

S4 Mains Powered Interface

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



The S4 Mains powered interface units (Part No's: S4-34440-02 and S4-34440-12) are EN54-4 compliant battery backed power supplies that can be directly connected to the Vigilon and Nano loop and having highly flexible interfacing capability. The 4 channels can be individually configured to provide Output and Input interface in various configuration modes, to control external equipment and receive input to allow the fire system to make decisions and take actions. It is now possible to have combined inputs and outputs giving a total of 8 external circuits connected (e.g. 4 sector outputs and 4 confirmation inputs). The units have room to accommodate optional modules on to DIN rails. It has a configurable auxiliary power output that is derived from its self contained mains power supply unit, which is battery backed to continue to deliver power in the event of mains supply failure.

Note a Nano system loop can only accept S4-34440-02.

Symbols on product

	Electric shock hazard.
	Protective Earth connection terminal.
	The WEEE symbol. It indicates the product is to be recycled and not thrown away.
	The CE compliance logo. This product is in conformity with the relevant European Union harmonisation legislation.
	The RoHS compliance logo. The RoHS directive restricts the use of certain hazardous substances commonly used in electronic and electronic equipment.
	The UKCA (UK Conformity Assessed) marking is a new UK product marking that is used for goods being placed on the market in Great Britain (England, Wales and Scotland).

Technical Data

Standards - designed to meet	EN54:part 4:1998 EN54:part 17:2005 EN54:part 18:2005		
Overall dimensions	478mm x 322mm x 145mm		
Assembled weight (approx.)	5.25Kg (excluding batteries and optional components fitted)		
Enclosure	Steel		
Colour	RAL7024 Graphite Grey (fine textured)		
Storage temperature	-20°C to +70°C		
Ambient operating temperature	-5°C to +40°C		
Relative Humidity (Non condensing)	up to 95% Temperature +5°C to +40°C		
Ingress Protection	IP30 (estimated)		
Mains voltage	230V -15% +10% 50Hz/60Hz		
Rated current	0.7A		
Input modes	Input can be fault monitored, voltage free contacts or conventional detection zone. Refer to the commissioning information for more details.		
Zone	16V or 22.5V (default) ±15%		
Nominal voltage	20mA per zone (default)		
Quiescent current	Zone short circuit current limited to < 30mA		
	EN54 compliance limitation: 32 devices OR Maximum of 20 diode bases per zone		
Output modes	Outputs are monitored 24V (nominal) 0.5A or LED drive. Refer to the commissioning information for details		
Confirmation modes	It is possible to configure all Inputs and Outputs as confirmation channels		
Batteries two types:	PS-1221 FR, 2 x 12V 2.1Ahr (1Kg each) for S4-34440-02 PS-12120 FR 2 x 12V 12Ahr (4.31Kg each) for S4-34440-12		
Compatible # Backward compatibility is possible, refer to your supplier	Vigilon# :MCC ≥ V4.43* / V3.97 :LPC ≥ V4.41 / V3.97 * V4.48 for door release applications Commissioning tool ≥ V1.27 Nano :MC ≥ V2.50 Commissioning tool ≥ 2.x		
Operating Voltage	35V - 48V		
EN54-4 : 1997 data	I _{maxa}	I _{maxb}	R _i max
S4-34440-02	1.5A	1.5A	2.5R
S4-34440-12	1.5A	2.5A	1.3R
	I _{min}	80 µA	
	UVLo	18.5Vdc ±5%	
	V _{batt} min (with no mains)	22.5Vdc ±5%	
EN54-17 : 2005 (section 4.8) data:	V _{max}	48V	I _C max 0.8A
	V _{nom}	40V	I _S max 1.25A
	V _{min}	24V	I _L max 50µA
	V _{SO} max	16V	ZC max 0.35Ω
	V _{SO} min	8V	

EN54-18 : 2005 data	Vmax 42V Vmin 24V
Sector and Auxiliary Outputs	Sector outputs: 0.5A max. each at 24V ± 3V, electronically current limited to approximately 1A at 25°C Auxiliary power output: (S4-34440-02) 0.5A max. at 24V ± 3V, electronically current limited to approximately 1A at 25°C (S4-34440-12) Regulation: 0 to 0.5A with 12V ±0.5V or 24V ±0.5V 0.5A to 0.65A max. with 12V ±2V or 24V ±2V Max. total output current: S4-34440-02 = 1.5A S4-34440-12 = 2.5A
Terminals	Terminals for spur circuit off main loop
Emission	BS EN 61000-6-3:2007 A1:2011 EMC for residential, commercial & light Industry
Immunity	BS EN50130-4:2011 for alarm systems
LVD	EN 62368-1: 2014 Safety Requirements
Terminals	2.5mm ²

Features

Fail-safe operation

A fail-safe operation is available on all sector outputs, if loop communications are lost for a defined duration then the sector outputs will be turned ON. Sector outputs will turn OFF immediately when communication is restored.

Synchronisation

Adjustable synchronisation pulses can be selected for all sector outputs to synchronise the operation of devices such as xenon strobes or speech sounders.

Auxiliary Output

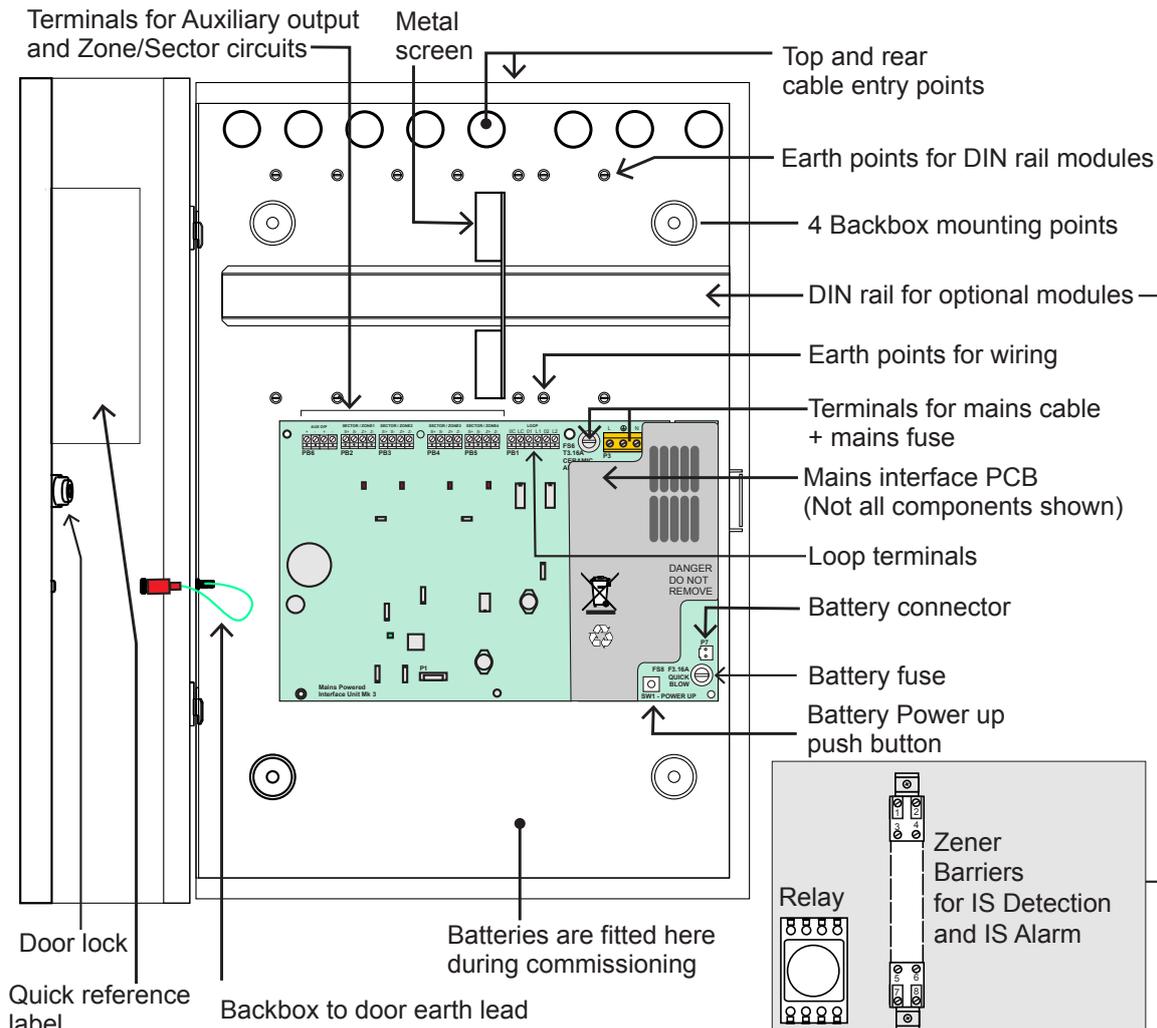
The Auxiliary output can be programmed to automatically turn OFF when a mains failure occurs to preserve battery capacity. The output can also be programmed to provide a reset pulse when a fire reset occurs, (this requires other line(s) on the interface to be programmed as inputs).

Installation recommendations

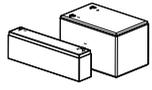
It is recommended that the installer follow the general requirements of BS 5839 : Part 1 : 2017, which is the code of practice relating to fire detection and alarm systems for buildings. The installer must follow the relevant parts of BS7671 : 2008 Requirements for Electrical installations, IEE wiring regulations 17th edition if installation is in the United Kingdom.

Where applicable the requirements of any national guidelines of the countries in which the product will be installed.

 **Repetitive switching of capacitive loads greater than 1500uF is not possible and will result in the thermal protection circuit automatically reducing the output voltage.**

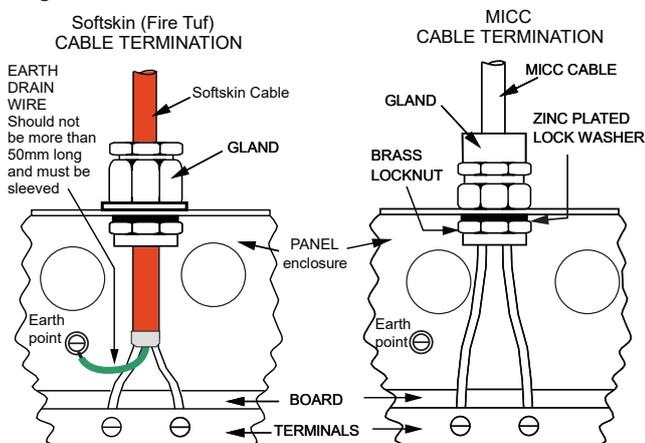


Installation

	Spare Parts	Qty
	Fuse 3.15A AS Ceramic (20mm x 5mm)	1
	Fuse 3.15A QB Glass (20mm x 5mm)	1
	Resistor 3.3K 0.6W	4
	Resistor 470R 0.6W	8
	Sector EOL	4
	Battery Link	1
	Battery Lead	1
	Capacitor 22uF 35V	4
	Instructions	1
	Keys fitted to the enclosure.	1 pair
	Battery supplied in separate packages 12V 2.1Ah for S4-34440-02 12V 12Ah for S4-34440-12	2

Cable termination

Cable glands used must meet UL94V-1 or better flammability rating.



MICC cable is not suitable for wiring Intrinsically Safe circuits.

Mounting

Use the mounting points provided on the unit to mount it to a wall using suitable fixings to support a fully assembled unit.

Knock out/in the required cable entry points from the unit.

Terminate each cable at the entry point leaving 400mm tail wire length and mark each core to identify its final connecting point.

Mains supply

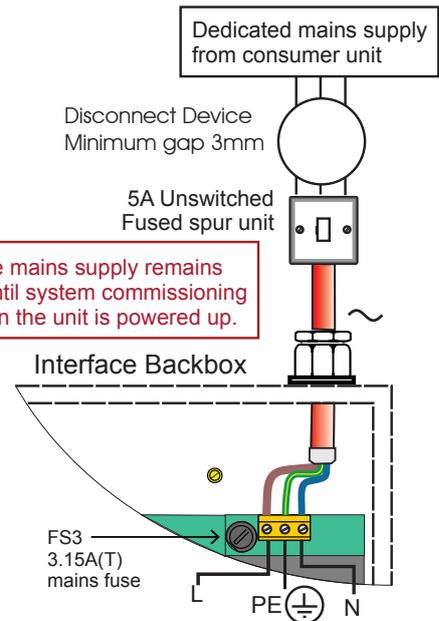
The mains supply cable must be a standard fire resisting type and should meet PH30 classification, such as any of the standard and enhanced loop cable. Requires a minimum conductor cross sectional area of 0.75mm².



Ensure that the mains supply cable enters the enclosure through a dedicated cable entry, located adjacent to the mains terminal block and that is also segregated from loop wiring.



These fire alarm system products are not designed to be powered from IT Power systems.



Ensure the mains supply remains isolated until system commissioning stage when the unit is powered up.

All mains powered equipment must be earthed. Mains supply to any fire alarm control and indicating equipment must be via an unswitched 5A fused spur unit. A disconnect device must be provided to disconnect both poles and must have a minimum gap of 3mm. The disconnect device should be available as part of the building installation and must be easily accessible after installation is complete.

Wiring test

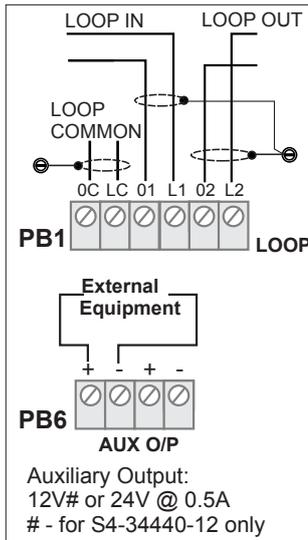


DO NOT undertake high voltage insulation tests WITH THE CABLES CONNECTED to the Interface unit and external equipment. Such a test may damage the electronics circuitry in external equipment and in the Interface unit.

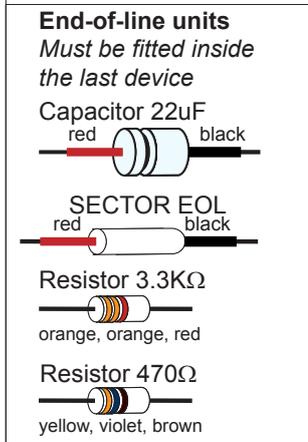
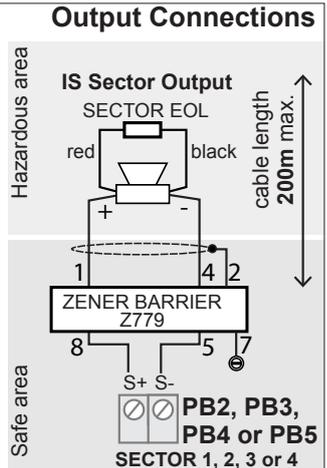
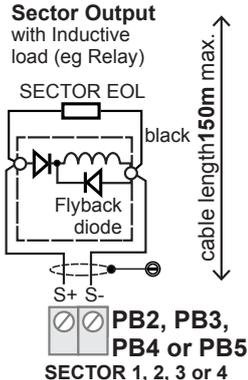
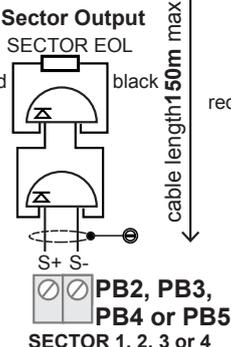
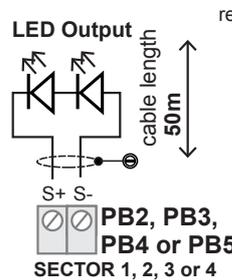
Intrinsically Safe and relay products

764744	Z969 Zener Barrier for IS detectors
764745	Z779 Zener Barrier to drive IS alarms
803271.EX	Rate-of-rise heat detector
803371.EX	Optical smoke detector
803374.EX	O2T-multisensor detector
805590	Detector Base
SOUNDER-EX	Banshee Excel IS28 MK6 ATEX sounder
VID-EX	IS Flashdome ATEX Approved VID
19104-52	Low voltage power relay

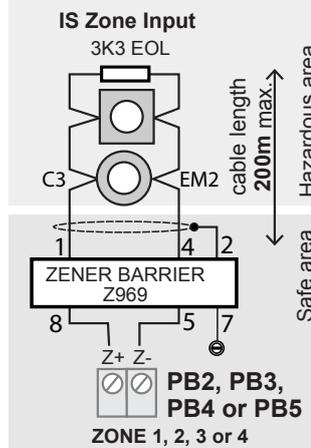
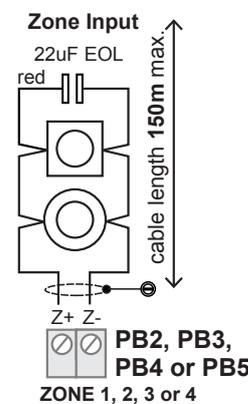
External wiring



i It is possible to connect a number of LEDs in series (current is 1.5mA).

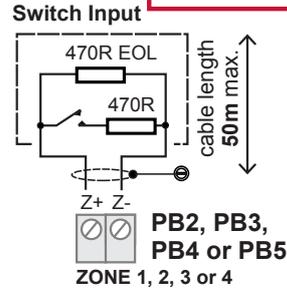


Input Connections



! To avoid damage to equipment always configure the interface inputs and outputs before connecting the external circuits.

i Normally closed contacts should be used for fail-safe applications.



⊕ Connected to metal enclosure

! The Zener barriers and Power relays should be mounted on the DIN rail and apart using the metal screen provided inside the enclosure.

UK CA 0832	CE 2831
Gent by Honeywell (Novar Systems Limited) Manufactured by: Honeywell Life Safety Systems-Romania Street: Str. Salcamilor 2 bis- Lugoj	
15 DoP: 052-CPR-2013, 052-CPR-2013 Product No.: S4-34440-02, S4-34440-12	
EN54-4: 1997 + A1:2002, A2:2006, EN54-17:2005, EN54-18:2005 S4-34440-02 (EN54-4-17 & 18) S4-34440-12 (EN54-4-17 & 18)	
Intended for use in fire detection and fire alarm systems in and around buildings Refer to DOP 052-CPR-2013 for level or class of performance declared for details see website www.gent.co.uk	

♻️ At the end of their useful life, the packaging, product and batteries should be disposed of via a suitable recycling centre and in accordance with national or local legislation.

WEEE Directive:
At the end of their useful life, the packaging, product and batteries should be disposed of via a suitable recycling centre. Do not dispose of with your normal household waste. Do not burn.

Honeywell Gent 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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Intrinsically Safe (IS) system design

The intrinsically safe detection and alarm devices for use in hazardous area should be wired and tested by trained engineers familiar with the relevant code of practice, these are:

- BS EN 60079-14:2014 Explosive atmospheres. Electrical installations design, selection and erection
- BS5839-1 Fire detection and fire alarm systems for buildings. Code of practice for design, installation, commissioning and maintenance of systems in non-domestic premises

Zener Barriers

There are two types of Zener Barriers recommended for use with the Mains powered interface units (S4-34440-02 and S4-34440-12) and these are:

- Z969 for wiring of IS Detectors (764744)
- Z779 for driving of IS Alarms (764745)

The Zener barrier recommended do not impose restrictions and permit monitoring of each IS circuit with an end of line component.

Loading of IS Circuit

There is a limit to the number of IS detectors and IS Alarm devices that can be connected to the respective Zener barrier.

It is also important to restrict the number of devices on IS circuits to ensure correct operation of the detection zone and alarm circuits and to ensure the circuits can be provided by the S4 Mains powered interface unit.

Wiring IS circuits

Where more than one type of IS circuits go into hazardous area then each circuit must be connected to its own independent Zener barrier. An IS circuit may not be connected to other electrical circuit.

Cable used to wire IS circuits

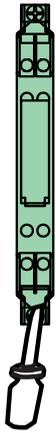
The recommended cable for wiring IS circuits is the **FireTuf**, refer to the cable manufacturers data sheet for further information when using it for wiring Fire protection system.

The FireTuf FT120 Fire alarm cable 2 x 1.5mm² has typical electrical characteristic as shown below:

- Loop resistance of : 24 ohm/km
- Loop inductance of : 0.67 mH/km
- Capacitance core/core of : 82 nF/km
- Capacitance core/screen of : 144 nF/km and
- L / R ratio of : 28µH/ohms

How to fit a Zener Barrier on to the DIN rail in a Mains Powered Interface

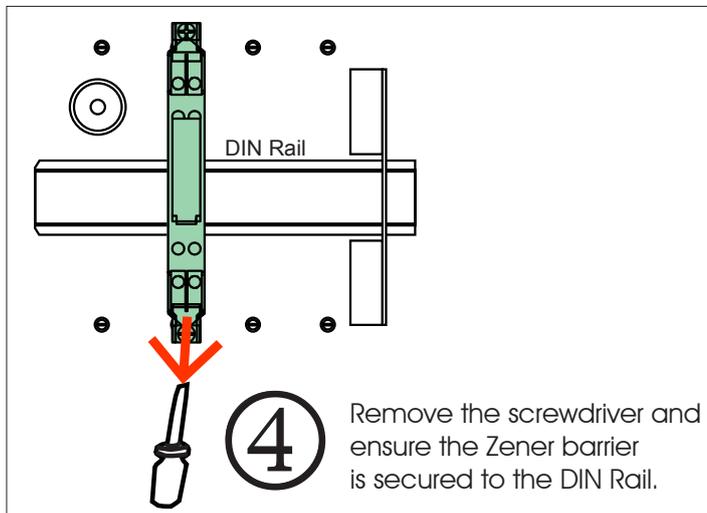
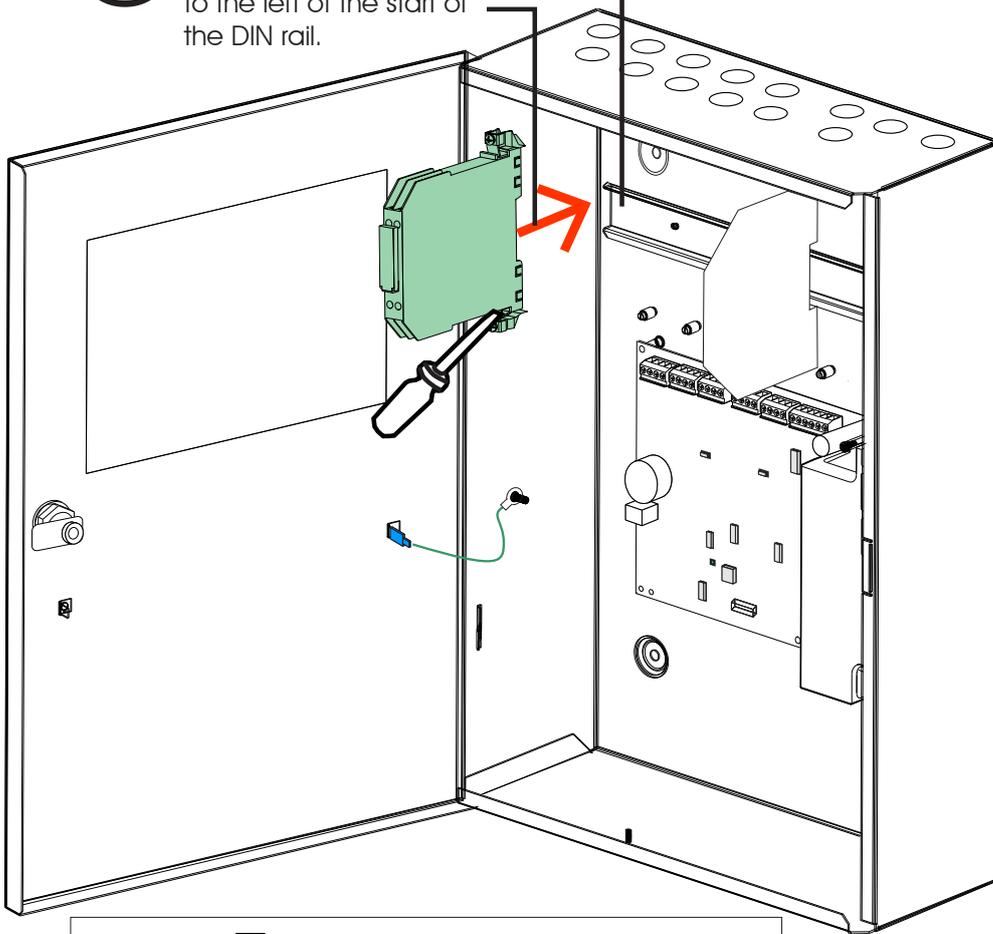
Ensure the DIN Rail is able to accommodate Zener Barriers.



1 Carefully insert a terminal screwdriver to open out DIN rail fitment on the Zener Barrier. See markings on the Zener Barrier enclosure to identify exactly where the screwdriver is to be inserted.

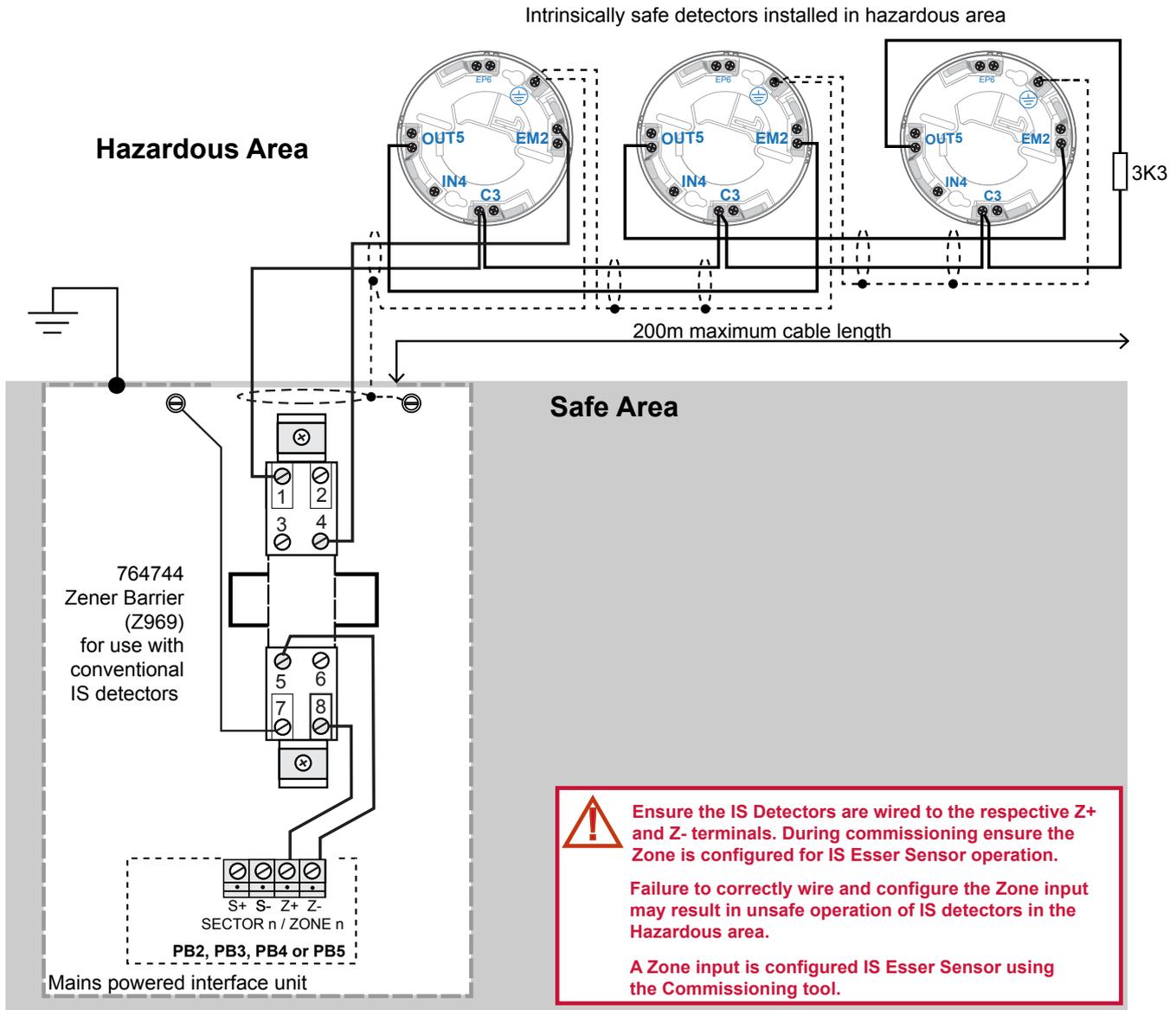
2 Position the Zener Barrier with screwdriver engaged to the left of the start of the DIN rail.

3 Slide the Zener Barrier on to the DIN Rail to the right to a desired position.



4 Remove the screwdriver and ensure the Zener barrier is secured to the DIN Rail.

How to wire up an IS Zone circuit with IS detectors

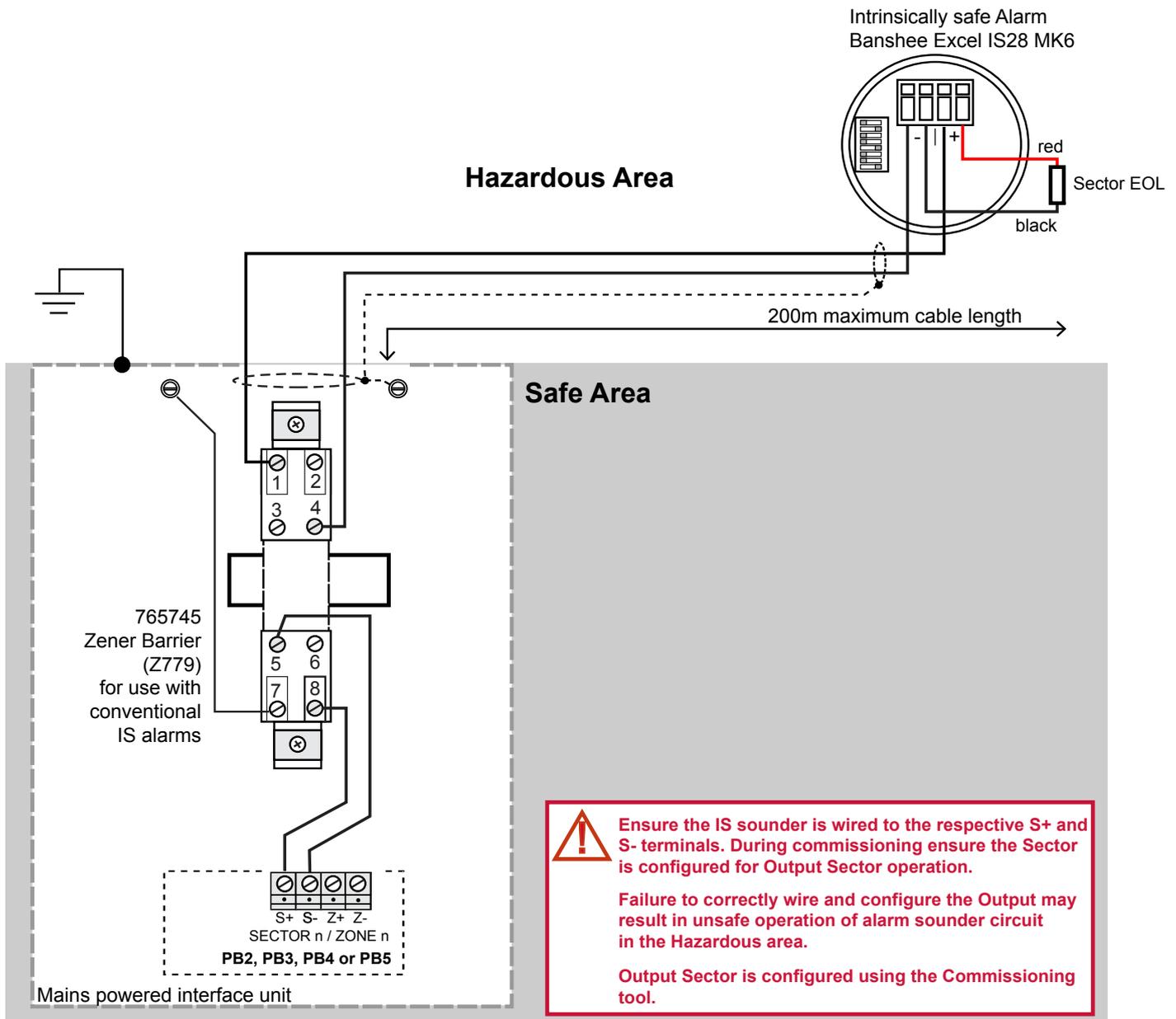


Recommended IS detection devices

- Rate-of-rise heat detector (803271.EX)
- Optical smoke detector (803371.EX)
- O2T-multisensor detector (803374.EX)
- Base (805590)
- a maximum of up to **15** IS detectors are allowed per circuit over a **200m** cable length using FireTuf, which is the approved cable for wiring of IS Detectors

For information on IS Detectors see Website Esser by Honeywell and search for the above products and their data sheets and for information on 764744 (Z969) see "Zener Barriers" on page 7.

How to wire up an IS Sector circuit with an IS Sounder

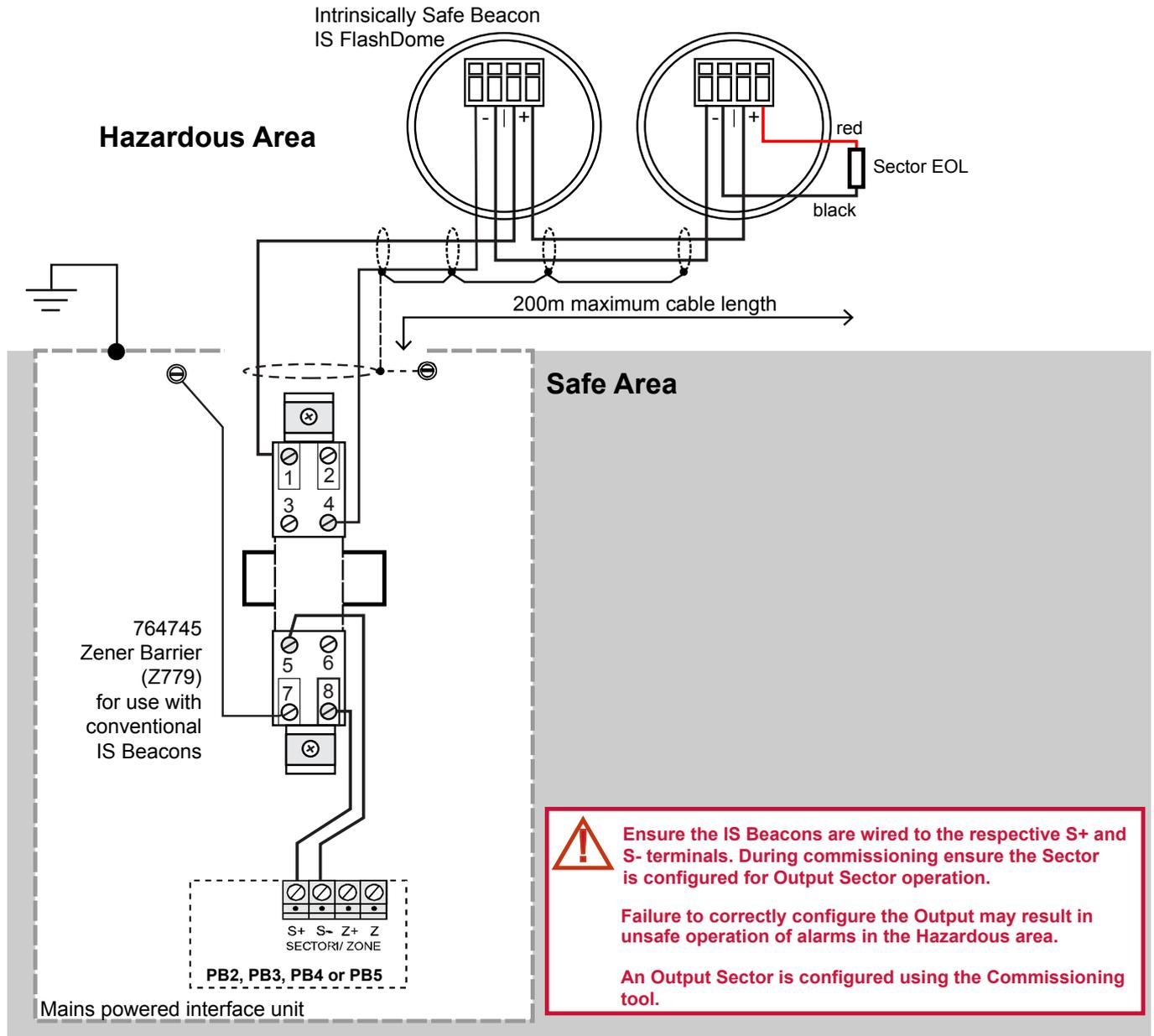


Recommended IS Alarm device

- **SOUNDER-EX** Banshee Excel IS28 MK6 ATEX sounder
- A maximum of up to **1** Banshee Excel IS28 Mk 6 is allowed per circuit over a **200m** cable length using **FireTuf**, which is the approved cable for wiring of IS Sounders.

For information on IS Sounder see the data sheet supplied with the product and for information on 764745 (Z779) see “Zener Barriers” on page 7.

How to wire up an IS Sector circuit with IS Beacons



Recommended IS Beacon

- VID-EX IS Flashdome ATEX Approved VID
- A maximum of up to 2 IS Banshee IS FlashDome are allowed per circuit over a 200m cable length using **FireTuf**, which is the approved cable for wiring of IS Beacons.

For information on IS Beacon see the data sheet supplied with the product and for information on 764745 (Z779) see "Zener Barriers" on page 7.

Specification for IS Detectors

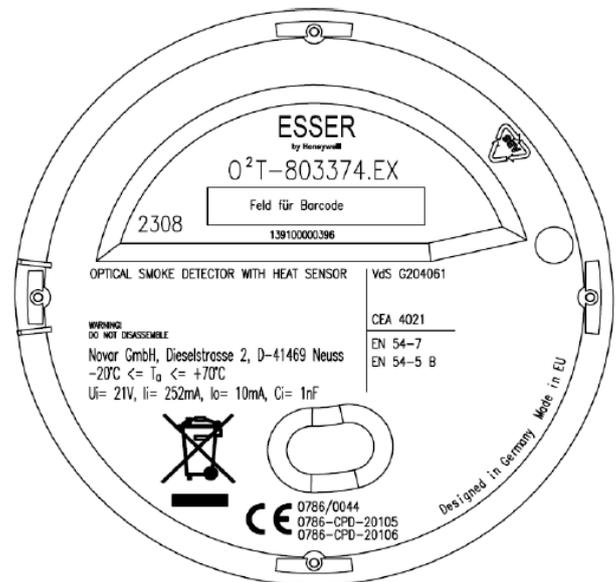
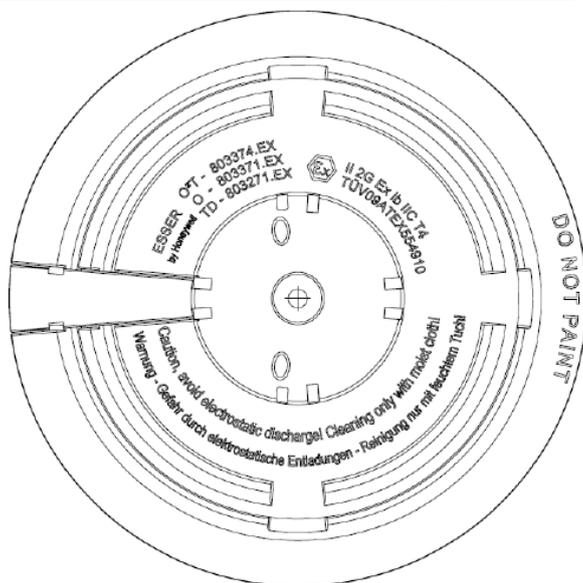


These automatic fire detectors and detector base may not be installed in areas with atmosphere containing benzene, acetic acid or esters as the ABS plastic of the housing is not resistant to these chemicals.

General detector data according to ATEX

Maximum Input voltage (Ui)	: 21 V DC
Maximum Input current (Ii)	: 252 mA
Maximum Output current (Io)	: 10 mA
Maximum internal Capacity (Ci)	: 1 nF
Ambient temperature (Ta)	: - 20 °C to + 70 °C (Ambient temperature according to ATEX)
Examination Certificate No.	: TÜV 09 ATEX 554910
Category	: II 2G (with safety barrier Part No. 764744)
Ex-protection	: Ex ib IIC T4

Detector identification according to ATEX



General Specifications

Operating voltage	: 8 V DC to 42 V DC (21V DC for ATEX)	Ambient humidity	: ≤ 95% relative humidity non-condensing
Type of sensor	Heat and Smoke*	IP rating	: IP 43 (with base + option)
Air velocity range	: 0 to 5.000 ft/min.	Housing	: ABS
Quiescent current for		Colour	: white (similar to RAL 9010)
Rate-of-rise heat detector	: @ 19 V DC is 40 µA 803271.EX *1	Weight	: approx. 110 g
Quiescent current for		Dimensions (with base)	: Ø 117 mm, H = 62 mm
Optical smoke detector	: @ 19 V DC is 50 µA 803371.EX *2		
Quiescent current for			
O2T-multisensor detector	: @ 19 V DC is 60 µA 803374.EX *2		
Temperature, storage	: -25 °C to +75 °C		

Zener Barriers

Specification for Z 969 Zener Barrier

Examination certificate No. : BAS 01 ATEX 7005

Operating voltage : $U_N = 19,24 \text{ V}$

Complete internal resistance : $R_i = 86,13 \Omega$

Maximum Voltage Ex (i) circuit : $U_o = 19,24 \text{ V}$

Maximum short circuit current Ex (i) circuit : $I_o = 224 \text{ mA}$

Maximum load Ex (i) circuit : $P_o = 1.08 \text{ W}$

Maximum capacity Ex (i) circuit : $II \text{ C} / C_o = 250 \text{ nF}$

Maximum inductivity Ex (i) circuit : $II \text{ C} / L_o = 650 \mu\text{H}$

Maximum voltage non- Ex (i) circuit : $U_m = 250 \text{ V}$

Fuse : 80 mA

Degree of protection : IP 20 in accordance to IEC 144

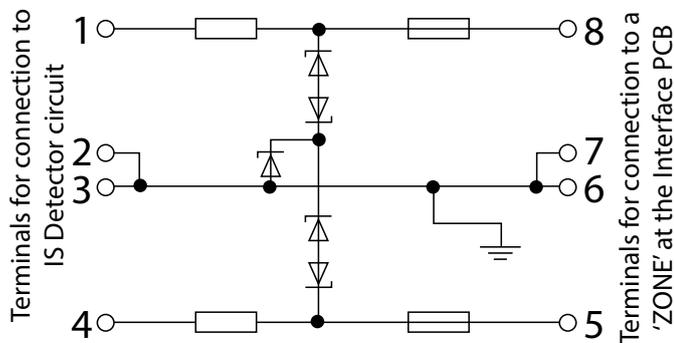
Ambient temperature : $- 20 \text{ }^\circ\text{C}$ to $+ 60 \text{ }^\circ\text{C}$

Storage temperature : $- 40 \text{ }^\circ\text{C}$ to $+ 80 \text{ }^\circ\text{C}$

Weight : approx. 150 g

Dimensions (w x h x d) : 12.5 x 110 x 115 (mm)

Zener Barrier 764744 (Z969) internal wiring



Specification for Z 779 Zener Barrier

For full information refer to Pepperl+Fuchs data sheet

Examination certificate No. : BAS 01 ATEX 7005

Working voltage : 26.5 V at 10 μA

Series resistance maximum : 327 Ω

Maximum Voltage Ex (i) circuit : $U_o = 28 \text{ V}$

Maximum short circuit current Ex (i) circuit : $I_o = 93 \text{ mA}$

Maximum load Ex (i) circuit : $P_o = 0.65 \text{ W}$

Maximum capacity Ex (i) circuit : $II \text{ C} / C_o = \text{ nF}$

Maximum inductivity Ex (i) circuit : $II \text{ C} / L_o = \text{ mH}$

Maximum safe voltage non - Ex (i) circuit : $U_m = 250 \text{ V}$

Fuse : 50 mA

Degree of protection : IP 20

Ambient temperature : $- 20 \text{ }^\circ\text{C}$ to $+ 60 \text{ }^\circ\text{C}$

Storage temperature : $- 25 \text{ }^\circ\text{C}$ to $+ 70 \text{ }^\circ\text{C}$

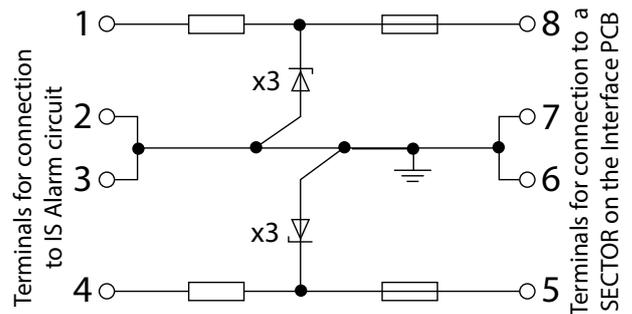
Relative humidity : maximum 75 %, without condensation

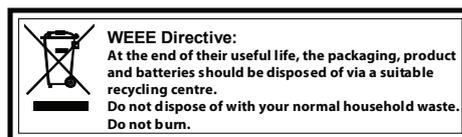
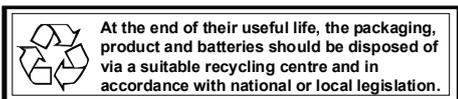
Mount on a 35 mm DIN mounting rail

Weight : approx. 150 g

Dimensions (w x h x d) : 12.5 x 110 x 115 (mm)

Zener Barrier 764745 (Z779) internal wiring





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S4 Mains Powered Interface

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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.

Backward Compatibility

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.

Panel firmware

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

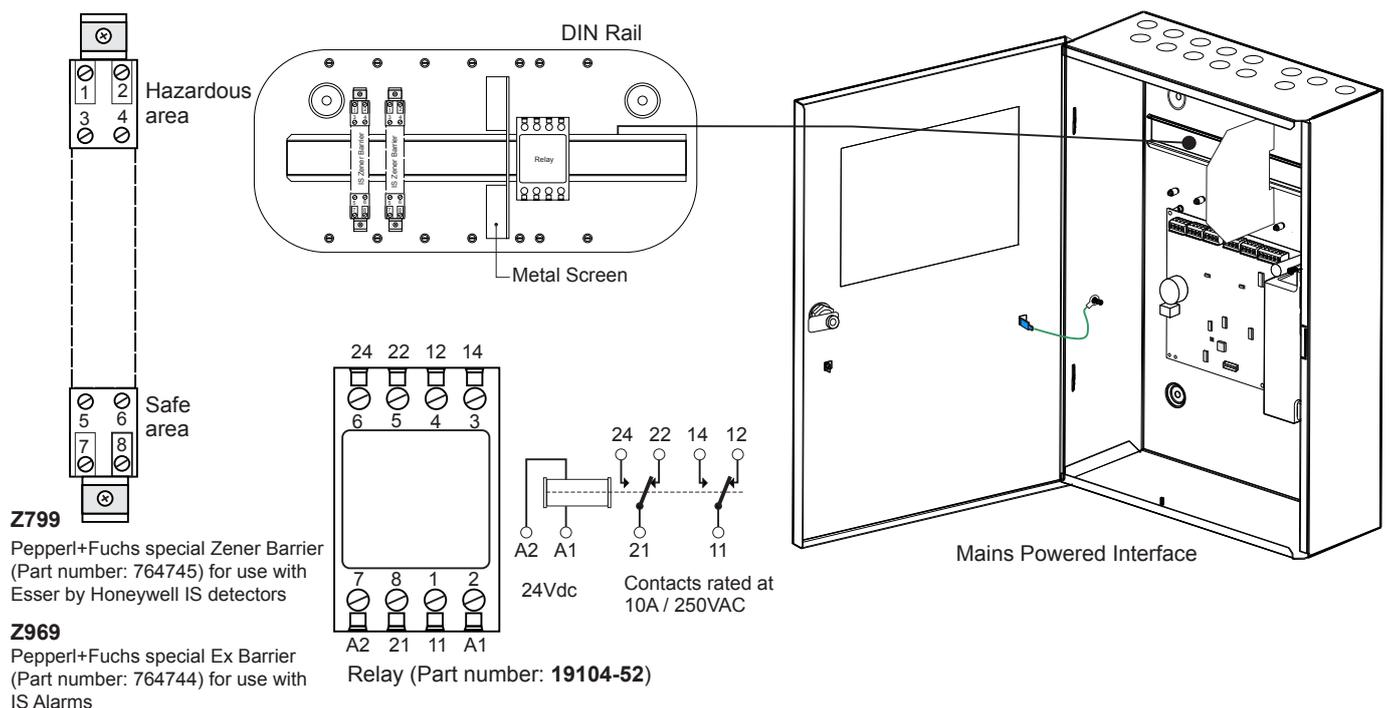
Note a Nano loop can only accommodate Mains powered Interface S4-34440-02, so a S4-34440-12 is not allowed.

Factory settings

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

Pre commissioning checks

- Ensure the use of the Mains Powered Interface build and software is compatible for use in the system
- Check the wiring to the external equipment on I/O lines
- Ensure correct End of lines are fitted
- ENSURE IT IS SAFE TO POWER UP THE INTERFACE WITH EXTERNAL EQUIPMENT CONNECTED.



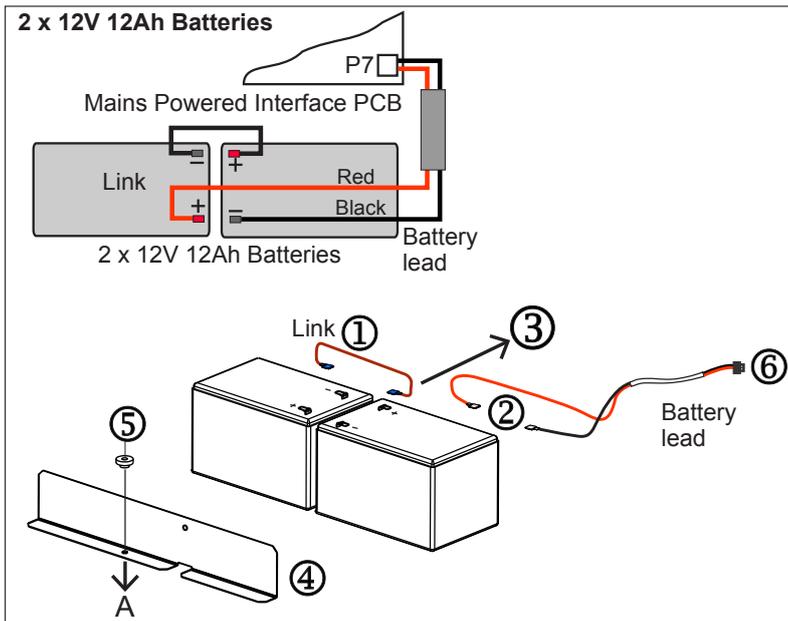
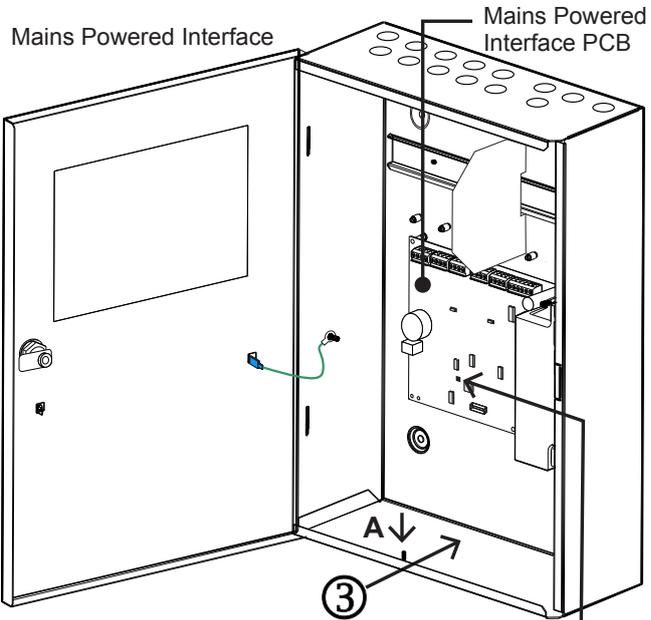
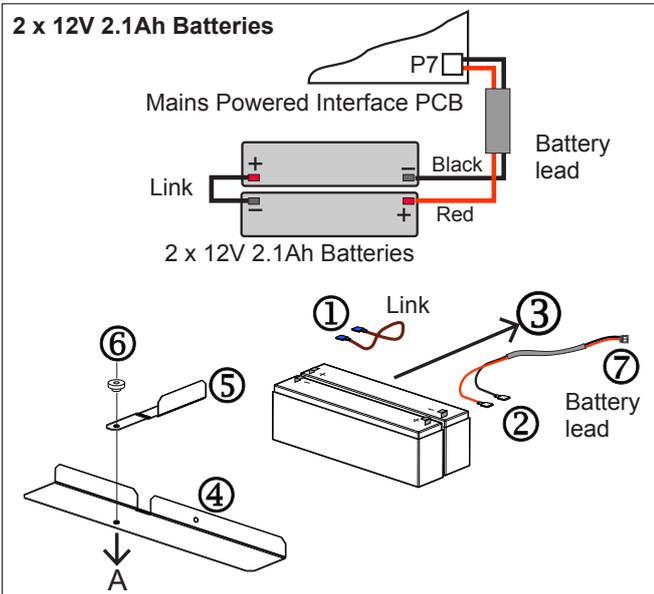
How to install batteries and Power up

The following illustration shows how to prepare, position and connect a pair of 12V 12Ah batteries to a S4-34440-12 and 12V 2.1Ah to a S4-34440-02 S4 Mains powered interface unit.

The numbers ①, ②, ③...shows the order in which to carry out the installation of batteries.



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



i The status indicator will only come on if the unit has mains power or if the batteries are connected and the "battery power up" push is operated.

Status Indicator LD1

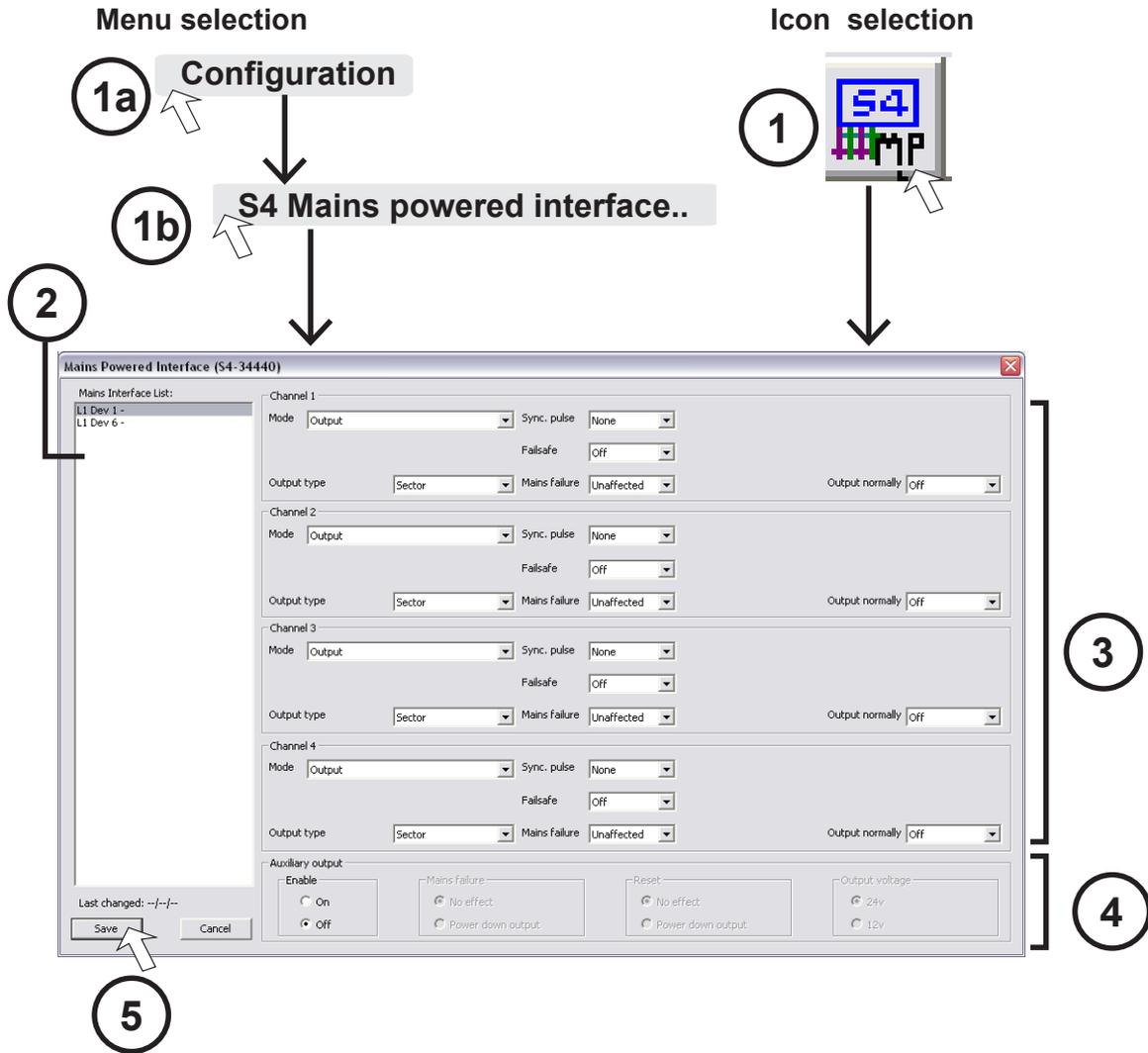
Indicator LD1	Indicator colour	meaning...
FLASH	Green	OK - Interface replies to a loop communication sequence
Long FLASH with loop communications	Amber	There is a short circuit, open circuit or confirmation timeout on an interface zone / sector channel.
Short FLASH	Amber	The interface loses synchronisation 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 Commissioning Tool - S4 Mains Powered Interface - Config. menu

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

Operation (The numbers ① ② ③ ④ ..shows the order in which to the make selections and enter appropriate data).

After opening the Mains Interface configuration window select the S4 Mains interface from the system tree to start 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 example shows how to set a channel and configure it as an output. Note the channel input terminals are not used.

Channel 1

Mode Sync. pulse

Failsafe

Output type Mains failure Output normally

Mode	settings	notes
Output	<p>Output type</p> <div style="border: 1px solid black; padding: 2px;"> Sector LED UnMonitored Sector Door release cat.A Door release cat.B </div>	<p>The Sector output is used to power alarm products such as sounders, bells, door holders and relay. A series blocking diode must be used.</p> <p>The LED output drive of 1.5mA is available.</p> <p>The Unmonitored sector output is for use with legacy galvanic isolator, in this mode no end-of-line resistor or series diode is required. Unmonitored sector lines will have no associated analogue channels.</p> <p>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.</p> <p>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.</p>
	<p>Sync. pulse</p> <div style="border: 1px solid black; padding: 2px;"> None 10ms 20ms 30ms </div>	<p>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.</p>
	<p>Failsafe</p> <div style="border: 1px solid black; padding: 2px;"> Off On </div>	<p>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 15.</p>
	<p>Mains failure</p> <div style="border: 1px solid black; padding: 2px;"> Unaffected TurnOff </div>	<p>To preserve battery capacity for essential functions it is possible to configure individual outputs to deactivate 'Turn Off' during a mains power failure.</p>
	<p>Output normally</p> <div style="border: 1px solid black; padding: 2px;"> Off On </div>	<p>* This is when a sector 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.</p>

Zone Input mode

This example shows how to configure a Zone Input for specific detection devices.

Channel 1

Mode

Zone input type

Validation delay

Reset period

Mode	settings	notes
Zone Input	<p>Zone Input Type</p> <div style="border: 1px solid black; padding: 5px;"> <p>Gent</p> <p>IS Esser Sensor</p> <p>Apollo/Nittan</p> </div>	<p>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.</p> <p>Each zone input can have up to 20 standard detectors connected with the diode base option.</p> <p>A Zone Input Type can accommodate a range of different products to operate at different zone input thresholds:</p> <p>Gent (Type 0) IS Esser Sensor (Type 1) Apollo/Nittan (Type 2) Tanlendum Flame (Type 3) Det-tronics Flame (Type 4) S/C Fire (Type 5)</p>
	<p>Validation Delay</p> <div style="border: 1px solid black; padding: 5px;"> <p>0.00</p> <p>2.40</p> <p>4.80</p> <p>7.20</p> <p>9.60</p> <p>12.00</p> <p>14.40</p> </div>	<p>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.</p>
	<p>Reset Period</p> <div style="border: 1px solid black; padding: 5px;"> <p>1.90</p> <p>2.54</p> <p>3.18</p> <p>3.82</p> <p>4.46</p> <p>5.10</p> <p>5.74</p> <p>6.38</p> </div>	<p>Other detector types may need a specific Reset period which can be set here in seconds.</p>

Supervisory Input mode

This example shows how to set the respective channel as a **Supervisory input**.

Channel 1

Mode Input normally

Input delay

Mode	settings	notes
Supervisory input	Input delay	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 type="text" value="0.00"/> <input type="text" value="2.40"/> <input type="text" value="4.80"/> <input type="text" value="7.20"/> <input type="text" value="9.60"/> <input type="text" value="12.00"/> <input type="text" value="14.40"/>	
	Input normally	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.
	<input type="text" value="Open contacts"/> <input type="text" value="Closed contacts"/>	

Fault Input mode

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

Channel 1

Mode Input normally

Input delay

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

Fire Input mode

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

Channel 1

Mode Input normally

Input delay

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

Confirmation Input mode

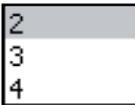
A **Confirmation Input mode** allows the system to monitor the correct operation of an output, which relies on external equipment sending back the correct signal. In this mode use a 470ohms end-of-line resistor with another 470ohms resistor being switched in parallel across the Z+ and Z- terminals to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

Channel 1

Mode Assoc. output Input normally

Normal delay Input type

Conf. delay

Mode	settings	notes
Confirmation Input	<p>Associated output</p> 	<p>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.</p>
	<p>Normal delay</p> 	<p>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.</p>
	<p>Confirmation delay</p> 	<p>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.</p>
	<p>Input normally</p>	<p>See page 6</p>
	<p>Input type</p> 	<p>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.</p>

Confirmation Output mode

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

Channel 1

Mode Assoc. input

Failsafe

Output type Mains failure Output normally

Mode	settings	notes
Confirmation Output	Output type	See page 4
	<input type="text" value="Sector"/> <input type="text" value="LED"/> <input type="text" value="UnMonitored Sector"/>	
	Fail safe	See page 4
	Mains Failure	See page 4
	Associated Input	The selected input channel is associated with the confirmation output channel. Note channel 1 cannot be selected for associated confirmation output
	<input type="text" value="2"/> <input type="text" value="3"/> <input type="text" value="4"/>	
	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.

Channel 1

Mode Sync. pulse

Zone input type Failsafe Validation delay

Output type Mains failure Reset period Output normally

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 channel's input terminals are Supervisory Input.

Channel 1

Mode Sync. pulse Input normally

Failsafe Input delay

Output type Mains failure Output normally

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 channel's input terminals are Fault Input.

Channel 1

Mode Sync. pulse Input normally

Failsafe Input delay

Output type Mains failure Output normally

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.

Channel 1

Mode Sync. pulse Input normally

Failsafe Input delay

Output type Mains failure Output normally

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.

Channel 1

Mode Sync. pulse Assoc. output Input normally

Failsafe Normal delay Input type

Output type Mains failure Conf. delay Output normally

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**.

Channel 1

Mode Assoc. input

Zone input type Failsafe Validation delay

Output type Mains failure Reset period Output normally

Mode	settings	notes
Confirmation Output / Zone Input	Zone Input Type	See page 5
	Output type:	See page 4
	<input type="text" value="Sector"/> <input type="text" value="LED"/> <input type="text" value="UnMonitored Sector"/>	
	Failsafe	See page 4
	Mains failure	See page 4
	Associated Input	See page 4
	Validation Delay	See page 5
	Reset Period	See page 5
	Output normally	See page 4

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**.

Channel 1

Mode Assoc. input Input normally

Failsafe Input delay

Output type Mains failure Output normally

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

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.

Channel 1

Mode Assoc. input Input normally

Failsafe Input delay

Output type Mains failure Output normally

Mode	settings	notes
Confirmation Output / Fault Input	Output type	See page 4
	<input type="text" value="Sector"/> LED UnMonitored Sector	
	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.

Channel 1

Mode Assoc. input Input normally

Failsafe Input delay

Output type Mains failure Output normally

Mode	settings	notes
Confirmation Output / Fire Input	Output type	See page 4
	<input type="text" value="Sector"/> LED UnMonitored Sector	
	Failsafe	See page 4
	Mains failure	See page 4
	Associated input	See page 8
	Input delay	See page 6
	Input normally	See page 6
	Output normally	See page 4

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.

Auxiliary output

<p>Enable</p> <p><input checked="" type="radio"/> On</p> <p><input type="radio"/> Off</p>	<p>Mains failure</p> <p><input checked="" type="radio"/> No effect</p> <p><input type="radio"/> Power down output</p>	<p>Reset</p> <p><input checked="" type="radio"/> No effect</p> <p><input type="radio"/> Power down output</p>	<p>Output voltage</p> <p><input checked="" type="radio"/> 24v</p> <p><input type="radio"/> 12v</p>
--	--	--	---

Mode	settings	notes
Auxiliary output	<div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> <p>Enable</p> <p><input checked="" type="radio"/> On</p> <p><input type="radio"/> Off</p> </div>	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.
	<div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> <p>Mains failure</p> <p><input checked="" type="radio"/> No effect</p> <p><input type="radio"/> Power down output</p> </div>	If there is a mains failure then the auxiliary output can be switched off to preserve battery supply for essential inputs and outputs.
	<div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> <p>Reset</p> <p><input checked="" type="radio"/> No effect</p> <p><input type="radio"/> Power down output</p> </div>	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.
	<div style="border: 1px solid #ccc; padding: 5px;"> <p>Output voltage</p> <p><input checked="" type="radio"/> 24v</p> <p><input type="radio"/> 12v</p> </div>	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 all the Mains powered interface units in a standalone system where Outputs are configured for Door release Category A applications ONLY, See page 4.

Fail safe periods for all interfaces in list

Initial fail safe period (s)

Final fail safe period (mins)

Mode	settings	notes
Initial fail safe period (seconds)	<div style="border: 1px solid #ccc; padding: 5px;"> <p>60</p> <p style="background-color: #e0e0e0;">120</p> <p>180</p> <p>240</p> </div>	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)	<div style="border: 1px solid #ccc; padding: 5px;"> <p style="background-color: #e0e0e0;">Disabled</p> <p>10</p> <p>20</p> <p>30</p> </div>	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 circuit must be saved at the Commissioning tool.
- The configurations of the respective loop circuit must then be transmitted to the control panel.
- The respective loop on which the S4 Mains powered interface unit 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.

Nano Commissioning tool

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 screen shot shows the configurations possible using the Nano Commissioning tool.

Each channel of a mains powered interface unit is required to be configured, first select a channel tab.

The screenshot shows the 'Interface Unit' configuration window. At the top, 'Interface Type' is set to 'S4-34440 (Mains Powered 4-Interface 2009 M)'. Below this are four tabs: 'Channel 1', 'Channel 2', 'Channel 3', and 'Channel 4'. The 'Channel 1' tab is selected. The configuration fields for Channel 1 are: 'Interface Channel ID' (1), 'Interface Channel Label' (Interface Channel 1 Test Label), 'Interface Channel Mode' (Zone Input), 'Supervisory Function' (Silence Alarms), 'Zone ID' (1), and 'Sector ID' (1). At the bottom, 'Next Device On Spur' is set to 'Open Circuit'.

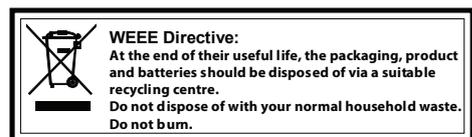
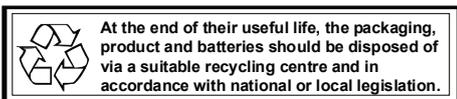
Select required Channel Mode setting.

- Normally Open Supervisory Input
- Delayed Normally Closed Fire Inp
- Delayed Normally Open Fire Inp
- Delayed Normally Closed Fault I
- Delayed Normally Open Fault I
- Delayed Normally Closed Super
- Delayed Normally Open Superv
- Zone Input

For a Supervisory mode select a function.

- Silence Alarms
- System Reset
- Disable Zone
- Disable Sector
- Day-Night Mode Switch
- Verify Alarms
- Action Sector
- Zone in Test

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Honeywell Gent 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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