



# **MULTIZONE AUTOMATICALLY OPENING VENT CONTROL PANEL CONFIGURATION SOFTWARE USER MANUAL**

This manual covers the programming of the Multizone Automatically Opening Vent (MAOV) control panels, using the Haes MAOV Configuration Panel software.

## SAFETY

### IMPORTANT NOTICE

PLEASE READ THIS MANUAL CAREFULLY AND OBSERVE ALL ADVICE GIVEN WITHIN IT.

THIS PARTICULARLY APPLIES TO THE PRECAUTIONS NECESSARY TO AVOID ELECTRO-STATIC DISCHARGE



### Important Safety Notes

The panel is safe to operate provided it has been installed in compliance with the manufacturer's instructions and used in accordance with this manual.

Hazardous voltages are present inside the panel—DO NOT open it unless you are qualified and authorised to do so. There is no need to open the panel's enclosure except to carry out commissioning, maintenance and remedial work. This work must only be carried out by competent service personnel who are fully conversant with the contents of the panel's installation manual and have the necessary skills for maintaining this equipment.

This fire alarm system requires periodic checks as specified in BS 5839 Part 1 It is the responsibility of the system user to ensure it is regularly serviced and maintained in good working order.

The product must be installed, commissioned and maintained for operation in accordance with the instructions and the applicable wiring codes of practice and national standard regulations for fire systems appropriate to the country and location of the installation.

This equipment is designed to be operated from 230VAC 50/60 Hz mains supplies and is of Class I construction. As such it must be connected to a protective earthing conductor in the fixed wiring of the installation. Failure to ensure that all conductive accessible parts of this equipment are adequately bonded to the protective earth will render the equipment unsafe.

### Disclaimer

No responsibility can be accepted by the manufacturer or distributors of this fire alarm panel for any misinterpretation of an instruction or guidance note or for the compliance of the system as a whole. The manufacturer's policy is one of continuous improvement and we reserve the right to make changes to product specifications at our discretion and without prior notice. E & O E.

### Warnings

	<p>Before installation, refer to the Ratings shown on the label inside the product and to the 'Specifications Chart' in this document. If you are unclear on any point, please DO NOT proceed. Contact the manufacturer or supplier for clarification and guidance.</p> <p>Only Trained service personnel should undertake the Installation, Programming and Maintenance of this equipment.</p>
--	---

## TABLE OF CONTENTS

SAFETY .....	1
IMPORTANT NOTICE.....	1
Important Safety Notes.....	1
Disclaimer .....	1
Warnings.....	1
TABLE OF CONTENTS.....	2
PRODUCT OVERVIEW.....	3
General .....	3
System Requirements .....	3
DESIGN CONSIDERATIONS.....	4
System Design and Planning.....	4
Vents .....	4
Detection Zones.....	4
Detectors .....	4
Call Points.....	4
Sounders .....	4
Beacons.....	5
General.....	5
DESCRIPTION .....	6
Toolbar .....	6
Configuration Pages.....	6
INSTALLATION.....	6
CONNECT TO PANEL .....	7
CONFIGURING THE SYSTEM.....	8
Vent/Zone Config.....	8
Vent/Input Config .....	8
Vent/Switch Control .....	9
Output Settings .....	10
Panel Settings.....	11
Circuit/Zone Settings.....	12
Vent Settings .....	13

## PRODUCT OVERVIEW

### General

Quality, reliability, ease of use and feature rich are attributes that are consistent across the entire range of Haes fire alarm control panels. The Multizone Automatically Opening Vent (MAOV) panels encompass all these attributes, to provide the fire alarm engineer's panel of choice.

For the fire alarm engineer, the panel has been designed to be easy to install and to minimise labour costs, by providing ample room for tasks such as wiring and changing batteries. Activation is via key switch or access code, which means you should always be able to work on the panel and the one man walk tests will help reduce the cost of maintaining the fire alarm system.

MAOV control panels are designed to be intuitive and flexible for the fire alarm engineer to programme and incorporates a large 240 x 64-pixel graphical display, with an easy-to-navigate menu system, which uses simple discernible icons in each section.

Simplicity is one of the most important aspects when considering the end user of a fire alarm panel. The easy-to-read control panel, with its graphical LCD display and five marked control buttons, and the 3-step silence functionality gives non-technical people the confidence to correctly manage their fire alarm system.

All inputs and outputs are fully programmable and there are options to have delays to the outputs (including vent opening). The programming features also include 3 different modes to help reduce false alarms. Local fire authorities are demanding this type of functionality to reduce unwanted callouts from alarm receiving centres.

The MAOV acts as an automatic multi-zone smoke vent opening control panel. The panels are designed to control a maximum of 64 24VDC motorised vents (up to 8 vents in each of 8 zones), which use a polarity reversal to control vent direction. The MAOV panel can be configured to open the vents in a controlled sequence, to aid smoke venting. The actuator output can also be configured for the control of magnetic vents or other purposes.

The panel supports connections for up to 32 Remote Status Units (RSUs), remote control call points and repeaters, via an RS-485 Peripheral BUS (PBUS) circuit. The PBUS circuit is not intended for networking.

MAOV panels are approved to European standards EN54-4, Fire Detection and Alarm Systems – Control & Indicating Equipment.

The Haes MAOV Configuration panel software enhances the ease of programming of the panel, by enabling the engineer to both download existing panel configurations for amendment, or programme new panel configuration 'off panel' before uploading onto the panel. Programming of the configuration uses easy to follow tables.

### System Requirements

The Haes Configuration Panel software is designed for use with Windows 7 and Windows 10 Operating System. It is not intended for use with Apple macOS, Android or Linux OS.

The following are required:

- Laptop or Tablet device running Windows 7 or Windows 10 OS (processor speed/memory requirements?)
- Cable with a USB-B connector.

## DESIGN CONSIDERATIONS

### System Design and Planning

**Note:** This guide is intended as an aid to designers and installers of fire detection systems. It is NOT to be used as a substitute for BS5839, which should be read in full.

#### Vents

The number and location of smoke ventilation vents and ventilation control system must meet the requirements of Building Regulations 2010, Volume 2 and BS EN 12101.

#### Detection Zones

To direct those responding to a fire alarm signal, particularly the fire service, to the area of a fire, all buildings, other than very small buildings, need to be divided into detection zones. Detection zones need to be small enough for a fire to be located quickly.

If the total floor area of the building is greater than 300m<sup>2</sup>, each zone should be restricted to a single storey.

If the total floor area of the building is less than 300m<sup>2</sup> a zone may cover more than a single storey

For voids above or below the floor area of a room, these may be included within the same zone of the room, provided that the void and the room constitute a single fire compartment.

Any enclosed stair well, lift well or other enclosed flue-like structure should be considered as a separate detection zone.

The floor area of a single zone should not exceed 2000m<sup>2</sup>.

Zone indication should be given at the fire alarm control panel.

#### Detectors

The sensing element of a smoke detection device should not be less than 25mm and not more than 600mm below ceiling

The sensing element of a heat detector should not be less than 25mm and not more than 150mm below ceiling

When mounted on a flat ceiling, smoke detection devices have an individual coverage of 7.5m radius. However, these radii must overlap to ensure there are no 'blindspots'. Therefore, individual coverage can be represented by a square measuring 10.6m x 10.6m giving an actual coverage of 112m<sup>2</sup> per device

When mounted on a flat ceiling, heat detection devices have an individual coverage of 5.3m radius. However, these radii must overlap to ensure there are no 'blindspots'. Therefore, individual coverage can be represented by a square measuring 7.5m x 7.5m giving an actual coverage of 56.3m<sup>2</sup> per device.

#### Call Points

A person should not have to travel more than 45m along an escape route to reach a Manual Call Point (25m if disabled person to operate, or rapid development of the fire is likely). Manual Call Points should be sited at all stair wells and exits from the building.

The frangible element of the manual call point should be positioned 1.4m (+/- 200mm) from the floor level. (Unless a wheelchair user is likely to be the first person to raise the alarm).

#### Sounders

Sounder device cabling should be arranged so that in the event of a fault, at least one sounder

will remain operational during a fire condition.

The minimum sound level should be 65dB(A) or 5dB(A) above a background noise which is louder than 60dB(A) (if lasting more than 30 seconds) and at a frequency of between 500Hz and 1000Hz. The maximum sound level should not be greater than 120dB(A) at any normally accessible point. This may be reduced to 60dB(A) in stairways, enclosures up to 60m<sup>2</sup> and specific points of limited extent.

For areas where people are sleeping, sounder devices should produce a minimum 75dB(A) at the bedhead with all doors shut. In buildings providing sleeping accommodation for a significant number of people, all bedrooms should have both audible and visual alarms.

### **Beacons**

Visual alarms such as beacons, should always be mounted at a minimum height of 2.1m from floor level.

### **General**

Fire Alarm Control Panels should be installed at a location appropriate for staff and fire fighters.

All mains supply isolators must be double pole and suitably marked.

All joints to be fire resisting, junction boxes to be labelled 'FIRE ALARM'.

All cables to be fire resisting with a minimum cross-sectional area of 1mm<sup>2</sup>.

Cable using trunking as a means of containment must be clipped using fire resistant supports WITHIN THE TRUNKING.

Zone charts should be fitted in all appropriate locations (adjacent to control equipment and repeaters).

## DESCRIPTION

The Haes MAOV Configuration Panel software allows the fire system engineer to configure the Haes Technologies MAOV control panel, off panel, using a laptop or tablet device. The engineer can either create a configuration or download a configuration from the panel, complete the configuration and then upload it to the panel.

### Toolbar

- New - open a new configuration file.
- LOAD - open a saved configuration file.
- SAVE – saves changes made to the current configuration file.
- CONNECT TO PANEL – establishes the connection between the portable computing device and the panel, ready for the transfer of the configuration file and breaks the connection when finished transferring data files.
- SEND TO PANEL – Uploads the currently open configuration file to the connected panel.
- RECEIVE FROM PANEL – downloads the configuration file from the connected panel to the portable computing device.



### Configuration Pages

The tables used for configuring the different settings for the panel are presented on a series of seven tabs:

- Vent/Zone Config
- Vent/Input Config
- Vent Switch Control
- Output Settings
- Panel Settings
- Circuit/Zone Settings
- Vent Settings

## INSTALLATION

Install the Haes MAOV Configuration Panel software on a laptop/tablet:

- From the Haes Website (<https://haes-tech.com>) navigate to the DOWNLOADS page.
- Download the installer and extract all the contents of the ZIP file.
- Run Setup.exe and follow the on-screen prompts.

## CONNECT TO PANEL

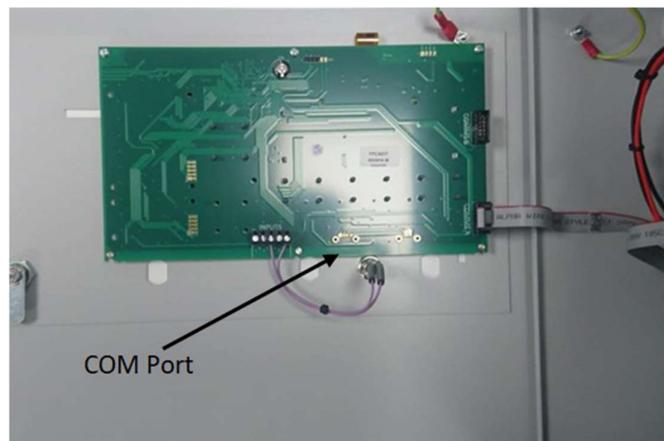
To connect the laptop/tablet to the MAOV control panel:

- Ensure panel is turned on.

**WARNING – Hazardous voltages are present inside the panel—DO NOT open it unless you are qualified and authorised to do so.**

### Caution – Electrostatic Discharge

- Open panel and connect USB cable to COM3 USB Port on the display card.
- Click CONNECT TO PANEL, to establish a connection between the laptop and the panel.
- Click on either SEND TO PANEL or RECEIVE FROM PANEL to upload or download a configuration to/from the panel.



## CONFIGURING THE SYSTEM

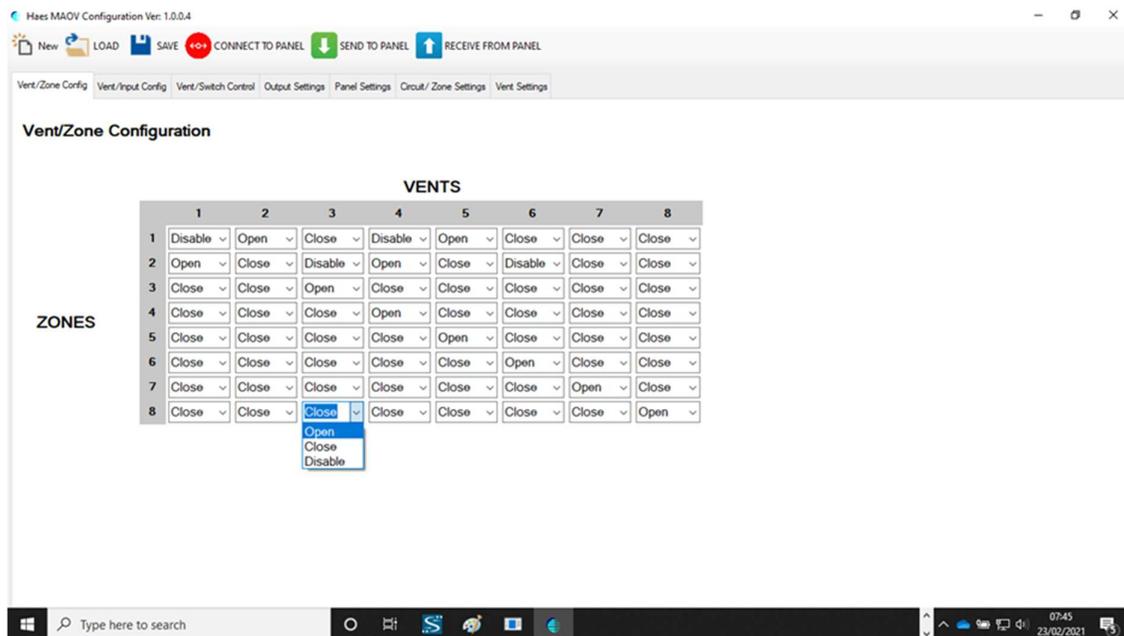
### Configuration Tabs

Use the various page tabs to configure the system:

#### Vent/Zone Config

The Vent/Zone Config tab sets the response for each of the 8 (max.) vents when an active alarm state exists in each of the 8 (max.) detector zones:

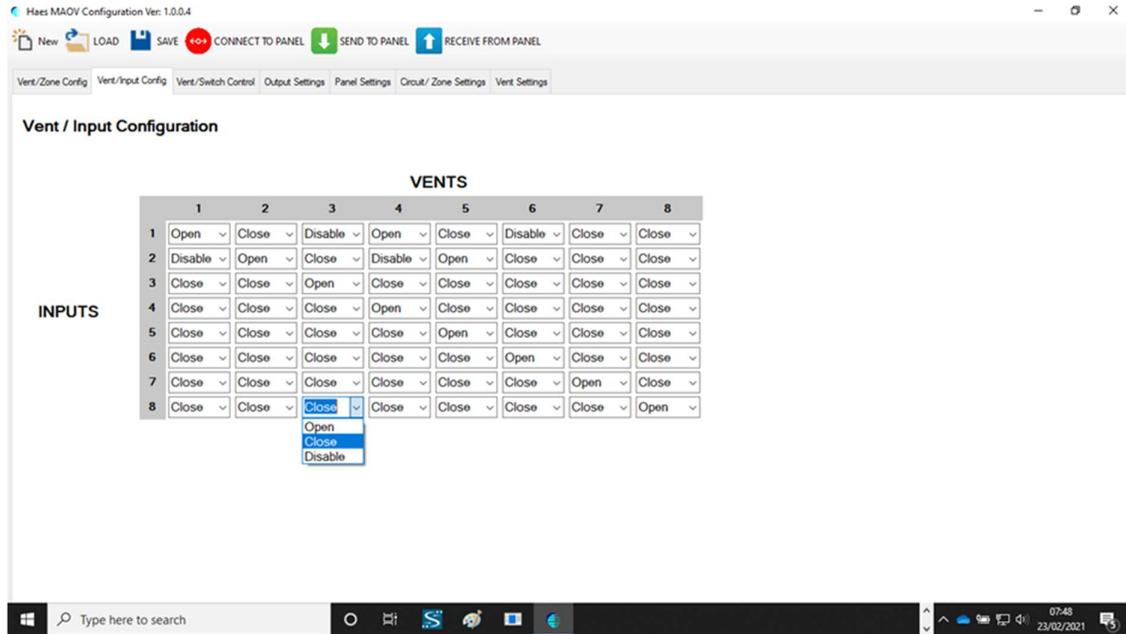
- For each vent, use the dropdown list to select the active position for the vent (Open/Close/Disable). When Disable is selected, the vent will not respond to the corresponding zone.



#### Vent/Input Config

The Vent/Input tab sets the response for each of the 8 (max.) vents when each of the 8 (max.) external inputs is triggered from an external source:

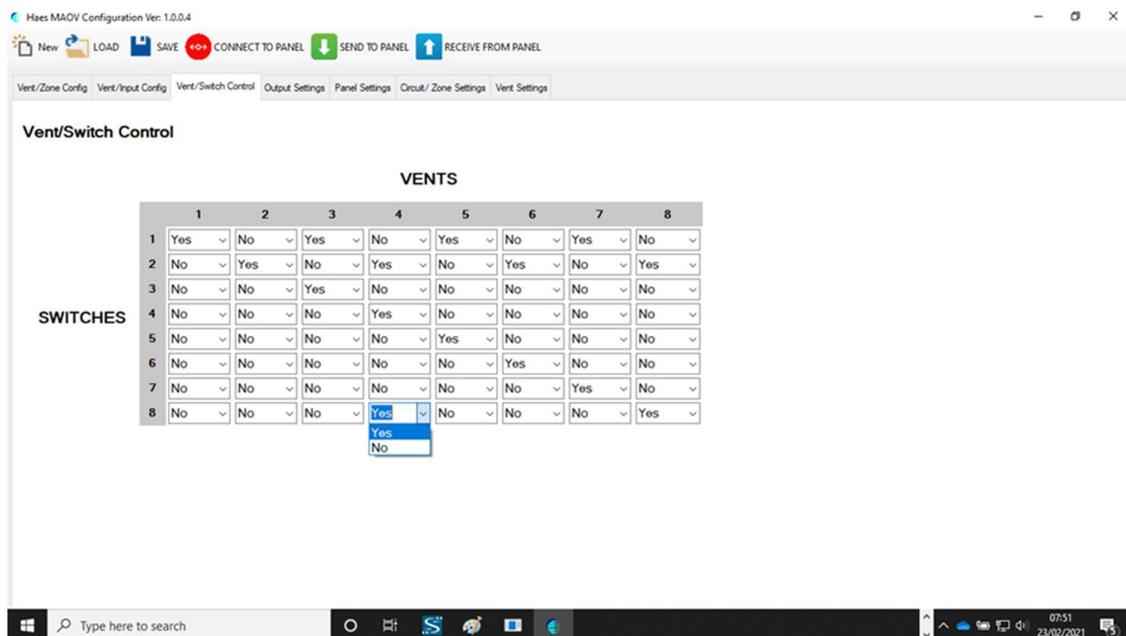
- For each vent, use the dropdown list to select the vent's response to being triggered by each external input (Open/Close/Disable). When Disable is selected, the vent will not respond to the corresponding input.



### Vent/Switch Control

The Vent/Switch Control tab is used to determine if each of the possible 8 (max.) vents are controlled by the local vent control switch:

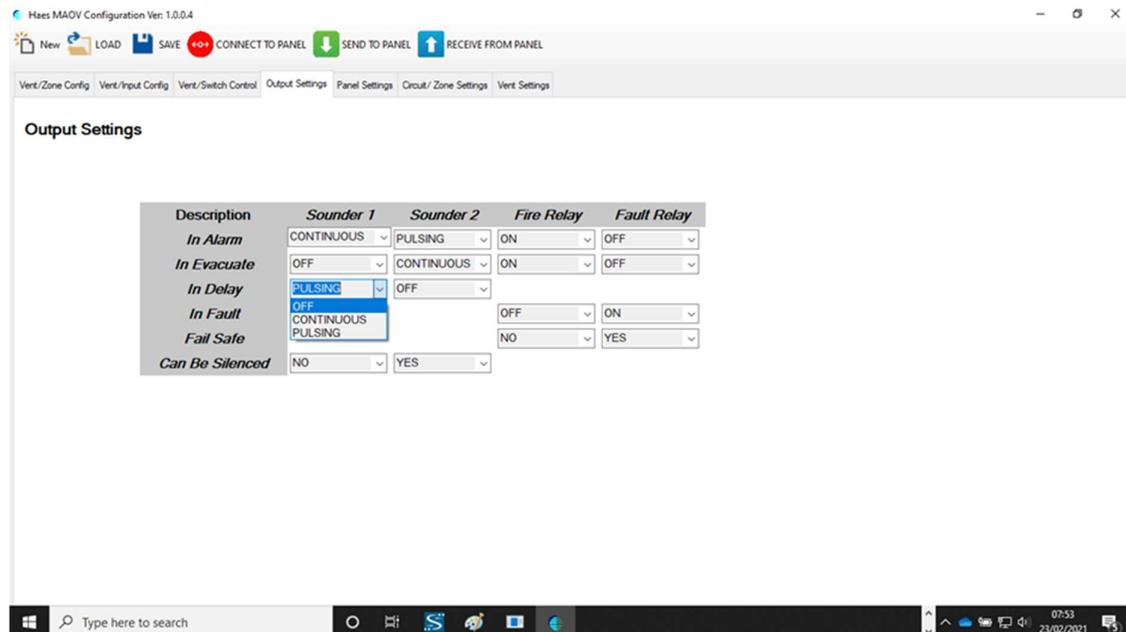
- Use the dropdown menu for each of the 8 (max.) vents to set whether, or not, it responds to each of the 8 (max.) local vent control switches. One switch can control more than one vent.



## Output Settings

The Output Settings tab is used to configure the outputs for Sounders 1 and 2, together with the Fire and Fault Relays:

- Use the dropdown menus to set the output parameters for the Sounders and Relays:
  - Sounder 1/Sounder 2
    - In Alarm (OFF/CONTINUOUS/PULSING)
    - In Evacuate (OFF/CONTINUOUS/PULSING)
    - In Delay (OFF/CONTINUOUS/PULSING)
    - Can Be Silenced (YES/NO)
  - Fire/Fault Relays
    - In Alarm (ON/OFF)
    - In Evacuate (ON/OFF)
    - In Fault (ON/OFF)
    - Fail Safe (NO/YES)

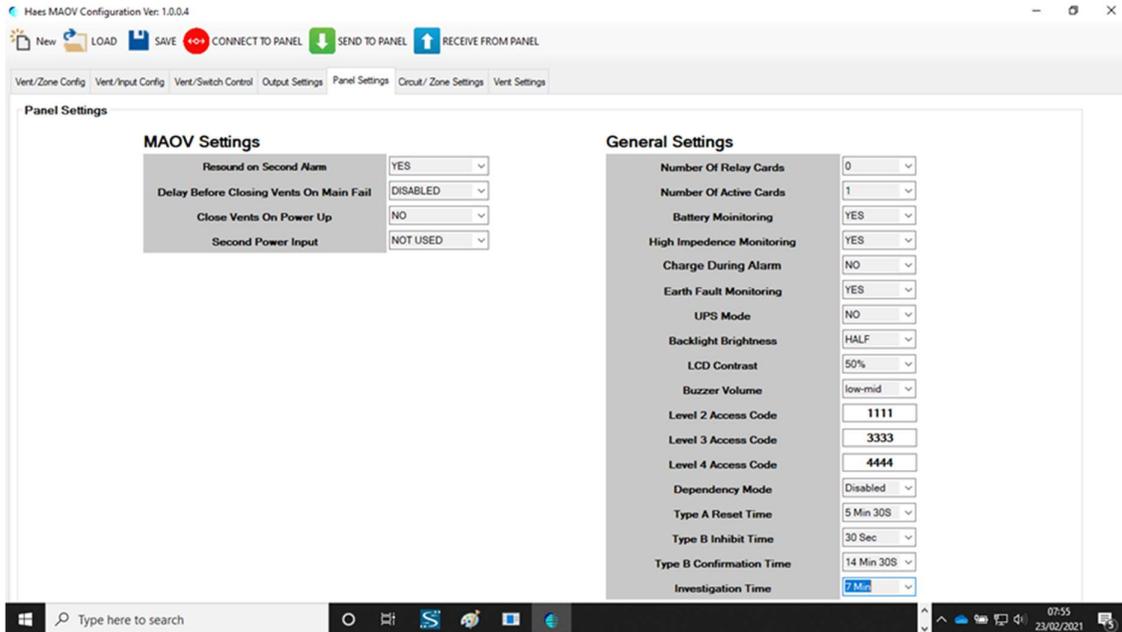


## Panel Settings

The Panel Settings tab configures the MAOV and General settings for the panel, including the LCD, access level codes and dependencies:

Use the dropdown menus to set the required configurations:

- MAOV Settings
  - Resound On Second Alarm (NO/YES)
  - Delay Before Closing Vents On Main Fail (DISABLED/30 Mins/60 Mins/90 Mins/120 Mins)
  - Close Vents On Power Up (NO/YES)
  - Second Power Input (ENABLED/NOT USED)
- General Settings
  - Number Of Relay Cards (0/1/2)
  - Number Of Active Cards (1/2/3/4)
  - Battery Monitoring (NO/YES)
  - High Impedance Monitoring (NO/YES)
  - Charge During Alarm (NO/YES)
  - Earth Fault Monitoring (NO/YES)
  - UPS Mode (NO/YES)
  - Backlight Brightness (MIN/HALF/MAX)
  - LCD Contrast (LOW/10% to 100%, in 10% increments)
  - Buzzer Volume (off/low/low-mid/mid/high-mid/high)
  - Level 2 Access Code (e.g., 1111)
  - Level 3 Access Code (e.g., 3333)
  - Level 4 Access Code (e.g., 4444)
  - Dependency Mode (Disabled/TYPER A/TYPER B/TYPER C/DELAY)
  - Type A Reset Time (1 Min to 10 Min, in 30 Sec increments)
  - Type B Inhibit Time (30 Sec to 4 Min, in 30 Sec increments)
  - Type B Confirmation Time (5 Min to 15 Min, in 30 Sec increments)
  - Investigation Time (30 Sec to 10 Min, in 30 Sec increments)



## Circuit/Zone Settings

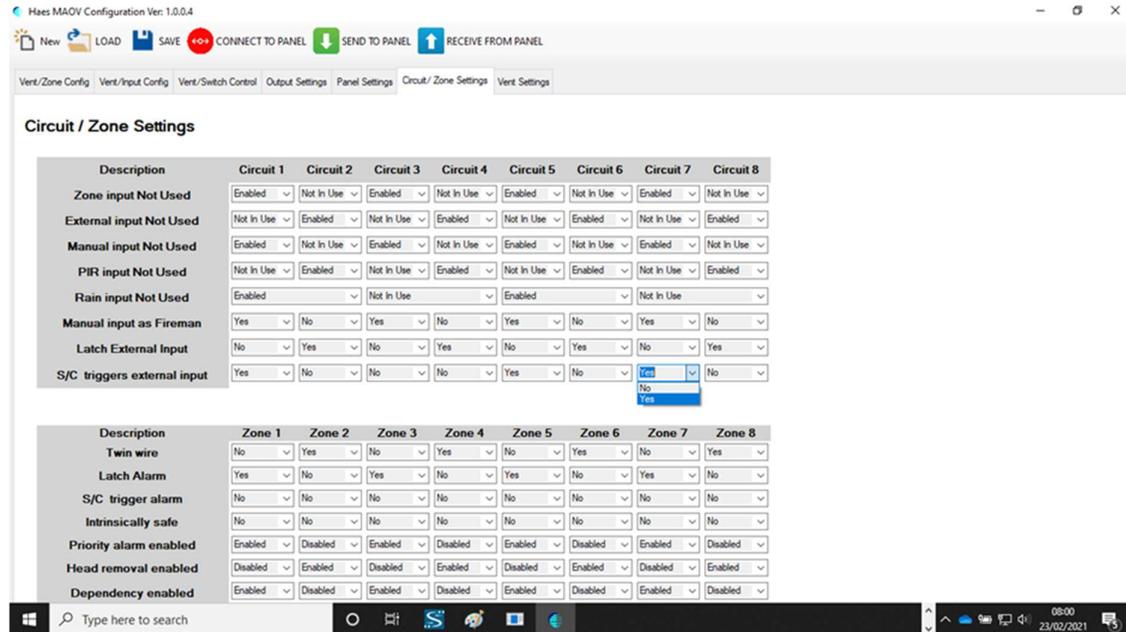
The Circuit/Zone Settings tab is used to; configure inputs from device circuits 1 to 8 (zone detector, local vent control switch, PIR, Rain, etc.) connected to the system and configure the parameters for the detector zones 1 to 8.

Use the dropdown menus to set the configuration for Circuits 1 to 8:

- Zone input Not Used (Enabled/Not In Use)
- External input Not Used (Enabled/Not In Use)
- Manual input Not Used (Enabled/Not In Use)
- PIR input Not Used (Enabled/Not In Use)
- Rain input Not Used (Enabled/Not In Use)
- Manual input as Fireman (Yes/No)
- Latch External Input (Yes/No)
- S/C triggers external input (Yes/No)

Use the dropdown menus to set the configuration for Zones 1 to 8:

- Twin wire (Yes/No)
- Latch Alarm (Yes/No)
- S/C trigger alarm (Yes/No)
- Intrinsically safe (Yes/No)
- Priority alarm enabled (Enabled/Disabled)
- Head removal enabled (Enabled/Disabled)
- Dependency enabled (Enabled/Disabled)



## Vent Settings

The Vent Settings tab is used to configure the opening and closing parameters for each vent:

- Enable Rain Control (No/Enabled)
- Enable PIR Control (No/Enabled)
- Enable BMS Control (No/Enabled)
- Invert Vent Output (Normal/Inverted)
- Maintain Actuator Output (No/Yes)
- Invert auxiliary output logic (No/Yes)
- Opening Time (10 sec to 5 min, in 5 sec increments)
- Closing Time (10 sec to 5 min, in 5 sec increments)
- Thermostat Opening Position (Disabled/Closed/10% to 100%, in 10% increments)
- Thermostat Closing Position (Disabled/Closed/10% to 100%, in 10% increments)

## Transferring the configuration

To transfer the completed configuration, refer to the section CONNECT TO PANEL (above).



[www.haes-tech.com](http://www.haes-tech.com)