



The Tasmania Fire Service ASE installation guidelines and procedures for Alarm System installers. Provided by Communications Services and Technology (CST), a unit of the Department of Police, Fire and Emergency Management (DPFEM). For further information and technical advice on ASE installation, please contact Communication Services and Technology on [CST@dpfem.tas.gov.au](mailto:CST@dpfem.tas.gov.au) or 03 6173 2291.

## Romteck ASE (Alarm Signalling Equipment) installation

CST supply the ASE, antenna(s), antenna bracket(s) and functional terminal strip (FTS) ready for installation into the fire indicator panel (FIP).

The ASE is designed to fit in the FIP without adjustment. The ASE requires a 1amp (minimum) supply at either 24 or 12 Volts.

- The ASE installation requires volt free contacts from the FIP.
- The volt free contacts are connected to the FTS; see the last page 11 for connection details.
- The FTS contains a series connected resistive network for every input on the ASE; see page 6.
- As the FIP status change, the contact alters the resistance of the FTS network. The ASE interprets the change and an appropriate F1, A2, A4 etc., is forwarded to FireComm (the TFS control room).
- All connections to the ASE and the FTS must be bootlaced.

### ASE pre-delivery programming

The contractor completes the 6.1 and 6.2 forms for TFS Building Safety as well as a purchase order to Information & Records ([fire@fire.tas.gov.au](mailto:fire@fire.tas.gov.au)) for the ASE. The ASE will then be programmed ready for installation. The ASE will be dispatched to the contractor address provided (cost of delivery will be included in the invoice).

## Antenna location and antenna coaxial cable

If there is a very poor mobile phone signal on site, please contact Communication Systems & Technology on CST@dpfem.tas.gov.au or 03 6173 2291.

For the premise to be connected reliably with FireComm, the antenna location(s), hence the reception of the signal will make a marked difference between a good and unsatisfactory reception with the mobile phone network.

For the best reception of the mobile phone signal the vertically oriented antenna should be mounted outside in free space, away from the roof access and any steel facia, structures, pipes, cable trays and frames.

If the antenna coaxial cable needs extending TFS can supply a cable of 3 or 5 metres on request, at cost.

The antennas must not

- Be mounted in the ceiling space if the roof is metal or foil insulation is installed.
- Be mounted horizontal or fixed against metalwork.
- Or mounted inside the panel.
- Be cable tied or pushed into the existing cables in the cable duct.
- Be pushed horizontally into the wall cavity hole amongst other cables.
- Be located behind metal cavities surrounding the panel.
- The antenna cannot be mounted upside down outdoors, it will fill with water.
- Be installed such that the antenna or coaxial cable are exposed to vandalism, however it must be still be reasonably accessible to service personnel.

Labelling the antenna is advantageous for other service personnel and it is recommended that the antenna location be marked on the FIP information sheet.

### If an outdoor mounting is not possible

- An indoor antenna location near glass windows may be possible. The antenna can be pointing down vertically.
- Installing the antenna inside a plastic conduit or duct and securing this assembly vertically above the panel, but not next to or against any metal work, and it does not need to go as high as the ceiling.
- Installation of an antenna inside a wall cavity is no longer supported.

### Dual Antennas

The Romteck ASE 3118 requires two Antennas to be connected and mounted which allows for greater redundancy at the client installed site.

The requirements for installation, as outlined above, apply to both antennas.

The minimum distance required between the two antennas is 1 meter vertical or, where that is not possible to achieve, 2 meters horizontal.

### Coaxial cable inside the FIP

The coaxial cables run inside the FIP should not be in the same loom as other cables.

Inside the FIP, keep the coaxial run towards the ASE away from the switchmode power supply and the processor boards.

Coil the excess coaxial away from the switchmode supply and the processor boards.

See AS/CA S009: 2013 Table 2 Page 55.

# Touch Key for ASE 3118s

The Touch Key is the key issued with an ASE 3118. The Touch Key is to be retained within the FIP enclosure. If a Touch Key is lost or misplaced, then it will be replaced at the expense of the premise owner.



Image: Touch Key for Romteck ASE 3118

## Testing for signal strength

The ASE has a simple way of checking the signal strength before the antenna location is fixed permanently. **The minimum required signal is -85dbm as recommended by Romteck.**

### ASE 3118 Signal Strength

1. Power up the ASE with no key attached.
2. Wait for both modems to complete registration on the network. During registration both P and S cycle through their start up sequence.
3. When P or S have a solid number displaying to the right of the letter, proceed.
4. Touch the touch key
5. Using the F1 button select either "WIP1 Signal Test" or "WIP2 Signal Test"
6. Hit F2 to Execute
7. Observe the value of the signal strength with a bar indication and confirmation as to which signal test was selected, see image below.
8. To exit to the status screen, hit F1 or F2.



Image: Selecting WIP1 Signal Test



Image: Signal Strength Test Result

## ASE 3118 Received Signal Strength display

Signal Strength	Suitability
Excellent ( > = -51dBm)	Recommended
Very Good ( > = -63dBm)	Recommended
Good ( > = -73dBm)	Recommended
Fair ( > = -83dBm)	Marginal
Poor ( > = -93dBm)	Very Marginal
Weak ( > = -103dBm)	Totally unsuitable
Very Weak ( > = -111dBm)	Totally unsuitable
No Service	Totally unsuitable

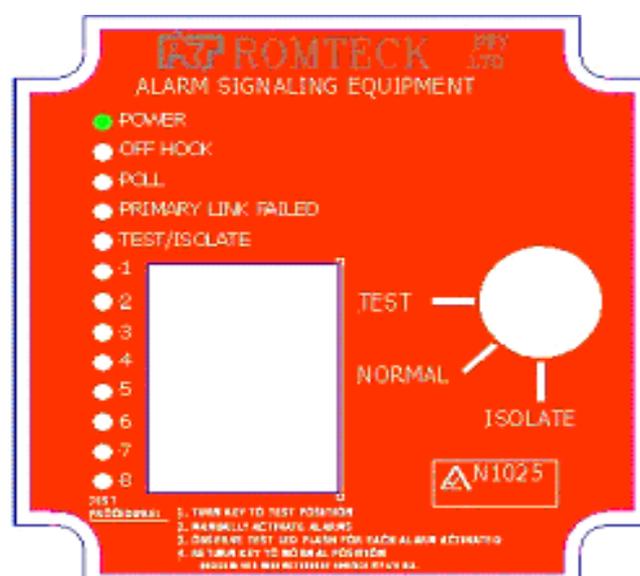
## ASE 2118 Signal Strength

1. Before applying power to the ASE, place the key switch to TEST.
2. Apply power and immediately place the switch to NORMAL.
3. The ASE will move into a signal strength test mode after a minute or so.
4. Once the ASE is connected to the mobile network, the Primary Link Failed and the Test / Isolate light will continue to flash.
5. Some of the lights numbered 8 to 1 will stay solid. This display between 8 and 1 provide an indication of the signal strength as bars, see detailed below.
6. Move the key switch the TEST or ISOLATE position to exit the signal strength mode. The ASE will start a new connection with Firecomm.

## ASE 2118 Received Signal Strength display

Bars	LED displayed	Signal Strength	Suitability
7	8 7 6 5 4 3 2	Excellent ( > = -51dBm)	Recommended
6	8 7 6 5 4 3	Very Good ( > = -63dBm)	Recommended
5	8 7 6 5 4	Good ( > = -73dBm)	Recommended
4	8 7 6 5	Fair ( > = -83dBm)	Marginal
3	8 7 6	Poor ( > = -93dBm)	Very Marginal
2	8 7	Weak ( > = -103dBm)	Totally unsuitable
1	8	Very Weak ( > = -111dBm)	Totally unsuitable
	None	No Service	Totally unsuitable

Signal strength display.  
LEDS 8 to 5 must be on.  
The more LEDs or bars  
the better



## 2118 Indicator Light explanation

POWER is a green light (LED)

1. 'On' for a good power supply for the ASE
2. 'Off' has no power supply connected

OFF HOOK is a yellow light (LED)

1. 'Off' is normal
2. 'On' when communicating with FireComm in the backup dialling mode
3. 'On' when the power is first applied to the ASE

POLL is a red light (LED)

1. A pulse every 2 seconds is Normal operation
2. 'On' momentarily, a status is pending for FireComm
3. 'On' permanently, lost communication with FireComm. The key switch can be in the Test or Isolate position

PRIMARY LINK FAIL is a red light (LED)

1. 'Off' primary link is working, all is Normal
2. 'On solid' the primary link and the backup dialling mode have failed. In this state there are no communication with FireComm
3. 'Slow flash' is an indication that the ASE failed to complete its backup dialling sometime in the past. The primary link communication with FireComm is operating normally. The TFS Comms Tech resets the LED

TEST / ISOLATE is a red light (LED)

1. 'Off' is normal
2. 'Flashes rapidly' 4 per sec, when the key is placed in the Normal position. FireComm control this function because the ASE was placed OFFLINE. Contact FireComm for a reason for the OFFLINE.
3. 'Solid' if the key is in a TEST or ISOLATE position
4. 'Slow flash' 1 per sec, a status has been acknowledged by FireComm

INPUTS are a red light (LED)

Lights 1 to 8 will reflect the status of the panel and connection wiring

1. 'Off' is Normal Status
2. 'Rapid flash' of 4 per sec is an ALARM or FIRE Status, generally on input 1 (F1)
3. 'Slow flash' of 1 per sec is a FAULT Status, generally on input 2 (A2)
4. 'Very slow flash' of 1 every 2 sec is ISOLATED Zone, only on input 4 (A4)
5. Scrolling lights in waterfall. The ASE has lost its configuration. Contact CST.

# ASE Modes

The ASE is programmed so that the NORMAL, ISOLATE or TEST key modes are recorded individually in the ASE. FireComm also record this mode change data and the changing status.

## TEST mode:

An internal timer inside the ASE times out after 2 hours with the ASE in the TEST mode.

This time out of the internal timer will cancel the TEST mode and return the ASE to NORMAL operation.

## ASE 2118

To put the ASE into TEST, you must turn the Key to the TEST position. The ASE will flash the TEST / ISOLATE light for the ten minutes prior to the expiration of the two-hour timeout. The TEST key switch position must be used carefully where extensive testing in a premise may take more than two hours.

The brigade will respond to a FIRE or ALARM (F1, 2, 3, 4 etc.) status received after this 2-hour period.

## ASE 3118

To put the ASE into TEST mode:

1. Touch the touch key onto the button (receiver)
2. Use F1 to select "Activate TEST"
3. Push F2 to execute

The ASE will display TESTING on the status screen and a countdown timer once the unit is put into TEST mode.



Image: Menu select Activate TEST



Image: 3118 in TEST mode

To take the ASE out of TEST mode:

1. Touch the touch key onto the button (receiver)
2. Use F1 to select "Turn OFF TEST"
3. Push F2 to execute



Image: Menu select Turn OFF TEST



Image: 3118 in Normal mode

## ISOLATE mode:

The premise remains in ISOLATE **forever**. Any FIRE status from the premise in ISOLATE is recorded but not acted on by TFS.

**NOTE:** The ISOLATE position must only be used where the FDCIE needs to be isolated. This would include FDCIE replacement, card replacement or motherboard replacement. The ISOLATE position is not to be used for routine testing of installed devices.

## ASE 2118

To put the ASE into ISOLATE, you must turn the Key to the ISOLATE position.

## ASE 3118

To put the ASE into ISOLATE mode:

1. Touch the touch key onto the button (receiver)
2. Use F1 to select "Activate ISOLATE"
3. Push F2 to execute



Image: Menu select Activate ISOLATE



Image: 3118 in ISOLATED mode

To take the ASE out of ISOLATE mode:

1. Touch the touch key onto the button (receiver)
2. Use F1 to select "Turn OFF ISOLATE"
3. Push F2 to execute



Image: Menu select Turn OFF ISOLATE



Image: 3118 in Normal mode

## NORMAL mode:

The brigade responds to a FIRE status.

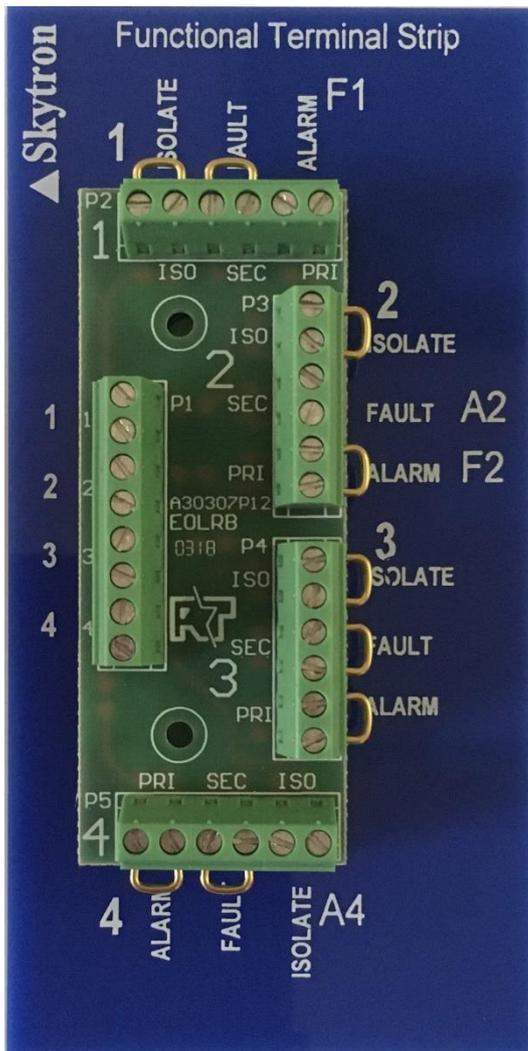
### ASE 3118 Normal mode

The ASE 3118 should have a status screen similar to below, the example is a test ASE with no active alarms in Normal mode.

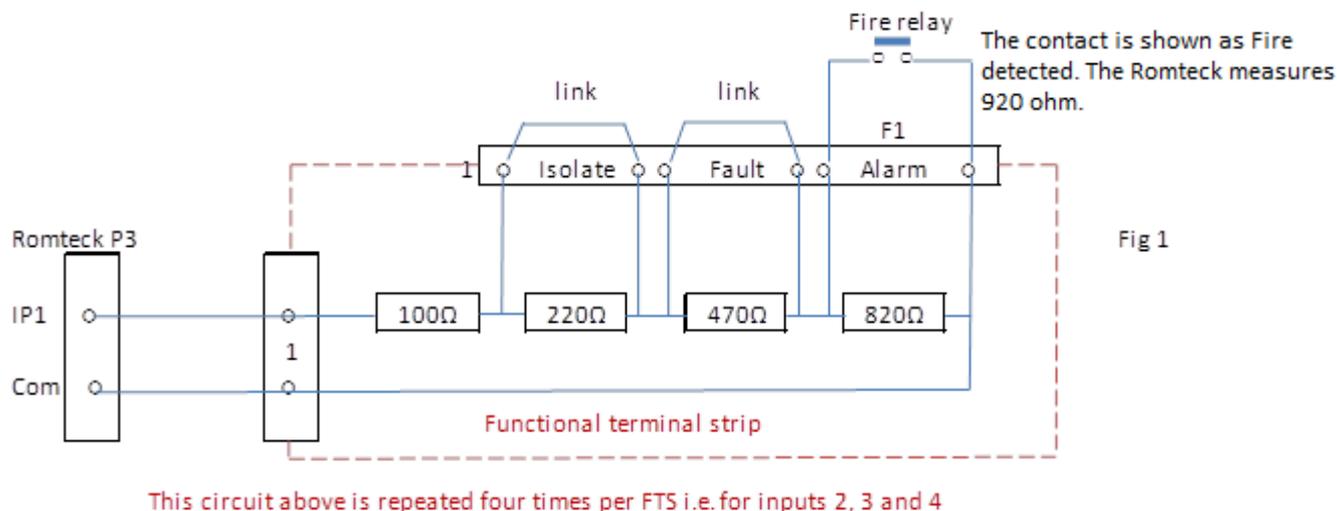


Image: An ASE 3118 in Normal mode with no active alarms

## The Functional Terminal Strip board (FTS)



## About the FTS



All wiring to or from the FTS must be bootlaced.

If more than the 4 standard alarm circuits are needed, a second FTS is installed. The connections for the second FTS are on connector P2 of the ASE, see page 11.

The FTS has a series resistor network installed on the circuit board. For a normal status, the contacts bypass the resistors and the Romteck measures 100 Ω at connector P3 or P2.

The schematic above in Fig1 is for input 1. This circuit is repeated four times on an FTS for inputs 2, 3 and 4.

As shown above, Input 1 has contact F1 connected across the 820 Ω Alarm resistor. If an A1 is required, remove the link across the Fault connector and connect the FIP A1 contact across the Fault resistor. Input 1 now logs F1 and the A1 status with FireComm.

For an F2 remove the link across the Alarm connector on input 2. Connect the FIP F2 contact across the Alarm resistor. The FIP A2 contact is connected across the Fault resistor.

Input 3 would have the FIP A3 connected across Fault and FIP F3 connected across Alarm.

Input 4 would have the FIP A4 connected across Isolate and FIP F4 connected across Alarm.

Circuit operation for input 1

The FIRE contact is connected across the 820-ohm alarm resistor. As the panel detects a fire, this contact opens. The loop resistance is now 920 ohms. The Romteck reports an F1 status to FireComm.

For input 2, the Panel Fault contact opens, the loop resistance is 570 ohms and an A2 is reported to FireComm.

For input 4, the Zone Isolated contact opens, the loop resistance is 320 ohms and an A4 is reported to FireComm.

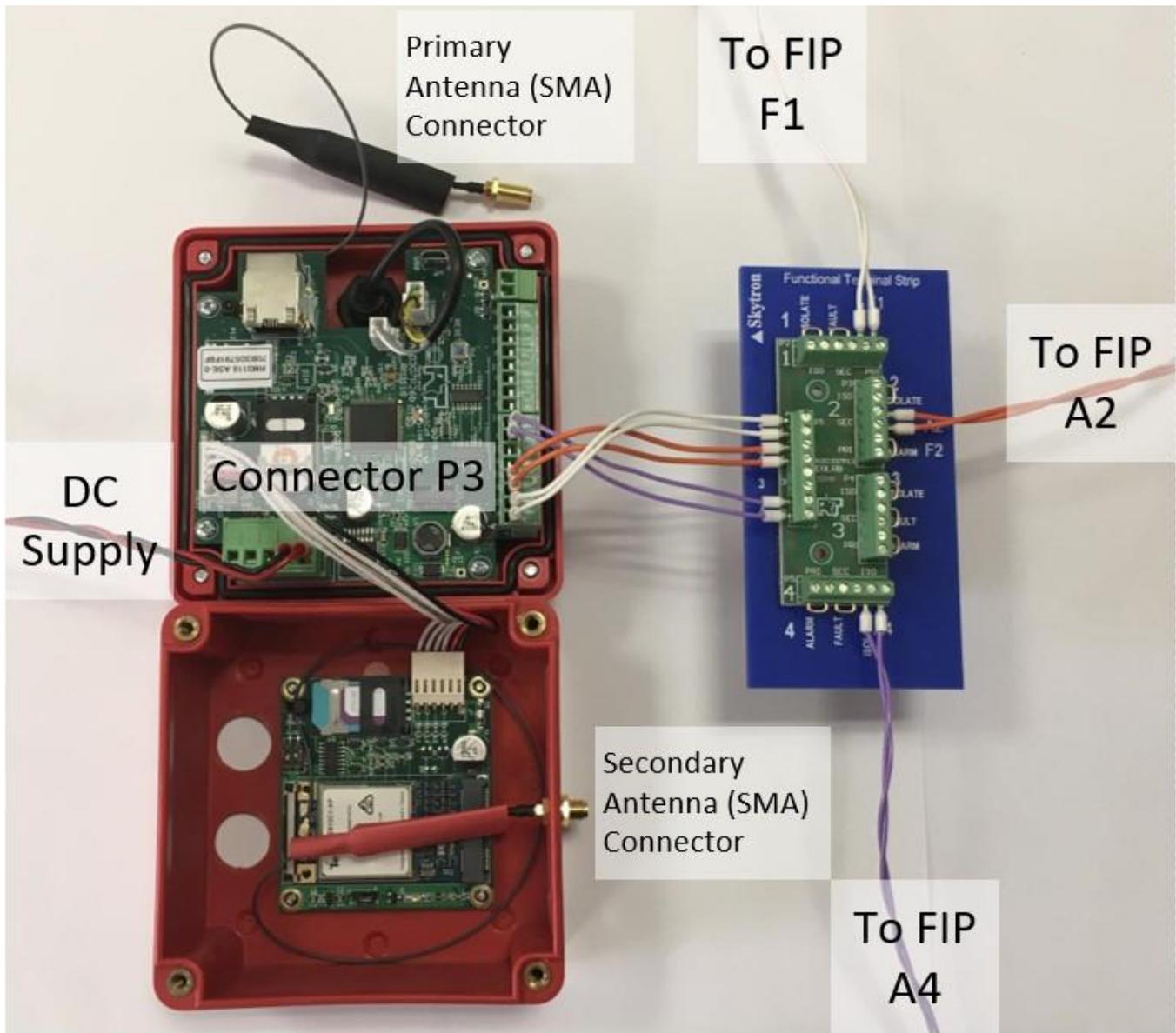
Other circuit operation.

If F1 and A1 are open, 1390 ohms is measured. An F1 and A1 are reported to FireComm from input 1.

If F2 and A2 are open, 1390 ohms is measured. An F2 and A2 are reported to FireComm from input 2.

If A3 is used, the A3 contact opens, 570 ohms is measured on input 3. An A3 status is sent to FireComm.

FTS and ASE showing standard connection for status F1 (Fire or Alarm), A2 (Panel Fault) and A4 (Isolate zone)



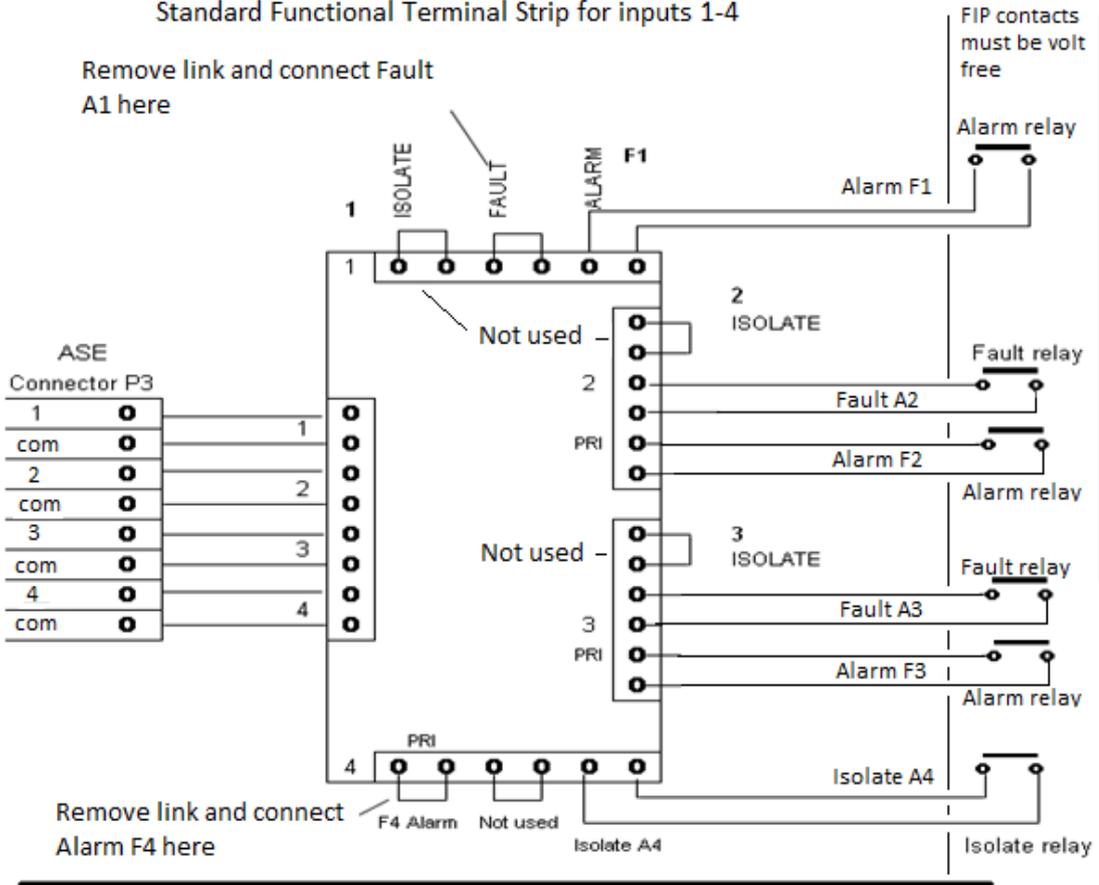
If the ASE is a standalone alarm, the slave communication pair is not used (on connector P7).

# FTS and ASE connection for all status:

A1 F1, A2 F2, A3 F3, A4 F4, A5 F5, A6 (not used) F6, A7 F7, A8 and F8

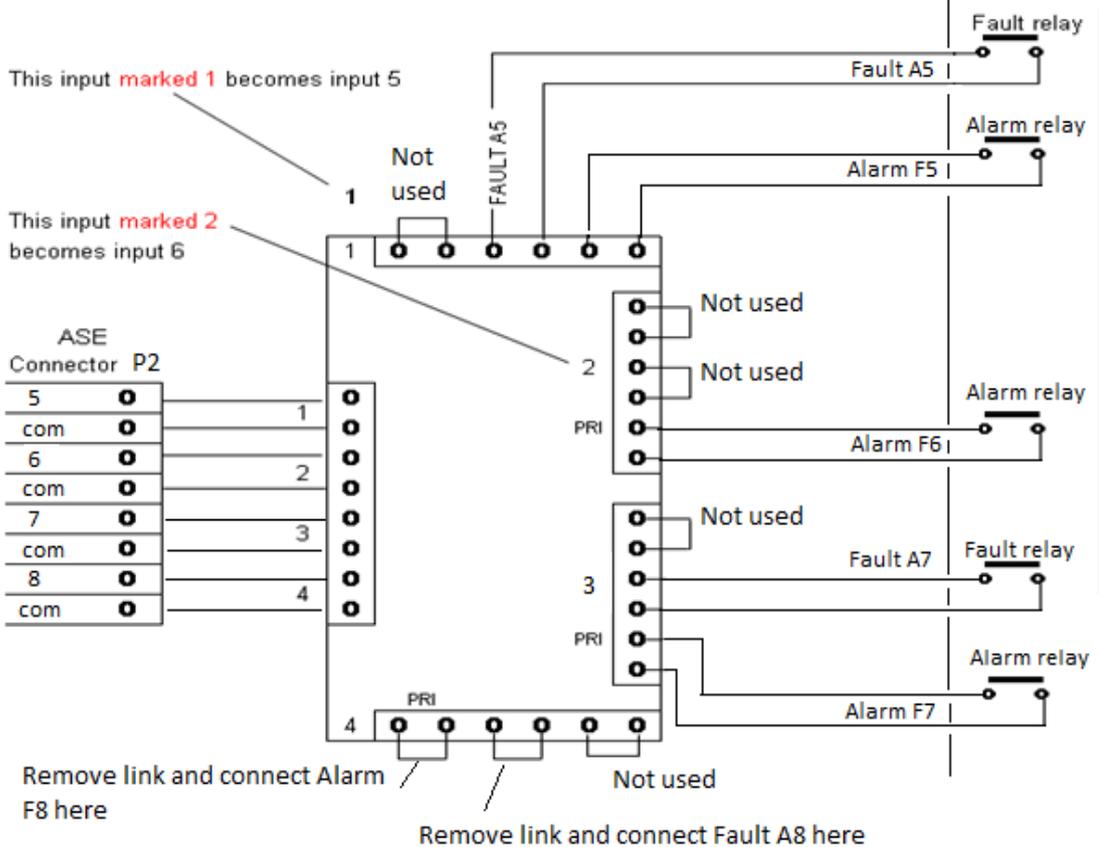
To be connected as per the schematic below.

## Standard Functional Terminal Strip for inputs 1-4



The FIP contacts are shown in the fail safe condition.

## Install the 2nd FTS for inputs 5-8



That is, the contact opens when a Fire or Fault has been sensed.

# Multi-dropped ASE and communication connection cabling

No longer supported.

Note: Any multi-drop ASEs will be replaced with a standard ASE configuration on failure or request to upgrade.

Single pair private lines interconnect some ASEs.

The Master and Slave multi-dropped ASE is connected by this private line.

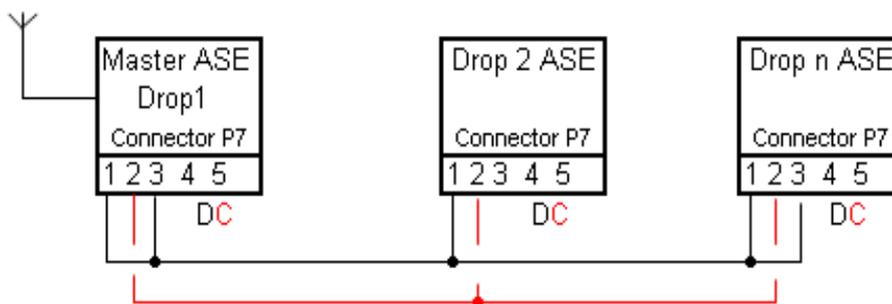
The connection is polarity sensitive and connects on connector P7 terminals 1 and 2.

Where the private line extends outside the building line, the Multi-drop and Master ASE are prone to lightning damage and to some extent mains borne interference.

It will be an advantage if additional protection is provided on this private line between the individual buildings.

The private lines are also subject to rodent damage and water ingress.

See connections below.



The Multidrops are connected by a polarity sensitive twisted pair landline

Pin 1 connects to pin 1 and Pin 2 connects to pin 2

The master and the last ASE in the multidrop configuration have pins 1 and 3 connected

## Additional Information

Additional information, not covered by this document, relating to the Romteck ASEs as implemented for TFS can be found on the Tasmania Fire Service website: <http://www.fire.tas.gov.au>, under the Building Safety section.