

Mains Switching Interface Units (S4-34401 & S4-34404)



The *Mains switching interface* units (S4-34401 and S4-34404) connect to the device loop of a Vigilon panel based system.

- ☐ The S4-34401 is a 1-channel unit having 1 - medium voltage output that consist of single pole change over contacts along with 1 low voltage input when using V1.27 commissioning tool and 4 low voltage inputs when using V1.28 Commissioning tool.
- ☐ The S4-34404 is a 4-channel unit having 4 - medium voltage outputs of single pole change over contacts, each accompanied with a low voltage input.

The outputs can be individually sectoried. The units are remotely powered by the control panel via the loop circuit.

Software compatibility

The table below shows the minimum software requirements when these interface units are used in an EN and BS Vigilon panel based systems.

≥ - equal to or greater than	EN panel	BS panel
Main Controller	≥ V4.43	≥ V3.97
Loop Processor	≥ V4.41	≥ V3.97
Commissioning tool	≥ V1.28	

Backward compatibility

The S4-34404 & S4-34401 units can be converted to and used in place of old interface units. An S4 Interface programmer kit (S4-INTERFACE-PROG) V1.03 is required for this purpose.

Interface	to replace old interface unit
S4-34401	34415 Interface
S4-34404	34450 Interface with Power supply unit 19245-06

Technical data

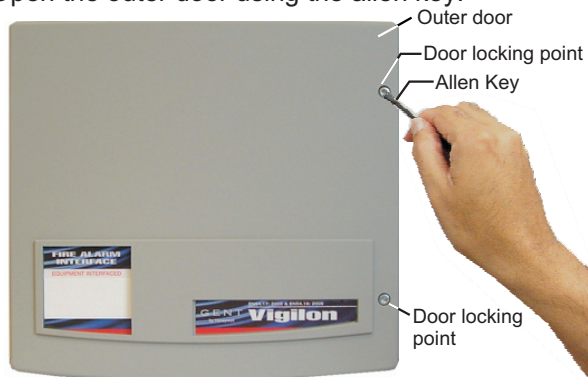
Standards - designed to meet	EN54:part 17:2005 EN54:part 18:2005
Overall dimensions	height - 227mm x width - 245mm x depth - 77mm
Assembled weight (approximate)	1.1Kg
Enclosure	ABS V-O rated
Colour	Back box - Dark Grey Lid - Light Grey
Storage temperature	-20°C to +70°C
Ambient operating temperature	-10°C to +60°C
Relative Humidity (Non condensing)	up to 95% Temperature +5°C to +45°C
Ingress Protection (estimated)	IP31
Output(s) Relay contact rating	<i>Resistive load:</i> Single pole change over contacts rated 16A 230V ac. 100,000 cycles <i>Switching power:</i> 4000 VA
Input(s)	Input can be normally open or normally closed switch
Modes of operation	Input Output Input and Output Input with confirmation Output Output with confirmation Input
EN54-17 : 2005 (section 4.8) data:	V _{max} 42V /C max 0.4A V _{nom} 40V /S max 1A V _{min} 24V /L max 20μA V _{SO} max 16V ZC max 0.1Ω V _{SO} min 8V
Emission	BS EN61000-6-3: 2007 EMC for residential, commercial & light Industry.
Immunity	BS EN50130-4: 1996 + A1:1998 +A2 2003 for alarm systems

Installation

The *Mains switching interface* units are supplied fully assembled with the following spare parts:

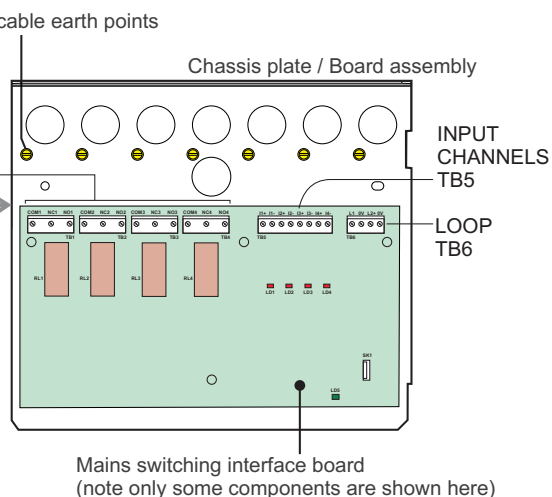
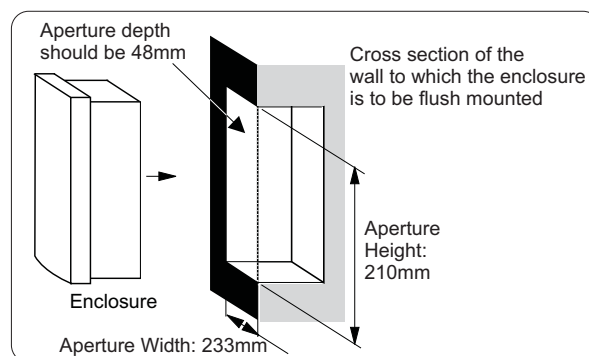
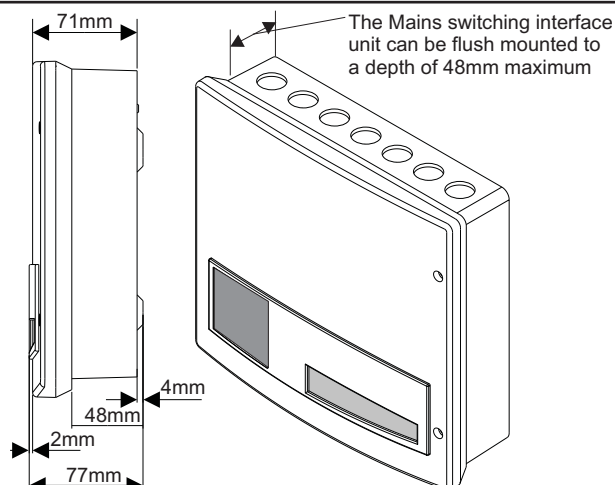
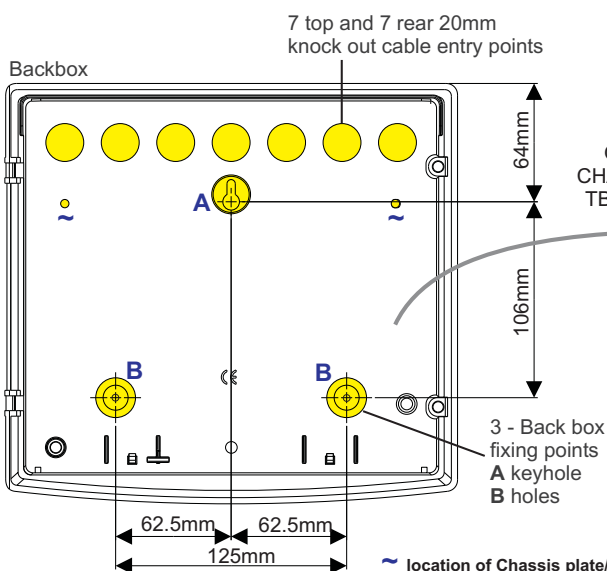
Parts in the spares pack		Quantity
10K Ohms Resistor		8
Allen key		1
M4 Socket head screw (for door)		2
Cable entry bungs		7

Open the outer door using the allen key.



How to install the Backbox

- Using the 'allen key' open the door to a 90 degrees angle and carefully pull out and remove the door from the backbox.
- Remove the two fixing screws and washers that secure the 'Chassis plate/ Board assembly' from the backbox. Remove the assembly from the backbox. Mount the backbox to a flat wall surface using suitable fixings at points A and B.
- If flush fixing the Interface Unit follow the depth recommendation illustrated.
- Refit the 'Chassis plate/Board assembly' into the backbox and secure it with the two screws and washers at positions ~.
- After all the wiring is complete fit the bungs supplied in the spares pack to cover up the unused cable entry holes.
- Close the outer door and secure it by the two socket head screws using the allen key.
- Mark the label fitted on the inside of the door with description of channel (circuit) usage and the equipment being controlled. The label on the outside of the door also has a space for marking what equipment is being controlled.



Cable

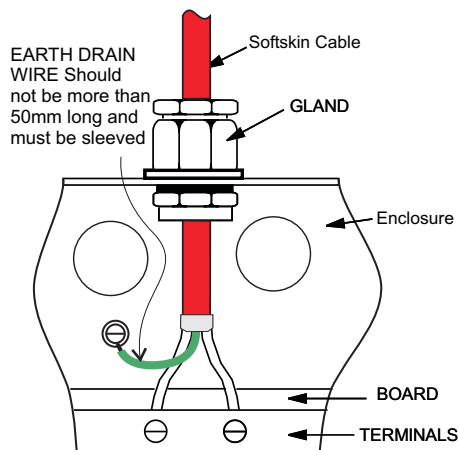
The cable usage per circuit of:

- ☐ Clean contact Input - 50m maximum
- ☐ Relay output - unlimited.

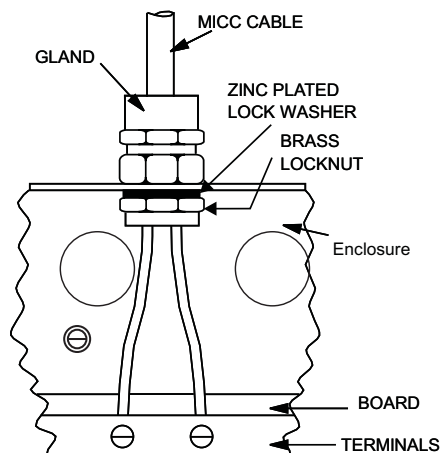
Cable termination and separation

There should be as much physical separation between cables of OUTPUT circuits, INPUT circuits and LOOP circuit.

Softskin (eg Fire Tuf)
CABLE TERMINATION

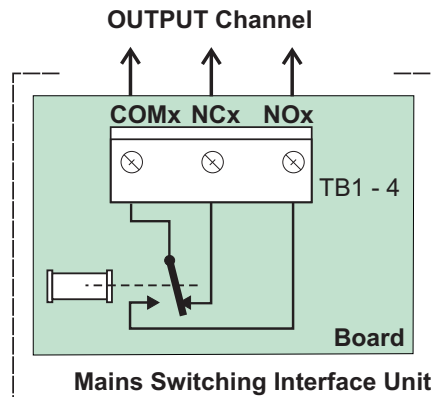


MICC
CABLE TERMINATION

**End-of-line (EOL) devices**

An input circuit requires in series with the contacts a 10K resistor plus a 10K EOL resistor (supplied).

The wire length between the cable termination on the enclosure and point of connection must be as short as possible. Cable earth drain wire, where applicable, must be connected to the earth point on the chassis plate.

Output circuits (Output Channels)

Output Channel:

- x - 1, 2, 3 or 4 (at a 4-channel unit)
TB1 to TB4
- x - 1 (at a 1-channel unit)
TB1

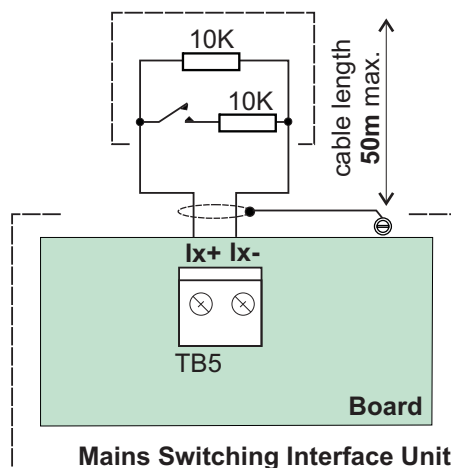


The output contacts are rated at 13A 230V ac resistive load. In order to meet the requirements of European Safety Standards, ensure that all cables carrying voltages in excess of 48V (Live and Neutral) are suitably fused.

Input circuits (Input Channels)

The use of Normally-closed contacts is recommended for fail-safe applications.

Associated input can be either:
normally closed or **normally open**



Input Channel (TB5)

- x - 1, 2, 3 or 4 (at a 4-channel unit)
- x - 4 (at a 1-channel unit using V1.27 Comm. tool)
- x - 1, 2, 3 or 4 (at a 1 channel unit using V1.28 Comm. tool)

4-Input / Output Interface

The four input/output interface unit can be configured to provide any combination of up to four inputs and/or outputs. An output of either normally open or normally closed relay contacts can be used to control a resistive or inductive load. An input can be programmed as a fire, fault, supervisory or confirmation input with configurable delay to filter noise or spurious signals during switch transition. Additionally the confirmation input can be configured with an additional longer delay before an input is accepted.

1-Output & 1/4-Input Interface

This interface unit can be used to control a resistive or inductive load via a set of single pole change over contacts. In addition there are 4 inputs for use to monitor external equipment.

Confirmation Input / Output functionality

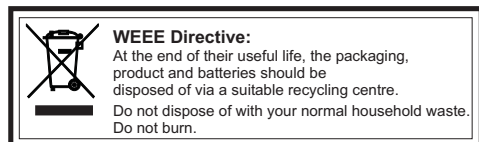
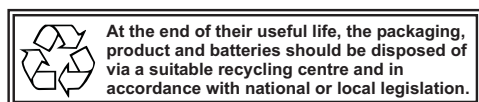
An input and an output of an interface unit can be paired to operate in a confirmation mode. External equipment can send an acknowledgement upon receiving a signal from the interface unit, this is called 'confirmation input'. External equipment can also receive an acknowledgement from the Interface unit upon sending it a signal, this is called 'confirmation output'.

Confirmation input

The confirmation input can be either a normally open switch input or a normally closed switch input from external equipment, such as a damper control unit. A confirmation input generates a fault if a change of state is not seen within the predefined period of a specific output.

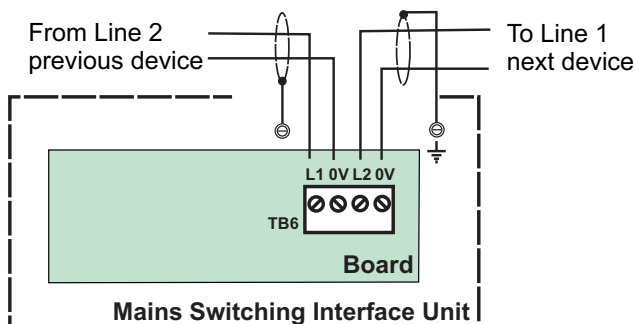
Unused Channels

Any unused channels must be configured as 'unused' during the configuration stage using the commissioning tool.



Loop wiring

The Mains switching interface unit must be wired to the device loop circuit of the fire system. The loop circuit can accommodate a number of Mains switching interface units and on loop power up each device is given a soft address.



 0359	
Gent by Honeywell (Novar Systems Limited) Manufactured by: Honeywell Life Safety Systems, 140 Waterside Road, Hamilton Industrial Park, Leicester, LE5 1TN, United Kingdom 13	
DoP 066-CPR-2013 066-CPR-2013	Product No. S4-34401 S4-34404
EN54-17: 2008/AC 2007, EN54-18:2008 /AC 2007 S4-34401 S4-34404 Intended for use in fire detection and fire alarm systems in and around buildings Refer to 066-CPR-2013 for level or class of performance declared, for details see website www.gent.co.uk	

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Commissioning tool

The Input and Output circuits of a Mains switching interface unit are individually configured using the Commissioning tool at V1.28 or higher.

Wiring

Ensure the input and/or output circuits are securely wired to the respective channels terminals of a Mains switching interface unit. The Output, Input and Loop wiring must be segregated.

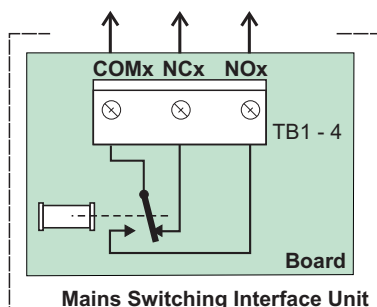


To avoid damage to the equipment always configure the interface inputs and outputs channels (circuits) before connecting them to the external circuits.



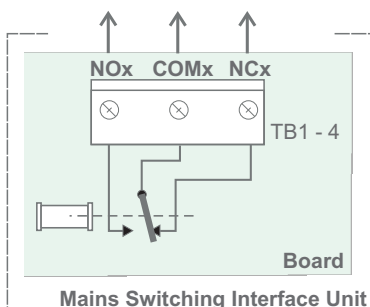
Note the 'OUTPUT' terminal markings are different and are dependent on when the Mains Switching Interface products were manufactured.

**Products manufactured
Post September 2013**



Output Channel:
x - 1, 2, 3 or 4 (at a 4-channel unit)
TB1 to TB4
x - 1 (at a 1-channel unit)
TB1

**Products manufactured
before September 2013**



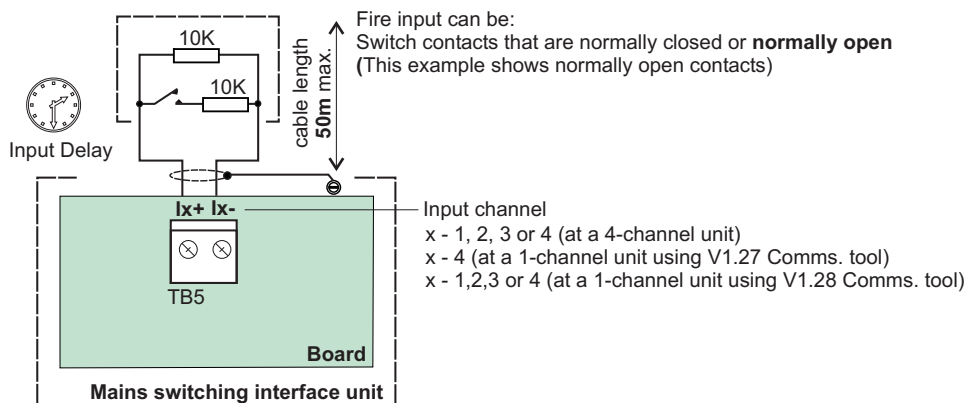
Output Channel:
x - 1, 2, 3 or 4 (at a 4-channel unit)
TB1 to TB4
x - 1 (at a 1-channel unit)
TB1

Unused channels

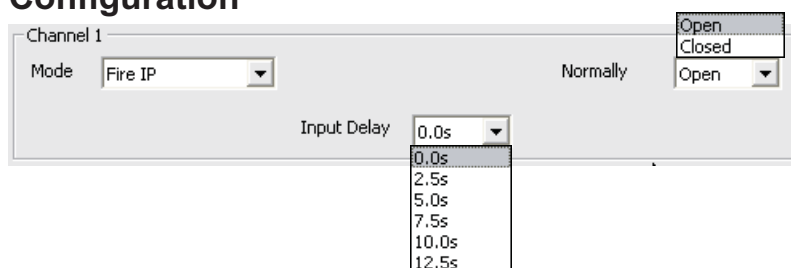
All unused channels of a Mains switching interface unit must be configured to 'UNUSED' mode.

Fire input mode

The following example shows how to wire and configure *Channel 1* of a *Mains switching interface* unit as a **Fire input**. A delay can be applied before input acceptance to account for switch transition. This mode of operation can be applied in a similar manner to *Channels 2, 3 and 4*.

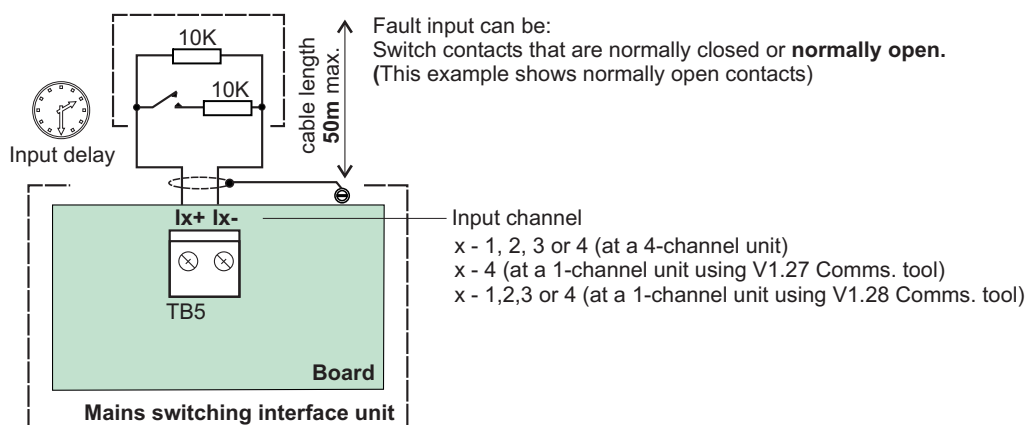


Configuration

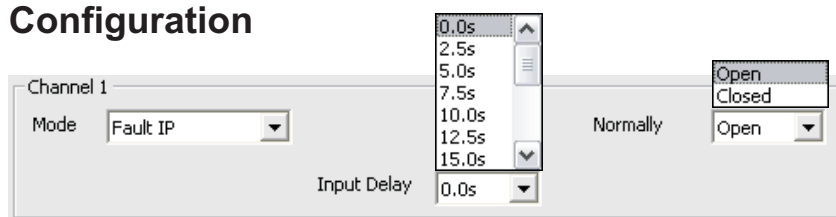


Fault input mode

The following example shows how to wire and configure *Channel 1* of a *Mains switching interface* unit as a **Fault input**. A delay can be applied before input acceptance to account for switch transition. This mode of operation can be applied in a similar manner to *Channels 2, 3 and 4* on a 4-channel unit.

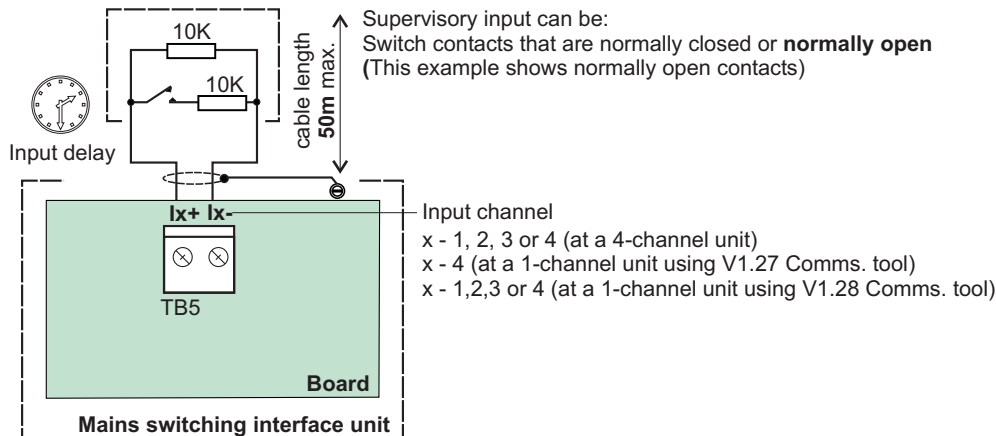


Configuration

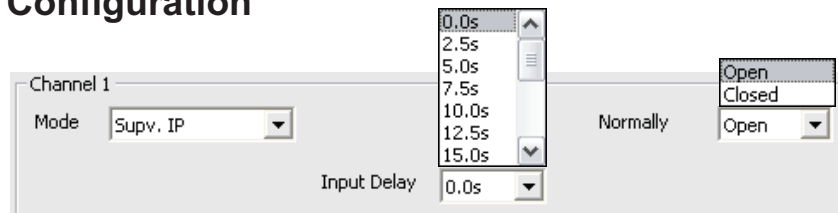


Supervisory input mode

The following example shows how to wire and configure *Channel 1* of a *Mains switching interface* unit as a **Supervisory input**. A delay can be applied before input acceptance to account for switch transition. This mode of operation can be applied in a similar manner to *Channels 2, 3 and 4* on a 4-channel unit.

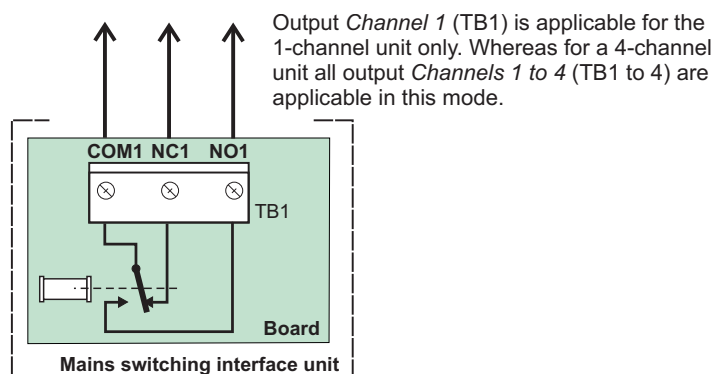


Configuration

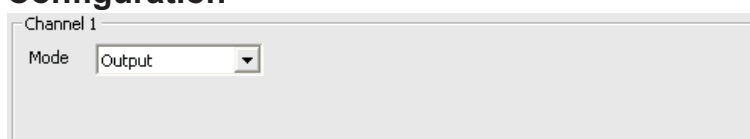


Output mode

The following example shows how to wire and configure *Channel 1* of a *Mains switching interface* unit as an **Output**. This mode of operation can be applied to *Channels 2, 3 and 4* on a 4-Channel unit, but only to *Channel 1* on a 1-channel unit.

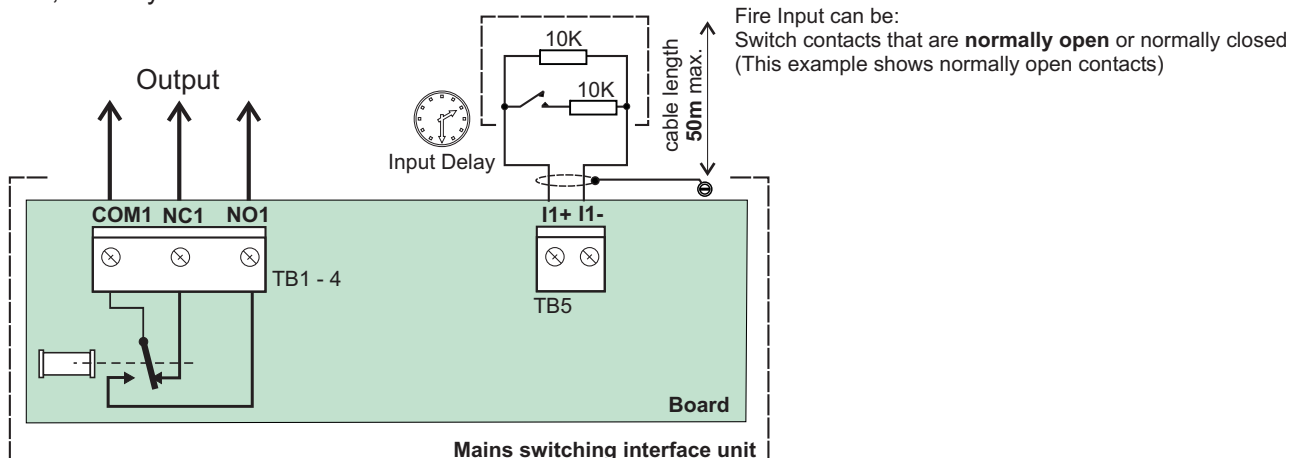


Configuration

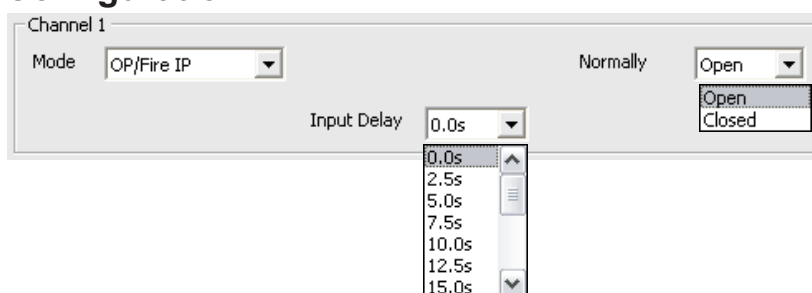


Output and Fire input mode

The following example shows how to wire and configure *Channel 1* of a *Mains switching interface* unit as both **Output** as well as an **Fire input**. A delay can be applied before input acceptance to account for switch transition. This mode of operation can be applied in a similar manner to *Channels 2, 3 and 4* on a 4-channel unit, but only to *Channel 1* on a 1-channel unit.

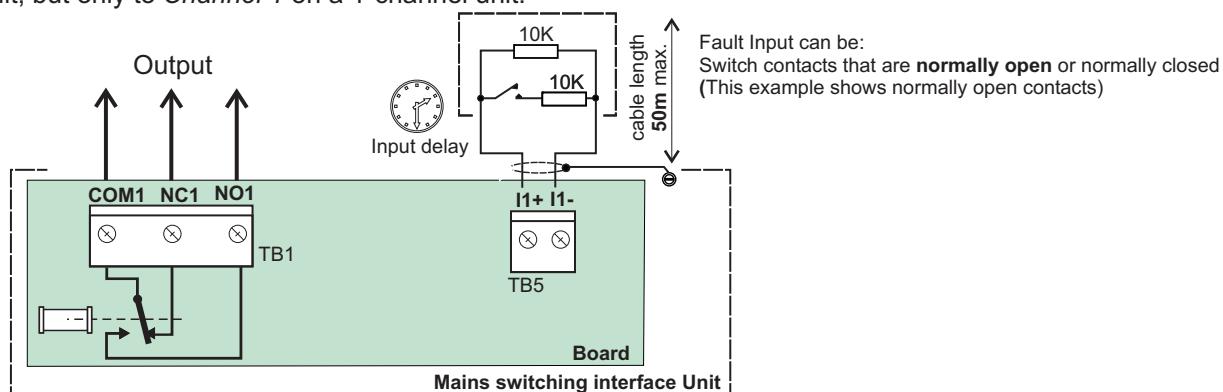


Configuration

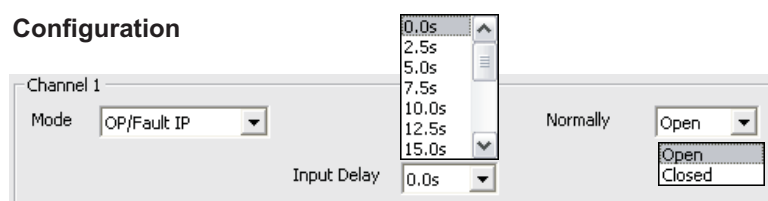


Output and Fault input mode

The following example shows how to wire and configure *Channel 1* of a *Mains switching interface* unit as both **Output** as well as a **Fault input**. A delay can be applied before input acceptance to account for switch transition. This mode of operation can be applied in a similar manner to *Channels 2, 3 and 4* on a 4-channel unit, but only to *Channel 1* on a 1-channel unit.

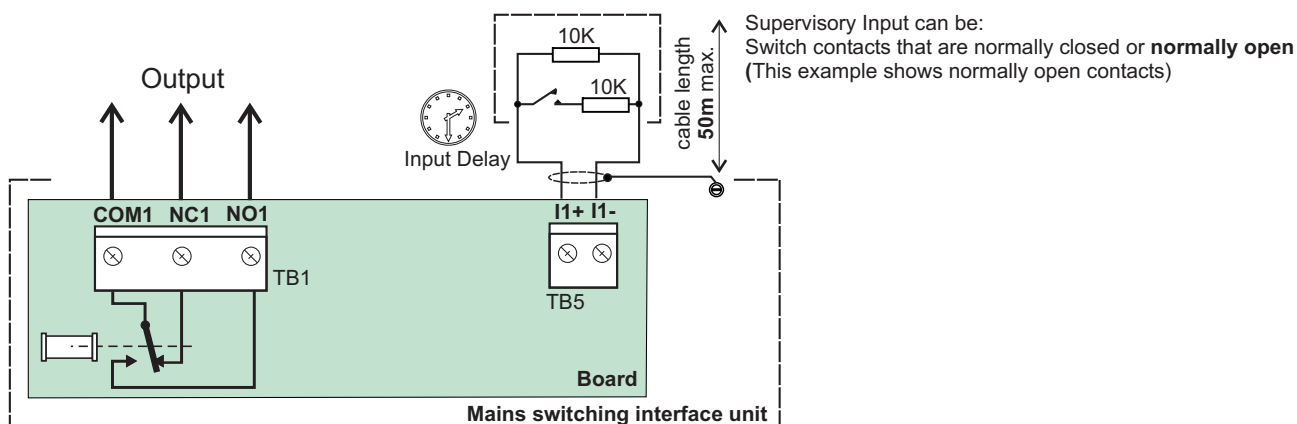


Configuration

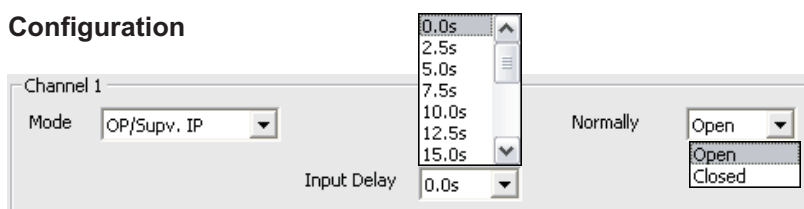


Output and Supervisory input mode

The following example shows how to wire and configure *Channel 1* as both **Output** as well as a **Supervisory Input**. A delay can be applied before input acceptance to account for switch transition. This mode of operation can be applied in a similar manner to *Channels 2, 3 and 4* on a 4-channel unit, but only to *Channel 1* on a 1-channel unit.

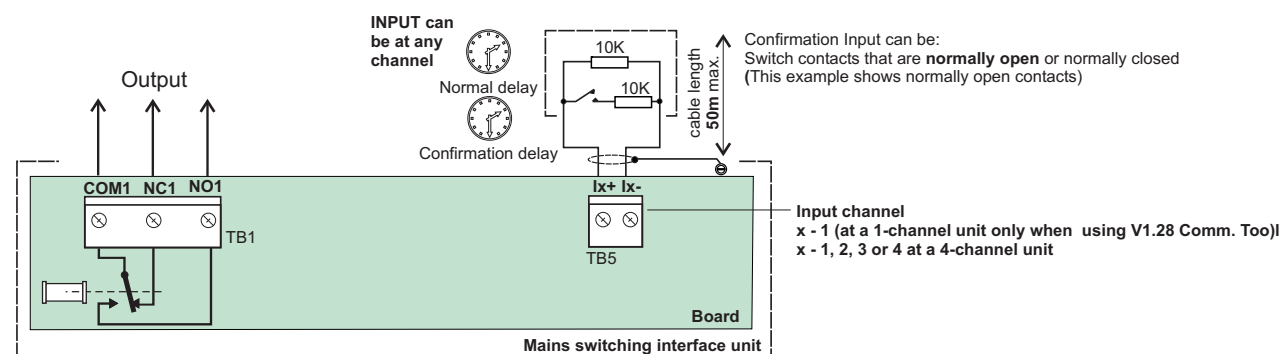


Configuration

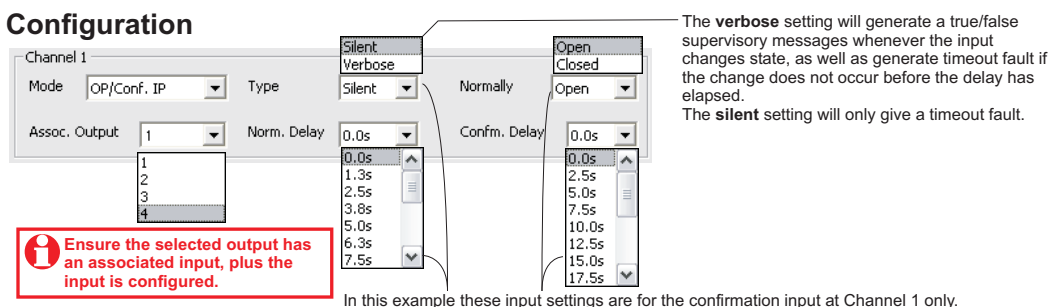


Output with Confirmation input mode

The following example shows how to wire and configure *Channel 1* of a *Mains switching interface* unit as a **Output** that has an associated **Confirmation Input**. Delays can be set for input acceptance to account for switch transition and input confirmation. This mode of operation can be applied in a similar manner to *Channels 2, 3 and 4* at a 4-channel unit, but only to *Channel 1* on a 1-channel unit.

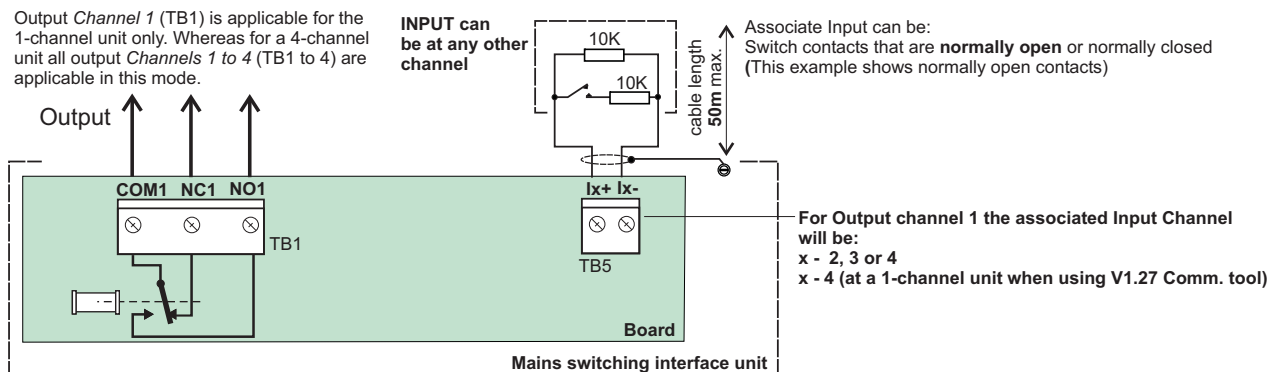


Configuration

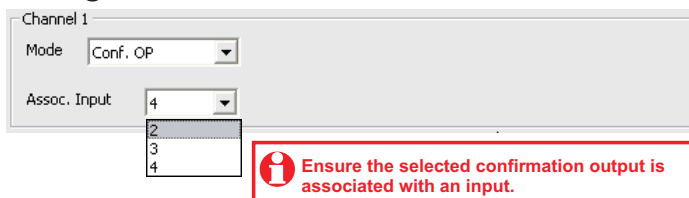


Confirmation Output mode

The following example shows how to wire and configure *Channel 1* of a *Mains switching interface* unit as a **Confirmation output** that operates immediately with any other associated **Input** channel. This mode of operation can be applied in a similar manner to *Channels 2, 3 and 4* on a 4-channel unit and only to *Channel 1* at a 1-channel unit.

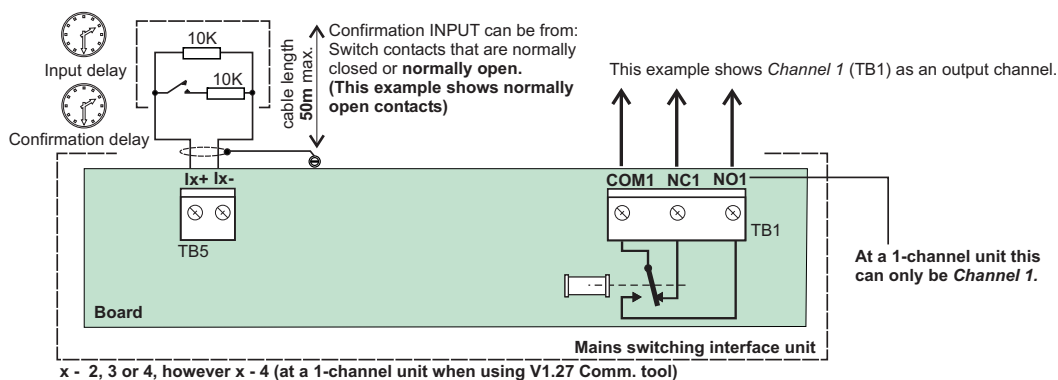


Configuration

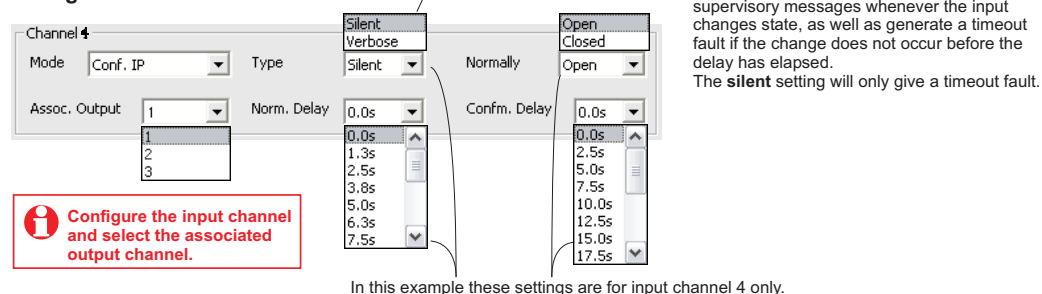


Confirmation Input mode

The following example shows how to wire and configure *Channel 4* of a *Mains switching interface* unit as a **Confirmation Input** that operates immediately with **Output** at *Channel 1*. Delays can be set for input acceptance to account for switch transition and input confirmation. This mode of operation can be applied in a similar manner to *Channels 1, 2, 3 and 4* on a 4-channel unit. However for a 1-channel unit the **Output** can only be at *Channel 1* and therefore input can only be at *Channels 2, 3 or 4*.

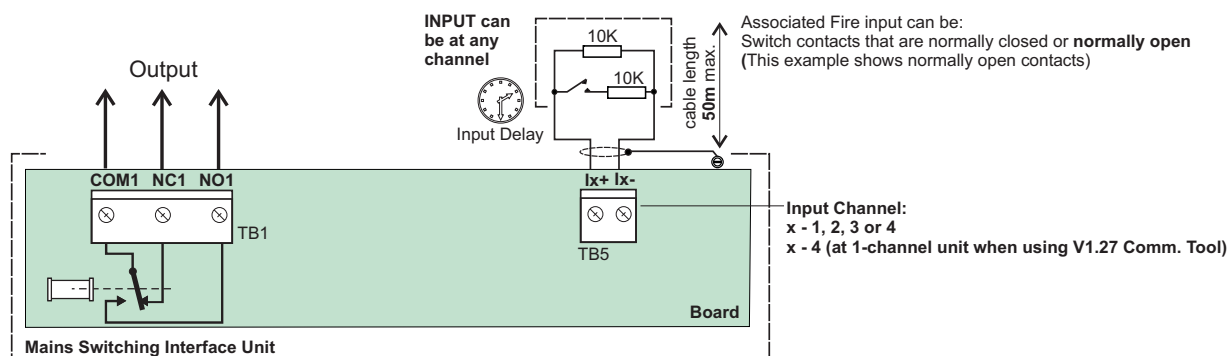


Configuration

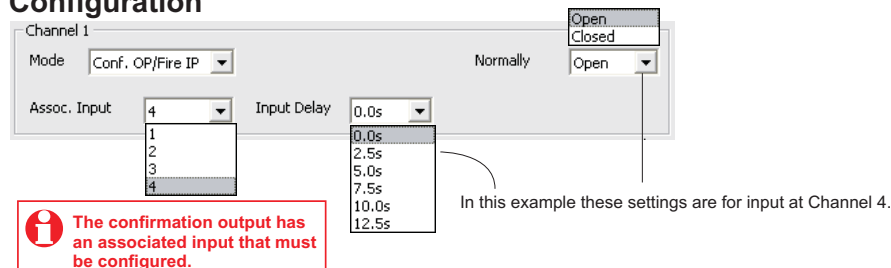


Confirmation Output on receiving a Fire Input

The following example shows how to wire and configure *Channel 1* of a *Mains switching interface* unit to provide **Confirmation Output** on receiving a **Fire Input** at any one of the associated *Channel*. A delay can be applied before input acceptance to account for switch transition. This mode of operation can be applied in a similar manner to *Channels 2, 3 and 4* on a 4-channel unit, but only to *Channel 1* at a 1-channel unit.

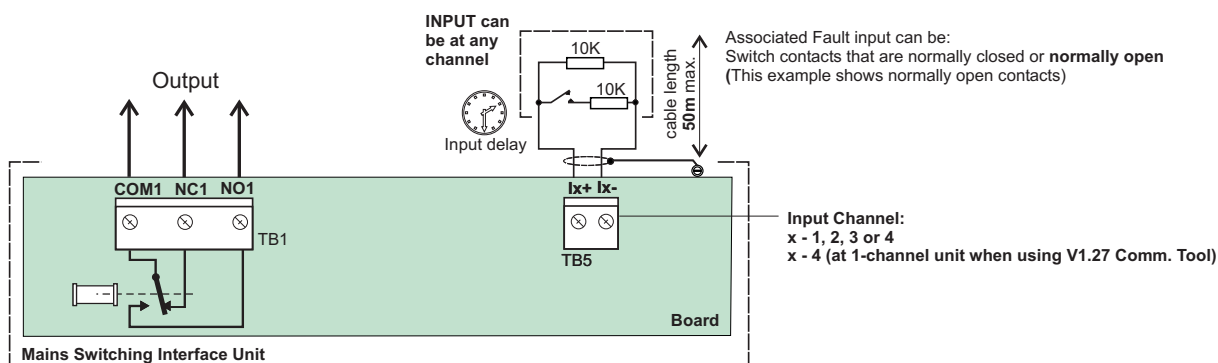


Configuration

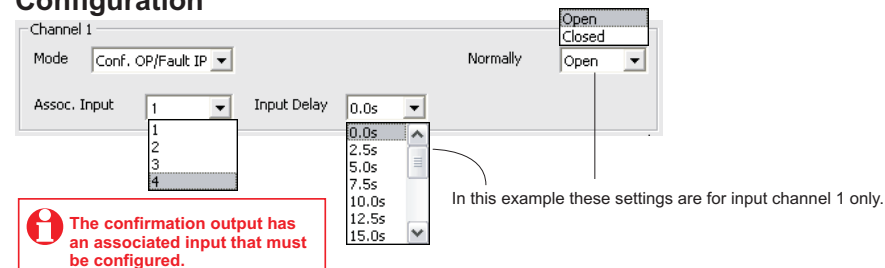


Confirmation Output on receiving a Fault Input

The following example shows how to wire and configure *Channel 1* of a *Mains switching interface* unit to provide **Confirmation Output** on receiving a **Fault Input** at any one of the associated *Channel*. A delay can be applied before input acceptance to account for switch transition. This mode of operation can be applied in a similar manner to *Channels 2, 3 and 4* on a 4-channel unit, but only to *Channel 1* on a 1-channel unit.

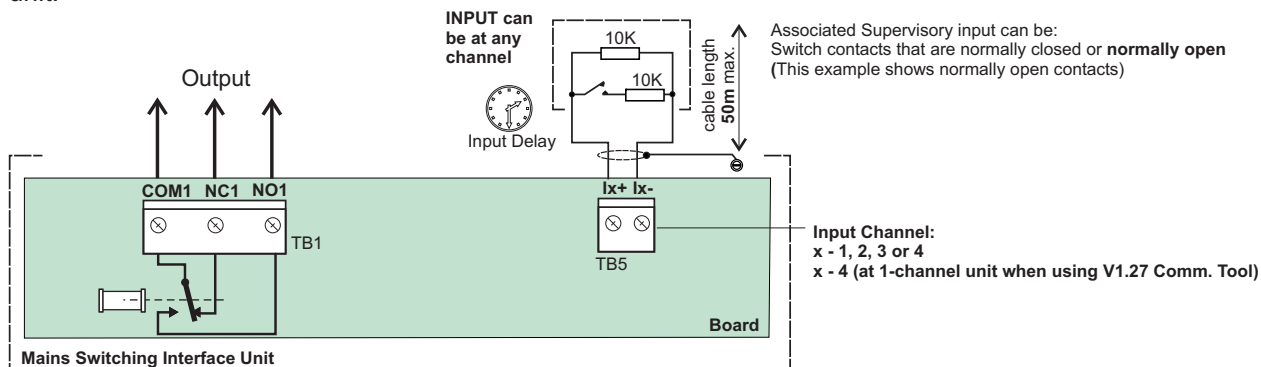


Configuration

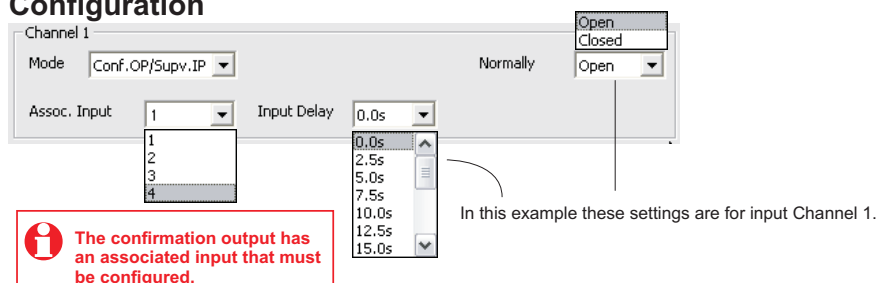


Confirmation Output on receiving a Superv. Input

The following example shows how to wire and configure *Channel 1* of a *Mains switching interface* unit to provide **Confirmation Output** on receiving a **Supervisory Input** at any one of the associated *Channel*. A delay can be applied before input acceptance to account for switch transition. This mode of operation can be applied in a similar manner to *Channels 2, 3 and 4* on a 4-channel unit, but only to *Channel 1* on a 1-channel unit.

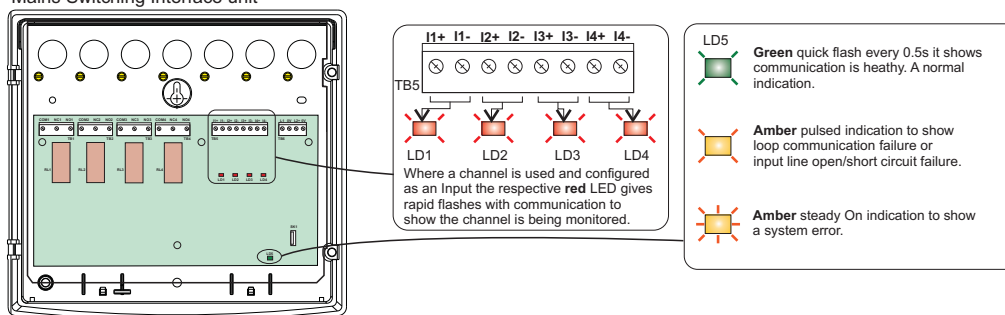


Configuration



LED indications at a Mains switching interface

Mains Switching Interface unit



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Zone input

S4-34404 4-Channel unit	✕	S4-34401 1-Channel unit	✓
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The following example shows how to wire and configure *Channel 1* of a *Mains switching interface* unit as a **Zone Input**. Delay settings can be applied to account for Channel 1 Validation and Reset period. Where zone detection operate on open or closed circuit basis then these can be wired to Channels 2 to 4 and configured with a input delay. The mode of operation is only available at a 1-channel unit.