Commissioning information

S4 Mains powered interface

(S4-34440-02 & S4-34440-12)

GENT by Honeywell



Backward Compatibility

(on Vigilon loop)

A S4 Mains powered interface unit can be converted to be a BACKWARD COMPATIBLE 34440 Mains powered interface unit for use on a Vigilon loop. The conversion is done using a S4 Interface programmer unit. For further information contact your supplier.

Compatibility

Only an EN Vigilon panel based fire alarm system with compatible software can operate a Mains powered interface to drive a compliant BS7273 part 4:2007 system. These Mains powered interface units MUST NEVER be used to drive a BS7273 part 4 compliant system where the fire alarm system has a BS Vigilon panel or a Nano panel.

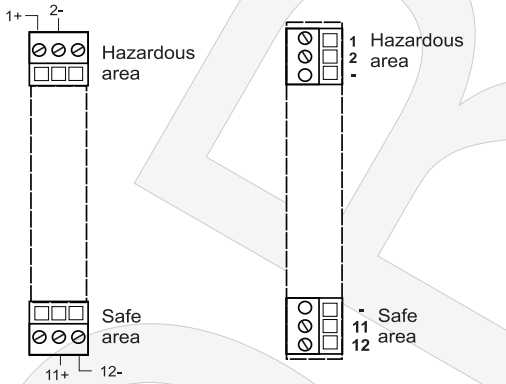
The S4 Mains powered interface unit is compatible for use in Vigilon and Nano systems having the following panel firmware.

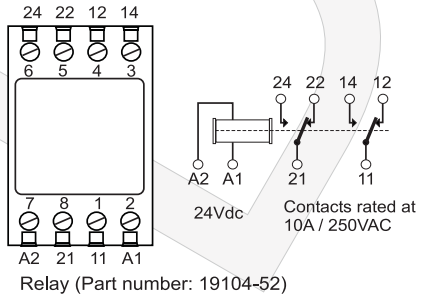
Control Panel	having card and firmware
Vigilon	Main Controller Card ≥ V4.43 / V3.97
	Loop Processor Card ≥ V4.41 / V3.97
	Vigilon Commissioning tool ≥ V1.27
Nano	Main Controller ≥ V2.50
	Nano Commissioning tool ≥ V2.x

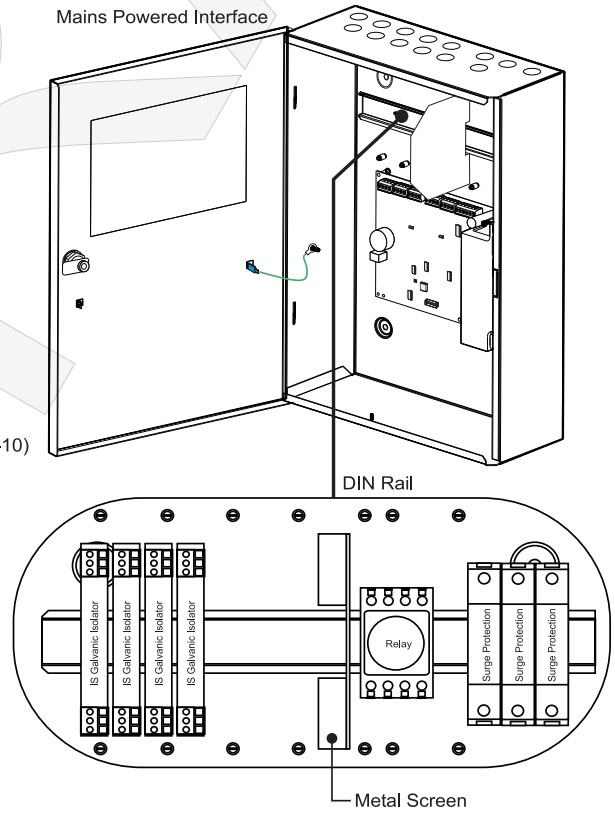
Note a Nano loop can only accomodate S4-34440-02.

Factory settings

- ☐ The S4 Mains powered interface channels 1 - 4 are all set to UNUSED.
- ☐ The Auxiliary output is off and is unaffected by mains failure or fire reset.



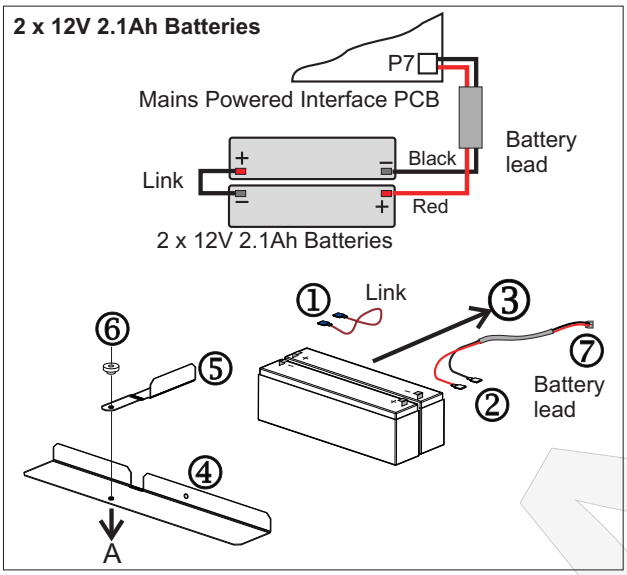


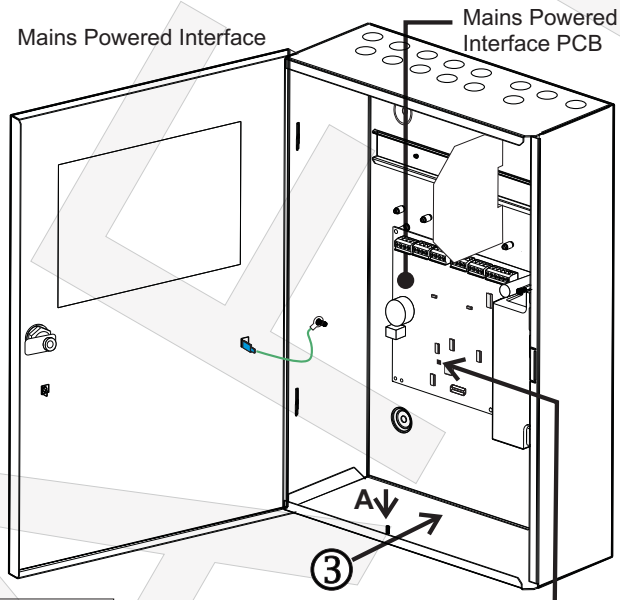


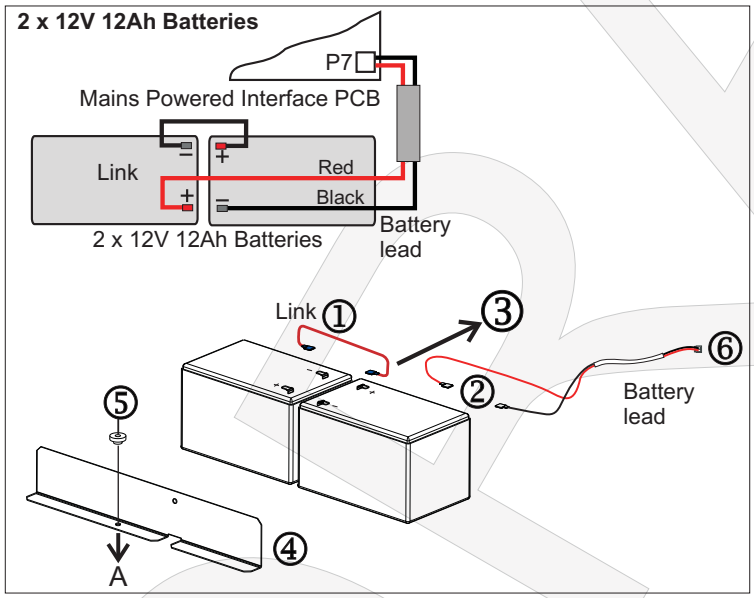
How to install batteries and Power up

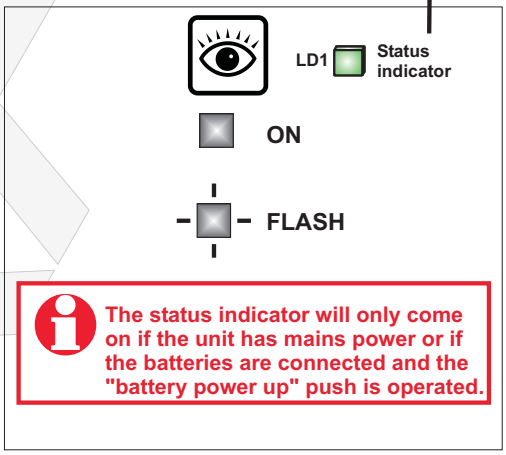
The following illustration shows how to connect a pair of 12V 12Ah batteries for S4-34440-12 or 12V 2.1Ah batteries for S4-34440-02 into a S4 Mains powered interface unit. The numbers ①, ②, ③.. shows the order in which to carry out the installation.

DO NOT fit the 12V 2.1Ah batteries inside the S4-34440-12 Mains powered interface unit .









Status Indicator LD1

Indicator LD1	colour	meaning...
FLASH	Green	OK - Interface replies to a loop communication sequence.
Long FLASH with loop communications	Amber	There is a short circuit, open circuit or confirmation timeout on an interface zone / sector channel.
Short FLASH	Amber	The interface loses synchronisation with the loop communications sequence.
ON continuously	Amber	System error is detected (e.g. a configuration memory checksum / validity check error or a Flash / RAM error).

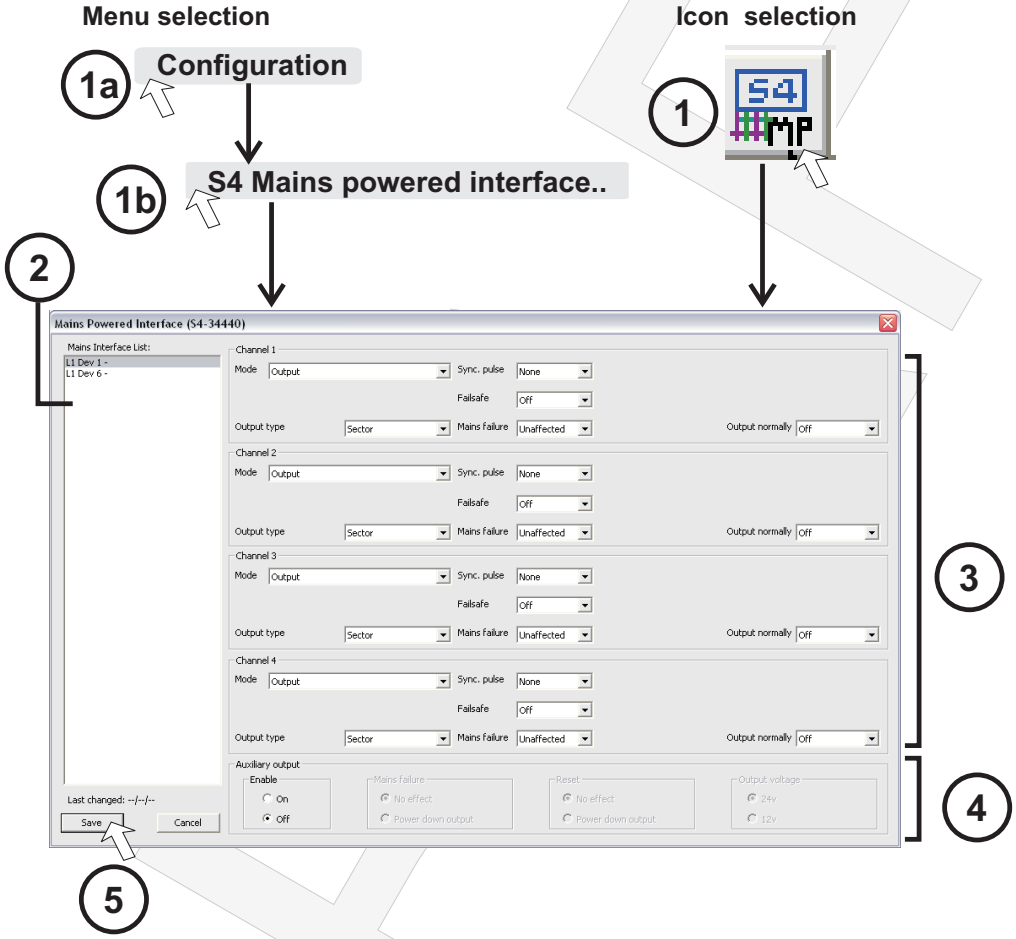
Vigilon system - Commissioning the interface

S4 Mains Powered Interface - *Config. menu*

Menu option	you can use this option to..	notes
S4 Mains Powered Interface...	...to configuring the S4-34440-02 and S4-34440-12 Mains powered interface units.	

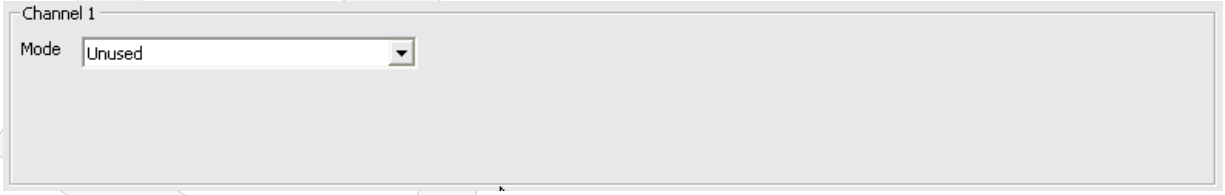
Operation (The numbers ①②③④..shows the order in which to the make selections and enter appropriate data).

After opening the Mains Interface configuration window select the required interface from the system tree for configuration.



Unused Mode

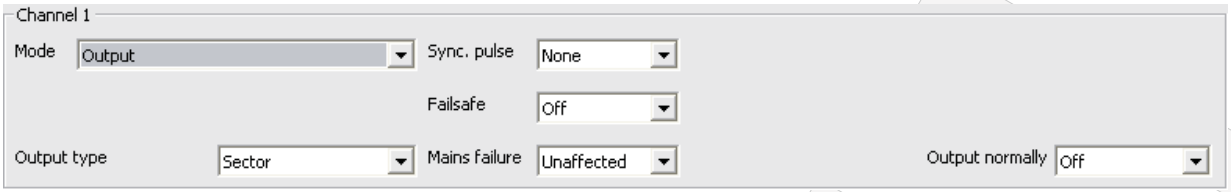
When a channel is not being used it must be setup as an unused channel.



Mode	settings	notes
Unused		Set the channel mode to unused if it is not required.

Output mode

This is when a channel is configured as an output and the channels input terminals are not used.



Mode	settings	notes
Output	Output type Sector LED UnMonitored Sector Door release cat.A Door release cat.B	The **Sectored output** is used to power a wide range of alarm products such as sounders, bells door holders and relay. A series blocking diode must be used. The **LED output** drive of 1.5mA is available. The **Unmonitored sector output** is for use with galvanic isolator, in this mode no end-of-line resistor or series diode is required. Unmonitored sector lines will have no associated analogue channels. The **Door release category A** option is used for controlling door release mechanisms that need to meet the requirement of BS7273 Part 4. With Category A the outputs are operated (doors released) from ***fire, fault and disablement*** events, see * below. The **Door release category B** option is used for controlling door release mechanisms that need to meet the requirement of BS7273 Part 4. With Category B the outputs are operated (doors released) from ***fire*** events, see * below.
	Sync. pulse None 10ms 20ms 30ms	The outputs sends a **synchronisation pulse** every 10s, the output is turned off for a short duration. The duration can be programmed to be approximately 10, 20 or 30ms for compatibility with a wide range of annunciation devices that require synchronisation such as strobes, sounders and voice sounders.
	Failsafe Off On	When On it allows the setting of **Fail safe periods** for all Mains powered interface outputs, where outputs are used for fire doors control applications. When set to 'On' the **Initial fail safe period** defaults to 120s and the **Final fail safe period** defaults to disabled. See page 14.
	Mains failure Unaffected TurnOff	To preserve battery capacity for essential functions it is possible to configure individual outputs to deactivate 'Turn Off' during a **mains power failure**.
	Output normally Off On	* This is when a sectored output is configured to work in an inverse manner. An ON setting will cause the output to turn OFF. Note that in this mode the sector wiring is effectively unmonitored, it is only monitored when the output is de-energised. This feature may be used with equipment such as magnetic door holders to ensure the fire door will release once a fire has been detected.

Zone Input mode

This example shows how to set a channel as a **Zone input.**



Mode	settings	notes
Zone Input	Zone Input Type Gent IS Esser Sensor Apollo/Nittan	The **Zone Input Type** monitors 'conventional' detectors and call points, with manual call points having 470 ohms resistor in series with Normally Open contacts. When Gent detectors operate they will draw a constant current of 30mA. A standard end-of-line capacitor must be fitted across the Z+ and Z- terminals. Each zone input can have up to 20 standard detectors connected with the diode base option. A Zone Input Type can accommodate a range of different products to operate at different zone input thresholds: Gent (**Type 0**) IS Esser Sensor (**Type 1**) Apollo/Nittan (**Type 2**) Tanlentum Flame (**Type 3**) Det-tronics Flame (**Type 4**) S/C Fire (**Type 5**)
	Validation Delay 0.00 2.40 4.80 7.20 9.60 12.00 14.40	The purpose of the alarm **Validation Delay** is to minimise false alarms. The alarm validation timeout can be any value in the range 0 (off) to 37.5 seconds. During alarm validation delay timeout period the interface will suppress fire event by applying a reset to the zone circuit and then wait for a second confirming fire signal.
	Reset Period 1.90 2.54 3.18 3.82 4.46 5.10 5.74 6.38	Other detector types may need a specific **Reset period** which can be set here in seconds.

Supervisory Input mode

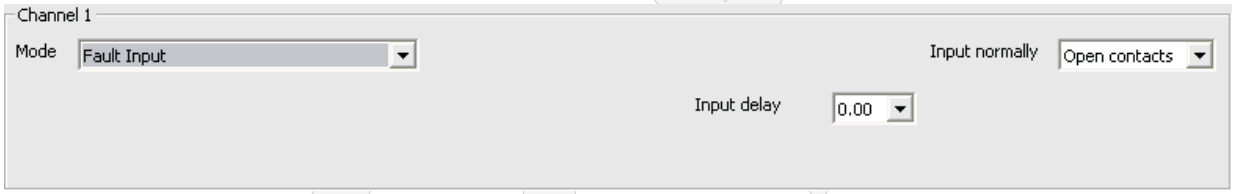
This example sets the respective channel as a **Supervisory input.**



Mode	settings	notes
Supervisory input	Input delay 0.00 2.40 4.80 7.20 9.60 12.00 14.40	The **Input Delay** is the time before the input is accepted by the interface, this will filter any noise or spurious signals, commonly know as "bounce". This time is the debounce period. The input delay timeout can be any value in the range 0 to 36 seconds.
	Input normally Open contacts Closed contacts	The input channel can be configured to operate with normally open or normally closed contacts. Note normally closed operation should be selected if fail safe contact monitoring is required.

Fault Input mode

This example shows how to set a channel as a **Fault input.**



Mode	settings	notes
Fault input	Input delay	As described for Supervisory input.
	Input normally	As described for Supervisory input.

Fire Input mode

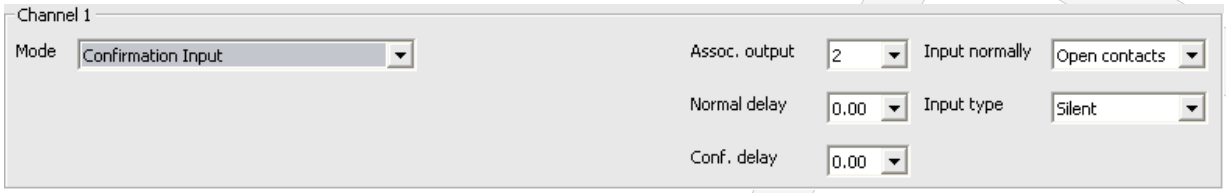
This example shows how to set a channel as a **Fire input.**



Mode	settings	notes
Fire Input	Input delay	As described for Supervisory input.
	Input normally	As described for Supervisory input .

Confirmation Input mode

The purpose of a **Confirmation Input** is to allow the system to monitor the correct operation of an output, which relies on external equipment sending back the correct signal. In this mode use a 470ohms end-of-line resistor with another 470ohms resistor being switched in parallel across the Z+ and Z- terminals to provide the feedback signal.

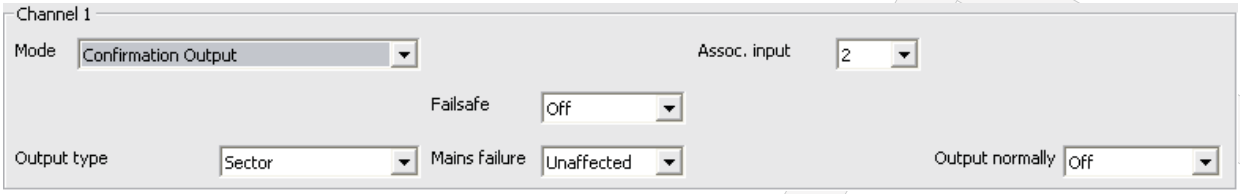


Mode	settings	notes
Confirmation Input	Associated output 2 3 4	The selected output channel is associated with the confirmation input channel. Note channel 1 cannot be selected for associated output as it is already being used as an input, however this would be possible if the channel was configured as a combined input/output channel.
	Normal delay 0.00 1.20 2.40 3.60 4.80 6.00 7.20	The **Normal delay** is the time before a confirmation input is accepted by the interface, this will filter any noise or spurious signals, commonly know as "bounce". This time is the debounce period.
	Confirmation delay 0.00 2.40 4.80 7.20 9.60 12.00 14.40 16.80	This is the delay time before a confirmation input is accepted by the interface and is how long the interface waits for a confirmation signal before it brings up a fault message.
	Input normally	See page 6.
	Input type Silent Verbose	The **verbose** setting will generate true/false supervisory messages whenever the input changes state, as well as generate timeout fault if the change does not occur before the delay has elapsed. The **silent** setting will only give a timeout fault.

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Confirmation Output mode

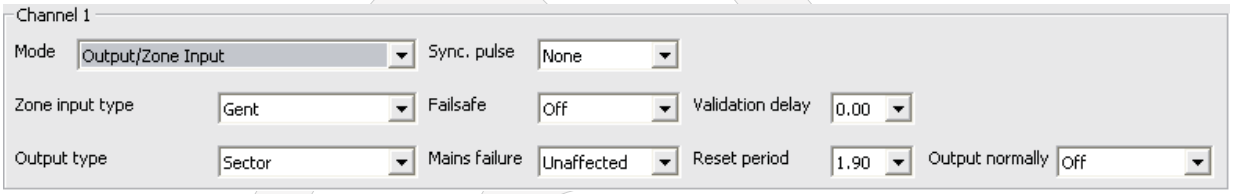
A channel is configured as a confirmation output and is associated with an input at another channel, but not its own channel.



Mode	settings	notes
Confirmation Output	Output type: Sector LED UnMonitored Sector	See page 4.
	Fail safe	See page 4.
	Mains Failure	See page 4.
	Associated Input 2 3 4	The selected input channel is associated with the confirmation output channel. Note channel 1 cannot be selected for associated input as it is already being used as an output.
	Output Normally	See page 4.

Output with Zone Input mode

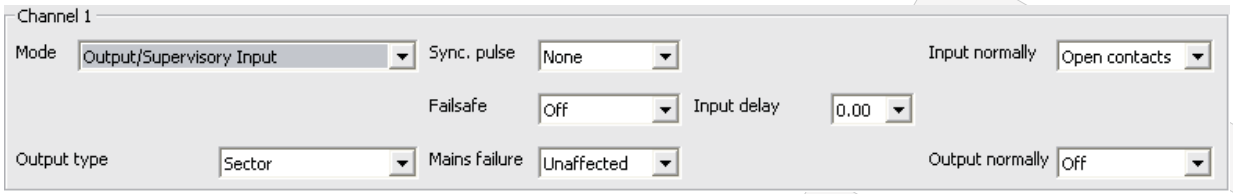
This is when a channel is configured as an output and the channels input terminals are Zone Input.



Mode	settings	notes
Output / Zone input	Zone input type	See page 5.
	Output type	See page 4.
	Sync. pulse	See page 4.
	Failsafe	See page 4.
	Mains failure	See page 4.
	Validation delay	See page 5.
	Reset period	See page 5.
	Output normally	See page 4.

Output with Supervisory Input mode

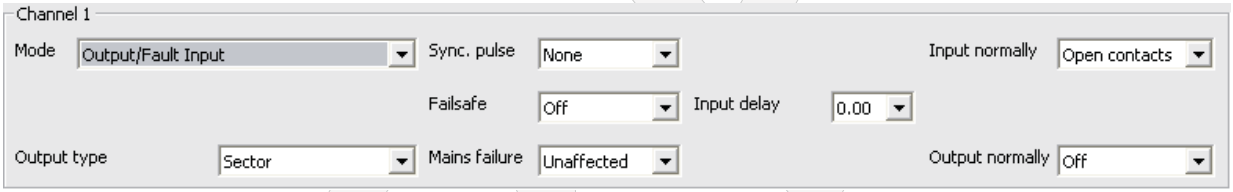
This is when a channel is configured as an output and the channels input terminals are Supervisory Input.



Mode	settings	notes
Output / Supervisory input	Output Type	See page 4.
	Sync. pulse	See page 4.
	Failsafe	See page 4.
	Mains Failure	See page 4.
	Input Delay	See page 6.
	Input normally	See page 6.
	Output normally	See page 4.

Output with Fault Input mode

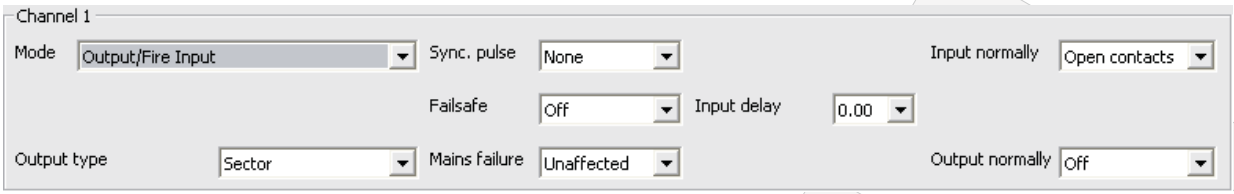
This is when a channel is configured as an output and the channels input terminals are Fault Input.



Mode	settings	notes
Output / Fault input	Output type	See page 4.
	Sync pulse	See page 4.
	Failsafe	See page 4.
	Mains Failure	See page 4.
	Input Delay	See page 6.
	Output normally	See page 4.

Output with Fire input mode

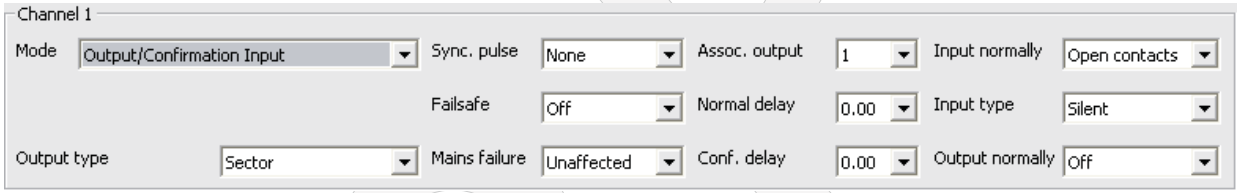
This is when a channel is configured as an output and the channels input terminals are Fire Input.



Mode	settings	notes
Output / Fire input	Output Type	See page 4.
	Sync. pulse	See page 4.
	Failsafe	See page 4.
	Mains failure	See page 4.
	Input Delay	See page 6.
	Input normally	See page 6.
	Output normally	See page 4.

Output / Confirmation Input mode

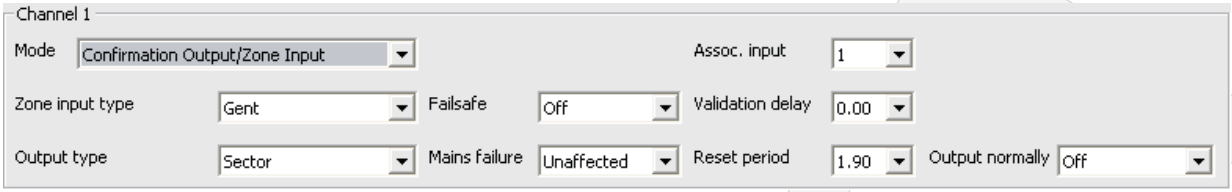
This is when a channel is configured as an output and the channels input terminals are Confirmation Input.



Mode	settings	notes
Output / Confirmation input	Output type	See page 4.
	Sync. pulse	See page 4.
	Failsafe	See page 4.
	Mains failure	See page 4.
	Associated output	See page 7.
	Normal delay	See page 7.
	Conf. delay	See page 7.
	Input normally	See page 6.
	Input type	See page 7.
	Output normally	See page 4.

Confirmation Output with Zone Input mode

This example shows how to set a confirmation output when there is a state change on the associated **Zone** input.

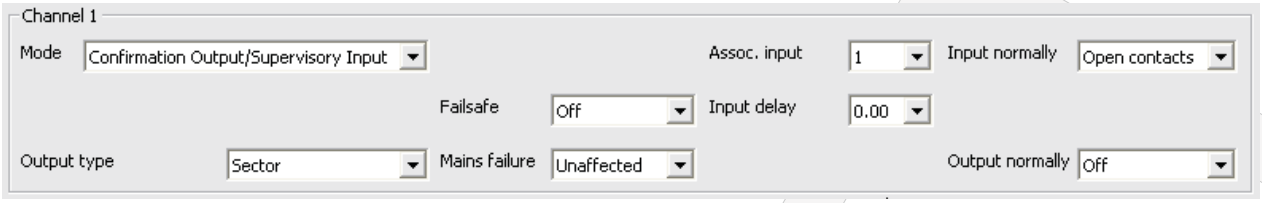


Mode	settings	notes
Confirmation Output/Fault Input	Zone Input Type	See page 5.
	Output Type: Sector LED UnMonitored Sector	See page 4.
	Failsafe	See page 4.
	Mains failure	See page 4.
	Output normally	See page 4.
	Associated Input	See page 8.
	Validation Delay	See page 5.
	Reset Period	See page 5.
	Output Normally	See page 4.

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Confirmation Output with Supervisory Input mode

This example shows how to set a confirmation output when there is a state change on the associated **Supervisory** input.

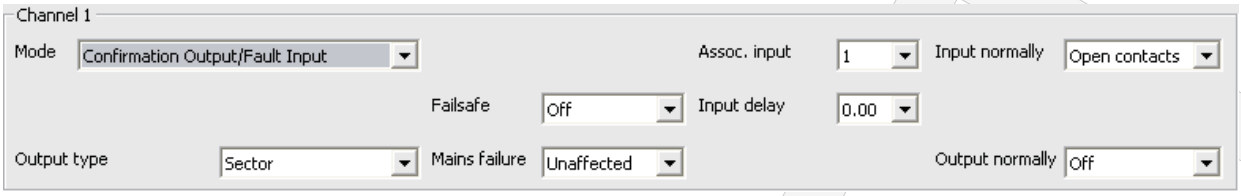


Mode	settings	notes
Confirmation Output/Supervisory Input	Output type: Sector LED UnMonitored Sector	See page 4
	Failsafe	See page 4.
	Mains failure	See page 4.
	Output normally	See page 4.
	Associated input: 1 2 3 4	The selected input channel is associated with the confirmation output channel.
	Input delay	See page 6.
	Input normally	See page 6.

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Confirmation Output with Fault Input mode

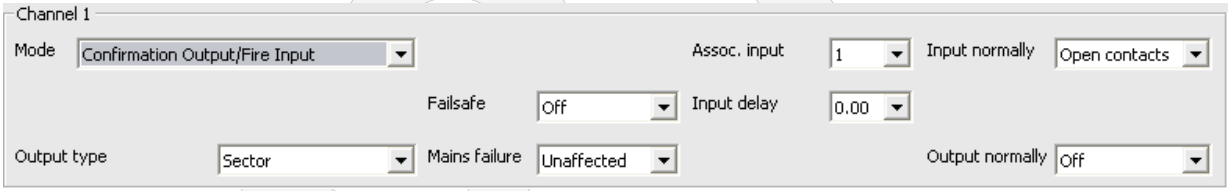
This example shows how to set a confirmation output when there is a state change on the associated **fault** input.



Mode	settings	notes
Confirmation Output/Fault Input	Output Type: Sector LED UnMonitored Sector	See page 4.
	Failsafe	See page 4.
	Mains failure	See page 4.
	Output normally	See page 4.
	Associated Input	See page 8.
	Input Delay	See page 6.
	Input Normally	See page 6.

Confirmation Output with Fire Input mode

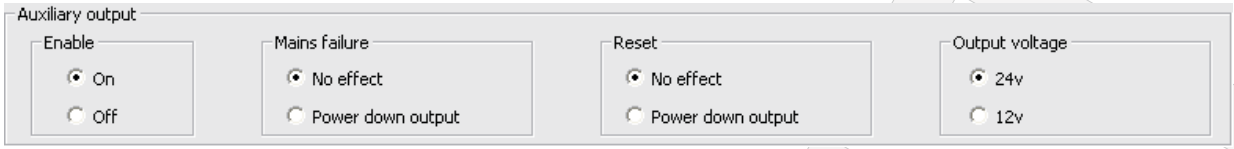
This example shows how to set a confirmation output when there is a state change on the associated **fire** input.

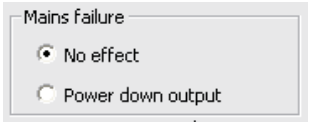
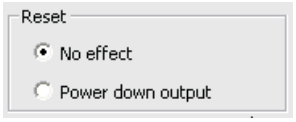
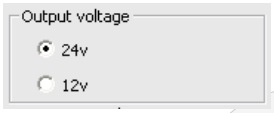


Mode	settings	notes
Confirmation Output/Fault Input	Output Type: Sector LED UnMonitored Sector	See page 4.
	Failsafe	See page 4.
	Mains failure	See page 4.
	Output normally	See page 4.
	Associated Input	See page 8.
	Input Delay	See page 6.
	Input Normally	See page 6.
	Output normally	See page 6.

Auxiliary output

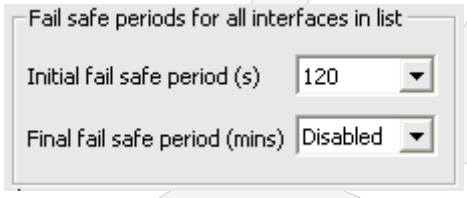
The interface has an auxiliary output rated at 1A max. The output voltage can be programmed as unregulated 24V (+/-3V) on the S4-34440-02 or regulated 12V/24V (+/-0.5V) on the S4-34440-12.

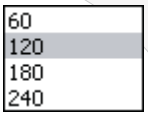
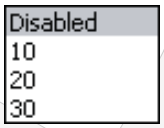


Mode	settings	notes
Auxiliary output		When 'On' the auxiliary output is enabled and is disabled when set to 'Off'. The "Off" setting should be selected when the auxiliary output is unused to maximise the battery standby period.
		If there is a mains failure then the auxiliary output can be switched off to preserve battery supply for essential inputs and outputs.
		Option for any equipment that needs a reset pulse to remove a latched condition, such as a conventional beam that is powered from the auxiliary terminal and signals a fire condition with relay contacts connected to a line configured as a switch input.
		Select the required output voltage. The 12V option is for S4-34440-12 Interface unit only.

Fail Safe period settings

The fail safe periods are associated with the all the Mains powered interface units in a standalone system where Outputs are configured for Door release Category A applications ONLY, see page 4.



Mode	settings	notes
Initial fail safe period (seconds)		If there is a fault preventing detection of fire, disablement of fire detection or other conditions preventing fire detection operation, like supply failure, then the Outputs will turn 'On' (ie doors released) after an initial **fail safe period** of 120s (default).
Final fail safe period (minutes)		If there are three **fail safe** conditions that occur within a period set here then the Outputs are latched 'On' (ie doors released) and can only be reset by powering down the interface and then powering it up again. This **final fail safe period** can be disabled by selecting the 'Disabled' setting, which is a default setting.

Vigilon system - Configuration

The following steps must be taken to ensure changes made to S4 mains powered interface unit configuration is correctly implemented:

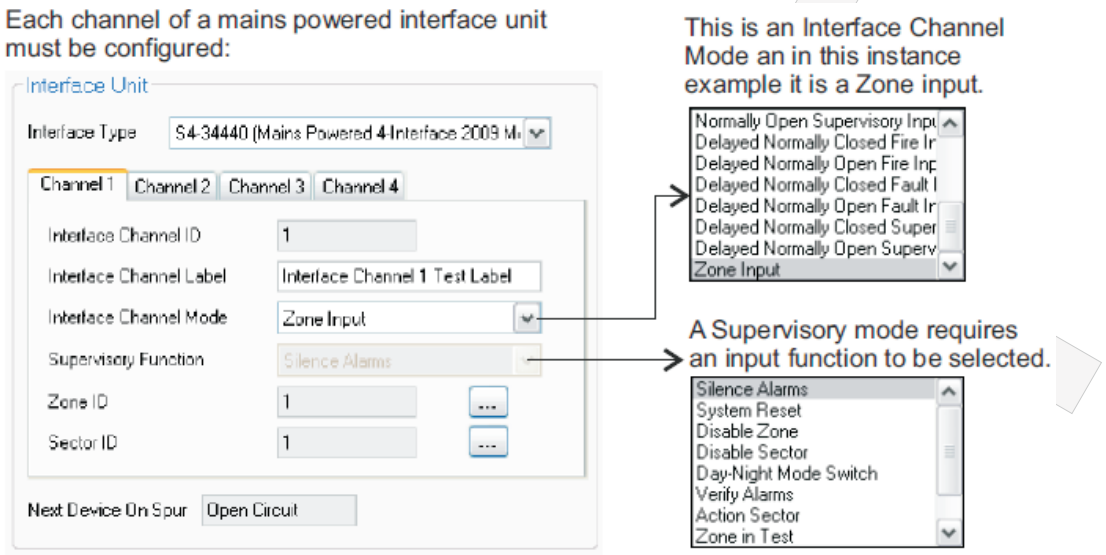
- ☐ Firstly the configuration of S4 Mains Powered Interface units on the respective loop circuits must be saved at the Commissioning tool.
- ☐ The configurations of the respective loop circuits must then be transmitted to the control panel.
- ☐ The respective loop on which the S4 Mains powered interface unit(s) reside must then be backed up at the control panel.
- ☐ Finally the respective loop circuits must be reallocated from the control panel before the configured changes take effect.

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Nano System - Commissioning the interface

When the S4 Mains powered interface unit is installed in a Nano panel based system it operate in a different manner when compared to the Vigilon panel based system. For example the use of the interface unit for door release is not applicable.

The Nano system can be configured using either the Nano Commissioning tool or from the Nano panel menus, for details see the Nano Commissioning tool user guide or Nano Commissioning instructions. The following illustration shows a screen shot of the configuration that is possible using the Nano Commissioning tool.



Gent by Honeywell reserves the right to revise this publication from time to time and make changes to the content hereof without obligation to notify any person of such revisions of changes.

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