

Halton Safe Management 2.0 (SM2) - Installation, commissioning, operating, and maintenance guide

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1 Introduction

1.1 Copyright and disclaimers

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1.2 About this document

This document provides the instructions on how to install, commission, operate, and maintain the product. This document is intended for properly trained persons performing these tasks.

Note: Project-specific variations are possible.



1.3 Summary of changes

Version	Date	Description
1.0	June 2021	First version



1.4 Safety notes



All information in this section is important and relevant for your safety. Pay special attention to these icons and the related safety texts when used later in context in this document.

Warnings


	 WARNING
	<p>ELECTRIC SHOCK HAZARD Before carrying out any electrical work, turn off the power to avoid injury from electrical current.</p>


Cautions

	 CAUTION
	<p>FALLING HAZARD Pay special attention and use proper equipment when working at height.</p>

	 CAUTION
	<p>PERSONAL INJURY HAZARD Follow all local health and safety regulations and use proper personal protective equipment.</p>

Notices

	NOTICE
	<p>NOTICE All installation, commissioning, and maintenance work must only be carried out by qualified personnel.</p>

	NOTICE
	<p>NOTICE All electrical work must only be carried out by qualified personnel.</p>

1.5 Terminology

Term	Description
Halton Safe Management 2.0 system	Fire and smoke safety system
Halton Safe Management 2.0 controller	The main controller of the Halton Safe Management 2.0 system
Halton Safe HSL	A link unit to which the fire dampers and smoke detectors are connected
Halton Safe HSP	A power unit that provides power to Halton Safe HSL link units
Halton Safe HSR	An optical sensor that detects smoke in rooms
Halton Safe HSD	An optical sensor that detects smoke in ventilation ducts

1.6 Contact information

For contact information, see www.halton.com.

2 Product description

2.1 Overview



Figure 1. Halton Safe Management 2.0 controller

Halton Safe Management 2.0 is a fire and smoke safety system that consists of a Halton Safe Management 2.0 controller combined with several Halton Safe HSL link units that manage Halton fire dampers and smoke detectors. When a fire breaks out, the system controls the shut-off operation of fire dampers based on alarm indications from thermal fuses, smoke detection, or external alarm inputs.

The Halton Safe Management 2.0 controller enables automatic, manual, or external testing of fire damper operation, including test reporting. The controller can be set to shut off the fans during testing and in a fire situation.

The Halton Safe Management 2.0 controller has outputs for remote fire and service alarm indications. It also has local alarm indication for fire and service alarms. The controller can be connected to the Building Management System (BMS) via BACnet/IP.

Applications

- Controlling fire dampers and smoke detectors in buildings.

Key features

- Can control 200 fire dampers and 200 smoke detectors
- Enables automatic, manual, or external testing of fire damper operation

- Easy to connect with other systems
- 10.1" graphical touch screen
- BACnet/IP communication to Building Management System (BMS)

2.2 Operating principle

The Halton Safe Management 2.0 system can be modularly extended with up to 50 pieces of Halton Safe HSL link units to which the fire dampers and smoke detectors are connected. 1–4 fire dampers and 1–4 smoke detectors can be connected to each Halton Safe HSL link unit. The link unit's internal control logic is used in managing the fire dampers and smoke detectors. An internal communication bus is used between the Halton Safe Management 2.0 controller and Halton Safe HSL link units. Halton Safe HSP power units provide power to Halton Safe HSL link units.

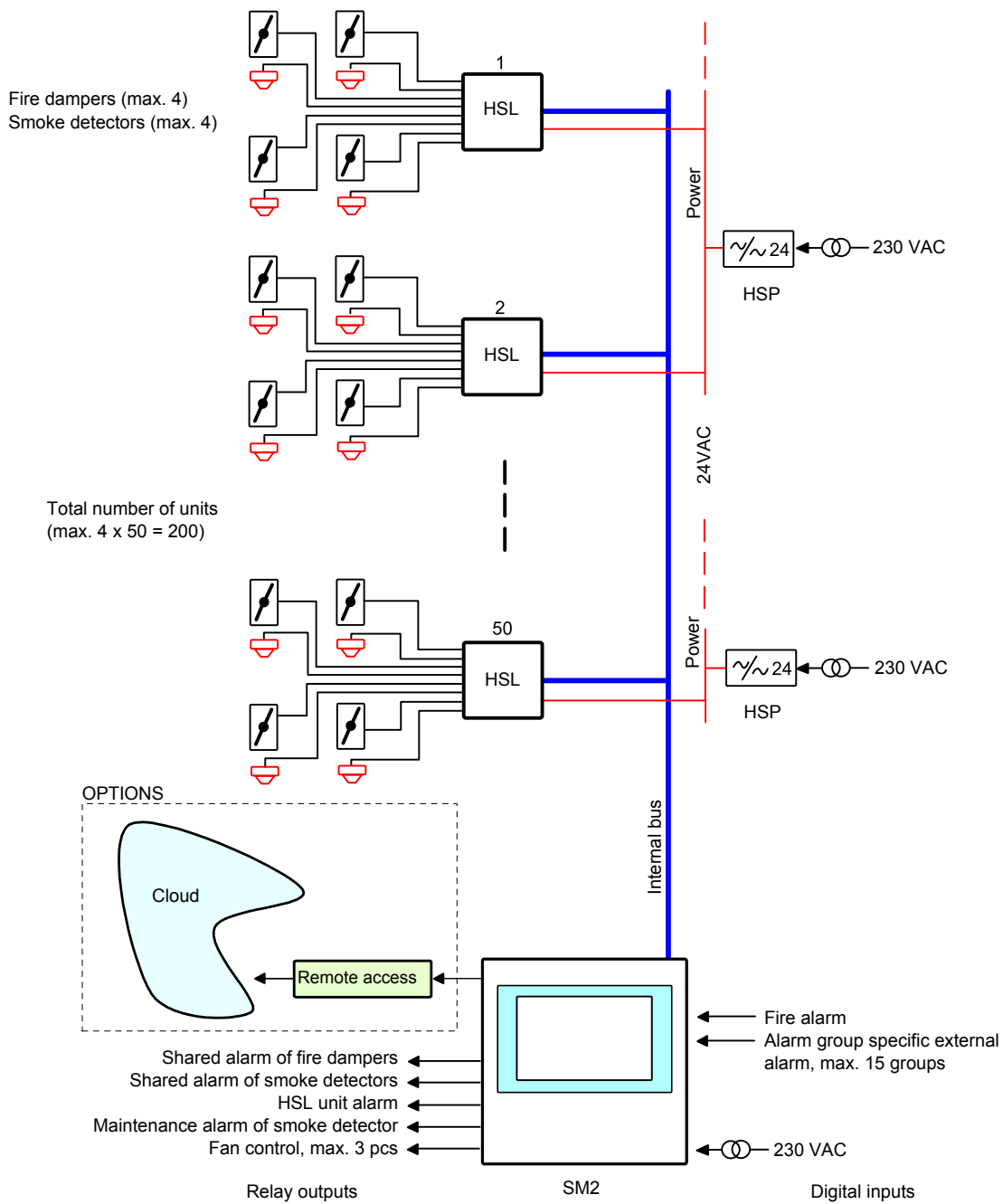


Figure 2. Overview of the Halton Safe Management 2.0 system

2.3 Structure and components

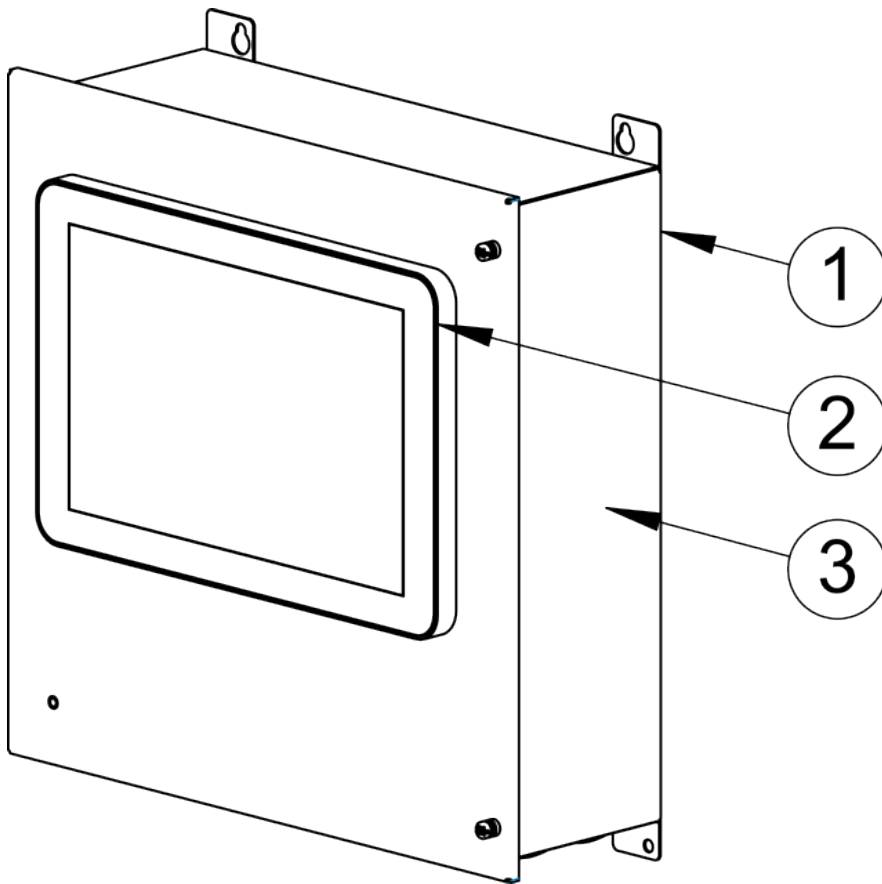


Figure 3. Structure of Halton Safe Management 2.0 controller

No.	Part	Details
1	Controller case	Painted metal, grey
2	User interface	Touch screen
3	Label	Product info

2.4 Dimensions and weight

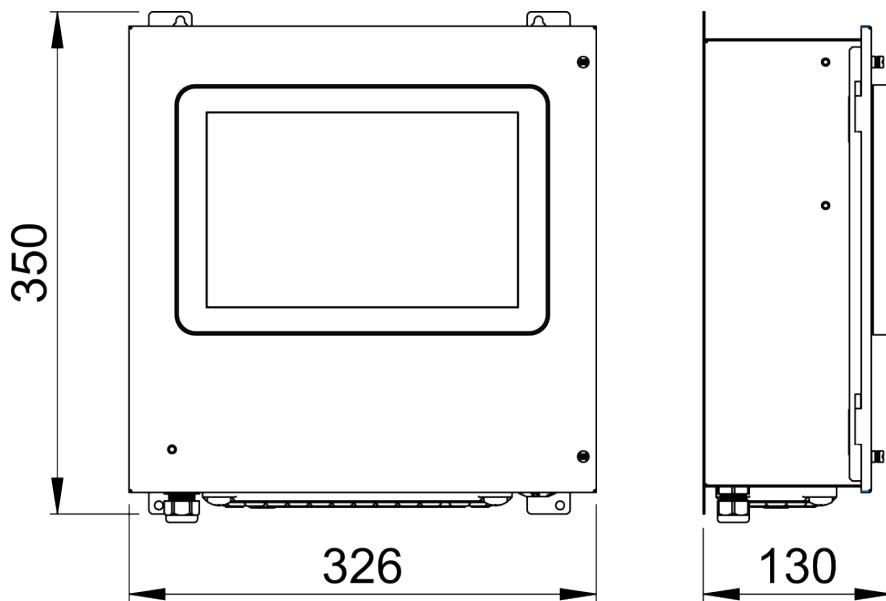


Figure 4. Dimensions of Halton Safe Management 2.0 controller

Weight: 4.1 kg

2.5 Further technical details

For technical details on the product and its components, see Technical reference data.

3 Transport, storage and handling

3.1 Pre-packing and packing

Prior to packing, Halton inspects all products fully for any damages or physical faults. Halton inspects all nameplates and identification tags against the purchase order and the Halton order confirmation to eliminate the possibility of any mistakes or issues. If necessary, corrections are made.

Once the pre-packing procedure is complete, each product is sorted and packed according to weight and size. Depending on the shipping requirements, the products are packed onto open pallets or pallets protected by wooden covers. The products are secured to the pallets with plastic wrapping and straps. Some smaller products are packed in cardboard boxes.

3.2 Shipping and handling

Prior to loading the shipment, all packing and shipping documentation is checked.

One copy of the packing list is attached to each pallet, crate, or cardboard box in a waterproof plastic envelope. Any additional copies of packing lists, customs invoices, shipping marks, and other documents are added according to the client and shipping company requirements.

Use a forklift for loading or unloading the pallets.

Note: Some of the components can be delivered to the site in separate shipments.


3.3 Checking the received equipment


1. Inspect the pallet or cardboard box and the products for any damage or missing parts. If you detect any damage, or the shipment is incomplete, immediately file a claim with the shipping company.
2. Confirm that the products that you received are the ones that you ordered. If the products are not the ones you ordered, see [Fault reporting and reclamations](#) for instructions.

3.4 Unpacking

1. Remove the straps and the plastic wrapping or other package covers from the pallets. Open the cardboard boxes. Avoid damaging the products when you unpack them.

3.5 Storing the equipment

	NOTICE
	NOTICE Do not expose the products to weather or store them outside.

	NOTICE
	NOTICE Do not use any part of the products for climbing or support.

Protecting against moisture

The pallets onto which the products are stored enable air circulation inside the plastic wrappings. It is a strict requirement that the products be stored in a dry indoor environment. Products must be protected against moisture in any junction box or other closed enclosures. A dry indoor environment should not create moisture in junction boxes, however, if necessary, additional moisture protection such as Silica Gel can be installed to the junction boxes by the BUYER.

1. Store the products in a dry indoor area. Provide adequate mechanical protection at all times during storage and during installation and construction activities.
2. Periodically check the products for any damage and repair or replace any component, wiring or piping that shows signs of damage.

4 Installation

4.1 Before you start

4.1.1 Safety during installation

	<p style="text-align: center;">⚠ WARNING</p> <p>ELECTRIC SHOCK HAZARD Before carrying out any electrical work, turn off the power to avoid injury from electrical current.</p>
	<p style="text-align: center;">⚠ CAUTION</p> <p>FALLING HAZARD Pay special attention and use proper equipment when working at height.</p>
	<p style="text-align: center;">⚠ CAUTION</p> <p>PERSONAL INJURY HAZARD Follow all local health and safety regulations and use proper personal protective equipment.</p>
	<p style="text-align: center;">NOTICE</p> <p>NOTICE All installation, commissioning, and maintenance work must only be carried out by qualified personnel.</p>
	<p style="text-align: center;">NOTICE</p> <p>NOTICE All electrical work must only be carried out by qualified personnel.</p>

4.1.2 Installation process

The main steps in the installation process are the following:

- Determining the installation places from the design drawings.
- Installing the components applicable for the project.
- Connecting the wiring.
- Connecting the system to power.

Note: Before connecting the system to power, you need to set the addresses of the Halton Safe HSL link units. For instructions, see [Setting the address of a Halton Safe HSL link unit](#).

4.1.3 Installation requirements

General

The operating voltage of the Halton Safe Management 2.0 controller is 230 V AC.

Note: It is recommended that an uninterruptible power supply (UPS) is used with the Halton Safe Management 2.0 controller.

Space requirements

Install the Halton Safe Management 2.0 controller in a place that is easily reachable.

The controller is usually installed to the wall. Reserve enough space around the controller for service.

Wiring

Note: The wiring must only be carried out by qualified personnel following the local regulations.

Cabling requirements

- The Halton Safe Management 2.0 controller includes a 230 V power plug. The plug type is Schuko CEE7/4, type F.
- Communication cable from the Halton Safe Management 2.0 controller to Halton Safe HSL units: shielded twisted-pair cables, size 0.5 mm². For example, 2 x 2 x 0.5+0.5. The maximum length is 1000 m. Depending on external circumstances, the maximum length can be shorter.
- Instrumentation cable from Halton Safe HSL units to smoke detectors and fire damper actuators: shielded twisted-pair cables, size 0.5 mm². For example, 4 x 2 x 0.5+0.5.
- Power supply cable from a Halton Safe HSP unit to Halton Safe HSL units: size 3 x 2.5 mm².

Note: When designing cabling, take into account the voltage drop of cables.

4.1.4 Checks before installation

Depending on the component you are installing, make sure you have all the needed materials:

- Correct type of cabling. For more information, see [Installation requirements](#).
- Instructions (this document, project-specific wiring diagrams, design drawings)

Note: Cabling is not included in the delivery.

4.2 Step by step instructions

4.2.1 Installing the Halton Safe Management 2.0 controller

1. From the design drawings, determine the installation place.
2. Install the unit securely.

4.2.2 Installing a Halton Safe HSL link unit

1. From the design drawings, determine the installation place.
2. Install the unit securely.

4.2.3 Installing a Halton Safe HSP power unit

1. From the design drawings, determine the installation place.
2. Install the unit securely.

4.2.4 Installing a Halton Safe HSR unit

1. From the design drawings, determine the installation place.
2. For detailed installation instructions, see the Calectro website.

4.2.5 Installing a Halton Safe HSD unit

1. From the design drawings, determine the installation place.
2. For detailed installation instructions, see the Calectro website.

4.2.6 Connecting a Halton Safe HSL link unit to the Halton Safe Management 2.0 controller

Connect the wiring according to the connection or wiring diagrams. You can find the connection and wiring diagrams in Technical reference data.

4.2.7 Connecting a Halton Safe HSL link unit to a Halton Safe HSP power unit

Connect the wiring according to the connection or wiring diagrams. You can find the connection and wiring diagrams in Technical reference data.

4.2.8 Connecting a Halton Safe HSR unit to a Halton Safe HSL link unit

Connect the wiring according to the connection or wiring diagrams. You can find the connection and wiring diagrams in Technical reference data.


4.2.9 Connecting a Halton Safe HSD unit to a Halton Safe HSL link unit


Connect the wiring according to the connection or wiring diagrams. You can find the connection and wiring diagrams in Technical reference data.

4.2.10 Connecting a fire damper to a Halton Safe HSL link unit

Connect the wiring according to the connection or wiring diagrams. You can find the connection and wiring diagrams in Technical reference data.

4.2.11 Connecting a Halton Safe HSP power unit to the main power supply

	 WARNING
	<p>ELECTRIC SHOCK HAZARD Before carrying out any electrical work, turn off the power to avoid injury from electrical current.</p>



	NOTICE
	<p>NOTICE All electrical work must only be carried out by qualified personnel.</p>

Note: Do not connect a device that does not have its own fuse to the 24 V AC side of a Halton Safe HSP power unit.

Connect the wires of the power supply cable to the connectors in the Halton Safe HSP unit.

4.2.12 Connecting the system to the main power supply

Note: Before connecting the system to power, you need to set the addresses of the Halton Safe HSL link units. For instructions, see [Setting the address of a Halton Safe HSL link unit](#).

	 CAUTION
	<p>As the power supply cable also serves as a power strip separator for the controller, connect the power supply cable into an easily accessible and grounded socket only.</p>

Connect the power plug of the Halton Safe Management 2.0 controller to the socket.

4.3 Checks after installation


Before commissioning can start, make sure the following has been taken care of:

- All the components are installed correctly.
- All the cabling follows the local regulations and also the cabling requirements listed in [Installation requirements](#).
- All the wiring is installed correctly.
- All the electrical installations have been inspected.

5 Commissioning

5.1 Before you start

5.1.1 Safety during commissioning

	<p style="text-align: center;">NOTICE</p> <p>NOTICE All installation, commissioning, and maintenance work must only be carried out by qualified personnel.</p>
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5.1.2 Commissioning process

The commissioning is carried out by Halton Field Service or an approved partner.

The main steps in the commissioning process are the following:

- Verifying that the Halton Safe Management 2.0 controller and the related components have been installed and connected correctly.
- Configuring the components of the system according to the design specifications.
- Setting up the schedule for automated testing.
- Testing the system.
- Filling in the commissioning documents.

5.1.3 Commissioning and maintenance information

The project-specific parameters of the controller are configured during system commissioning on site. Wiring needs to be checked before the system start-up.

The Halton Safe Management 2.0 controller addressing is pre-set at the factory. If addressing needs to be changed later or if any system parameters need to be modified, it can be done from the controller user interface.

Halton Safe HSL link unit addressing is defined during system commissioning. Each Halton Safe HSL link unit must have a unique address. The addresses are defined by using the DIP switches in the Halton Safe HSL link units.

5.1.4 Checks before commissioning

Make sure you have the following:

- System schematic drawings
- A list of the parameters that need to be configured to the Halton Safe Management 2.0 controller
- The IDs and installation locations of the Halton Safe HSL link units
- The IP address of the Halton Safe Management 2.0 controller
- The BACnet/IP address of the Halton Safe Management 2.0 controller, if BACnet/IP is used

Also make sure that RJ45 Ethernet network cables with jacks have been installed and tested.

5.2 Halton Safe HSL addresses

Halton Safe HSL link units are identified in the system by their addresses.

Each Halton Safe HSL link unit must have a unique address to enable the Halton Safe Management 2.0 controller to find them. You can set the addresses with the DIP switches that are located in the circuit boards of the Halton Safe HSL link units.

The DIP switch consists of six small switches that you can set to ON or OFF. If set to ON, the switches have the values shown in the table below. When added together, the values form a binary value that represents the address. The address must be between 11 and 60. Link unit 1 has address 11, and link unit 50 has address 60.

Switch number	1	2	3	4	5	6
Binary value	32	16	8	4	2	1

In figure [Example of a DIP switch setting](#), switches 1, 2, 3, and 5 are set to ON. When the values are added together, you get the address of the Halton Safe HSL link unit in question: $32 + 16 + 8 + 2 = 58$. This address belongs to Halton Safe HSL link unit number 48.

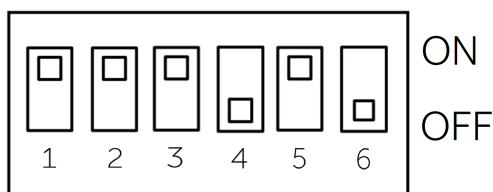


Figure 5. Example of a DIP switch setting

For instructions, see [Setting the address of a Halton Safe HSL link unit](#).

For a list of the DIP switch settings of Halton Safe HSL link units, see [DIP switch settings of Halton Safe HSL link units](#).

5.3 Step by step instructions

5.3.1 Setting the address of a Halton Safe HSL link unit

You can set the address with the DIP switch in the Halton Safe HSL link unit.

For a list of the DIP switch settings of the Halton Safe HSL link units, see [DIP switch settings of Halton Safe HSL link units](#). For more information on the DIP switches, see [Halton Safe HSL addresses](#).

1. Set the DIP switch of the link unit according to the list of the DIP switch settings.
2. Mark the address in the white corner of the label on the cover of the link unit.

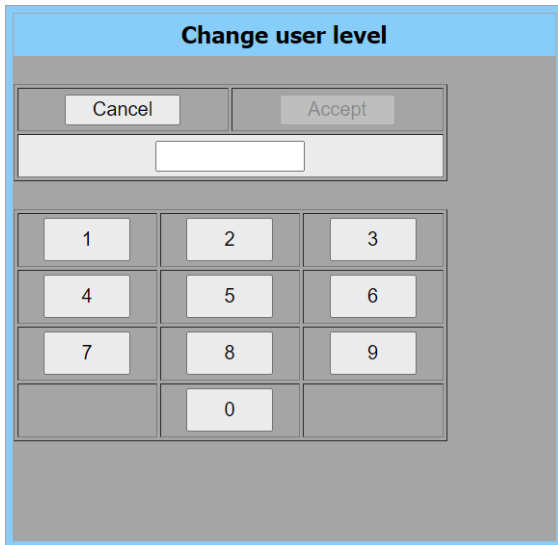
5.3.2 Changing the language of the system

1. On the homepage, select "Change language".
2. In the selection window, select the language, then select "Change".

5.3.3 Logging in as Installer

For information on the user levels, see [User levels](#).

1. On the homepage, select the lock icon at the top of the view. A keypad opens.



2. On the keypad, type in password 01473, then select "Accept".

5.3.4 Configuring a Halton Safe HSL link unit

Here you link a Halton Safe HSL link unit to the Halton Safe Management 2.0 controller.

1. Log in as Installer. For instructions, see [Logging in as Installer](#).
2. Select the link unit icon.



Note: The icon is grey if no units have been configured.

3. In the Links view, set the type of each link unit. For more detailed instructions, see [Setting the type of a unit](#).

Value	Description
-	Not linked to the controller
Link	Linked to the controller

If you get errors when doing the task, see [Troubleshooting](#).

5.3.5 Configuring a fire damper

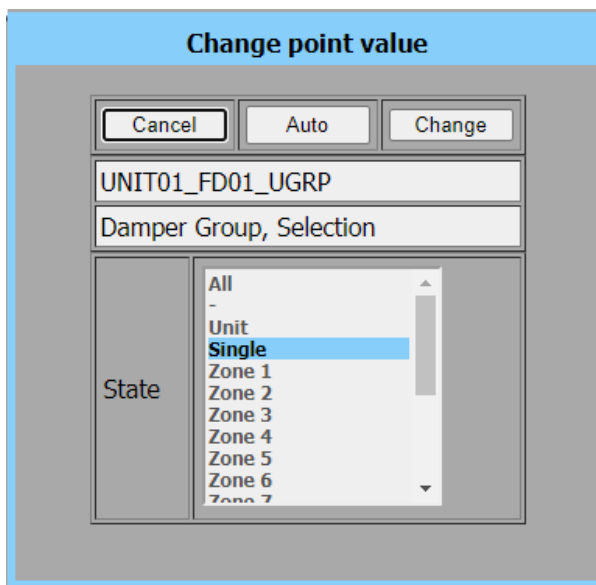
Here you connect a fire damper to an alarm group (zone). You can also change the location (name) of the fire damper to make it easier to locate it.

1. Log in as Installer. For instructions, see [Logging in as Installer](#).
2. Select the damper icon.



Note: The icon is grey if no units have been configured.

3. In the Dampers view, configure the zone information for each fire damper.
 - a. On the row of the fire damper you want to configure, select the "Zone" column.
 - b. In the selection window, select a zone, then select "Change".



Value	Description
All	The fire damper impacts all units.
-	No impact
Unit	The fire damper impacts a link unit.
Single	The fire damper impacts a single fire damper. The fire damper is not closed with an external command except in a test situation and by an external fire alarm, if set accordingly.
Zone [number]	The fire damper impacts zone [number].

- In the Dampers view, configure the location (name) of each fire damper. For instructions, see [Renaming a unit](#).

If you get errors when doing the task, see [Troubleshooting](#).

5.3.6 Configuring a smoke detector or an alarm device

Here you connect a smoke detector or an alarm device that has an NO or NC connector to an alarm group (zone). You also need to configure the location (name) and type of these devices.

- Log in as Installer. For instructions, see [Logging in as Installer](#).
- Select the smoke detector icon.



Note: The icon is grey if no units have been configured.

- In the Smoke Detectors view, configure the zone information for each smoke detector or alarm device. For instructions, see [Connecting a unit to an alarm group \(zone\)](#).
- In the Smoke Detectors view, configure the location (name) for each smoke detector or alarm device. For instructions, see [Renaming a unit](#).
- In the Smoke Detectors view, set the type of each smoke detector or alarm device. For more detailed instructions, see [Setting the type of a unit](#).

Value	Description
Smoke detector	Smoke detector
Normally open	An alarm device with a normally open (NO) connector
Normally closed	An alarm device with a normally closed (NC) connector

If you get errors when doing the task, see [Troubleshooting](#).

5.3.7 Configuring a fan

You can configure 1-3 fans for a Halton Safe Management 2.0 controller. By default, a fan is configured to stop in the following situations:

- An alarm group is being tested.
- A smoke detector sends an alarm indication.
- There are fire dampers that are not open.

If you want to change the configuration of a fan, do the following:

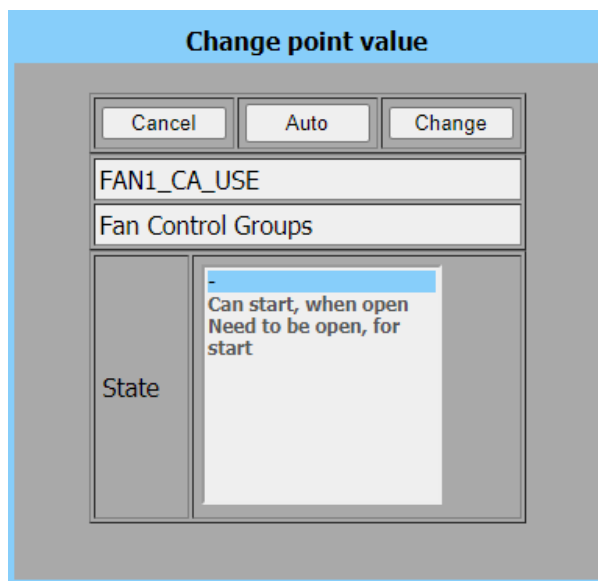
1. Log in as Installer. For instructions, see [Logging in as Installer](#).
2. Select the fan icon.



The main view of the fan opens.

Zone	Status	Dampers	Test	Smoke Detectors
All		Need to be open, for start	-	Fan stop
Single	Opened		-	
Row			-	
Unit			-	
Zone 1			Fan stop	
Zone 2			-	
Zone 3			-	
Zone 4			-	
Zone 5			-	
Zone 6			-	
Zone 7			-	
Zone 8			-	
Zone 9			-	
Zone 10			-	
Zone 11			-	
Zone 12			-	
Zone 13			-	
Zone 14			-	
Zone 15			-	

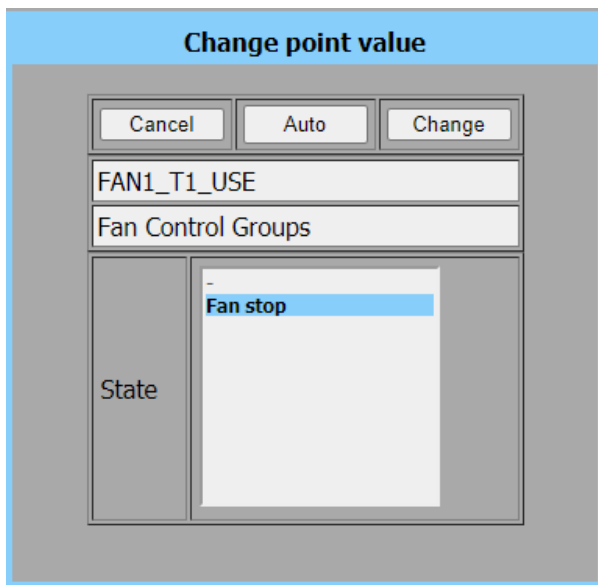
3. Remove the rule for fire damper action for alarm group (zone) "All".
 - a. On row "All", select the "Dampers" column.
 - b. In the selection window, select "-", then select "Change".



4. Specify how an alarm group (zone) impacts the fan.
 - a. On the row of the zone, select the "Dampers" column.
 - b. In the selection window, select a value, then select "Change".

Value	Description
-	No impact
Can start, when open	The fan can start running when the fire damper is open.
Need to be open, for start	The fire damper needs to be open before the fan can start running.

5. Specify how an alarm group (zone) being tested impacts the fan.
 - a. On the row of the zone, select the "Test" column.
 - b. In the selection window, select a value, then select "Change".



Value	Description
-	No impact
Fan stop	The fan is stopped

6. Specify how smoke detectors impact the fan.
 - a. On row "All", select the "Smoke Detectors" column.
 - b. In the selection window, select a value, then select "Change".

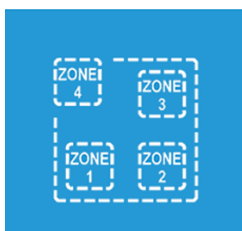
Value	Description
-	No impact
Fan stop	The fan is stopped

- To configure other fans, select one of the fan icons at the bottom of the view.



5.3.8 Configuring an alarm group (zone)

- Log in as Installer. For instructions, see [Logging in as Installer](#).
- Select the zone settings icon.



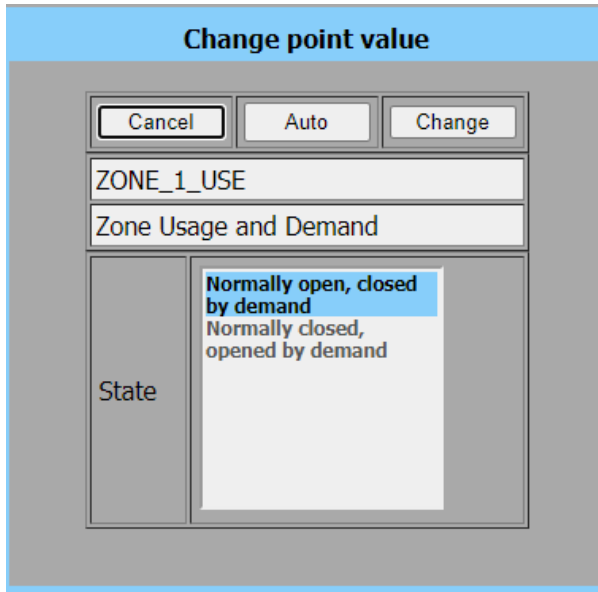
The Zone settings view opens.

Zone settings

	Status	Type	Closing Delay	External fire alarm	Test reports	Testing
All		Normally open, closed by demand	0 s	Close zone	Show	<input type="checkbox"/>
Single	Opened	Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Row		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Unit		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 1		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 2		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 3		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 4		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 5		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 6		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 7		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 8		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 9		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 10		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 11		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 12		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 13		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 14		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 15		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>

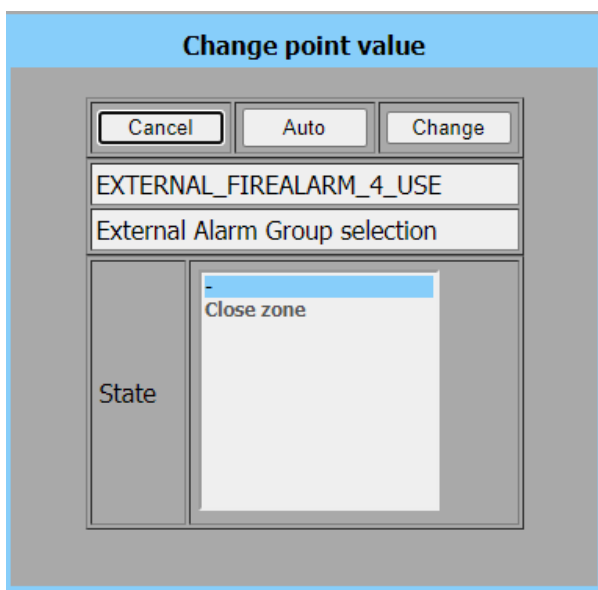
Test Timetable
Test all

- Set the type of an alarm group (zone).
 - On the row of the zone, select the "Type" column.
 - In the selection window, select a value, then select "Change".



Value	Description
Normally open, closed by demand	The damper is normally open, but closes when there is an alarm in the system.
Normally closed, opened by demand	The damper is normally closed, but opens when there is an alarm in the system.

4. Specify how an external fire alarm impacts an alarm group (zone).
 - a. On the row of the zone, select the "External fire alarm" column.
 - b. In the selection window, select a value, then select "Change".



Value	Description
-	No impact
Close zone	The dampers in the alarm group (zone) are closed when there is an external fire alarm.

- Set up a test schedule for an alarm group (zone). For instructions, see [Setting up the test schedule](#).

5.3.9 Configuring external controls

You can use external controls to open or close an alarm group (zone), for example.

- Log in as Installer. For instructions, see [Logging in as Installer](#).
- Select the external zone control icon.



The External zone control view opens. The "Connection" column shows the connections of the Halton Safe Management 2.0 controller for each external control. The external fire alarm shown at the lower part of the view is a general fire alarm that impacts all zones.

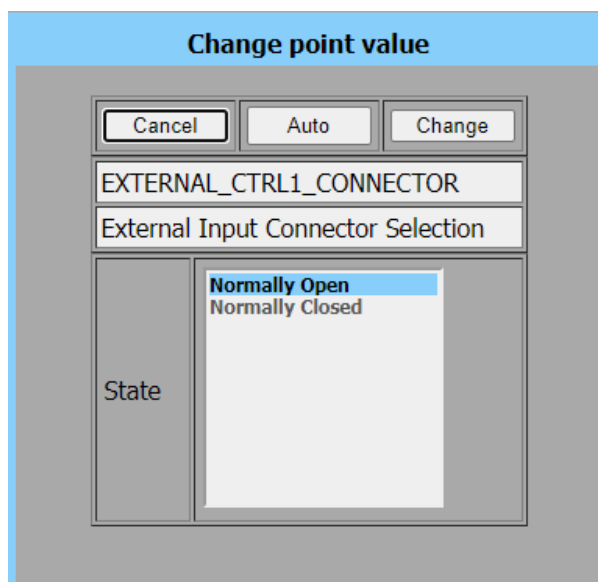
External zone control							
	Status	Zone	Alarm	Connection	Connection	Connector	Type
1	waiting	All		C1 : I1		Normally Open	Alarm
2	waiting	All		C2 : I2		Normally Open	Alarm
3	waiting	All		C3 : I3		Normally Open	Alarm
4	waiting	All		C4 : I4		Normally Open	Alarm
5	waiting	All		C5 : I5		Normally Open	Alarm
6	waiting	All		C6 : I6		Normally Open	Alarm
7	waiting	All		C7 : I7		Normally Open	Alarm
8	waiting	All		C8 : I8		Normally Open	Alarm
9	waiting	All		D1 : J1		Normally Open	Alarm
10	waiting	All		D2 : J2		Normally Open	Alarm
11	waiting	All		D3 : J3		Normally Open	Alarm
12	waiting	All		D4 : J4		Normally Open	Alarm
13	waiting	All		D5 : J5		Normally Open	Alarm
14	waiting	All		D6 : J6		Normally Open	Alarm
15	waiting	All		D7 : J7		Normally Open	Alarm
	External fire alarm			E1 : K1		Normally Open	

- Configure the zone information for an external control. For instructions, see [Connecting a unit to an alarm group \(zone\)](#).

4. Set the type of an external control. For instructions, see [Setting the type of a unit](#).

Value	Description
Alarm	The external control sends alarm indications.
Demand Close	The external control forces the alarm group (zone) to close.
Demand Open	The external control forces the alarm group (zone) to open.

5. Set the connector type of an external alarm device.
- On the row of the external control, select the "Connector" column.
 - In the selection window, select a value, then select "Change".



Value	Description
Normally Open	Normally Open (NO) alarm device
Normally Closed	Normally Closed (NC) alarm device

6. Make sure the connector type of the external fire system connected to the Halton Safe Management 2.0 system is correct. Select the "Connector" column on the row of the external fire alarm, then do as instructed in the previous step.

5.3.10 Renaming a unit

Here you change the location (name) of a unit, for example, to make it easier to locate it.

1. Log in as Installer. For instructions, see [Logging in as Installer](#).
2. Select the icon of the unit you want to rename. For example, the fire damper icon:



The view that lists the units opens, for example, the Dampers view.

		FD	Location	Control	Status	Alarm	Zone	Smoke detector
01	1		FireDamper1	Open	Opened		Single	
	2		FireDamper2	Open	Opened		Single	
	3		FireDamper3	Open	Opened		Single	
	4		FireDamper4	Open	Opened		Single	
02	1		Firedamper5				-	
	2		Firedamper6	Open	Opened		Single	
	3		Firedamper7	Open	Opened		Single	
	4		Firedamper8				-	

1 - 4	5 - 8	9 - 12	13 - 16	17 - 20	21 - 24	25 - 28	29 - 32	33 - 36	37 - 40	41 - 44	45 - 48	49 - 50
-------	-------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------

3. In the view that lists the units, on the row of the unit you want to configure, select the "Location" column.
4. Select "Programming".

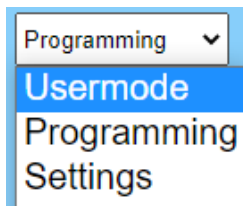
Manual command
Trend table
Programming
History

5. In field "Text", type in the name of the unit. For example, "FireDamper1" or "SD1".

Poinname	UNIT01_SD02_ALARM	Text	UnitName1	Level: View	0
Module	00.000	Point	0	Level: Manual	0
				Level: Programming	0

6. On the left-hand side of the view, select "Change". After a while, the system updates the name.
7. To exit the Programming mode, in the upper left corner of the view, select "Usermode" from the drop-down

list.



If you get errors when doing the task, see [Troubleshooting](#).

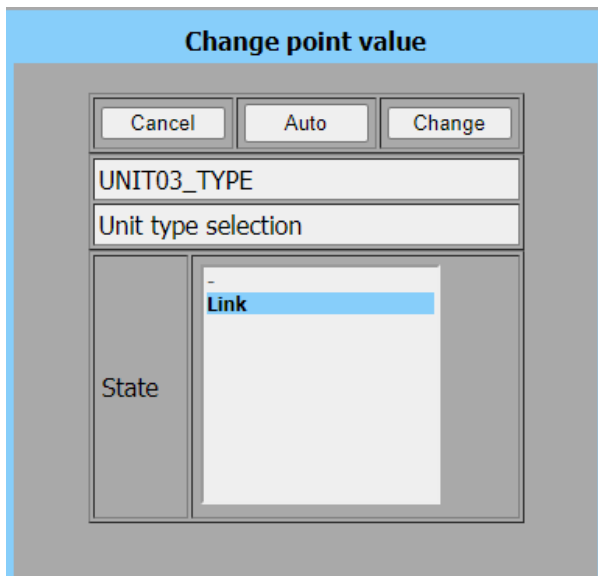
5.3.11 Setting the type of a unit

Here you set the type of a unit, for example, a Halton Safe HSL link unit.

1. Log in as Installer. For instructions, see [Logging in as Installer](#).
2. Select the icon of the unit you want to configure. For example, the link unit icon:



3. In the view that lists the units, on the row of the unit you want to configure, select the "Type" column.
4. In the selection window, select the type, then select "Change".



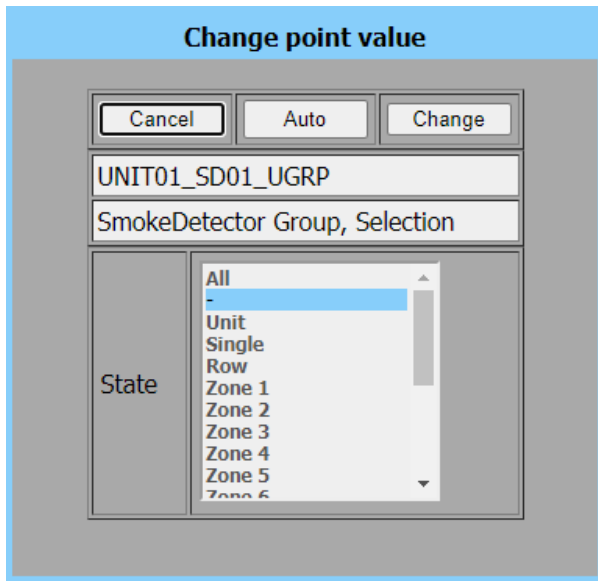
5.3.12 Connecting a unit to an alarm group (zone)

Here you configure the zone information of a fire damper or smoke detector, for example.

1. Log in as Installer. For instructions, see [Logging in as Installer](#).
2. Select the icon of the unit you want to configure. For example, the smoke detector icon:



3. In the view that lists the units, on the row of the unit you want to configure, select the "Zone" column.
4. In the selection window, select the correct zone, then select "Change".



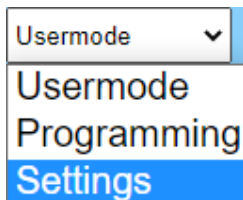
Value	Description
All	The unit impacts all units.
-	No impact
Unit	The unit impacts a link unit.
Single	The unit impacts a single fire damper. The fire damper is not closed with an external command except in a test situation and by an external fire alarm, if set accordingly.
Row	The fire damper and the corresponding smoke detector work together. When there is an alarm, the smoke detector closes the fire damper on the same row.
Zone [number]	The unit impacts zone [number].

If you get errors when doing the task, see [Troubleshooting](#).

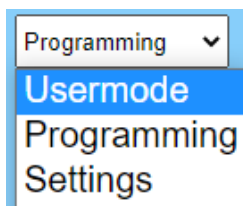
5.3.13 Setting the time and date

Here you set the time and date of the system. You can also change the time zone or modify other clock-related settings.

1. Log in as Installer. For instructions, see [Logging in as Installer](#).
2. In the upper left corner of the view, select "Settings" from the drop-down list.



3. From the lower drop-down list, select "Clock". The clock settings view opens.
4. Set the correct time and date.
5. If needed, change the time zone or modify other clock-related settings.
6. On the left-hand side of the view, select "Change".
7. To exit the Settings mode, in the upper left corner of the view, select "Usermode" from the drop-down list.

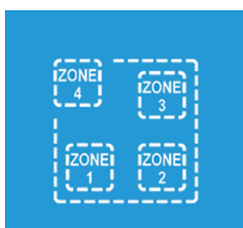


5.3.14 Setting up the test schedule

Here you set up the test schedule for automatically testing alarm groups (zones) at specified times. You can set six events per day.

Note: To ensure proper operation of fire dampers, inspection must be carried out regularly according to local building codes. The minimum recommended inspection period is every 6 months. Save the inspection documentation for future needs.

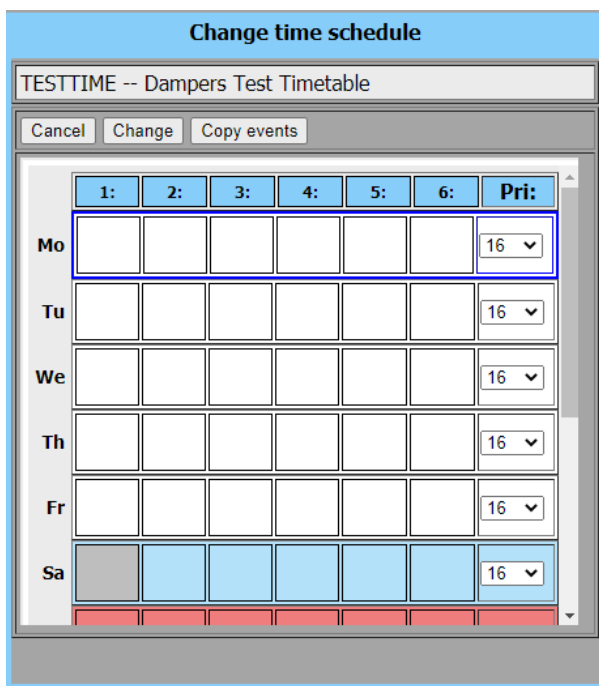
1. Log in as Installer. For instructions, see [Logging in as Installer](#).
2. Select the zone settings icon.



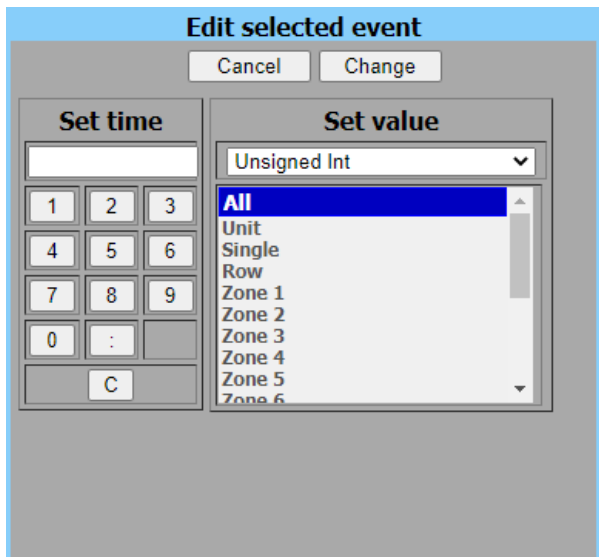
3. In the Zone settings view, at the lower part of the view, select "Test Timetable".

Zone settings						
	Status	Type	Closing Delay	External fire alarm	Test reports	Testing
All		Normally open, closed by demand	0 s	Close zone	Show	<input type="checkbox"/>
Single	Opened	Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Row		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Unit		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 1		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 2		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 3		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 4		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 5		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 6		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 7		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 8		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 9		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 10		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 11		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 12		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 13		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 14		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 15		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>

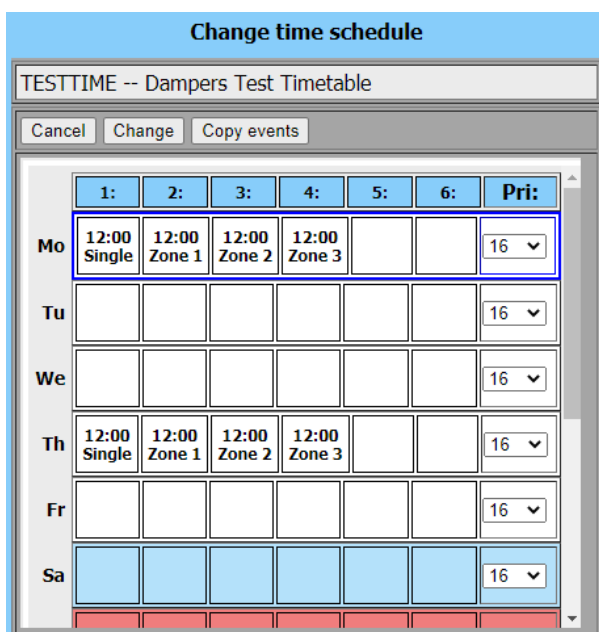
- In the schedule view, for a day of the week (Monday-Sunday), select the first empty slot.



- In the selection window, select the alarm group (zone) and set the test time, then select "Change".



Value	Description
All	All units are tested.
Unit	A link unit is tested.
Single	A single fire damper is tested.
Row	A fire damper and a corresponding smoke detector on the same row are tested.
Zone [number]	Zone [number] is tested.



6. To copy the events of a day, do the following:
 - a. In the schedule view, select "Copy events".
 - b. In the selection window, select the days to copy from and to, then select "Copy".

Copy From	Copy To
Mo <input type="radio"/>	Mo <input type="checkbox"/>
Tu <input type="radio"/>	Tu <input type="checkbox"/>
We <input type="radio"/>	We <input type="checkbox"/>
Th <input type="radio"/>	Th <input type="checkbox"/>
Fr <input type="radio"/>	Fr <input type="checkbox"/>
Sa <input type="radio"/>	Sa <input type="checkbox"/>
Su <input type="radio"/>	Su <input type="checkbox"/>
	Mo-Fr <input type="checkbox"/>
	Mo-Su <input type="checkbox"/>

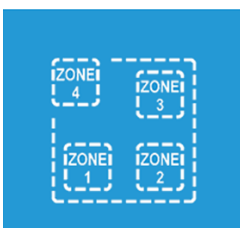
Cancel Copy

7. To remove an event, do the following:
 - a. In the schedule view, select the event.
 - b. In the selection window, select "C", then select "Change".
8. When you are ready with the test schedule, to save the changes, select "Change".

5.3.15 Testing the system

Here you verify that the system is working as it should. You can test the whole system or an alarm group (zone).

1. Log in as Installer. For instructions, see [Logging in as Installer](#).
2. Select the zone settings icon.



3. To test the whole system manually, in the Zone settings view, at the lower part of the view, select "Test all".

Zone settings						
	Status	Type	Closing Delay	External fire alarm	Test reports	Testing
All		Normally open, closed by demand	0 s	Close zone	Show	
Single	Opened	Normally open, closed by demand	0 s	-	Show	
Row		Normally open, closed by demand	0 s	-	Show	
Unit		Normally open, closed by demand	0 s	-	Show	
Zone 1		Normally open, closed by demand	0 s	-	Show	
Zone 2		Normally open, closed by demand	0 s	-	Show	
Zone 3		Normally open, closed by demand	0 s	-	Show	
Zone 4		Normally open, closed by demand	0 s	-	Show	
Zone 5		Normally open, closed by demand	0 s	-	Show	
Zone 6		Normally open, closed by demand	0 s	-	Show	
Zone 7		Normally open, closed by demand	0 s	-	Show	
Zone 8		Normally open, closed by demand	0 s	-	Show	
Zone 9		Normally open, closed by demand	0 s	-	Show	
Zone 10		Normally open, closed by demand	0 s	-	Show	
Zone 11		Normally open, closed by demand	0 s	-	Show	
Zone 12		Normally open, closed by demand	0 s	-	Show	
Zone 13		Normally open, closed by demand	0 s	-	Show	
Zone 14		Normally open, closed by demand	0 s	-	Show	
Zone 15		Normally open, closed by demand	0 s	-	Show	

When the whole system is being tested, all the "Testing" toggle icons are green.

Zone settings						
	Status	Type	Closing Delay	External fire alarm	Test reports	Testing
All		Normally open, closed by demand	0 s	Close zone	Show	
Single	Testing	Normally open, closed by demand	0 s	-	Show	
Row		Normally open, closed by demand	0 s	-	Show	
Unit		Normally open, closed by demand	0 s	-	Show	
Zone 1		Normally open, closed by demand	0 s	-	Show	
Zone 2		Normally open, closed by demand	0 s	-	Show	
Zone 3		Normally open, closed by demand	0 s	-	Show	
Zone 4		Normally open, closed by demand	0 s	-	Show	
Zone 5		Normally open, closed by demand	0 s	-	Show	
Zone 6		Normally open, closed by demand	0 s	-	Show	
Zone 7		Normally open, closed by demand	0 s	-	Show	
Zone 8		Normally open, closed by demand	0 s	-	Show	
Zone 9		Normally open, closed by demand	0 s	-	Show	
Zone 10		Normally open, closed by demand	0 s	-	Show	
Zone 11		Normally open, closed by demand	0 s	-	Show	
Zone 12		Normally open, closed by demand	0 s	-	Show	
Zone 13		Normally open, closed by demand	0 s	-	Show	
Zone 14		Normally open, closed by demand	0 s	-	Show	
Zone 15		Normally open, closed by demand	0 s	-	Show	

- To test an alarm group (zone), in the Zone settings view, on the row of the zone, select the "Testing" toggle icon.

When the zone is being tested, the "Testing" toggle icon of the zone is green.

Zone settings						
	Status	Type	Closing Delay	External fire alarm	Test reports	Testing
All		Normally open, closed by demand	0 s	Close zone	Show	
Single	Testing	Normally open, closed by demand	0 s	-	Show	
Row		Normally open, closed by demand	0 s	-	Show	
Unit		Normally open, closed by demand	0 s	-	Show	
Zone 1		Normally open, closed by demand	0 s	-	Show	
Zone 2		Normally open, closed by demand	0 s	-	Show	
Zone 3		Normally open, closed by demand	0 s	-	Show	
Zone 4		Normally open, closed by demand	0 s	-	Show	
Zone 5		Normally open, closed by demand	0 s	-	Show	
Zone 6		Normally open, closed by demand	0 s	-	Show	
Zone 7		Normally open, closed by demand	0 s	-	Show	
Zone 8		Normally open, closed by demand	0 s	-	Show	
Zone 9		Normally open, closed by demand	0 s	-	Show	
Zone 10		Normally open, closed by demand	0 s	-	Show	
Zone 11		Normally open, closed by demand	0 s	-	Show	
Zone 12		Normally open, closed by demand	0 s	-	Show	
Zone 13		Normally open, closed by demand	0 s	-	Show	
Zone 14		Normally open, closed by demand	0 s	-	Show	
Zone 15		Normally open, closed by demand	0 s	-	Show	

Test Timetable Test all

- View the test report. For instructions, see [Viewing a test report](#).

5.4 Checks after commissioning

Make sure you have done the following:

- Document the test results and fill in the needed commissioning documents.

6 Operation

6.1 User levels

Halton Safe Management 2.0 has three user levels:

- Lookup
- Service
- Installer

Lookup

On this user level, you have basic user rights:

- Viewing and controlling the fire damper list.
- Viewing the alarm list.
- Resetting alarms.
- Controlling fire dampers manually.

No login is required.

Service

On this user level, you have the same user rights as on the previous user level, plus the following:

- Testing fire dampers.
- Viewing test reports.

For login instructions, see [Logging in as Service](#).

Installer

On this user level, you have the same user rights as on the previous user levels, plus the following:

- Adjusting settings.

For login instructions, see [Logging in as Installer](#).

6.2 Views and icons

Homepage



Figure 6. Homepage (no login required)

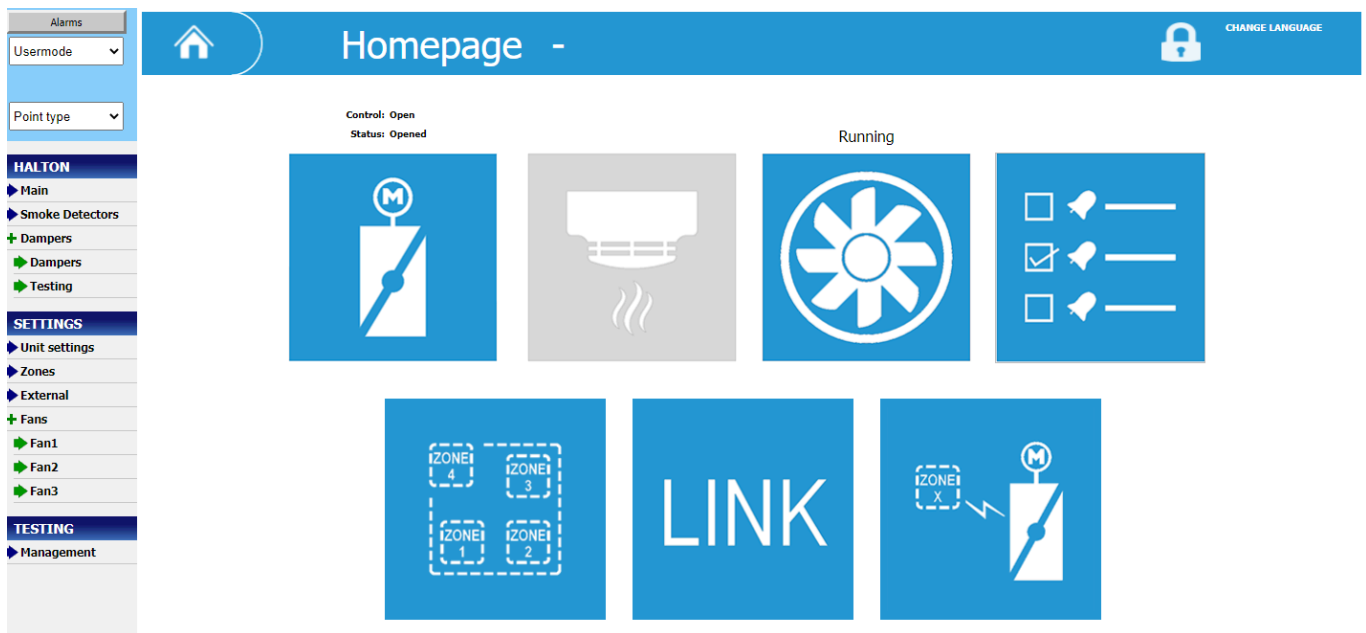


Figure 7. Homepage (Service or Installer login required)

Icons

- If an icon is grey, there are no units configured.
- If an icon is blue, there are units configured.
- If an icon is red, there are active alarms.



Figure 8. Damper icon



Figure 9. Smoke detector icon



Figure 10. Fan icon



Figure 11. Alarm list icon

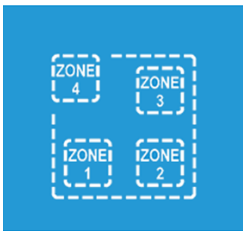


Figure 12. Zone settings icon



Figure 13. Link unit icon



Figure 14. External zone control icon



Figure 15. Homepage icon

Views

Dampers							
	FD	Location	Control	Status	Alarm	Zone	Smoke detector
01	1	FireDamper1	Open	Opened		Single	
	2	FireDamper2	Open	Opened		Single	
	3	FireDamper3	Open	Opened		Single	
	4	FireDamper4	Open	Opened		Single	
02	1	Firedamper5				-	
	2	Firedamper6	Open	Opened		Single	
	3	Firedamper7	Open	Opened		Single	
	4	Firedamper8				-	

1 - 4	5 - 8	9 - 12	13 - 16	17 - 20	21 - 24	25 - 28	29 - 32	33 - 36	37 - 40	41 - 44	45 - 48	49 - 50
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Figure 16. Dampers

☰ Smoke Detectors

	SD	Location	Type	Alarm	Zone
01	1	-	Smoke detector		-
	2	-	Smoke detector		-
	3	-	Normally open		-
	4	-	Smoke detector		-
02	1	SD1	Smoke detector		-
	2	SD2	Smoke detector		-
	3	SD3	Smoke detector		-
	4	SD4	Smoke detector		-


- 1 - 4
- 5 - 8
- 9 - 12
- 13 - 16
- 17 - 20
- 21 - 24
- 25 - 28
- 29 - 32
- 33 - 36
- 37 - 40
- 41 - 44
- 45 - 48
- 49 - 50

Figure 17. Smoke Detectors

☼ Fan 1

Zone	Status	Dampers	Test	Smoke Detectors
All		Need to be open, for start	-	Fan stop
Single	Opened		-	
Row			-	
Unit			-	
Zone 1			Fan stop	
Zone 2			-	
Zone 3			-	
Zone 4			-	
Zone 5			-	
Zone 6			-	
Zone 7			-	
Zone 8			-	
Zone 9			-	
Zone 10			-	
Zone 11			-	
Zone 12			-	
Zone 13			-	
Zone 14			-	
Zone 15			-	

Figure 18. Fan 1




















All alarms Unacknowledged Active Logs 

Fr 28.05.2021 07:44:42 Unacknowledged alarms

UNIT01_FD01_ALARM Alarm point Priority:0	FireDamper1	Alarm Program NotAcknowledged	Group: FD_ALARM 28.05.2021 07:42:51
Point count: 1 / 466			

Figure 19. Alarm list

Zone settings

	Status	Type	Closing Delay	External fire alarm	Test reports	Testing
All		Normally open, closed by demand	0 s	Close zone	Show	
Single	Opened	Normally open, closed by demand	0 s	-	Show	
Row		Normally open, closed by demand	0 s	-	Show	
Unit		Normally open, closed by demand	0 s	-	Show	
Zone 1		Normally open, closed by demand	0 s	-	Show	
Zone 2		Normally open, closed by demand	0 s	-	Show	
Zone 3		Normally open, closed by demand	0 s	-	Show	
Zone 4		Normally open, closed by demand	0 s	-	Show	
Zone 5		Normally open, closed by demand	0 s	-	Show	
Zone 6		Normally open, closed by demand	0 s	-	Show	
Zone 7		Normally open, closed by demand	0 s	-	Show	
Zone 8		Normally open, closed by demand	0 s	-	Show	
Zone 9		Normally open, closed by demand	0 s	-	Show	
Zone 10		Normally open, closed by demand	0 s	-	Show	
Zone 11		Normally open, closed by demand	0 s	-	Show	
Zone 12		Normally open, closed by demand	0 s	-	Show	
Zone 13		Normally open, closed by demand	0 s	-	Show	
Zone 14		Normally open, closed by demand	0 s	-	Show	
Zone 15		Normally open, closed by demand	0 s	-	Show	




Figure 20. Zone settings

Links

Unit	Type	Alarm	Alarm Type	Version	Port	Address
1	Link		Communicating	10.10	3	11
2	Link		Communicating	10.10	3	12
3	-			0.00	3	13
4	-			0.00	3	14
5	-			0.00	3	15
6	-			0.00	3	16
7	-			0.00	3	17
8	-			0.00	3	18
9	-			0.00	3	19
10	-			0.00	3	20

1 - 10

11 - 20

21 - 30

31 - 40

41 - 50

Figure 21. Link units

External zone control

	Status	Zone	Alarm	Connection	Connection	Connector	Type
1	waiting	All		C1 : I1		Normally Open	Alarm
2	waiting	All		C2 : I2		Normally Open	Alarm
3	waiting	All		C3 : I3		Normally Open	Alarm
4	waiting	All		C4 : I4		Normally Open	Alarm
5	waiting	All		C5 : I5		Normally Open	Alarm
6	waiting	All		C6 : I6		Normally Open	Alarm
7	waiting	All		C7 : I7		Normally Open	Alarm
8	waiting	All		C8 : I8		Normally Open	Alarm
9	waiting	All		D1 : J1		Normally Open	Alarm
10	waiting	All		D2 : J2		Normally Open	Alarm
11	waiting	All		D3 : J3		Normally Open	Alarm
12	waiting	All		D4 : J4		Normally Open	Alarm
13	waiting	All		D5 : J5		Normally Open	Alarm
14	waiting	All		D6 : J6		Normally Open	Alarm
15	waiting	All		D7 : J7		Normally Open	Alarm

External fire alarm

E1 : K1

Normally Open

Figure 22. External zone control

6.3 Step by step instructions

6.3.1 Switching between views

1. On the homepage, select an icon.
2. To return to the homepage, select the homepage icon at the bottom of the view.

6.3.2 Changing the language of the system

1. On the homepage, select "Change language".
2. In the selection window, select the language, then select "Change".

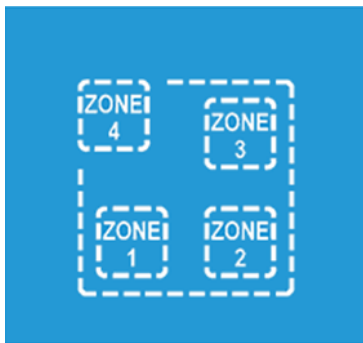
6.3.3 Changing the time and date

Here you change the time and date of the system. You can also change the time zone or modify other clock-related settings.

For instructions, see [Setting the time and date](#).

6.3.4 Viewing a test report


1. Log in as Service. For instructions, see [Logging in as Service](#).
2. Select the zone settings icon.



3. In the Zone settings view, on the row of the zone you want to view the test report for, select "Show" in the "Test reports" column.

Zone settings						
	Status	Type	Closing Delay	External fire alarm	Test reports	Testing
All		Normally open, closed by demand	0 s	Close zone	Show	
Single	Opened	Normally open, closed by demand	0 s	-	Show	
Row		Normally open, closed by demand	0 s	-	Show	
Unit		Normally open, closed by demand	0 s	-	Show	
Zone 1		Normally open, closed by demand	0 s	-	Show	
Zone 2		Normally open, closed by demand	0 s	-	Show	
Zone 3		Normally open, closed by demand	0 s	-	Show	
Zone 4		Normally open, closed by demand	0 s	-	Show	
Zone 5		Normally open, closed by demand	0 s	-	Show	
Zone 6		Normally open, closed by demand	0 s	-	Show	
Zone 7		Normally open, closed by demand	0 s	-	Show	
Zone 8		Normally open, closed by demand	0 s	-	Show	
Zone 9		Normally open, closed by demand	0 s	-	Show	
Zone 10		Normally open, closed by demand	0 s	-	Show	
Zone 11		Normally open, closed by demand	0 s	-	Show	
Zone 12		Normally open, closed by demand	0 s	-	Show	
Zone 13		Normally open, closed by demand	0 s	-	Show	
Zone 14		Normally open, closed by demand	0 s	-	Show	
Zone 15		Normally open, closed by demand	0 s	-	Show	

4. Fill in the date of the test and select the number of the test (0, 1, 2), then select "Show Report".

Year:	Month:	Day:	Number:	
2021	5	18	0	Show Report!

18.05.2021 -- 17:07
**** Damper Report beginning ****

DAMPER: UNIT01_FD01 -- STATE: Test Succeed!
OPENTIME: 35 s - CLOSETIME: 13 s OPEN TIMESTAMP: 144044 - CLOSE TIMESTAMP: 143958

DAMPER: UNIT01_FD02 -- STATE: Test Succeed!
OPENTIME: 131 s - CLOSETIME: 14 s OPEN TIMESTAMP: 144218 - CLOSE TIMESTAMP: 143958

DAMPER: UNIT01_FD03 -- STATE: Test Succeed!
OPENTIME: 85 s - CLOSETIME: 13 s OPEN TIMESTAMP: 144138 - CLOSE TIMESTAMP: 143958

DAMPER: UNIT01_FD04 -- STATE: Test Succeed!
OPENTIME: 86 s - CLOSETIME: 14 s OPEN TIMESTAMP: 144138 - CLOSE TIMESTAMP: 143958

DAMPER: UNIT02_FD02 -- STATE: Test Succeed!
OPENTIME: 34 s - CLOSETIME: 13 s OPEN TIMESTAMP: 144044 - CLOSE TIMESTAMP: 143958

DAMPER: UNIT02_FD03 -- STATE: Test Succeed!
OPENTIME: 34 s - CLOSETIME: 13 s OPEN TIMESTAMP: 144044 - CLOSE TIMESTAMP: 143958


24.05.2021 -- 14:42
**** Damper Report Ended ****

- When the report is open, to print the report, select "Print Report".

7 Maintenance

7.1 Before you start

7.1.1 Safety during maintenance

	<p style="text-align: center;">NOTICE</p> <p>NOTICE All installation, commissioning, and maintenance work must only be carried out by qualified personnel.</p>
---	---

7.1.2 Checks before maintenance

Make sure you have the following:

- A list of the ID numbers and locations of the Halton Safe Management 2.0 system components
- Access to the Halton Safe Management 2.0 system components
- The BMS event/alarm log of the most recent maintenance period

7.2 Maintenance schedule

Carry out scheduled maintenance according to the maintenance plan of the building.

Note: To ensure proper operation of fire dampers, inspection must be carried out regularly according to local building codes. The minimum recommended inspection period is every 6 months. Save the inspection documentation for future needs.

Note: In normal conditions, the Halton Safe Management 2.0 controller does not require yearly maintenance.

7.3 Step by step instructions

7.3.1 Logging in as Service

For information on the user levels, see [User levels](#).

1. On the homepage, select the lock icon at the top of the view. A keypad opens.

The image shows a keypad interface for changing the user level. At the top, there is a blue header with the text "Change user level". Below the header, there are two buttons: "Cancel" and "Accept". Underneath these buttons is a small white input field. The main part of the keypad consists of a grid of buttons for digits 1 through 9, and a button for 0. The buttons are arranged in four rows: the first row has 1, 2, 3; the second row has 4, 5, 6; the third row has 7, 8, 9; and the fourth row has a button for 0 in the middle position, with empty space on either side.

2. On the keypad, type in password 20127, then select "Accept".

7.3.2 Resetting an alarm

1. Log in as Service. For instructions, see [Logging in as Service](#).
2. Select the alarm list icon.



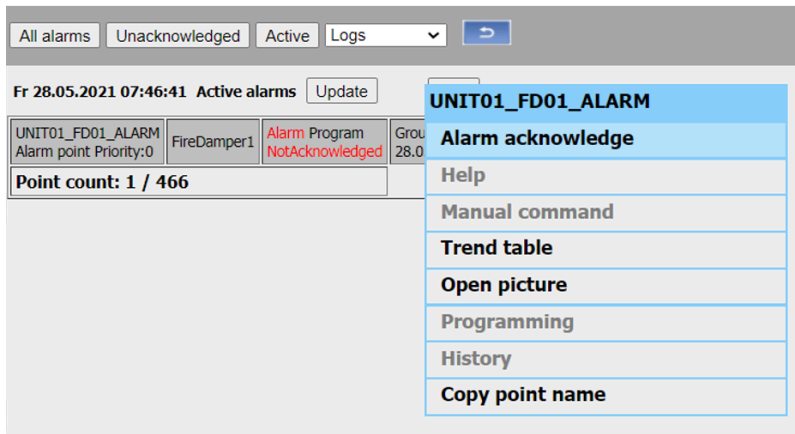
The active alarms are shown.

The screenshot shows a web interface for alarm management. At the top, there are several filter buttons: "All alarms", "Unacknowledged", "Active", and "Logs". To the right of these buttons is a dropdown menu and a blue arrow button. Below the filters, there is a header for the current view: "Fr 28.05.2021 07:44:42 Unacknowledged alarms". To the right of this header are "Update" and "Print" buttons. The main content is a table with the following data:

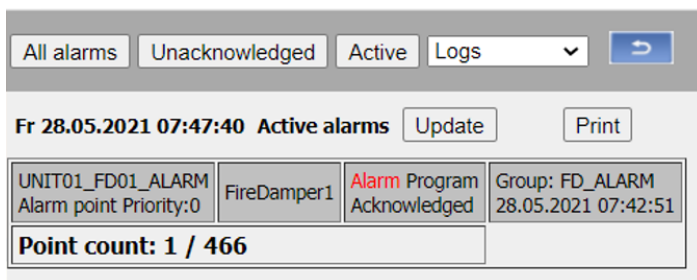
UNIT01_FD01_ALARM Alarm point Priority:0	FireDamper1	Alarm Program NotAcknowledged	Group: FD_ALARM 28.05.2021 07:42:51
---	-------------	----------------------------------	--

At the bottom of the table, there is a summary row: "Point count: 1 / 466".

3. In the alarm list, select the alarm you want to reset, then select "Alarm acknowledge".



The system changes the status of the alarm to "Acknowledged".

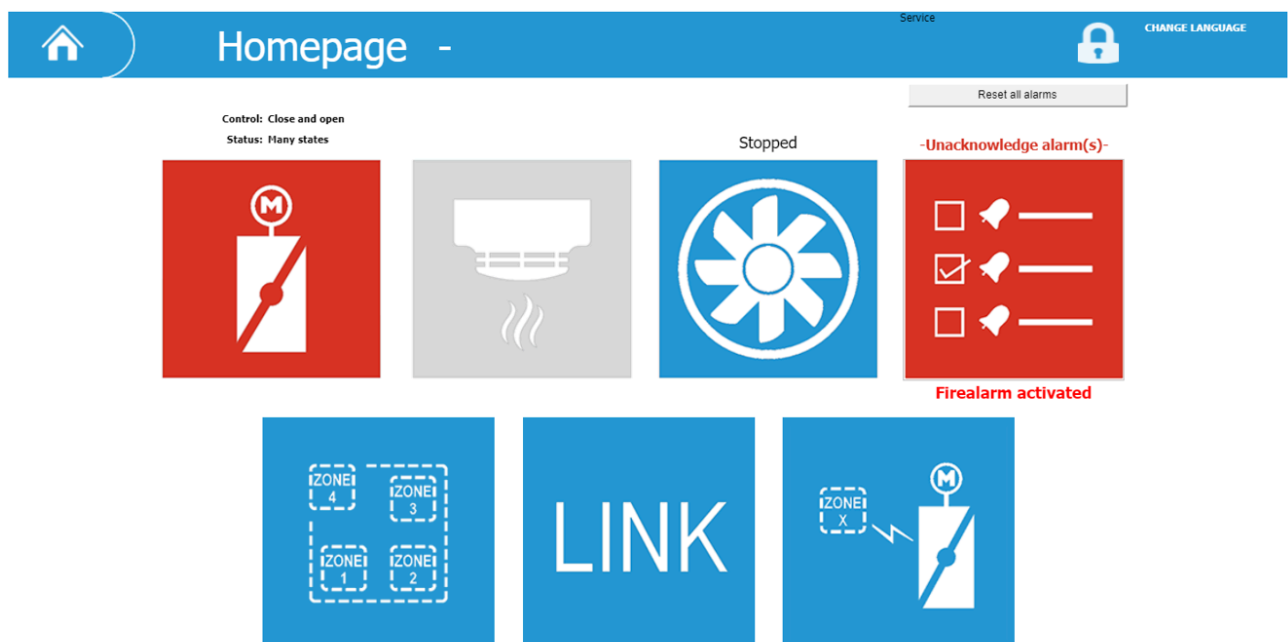


4. Wait for a couple of minutes while the system opens the fire dampers.

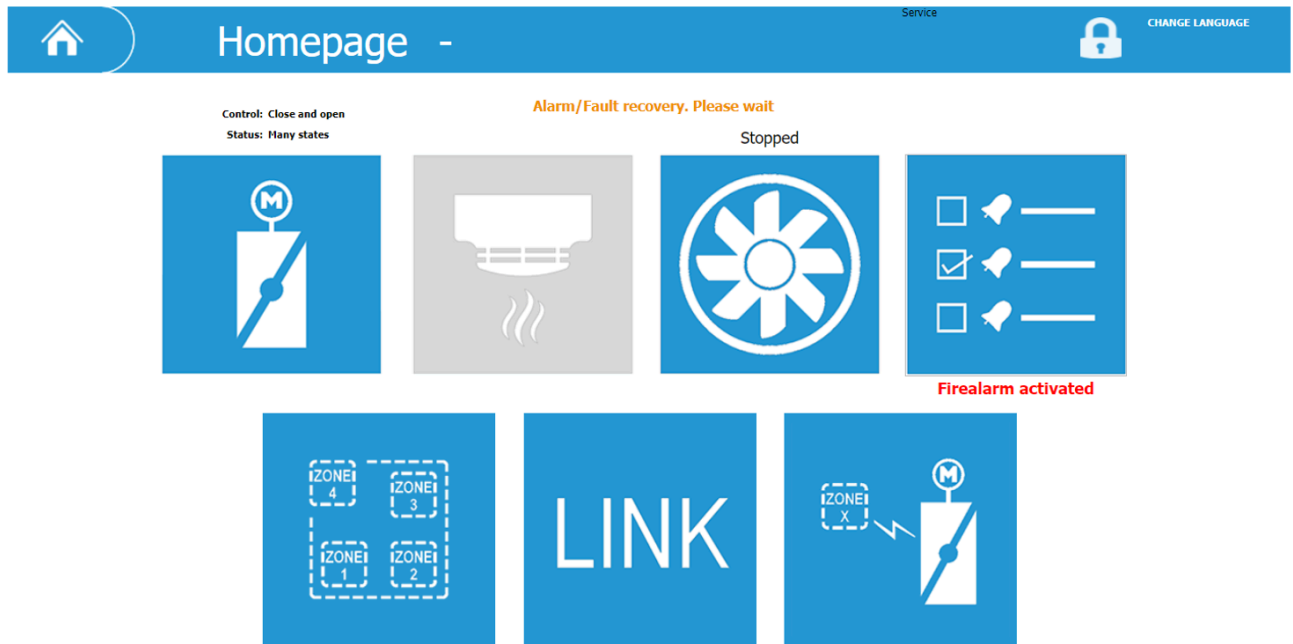
Once the fire dampers are open, the system continues working normally.

7.3.3 Resetting all alarms

1. Log in as Service. For instructions, see [Logging in as Service](#).
2. On the homepage, select "Reset all alarms", then select "Yes".



The system starts the recovery process.



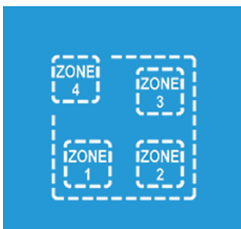
3. Wait for a couple of minutes while the system opens the fire dampers.

Once the fire dampers are open, the system continues working normally.

7.3.4 Testing the system

Here you verify that the system is working as it should. You can test the whole system or an alarm group (zone).

1. Log in as Installer. For instructions, see [Logging in as Installer](#).
2. Select the zone settings icon.



3. To test the whole system manually, in the Zone settings view, at the lower part of the view, select "Test all".

Zone settings						
	Status	Type	Closing Delay	External fire alarm	Test reports	Testing
All		Normally open, closed by demand	0 s	Close zone	Show	
Single	Opened	Normally open, closed by demand	0 s	-	Show	
Row		Normally open, closed by demand	0 s	-	Show	
Unit		Normally open, closed by demand	0 s	-	Show	
Zone 1		Normally open, closed by demand	0 s	-	Show	
Zone 2		Normally open, closed by demand	0 s	-	Show	
Zone 3		Normally open, closed by demand	0 s	-	Show	
Zone 4		Normally open, closed by demand	0 s	-	Show	
Zone 5		Normally open, closed by demand	0 s	-	Show	
Zone 6		Normally open, closed by demand	0 s	-	Show	
Zone 7		Normally open, closed by demand	0 s	-	Show	
Zone 8		Normally open, closed by demand	0 s	-	Show	
Zone 9		Normally open, closed by demand	0 s	-	Show	
Zone 10		Normally open, closed by demand	0 s	-	Show	
Zone 11		Normally open, closed by demand	0 s	-	Show	
Zone 12		Normally open, closed by demand	0 s	-	Show	
Zone 13		Normally open, closed by demand	0 s	-	Show	
Zone 14		Normally open, closed by demand	0 s	-	Show	
Zone 15		Normally open, closed by demand	0 s	-	Show	

When the whole system is being tested, all the "Testing" toggle icons are green.

Zone settings						
	Status	Type	Closing Delay	External fire alarm	Test reports	Testing
All		Normally open, closed by demand	0 s	Close zone	Show	
Single	Testing	Normally open, closed by demand	0 s	-	Show	
Row		Normally open, closed by demand	0 s	-	Show	
Unit		Normally open, closed by demand	0 s	-	Show	
Zone 1		Normally open, closed by demand	0 s	-	Show	
Zone 2		Normally open, closed by demand	0 s	-	Show	
Zone 3		Normally open, closed by demand	0 s	-	Show	
Zone 4		Normally open, closed by demand	0 s	-	Show	
Zone 5		Normally open, closed by demand	0 s	-	Show	
Zone 6		Normally open, closed by demand	0 s	-	Show	
Zone 7		Normally open, closed by demand	0 s	-	Show	
Zone 8		Normally open, closed by demand	0 s	-	Show	
Zone 9		Normally open, closed by demand	0 s	-	Show	
Zone 10		Normally open, closed by demand	0 s	-	Show	
Zone 11		Normally open, closed by demand	0 s	-	Show	
Zone 12		Normally open, closed by demand	0 s	-	Show	
Zone 13		Normally open, closed by demand	0 s	-	Show	
Zone 14		Normally open, closed by demand	0 s	-	Show	
Zone 15		Normally open, closed by demand	0 s	-	Show	

- To test an alarm group (zone), in the Zone settings view, on the row of the zone, select the "Testing" toggle icon.

When the zone is being tested, the "Testing" toggle icon of the zone is green.

Zone settings						
	Status	Type	Closing Delay	External fire alarm	Test reports	Testing
All		Normally open, closed by demand	0 s	Close zone	Show	
Single	Testing	Normally open, closed by demand	0 s	-	Show	
Row		Normally open, closed by demand	0 s	-	Show	
Unit		Normally open, closed by demand	0 s	-	Show	
Zone 1		Normally open, closed by demand	0 s	-	Show	
Zone 2		Normally open, closed by demand	0 s	-	Show	
Zone 3		Normally open, closed by demand	0 s	-	Show	
Zone 4		Normally open, closed by demand	0 s	-	Show	
Zone 5		Normally open, closed by demand	0 s	-	Show	
Zone 6		Normally open, closed by demand	0 s	-	Show	
Zone 7		Normally open, closed by demand	0 s	-	Show	
Zone 8		Normally open, closed by demand	0 s	-	Show	
Zone 9		Normally open, closed by demand	0 s	-	Show	
Zone 10		Normally open, closed by demand	0 s	-	Show	
Zone 11		Normally open, closed by demand	0 s	-	Show	
Zone 12		Normally open, closed by demand	0 s	-	Show	
Zone 13		Normally open, closed by demand	0 s	-	Show	
Zone 14		Normally open, closed by demand	0 s	-	Show	
Zone 15		Normally open, closed by demand	0 s	-	Show	

Test Timetable Test all

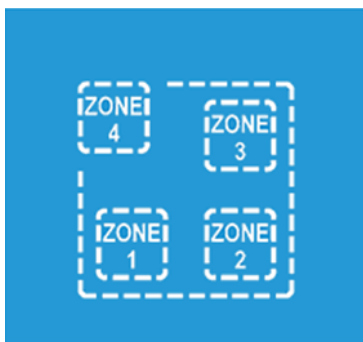
- View the test report. For instructions, see [Viewing a test report](#).

7.3.5 Modifying the test schedule

For instructions, see [Setting up the test schedule](#).

7.3.6 Viewing a test report

- Log in as Service. For instructions, see [Logging in as Service](#).
- Select the zone settings icon.



- In the Zone settings view, on the row of the zone you want to view the test report for, select "Show" in the "Test reports" column.

Zone settings

	Status	Type	Closing Delay	External fire alarm	Test reports	Testing
All		Normally open, closed by demand	0 s	Close zone	Show	<input type="checkbox"/>
Single	Opened	Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Row		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Unit		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 1		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 2		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 3		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 4		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 5		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 6		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 7		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 8		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 9		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 10		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 11		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 12		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 13		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 14		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>
Zone 15		Normally open, closed by demand	0 s	-	Show	<input type="checkbox"/>

Test Timetable

Test all

4. Fill in the date of the test and select the number of the test (0, 1, 2), then select "Show Report".

Year:

Month:

Day:

Number:

18.05.2021 -- 17:07
**** Damper Report beginning ****

DAMPER: UNIT01_FD01 -- STATE: Test Succeed!
OPENTIME: 35 s - CLOSETIME: 13 s OPEN TIMESTAMP: 144044 - CLOSE TIMESTAMP: 143958

DAMPER: UNIT01_FD02 -- STATE: Test Succeed!
OPENTIME: 131 s - CLOSETIME: 14 s OPEN TIMESTAMP: 144218 - CLOSE TIMESTAMP: 143958

DAMPER: UNIT01_FD03 -- STATE: Test Succeed!
OPENTIME: 85 s - CLOSETIME: 13 s OPEN TIMESTAMP: 144138 - CLOSE TIMESTAMP: 143958

DAMPER: UNIT01_FD04 -- STATE: Test Succeed!
OPENTIME: 86 s - CLOSETIME: 14 s OPEN TIMESTAMP: 144138 - CLOSE TIMESTAMP: 143958

DAMPER: UNIT02_FD02 -- STATE: Test Succeed!
OPENTIME: 34 s - CLOSETIME: 13 s OPEN TIMESTAMP: 144044 - CLOSE TIMESTAMP: 143958

DAMPER: UNIT02_FD03 -- STATE: Test Succeed!
OPENTIME: 34 s - CLOSETIME: 13 s OPEN TIMESTAMP: 144044 - CLOSE TIMESTAMP: 143958

24.05.2021 -- 14:42
**** Damper Report Ended ****

- When the report is open, to print the report, select "Print Report".

7.3.7 Manually controlling a damper

- Log in as Service. For instructions, see [Logging in as Service](#).
- Select the damper icon.

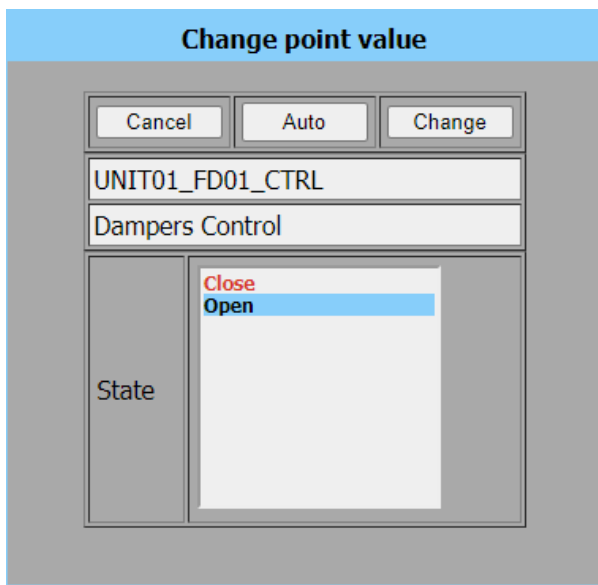


- In the Dampers view, on the row of the fire damper you want to open or close manually, select the "Control" column.

		FD	Location	Control	Status	Alarm	Zone	Smoke detector
01	1		FireDamper1	Open	Opened		Single	
	2		FireDamper2	Open	Opened		Single	
	3		FireDamper3	Open	Opened		Single	
	4		FireDamper4	Open	Opened		Single	
02	1		Firedamper5				-	
	2		Firedamper6	Open	Opened		Single	
	3		Firedamper7	Open	Opened		Single	
	4		Firedamper8				-	

1 - 4	5 - 8	9 - 12	13 - 16	17 - 20	21 - 24	25 - 28	29 - 32	33 - 36	37 - 40	41 - 44	45 - 48	49 - 50
-------	-------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------

- In the selection window, select a status, then select "Change".



Value	Description
Close	The damper is closed.
Open	The damper is opened.

After a while, you can see in the Dampers view that the status of the fire damper has changed.

		FD	Location	Control	Status	Alarm	Zone	Smoke detector
01	1		FireDamper1	Close	Closed		Single	
	2		FireDamper2	Open	Opened		Single	

5. When you no longer need to control the fire damper manually, remember to release the status of the fire damper.
 - a. On the row of the fire damper, select the "Control" column.
 - b. In the selection window, select "Auto".
After a while, you can see in the Dampers view that the status of the fire damper has changed.

If you get errors when doing the task, see [Troubleshooting](#).

7.3.8 Changing the time and date

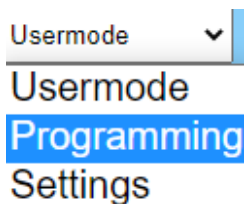
Here you change the time and date of the system. You can also change the time zone or modify other clock-related settings.

For instructions, see [Setting the time and date](#).

7.3.9 Updating the version of a Halton Safe HSL link unit

Here you update the software of a Halton Safe HSL link unit.

1. Log in as Installer. For instructions, see [Logging in as Installer](#).
2. In the upper left corner of the view, from the drop-down list, select "Programming".



3. From the lower drop-down list, select "Module versions".
The link units and their current software versions are listed in the upper table. The available versions are listed in the lower table.

Sa 29.05.2021 07:12:31 I/O modules

Port.Module 03.001	Type SPIDER	Version V0.70		Communication Ok	SPIDER IO-BOARD	Errors 0.13%
Port.Module 03.011	Type MULTI24	Version V2.50		Communication Ok	HaltonLink_VER1010	Errors 0.46%
Port.Module 03.012	Type MULTI24	Version V2.50		Communication Ok	HaltonLink_VER1010	Errors 0.45%

Available versions

MULTI-24.HEX-0272	2.72	
UNIT_V1010.M24IEC	0.00	
UNIT_V1011.M24IEC	0.00	

4. From the upper table, select the link unit you want to update.
5. From the lower table, select the correct software version, then select "Add to send list".
6. Select "Start sending".
After a while, the software version is updated.

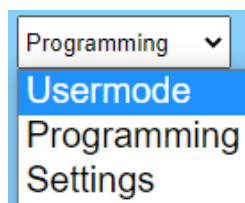
Sa 29.05.2021 07:12:51 I/O modules

Port.Module 03.001	Type SPIDER	Version V0.70		Communication Ok	SPIDER IO-BOARD	Errors 0.13%
Port.Module 03.011	Type MULTI24	Version V2.50		Communication Ok	HaltonLink_VER1010	Errors 0.48%
Port.Module 03.012	Type MULTI24	Version V2.50	UNIT_V1011.M24IEC	Communication Ok	HaltonLink_VER1010	Errors 0.46%

Available versions

MULTI-24.HEX-0272	2.72	
UNIT_V1010.M24IEC	0.00	
UNIT_V1011.M24IEC	0.00	

7. To exit the Programming mode, in the upper left corner of the view, select "Usermode" from the drop-down list.



7.3.10 Replacing a fuse

1. Disconnect the power cable of the Halton Safe Management 2.0 controller from the socket.
2. Replace the broken fuse.
 - Halton Safe HSL, fuse type: SMD 2410 5 A F
 - Halton Safe HSP, fuse type: 2 A glass tube fuse, 5 x 20 mm
3. Connect the power cable of the Halton Safe Management 2.0 controller to the socket.

7.3.11 Cleaning a smoke detector

For instructions, see the Calectro website.

7.3.12 Filling in the maintenance documents

Fill in the maintenance documents required by your organisation.

7.4 Checks after maintenance

Make sure you have filled in the maintenance documents.

8 End of life

8.1 Removing the product from use

1. Disconnect the power cable of the Halton Safe Management 2.0 controller from the socket.
2. Disconnect the wiring.
3. Dismount the components of the system.

8.2 Recycling and waste disposal

Carry out all recycling and waste disposal in accordance with the law and regulations of each country. Observe the specific requirements enforced by the legislation and local authorities of each country. Keep the environment clean.

Packaging waste

Packaging materials that can be recycled are listed below. They must be disposed of in conformity with existing local regulations.

- Polyethylene: outer protective film
- Cardboard: angle protections, cardboard boxes etc.
- Wood: pallet, plywood etc.

Electronic and other components

Any electronic and other corresponding components of the product should be assessed for the most suitable recycling route in accordance with local regulations.

Recycling after decommissioning

Recycle the product and its components upon decommissioning. Follow the local laws and regulations when disposing of electrical components and steel materials. The following instructions are general.

- Disconnect and dismount all electrical and/or pneumatic components (such as actuator, junction box, switches, cables etc.).
- Recycle electronic and other corresponding components of the product in accordance with WEEE provisions.
- Recycle the steel frame and steel parts in accordance with steel recycling provisions.

If you require more details for recycling and waste disposal concerning a product, contact Halton.

9 Troubleshooting and repairs

9.1 Troubleshooting

Problem	Possible cause	Possible solution
BMS bus communication does not work	Incorrect addressing or router configured	Make sure the link unit addressing is correct. Check the router configuration.
Link unit broken cable	Bad connector or broken wire	Check the connectors and cables.
Link unit connection failure	Incorrect addressing or wrong connection	Make sure the link unit addressing is correct. Check the connectors.
Link unit wrong software version	Wrong software version	Update link unit software.
Remote access via internet does not work	No internet connection	Make sure you are connected to the internet. With a 3G or 4G modem, check the signal strength.
User interface freezes when using remote access	Logout	Select the homepage icon at the bottom of the view, then log in again.
Fire damper does not open or close	Power failure	Make sure the power supply fuse is intact.
Fire damper does not open or close	Thermal fuse broken	Replace the thermal fuse of the fire damper.
Smoke detector service alarms	Dust in smoke detector	Clean the smoke detector. For instructions, see the Calectro website.

9.2 Fault reporting and reclamations

For fault reporting and reclamations, contact Halton.

Provide the following information for easier service:

- Product type and serial number
- Customer name/project
- Order confirmation number (purchase or sales order number)
- Serial numbers of faulty components
- Reclamation description
- Pictures

9.3 Spare parts

For spare parts for your specific product, contact Halton.

Provide the following information for easier service:

- Product
- Customer name/project
- Order confirmation number (purchase or sales order number)
- Description
- Pictures

10 Technical reference data

10.1 Connection diagrams and terminals

10.1.1 Connections: Halton Safe Management 2.0 controller

Connection diagram

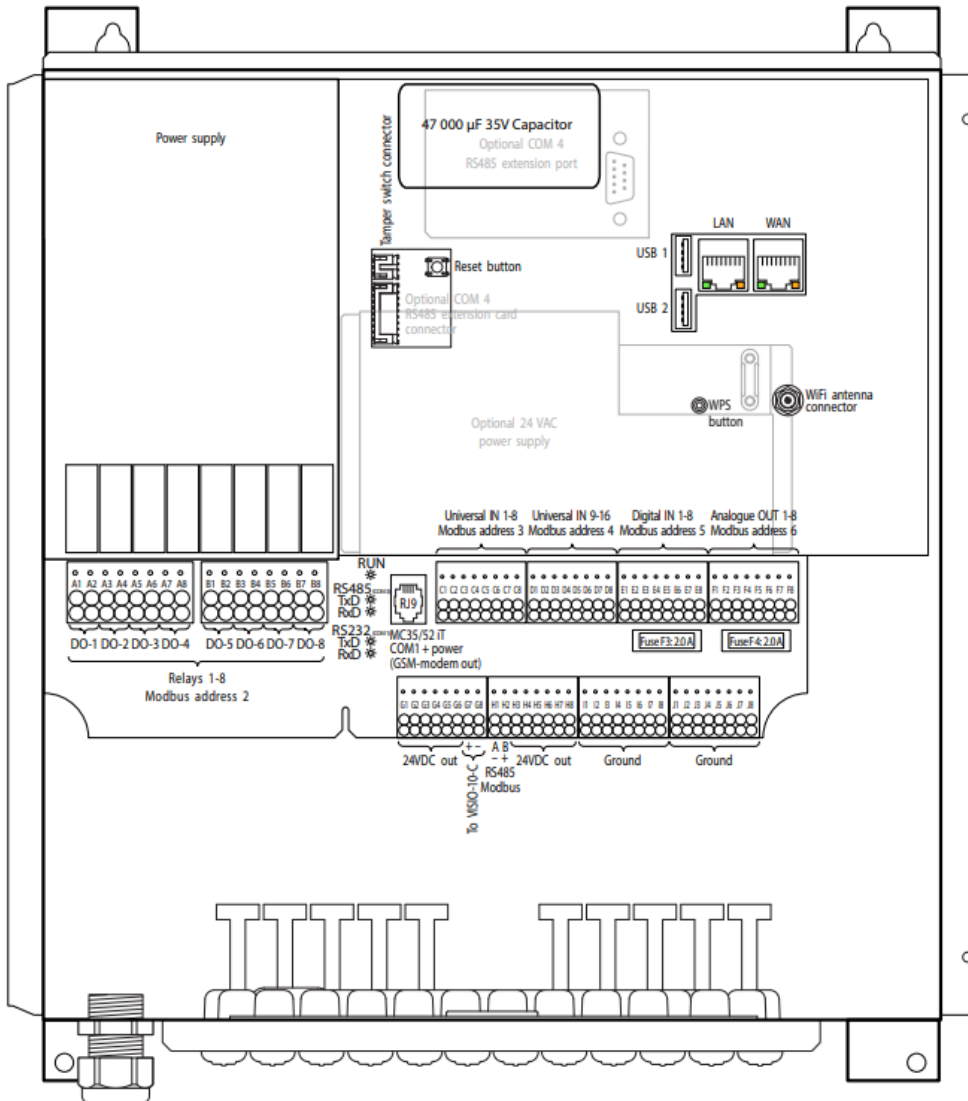


Figure 23. Connection diagram: Halton Safe Management 2.0 controller

Terminals

Terminal	Name	Comment
A1	Relay 1	Fan control: 1
A2	Relay 1	
A3	Relay 2	Fan control: 2
A4	Relay 2	
A5	Relay 3	Fan control: 3
A6	Relay 3	
A7	Relay 4	External fire alarm out
A8	Relay 4	
B1	Relay 5	Halton Safe HSL common alarm
B2	Relay 5	
B3	Relay 6	Fire damper common alarm
B4	Relay 6	
B5	Relay 7	Smoke detector service alarm
B6	Relay 7	
B7	Relay 8	Smoke detector common alarm
B8	Relay 8	

Table 1. Terminals for relays

Terminal	Name	Comment
C1	UI input 1	External alarm that closes user group: 1
C2	UI input 2	External alarm that closes user group: 2
C3	UI input 3	External alarm that closes user group: 3
C4	UI input 4	External alarm that closes user group: 4
C5	UI input 5	External alarm that closes user group: 5
C6	UI input 6	External alarm that closes user group: 6
C7	UI input 7	External alarm that closes user group: 7
C8	UI input 8	External alarm that closes user group: 8
D1	UI input 9	External alarm that closes user group: 9
D2	UI input 10	External alarm that closes user group: 10
D3	UI input 11	External alarm that closes user group: 11
D4	UI input 12	External alarm that closes user group: 12
D5	UI input 13	External alarm that closes user group: 13
D6	UI input 14	External alarm that closes user group: 14
D7	UI input 15	External alarm that closes user group: 15
E1	SI input 1	External alarm in

Table 2. Terminals for external alarms

Terminal	Name	Comment
H1	RTU A	Internal bus to Halton Safe HSL, line A
H2	RTU B	Internal bus to Halton Safe HSL, line B

Table 3. Terminals for communication

10.1.2 Connections: Halton Safe HSL

Connection diagram

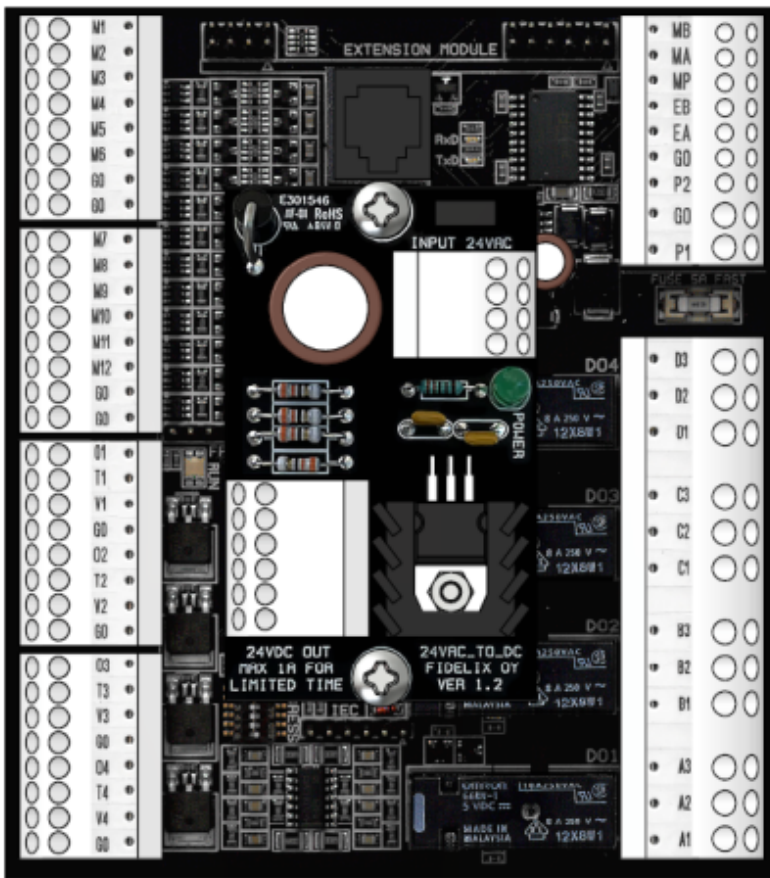


Figure 24. Connection diagram of Halton Safe HSL

Terminals

Terminal	Actuator/sensor	Comment
M1	S1	Damper 1
M2	S4	Damper 1
M3	3/1	Feedback from Smoke detector 1
M4	S1	Damper 2
M5	S4	Damper 2
M6	3/1	Feedback from Smoke detector 2
G0	S2, S6	Damper 1
G0	S2, S6	Damper 2

Terminal	Actuator/sensor	Comment
M7	S1	Damper 3
M8	S4	Damper 3
M9	3/1	Feedback from Smoke detector 3
M10	S1	Damper 4
M11	S4	Damper 4
M12	3/1	Feedback from Smoke detector 4
G0	S2, S6	Damper 3
G0	S2, S6	Damper 4

Terminal	Actuator/sensor	Comment
O1	-	Not in use
T1	2	Power Damper 1
V1	1	Power Damper 1
G0	-	Not in use
O2	-	Not in use
T2	2	Power Damper 2
V2	1	Power Damper 2
G0	-	Not in use

Terminal	Actuator/sensor	Comment
O3	-	Not in use
T3	2	Power Damper 3
V3	1	Power Damper 3
G0	-	Not in use
O4	-	Not in use
T4	2	Power Damper 4
V4	1	Power Damper 4
G0	-	Not in use

Terminal	Name	Comment
MB	-	Internal bus, line B
MA	-	Internal bus, line A
MP	-	Not in use
EB	-	Not in use
EA	-	Not in use
G0	-	Internal use
P2	-	Internal use
G0	-	Input power 24 V AC
P1	-	Input power 24 V AC

10.1.3 Connections: Halton Safe HSP

Connection diagram

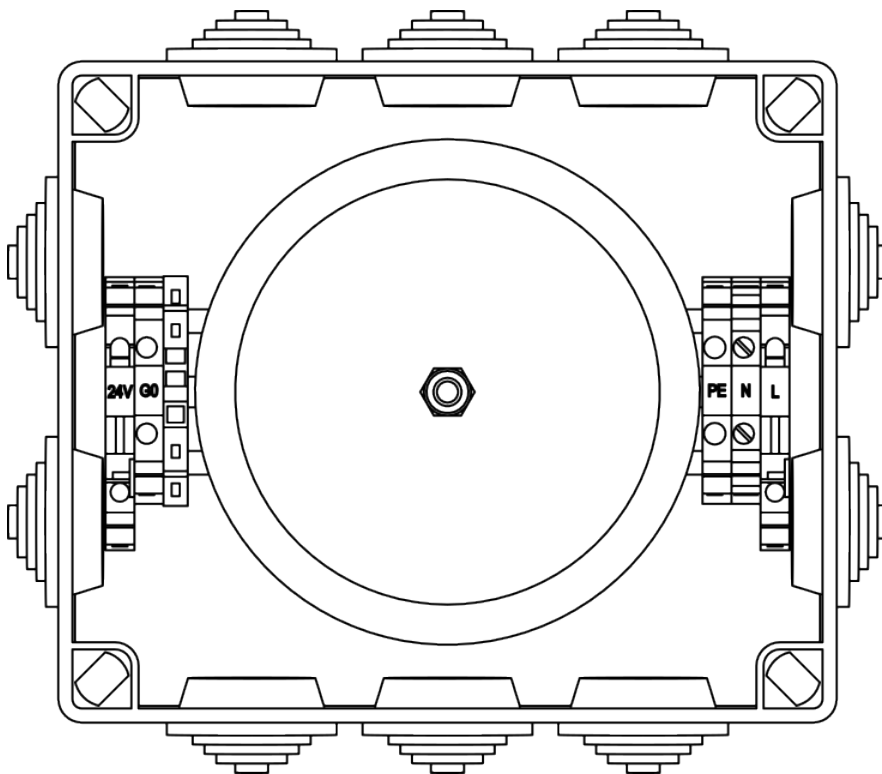


Figure 25. Connection diagram of Halton Safe HSP

Terminals

Outlet power	
Terminal	Comment
24V	G, Terminals for supply voltage connection + (24 V)
G0	G0, Terminals for supply voltage connection - (24 V)

Inlet power	
Terminal	Comment
L	230 V AC Line
N	230 V AC Neutral
PE	Ground

10.1.4 Connection diagram: Halton Safe HSR

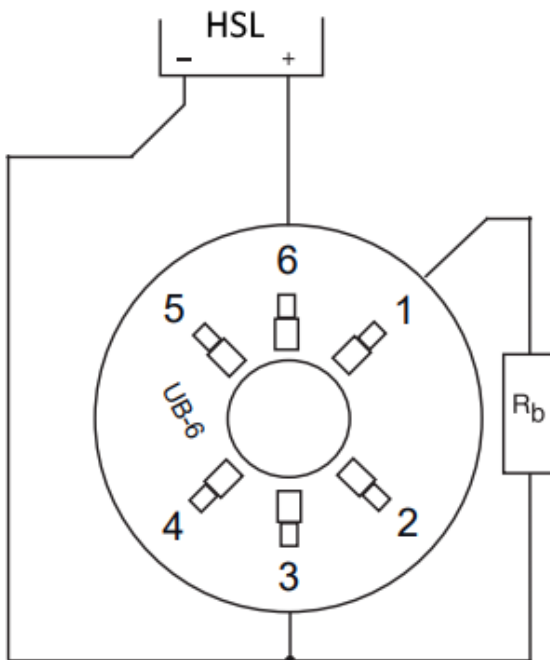


Figure 26. Connection diagram of Halton Safe HSR. R_b : Terminating resistor 2.2 k Ω .

10.1.5 Connection diagram: Halton Safe HSD

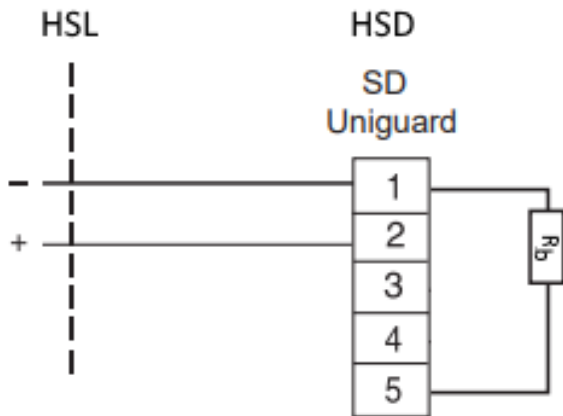


Figure 27. Connection diagram of Halton Safe HSD. R_b : Terminating resistor 2.2 k Ω .

10.2 DIP switch settings of Halton Safe HSL link units

DIP switch settings of Halton Safe HSL link units 1-20 (1 = ON, blank = OFF)

HSL number	DIP 1 (32)	DIP 2 (16)	DIP 3 (8)	DIP 4 (4)	DIP 5 (2)	DIP 6 (1)
1			1		1	1
2			1	1		
3			1	1		1
4			1	1	1	
5			1	1	1	1
6		1				
7		1				1
8		1			1	
9		1			1	1
10		1		1		
11		1		1		1
12		1		1	1	
13		1		1	1	1
14		1	1			
15		1	1			1
16		1	1		1	
17		1	1		1	1
18		1	1	1		
19		1	1	1		1
20		1	1	1	1	

DIP switch settings of Halton Safe HSL link units 21-40

HSL number	DIP 1 (32)	DIP 2 (16)	DIP 3 (8)	DIP 4 (4)	DIP 5 (2)	DIP 6 (1)
21		1	1	1	1	1
22	1					
23	1					1
24	1				1	
25	1				1	1
26	1			1		
27	1			1		1
28	1			1	1	
29	1			1	1	1
30	1		1			
31	1		1			1
32	1		1		1	
33	1		1		1	1
34	1		1	1		
35	1		1	1		1
36	1		1	1	1	
37	1		1	1	1	1
38	1	1				
39	1	1				1
40	1	1			1	

DIP switch settings of Halton Safe HSL link units 41-50

HSL number	DIP 1 (32)	DIP 2 (16)	DIP 3 (8)	DIP 4 (4)	DIP 5 (2)	DIP 6 (1)
41	1	1			1	1
42	1	1		1		
43	1	1		1		1
44	1	1		1	1	
45	1	1		1	1	1
46	1	1	1			
47	1	1	1			1
48	1	1	1		1	
49	1	1	1		1	1
50	1	1	1	1		

10.3 Wiring diagrams

10.3.1 Wiring diagram: Halton Safe Management 2.0 controller

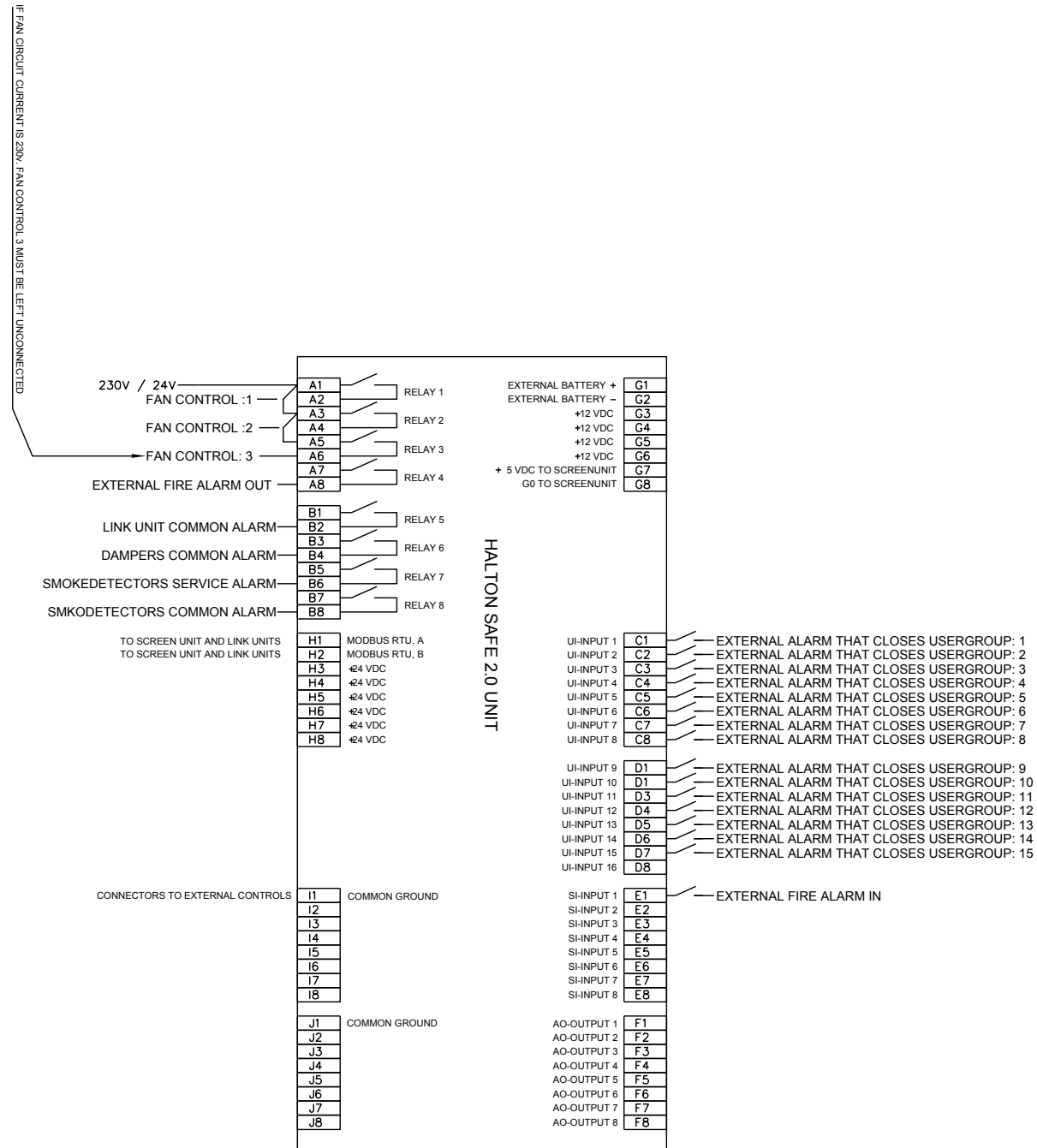
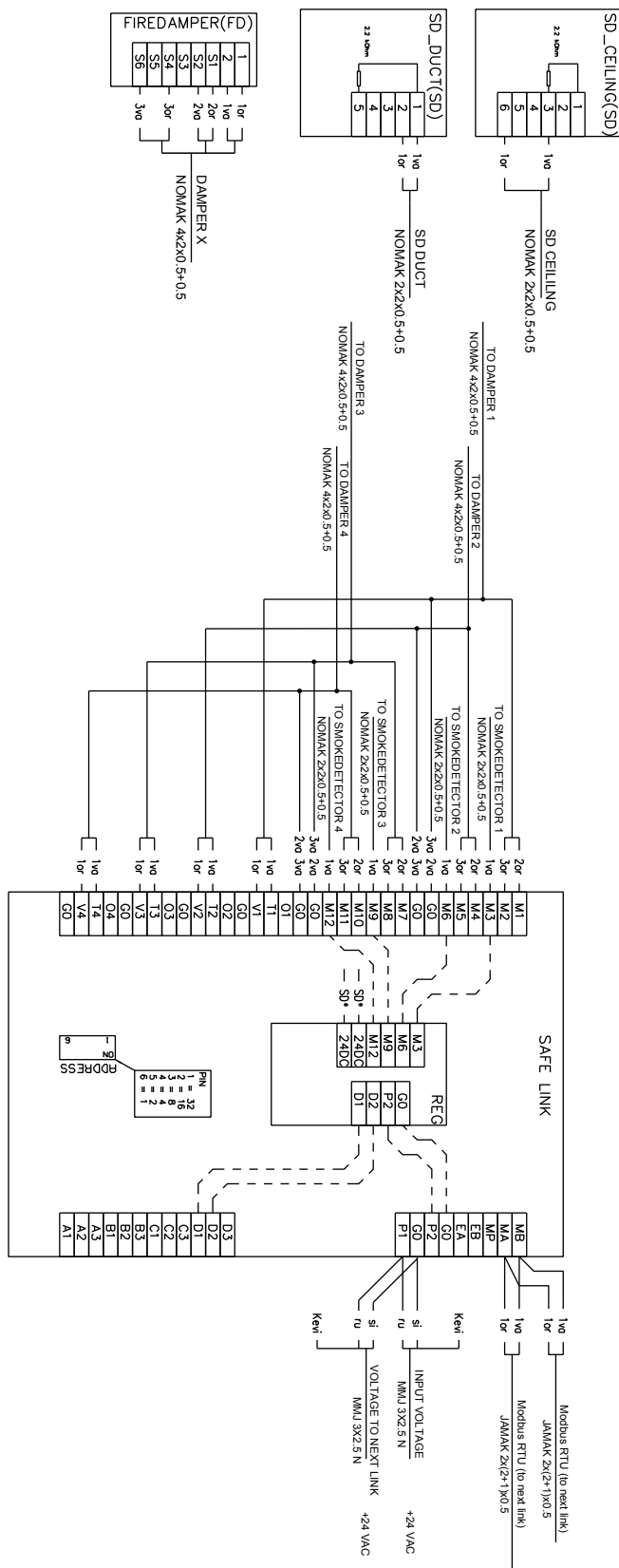


Figure 28. Wiring diagram of Halton Safe Management 2.0 controller

10.3.2 Wiring diagram: Halton Safe HSL



PIN selector = Choose address to link unit binary. In range 11-60
 address is Link number + 10 (Examp. LINK27 = 27 + 10 = 37)
 - SD* - = Voltage Output to SmokeDetector
 Attach smokedetectors cable 1 pair white wire.
 In smoke detector attach in to 6/2-connector.
 ----- = Inner / Factor assembly, not installed individually

Figure 29. Wiring diagram of Halton Safe HSL

10.4 Reports

10.4.1 Commissioning report: Halton Safe Management 2.0

Halton

Halton Safe Management 2.0 commissioning

Date: ____/____/20____

Site:

Site address:

Adjustment chart ID:

Setting the timed test programme and fan groups:

Test start: Not used Internal clock External clock, from where: _____Test day: Mon Tue Wed Thu Fri Sat Sun

Test time:

Fan group setting, for example: All, Group1, etc.

 FAN1 FAN2 FAN3

Alarms:

Shared fire damper alarm: Not used Shared alarm – where to? _____Shared smoke detector alarm: Not used Shared alarm – where to? _____ Not used Shared alarm – where to? _____Halton Safe HSL shared alarm: Not used Shared alarm – where to? _____External shared fire damper alarm: Not used Shared alarm – where to? _____Inbound external fire alarm: Not used Shared alarm – where to? _____

Tester name:

Installation company:

Contact information:

Date and signature:

10.4.2 Commissioning report: Halton Safe HSL link unit tests

Link unit number	Location	Tested OK/fault:	Link unit number	Location	Tested OK/fault:
01			26		
02			27		
03			28		
04			29		
05			30		
06			31		
07			32		
08			33		
09			34		
10			35		
11			36		
12			37		
13			38		
14			39		
15			40		
16			41		
17			42		
18			43		
19			44		
20			45		
21			46		
22			47		
23			48		
24			49		
25			50		

Notes:

10.4.3 Commissioning report: Damper and smoke detector tests

Fire damper ID	Location	Tested OK/fault:	Smoke detector ID	Location	Tested OK/fault:
PP01			SD01		
PP02			SD02		
PP03			SD03		
PP04			SD04		
PP05			SD05		
PP06			SD06		
PP07			SD07		
PP08			SD08		
PP09			SD09		
PP10			SD10		
PP11			SD11		
PP12			SD12		
PP13			SD13		
PP14			SD14		
PP15			SD15		
PP16			SD16		
PP17			SD17		
PP18			SD18		
PP19			SD19		
PP20			SD20		
PP21			SD21		
PP22			SD22		
PP23			SD23		
PP24			SD24		
PP25			SD25		
PP26			SD26		
PP27			SD27		
PP28			SD28		
PP29			SD29		
PP30			SD30		
PP31			SD31		
PP32			SD32		
PP33			SD33		
PP34			SD34		
PP35			SD35		
PP36			SD36		
PP37			SD37		
PP38			SD38		
PP39			SD39		
PP40			SD40		
PP41			SD41		
PP42			SD42		
PP43			SD43		
PP44			SD44		
PP45			SD45		
PP46			SD46		
PP47			SD47		
PP48			SD48		
PP49			SD49		
PP50			SD50		

Fire damper ID	Location	Tested OK/fault:	Smoke detector ID	Location	Tested OK/fault:
PP51			SD51		
PP52			SD52		
PP53			SD53		
PP54			SD54		
PP55			SD55		
PP56			SD56		
PP57			SD57		
PP58			SD58		
PP59			SD59		
PP60			SD60		
PP61			SD61		
PP62			SD62		
PP63			SD63		
PP64			SD64		
PP65			SD65		
PP66			SD66		
PP67			SD67		
PP68			SD68		
PP69			SD69		
PP70			SD70		
PP71			SD71		
PP72			SD72		
PP73			SD73		
PP74			SD74		
PP75			SD75		
PP76			SD76		
PP77			SD77		
PP78			SD78		
PP79			SD79		
PP80			SD80		
PP81			SD81		
PP82			SD82		
PP83			SD83		
PP84			SD84		
PP85			SD85		
PP86			SD86		
PP87			SD87		
PP88			SD88		
PP89			SD89		
PP90			SD90		
PP91			SD91		
PP92			SD92		
PP93			SD93		
PP94			SD94		
PP95			SD95		
PP96			SD96		
PP97			SD97		
PP98			SD98		
PP99			SD99		
PP100			SD100		

Fire damper ID	Location	Tested OK/fault:	Smoke detector ID	Location	Tested OK/fault:
PP101			SD101		
PP102			SD102		
PP103			SD103		
PP104			SD104		
PP105			SD105		
PP106			SD106		
PP107			SD107		
PP108			SD108		
PP109			SD109		
PP110			SD110		
PP111			SD111		
PP112			SD112		
PP113			SD113		
PP114			SD114		
PP115			SD115		
PP116			SD116		
PP117			SD117		
PP118			SD118		
PP119			SD119		
PP120			SD120		
PP121			SD121		
PP122			SD122		
PP123			SD123		
PP124			SD124		
PP125			SD125		
PP126			SD126		
PP127			SD127		
PP128			SD128		
PP129			SD129		
PP130			SD130		
PP131			SD131		
PP132			SD132		
PP133			SD133		
PP134			SD134		
PP135			SD135		
PP136			SD136		
PP137			SD137		
PP138			SD138		
PP139			SD139		
PP140			SD140		
PP141			SD141		
PP142			SD142		
PP143			SD143		
PP144			SD144		
PP145			SD145		
PP146			SD146		
PP147			SD147		
PP148			SD148		
PP149			SD149		
PP150			SD150		

Fire damper ID	Location	Tested OK/fault:	Smoke detector ID	Location	Tested OK/fault:
PP151			SD151		
PP152			SD152		
PP153			SD153		
PP154			SD154		
PP155			SD155		
PP156			SD156		
PP157			SD157		
PP158			SD158		
PP159			SD159		
PP160			SD160		
PP161			SD161		
PP162			SD162		
PP163			SD163		
PP164			SD164		
PP165			SD165		
PP166			SD166		
PP167			SD167		
PP168			SD168		
PP169			SD169		
PP170			SD170		
PP171			SD171		
PP172			SD172		
PP173			SD173		
PP174			SD174		
PP175			SD175		
PP176			SD176		
PP177			SD177		
PP178			SD178		
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PP180			SD180		
PP181			SD181		
PP182			SD182		
PP183			SD183		
PP184			SD184		
PP185			SD185		
PP186			SD186		
PP187			SD187		
PP188			SD188		
PP189			SD189		
PP190			SD190		
PP191			SD191		
PP192			SD192		
PP193			SD193		
PP194			SD194		
PP195			SD195		
PP196			SD196		
PP197			SD197		
PP198			SD198		
PP199			SD199		
PP200			SD200		

10.5 Halton Safe HSL

10.5.1 Structure and components

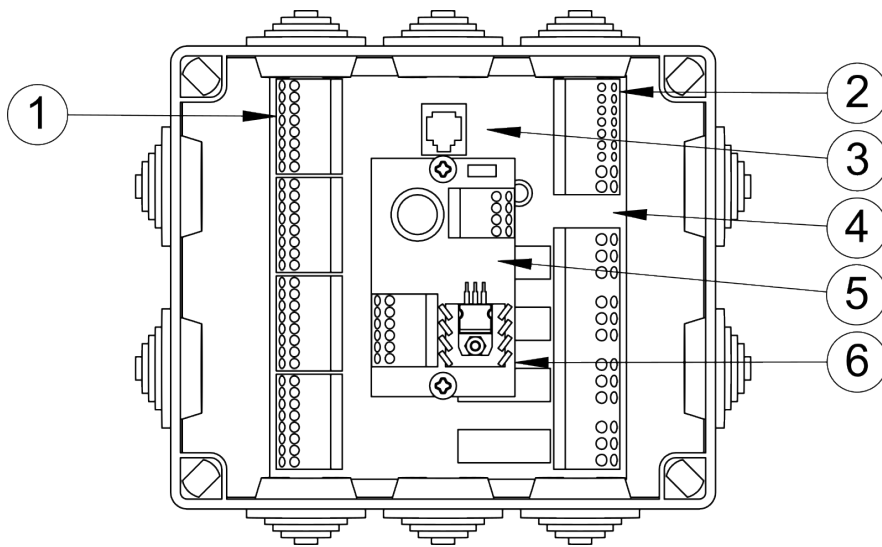


Figure 30. Structure of Halton Safe HSL

No.	Part	Details
1	I/O terminals	Terminals for fire dampers and smoke detectors
2	Bus connections	Internal bus to Halton Safe Management 2.0 controller and Halton Safe HSL link units
3	Indicators for bus communication	-
4	24 V fuse	SMD 2410 5 A F
5	Power indicator	-
6	DC transformer	24 W

10.5.2 Dimensions and weight

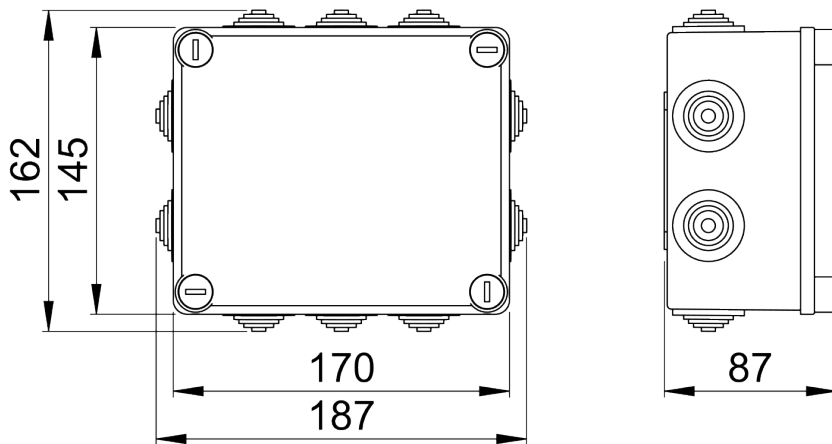


Figure 31. Dimensions of Halton Safe HSL

Weight: 1.5 kg

10.6 Halton Safe HSP

10.6.1 Structure and components

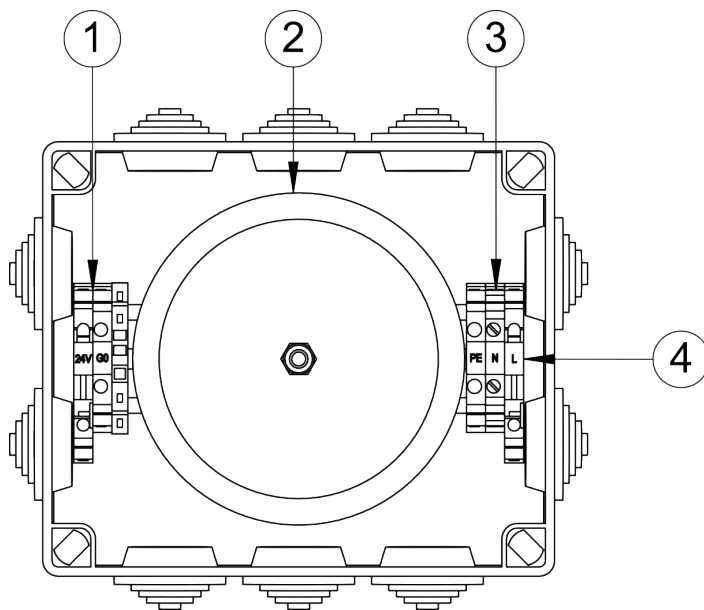


Figure 32. Structure of Halton Safe HSP

No.	Part	Details
1	24 V AC terminals	Power connections for Halton Safe HSL link units
2	Transformer	260 VA
3	Terminal for power supply	230 V AC
4	230 V AC fuse	2 A

10.6.2 Dimensions and weight

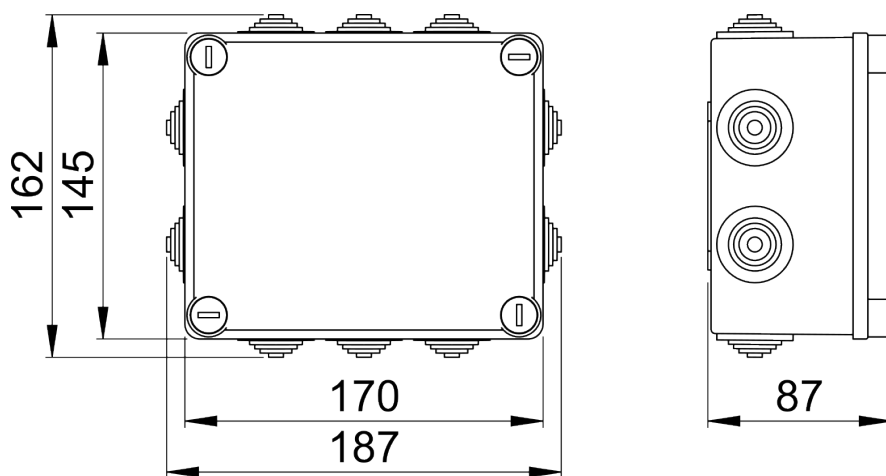


Figure 33. Dimensions of Halton Safe HSP

Weight: 2.8 kg

11 Technical reference data: Parameters

11.1 Halton Safe Management 2.0 BACnet parameter descriptions

Grouping	Object number	Object type	Name	Description
Fire dampers 1-300	1-200	Multi-state input	UNIT*FD*STATE	Fire damper status
	201	Multi-state input	DAMPER*ALARM*IND	Fire damper alarm indication
	1-200	Alarm (Notification class 0)	UNIT*FD*ALARM	Fire damper alarm
Smoke detectors 301-600	301	Multi-state input	SMOKE*ALARM*IND	Smoke detector/alarm device status
	302	Multi-state input	SMOKE*SERVICE*IND	Smoke detector service indication
	301-500	Alarm (Notification class 0)	UNIT*SD*ALARM	Smoke detector alarm
Link units 601-700	601	Multi-state input	UNIT*ALARM*IND	Link unit alarm indication
	601-650	Alarm (Notification class 0)	UNIT*UNIT*FAULT	Link unit alarm
Zones 701-	701-719	Multi-state input	ZONE*STATE	Zone status
	701-719	Multi-state output	*TEST	Testing a zone
	720	Multi-state output	TESTNOW	Testing all zones
	701	Schedule	TESTTIME	Schedule of automated tests
External controls 801-	801-815	Multi-state input	EXTERNAL*CTRL*I	External control in (physical connection)
	821-835	Multi-state input	EXTERNAL*CTRL*STATE	External control status
	801-815	Multi-state output	EXTERNAL*CTRL*TYPE	External control type
	821-835	Multi-state output	EXTERNAL*CTRL*UGRP	Zone impacting the external control
	841-855	Multi-state output	EXTERNAL*CTRL*O	External control in (BACnet connection)
	801-815	Alarm (Notification class 0)	EXTERNAL*CTRL*ALARM	External control alarm
Other 900-	903-905	Multi-state input	FAN*CTRL'I	Fan running permission
	901	Multi-state input	EXTERNAL*FIREALARM*OUT	Sending fire alarm to external fire alarm device
	902	Multi-state input	EXTERNAL*FIREALARM'I	External fire alarm in (physical connection)
	901	Alarm (Notification class 0)	EXTERNAL*FIREALARM	Fire alarm activated
	901	Multi-state output	EXTERNAL*FIREALARM*IN	External fire alarm in (BACnet connection)