

S4 ASD Interface

(S4-34440-ASD)

GENT
by Honeywell



The S4 ASD interface unit (Part No: S4-34440-ASD) is designed to connect to a FFAST unit, Fire Alarm Aspiration Sensing Technology®.

The ASD Interface unit monitors the FFAST unit for fire and fault events and signals the Vigilon panel to take cause and effect actions.

The ASD Interface unit incorporates an EN54-4 compliant mains derived power supply that is battery backed to provide a standby supply. The auxiliary power output from the unit is used drive the FFAST unit.



The ASD Interface Unit is supplied with bundled products:

- ☐ FL0111E-VIG-INT (S4-34440-ASD + FL0111E + EOL PCB)
- ☐ FL0112E-VIG-INT (S4-34440-ASD + FL0112E + EOL PCB)
- ☐ FL0122E-VIG-INT (S4-34440-ASD + FL0122E + EOL PCB)
- ☐ 8100-VIG-INT (S4-34440-ASD + 8100E + EOL PCB)

Technical Data

Standards - designed to meet	EN54:part 4: 1997 + A1: 2002 EN54:part 17:2005 EN54:part 18:2005
Overall dimensions	478mm x 322mm x 145mm
Assembled weight (approx.)	5.25Kg (excluding batteries and optional modules fitted)
Enclosure	Steel
Colour	Door: RAL 7024 Graphite Grey and Toucan C-Mix 2000 white 67W50 Backbox: RAL 7024 Graphite Grey

Storage temperature	-20°C to +70°C		
Ambient operating temperature	-10°C to +45°C		
Relative Humidity (Non condensing)	up to 95% Temperature +5°C to +45°C		
Ingress Protection	IP31(estimated)		
Mains voltage Rated current	230V -15% +10% 50Hz/60Hz 0.7A		
Zone Nominal voltage Quiescent current	16V or 22.5V (default) ±15% 20mA per zone (default) Zone short circuit current limited to < 30mA. Refer to the commissioning information for details on how to configure the ASD interface for: - Single Port (1 Channel) or - Dual Port (2 Channels) application.		
Auxiliary Output	Sector outputs: 0.5A max. each at 24V ± 3V, electronically current limited to approximately 1A at 25°C Auxiliary power output: 0 to 0.5A with 12V ±0.5V or 24V ±0.5V 0.5A to 0.65A max. with 12V ±2V or 24V ±2V Auxiliary power output is programmed to provide a <i>reset pulse</i> to reset FFAST unit. Max. total output current: 1.5A		
Batteries	2 x 12V 14Ahr (4.2Kg each)		
Compatibility	Vigilon : MCC ≥ V4.52 : LPC ≥ V4.48 Commissioning tool ≥ V1.31		
EN54-17 : 2005 (section 4.8) data:	Vmax Vnom Vmin Vso max Vso min	48V 40V 35V 16V 8V	Ic max Is max IL max ZC max 0.8A 1A 20µA 0.106Ω
EN54-18 : 2005 data	Vmax Vmin	42V 35V	
EN54-4 : 1997data	Imaxa 1.5A	Imaxb 2.5A	Ri max 1.3R
Imin	80µA		
UVLo	18.5Vdc ±5%		
Vbatt min (with no mains)	22.5Vdc ±5%		
Emission	BS EN 61000-6-3: 2007 + A1:2001 EMC for residential, commercial & light Industry.		
Immunity	BS EN 50130-4: 2001 for alarm systems		
Terminals	Terminals for spur circuit off main loop		

The ASD Interface unit has room to accommodate optional modules onto its DIN rails.

Installation



It is recommended that a FFAST unit and an ASD interface unit are both installed with due consideration to the requirements for BS5839-1. Also refer to the general guidance in FIA Code of Practice for Installation of Aspiring detector.

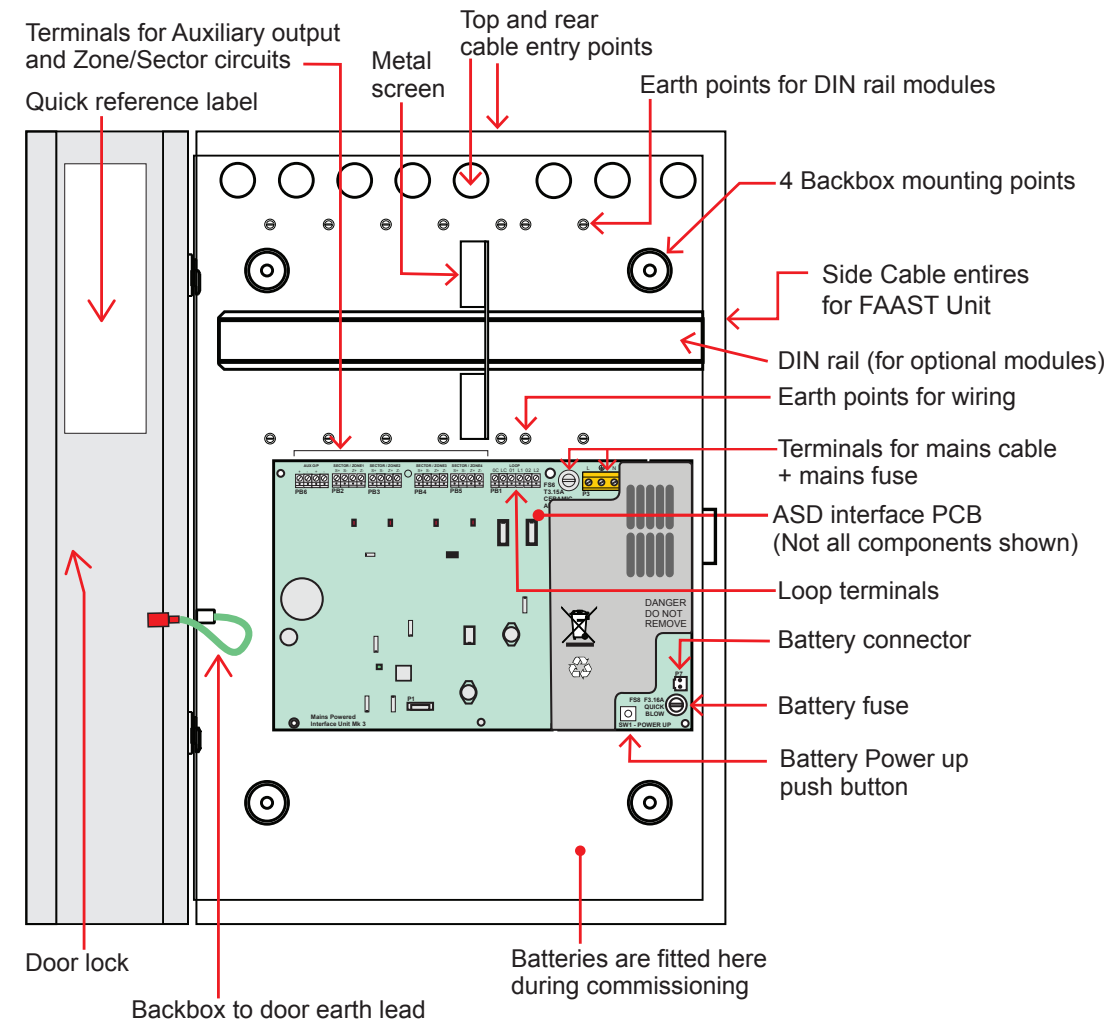
The batteries 12V 14Ahr are supplied in a separate packages.

	Parts	Qty		Parts	Qty
	Fuse 3.15A AS Ceramic (20mm x 5mm)	1		Keys fitted to the enclosure.	1 pair
	Fuse 3.15A QB Glass (20mm x 5mm)	1		PS-12140 12V 14Ahr Battery	2
	Battery Link	1			
	Battery Lead	1			
	Instructions	1			

FAAST LT EOL Terminal PCB



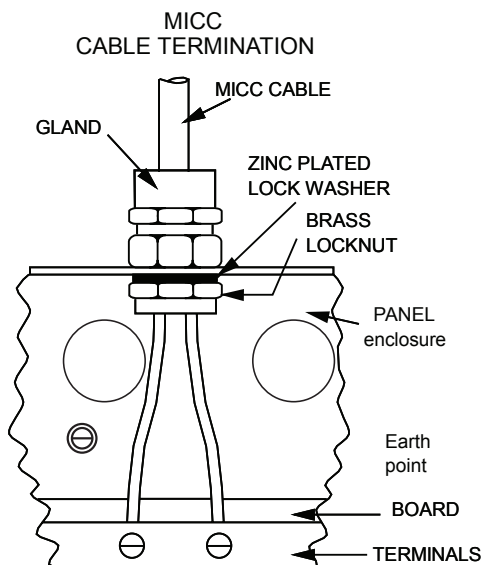
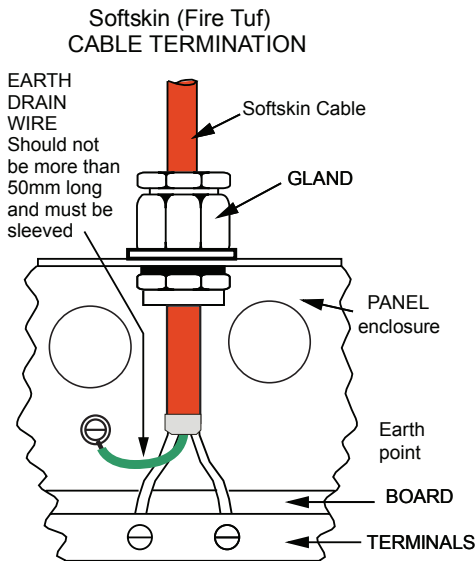
FAAST LT EOL Terminal PCB shown (similar PCB for FFAST 8100E)



Relay module

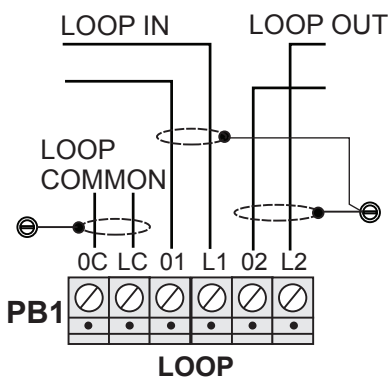
Optional relay module (Part number 19104-52) if used should be mounted on the DIN rail.

Cable termination



Loop wiring

An ASD Interface unit is connected to a Vigilon device loop as shown below using recommended fire cable.



Mains supply

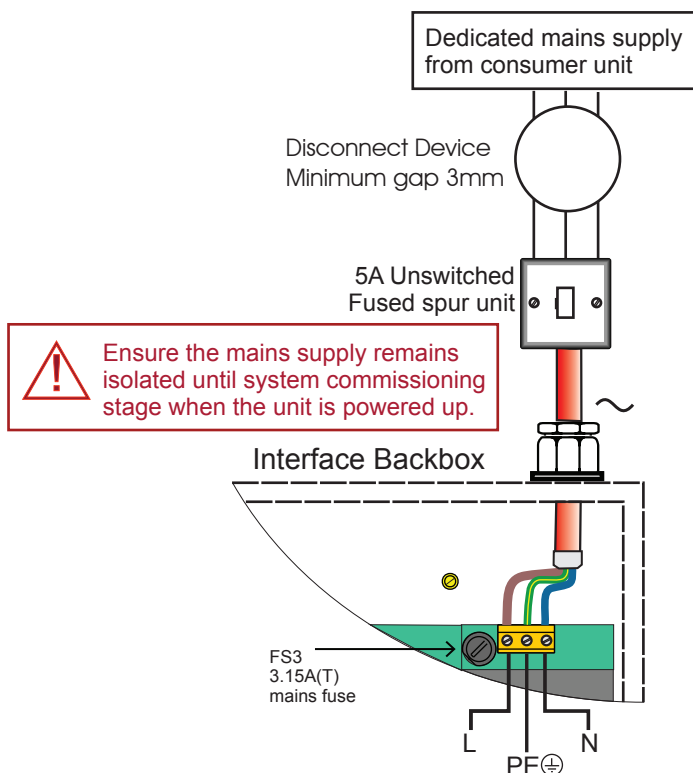
The mains supply cable must be a standard fire resisting type and should meet PH30 classification, such as any of the standard and enhanced loop cable. Requires a minimum conductor cross sectional area of 0.75mm².



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 FFAST unit and 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.

Cables for wiring a FFAST unit

The ASD Interface unit is connected to a FFAST Unit using approved fire cable:

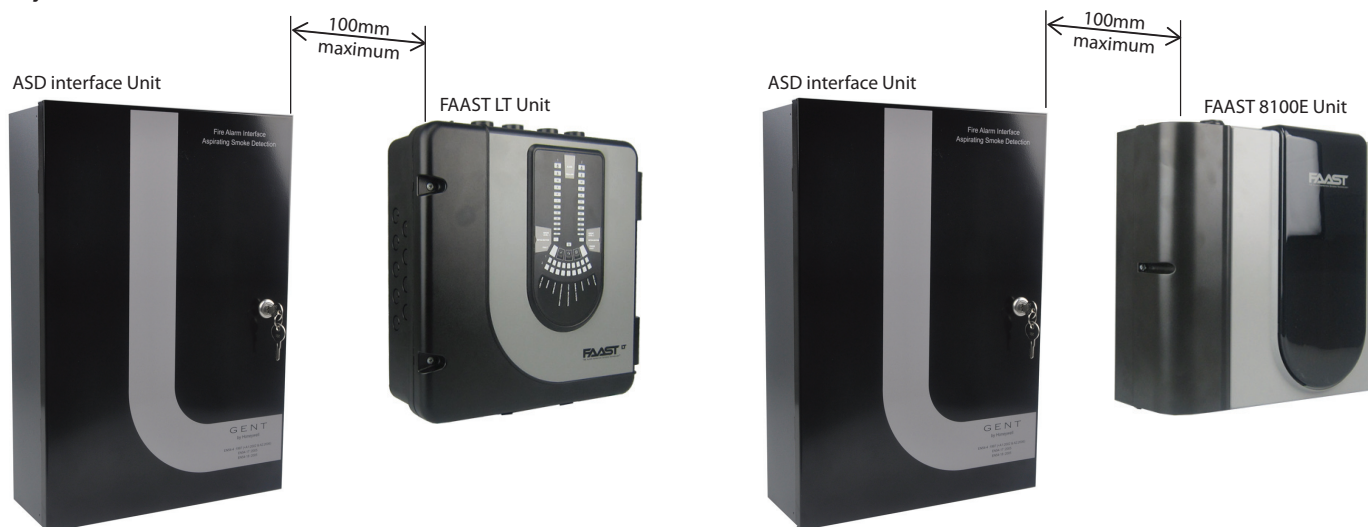
- A 2-core fire cable should be used to make the Auxiliary O/P power supply connection, see the Vigilon Installation manual for list of approved 2-core fire cable used for loop wiring.
- A 4-core fire cable may be used for channel connections between ASD Interface unit and a FFAST unit.

Location



To meet the requirement of BS5839-1 the ASD interface Unit must be installed adjacent to the FFAST unit.

Adjacent installation

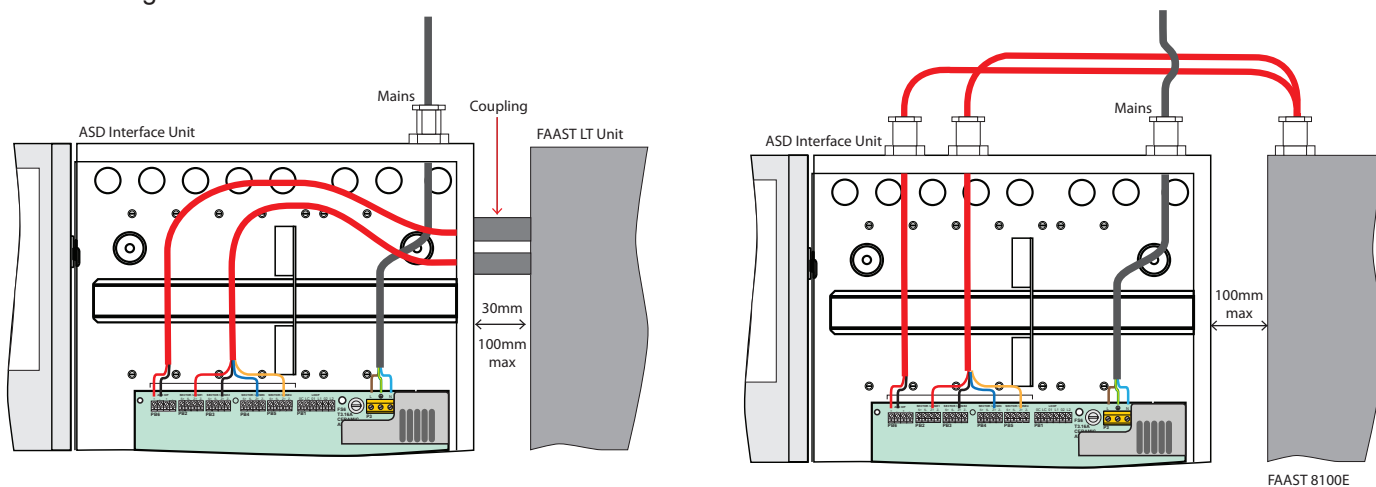


Remote installation require special consideration, so adjacent installation is the recommended option.



Where the ASD Interface Unit and FFAST Unit are not adjacently installed then the power supply connections must be duplicated and short circuit protection must be provided so that a short circuit on one connection does not prevent power from being supplied by the other connection.

Cable routing to FFAST Units



FAAST LT (FL0111E or F0L112E) Single Port (1-Channel) unit installation

How to install FAAST LT Single/Dual Port EOL Terminal PCB

③ Connect the external wiring to the orange terminal block on FAAST LT EOL Terminal PCB, see wiring diagram.

④ Hold the FAAST LT EOL Terminal PCB with pins facing to the right and align the pins with terminals on the FAAST unit, as illustrated.

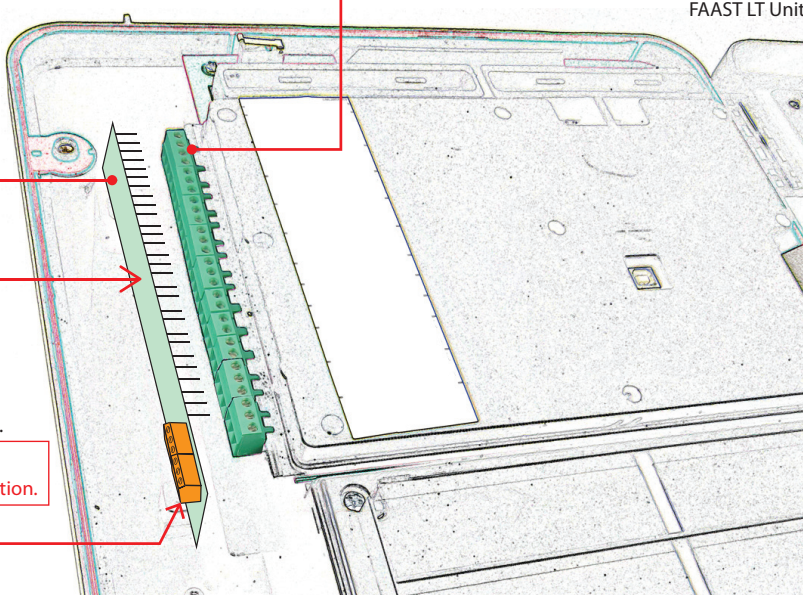
⑤ Slide the FAAST LT EOL Terminal PCB pins into the terminal blocks on the FAAST unit.

i Secure all the terminal block screws at the FAAST unit to make each pin connection.

External wiring is connected to this orange terminal block

② Fit terminal blocks supplied with the FAAST Unit to the FAAST PCB, as illustrated. Open all the terminal screws to help with the installation of FAAST LT EOL Terminal PCB.

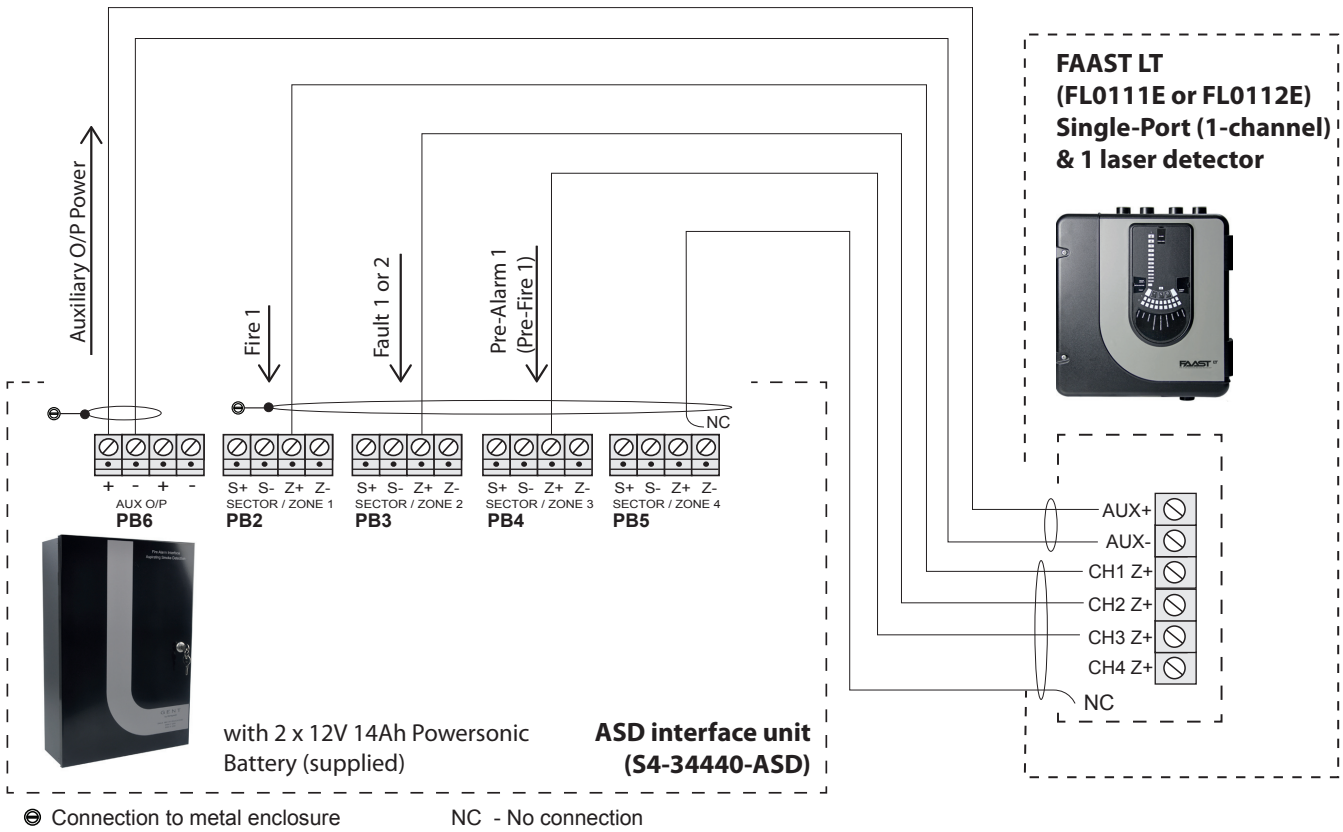
① Open the outer cover



FAAST LT Unit

FAAST LT EOL Terminal PCB

Wiring a FAAST LT Single Port (1-Channel) FL0111E or FL0112E to a ASD Interface Unit (S4-34440-ASD)



FAAST LT (FL0122E) Dual Port (2-Channel) unit installation

How to install FAAST LT Single/Dual Port EOL Terminal PCB

③ Connect the external wiring to the orange terminal block on *FAAST LT EOL Terminal PCB*, see wiring diagram.

② Fit terminal blocks supplied with the *FAAST Unit* to the *FAAST PCB*, as illustrated. Open all the terminal screws to help with the installation of *FAAST LT EOL Terminal PCB*.

① Open the outer cover

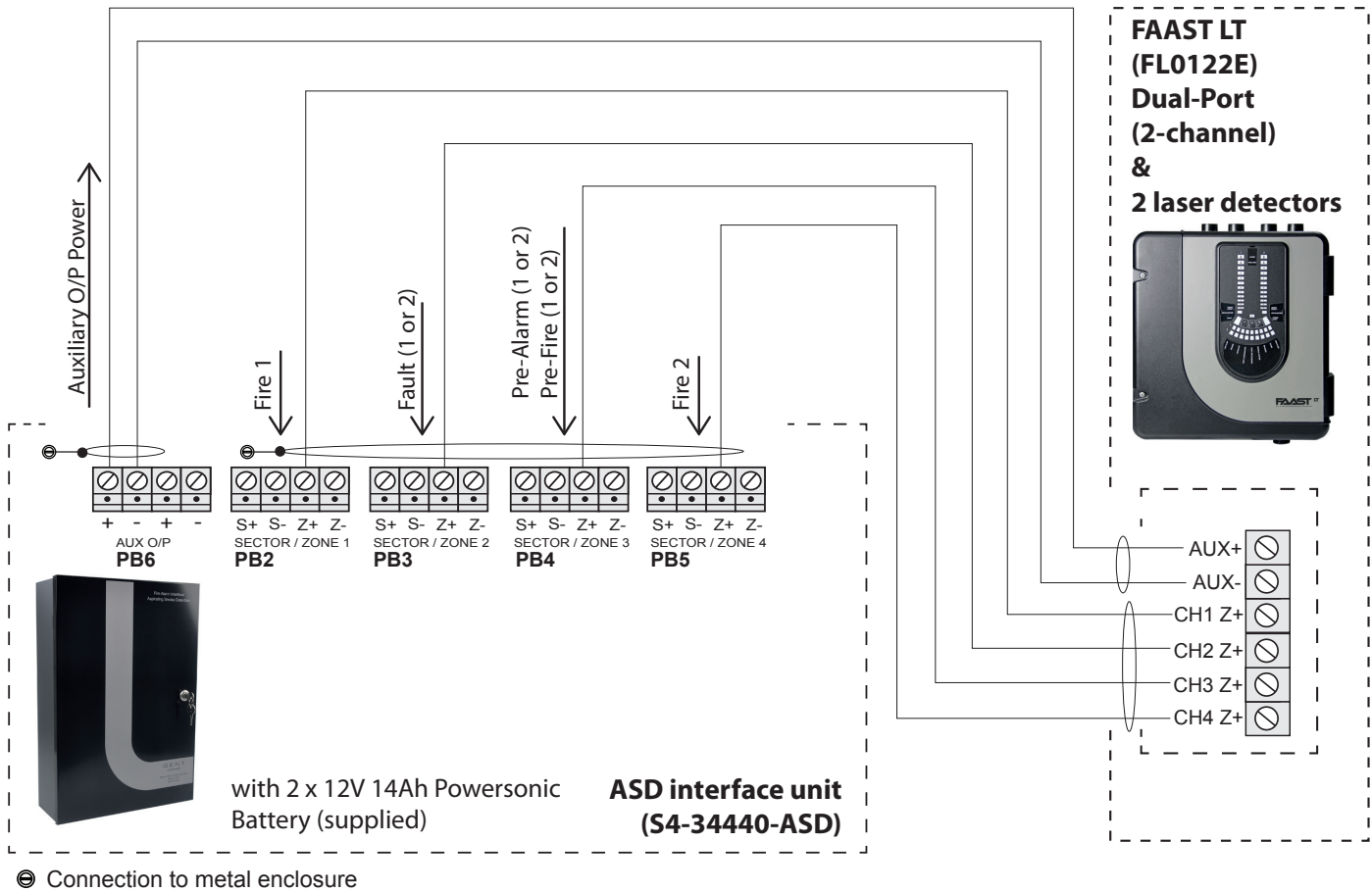
④ Hold the *FAAST LT EOL Terminal PCB* with pins facing to the right and align the pins with terminals on the *FAAST unit*, as illustrated.

⑤ Slide the *FAAST LT EOL Terminal PCB* pins into the terminal blocks on the *FAAST unit*.

i Secure all the terminal block screws at the *FAAST unit* to make each pin connection.

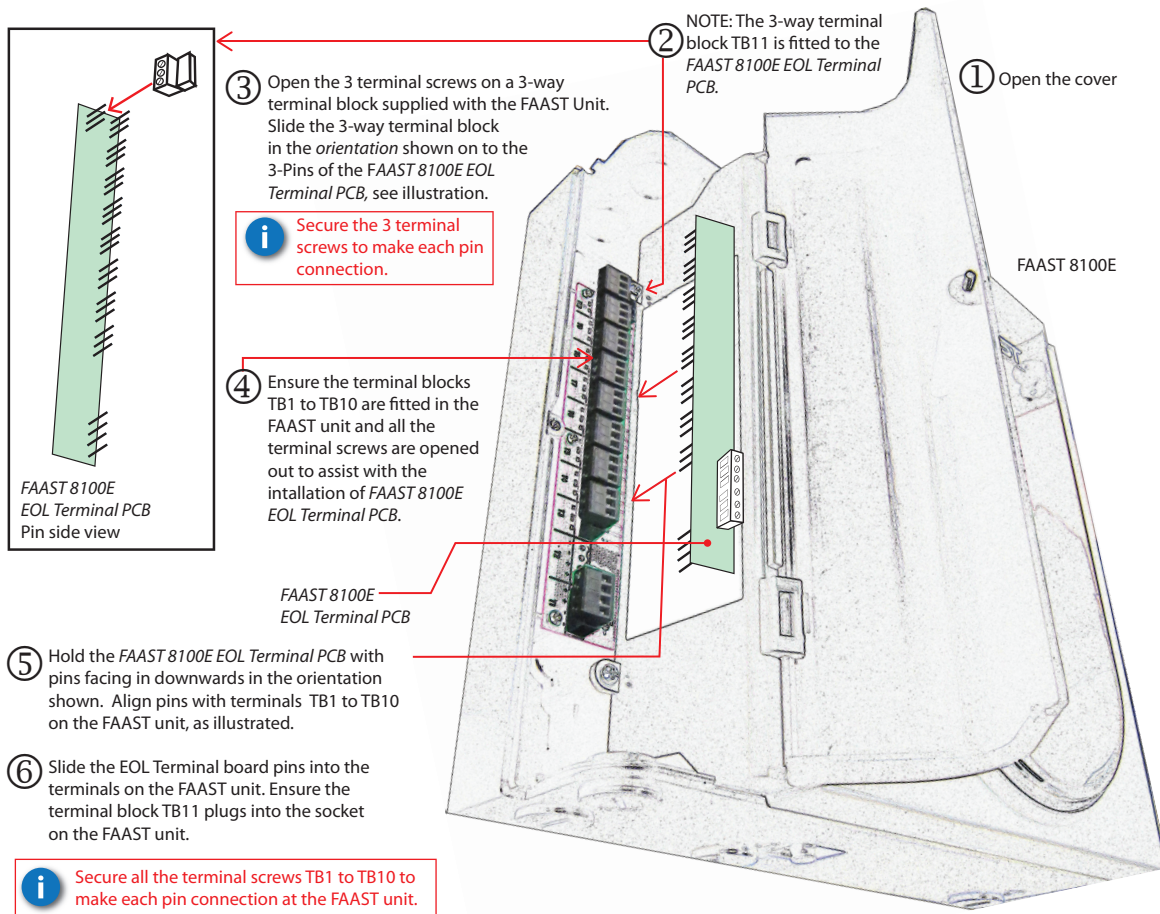
External wiring is connected to this orange terminal block

Wiring a FAAST LT Dual Port (2-Channel) FL0122E unit to a ASD Interface Unit (S4-34440-ASD)

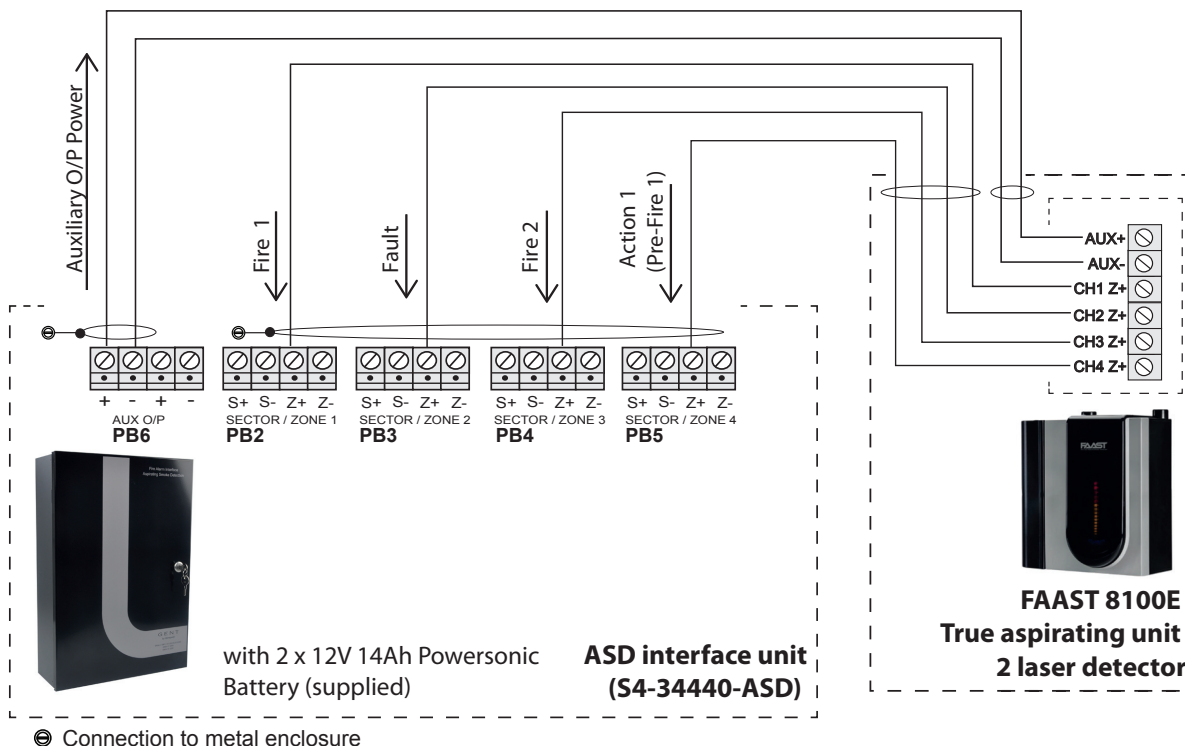


FAAST (8100E) True aspirating unit Installation

How to install FAAST 8100E EOL Terminal PCB



Wiring a FAAST 8100E True aspirating unit to an ASD Interface Unit (S4-34440-ASD)



Commissioning

The ASD Interface unit and the FFAST unit are both configured to operate in a Vigilon system, using Vigilon Commissioning tool ≥ V1.31 and FFAST Commissioning using PipelQ tool.



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.



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DoP
118-CPR-2015

Product No.
S4-34440-ASD

EN54-4: 1997 + A12002, A2:2006, EN54-17:2005, EN54-18:2005

S4-34440-ASD (EN54-4-17 & 18)

Intended for use in fire detection and fire alarm systems in and around buildings

Refer to DOP 118-CPR-2015 for level or class of performance declared, for details see website www.gent.co.uk

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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S4 ASD Interface unit

(S4-34440-ASD)

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The Commissioning process requires checks to be made to ensure that compatible Cards with correct firmware are installed in Vigilon panel.

It is also important to ensure correct version of the Commissioning tool is being used to configure each ASD Interface Unit on Vigilon loop circuits.

Ensure the FFAST Units are fully commissioned using the FFAST Commissioning procedure.

Once the ASD Interface is powered up ensure the indications given by LD1 located on the Interface board are correct.

Ensure typical fire and fault events at a FFAST unit are locally indicated as well as at the Vigilon panel.

Compatibility

Control Panel	Compatible card and firmware
Vigilon	Main Controller Card $\geq$ V4.52
	Loop Processor Card $\geq$ V4.48
	Vigilon Commissioning tool $\geq$ V1.31

Factory settings

The S4 ASD interface unit is factory set to 'ASD 1 Port I/F' to connect to a FFAST LT FL0112E unit

If the S4 ASD interface unit is connected to a FFAST LT FL0122E or a FFAST 8100E then use Vigilon Commissioning tool $\geq$ V1.31 and select the 'ASD 2 Port I/F' or 'ASD 8100' respectively in the Device settings.



The Auxiliary output of the ASD Interface is used to power the FFAST unit and to provide a fire reset signal.

Standby Battery capability



The ASD Interface unit makes use of Powersonic PS-12140 12V 14Ah batteries. It is strongly recommended that batteries are replaced after 4 years of use.

All batteries must be disposed of as per recommendation made by the battery manufacturer and local regulations.

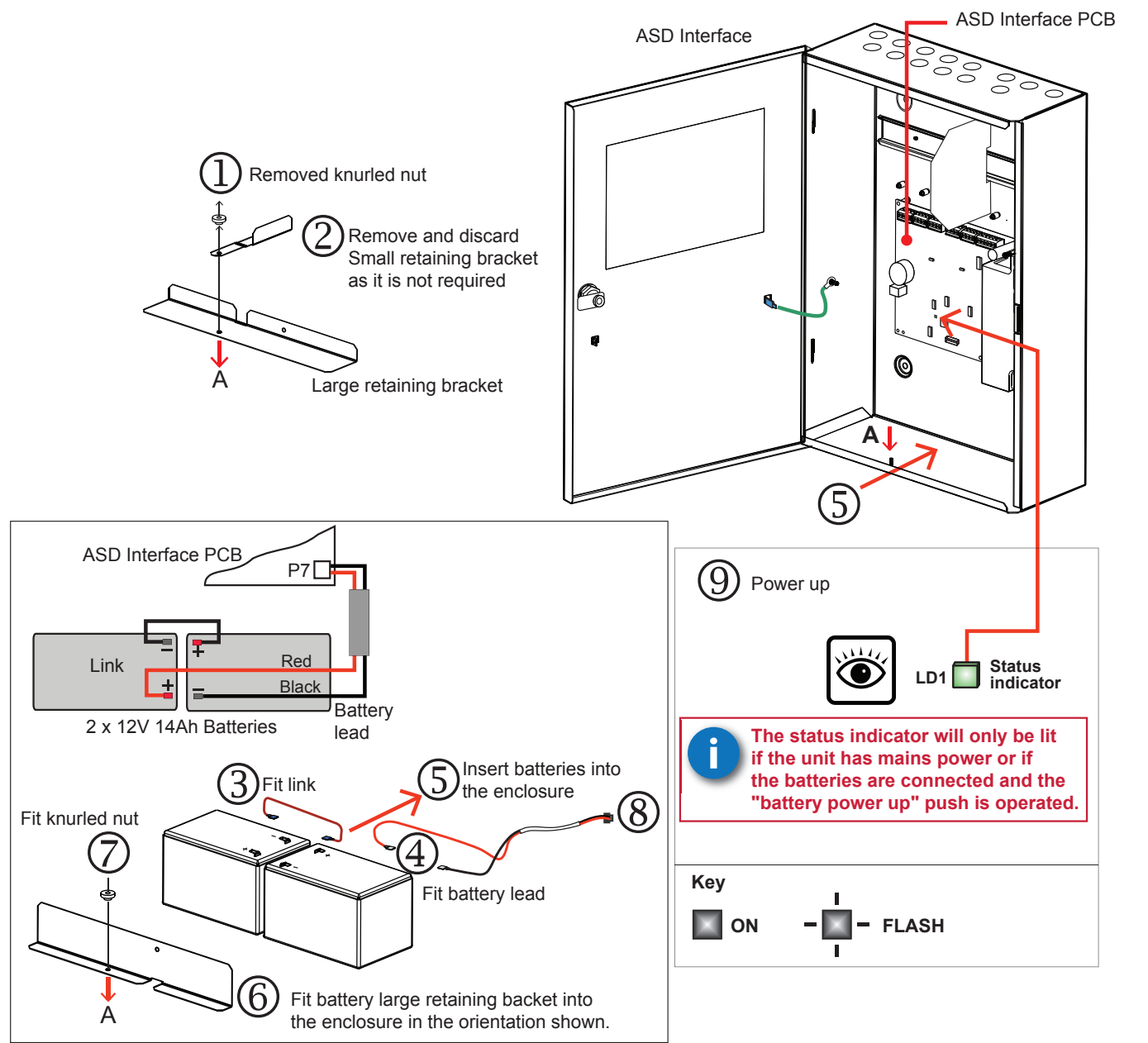
An ASD Interface Unit (S4-34440-ASD) with 12V 14Ah batteries provides 24-hour standby power to a FFAST LT FL0112E, FFAST LT FL0122E and FFAST 8100E. The ASD Interface unit is capable of delivering standby of up to 48-hour to a FFAST LT FL0111E.

Optional module

The ASD Interface unit has provision for installation of optional modules, like relays, on to the DIN rail within the enclosure. If the modules are powered from an ASD Interface power supply then it will affect the battery standby capability of the unit.

How to install batteries and Power up

The following illustration shows how to fit and connect the two 12V 14Ah batteries inside an ASD Interface unit (S4-34440-ASD). The numbers ①②③④... shows the order in which to carry out the installation.



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 inter-face zone / sector channel.
Short FLASH	Amber	The interface loses synchronisation with the loop communications se-quence.
ON continuously	Amber	System error is detected (e.g. a configuration memory checksum / validity check error or a Flash / RAM error).

Commissioning the ASD interface Units using Vigilon Commissioning tool $\geq V1.31$

Use the Vigilon Commissioning tool $\geq V1.31$ to configure each ASD interface unit, ensure correct FFAST unit has been selected for correct operation.

Device configuration

Each ASD Interface unit must be configured for either Dual port (2-Channels) or Single port (1-Channel), latter is a default setting.

To configure each ASD interface unit (S4-34440-ASD) step through numbers ①②③④... and make the required selection.

Menu selection

1a Configuration

1b Device Config...

1 [Icon of a device]

2 Device tree select the required ASD Interface to be configured.

3 Device Type ensure 'Interface Unit' is selected

4 Device Selector may be configured to:
 'ASD 1 Port I/F' or
 'ASD 2 Port I/F'
 'ASD 8100E'

5 Individually configure all other ASD interface Units installed on all the loops of Control panel.

6 On completion Save the configuration

Device Configuration

Filter Options: Show All Showing All Devices

Device List:

- Lp 1 Device 10 ASD 2 port I/F [SAFE] Tee
- Channel 1
- Channel 2
- Lp 1 Device 11 S4H [SAFE]
- Lp 1 Device 12 S4D [SAFE]
- Lp 1 Device 13 S4D [SAFE]
- Lp 1 Device 14 CALLPOINT [SAFE]
- Lp 1 Device 15 S4D [SAFE]
- Lp 1 Device 16 S4D [SAFE]
- Lp 1 Device 17 S4D [SAFE]
- Lp 1 Device 18 S4D [SAFE]
- Lp 1 Device 19 S4H [SAFE]
- Lp 1 Device 20 S4D [SAFE]
- Lp 1 Device 21 S4D [SAFE]
- Lp 1 Device 22 S4D [SAFE]
- Lp 1 Device 23 S4D [SAFE]
- Lp 1 Device 24 LOOP INTERFACE [SAFE]
- Channel 1
- Channel 2
- Channel 3
- Channel 4
- Lp 1 Device 25 LOOP INTERFACE [SAFE]
- Channel 1
- Channel 2
- Channel 3
- Channel 4
- Lp 1 Device 26 S4D [SAFE]
- Lp 1 Device 27 S4D [SAFE]
- Lp 1 Device 28 S4D [SAFE]
- Lp 1 Device 29 S4D [SAFE]
- Lp 1 Device 30 S4D [SAFE]

Loop Map:

Loop	Primary	Safe	On Spur	On Sub
1	10	10	☐	☐
Prev	Comm	Next		
9	250	252	☐	☐

Device Setup:

Device Label: SOUNDERS

☐ Sounder ☒ Tee Breaker ☐ Slave Led ☐ Slave Relay

Monitored Line ☐

Buttons: Delete, Insert, Change

Device Type: Interface Unit

Device Selection: ASD 2 Port I/F

Device States:

Timeblock States: T/Blk On 0 T/Blk Off 0

Allocation: Channel 1 2 3 4 5 6 Digital IIII

Device Loop Configuration:

Zone	Group	Time Block	Gain
18	1	0	255

Sector:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

☒ Integral Sounder Mode Clear All Sectors

Buttons: Save, Cancel

Labels

It is important to label the fire channels of an ASD Interface unit of a Dual Port (2-channel) FFAST Unit. Labelling the fire channels allows fire events of each channel to be displayed at a Vigilon panel.

Command Build

Configure each ASD Interface FFAST Pre-Alarm (Pre-Fire) channels to trigger Command Builds to action a desired operation in a Vigilon fire alarm system.

Typical Command build action can be to switch ON Master Alarms and Sector Alarms to site requirements. Each Command build triggered by ASD Pre-Alarm (Pre-Fire) channels must be given a label for display at the Vigilon panel. This label is displayed momentarily when Pre-Alarm (Pre-Fire) is detected.

Commissioning a FAAST 8100E Unit using PipeIQ



When commissioning a FAAST 8100E unit use Pipe IQ tool and ensure the Fire and Fault relays of the FAAST 8100E are set to non-latching.

Tests

- Check to ensure the typical fire and fault events at a FAAST unit are indicated at the FAAST unit as well as at the Vigilon panel
- Test the system Cause and Effect to site requirement.

Typical FAAST fault indications given at a Vigilon panel

Faults detected at a FAAST unit are displayed at a Vigilon panel and are reference to ASD Interface input channels.

The yellow Fault LED is lit while a fault is present
The LED switches off on restoration

FAAST	Channel 1	Channel 2	Channel 3	Channel 4
FL0111E	Fire1	Flt1/2	PreAl1	-
FL0112E	Fire1	Flt1/2	PreAl1	-
FL0122E	Fire1	Flt1/2	PreAl1/2	Fire2
8100E	Fire1	Flt	Fire 2	Action1

Key:
Flt - Fault
PreAl - Pre-Alarm (Pre-Fire)
Action - Pre-Alarm (Pre-Fire)
S/C - Short circuit
O/C - Open circuit

ASD Interface unit device and loop numbers

'Interface Input Fault'

This is a Fault at a FAAST unit which can occur with local failures like:

- ☐ Low Flow fault
- ☐ Configuration Fault
- ☐ Sensor fault
- ☐ Aspirator fault
- ☐ Filter fault and
- ☐ High Flow fault.

Look at the Fault indications at the FAAST unit and also refer to the instructions supplied with the FAAST unit for details and solution.

'Interface Input S/C'
'Interface Input O/C'

Check the channel wiring between the ASD Interface unit and FAAST unit. Ensure FAAST EOL Terminal PCB is securely fitted in the FAAST unit and the all terminal screws are secure.

Note: A S/C and O/C wiring faults are also applicable for FIRE and PRE-ALARM (PRE-FIRE) channels.

When a fault on an interface input is rectified the display shows:
'Interface Input Restored'

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