



## Romteck RM3119 ASE (Alarm Signalling Equipment) installation



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

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DPFEM supply the ASE (with touch key), antenna(s), antenna bracket(s) and interfacing connections ready for installation into the fire indicator panel (FDCIE).

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

- The ASE installation requires volt free contacts from the FDCIE.
- The volt free contacts are connected to the ASE and/or an expansion module via cables with end of line resistors; see Appendix A for connection details.
- When used, the expansion module requires a 4 wire connection (supplied) to the ASE then volt free contacts connected to its inputs; see Appendix B for details.
- As the FDCIEs status change, the contact opens and applies the resistance of the integrated resistor cable to the ASE. The ASE interprets the change and an appropriate Alarm, Fault, or Status, is forwarded to FireComm (the TFS control room).
- All connections to the ASE and the expansion module must be bootlaced (crimp ferrules).

### ASE pre-delivery programming

The contractor completes the 6.1 and 6.2 or 6.9 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. [An individual purchase order is required for each ASE request.](#) 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 follow the guidance provided on the TFS website under ASE Information - [Assistance Guide to Improve LTE Signal](#). If still unable to obtain suitable signal contact DPFEM T&I on ASE.support@dpfem.tas.gov.au or 03 6173 2291 for further assistance.

For the premise to be connected reliably with FireComm, the antenna locations, hence the reception of the signal will make a marked difference between a good and unsatisfactory reception with the mobile phone networks.

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 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 FDCIE 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 RM3119 ASE 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 FDCIE

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

Inside the FDCIE, keep the coaxial run towards the ASE away from the switch mode power supply and the processor boards.

Coil the excess coaxial away from the switch mode supply and the processor boards.

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

## Touch Key for ASE RM3119s

The Touch Key is the key issued with an ASE RM3119. The Touch Key is to be retained within the FDCIE 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 RM3119

Note: There are 2 touch key versions, newer touch keys may not work on older RM3118 firmware. Do not swap the touch key issued for one site with another.

## Enable Entry (Tamper detection)

The RM3119 is fitted with tamper detection which alerts the monitoring centre. Prior to opening an RM3119 you must "Enable Entry" to authorise opening the ASE.

1. Touch the touch key
2. Using the F1 button select "Enable Entry"
3. Hit F2 to Execute



This will count down from 3 minutes to allow time to open the ASE for access.

If the ASE is powered up and already open it will trigger a tamper to be reported. In that case, follow the above steps to authorise entry to the device.

# ASE Modes

The ASE is programmed so that the NORMAL, 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 4 hours with the ASE in the TEST mode.

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



Image: Menu select Activate TEST



Image: RM3119 in TEST mode

The remaining time will be displayed on the ASE Screen, with 30mins remaining a beeping alert will sound until the time has expired when it will change to a constant tone. It can be extended (reset to 4hrs again) by touching on and selecting extend Test.

The ASE will return to "Normal" operation, but the tone will continue for 60mins or until TEST mode has been exited. The tone can be silenced by pressing F2 to enter the menu but will resume when menu exited.

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: RM3119 in Normal mode

## NORMAL mode:

The brigade responds to a FIRE status.

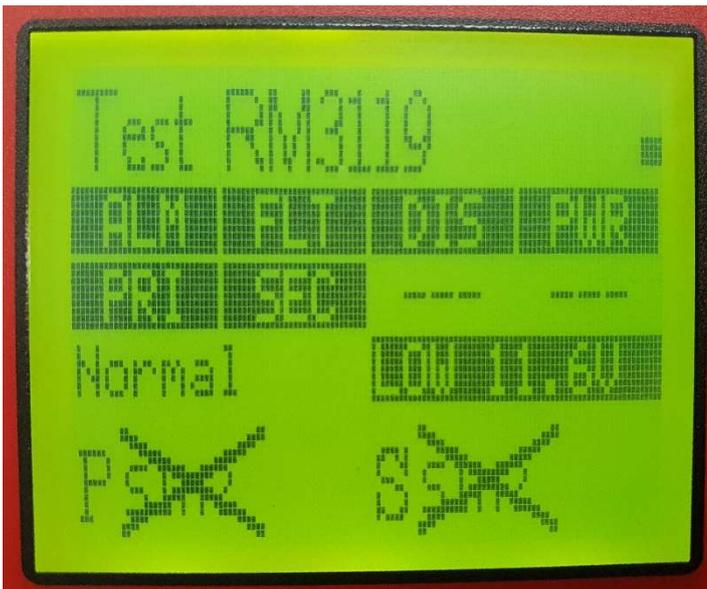
### ASE RM3119 Normal mode

The ASE RM3119 should have a status screen similar to below, the example is a test ASE with no active alarms in Normal mode.



Image: An ASE RM3119 in Normal mode with no active alarms

## Active Alarms/Faults/Status Indicators



### **ALM** - Alarm

Indicates a Primary Alarm is "Active"

### **FLT** - Fault

Indicates a "Fault" state input is "Active"

### **DIS** - Disabled

FDCIE Input previously "Isolated"

### **PWR** - Power

FDCIE Power Fault/Failure

### **PR1** and/or **SEC** - Link Fault

Fault with primary and/or secondary connection

### **LF** - Line Fault (any input)

Cabling fault (open or incorrect resistance) on an input

### **LOW** or **LOST** - ASE Supply Voltage

Activation voltage depends on 12 or 24V system

To see more detail on indicated states with input descriptions

- Press F1 to enter the menu
- Select "Input Status" to view inputs 1-3
- F2 to continue through 3 inputs per screen.



# 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 3119 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. Press the F2 Key to enter the menu
5. Using the F1 button select either "Primary Status" or "Secondary Status"
6. Hit F2 to Execute, then continue to use F2 (twice) to cycle through to the signal strength display.
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 menu screen, hit F2 twice more then F1 twice to select "Exit" then F2.



Image: Selecting Primary Signal Test



Image: Signal Strength Display

## ASE RM3119 Received Signal Strength display

### 3G Signal Strength

### Suitability

>= -51dBm	Excellent	Recommended
>= -63dBm	Very Good	Recommended
>= -73dBm	Good	Recommended
>= -83dBm	Fair	Marginal
>= -93dBm	Poor	Very Marginal
>= -103dBm	Weak	Unsuitable
>= -111dBm	Very Weak	Unsuitable
No Service		Unsuitable

### 4G Signal Strength

### Suitability

>= -69dBm	Excellent	Recommended
>= -84dBm	Very Good	Recommended
>= -96dBm	Good	Recommended
>= -109dBm	Fair	Marginal
>= -121dBm	Poor	Very Marginal
>= -134dBm	Weak	Unsuitable
>= -146dBm	Very Weak	Unsuitable
No Service		Unsuitable

# Primary & Secondary SIM Status

A WIP link is a Wireless IP connection, such as IP over 3G or 4G. The status indicators for the WIP links are the same for both WIP1 and WIP2. The WIP link status is displayed as animated graphics and are described below:

Reset text indicates the link is currently resetting the modem.		
Init text indicates the link is currently initialising the modem.		
Init text with a flashing cross indicates the modem has failed to initialise and the link has failed.		
SIM text indicates the link is currently checking the modem's SIM.		
SIM text with a flashing cross indicates the link has a SIM FAULT and the link has failed.		
PIN text indicates the link is currently verifying the modem's PIN.		
PIN text with a flashing cross indicates the link has a PIN FAULT and the link has failed.		
REG? text indicates the modem is currently trying to register with the network.		
REG? text with a flashing cross indicates the modem has failed to register with the network and the link has failed.		
REG text indicates the modem has registered with the network.		
A flashing signal level indicates the modem is waiting for a stable link signal level.		
Solid signal level with no arrows indicates the modem has a valid signal level but is idle		
Solid signal level with two flashing arrows indicates the modem is establishing a PPP session.		
Solid signal level with two arrows indicates the modem has established a PPP session.		
Solid signal level with alternating arrows indicates the modem is communicating.		
Solid signal level with a small flashing cross indicates the modem is connected to the network but is unable to communicate to the monitoring centre and the link has failed.		
Solid signal level with a flashing cross indicates the modem signal level is too low and the link has failed.		

NOTE: This content of this page is an extract of the Romteck RM3119 ASE Operations Manual and remains the property of Romteck Australia

# Low Battery, Mains lost and Power Fault

## Battery Low

If the supply voltage is below the Low battery level a status of Low battery is displayed.

This is normally set to 22VDC. If connecting to a 12V Panel, please advise ASE Support so the ASE low battery level can be set accordingly.

## Battery Locked

If the supply voltage has gone below the low level, then restored three times in a row without being restored for 60 minutes it is locked as low.

The locked condition will clear automatically once power has been normal for at least 60mins.

## Supply lost.

This condition will activate when the ASE Supply voltage has passed below the Battery Low Voltage to 19VDC and will clear when the supply voltage increased above the activation level.

## Power Fault

Input 4 (see appendix A for connection information)

This new input is in addition to the ASE supply voltage monitoring.

Pre-Configured on input 4 on the ASE for the purpose of reporting an FDCIE power supply failure. To be connected to a voltage free contact on the panel that indicates a power supply fault or failure.

Refer AS1670.3-2018 Section 2.1 and AS4428.6-2018 Section 11

# Appendix A - Standard Connections

## RM3119 Standard Connections (Inputs 1-8)

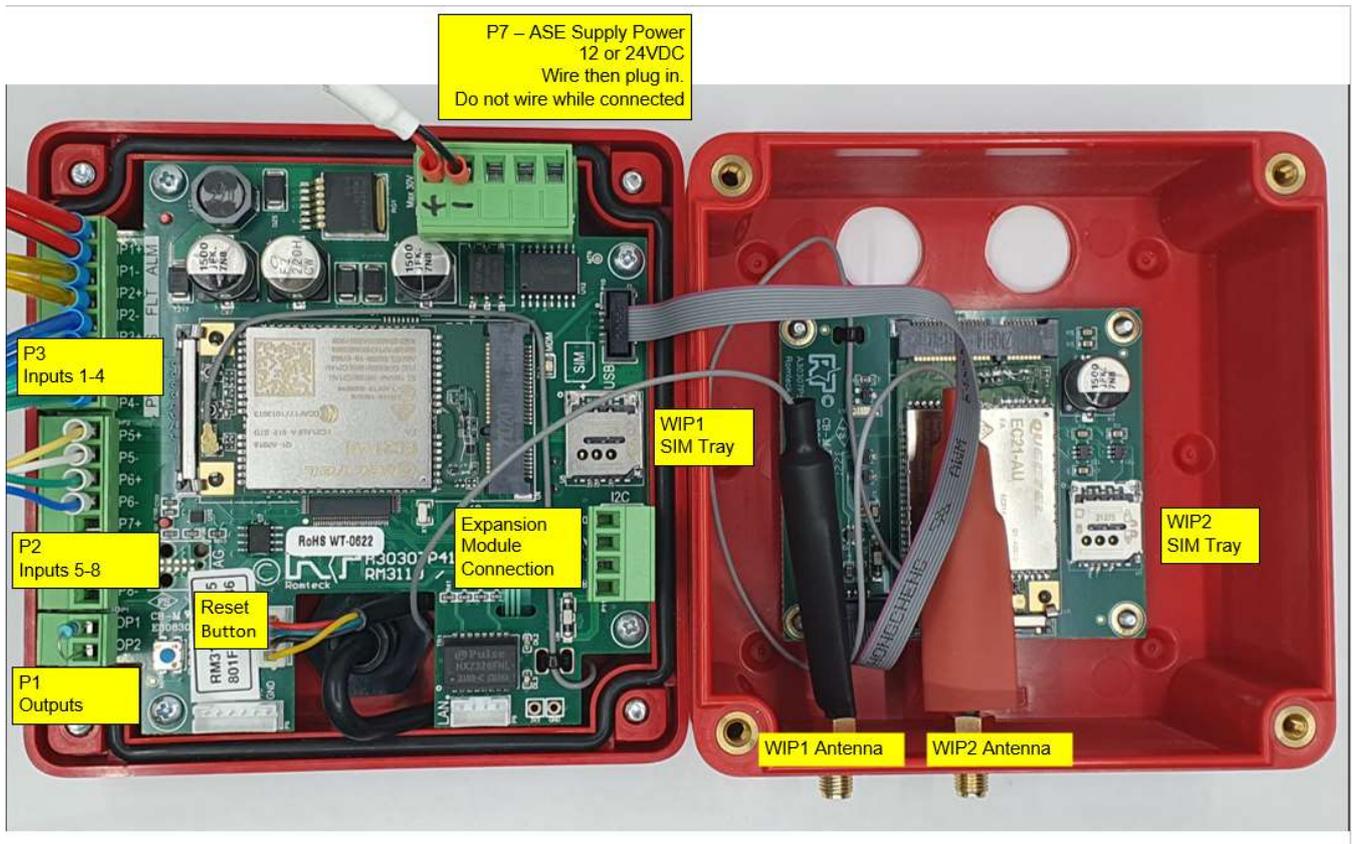
### Inputs 1-4 are all enabled and pre-defined.

- Input 1 - Common Fire Alarm
- Input 2 - Common System Fault
- Input 3 - Common System Disabled (Zone Isolated)
- Input 4 - Common Power Fault\*

\*Recommended to be connected to the FDCIE power supply failure signal. If not connected (ie not supported by FDCIE), then leave the brass/nickel link in terminal block as supplied.

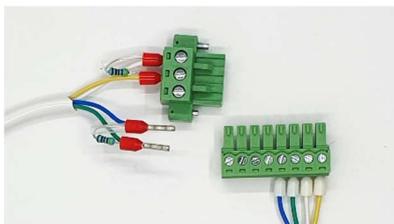
### Inputs 5-8 are enabled & defined as required.

Note: Where more than 8 inputs are required then use of an expansion module will be needed, preferencing any "primary" alarms F2, F3 etc to go on inputs 5-8 of the ASE.



Cables should be easily identifiable pairs or where multi-core cable is used there should not be two of any colour or trace within the same cable. 7/0.20 multicore / multistrand cable is recommended, wire terminating sleeves (bootlace or ferrules) are required for all terminations. Typically, 1.4mm Pin Diameter (0.5mm<sup>2</sup> Wire Size).

All ASE inputs are to be connected to the alarm panel normally closed (NC) relays using a 470ohm end of line resistor (supplied) at the FDCIE end. This may require a slightly larger cable sleeve (0.75mm<sup>2</sup> Wire Size). The resistor should be placed or protected in such a way as it cannot come in contact with other conductors such as a heat shrink sleeve.



Example of resistor crimped into cable sleeve for relay and cable sleeve terminations for Inputs at ASE end.

The use of DPFEM supplied Integrated Resistor Cables (IRCs) is still supported and available as an appropriate connection alternative to crimping end of line resistors onto multi-core cable.

A spare 470ohm resistor will be placed in unused output 1-2 connector for fault finding.

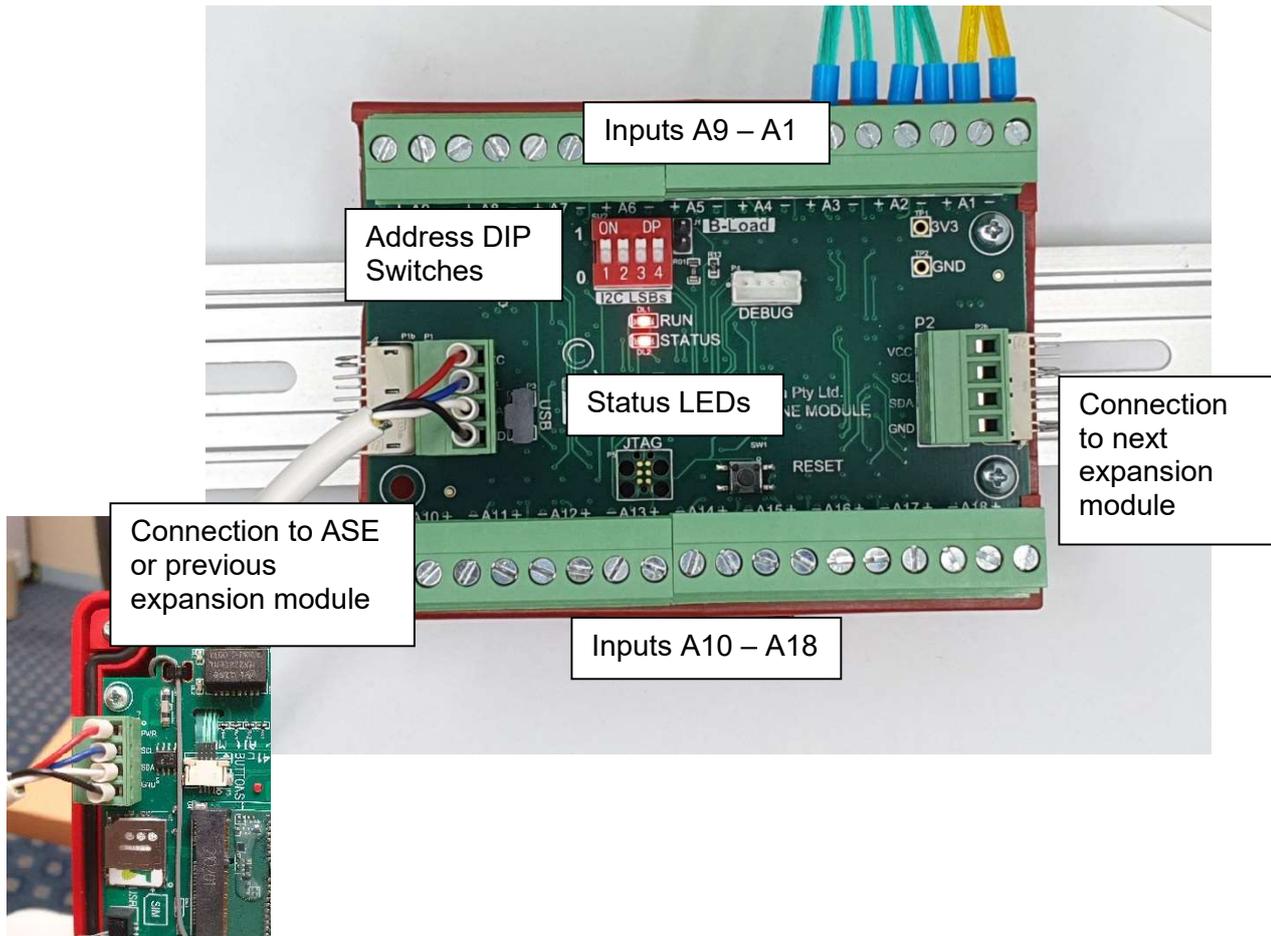
# Appendix B - Expansion Module

## RM3119 Expansion Module (Inputs 9-36)

Inputs are connected to FDCIE using Integrated resistor cable with 470ohm end of line resistor as used on RM3119 ASE Inputs.

Mounting to FDCIE using a "Top Hat" style DIN Rail mount.

Connected to RM3119 ASE via 4 core cable (Security cable or equivalent), must be boot laced (ferrules) ensure connection from ASE to expansion module for VCC, SCL, SDA, GND matches as marked on ASE & expansion module.



Run and Status LEDs will flash when operating, only Run will flash if unit powered but not connected.

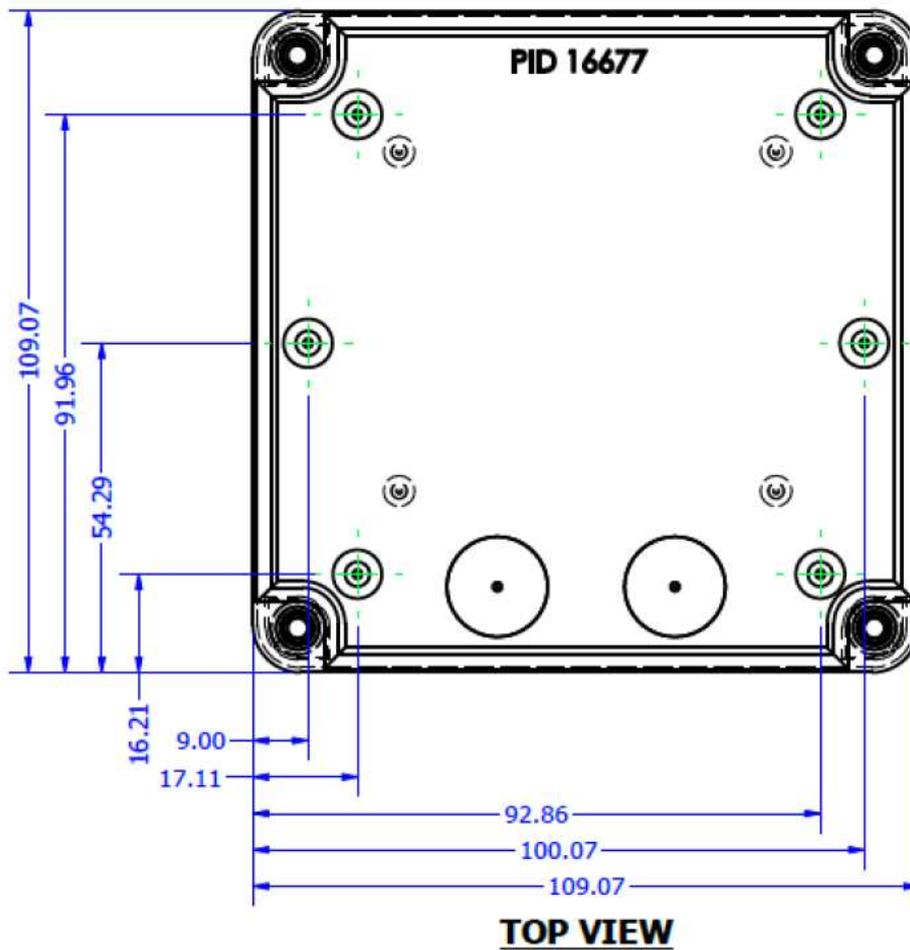
Dip switch settings should be set when received.



The ASE will indicate **12C** if there is an expansion module configured but not communicating.

Input status & input faults will be displayed on the ASE the same as any other input. Status of the expanded inputs can be viewed in the menu the same.

## Appendix C - Mounting Dimensions & installation notes



RM3119 Mounting Dimensions

Any dust or swarf created during the fixing process must be kept out of the case and FDCIE cabinet. When mounting the ASE, great care must be taken not to damage any wiring or components, if necessary remove PCB from base of box when drilling holes to ensure no damage is done.

For AS4428.6:2018 compliance it is necessary that the enclosure including glands meets an IP rating of IP31. Installer must ensure that all glands are correctly installed to ensure there are no gaps greater than 2.5mm and that drips of water cannot enter the box. It is recommended that where possible a single multicore cable is used through each gland so as to provide a tight seal.

# 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.

- Support details
- Quick Start Guide
- Wiring Fault Finding Guide
- Antenna/Signal Troubleshooting Guide
- Frequently Asked Questions

Plus, other relevant documents and guides.