SMOKE SCREEN

SMOKE SCREEN INTERFACE Mk2

INSTALLATION AND OPERATION

MANUAL

Revised Version: July 2022

CONTENTS

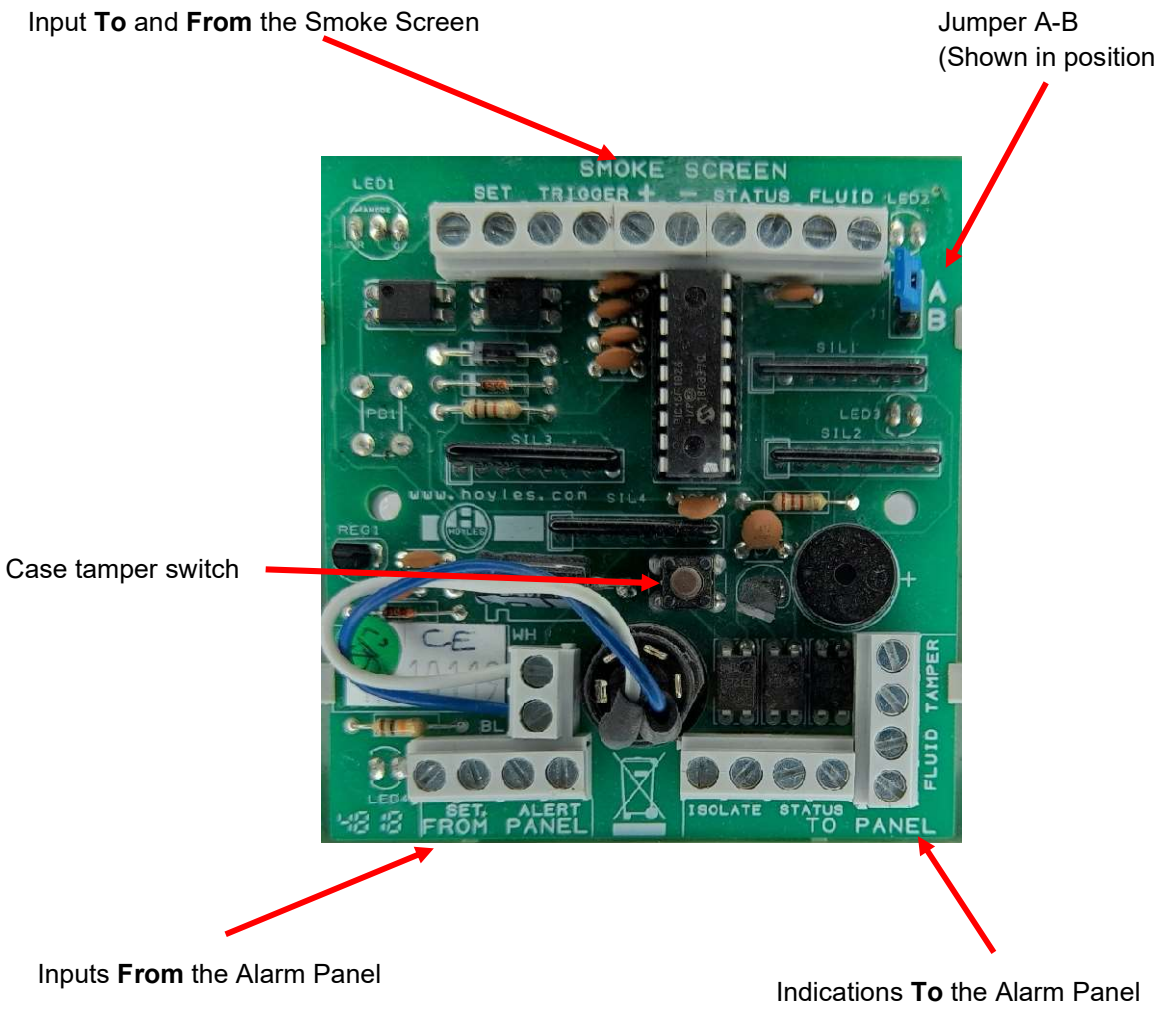
1 Package contents.

1 x SSI front face with PCB.
1 x Pattress box.
2 x Case assembly machine screws.
4 x Case mounting screws and wall plugs.
1 x Tamper switch spring.
2 x Keys (more keys can be obtained from Concept Smoke Screen).

2 Overview.

The Smoke Screen Interface (SSI) is an easily installed control panel that gives the End-User a simple interface with a Smoke Screen to provide status indications, a means of isolating the Smoke Screen from operating or stopping an inadvertent activation and a test facility.

3 PCB layout.



4 PCB terminals.

4.1 “Smoke Screen” terminal strip.

Connections to the Smoke Screen.

Power supply and status information **from** the Smoke Screen.
“Set” and “Trigger” commands **to** the Smoke Screen.

PCB Pin	Function	Smoke Screen Connection	SSI Operation	Notes
Set	Set output	Set	The connected circuit is bridged when the SSI Keyswitch is selected to “Isolate” regardless of the input state from the alarm panel; see section 4.2 “From Panel”	Used to permit work on the Alarm System without activating the Smoke Screen Do not apply a voltage to these terminals
Set		Set		
TRIGGER	Trigger output	Alarm		
TRIGGER		Alarm		
+	12v DC in	12v	Power supply	The SSI max load is 60 mA. The Smoke Screen provides sufficient power for an SSI and a PIR under normal circumstances
-	0v DC in	0v		
STATUS	Temp status (Ready input)	Temp status com	Detects a clean, normally closed circuit going open to indicate that the Smoke Screen is **NOT** “Ready” to operate	Do not apply a voltage to these terminals
STATUS		Temp status n/c		
FLUID	Low Fluid input	Low com	Detects a clean, normally closed circuit going open to indicate that the Smoke Screen is **NOT** “Ready” to operate	Do not apply a voltage to these terminals
FLUID		Low n/o		

4.2 “From Panel” terminal strip.

Connections to the Alarm Panel

Inputs from the Alarm Panel to activate the Smoke Screen and permit the easy use of the SSI test facility.

PCB Pin	Function	SSI Operation	Notes
Set	Set input from the Alarm Panel	Detects a clean, normally closed circuit going open to indicate that the Alarm System is Set	Do not apply a voltage to these terminals
Set			
ALERT	Alert input from the Alarm Panel	Detects a clean, normally closed circuit going open to indicate that the Alarm System has an intruder alert	
ALERT			

4.3 “To Panel” terminal strip.

Connections to the alarm panel.

Smoke Screen and SSI outputs to the Alarm Panel.

PCB Pin	Function	SSI Operation	Notes
ISOLATE	SSI isolated output to the Alarm Panel	Clean contacts going open when the SSI Keyswitch is selected to “Isolate”	Use to provide Smoke Screen and SSI status to the Alarm Panel Isolate, Status and Low Fluid will open if the SSI loses power. Tamper is a mechanical switch and not affected by power loss.
ISOLATE			
STATUS	Ready output to the Alarm Panel	Clean contacts going open when the Smoke Screen is NOT ready to operate	
STATUS			
FLUID	Low fluid output to the Alarm Panel	Clean contacts going open when the Smoke Screen fluid is low	
FLUID			
TAMPER	SSI case tamper output to the Alarm Panel	Clean contacts going open when the SSI case is open	
TAMPER			

5 Jumper “A-B”.

- **Jumper in position “A”:** When the Sentinel “Status” or “Fluid” go into a fault state the outputs from the SSI to the Alarm Panel are delayed by 20 seconds to avoid transitory fault alerts. When the faults are corrected the outputs change state immediately.

- **Jumper in position “B” or not fitted:** The SSI outputs “Status” and “Fluid” changes of state immediately.

6 SSI case tamper.

The SSI has a tamper switch located on the PCB just above the keyswitch. This provides a tamper output signal via the pins on the “To Panel” terminals (see section 4.3). The switch is operated by a taper spring (included in the package) that should be fitted during installation.

7 Installation connections.

Cable entry into the SSI is either via the cut-out in the rear of the enclosure, or the installer can drill holes as required in the side of the back-case. Connection schematics for Sentinel v5 and Sentinel v6 are given at the end of this guide that show the following functions:

- A full installation that permits easy use of the SSI activation test facility that is independent of the Alarm Panel condition, i.e. the Alarm Panel “Set” and “Alert” are connected to the Smoke Screen through the SSI.

8 Normal Operation and Fault Indication.

8.1 Normal Indications

LED	Colour	Status	Key Position	Buzzer Sound	Notes
Unmarked	Blue	On	"Ready"	None	The SSI has power
Ready	Green	On		None	The Smoke Screen has warmed up and is 'Ready' for operation
Low Fluid	Red	Off		None	The Smoke Screen has sufficient fluid
Isolated	Amber	Off		None	The Smoke Screen will operate on command from an Alarm Panel and/or a hold-off device such as a PIR detector
	Green/Amber	On	"Isolate"	None	The Alarm Panel is Set
	Red/Amber	On		None	The Alarm Panel has an intruder alert
	Red/Amber/Green	On		None	The Alarm Panel is Set and has an Intruder alert

8.2 Isolate Keyswitch Function

Key Position	Green "Ready" LED	Yellow "Isolate" LED	Sound Indication	Meaning
"Isolate"	On	On	Beep once every 60 seconds.	**<u>The Smoke Screen will not activate</u>** regardless of any command from an Alarm Panel and/or a hold-off device such as a PIR detector.
	Off	On		The Smoke Screen is warming up to operating temperature or mains power is not switched on. If mains power has been applied to the Smoke Screen for more than 1 hour there is a critical fault.
"Ready"	On	Off	None	The Smoke Screen is 'Ready' for operation.
	Off	Off	Beep once every 5 seconds for 60 seconds then once every 60 seconds for 29 minutes and cycle repeated every 30 minutes or until the issue is resolved.	If mains power has been applied to the Smoke Screen for more than 1 hour there is a critical fault.

NB: To avoid inadvertent or malicious setting changes the key can be removed in both positions

8.3 Fault Conditions

LED Indication		Sound Indication	Meaning
Blue LED	**Off***	None	There is no power to the SSI. Check that the Smoke Screen and any associated Alarm Panel has power
Green “Ready” LED	**Off***	Beep once every 5 seconds for 60 seconds then once every 60 seconds for 29 minutes and cycle repeated every 30 minutes or until the issue is resolved	The Smoke Screen is heating up. Or. The Smoke Screen has a critical fault
Red “Low Fluid” LED	On	Beep once every 5 seconds for 60 seconds then once every 60 seconds for 29 minutes and cycle repeated every 30 minutes or until the issue is resolved	The Smoke Screen fluid requires replenishment

* = **The Smoke Screen will not activate in these fault conditions**

9 Test Functions.

9.1 Alarm Input Test

- **Entering Alarm Input Test Mode.** Turn the keyswitch to the “Isolate” position.
- **Isolate Indicator LED definitions:**

LED Indication	Input Condition
Solid Amber	Both “Set” and “Alert” are Closed (Intruder Alarm Day Mode)
Alternating Green / Amber	The “Set” input is Open (“Alert” input is Closed)
Alternating Red / Amber	The “Alert” input is Open (“Set” input is Closed)
Alternating Red / Amber / Green	Both “Set” and “Alert” are Open (Intruder Alarm Activated)

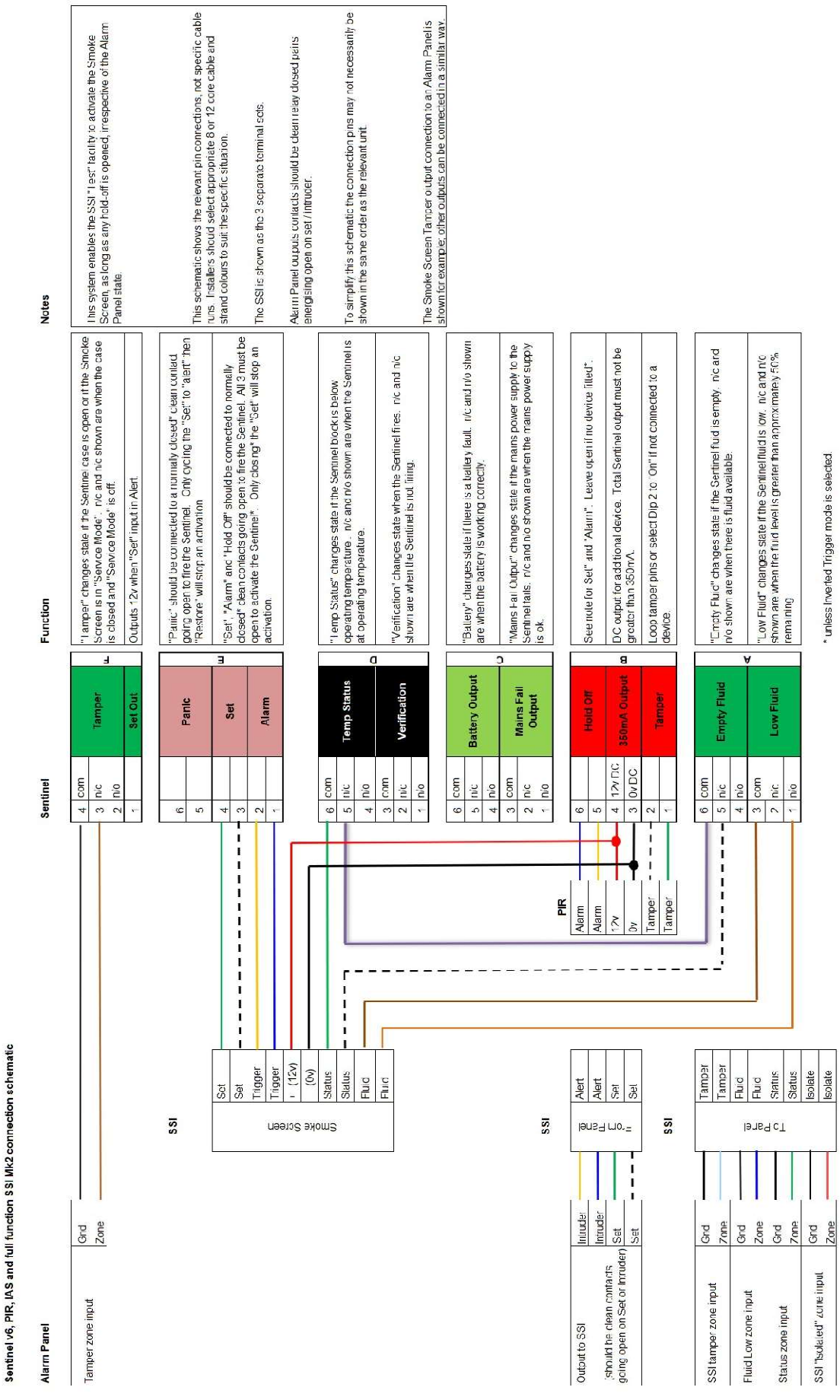
- **Exiting Alarm Input Test Mode.** Ensure that the input indications are restored then turn the keyswitch to the “Ready” position.

9.2 Activation Test

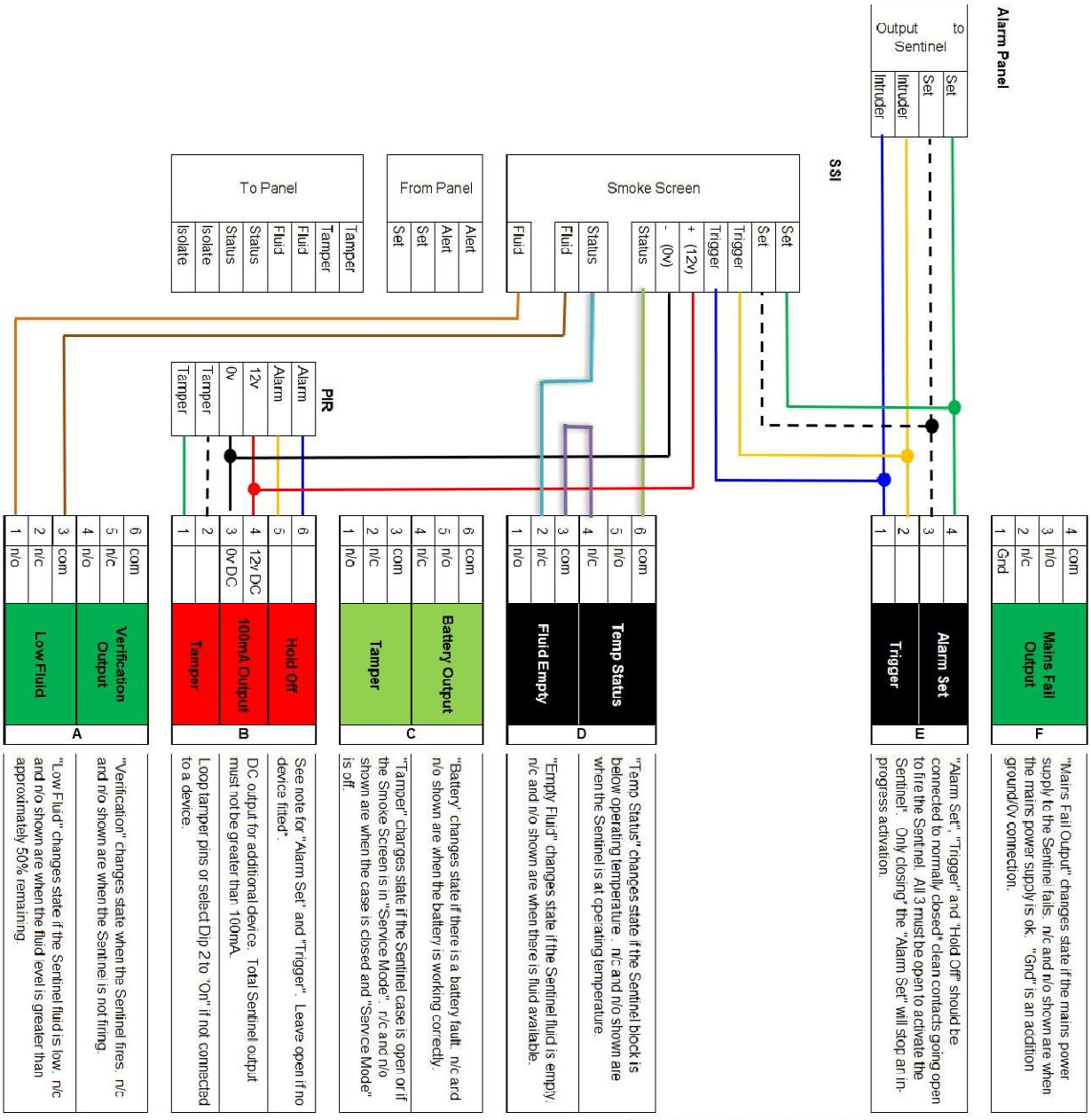
- **Entering Activation Test Mode.** Whilst pressing the “Test” button, turn the keyswitch to the “Isolate” position, then release the “Test” button. The SSI will now beep permanently to indicate that it is in Test Mode.
- **Full function installation.** When in Test Mode pressing the “Test” button will activate any connected Smoke Screen until the button is released or until the programmed time limit is reached, whichever comes first. Directly connected “Hold-Off” devices must also be activated to start smoke production.
- **Installation without an alarm panel.** When in Test Mode pressing the “Test” button will activate any connected Smoke Screen until the button is release or until the pre-programmed timer limit is reached, whichever comes first.
- **Exiting Test Mode.** Select the keyswitch to “Ready” and then to any desired setting. The SSI will stop beeping permanently to indicate that it is not in test mode.

NB. For the activation test mode to function any directly attached detectors, i.e., a PIR or door contacts, must be triggered during the test to activate the Smoke Screen.

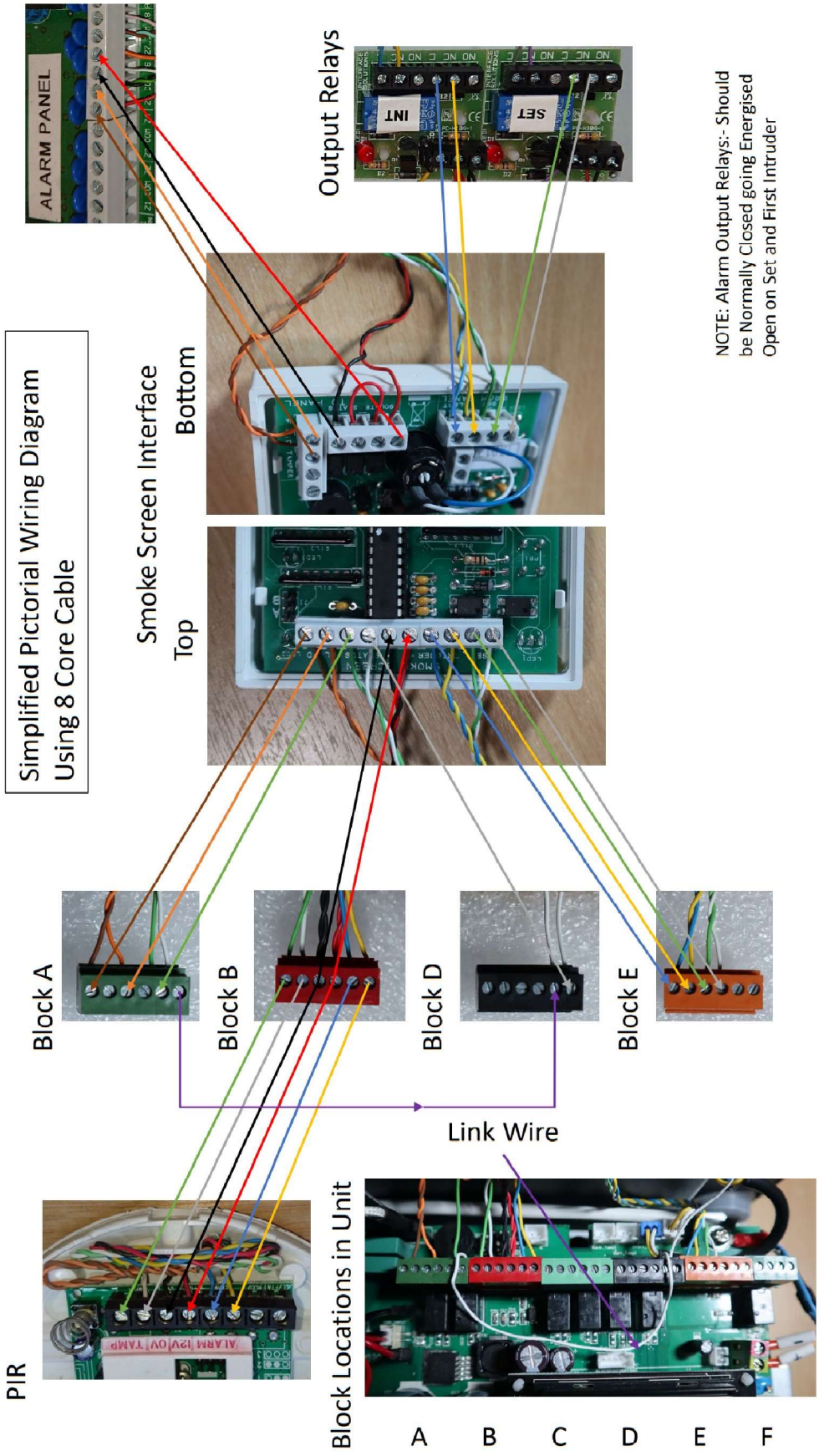
10 Sentinel v6 or v7, PIR, IAS and full function SSI mk2 connection schematic.



11 Sentinel v5, PIR, IAS and full function SSI mk2 connection schematic.



13 Simplified layout for v6 and v7.



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