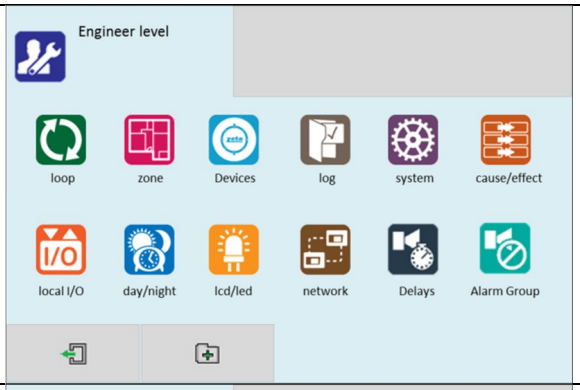
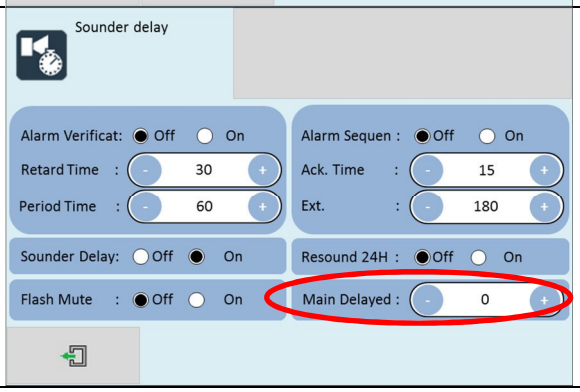


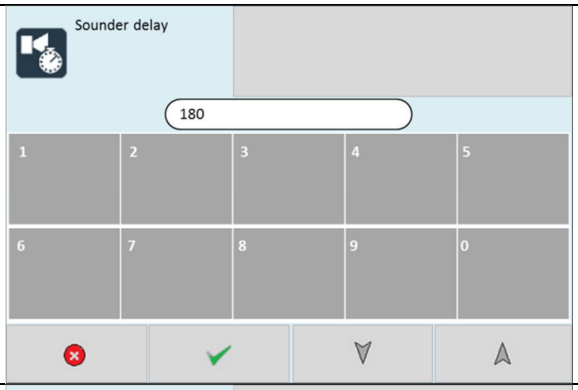
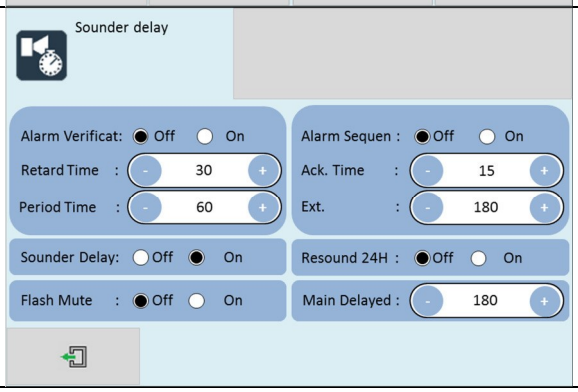
SLC & Local/IO Relay Output Delays

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.	

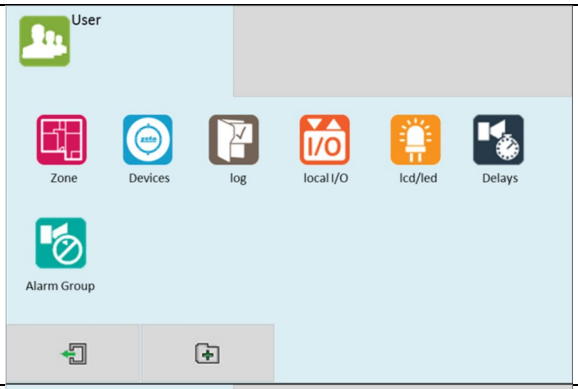
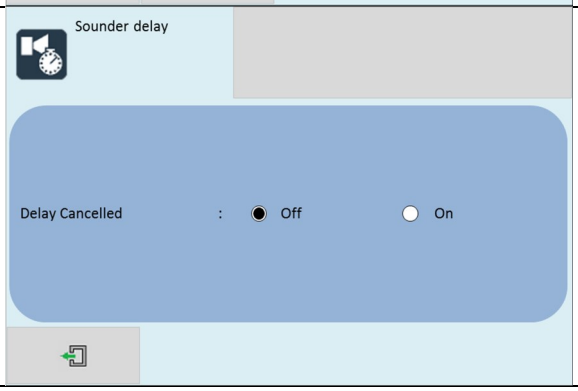
Enter the required mains relay delay time using the onscreen number pad. The time entered is in **MINUTES.** Press tick to save the changes, or press to discard.	
When finished, press the exit icon . The panel will ask if you want to save the changes. Press tick to save the changes, or press to discard.	

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.*

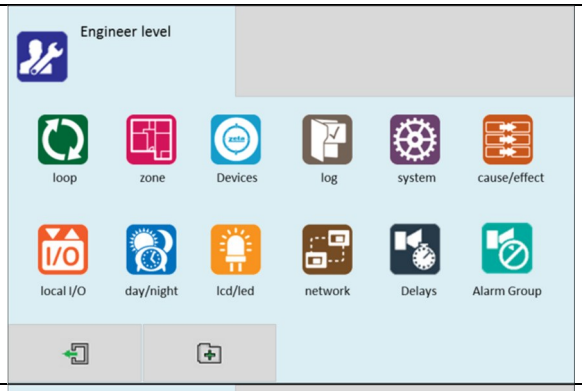
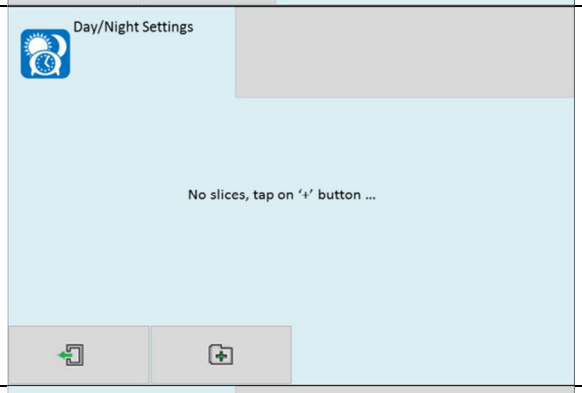
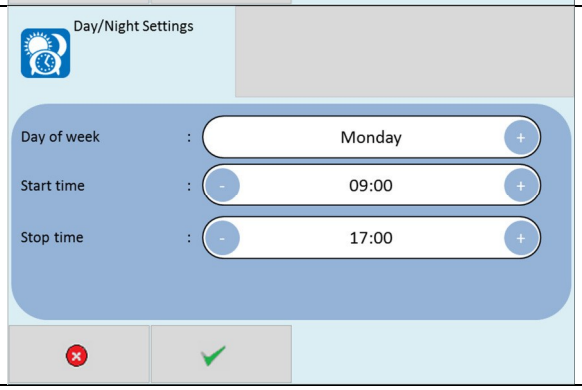
Day/Night Mode

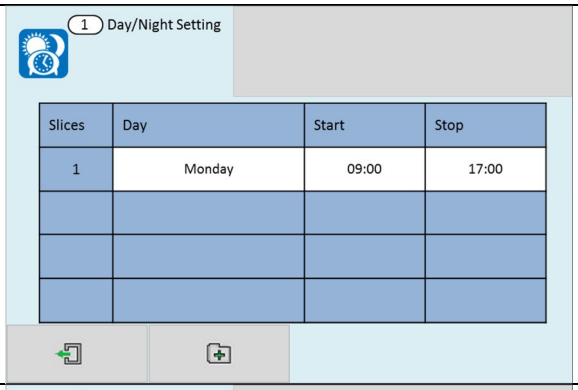
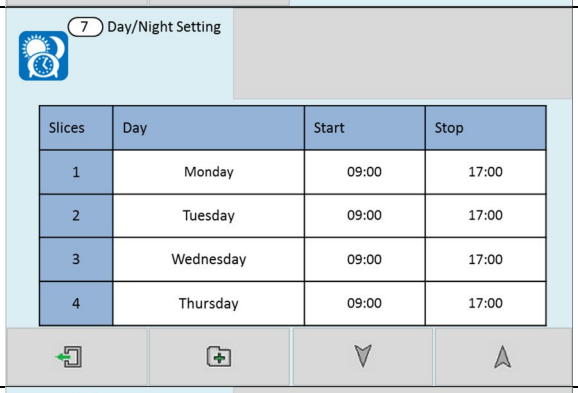
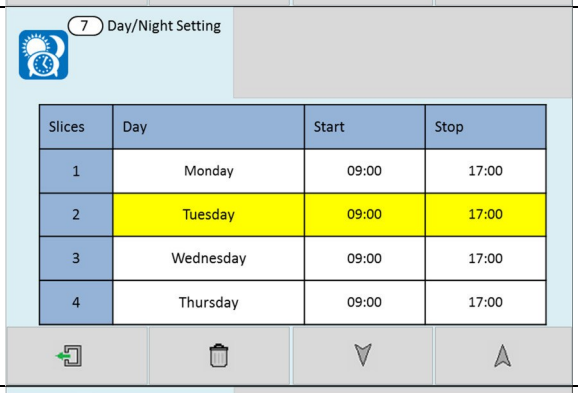
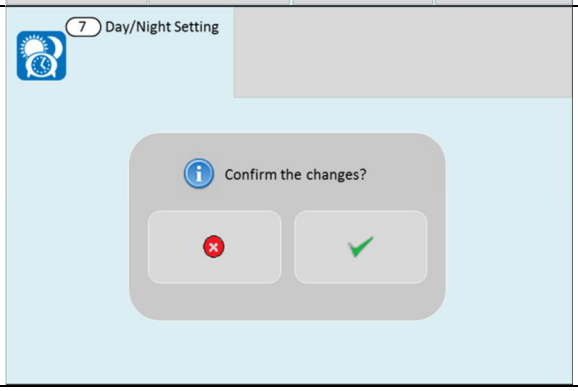
The Velocity panel has a day night timer that allows certain system responses to be altered at certain times of the day. It allows for different delays for the day and night times, and it also allows the sensitivity of certain detectors to be set differently for the day and night.

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

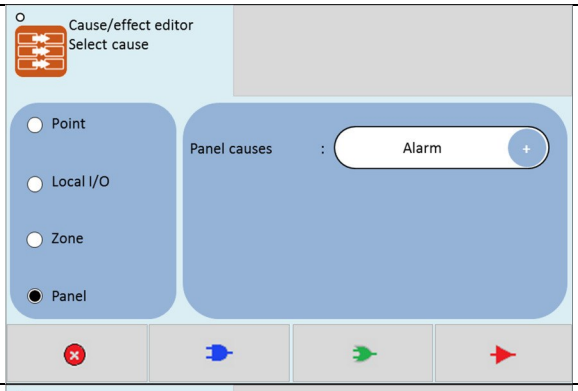
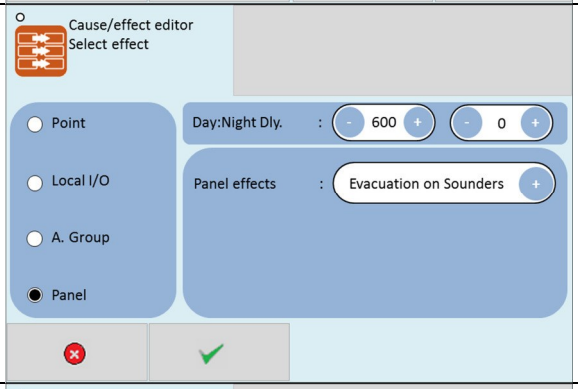
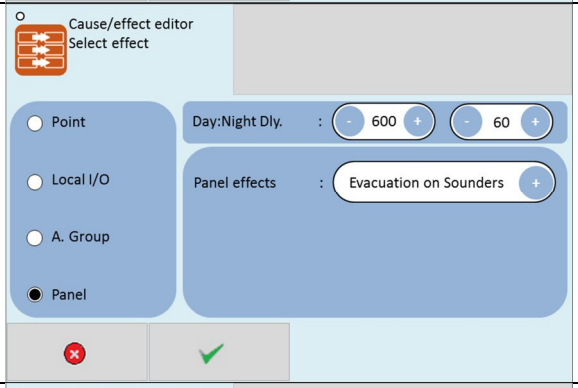
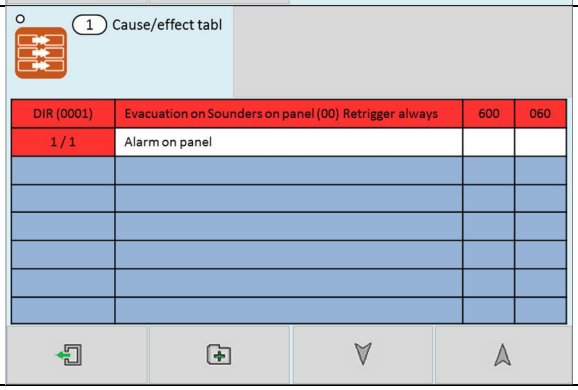
To allow for maximum flexibility, the panel allows for more than one Day-time period each day. For example, if a site closes for a 2 hour break, the panel could be configured with 2 day-time periods eg 8:00 – 12:00 and 14:00 – 18:00. Because of this, the panel refers to each setting as a day-time slice.

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.	

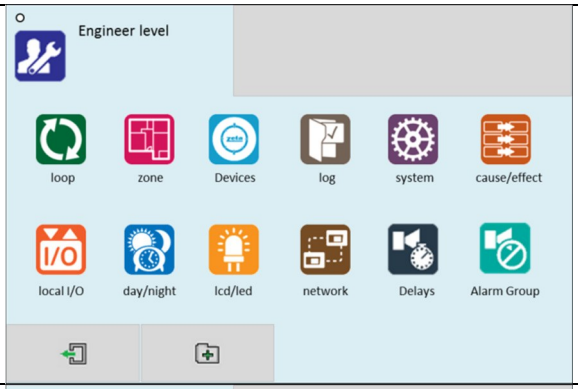
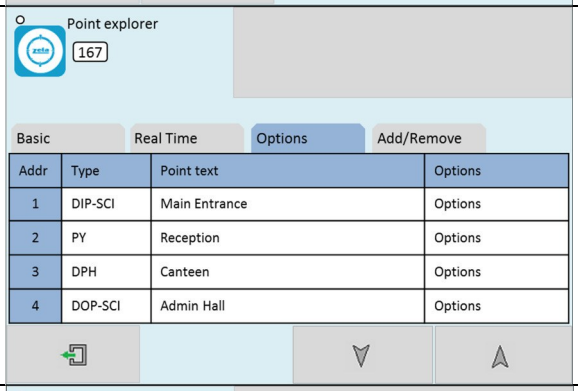
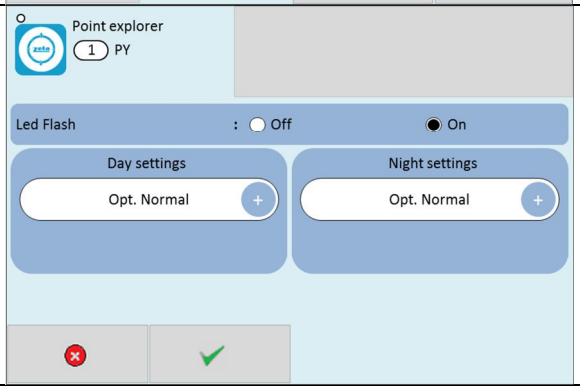
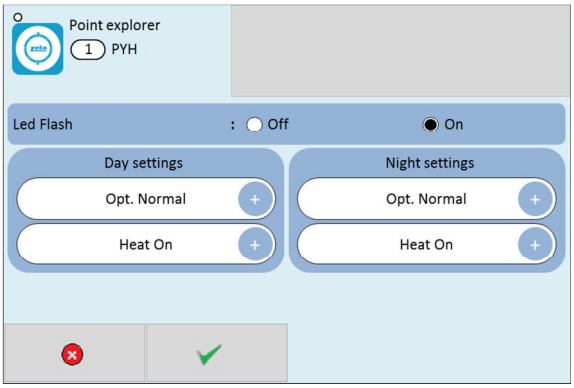
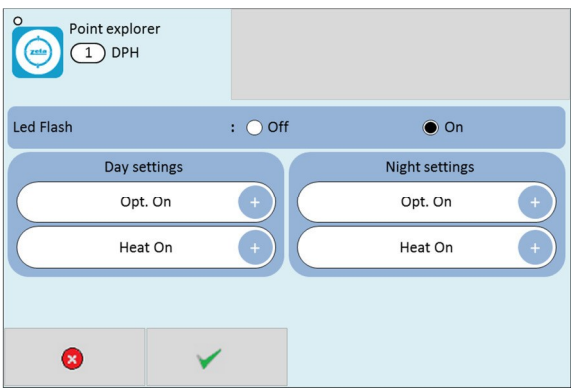
Setting Day-Time and Night-Time Delays

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.	

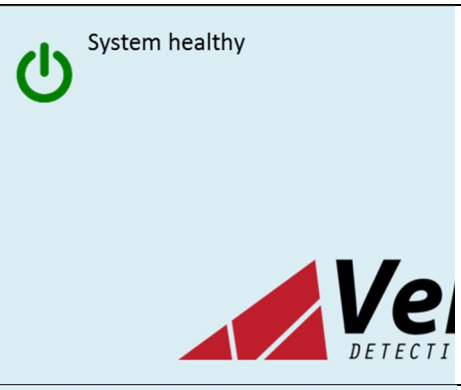
Setting Day-Time and Night-Time Detector Sensitivity

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.

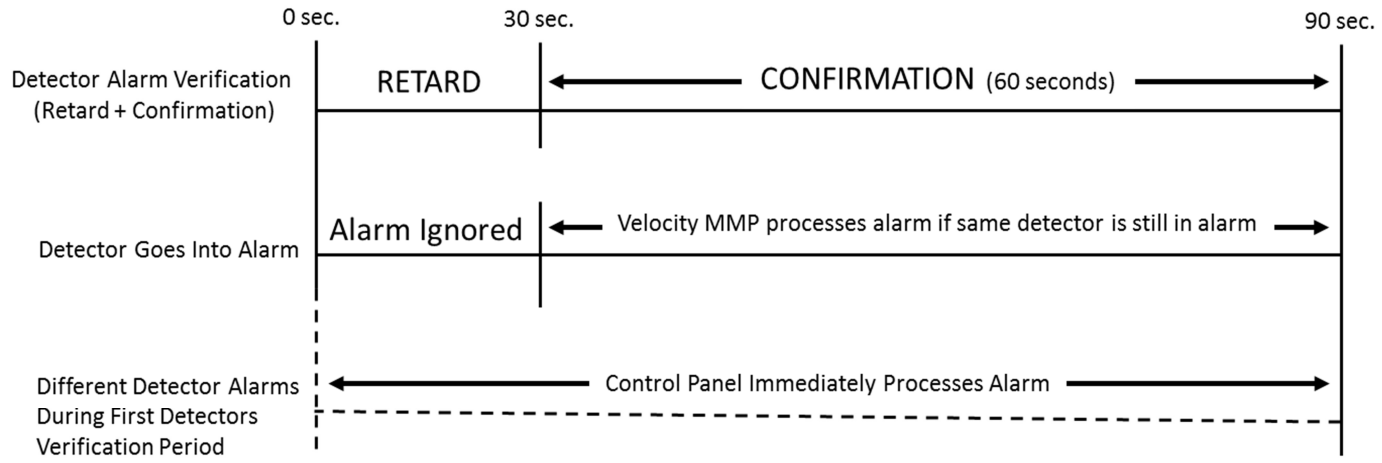
Alarm verification on the Velocity MMP panel is accomplished on a system wide basis.

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

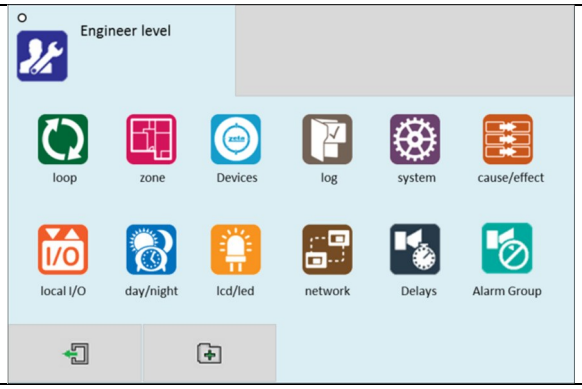
Alarm verification timing diagram

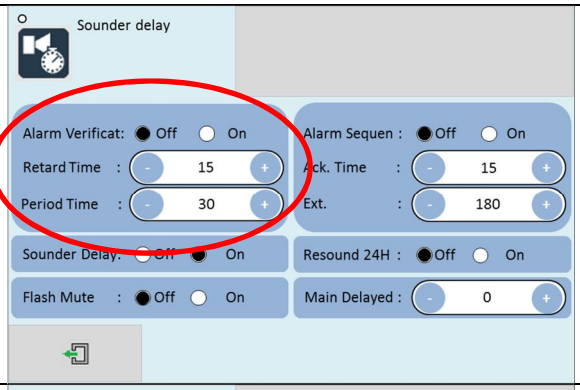
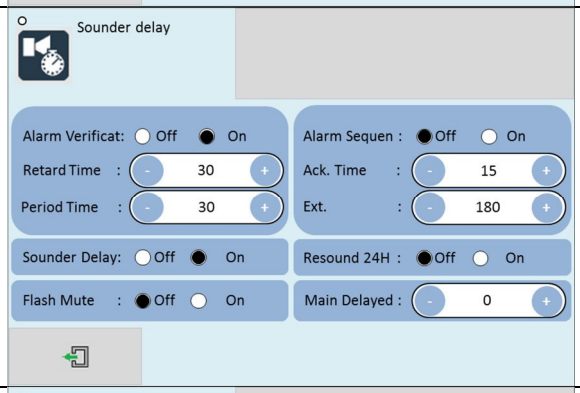
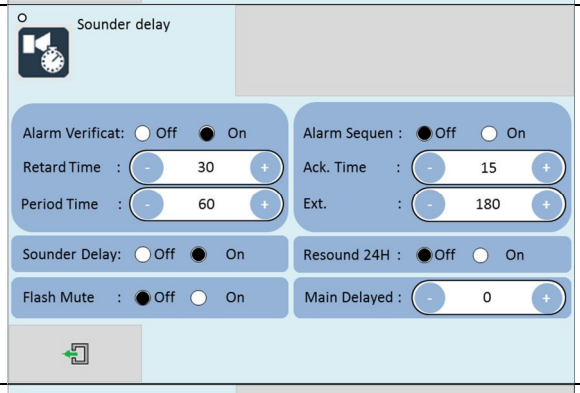
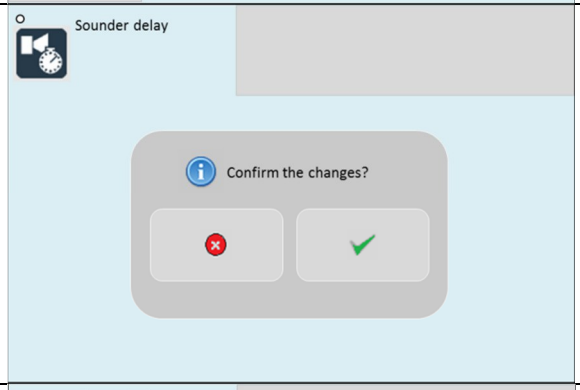
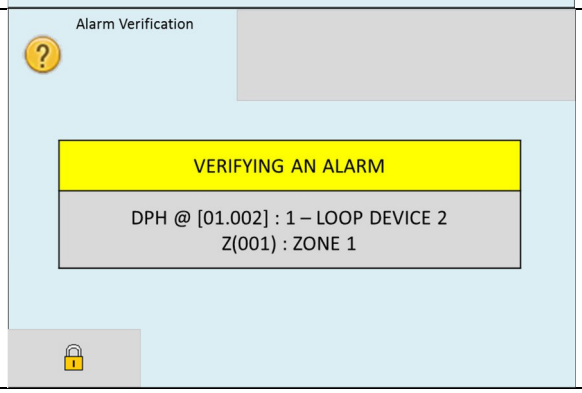


NOTE: *Alarm Verification is available only for addressable smoke detectors. Cannot be used with addressable heat detectors, or any conventional detectors.*

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

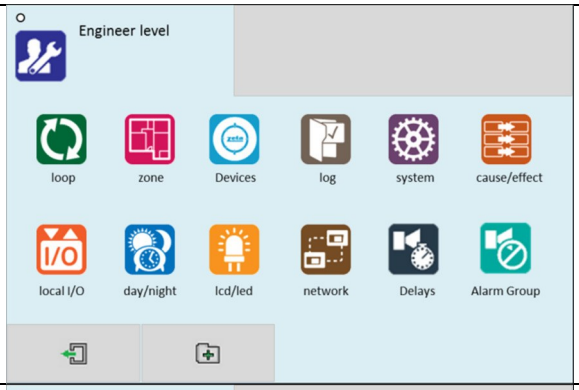
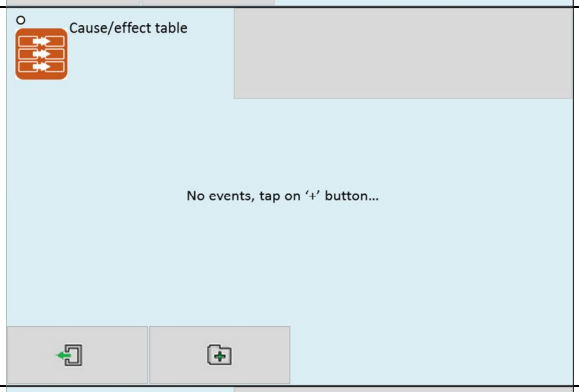
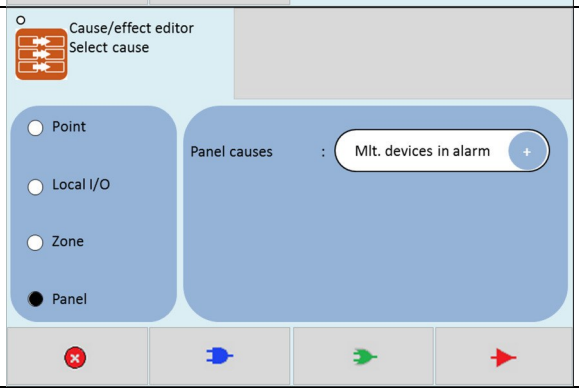
The panel is equipped to satisfy those who require a Multiple Detector Operation feature that is used to reduce unwanted false alarms. If a multiple detector operation has been programmed, the panel will require the activation to two automatic detection devices before it will enter the alarm condition.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

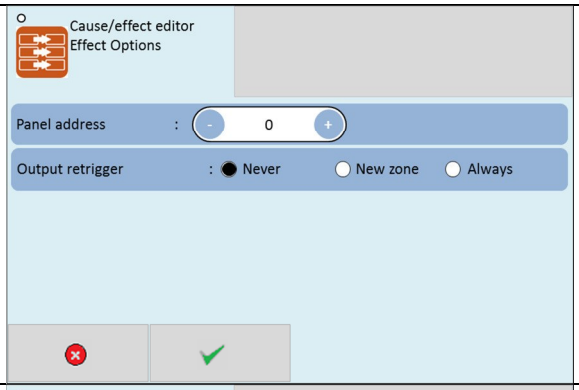
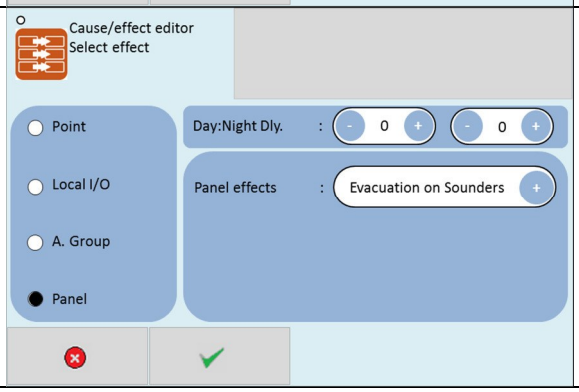
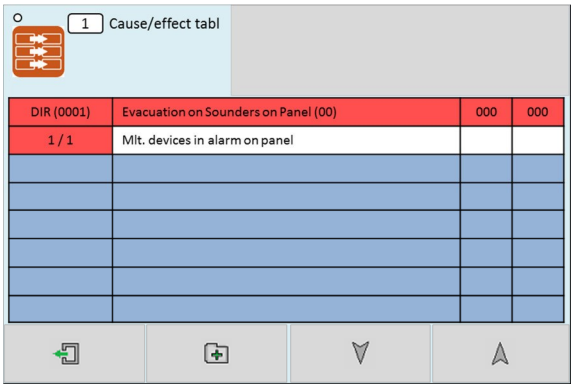
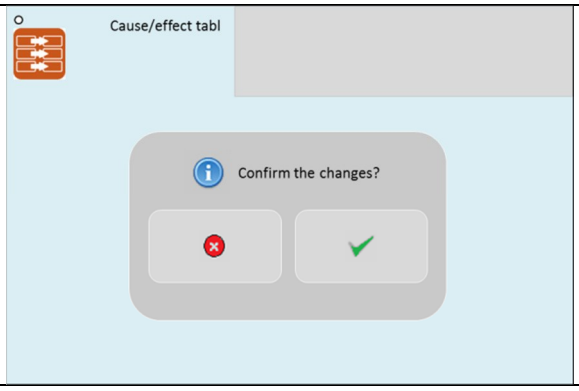
NOTE: *Multiple detector operation should not be used with detectors that are also using the Alarm Verification feature.*

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.	

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.	
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.	
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)	
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.	

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.

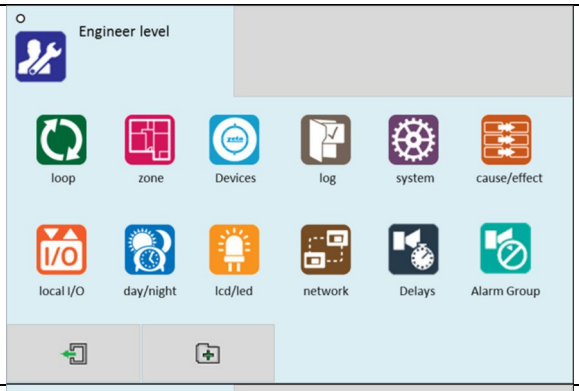
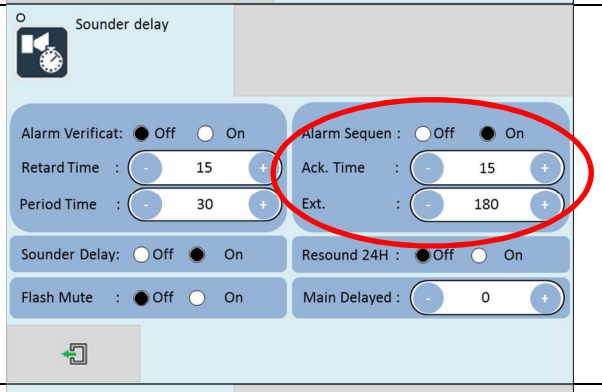
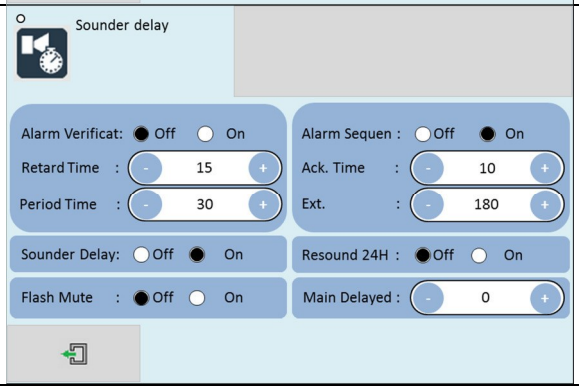
Positive Alarm Sequence

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

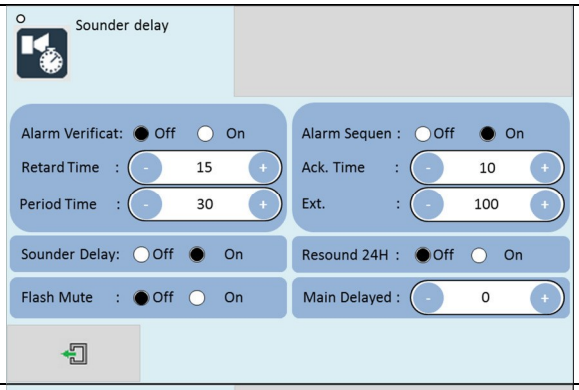
Positive alarm sequence can be set up as follows:

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.

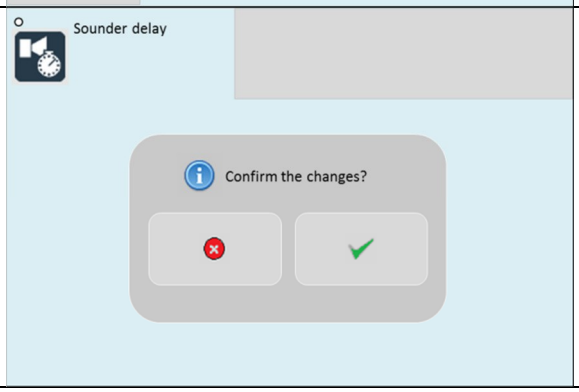
To change the time, press either the + or – button to increase or decrease the zone number.

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.

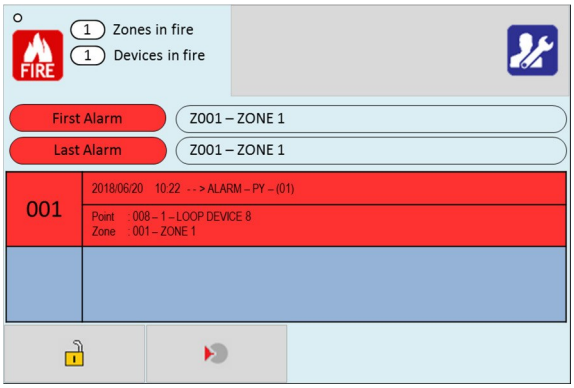
Press tick  to save the changes, or press to discard.



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.

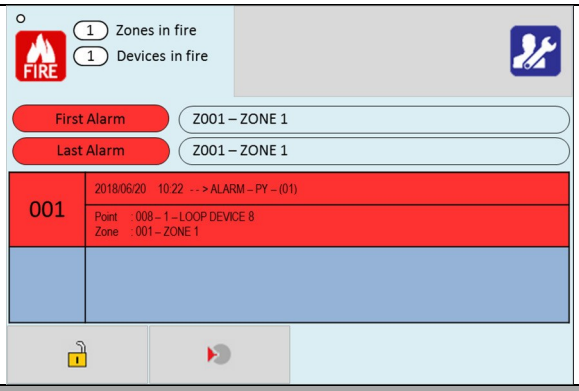
If the alarm is not acknowledged or reset during the first time delay of 15 seconds, all the appropriate outputs will be activated

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.

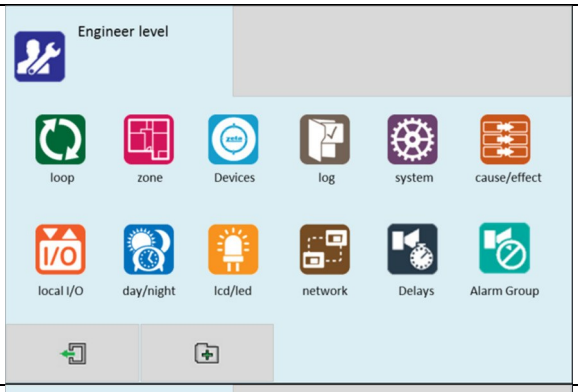
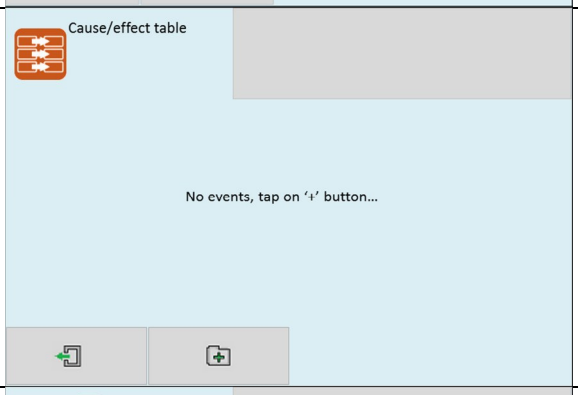
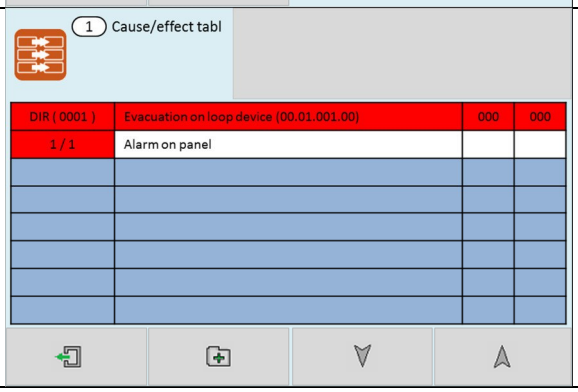
Pre-Signal

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.

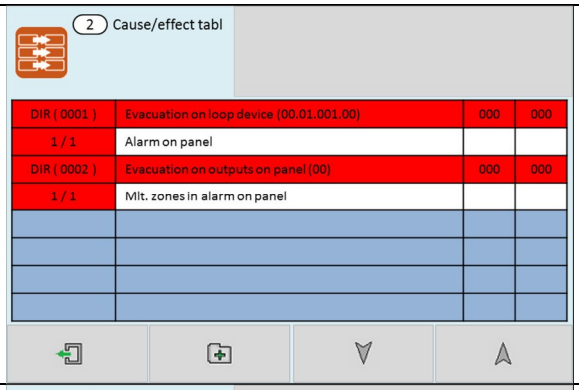
NOTE: *PRE-SIGNAL shall only be used when the panel is constantly monitored by an Operator.*

Pre-Signal Setup

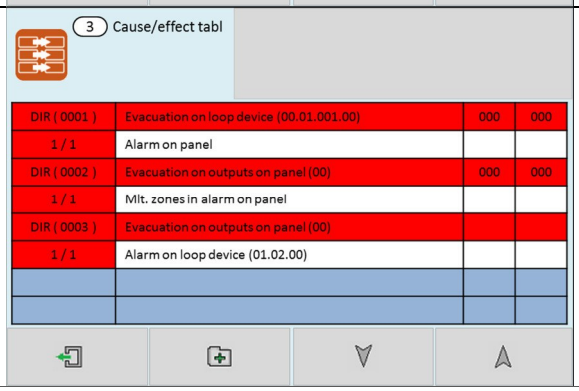
Below is just an example of how pre-signal can be achieved on a Velocity MMP system. Ensure that when pre-alarm operation is used, that it complies with UL864 10th Edition requirements.

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.*		

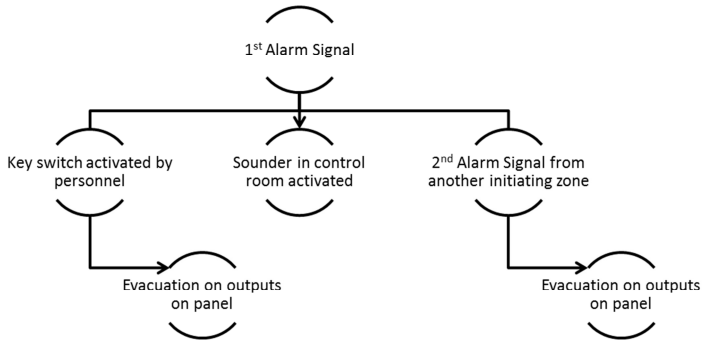
Next, we will add a cause and effect that will ensure that a subsequent actuation of alarm initiating devices on another initiating zone of the system shall result in the activation of all the outputs.



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.



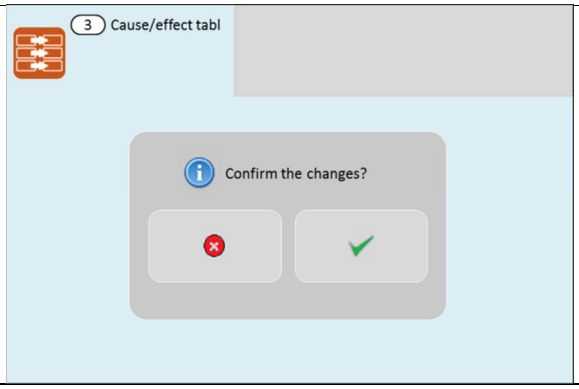
This flow chart is a breakdown of the pre-signal operation that has been programmed into the Velocity MMP cause & effects.



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

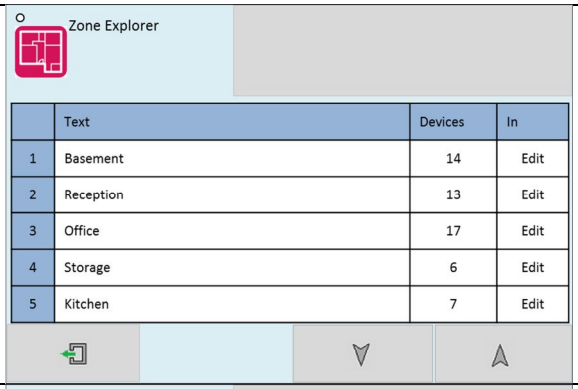
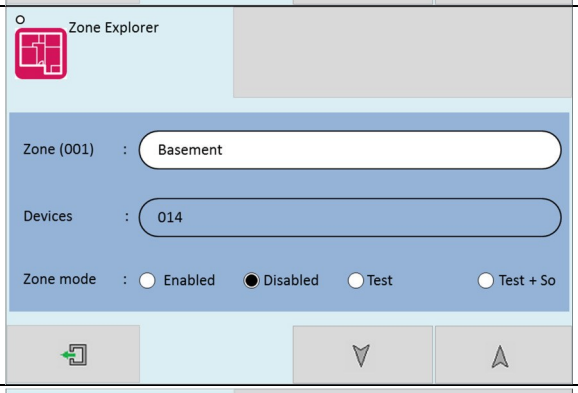
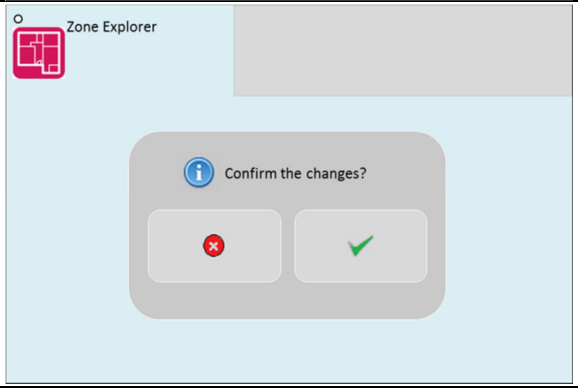
The following options can be selected when disabling a zone:

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.

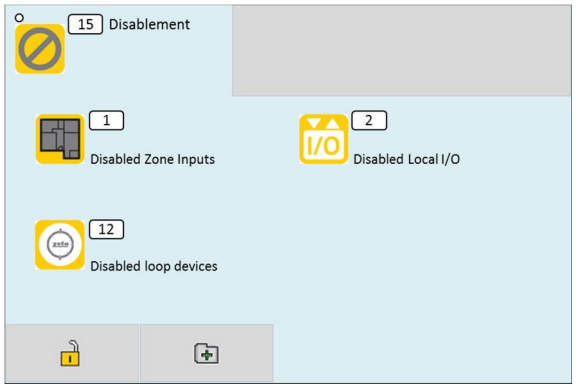
A zone can be disabled as follows:

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.	

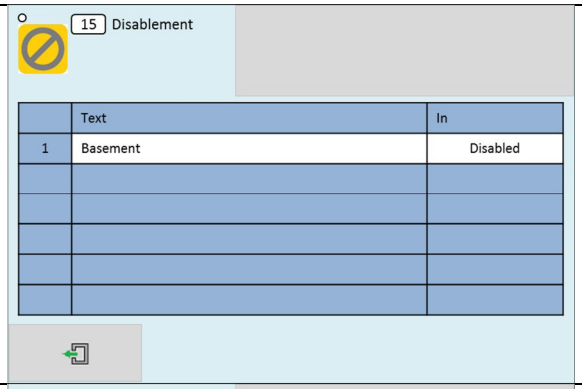
When zones have been disabled, the LCD display changes from SYSTEM NORMAL to Disablement/Test. The screen shows:-

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.

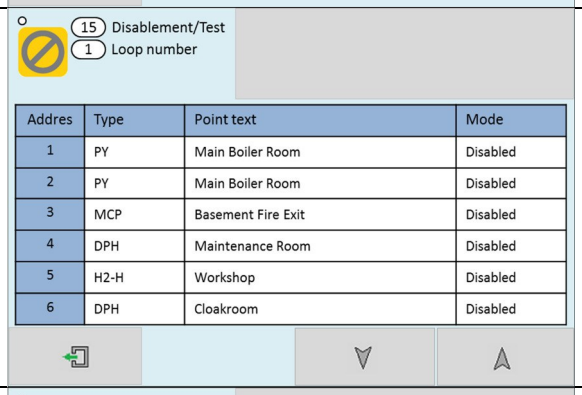
The General Disablement LED will be lit and also the zonal disablement LEDs will be lit for any zone that is fully disabled.
(The zonal disablement LEDs only apply to panels that have a ZLX PCB fitted).



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



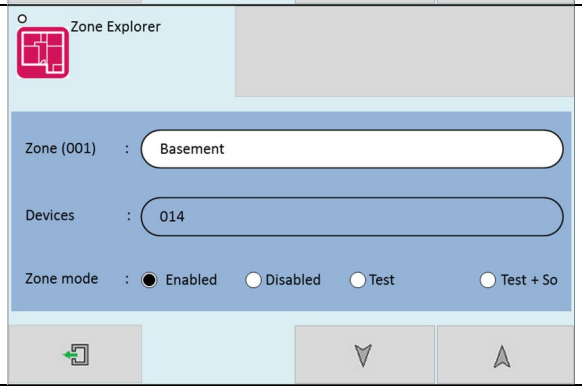
Details of the individual disabled SLC devices can be viewed by pressing the disabled loop devices icon .



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

Zone Mode Options:-

- Enabled
- Disabled
- Test
- Test + Sounder

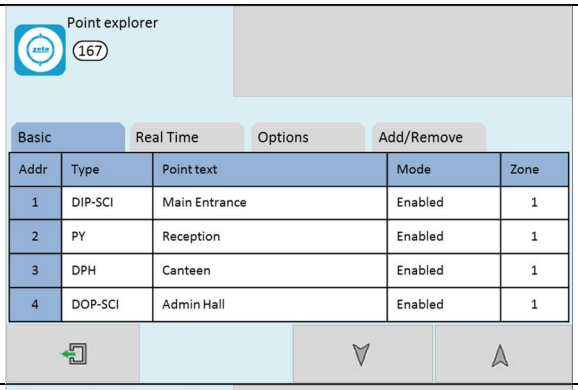


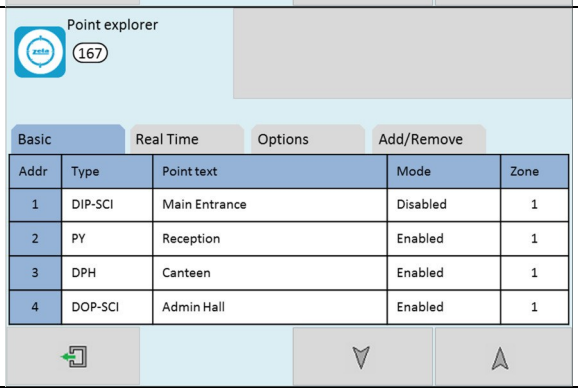
SLC Device Disablement

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 .

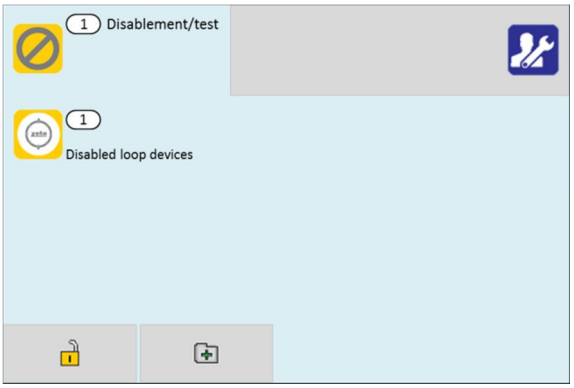
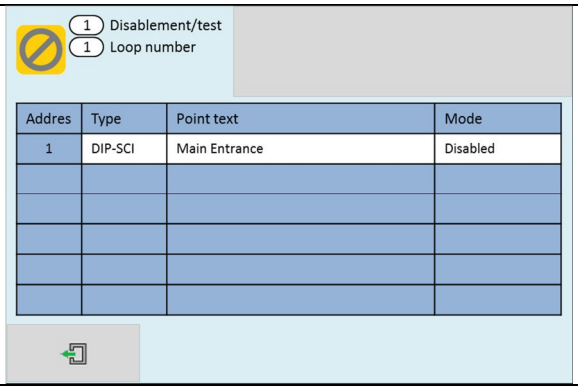
(The disabling function is available to engineer & users).

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

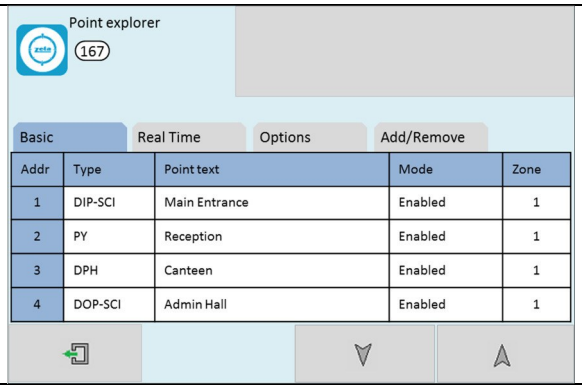
Select further devices to disable if necessary, and then press Exit to save.</td>
<td>
</td>
</tr>
<tr>
<td>When SLC devices have been disabled, the LCD display changes from SYSTEM NORMAL to Disablement/Test, as shown.

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’.



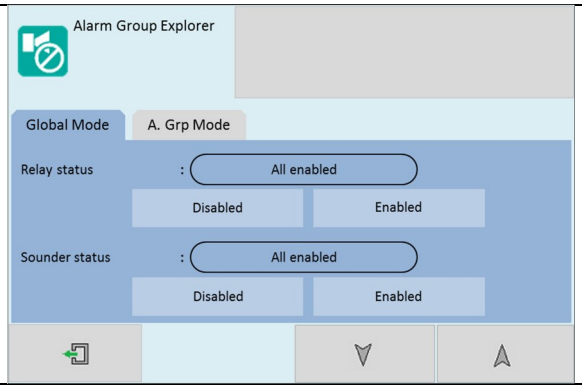
Once a SLC device is disabled, the panel ignores any alarm or trouble generated by the device. If all devices in a zone are disabled, the panel will indicate a zone disablement. If subsequently one or more devices in that zone are re-enabled then the zone disablement indication will be automatically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

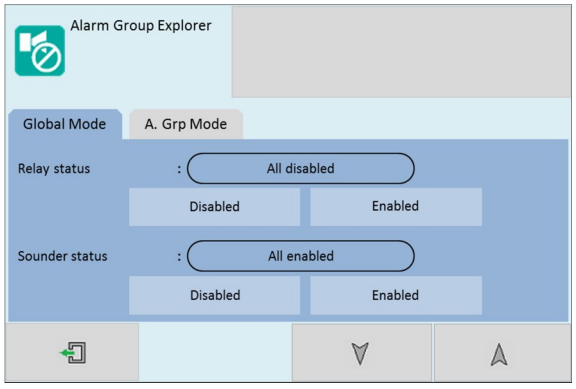
Global mode can be disabled as follows:

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.

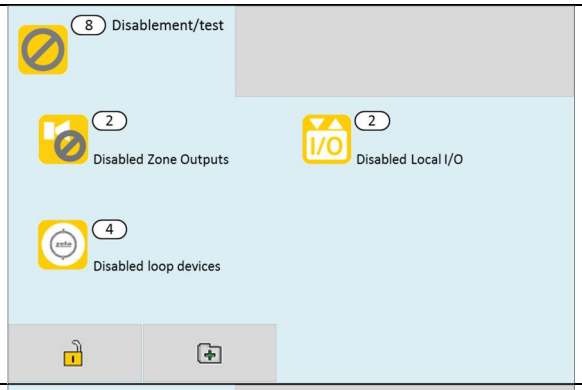
Press tick to save the changes, or press to discard.



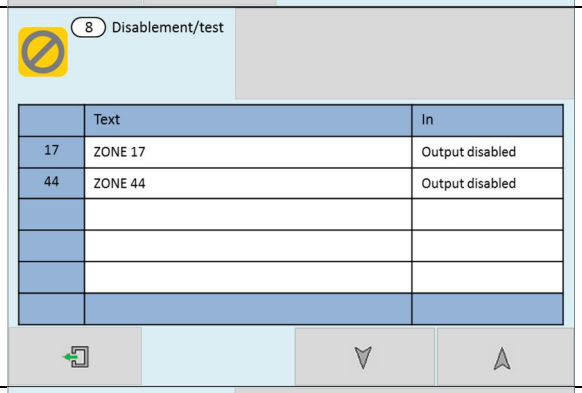
When global relays have been disabled, the LCD display changes from SYSTEM NORMAL to Disablement, as shown.

The screen shows the number of relay output interfaces disabled.

The General Disablement LED will be lit.



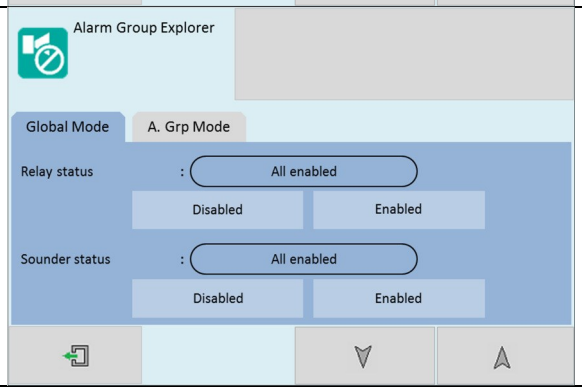
Details of the disabled relay outputs can be viewed by pressing the disabled loop devices icon or the disabled local I/O icon I/O. If any zones have all of their outputs disabled, it will be indicated by the disabled zone outputs icon.



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.

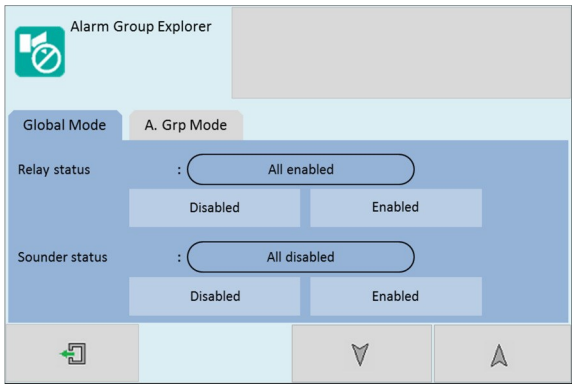


Change the global mode for sounder status to disable by pressing the 'Disabled' selection area. The text will change from 'All enabled' to 'All disabled' for sounder status.

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.

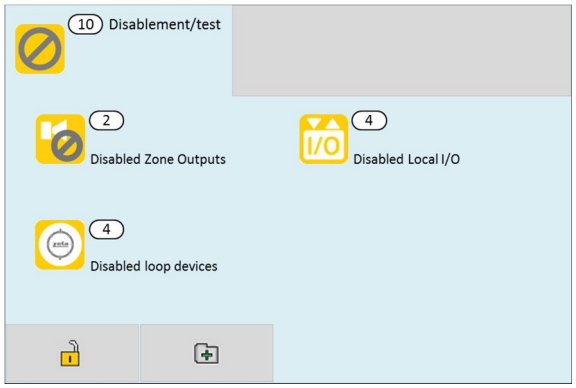


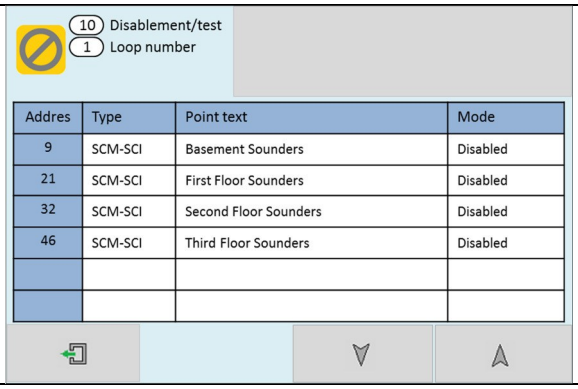
When sounder status has been disabled, the LCD display changes from SYSTEM NORMAL to Disablement. The screen shows:-

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

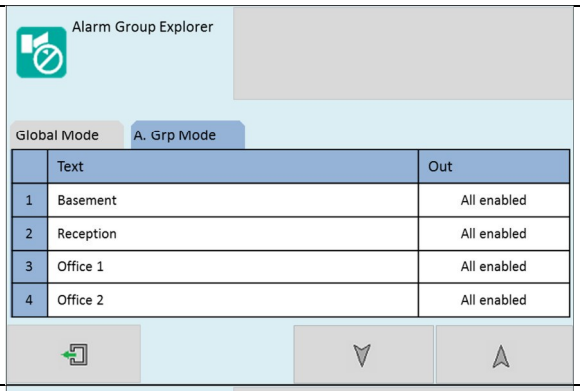
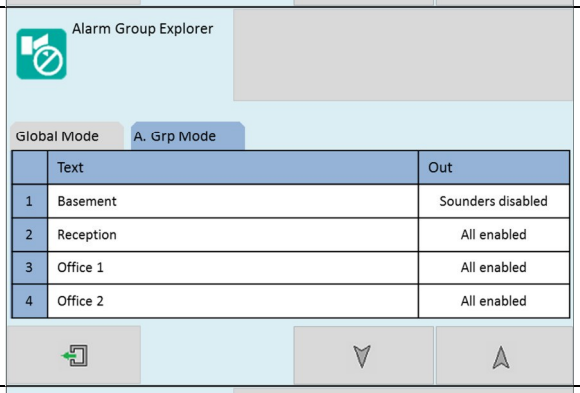
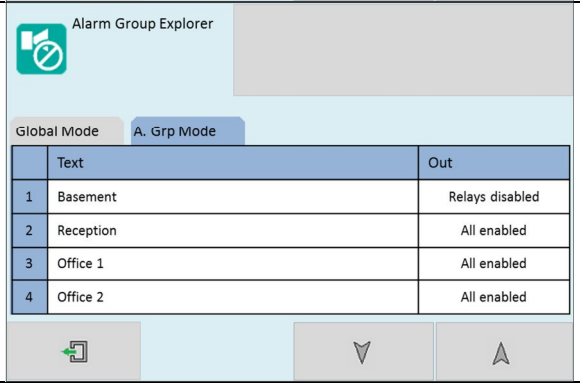
When Alarm group mode is disabled, the panel will not activate any output devices on that alarm group (zone).

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.

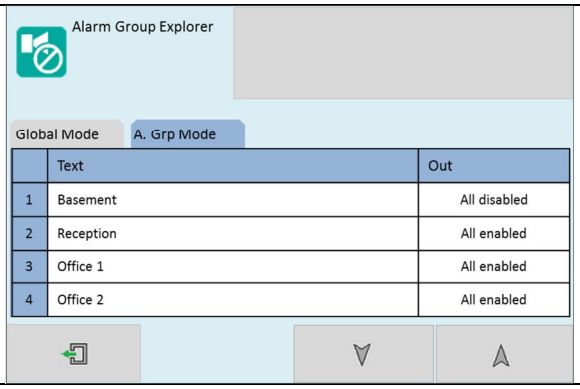
Any number of alarm group (zones) can be disabled, but it is good practice to only disable one alarm group/zone at a time.

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).

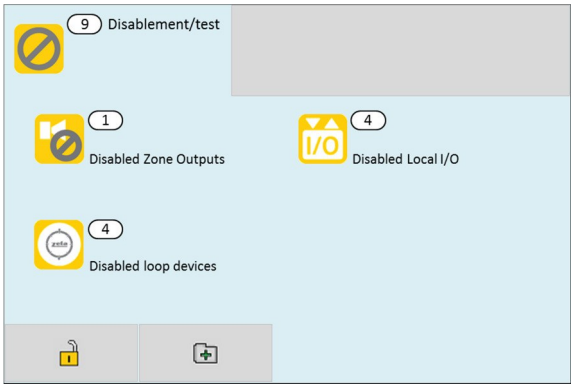


When Alarm group mode has been disabled, the LCD display changes from SYSTEM NORMAL to Disablement. The screen shows:-

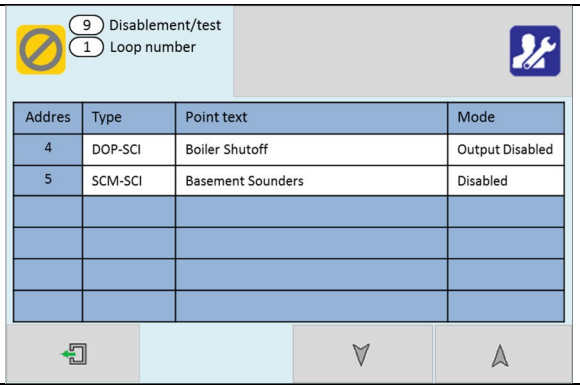
The number of disabled alarm groups.
The number of disabled SLC devices.
The number of disabled module outputs.

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.



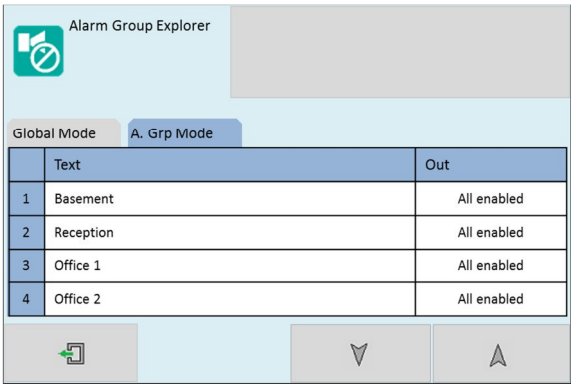
To re-enable a zone, use the same procedure, pressing the “Out” field until it shows ‘All Enabled’.

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.

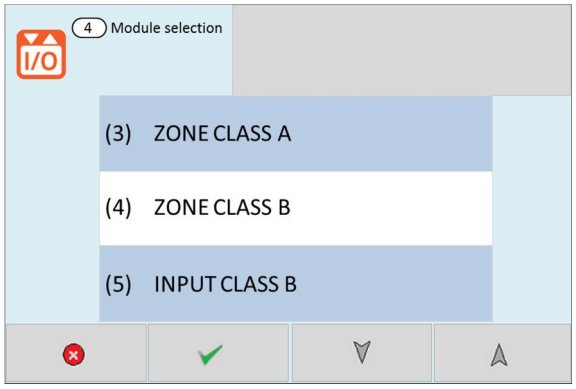
A local I/O can be disabled as follows:

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.

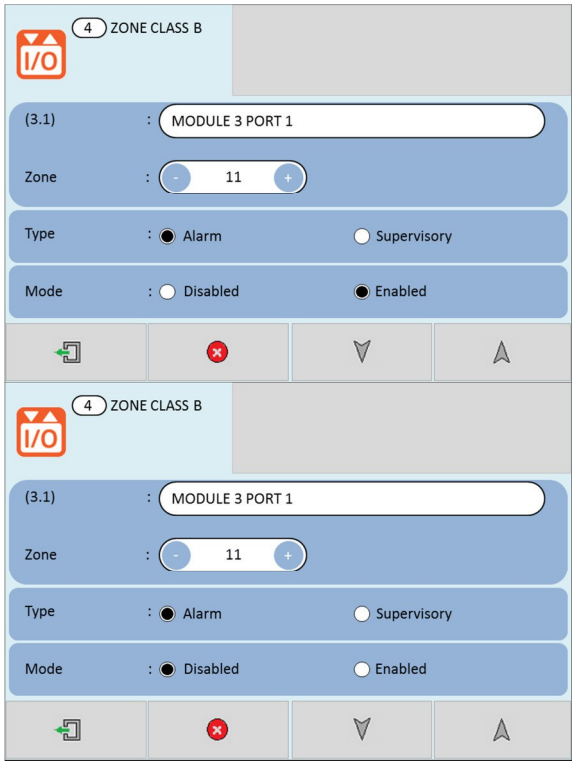
E.g. a ZMA that is plugged into TRM port 3 would have the following addresses:

(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')

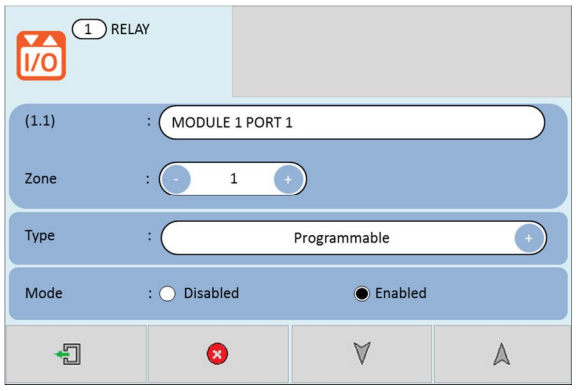
The module settings screen will be displayed.

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:

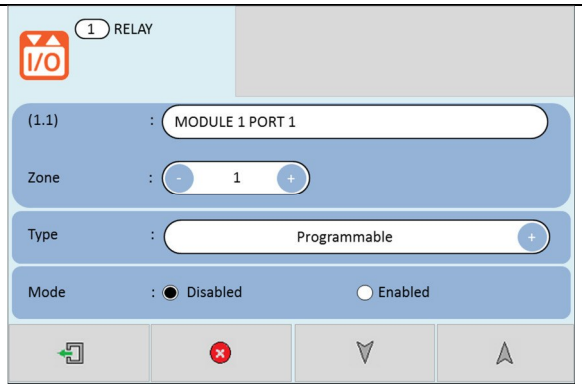
(1.1) = TRM Port 1, Output 1
(1.2) = TRM Port 1, Output 2
(1.3) = TRM Port 1, Output 3

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.

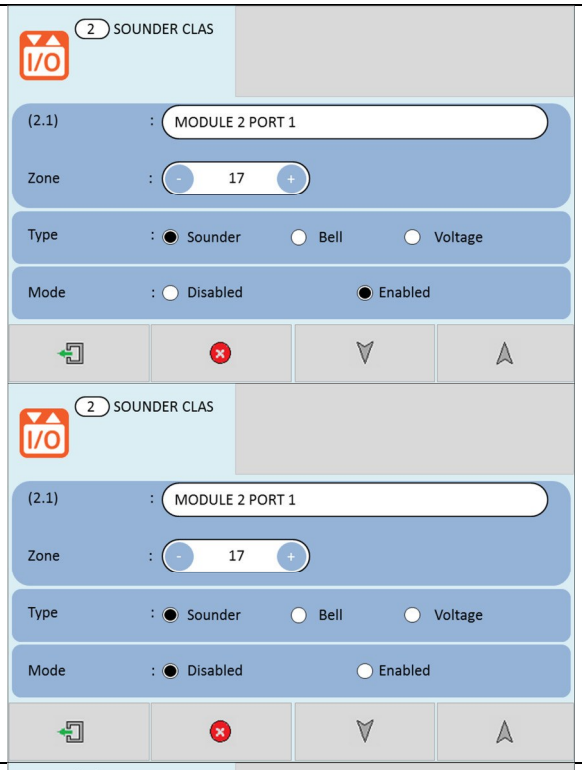
In this example, the output address is shown as: **(2.1)**. The first number represents the TRM port (The RJ45 port on the TRM PCB that the module is plugged into). The second number represents the output on the module itself.

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.

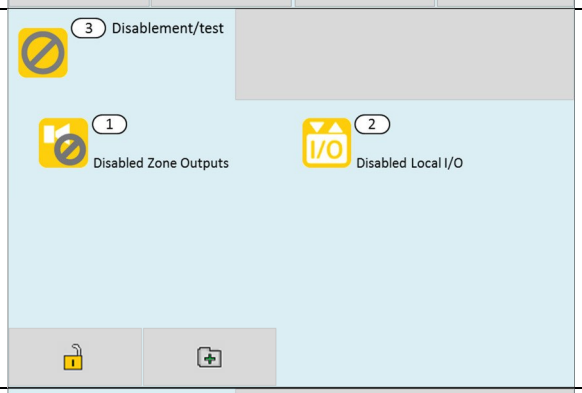


When a module has a disablement, the LCD display changes from SYSTEM NORMAL to Disablement. The screen shows:-

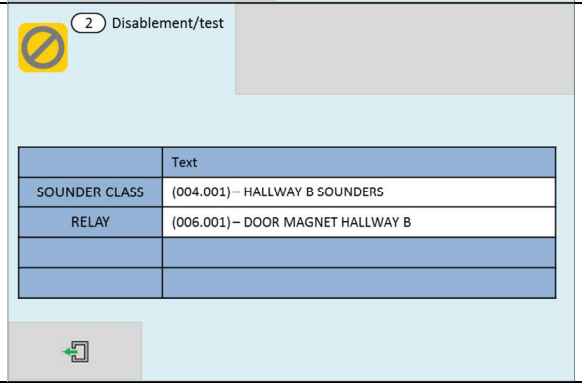
The number of disabled alarm groups.
The number of disabled local I/O.

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?

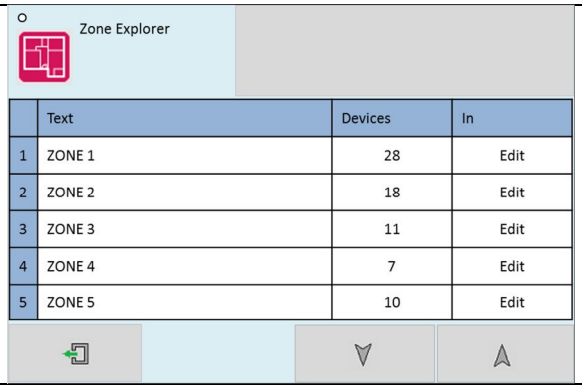
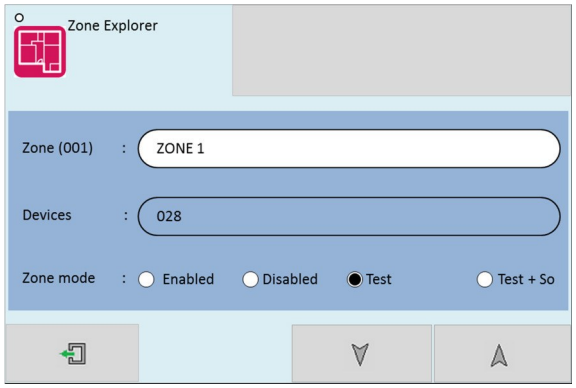
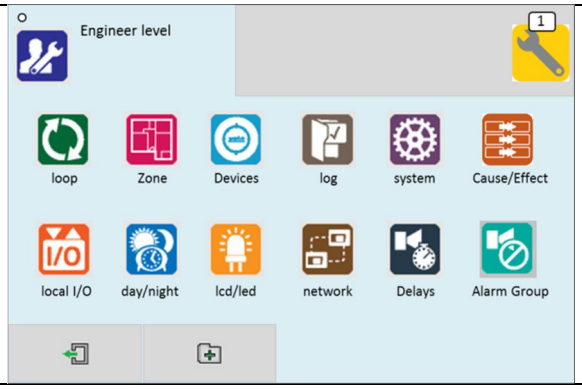
To aid commissioning and assist routine maintenance checks, a non-latching 'one man test' facility is available. Test mode can be used either with or without sounder operation, depending on the engineer's requirements.

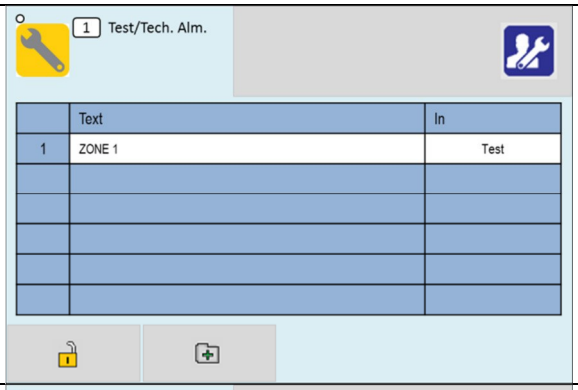
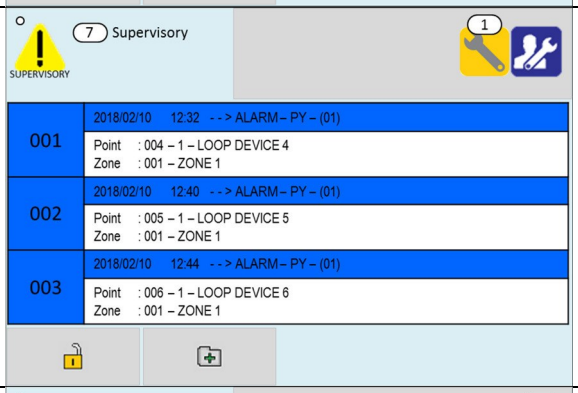
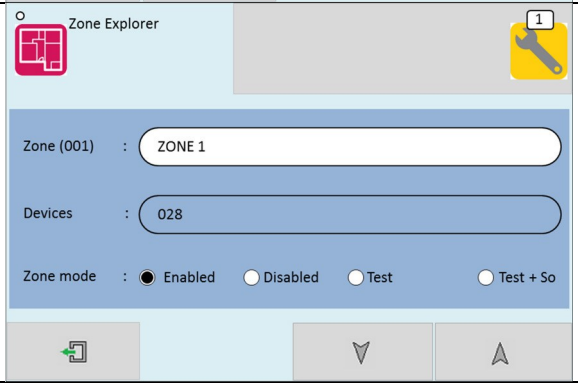
When a detector, manual call point or input unit is triggered on any zone in Test, the Alarm sounders operate for approximately 3 seconds on and then switch off (If selected). The triggered device is automatically reset. The panel will display the tested device on a test alarm screen, with the event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

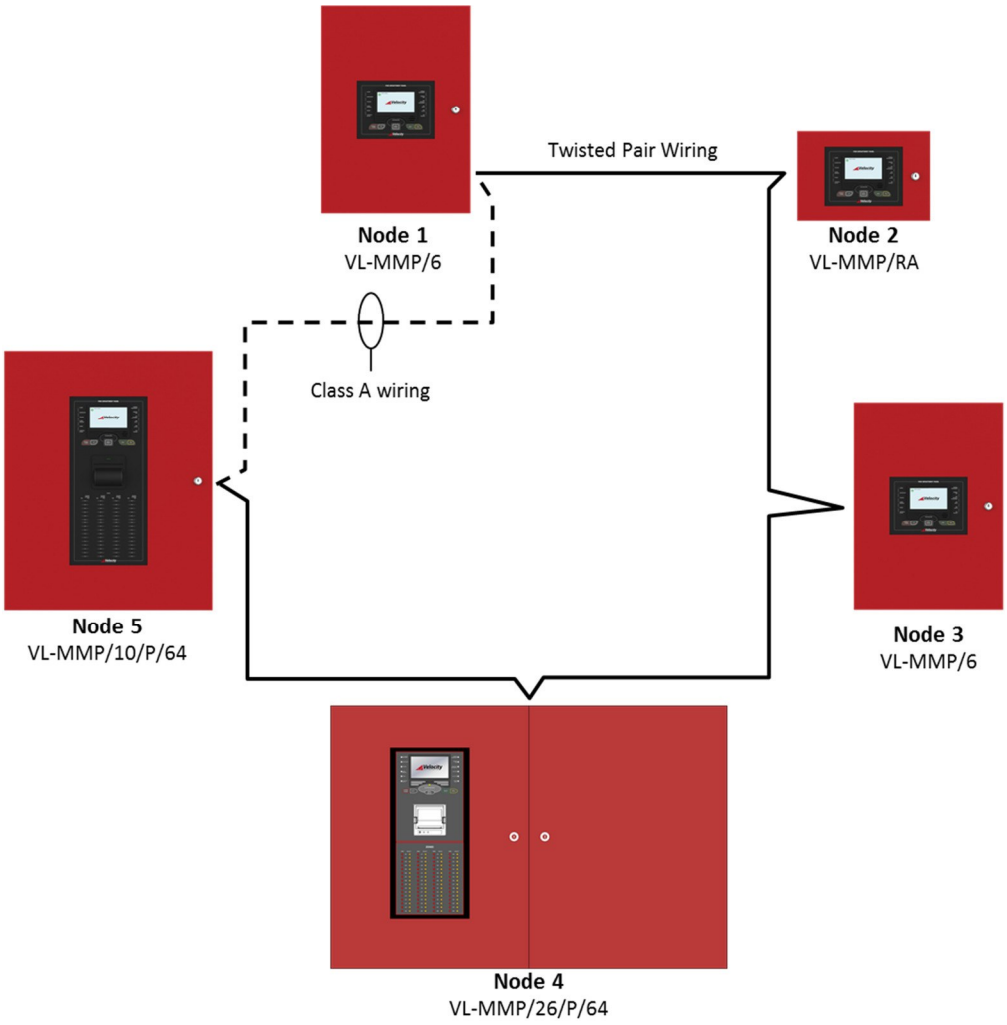
NETWORKING

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)

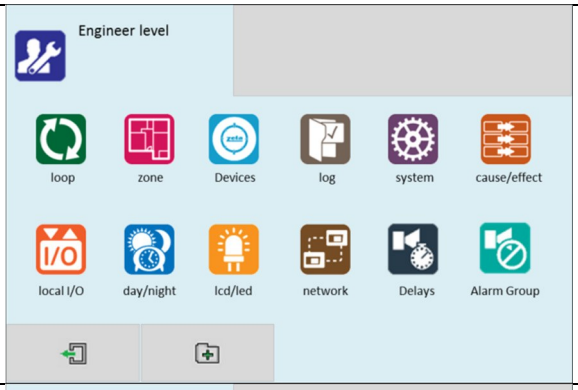
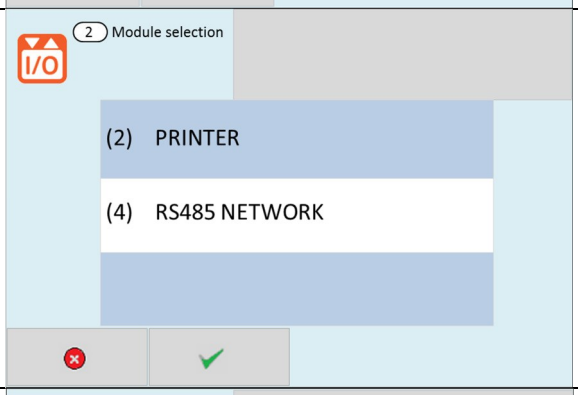
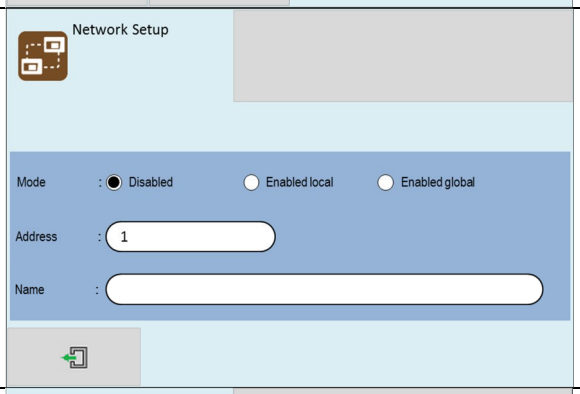
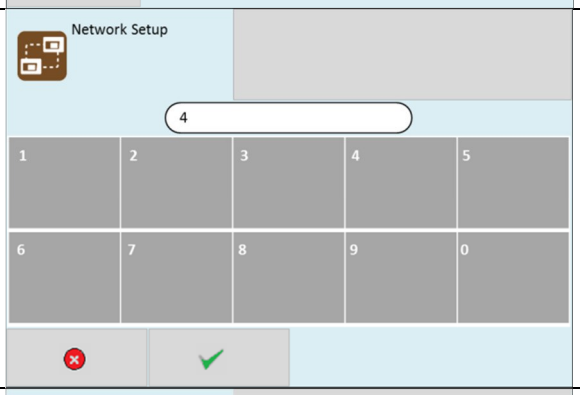
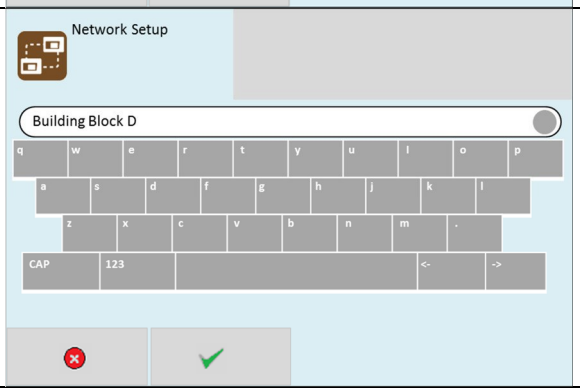
In a ring network, each control panel is connected to 2 other control panels to form a ring. This has the same topology as the loops of addressable devices connected to each CIE. This has the advantage that no panels are lost if there is a single break in the network.

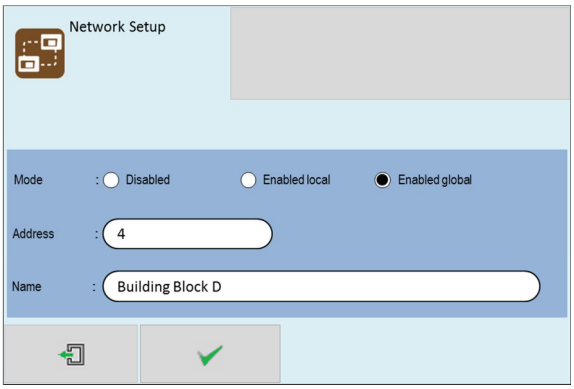
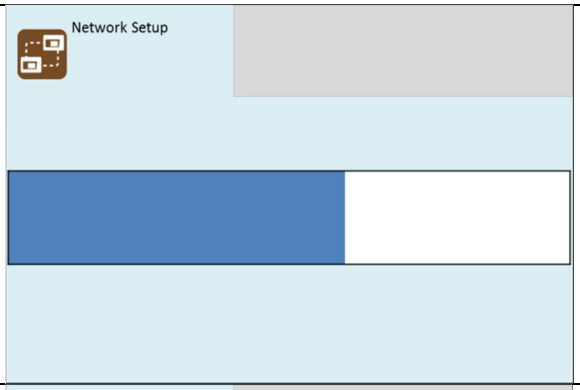
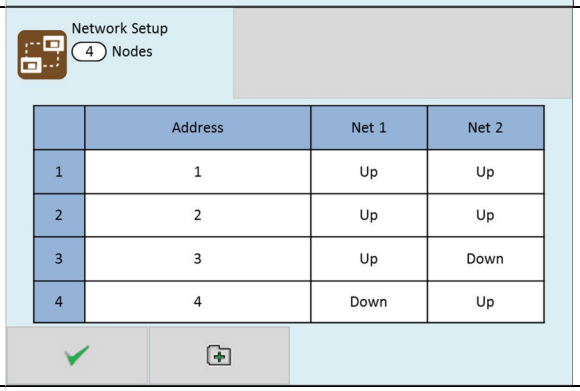
NOTE: *It is recommended that you install and wire your network in a ring topology for better stability and redundancy.*

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.	

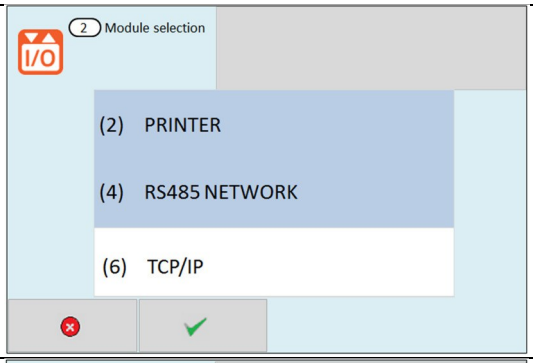
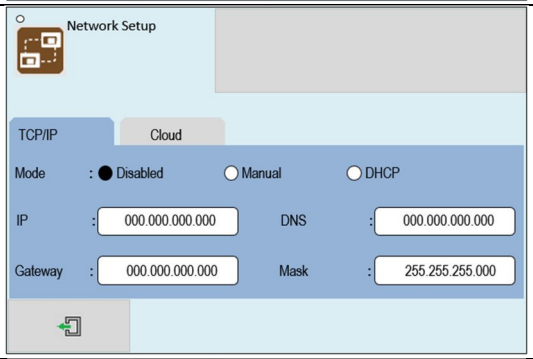
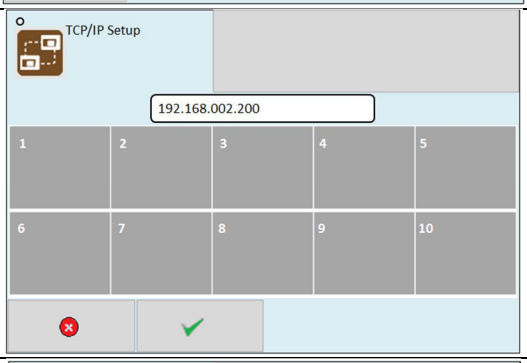
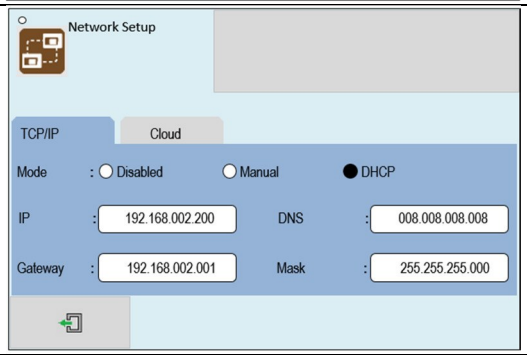
Running the Network

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

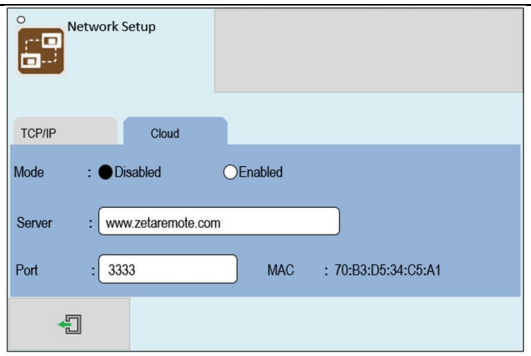
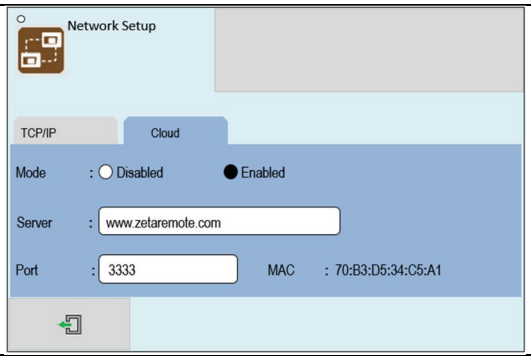
The Velocity panel has an optional TCP/IP module that allows the panel to report events to a central server. To do this, first the TCP/IP address must be set.

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.

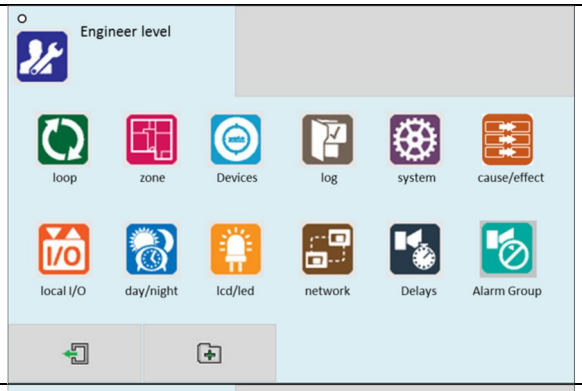
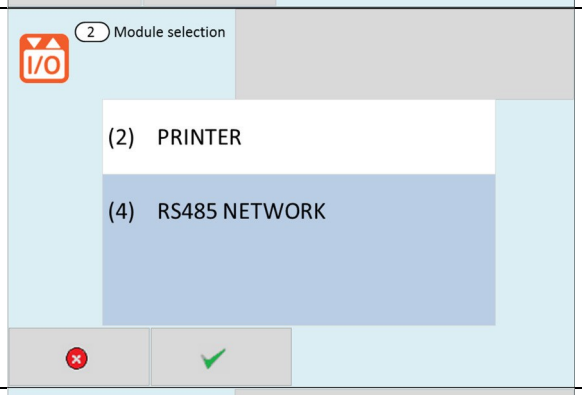
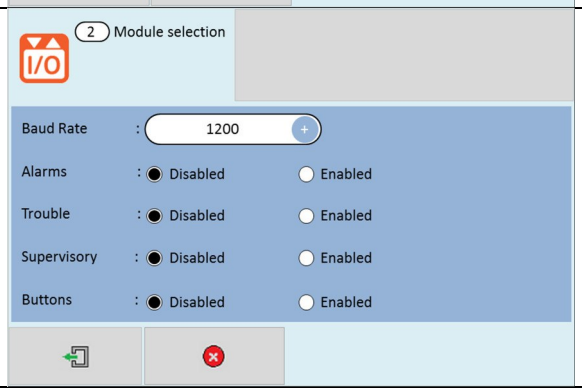
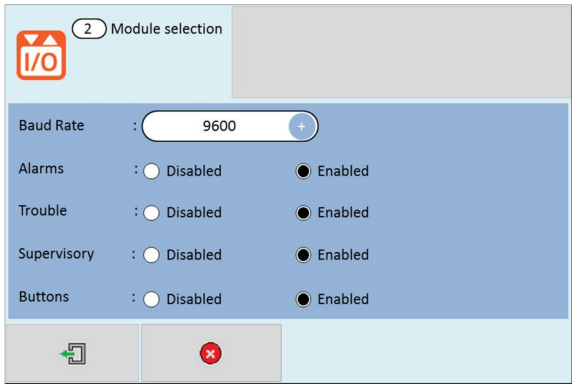
Configuring the Cloud Settings

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.

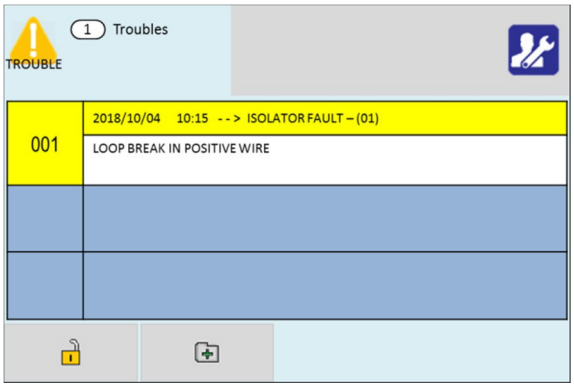
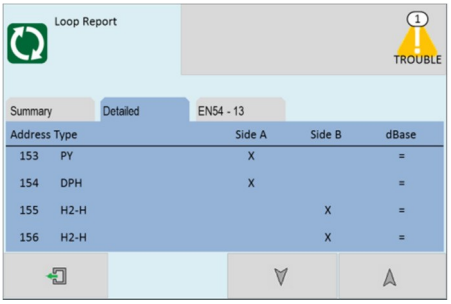
Should the control panel become defective; some electronic assemblies can be replaced.
To do this, any configured options should be noted then both mains and battery power should be removed before the work is started.
Internal panel and field wiring should be carefully labelled and removed from the terminals.

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

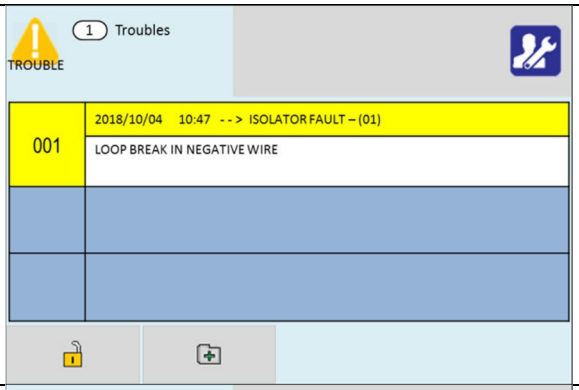
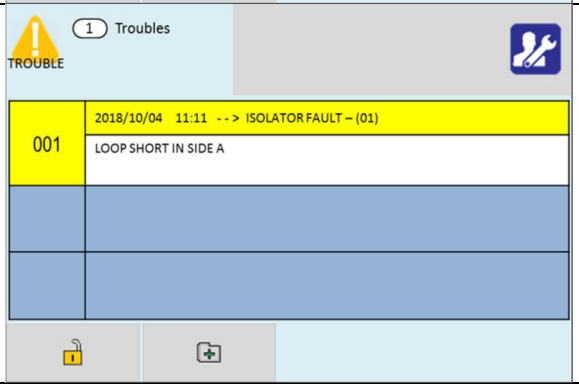
SLC Trouble Finding

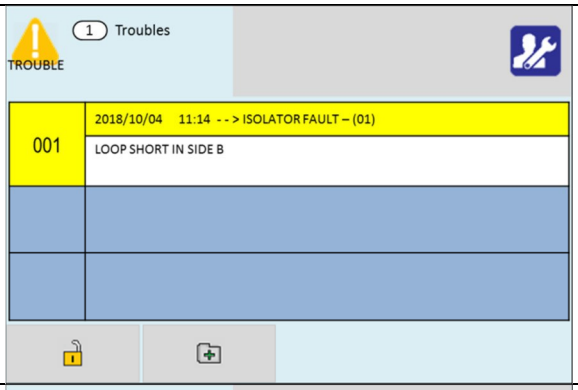
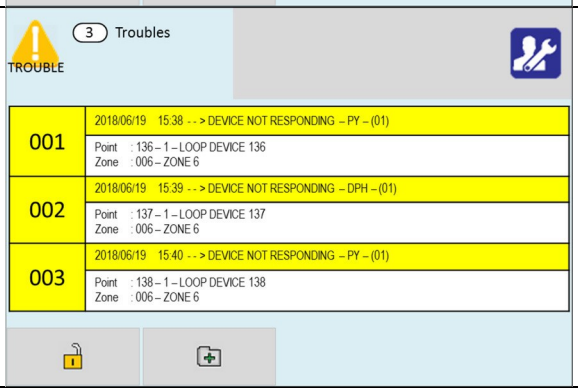
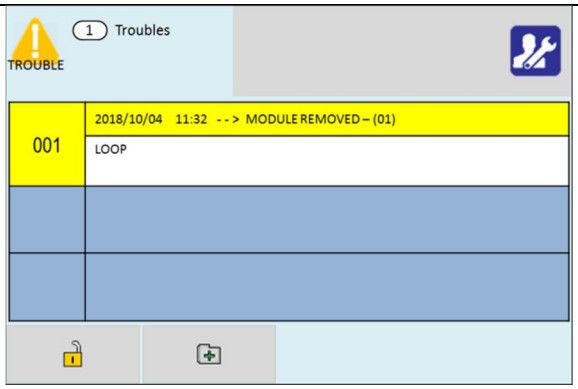
The Velocity panel will monitor the SLC for open or short circuit faults. The panel's SLC isolator monitors for both open and short circuit faults; the faults are reported as ISOLATOR FAULTS along with a description. The faults reported are:-

<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)

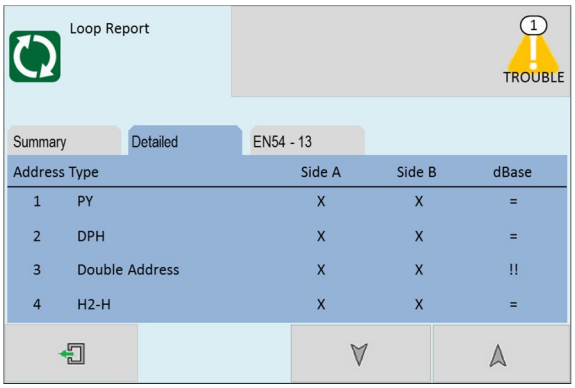
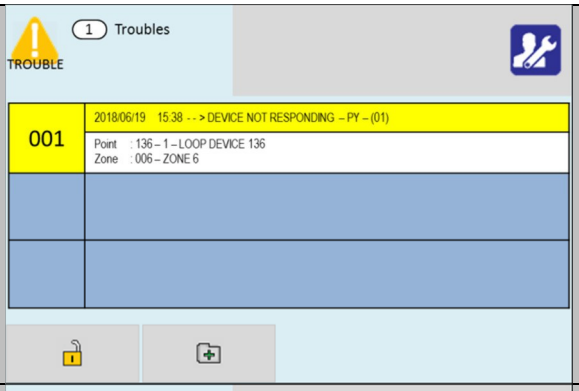
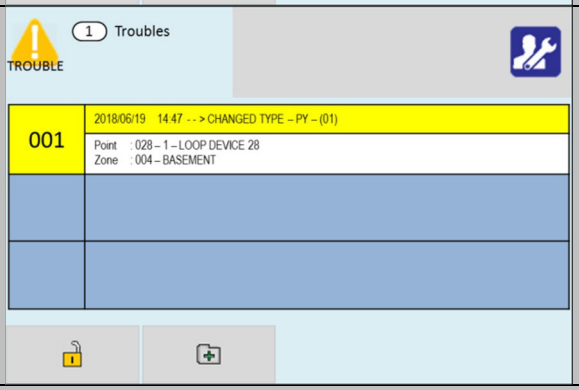
(This only applies if the loop is addressed sequentially)

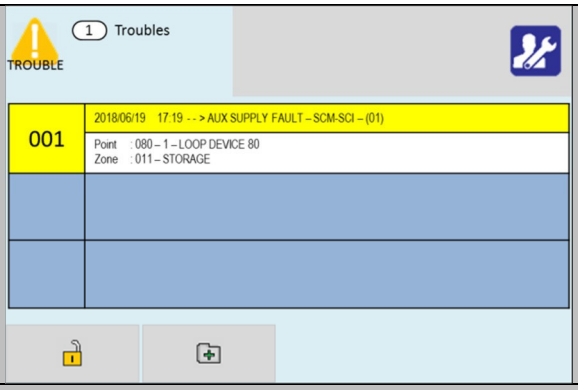
If a system uses spurs (Not recommended for more than a few devices), a cable break in the spur will not be seen. Look for missing device addresses in the loop report.</td>
</tr>
<tr>
<td>Break in -ve wire</td>
<td>
</td>
<td>Use the same method as above to locate a –ve break.</td>
</tr>
<tr>
<td>Short 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.

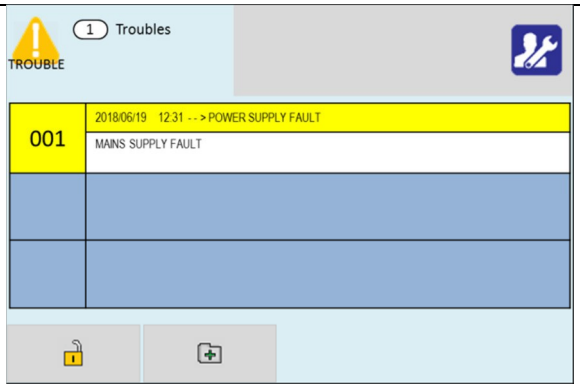
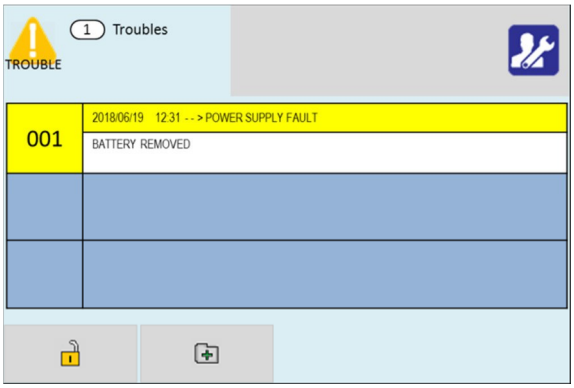
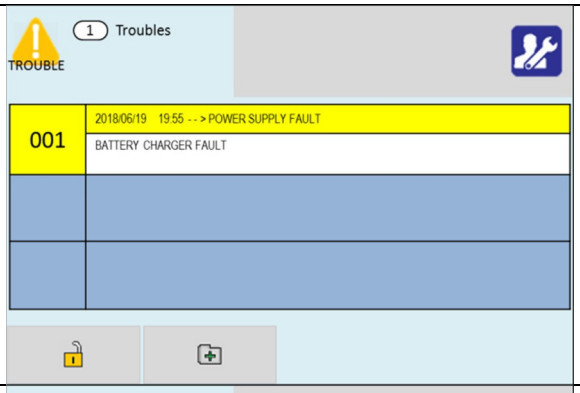
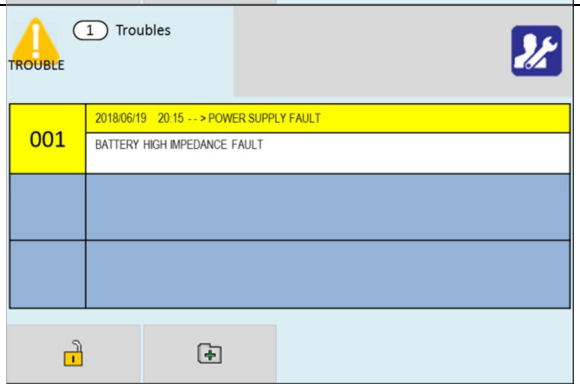
SLC Contents Trouble Finding

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

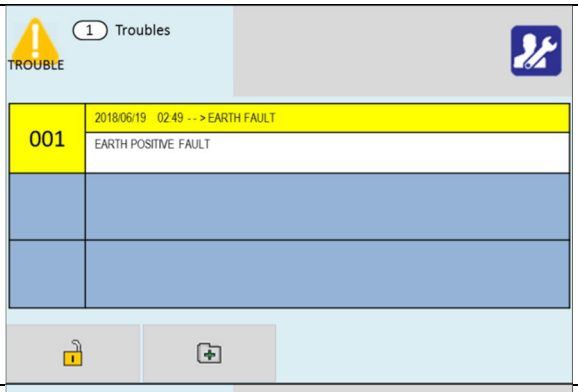
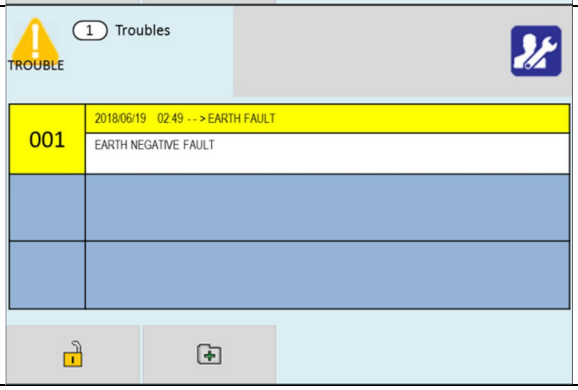
Mains Supply Fault		Carefully check that you have mains voltage at the fused terminal block Check that the mains fuse is intact If mains & fuse are OK, Check that the PSU cage is giving out 30V DC (will need charger cover to be removed to check. Only attempt this if suitably trained) Check PSU Status 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.

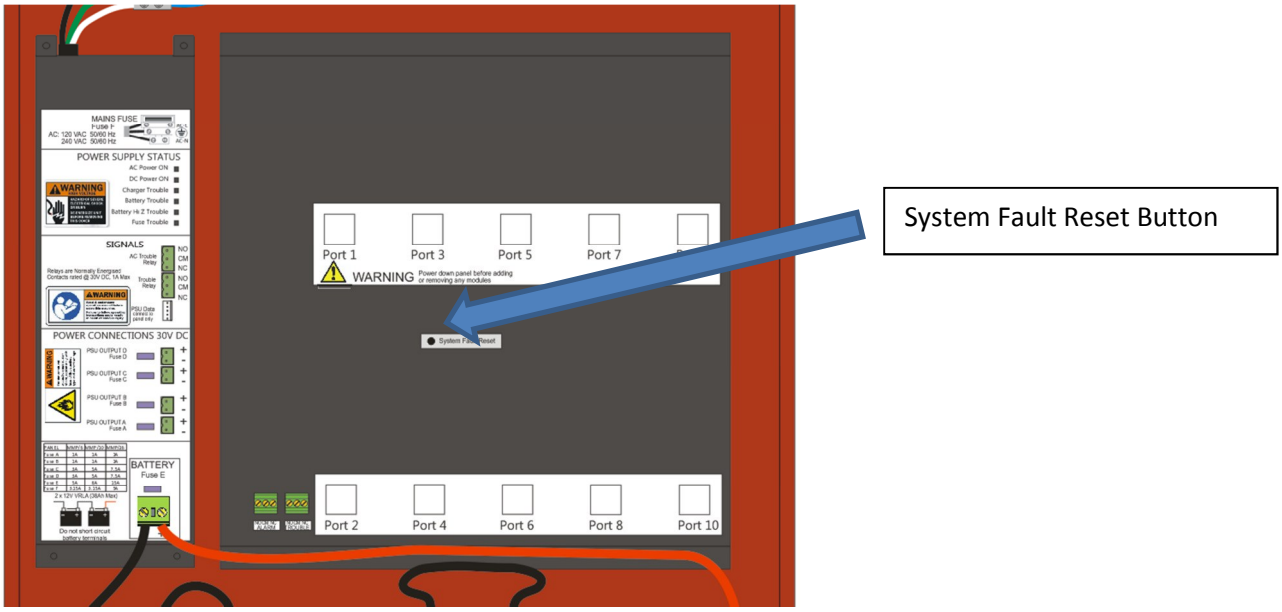
NOTE: The NAC circuits are reverse polarity when they are not running. A ground fault to the NAC + terminal would produce a negative earth fault message. Similarly, a A ground fault to the NAC - terminal would produce a positive earth fault message.

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.

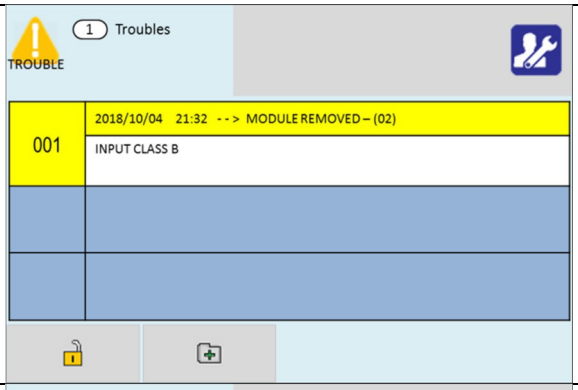
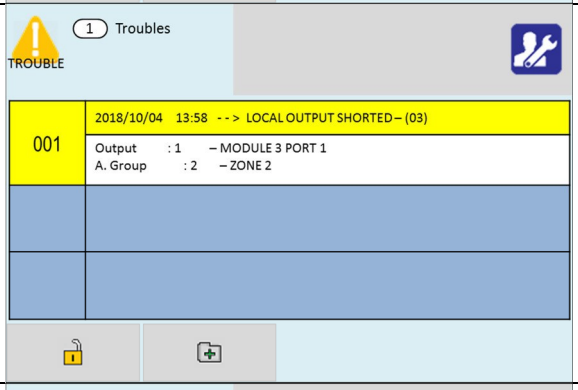
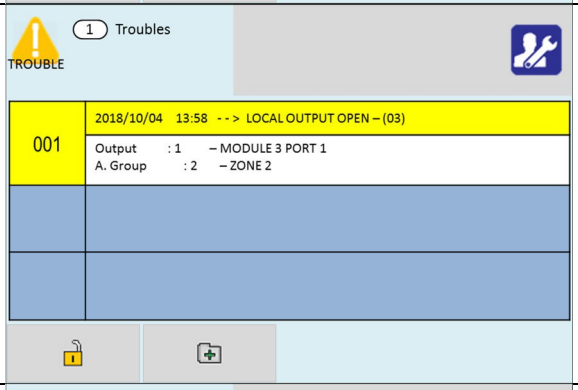
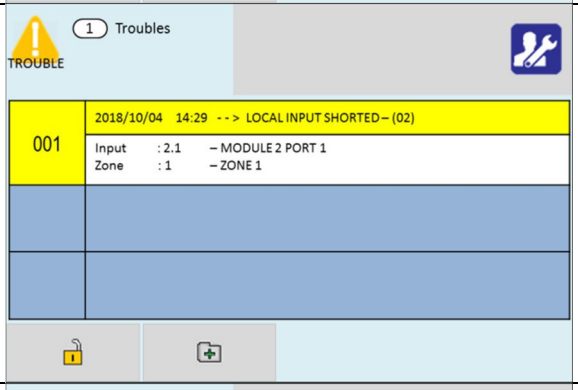
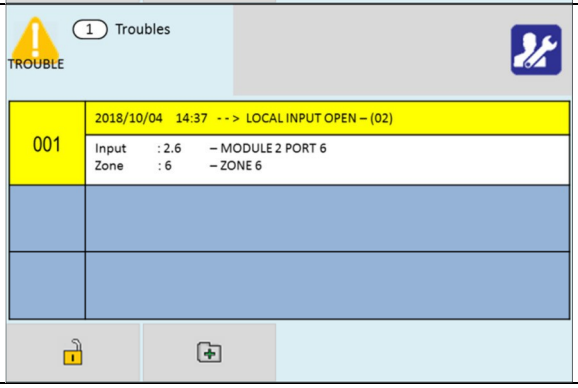
CPU Trouble

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

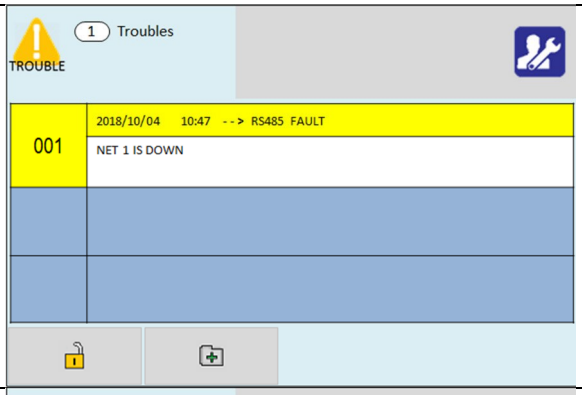
This will result in the panel attempting to correct itself. Should this fault occur, the CPU Trouble LED, Common Trouble LED, Common Trouble relays and internal Trouble buzzer will be constantly active. A CPU trouble indication can be cleared by pressing the CPU reset button located on the TRM PCB. If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



Local I/O Faults

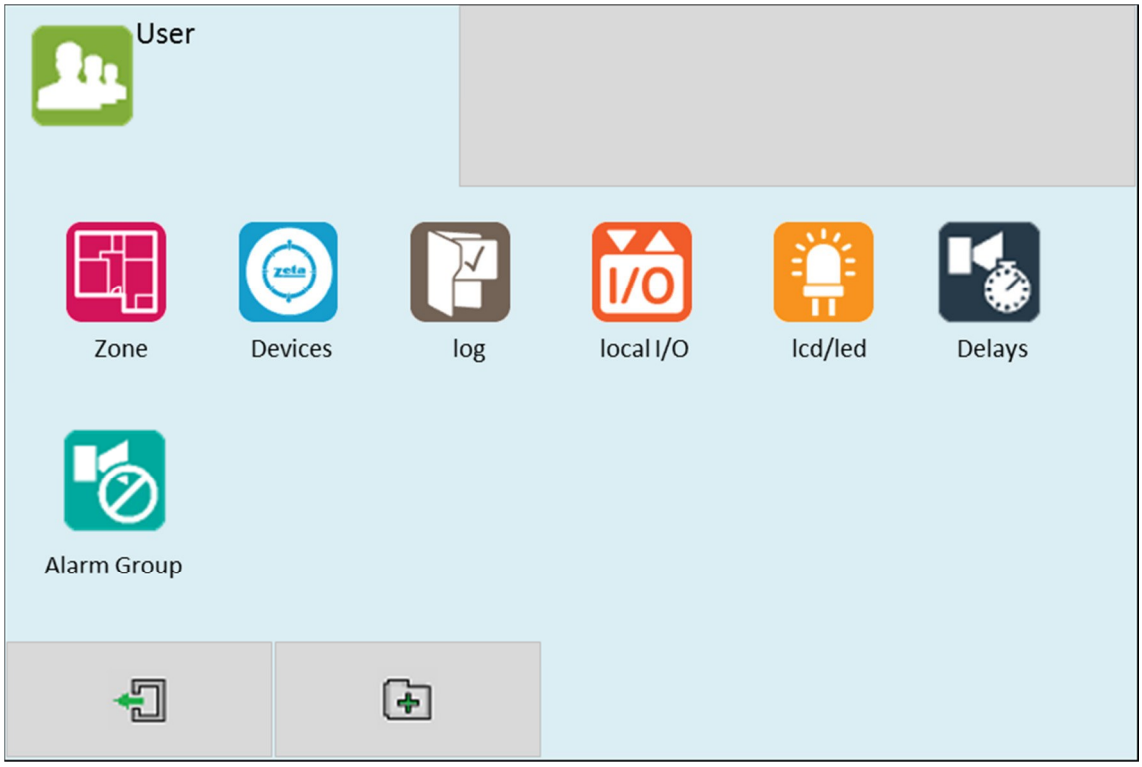
Module Removed		The panel has stopped communicating to the module unexpectedly. Check coms heartbeat LED on front of module, it should be blinking. Check the RJ45 connection between the module and the TRM PCB. If the above is all OK, perform a CPU reset on the Panel.
Local Output Shorted		The output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

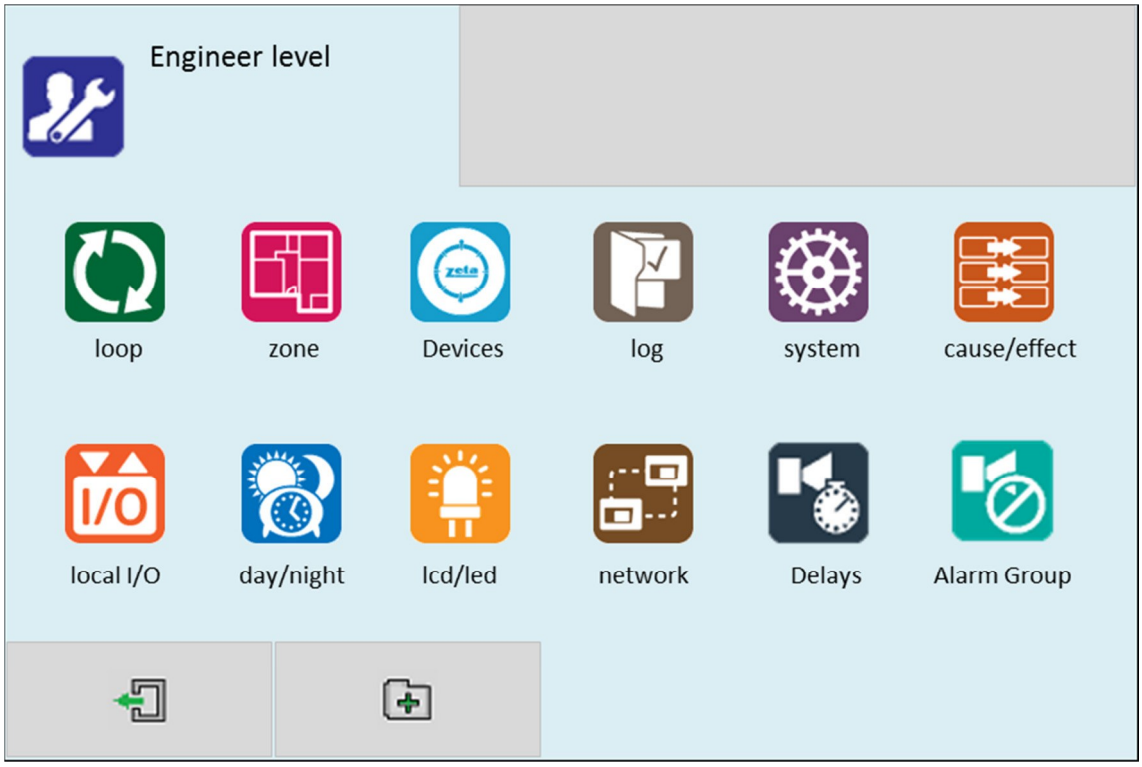


Icon	Tab Screen	Description
Zone	Zone Explorer	View Zone text label View Quantity of devices per zone
	Zone Edit	View Zone text label View Quantity of devices per zone View/Edit zone mode (Enabled/Disabled/Test/Test+Sounder)
Point	Basic	View Address & Device type View Device text label View/Edit device 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