WELCOME TO THE FUTURE OF SMOKE CONTROL

O Range
SMOKE CONTROL SYSTEM

SMART SECURE VERIFIED

For installers | For compliance | For peace of mind

O Range Connect

SOFTWARE INSTRUCTIONS

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O Range Connect

SOFTWARE INSTRUCTIONS

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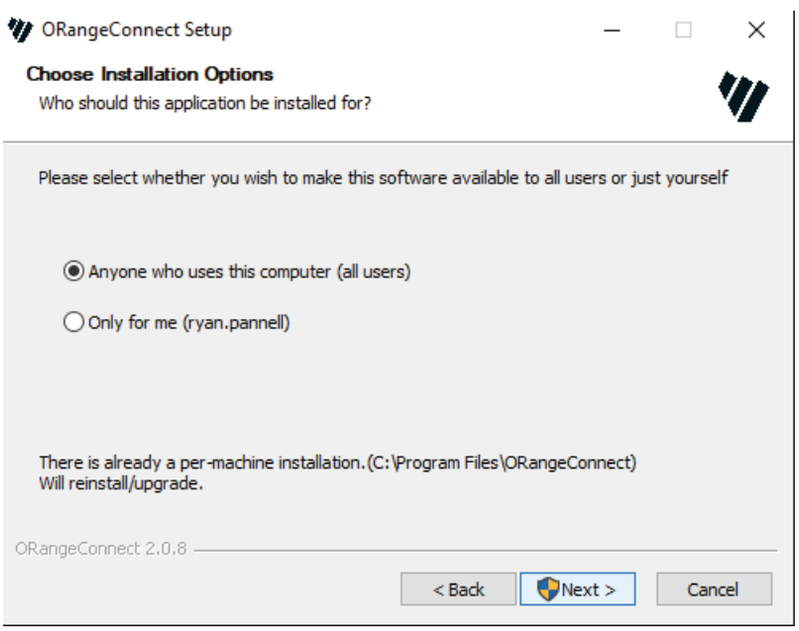
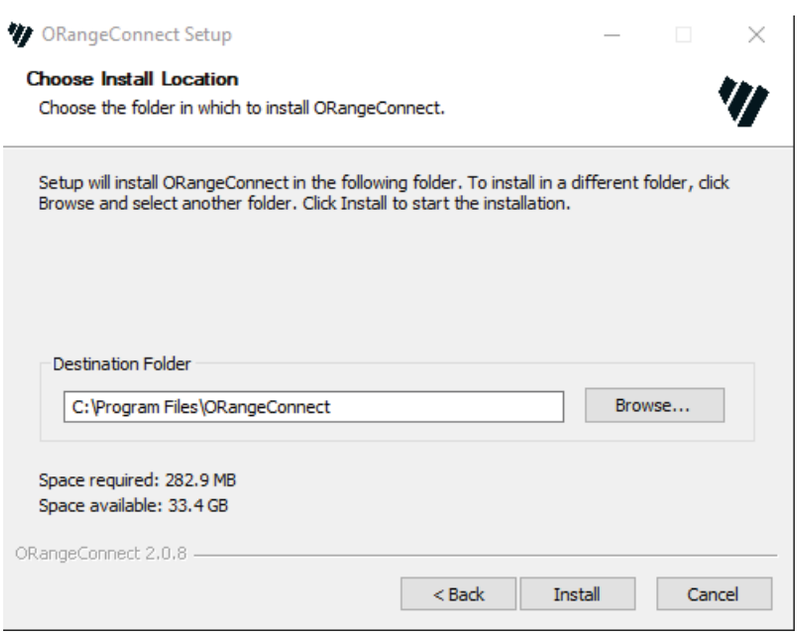
Software Installation

The following steps provide guidance on how to install the Vent Commissioning Software:

1. Download the installer from vent-trade.co.uk
2. Run the installer
3. Select "Anyone who uses the computer"
4. Click Next. When prompted for elevated permissions, select "Yes"



5. Select "Install" and wait for the process to complete.



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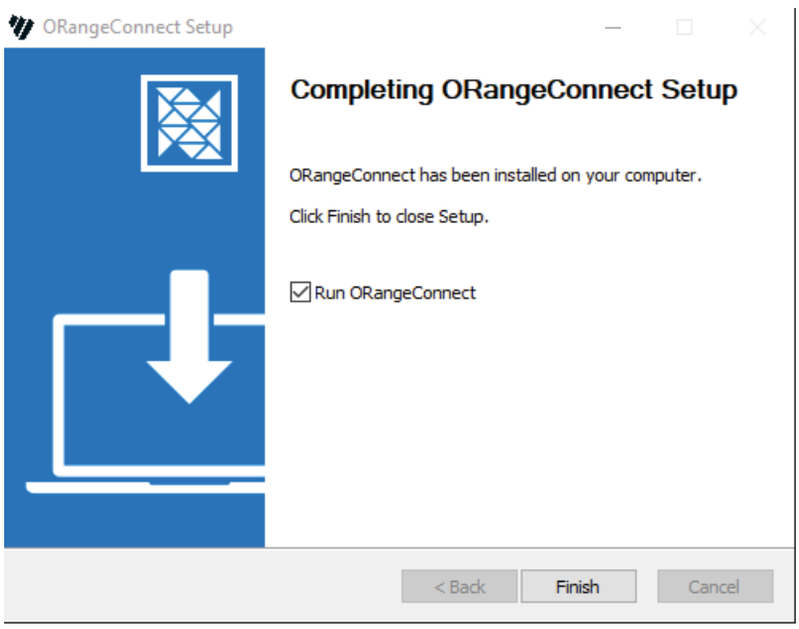
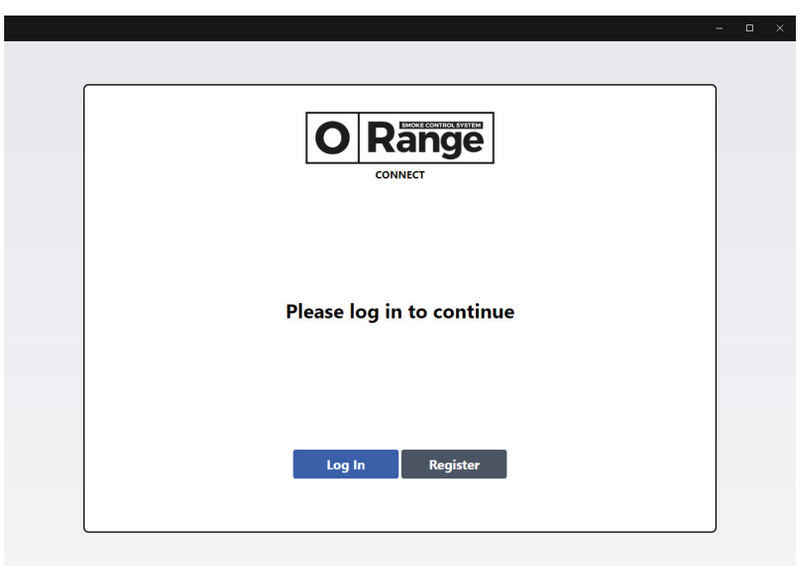
6. Select "Finish" to open the software. A shortcut will have been installed on your desktop and Start Menu.



Accaunt Creation

The following steps provide guidance on how to create an account on the Vent Commissioning Software:

1. To access the commissioning software, a validated user account is required. To create one, open the software and perform the following steps:
2. Press "Register"



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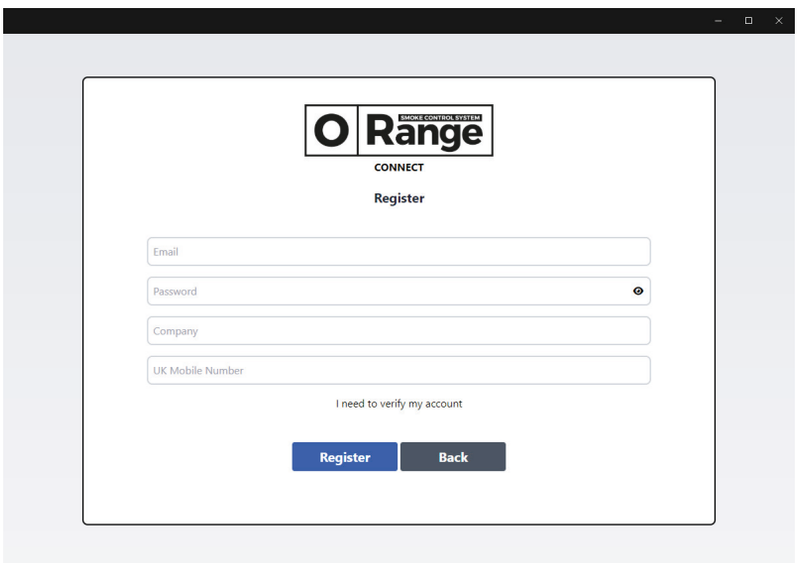
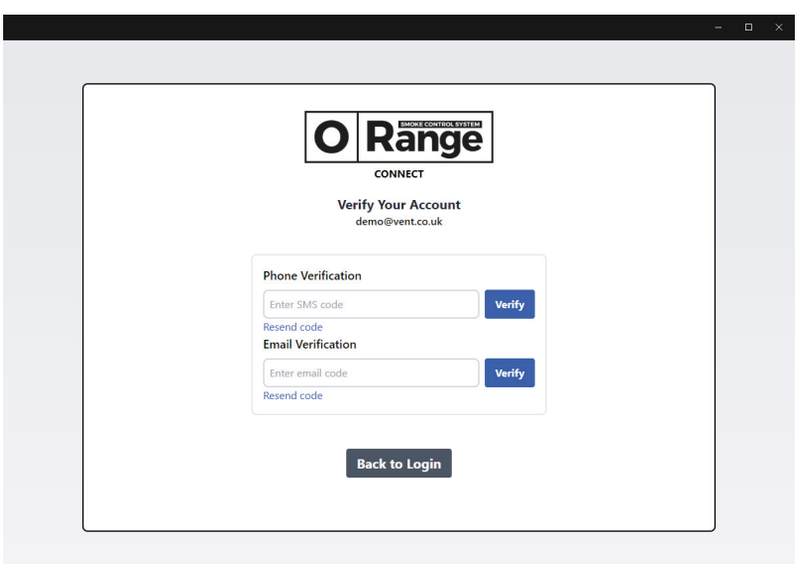
3. Enter your email address, desired password, company name and mobile number.
4. Ensure these are all correct, as they are used to verify your account on the next step.
5. Press “Register”



Verification codes will now have been sent to your mobile via SMS and to your email address. Enter them in the corresponding field and press “Verify”.



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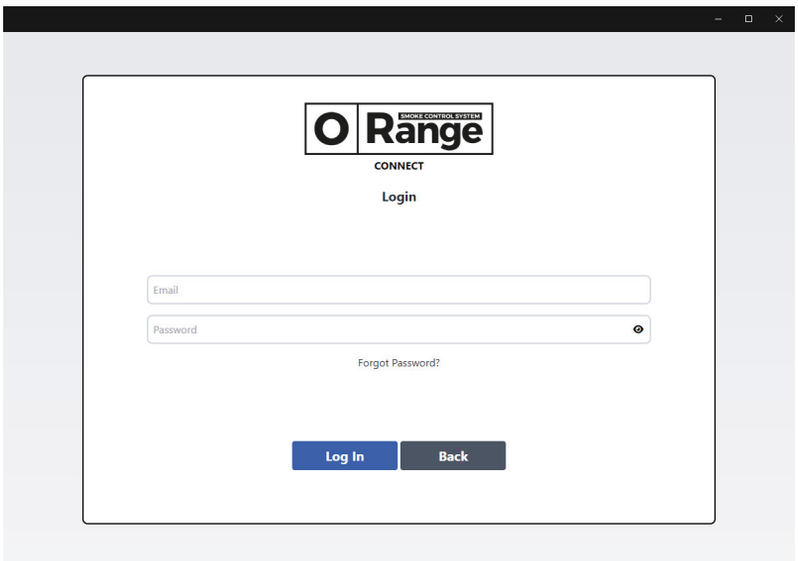
Once verified, you can now log in.



When successfully logged in, you will see the following screen. On the left it indicates how many days until you will need to log in again. We require you to re-log in every 90 days.

Establishing USB Connection

The following steps provide guidance on establishing a connection to an O Range:

Automatic Connection

1. Connect the USB Commissioning tool to the laptop, and the O Range control panel
2. Verify connection to O Range Control Panel

Manual Connection

1. Select "Settings"
2. Connect the USB Commissioning tool to the laptop, and the O Range control panel
3. Select necessary COM port for USB Commissioning Tool
4. Select "Connect"

O Range Configuration

The following steps provide guidance on how to configure an O Range control panel:

Assigning Device ID

1. Select "Commissioning"
2. Select "Assign Device ID"
3. Verify connection to O Range Control Panel, then select "Next"
4. Select a Device ID using the "+"/"-" buttons, then select "Next"
5. After a few seconds, a confirmation will appear - select "Finish"
   (repeat for each O-Range throughout the multi-zone system)

Reconfiguring a Zone

1. Select "Commissioning"
2. Select "Reconfigure a zone"
3. Select the zone you wish to (re)configure

Load Configuration

1. Select "File ▼"
2. Select "Load Configuration"
3. Choose the desired configuration, and select "Open"
4. Select a Zone to import the configuration from
5. Select "Write" to write the configuration to the O Range control panel
6. Verify the changes have synced to the new configuration

Read Configuration

1. Verify if configuration has not synced to the latest configuration
2. Select "Read"
3. Verify the configuration have been read/synced from the O Range control panel

Write Configuration

1. Modify the desired parameters
2. Select "Write"
3. Verify the configuration have been written/synced to the O Range control panel

Restore from Backup

1. Select "Commissioning"
2. Select "Restore from Backup"
3. Select "Select Backup File"
4. Choose the desired backup file, and select "Open"
5. Verify the backup file has been imported successfully
6. Select "Show Details" to view the differences between the current and imported configuration
7. Select "Apply backup" to write the configuration to a singular device, or "Apply All Changes" to write the configuration to all devices simultaneously
8. Verify the configuration has been written successfully, if so "Configurations match" will display

Parameter List

The following steps provide guidance on each parameter in the Vent Commissioning Software:

Board Configuration

Board Type

This option allows you to select the desired operation mode of the zone.

Modes available:

- **Zone** This is the standard mode for a multi-zone or single zone system.
- **Head of Stairs Control Board** This mode is designed for use at a Head of Stairs and will open when a zone within its address permissions enters fire mode. The head of stairs can have FOS controls to allow overriding of its open state.
- **Head of Shaft Control Board** This mode is designed for use at a Head of Shaft and will open when a zone within its address permissions enters fire mode.

Service Interval

This is the time required to pass before the system flags on an attached HMI that the system requires servicing. To comply with The Regulatory Reform (Fire Safety) Order 2005 this should be set to 6 months as per manufacturer recommendation.

Last Service

This is the date at which the last service reset was performed. If the unit has not been serviced, this value will be unavailable. This value can be set to today's date by pressing the "Reset" button.

Actuator Configuration

Actuator Run Time (Smoke)

This is the time to enable power output to the actuator in Fire Mode

Actuator Run Time (Environmental)

This is the time to enable power output to the actuator in Environmental Mode

Auxiliary Actuator Run Time

If there is a secondary damper configured and relay set-up appropriately, this is how long that damper will operate for. Please see Using an Auxiliary Actuator for further instructions.

Maximum Actuator Current

The maximum allowable current to be drawn from the actuator output. This is part of the digital fuse for motor control.

Current Check Delay

Time the actuator is permitted to be in over-current state before it is switched off. This is part of the digital fuse for motor control.

Open End-stop

Settings for the open end-stop input:

- **Disabled**
  End-stop input not used
- **High/Low Combined**
  Report open when high and closed when low.
- **Falling edge**
  Report closed when input is low
- **Rising Edge**
  Report closed when input is high

Close End-stop

Settings for the close end-stop input:

- **Disabled** End-stop input not used
- **High/Low Combined** Report open when high and closed when low.
- **Falling edge** Report open when input is low
- **Rising Edge** Report open when input is high

Sensor Configuration

Sensor 1 Mode

- **Disabled**
  Disable the input of the Sensor 1 port.
- **Smoke Detector**
  Sensor port is configured to trigger a smoke event from a smoke head connected to the port.
- **Fire Alarm**
  Sensor port is configured to trigger a fire event when a fire alarm zero-volt contact is connected to the port.
- **Thermostat**
  Sensor port is configured to trigger environmental mode when a thermostat is connected to the port.
- **Wind/Rain Sensor**
  Sensor port is configured to pause environmental mode when connected to a wind/rain sensor, this option to be used in conjunction with Thermostat.
- **Key Switch**
  To be used at a HOS where the HOS is used for roof access. See installation manual. Will open the HOS when active.
- **Re-entry switch**
  To be used in conjunction with Time to hold actuator open for egress. Connected to an external switch to allow re-entry from outside after actuator is closed.
- **Enable FOS's**
  A key switch can be used to enable override switches without fire for system testing or maintenance.

Sensor 1 Terminated

To be used when the attached sensor has an EOL resistor installed for EOL monitoring. Will trigger a fault when EOL monitoring fails.

Sensor 1 Inverted

The polarity of the selected function is inverted.

Sensor 2 Mode

See Sensor 1 mode, applied to the Sensor 2 port.

Sensor 2 Terminated

See Sensor Terminated, applied to the Sensor 2 port.

Sensor 2 Inverted

See Sensor 1 Inverted, applied to the Sensor 2 port.

FOS Port Configuration

FOS 1 (Open) mode

Options for the open input of the FOS1 port.

- **Disabled**
  Disable the input
- **Zone FOS Open**
  Select this option when an FOS for the zone is connected to the FOS1 port.
- **HOS FOS Open**
  Select this option when an FOS for the HOS is connected to the FOS1 port.
- **Smoke Detector**
  See Sensor 1 mode. Refer to installation manual for wiring instructions.
- **Thermostat**
  See Sensor 1 mode. Refer to installation manual for wiring instructions.
- **Key Switch**
  See Sensor 1 mode. Refer to installation manual for wiring instructions.
- **Re-entry Switch**
  See Sensor 1 mode. Refer to installation manual for wiring instructions.
- **Enable FOS's**
  See Sensor 1 mode. Refer to installation manual for wiring instructions.

FOS 1 (Open) Terminated

To be used when the attached sensor or FOS has an EOL resistor installed for EOL monitoring. Will trigger a fault when EOL monitoring fails.

FOS 1 (Open) Inverted

The polarity of the selected function is inverted. Should be checked when using OFS-500 as Zone or HOS FOS.

FOS 1 (Close) mode

Options for the close input of the FOS1 port. See FOS 1 (Open) mode for options not listed.

- **Zone FOS Close**
  Select this option when an FOS for the zone is connected to the FOS1 port.
- **HOS FOS Close**
  Select this option when an FOS for the HOS is connected to the FOS1 port.

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FOS 1 (Close) Terminated
See FOS 1 (Open) Terminated.

FOS 1 (Close) Inverted
The polarity of the selected function is inverted.

FOS 2 (Open) mode
Options for the open input of the FOS2 port. See FOS 1 (Open) mode.

FOS 2 (Open) Terminated
See FOS 1 (Open) Terminated.

FOS 2 (Open) Inverted
See FOS 1 (Open) Inverted.

FOS 2 (Close) mode
See FOS 1 (Close) mode.

FOS 2 (Close) Terminated
See FOS 1 (Open) Terminated.

FOS 2 (Close) Inverted
See FOS 1 (Open) Inverted.

Isolated Input Configuration

Isolated Input Mode
See Sensor 1 Mode.

Isolated Input Terminated
See Sensor 1 Terminated.

Isolated Input Inverted
See Sensor 1 Inverted.

Relay Board Configuration

Relay 1 Mode (24v output)

Relay 1 is the output from the maglock option board. Typically, it is used for a maglock but can be configured with the following options:

- **Magnetic Lock**
  Enables the output when powered by mains and in standby or environmental mode, unless disabled by the "Drop Maglocks when FOS Active" option. Output disabled in Fire Mode.
- **Activate on fire**
  Enables the output when the system enters a fire state See "Event Relay Pulse Time" and Configuring Activate on fire for more information.
- **Local Fault**
  Enables the output if there is a fault in this zone.
- **System Fault**
  Enables the output if there is a fault in any zone.
- **Enviro Actuator (Driven Return)**
  Not used
- **Enviro Actuator (Auto-return)**
  Not used
- **Damper Actuator (Driven Return**
  Not used
- **Damper Actuator (Auto-return)**
  Not used
- **Damper/Enviro (Driven Return)**
  Not used
- **Damper/Enviro (Auto-return)**
  Not used
- **Fan Control (Smoke Ventilation)**
  Enables the output when a Fire Alarm event or Smoke Event is detected.
- **Fan Control (Environmental Vent)**
  Enables the output when a thermostat event is detected.
- **Fan Control (Any ventilation)**
  Enables the output when either a thermostat, smoke or fire event is detected.
- **Enabled**
  Always On.
- **Disabled**
  Always Off.

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Invert Relay 1

For Lock, Control and Fault modes, invert the polarity of the output.

Relay 2 Mode

See Relay 1 Mode for options, applied to Relay 2 (Relay option board).

Invert Relay 2

See Invert Relay 1 for options, applied to Relay 2 (Relay option board).

Relay 3 Mode

See Relay 1 Mode for options, applied to Relay 3 (Relay option board).

Invert Relay 3

See Invert Relay 1 for options, applied to Relay 3 (Relay option board).

Software Option Configuration

FOS active without Fire

Firefighter's switches always active.

Maglocks drop during smoke/fire

Disables power to maglocks when a smoke/fire event is detected.

HOS always open during smoke/fire

Ensure that the HOS will open on a fire event. Only valid with a HOS control board. Usually set to true.

Smoke/fire event auto-reset

Fire/Smoke event will clear when the sensor state is returned to normal. Normally set to false.

Ignore Head of Stairs (Shaft only)

This option should be used on a head of shaft to ignore the state of the head of stairs when deciding to open or close.

Ignore Head of Shaft (Stair only)

This option should be used on a head of stairs to ignore the state of the head of shaft when deciding to open or close.

Allow HOS FOS when Zone FOS Disables

This option allows the HOS FOS to be enabled, if the Zone FOS is disabled

Hold actuator open during fire

This option will prevent the HOS from closing during a smoke or fire event.

Guides for Common Tasks

Configuring a FOS

After following the instructions in the installation manual to connect a FOS to the zone

board, it must be configured before use. These instructions are for FOS port 1, however if your FOS is connected to port 2, simply replace 1 with 2 in the instructions.

1. Open the Vent Commissioning Software.
2. Ensure Commissioning Tool is connected
3. Select **Reconfigure Zone**.
4. Select the node from the list.
5. Set **FOS 1 Open Port Mode** to Zone FOS Open.
6. Set FOS1 (Open) Inverted to True.
7. Set **FOS 1 Close Port Mode** to Zone FOS Close.
8. Press **Write**.

If you are using a non-standard FOS, you may need to adjust the "Inverted" options.

Configuring a Head of Stairs FOS

After following the instructions in the installation manual to connect a FOS to the zone

board, it must be configured as a HOS FOS before use. These instructions are for FOS port however, if your FOS is connected to port 2, simply replace 1 with 2 in the instructions.

1. Open the Vent Commissioning Software.
2. Ensure Commissioning Tool is connected
3. Select **Reconfigure Zone**.
4. Select the node from the list.
5. Set **FOS 1 Open Port Mode** to HOS FOS Open.
6. Set FOS1 (Open) Inverted to True.
7. Set **FOS 1 Close Port Mode** to HOS FOS Close.
8. Press **Write**.

If the HOS FOS is connected to a Zone board, you may need to adjust some additional

settings.

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If your Zone-connected Head of Stairs FOS needs to be enabled when the system is not active i.e. Zone FOS disabled; you will need to enable the **Send/Accept FOS change over network** option. Then, you will need to enable the same option and FOS Active without **Fire** option on the Head of Stairs.

If you have a Head of Shaft that should not be affected the FOS, you will need to enable the **Ignore Head of Stairs** option on the Head of Shaft.

Run Modes

There are 3 basic run modes that a O-Range will operate in.
This section describes the operation and triggers for the modes.

Standby

This mode is the default for the system. In this state the system is constantly monitoring its inputs and the network. FOSs are usually disabled in this state unless explicitly enabled with the "**FOS active without fire**" option. The system can remain in standby for 72 hours on backup battery power.

Environmental

This mode is entered when the attached Thermostatic sensor input becomes active. The first zone that reports high temperature will open it's attached actuator and the Head of Stairs and/or Head of Shaft, depending on address permissions. When the temperature reduces and the thermostatic sensor input becomes inactive, the system will return to standby. Only 1 zone in a networked system can be in environmental mode at one time, unless allowed by address permissions. Environmental mode is only available when using mains as the power source.

Fire

This mode is entered when an attached smoke head or fire alarm input becomes active. The first zone to report smoke or fire detected will open it's attached actuator and the Head of Stairs and/or Head of Shaft, depending on address permissions. By default, the system will not reset to standby automatically when the input becomes inactive, unless explicitly set with the "**Fire/Smoke events auto-reset**" option. Only 1 zone in a networked system can be in fire mode at one time, unless allowed by address permissions.

Configuring Active on Fire

It is often desirable to energise and output or ground lifts in the event of a smoke and/or fire event. The O-Range is capable of interfacing with an Activate on fire to provide this functionality.

Relay 2 or 3 should be used to connect the Activate on fire. Check the Activate on fire instructions for required connection method.

The following instructions assume that you are using Relay 2. If you use Relay 3, replace 2 with 3.

1. Open the Vent Commissioning Software.
2. Ensure Commissioning Tool is connected
3. Select **Reconfigure Zone**.
4. Select the node from the list.
5. Set **Relay 2 mode** to Activate on fire.
6. Set **Relay 2 Inverted** according to the Activate on fire requirements.
7. Set **Event relay pulse time** according to the Activate on fire requirements.
8. Press **Write**.

Access Key Switch

Some systems may require that a head of stairs doubles as an access hatch for roof access. In these cases, it may be desirable to use a key switch, or roof access buttons to enable access to the roof.

The key switch or buttons should be connected as per the installation instructions.

These instructions are for a Roof Access Key Switch connected to FOS 1 (Open). The same instructions apply if you connect it to FOS 1 (Close, FOS 2 (Open/Close), Sensor 1 or Sensor 2, simply adjust the equivalent setting for that input.

1. Open the Vent Commissioning Software.
2. Ensure Commissioning Tool is connected
3. Select **Reconfigure Zone**.
4. Select the node from the list.
5. Set **FOS 1 Open Port Mode** to Egress Key switch.
6. Set **Time to hold actuator open for egress** to 0.
7. Press **Write**.

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The next instructions are for 2 push button access switches, connect to FOS 1 (Open) and FOS 1 (Close) for Open and Re-entry respectively.

1. Open the Vent Commissioning Software.
2. Ensure Commissioning Tool is connected
3. Select **Reconfigure Zone**.
4. Select the node from the list.
5. Set **FOS 1 Open Mode Port** to Egress Key switch.
6. Set **FOS 1 Close Mode Port** to Egress re-entry switch.
7. Set **Time to hold actuator open for egress** to the desired number of seconds to hold the hatch open for.
8. Press **Write**.

SIP Panels

Systems should use a Status Indication Panel, usually on the lobby level of the installation where it can be easily seen.
After connecting the SIP as per the Installation Instructions, the software needs to be configured to enable it.

1. Open the Vent Commissioning Software.
2. Ensure Commissioning Tool is connected
3. Select **Reconfigure Zone**.
4. Select the node from the list.
5. Set **Relay 2 mode** to System Fault
6. Set **Relay 3 mode** to Activate on fire
7. Set **Event relay pulse time** to 0.
8. Press **Write**.

Magnetic Locks

In some fire strategies it is required to automatically close doors when a fire or smoke event is detected.
Connect the maglock to the maglock option board as per the Installation Guide and then it can be configured in the commissioning software.

1. Open the Vent Commissioning Software.
2. Ensure Commissioning Tool is connected
3. Select **Reconfigure Zone**.
4. Select the node from the list.
5. Set **Relay 1 mode** to Magnetic Lock.
6. Press **Write**.

BMS Interface

Some buildings may have or require a building management system (BMS). It is possible to use the clean contacts on the Relay option board to indicate System Fault and Fire.
Connect the BMS to the clean contacts to the guidelines provided by the BMS.

1. Open the Vent Commissioning Software.
2. Ensure Commissioning Tool is connected
3. Select **Reconfigure Zone**.
4. Select the node from the list.
5. Set **Relay 2 mode** to System Fault, this will indicate a system fault on Aux Relay 1.
6. Set **Relay 3 mode** to Activate on fire, this will indicate a fire on Aux Relay 2.
7. Set E**vent relay pulse time** to 0.
8. Press **Write**.

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