

WELCOME TO THE FUTURE OF SMOKE CONTROL



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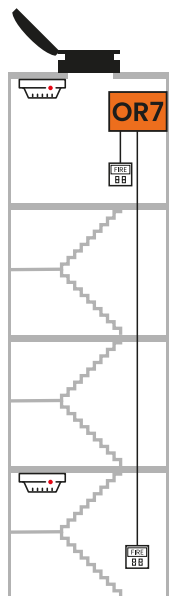
For installers | For compliance | For peace of mind

O Range: Commission

SINGLE STAIRWELL GUIDE



**SUPPLYING THE
TRADE SINCE 1988**



O Range Connect

SINGLE STAIRWELL COMMISSIONING GUIDE

Index

Pre-Commissioning Checks (Visual & Mechanical)	4
Control Panel Mounting	4
Vent/Actuator Installation	4
Firefighter Switch (OFS) Placement	4
Smoke Detector (OSD) / Fire Alarm Positioning	4
Wiring Integrity	4
Electrical Connection (With Power Isolated)	5
Main Power Supply (230VAC)	5
Battery Connection (24VDC Backup)	5
Actuator Motor Connection	5
Firefighter Switches (OFS) Connection	5
Smoke Detector (OSD) / Fire Alarm Interface Connection	5
Initial Power-Up Sequence	6
Power-Up Sequence	6
Functional Testing	7
Smoke Detector / Fire Alarm Integration Test	7
Firefighter Switch Test	7
Firefighter Switch Test 2 (System Reset)	7
System Calibration & Optimisation	8
Documentation & Handover	8
Record Keeping	8
User Training	8
Manuals & Diagrams	8
Labelling	8

IMPORTANT

- Always ensure the main power supply to the O Range system is isolated and locked off before commencing any wiring or mechanical work.
- Wear appropriate Personal Protective Equipment (PPE) including safety glasses, gloves, and suitable footwear.
- Confirm all wiring complies with relevant local electrical regulations (e.g., BS 7671 in the UK) and manufacturer's instructions.
- Have a qualified electrician verify all electrical connections before power-up.
- Batteries can supply high current; incorrect connections can cause fire or serious injury. Always check polarity before connecting and use insulated tools.
- All metallic parts of the panel must be Earth protected to avoid electrical shock.

Pre-Commissioning Checks (Visual & Mechanical)

Control Panel Mounting:

- Verify the O Range Control Panel is securely mounted using proper fixings (wall plug and screw for masonry, metal plasterboard fixings for plasterboard, standard wood screws for wood).
- Ensure the earth cable connecting the enclosure to the removable front panel is correctly attached.

Vent/Actuator Installation:

- Verify the Automatic Opening Vent (AOV) and its actuator are securely installed and correctly aligned, allowing full opening and closing travel without obstructions.

Firefighter Switch (OFS) Placement:

- Ensure OFS units are securely mounted at accessible locations. The ideal mounting height is 1600mm from the finished floor level, with a minimum of 1400mm and a maximum of 1800mm.
- Confirm OFSs are clearly labelled.

Smoke Detector (OSD) / Fire Alarm Positioning:

- Verify the OSDs are correctly positioned as per fire safety design and relevant standards (e.g., BS 5839).

Wiring Integrity:

- Visually inspect all cable runs from the control panel to the motor, firefighter switches, and smoke detector.
- Confirm cables are correctly clipped, protected, and free from damage.
- Verify correct fire-rated cable types (BS 8519 Cat3, Annex B) and sizes have been used:
 - 2-Core + Earth for 230VAC mains power supply.
 - Multi-Core + Earth (7-Core + Earth for OFS) for 24VDC panel-to-component signals.
 - Fire-rated Cat5 Ethernet for network connections (if multi-zone).
- Ensure cable shields are sleeved green/yellow and earthed at one end only for network cables.

Electrical Connections (With Power Isolated!)

Main Power Supply (230VAC):

- Connect the 2-Core + Earth fire-rated power cable from a 230VAC 13A unswitched fused spur to the Power Supply Connector on the O Range panel (L, N, E terminals).
- Confirm the fuse rating is suitable for the maximum current load of the O Range control panel (3A fast-blow for AC Mains Input).

Battery Connection (24VDC Backup):

- Connect two 12VDC 7Ah YUASA sealed lead-acid batteries in series using the supplied jumper lead (Positive of Battery 2 to Negative of Battery 1).
- Connect the pre-installed red cable from the PCB to the Positive of Battery 1.
- Connect the pre-installed black cable from the PCB to the Negative of Battery 2.

Actuator Motor Connection:

- Connect the actuator motor using a 2-core + Earth fire-rated power cable (for reverse polarity actuators).
- For Ventec FTA 600, connect only the BROWN and BLUE cores to the "Open Vent" and "Close Vent" terminals on the Actuator Motor section of the main board. (DO NOT connect WHITE or GREY cores).
- Connect the motor's Ground to the corresponding Ground terminal.

Firefighter's Switches (OFS) Connection:

- Connect both O Range Firefighter Switches (OFS) using 7-Core + Earth fire-rated cable to the designated "Firefighter Override Switch" terminals on the main board (FOS 1 and FOS 2).
- Wire according to the provided diagram in the installation manual: Screen, Ground, Close SW, Ground, Open SW, Open LED, Ground, Alarm LED, Closed LED.
- Note that OFS are only active for opening/closing when the system has been activated (e.g., by a fire alarm).

Smoke Detector (OSD) / Fire Alarm Interface Connection:

- For an Optical Smoke Detector (OSD), it must be installed on a relay base. Use a 4-Core + Earth fire-rated control cable.
- Connect the OSD to the "Smoke Detector" terminals on the main board: Screen, Ground, Sns Signal, +28V. Pay close attention to polarity ("INs" and "OUTs").
- For a general Fire Alarm Signal, use a 2-Core + Earth fire-rated power cable. Connect the volt-free relay output (N/C or N/O) from the fire alarm interface to the "Fire Alarm Input" terminals: Screen, Ground, Sns Signal, +28V.
- Maximum of 4 chained OSDs.

Initial Power-Up & System Configuration

Power-Up Sequence:

- Ideally, connect batteries first, then mains. If mains are connected first, allow up to 5 minutes for any faults to clear.

Control Panel Initialisation:

- Observe the control panel LED indicators. A solid GREEN LED indicates mains power is available. A flashing GREEN LED indicates battery power.

Functional Testing:

Smoke Detector / Fire Alarm Integration Test:

1. **Simulate an Alarm:** Initiate an alarm condition from the connected smoke detector (e.g., using a smoke canister) or the fire alarm panel.
2. **Verify Vent Operation:** The smoke vent should automatically open upon receipt of the alarm signal.
3. **System Reset:** After the test, allow the smoke detector to clear of test smoke/reset the fire alarm system. To reset the O Range system to standby mode, press the "Close-Reset" button **AND** the "Open" button on any O Range Firefighter Switch simultaneously for more than ten seconds.

Check Firefighter Switch Status LEDs for diagnosis during testing. A solid RED LED indicates Fire Mode activation in the local zone (vent/damper open). A flashing YELLOW LED indicates a remote zone fault, while a solid YELLOW LED indicates a local zone fault.

Firefighter's Switch Test 1:

1. **Simulate an Alarm:** Initiate an alarm condition from the connected smoke detector (e.g., using a smoke canister) or the fire alarm panel.
2. Using Firefighter's Switch 1 (press the "Close" button). The smoke vent should immediately close.
3. Using Firefighter's Switch 1 (press the "Open" button). The smoke vent should immediately open.
4. **System Reset:** After the test, allow the smoke detector to clear of test smoke/reset the fire alarm system. To reset the O Range system to standby mode, press the "Close-Reset" button **AND** the "Open" button on any O Range Firefighter Switch simultaneously for more than ten seconds.
5. **Repeat:** Repeat steps one to four for each O Range Firefighter Switch

Note: The OFS is only active when the system has been activated (e.g., by a fire alarm).

Firefighter's Switch Test 2 (System Reset):

1. Ensure the smoke detector has cleared/fire alarm has been reset first.
2. To reset the O Range system to standby mode, press the "Close-Reset" button **AND** the "Open" button on any O Range Firefighter Switch simultaneously for more than ten seconds.

System Calibration & Optimisation

- **Actuator Stroke Limits:** If the system has adjustable stroke limits, set these in the on the motor to ensure the vent opens to the correct angle/distance without over-extending or straining the mechanism.

Documentation & Handover

Record Keeping:

- Complete a commissioning report using the “O Range – Record of Testing” form provided in the End User Guide.
- Detail all tests performed, readings taken, and successful outcomes. Note any deviations or issues and their resolution.
- Record the date, time, and name of the commissioning engineer.
- If any faults or issues are found, record them separately on the “O Range – Record of Issues” document.

User Training:

- Provide clear instructions to the building owner/occupants on the basic operation, weekly/monthly testing, and maintenance requirements of the system.
- Explain the function of the firefighter switches and automatic operation.
- “Authorised users must be trained in the operation of the smoke ventilation system to a competent level.”

Manuals & Diagrams:

- Hand over all relevant manufacturer’s manuals (End User Guide, Installation Guide), wiring diagrams, and the completed commissioning report to the client.

Labelling:

- Ensure all components, especially the firefighter switches and control panel, are clearly and permanently labelled.



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