Smoke Control System Interface

EV-HMI7B-SS

HMI Basic User Manual

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1. Notices

This manual contains notices you have to observe to ensure occupant and personal safety, as well as to prevent damage to equipment and property.
Important notices relating to safety and the prevention of hazards are highlighted throughout the documentation by a caution safety symbol with a heading identifying the degree of risk. Read notices and instructions carefully, failure to take proper precautions may result in death or severe personal injury and equipment or property damage.

DANGER:
A notice with instructions or information to reduce the potential risk of death or severe personal injury and reduce potential risks in a life safety scenario.

CAUTION:
A notice with instructions or information to reduce the potential risk of irreversible equipment and/or property damage.

IMPORTANT NOTICE:
A notice with instructions or information to address issues not relating to damage or injury.

The product/system described in this documentation may be operated by competent personnel in the operation of smoke extract systems in accordance with the relevant documentation and guidance.
The installation and maintenance for these products shall only be by personnel competent in the operation and knowledge of electrical equipment, in particular its warning notices and safety instructions.
Competent personnel are those who, based on their training and experience, are qualified and capable of identifying risks and avoiding potential hazards when working with these systems.
Systems that are deemed complex and fall outside the standardized design model require the services of a suitably qualified and competent fire engineer. Commissioning of such systems will need to be undertaken by an approved or qualified person.

All life safety systems with fire engineered solutions are subject to approval with the local authority with jurisdiction.

2. User Interface

The HMI is the user interface to the smoke shaft system and provides system information and functions including:

- Alarms, faults, and events.
- System configuration and reset.
- Diagnostics and maintenance features.

The HMI should be located at the firefighter's entrance or command location to provide alarm status for firefighters and easy operation and access for maintenance activities.

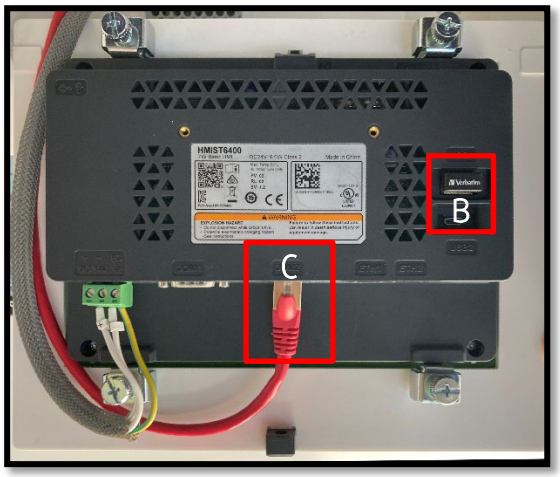
The HMI is a colour touch screen is in landscape style. The touch screen is resistive type and operating the screen can be done by finger touch or by a stylus or pointer.

A USB flash memory module is inserted at the back of the HMI for storing event logs and backup files. To access the module, remove the screw located at the bottom of the bezel then open the hinged fascia door.

DANGER:
Risk of electrocution. Observe electrical safety procedures and check power supply has been isolated or disconnected safely before removing panel covers.

HMI User interface

HMI Rear



A. Touch Display – Colour display showing graphical status and touch function buttons.
B. USB Memory Module - Stores event logs and backup files.
C. COM Port – Communication connection to interface panels.

2.1. User Input

Command buttons on the touch screen are normally displayed as an icon with a label. When prompted to enter a value, text or password a keypad will automatically pop up. If applicable, input ranges or limits are indicated a Min and Max values. Enter the desired value and touch the ENTER key to save or ESC to cancel and return to screen.

CAUTION:
Do not use hard pointed objects to operate the screen which may cause damage to the screen

2.2. Passwords

Reset functions and system configuration are password protected to prevent tampering and unauthorised access. There are 3 different password levels. A login window will automatically pop up for access or action a command that requires a higher level than the current user login.
On an unsuccessful login entry "Invalid username or password" will pop up and will be recorded in the event log.

User Levels

User	Password	Logout Time	Permissions
SMOKE	smoke	10 minutes	Access to service and system configuration settings
SCS	*******	10 minutes	Authorised engineer's access.

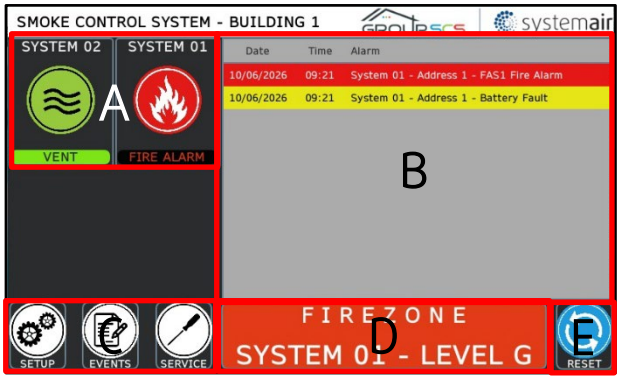
The user will automatically logout after a period of inactivity.

3. Operation

3.1. OVERVIEW Screen

The OVERVIEW screen displays an overview of the system status and alarms.

The alarm view displays active critical alarm and fault conditions with a time stamp when the event occurred. Alarms are highlighted red and fault conditions are highlighted yellow.
A history of alarms and events can be accessed via the EVENTS button (see EVENTS screen for more information).



A. System Status Indicators for each system
B. Alarm Panel showing any active alarm or fault.
C. Navigation Buttons.
D. Fire Alarm Status Indicator
E. Reset Button.

3.1.1 System Indicators

Indicators show the general status of each active system:

Each system has a button indicating the current shaft system state with an icon:

- System healthy and in standby
- Daily ventilation mode
- Fire alarm condition active
- Weather condition detected
- System fault active or configuration error
- Service Due
- In test mode

3.2. EV-HE077 Override Switches

Optional switches connected to the EV-301 interface panels provide local override control and maintenance operation of the smoke ventilator with visual and audible indication. It has a secured hinged door with a common key lock to prevent tampering and a frangible break-glass element for emergency use.

Red Button:
OPEN (BOOST) - Override open command and firefighting boost button.
Black Button:
CLOSE (RESET) - Override close command and reset button.

Override Switch Indication:

Colour	Status	Description
Red	Alarm	Emergency alarm condition active
Green	Healthy	Interface panel power supply healthy
Yellow	Fault	Fault condition present

A buzzer pulses when the system is in alarm, or a fault condition is present.

3.2.1. Manual activation

Whilst the system is in standby or normal mode, emergency smoke clearance can be initiated by pressing the red **OPEN** button.

3.2.2. Override Close

When in alarm press the black **CLOSE** button momentary between 1 to 3 seconds for an override close command.

3.2.3. Override Open

When in alarm press the **OPEN** button momentary between 1 to 3 seconds for an override open command.
All other zone shaft vents need to be closed before an override open command is accepted.

3.2.4. Reset

Press and hold the **CLOSE** button for more than 5 seconds to perform a system reset.

3.2.5. Silence Fault

The switch buzzer sounds on a fault and can be silenced if no emergency condition is present.
To mute the buzzer momentary press the override switch CLOSE/RESET for less than a 1 second.

4. Servicing & Maintenance

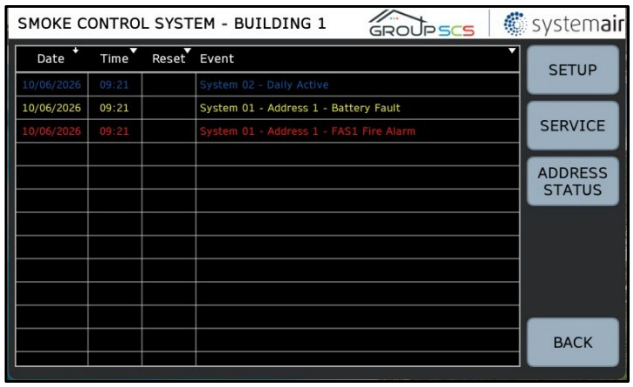
4.1. EVENTS Screen

The EVENTS screen provides a history of events and alarms are logged with coloured text to identify its class.

RED	Emergency alarm event
YELLOW	Fault condition
BLUE	Daily ventilation event
WHITE	System event or error message

The last entry is always at the top of the view by default. Use the scroll buttons located at the bottom of the window to scroll through the entries.

The date & time is when the event occurred, the reset time is when the event was reset or returned to a healthy state. The time is displayed in a 24-hour format.



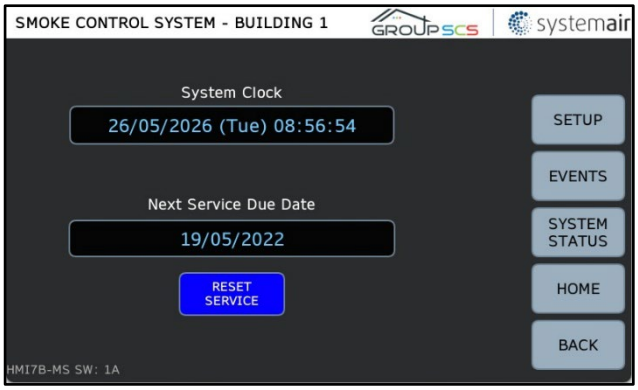
The events can be filtered or sorted by touching the column header. A pop-up window will provide filtering options for the selected column.

IMPORTANT NOTICE:

Event date & time are referenced to the system time set. Please check the system time is correct for accurate logging.

4.2. SERVICE Screen

The SERVICE screen provides access to diagnostic features. Settings are password protected and requires login.



4.2.1 System Clock

The current system time and date is displayed and can be adjusted by touching the system clock field (See Clock Adjustments for further details). A keypad will automatically pop up to edit the date and time.

4.2.2 Service Reminder

A service reminder timer can be reset on completion of a service or routine maintenance inspection. The timer is automatically set for 12 months from the current system date, or a date can be set manually by touching the Next Service Due Date field. When the date at midnight expires the system will indicate a SERVICE DUE warning condition.

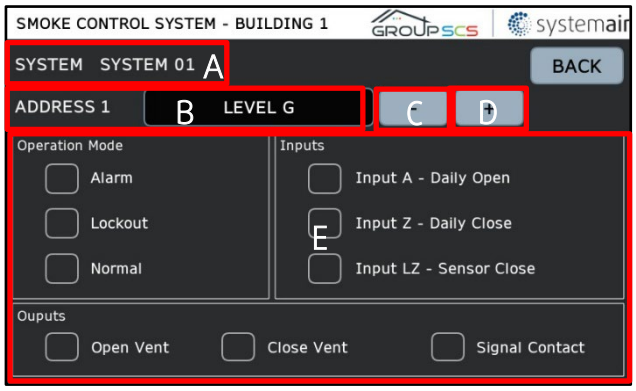
IMPORTANT NOTICE:
Ensure the system time is set correctly before completing a service.
It is important for the date and time to be correct for logs and servicing activities.

4.3. Diagnostics

The HMI has diagnostics features providing status information of each interface panel and event logs to assist maintenance and fault finding. Refer to the M-SHEV instruction manual for further information.

4.3.1 SYSTEM STATUS Screen

Diagnostics for all active EV systems can be viewed using the SYSTEM STATUS screen which is accessed via the SERVICE screen. Only enabled EV addresses and active EV systems will be navigable. Select the EV system you wish to view the status of. To cycle through the enabled EV addresses on each available system by pressing the (+) button to increase the selected address or (-) button to decrease the selected address number.



A. Assigned System – Identifies the system which the address is assigned to.
B. Address Number and label.
C. Previous address selection button.
D. Next address selection button.
E. Selected address data.

5. System Setup

Refer to each relevant section for configuration of the HMI system.

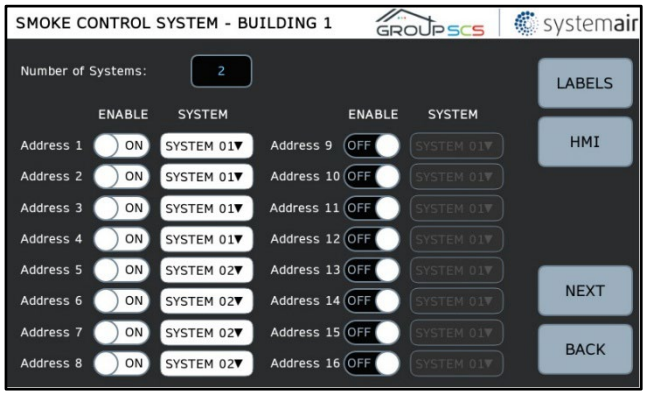
Step	Navigation actions	Setup procedure
1	SETUP	Select the panel addresses connected and assign to a system.
2	LABELS	Edit the address location labels and building name.
3	SERVICE	Set system clock.
4	RESET SERVICE	Reset service due alarm.

5.1. SETUP screen

5.1.1. EV System and Address Assignment

The HMI supports up to 2 EV systems (default is 1 EV system). Each EV address is internally predefined, zones or functions. The total number of addresses which can be configured is up to 31 addresses for both EV systems. Each interface panel has a pre-configured address for the zone or function. Interface panel addresses 1 to 27 determine the fire zones. Address 60 to 61 is allocated to the head of stairs ventilator and address 62 to 63 is allocated to the head of shaft ventilator. Refer to the interface panel instruction manual for further information.

Enter the number of EV systems configured (default is 1, but a minimum of 1 and a maximum of 2).
Select YES to each address that is installed and connected to the HMI.
Assign the address to an active EV system.

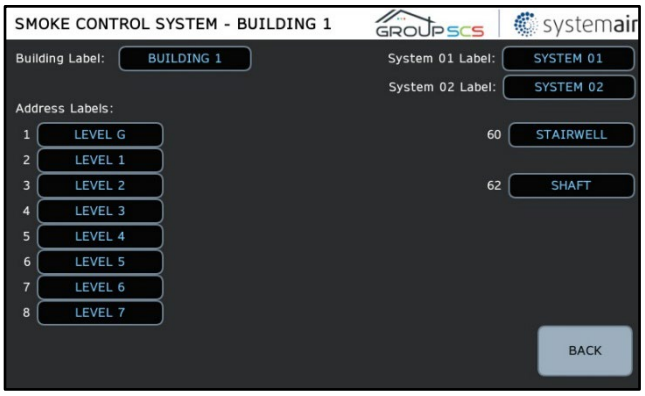


IMPORTANT NOTICE:
The SYSTEM selection dropdown list will only allow the user to assign addresses to active systems.

IMPORTANT NOTICE:
When the number is systems is changed from 2 to 1, all enabled addresses will automatically be assigned to system 1.

5.2. LABELS Screen

The label for each configured EV system can be changed to identify the correct fire zone, building and system name.
Each label can have up to 12 characters.



6. Troubleshooting

The alarm and event logs provide descriptions of the system faults. All critical faults are displayed on the OVERVIEW screen alarm list where the fault and alarm indicators will blink.

Override Switch Mute:
The override switch buzzer sounds on a fault and can be muted if no emergency condition is present. To mute the buzzer momentary press the override switch CLOSE/RESET.

6.1 Faults

EV interface panel faults are repeated on the HMI with the location identified by the panel address. Faults are also indicated at the local interface panel and override switch.

Active Alarms
Address (n) - Communication Error
Address (n) - Alarm Line Lockout
Address (n) - Override Alarm
Address (n) - FAS 1 Fire Alarm
Address (n) - FAS 2 Fire Alarm
Address (n) - Mains Failure
Address (n) - Battery Fault
Address (n) - Motor 1 Cable Fault
Address (n) - Motor 2 Cable Fault
Address (n) - Motor Fuse Fault

Fault	*Possible Cause & Actions*
Communication Error	Interface panel address failed to respond or disconnected. Check address configuration is correct. Check data cabling and interface panel connections. Check interface panel is healthy.
Alarm Line Lockout	Interface panel in lockout due to alarm line fault or disconnection. Check interface panel configuration. Check alarm line cabling between interface panels.
Override Alarm	Override switch input is in a fault or alarm condition. Check override switch input end of line resistors are fitted correctly and not disconnected. Check override switch input cabling for disconnection or short circuit damage.
FAS Fire Alarm	Fire alarm or smoke detector FAS inputs are in a fault or alarm condition. Check smoke detectors or fire alarm interfaces are reset. Check FAS1 and FAS2 input end of line resistors are fitted correctly and not disconnected. Check FAS1 and FAS2 input cabling for disconnection or short circuit damage.

Mains failure	Interface panel supply failure detected. Check panel power supply is healthy. Check panel mains fuse and motor 1 / 2 fuse.
Battery Fault	Interface panel back-up battery fault. Check the batteries are connected. Check the BAT jumper setting is correct. Check battery health and replace if necessary.
Motor Cable Fault	Motors output cable end of line monitoring diode disconnected. Check Motor 1 & Motor 2 outputs end of line diodes are fitted correctly. Check Motor 1 & Motor 2 outputs cabling for disconnection or damage. Check failure of smoke vent or door opener motor.
Motor Fuse Fault	Motor output supply fault. Check panel power supply is healthy. Check panel mains fuse and motor 1 / 2 fuse.

6.2 EV-301 Interface Panel

Three onboard coloured LED's indicate the status of the panel.

LED (*Colour*)	Condition
OK (Green)	Power supply and batteries healthy A flashing LED indicates the panel is in a test mode.
ALARM (Red)	Alarm condition active. A solid LED indicates a smoke vent open command. A flashing LED indicates a smoke vent closed command.
FAULT (Amber)	Fault condition or programming mode active. The LED will flash in Morse code to identify the fault condition described below*

* The fault LED consist of a series of short (•) and long (—) flashes with a long pause before the sequence is repeated.

- • — — • Primary supply mains failure
- — — — Motor output in overload
- • • Service due timer expired
- • — Power supply or battery failure
- • • — • Motor fuse fault
- • — — — — Line fault on motor 1
- • • — — — Line fault on motor 2
- — • • — Override switch input B1 in alarm
- — • — — FAS1 input B2 in alarm
- — — • • FAS2 input B3 in alarm
- — — • Gap open ventilation timer programming mode
- — • — • Automatic close ventilation timer programming mode
- • — — Master communication failure
- — • Configuration or addressing error