FireSmart™

DiSYS™ TECHNOLOGIES



FireSmart™
MC - 1 Installation Manual, User Manual & Data sheet

Addressable Fire/Smoke Damper control and indicator panel for up to 125 dampers.

The MC- 1 control panel is housed in an attractive, modern designed, flame retardent ABS enclosure, utilising a switch mode power supply. It has a fully removable front cover which improves ease of access for cable installations.

Physical

Dimensions (max):	370 x 311 x 113 mm W x H x D
Weight (typical):	5Kg excluding options
Material:	ABS
Climatic:	0 to 50 C ambient
Colour:	Light Grey

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Electrical

Panel supply voltage:	230V ac 50Hz
Node supply voltage:	24V
Power consumption:	30W (max)
PSU approvals:	UL62368-1, TUV EN62368-1, EN60335-1 & EN61558-1/-2-16
Battery backup (optional):	2 hrs
Panel fusing:	Internal 1A a/s 20mm
Node fusing:	6A a/s 20mm for 24v output
Digital inputs:	5V 10mA to volt free contacts 8 off fitted as standand.
Digital outputs:	Opto-isolated 24V 100mA rated 2 fitted as standard (1 required for common fault)

System

Display:	1024 x 600 LCD Touchscreen
Nodes (all types) per panel:	125 max
Dampers per panel:	125 max
No. of loops:	2
No. of zones:	8
Reaction time:	<1s (alarm change of state to node output change)
Overrides (optional):	Active only when a current fire alarm. Full Vent – re-opens all closed dampers. Extract only – opens extract dampers only for cold smoke clearance.
Menu functions:	Always active Test – closes all dampers. Faults – lists all dampers which are not in their correct state with a reason (and damper reference/location -32 characters max- if required.)
Enable key:	All front panel button functions disabled until enabled by Pin code



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Introduction

THE FIRESMART MC - 1 DAMPER CONTROL PANEL IS CLASS 1 EQUIPMENT AND MUST BE EARTHED. This equipment must be installed and maintained by a qualified and technically experienced person.

Handling the PCBs

If the PCBs are to be removed to ease fitting the enclosure and cables, care must be taken to avoid damage by static. The industry recommended method is to wear an earth strap, but touching any earth point (e.g. building plumbing) will help to discharge any static. Hold PCBs by their sides, avoiding contact with any components. Always handle PCBs by their sides and avoid touching the legs of any components. Keep the PCBs away from damp dirty areas, e.g. in a small cardboard box.

Use of manual

This manual explains, in a step-by-step manner, the procedure for the installation of the FireSmart MC-1 damper control panel. It also contains a system set-up table, and Installation Certificate, that must be completed by the commissioning Engineer prior to system handover.

Designing the system

This manual is not designed to replace damper system design. It is assumed that the installer has an understanding of damper control systems and their use. We strongly recommend consultation with a suitably qualified, competent person regarding the design of the damper system. The System must be commissioned and serviced in accordance with our instructions and the relevant standards. If in doubt, read BS 9999: 2017" available from the BSI.

Warranty

If this equipment is not fitted and commissioned according to our guidelines, and the relevant National Standards, by an approved and competent person or organisation, the warranty may become void.

Installation recommendations

All wiring must be installed to meet British standards (BSEN). Other National standards of fire alarm system installation should be adhered to where applicable.

Screened cables should be used throughout the installation to help shield the panel from outside interference and ensure EMC compatibility. The two categories of cable according to BS5839: Pt1: 2013, Clause 26 "Fire Detection and Alarm Systems for Buildings (Code of Practice for System Design, Installation and Servicing)" are:

Standard fire resisting cable – to PH30 classification of EN 50200
Enhanced fire resisting cable – to PH120 classification of EN 50200

(Note that all cables should be at least 1mm2 cross section FP200 or an equivalent. These cables are screened, and will provide good ECM shielding when properly grounded at the panel. Certain system specifications may demand the use of a particular type of cable and due regard should be paid to this fact. Depending on the environment, the cables may need mechanical protection (such as a conduit).



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Panel installation

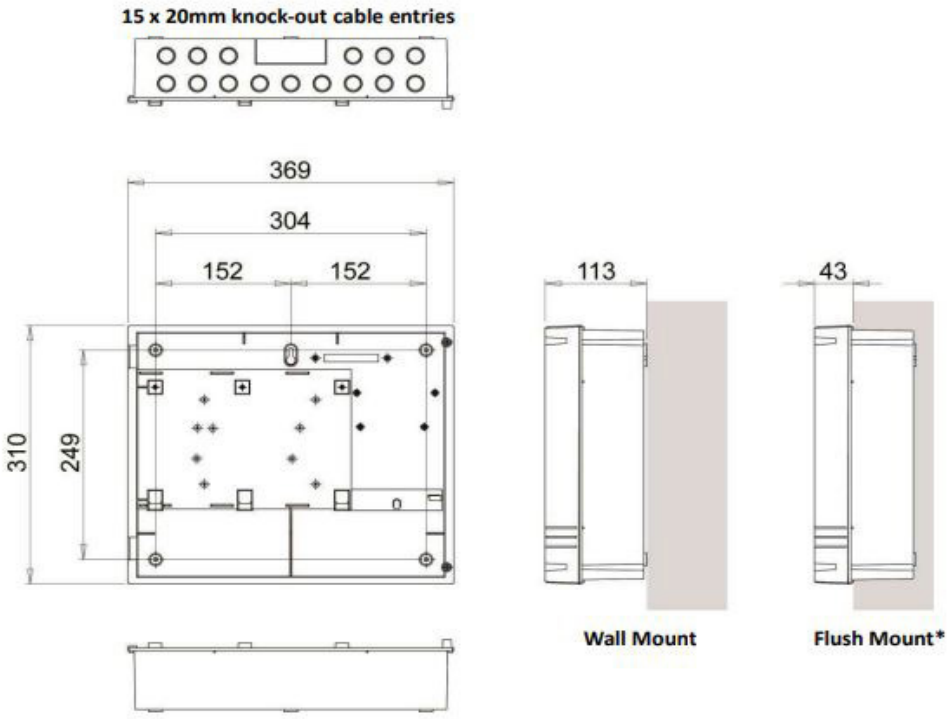
It is recommended that the panel's door be removed to avoid accidental damage. Also, the termination PCB could be removed and stored in a safe place, while fixing the back box to the wall.

Planning cable entry

Fig.2 below shows the location of the cable entries to facilitate planning of wiring (home runs) to be brought to the panel. The grommets can be easily removed by a push from inside the control panel box. If a grommet is removed, fill the hole with a brass or plastic cable gland. If any knockout is removed, but subsequently not used, it should be covered up. The 230Va.c. Mains cable must be fed into the enclosure via one of the cable entries at the top right corner of the back box.

Fixing the back box to the wall

Figure 2: Plan view inside the enclosure without PCBs. Side view for surface / flush installation.





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British Standard

BS 9999:2017

Commissioning and hand-over of smoke control systems

General

The procedures recommended in this annex should be carried out in addition to the general procedures for commissioning andhandover recommended in Clause 4039.

Smoke ventilation systems

General

The volume flow of inlets for mechanical systems, and quantities, size and location of inlets for natural systems, should be checked and should meet the design criteria. If security doors are opened to provide inlets, or if security is maintained by means of an open mesh shutter, the inlet area could be reduced. In such circumstances, an assessment of the free area should be made and a correction factor applied in respect of any such door.

Powered smoke and heat exhaust systems

The volume extract rate should be measured at ambient conditions. The measurements should be carried out to ensure that the extract rate at each location is in line with the required extract rate for the design fire.

NOTE The volume extract (or supply) airflow readings should be taken either by using a vane anemometer at each extract grille, then total the readings, or by taking a Pitot traverse in an appropriate straight section of ductwork (approximately 4 m from any obstruction or outlet, etc.) for each fan, then total the results.

NOTE Further information can be found in CIBSE Commissioning Code A [8094]. If standby generators are installed to provide emergency electrical power, these should be checked for correct operation. If standby gener-ators are common to other emergency systems, these other systems should be powered by the generators to ensure that a reliable power supply is provided that can handle the full emergency load.

Natural smoke ventilation systems

The areas of the ventilators should be measured, and along with test certificates for ventilator aerodynamic coefficients, these should be compared with the figures required by the approved design.

NOTE This can be done by measuring a sample of each ventilator size and calculating the measured area by totalling the numbers of vents.

Smoke control systems employing pressure differentials

The commissioning and hand-over procedures for smoke control systems employing pressure differentials should be in accordance with BS EN 12101-6:2005.



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Panel indications and controls



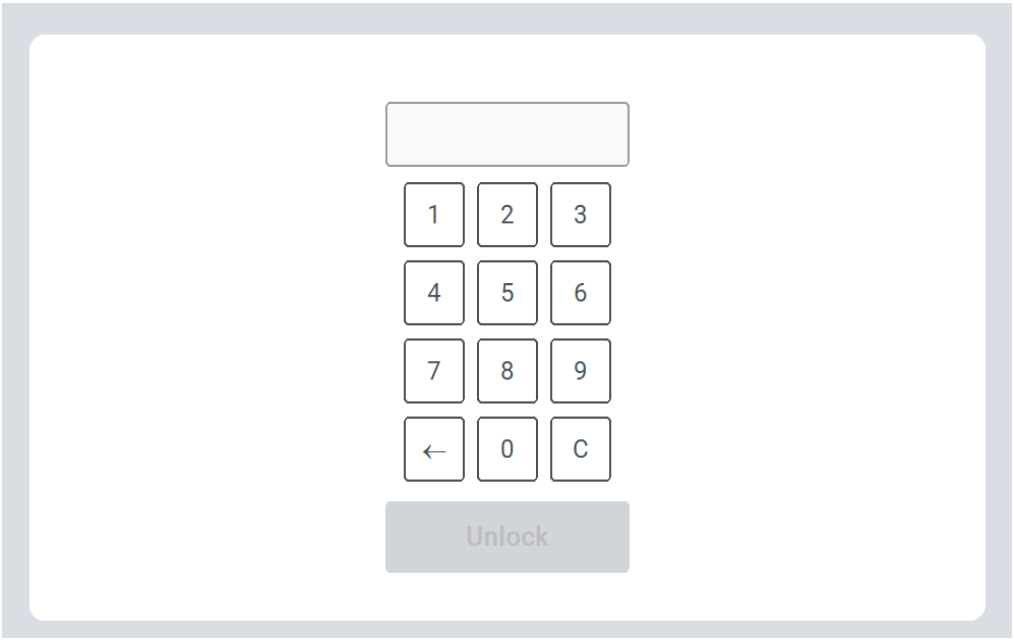
The above image represents the start up screen which displays the DiSYS and FireSmart branding via a fade in animation.

Please click the screen to enter the menu screen



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Panel indications and controls



The above screen displays a numeric keypad for PIN input to unlock the system.

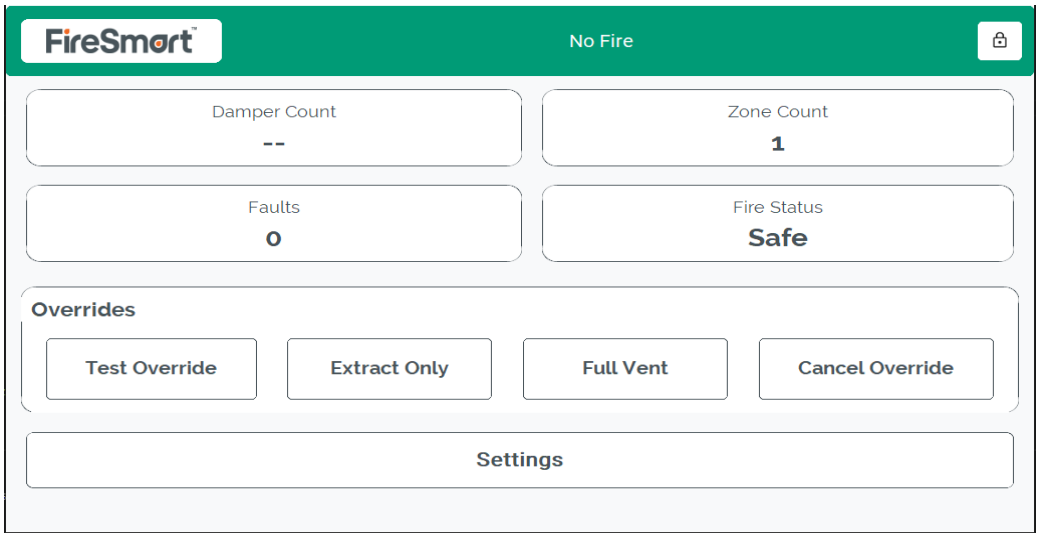
Admin PIN is 1234 (this can be changed by the user within the settings option)

Please enter 1234 to access the homepage



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The above home screen displays marquee displays fire status with corresponding colours.

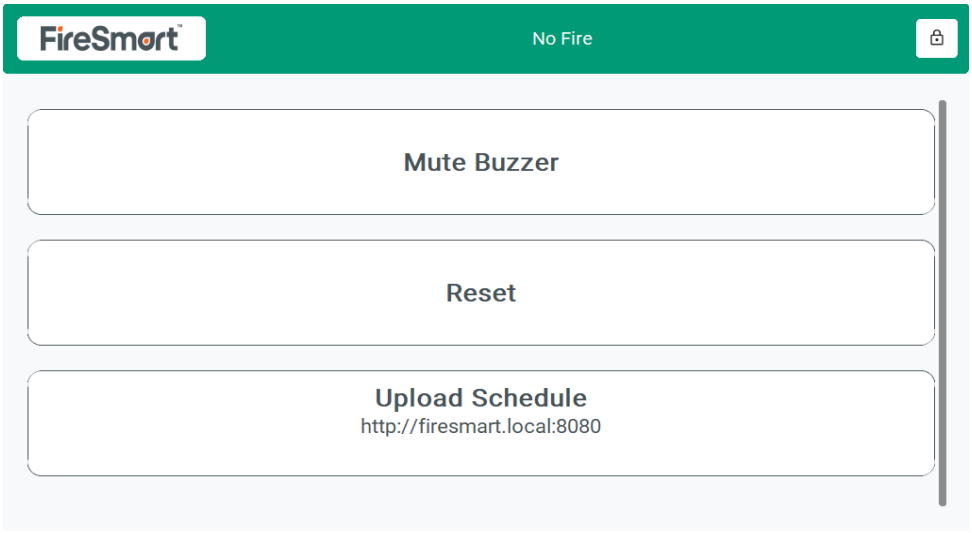
Features:

- Lock button on the right will lock the system
- FireSmart logo takes user back to the home screen, this marquee is a system-wide feature with exception to the lock screen and PIN entry screen
- Chart shows a quick display of system status
  - Green for open
  - Red for closed
  - Amber for fault
  - "Damper count" shows the number of statuses received by system
  - "Zone count" shows how many zones the system has
  - "Faults" displays the number of system faults
  - "Fire Status" shows whether the system is in fire on not
- Service due date is displayed on the right of the screen



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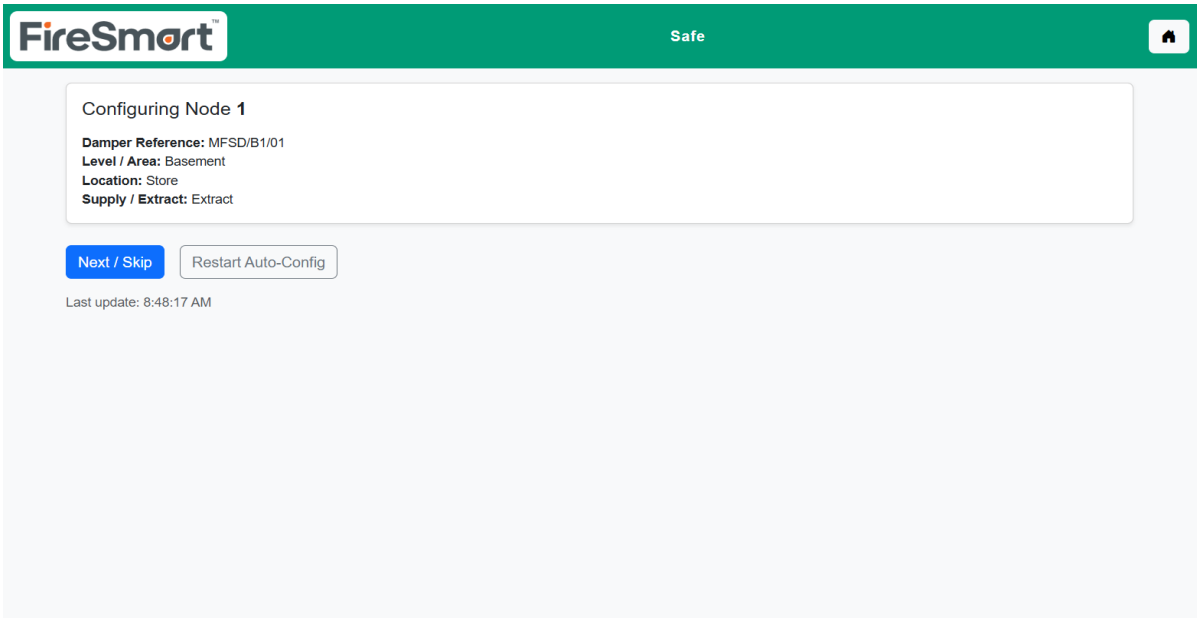
The above displays the settings section.

- Node configuration takes the user to the node configuration menu Zero nodes will set all nodes to their default configuration with zero address
- Mute buzzer will mute the buzzer
- Reset button resets the loop processor
- Change Passcode section allows the user to save a new PIN



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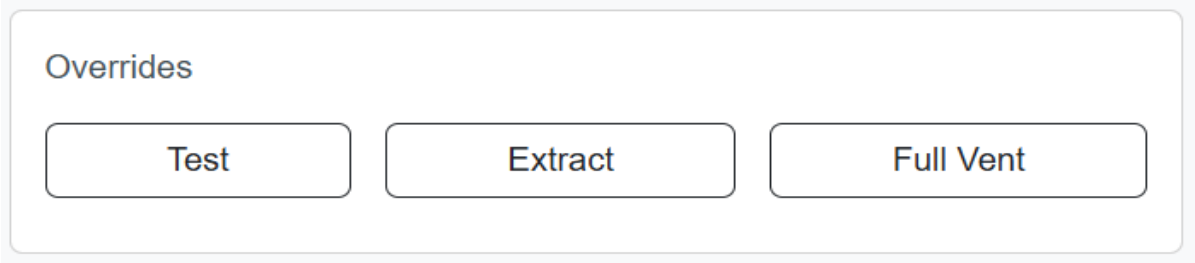
The above display is the Node configuration display.

- Display shows the next address to be sent along with the damper specific information
- Next/Skip button will skip to the next address, to be used in cases where the current node can't be configured
- Finish config. button will exit configuration mode



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Panel indications and controls



The following buttons are included for overrides:

- Test button sends an open override in a fire and close override when in no fire
- Extract button will override extract dampers only when in a fire
- Full Vent will open all dampers in a fire
- Cancel button will clear any active overrides
- Settings button takes the user to the settings menu
- Lock button in marquee takes the user back to the lock screen