

## AT220 Installation Guide

### 1. With the AT220 enclosure cover removed (this is how they are shipped), install the SIM in the holder:

- Pull back the metal clip and lift the hinged part of the SIM holder
- Slide the SIM into the hinged half of the holder (contacts to PCB)
- Ensure the SIM is pushed in all the way and close the hinged part
- Secure the hinged part of the holder by sliding across the metal clip



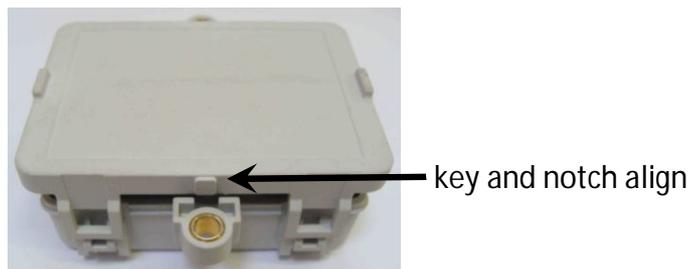
### 2. If the battery option is being fitted:

- Clip the battery connector into the white 3 pin plug on the AT220 PCB
- Peel back the self adhesive tape from the battery
- Apply the battery to the enclosure cover, being careful not to press too firmly
- Do not attempt to remove the battery from the cover, once it has been stuck down, as prising or bending could lead to explosion/fire and smoke.



### 3. Fit the enclosure cover

- Align the cover so that alignment key corresponds to the position of the notch in the main part of the enclosure
- Note that the "V" shaped section on the inside of the cover pushes up against the PCB extension and holds the M12 connector in place



- Carefully push down the cover until the clips are mated and then firmly compress the two halves together until each of the 4 clips *snaps* into place

**4. Fit the M12 Cable to the threaded connector, ONLY AFTER THE COVER HAS BEEN FITTED and taking care to align correctly and avoid crossing the threads**

**5. Mount the AT220 under the vehicle dashboard**

- a. Choose a position towards the top of the dashboard and as far forwards as possible to give the optimum *view* of the sky through the vehicle windscreen
- b. There must be no conductive objects between the AT220 and the windscreen (i.e. nothing metallic, foil or carbon based)
- c. Secure the AT220 to a flat surface with double sided foam adhesive tape, being sure to degrease the vehicle side with an alcohol wipe. If practical, the AT220 can be screwed in place using the two mounting lugs as an alternative.
- d. Make a note the device orientation with respect to the vehicle (e.g. M12 connector facing rear of vehicle) as this may be required later to set ORTN parameter for correct interpretation of accelerometer data for driver behaviour. Refer to the AT220 User Guide and the Driver Behaviour Application Note for more details.



THIS SIDE FACES TO THE SKY

**6. Hook up the electrical connections**

- a. Connect the RED and PINK wires to a PERMANENT +12V/+24V vehicle power source via a 3A fuse
  - i. PINK +12 / +24V 3A FUSED
  - ii. RED GROUND 3A FUSED
- b. Connect the ignition sense input (configurable to either Digital 1 or Digital 2) to an ignition switched 12/24V signal (i.e. something that only goes live when the vehicle ignition is ON) via a 3A fuse
  - i. GREEN FUSED 3A (IGNM=1 or IGNM=2)
  - ii. WHITE FUSED 3A (IGNM=4)
- c. All unused wires should be insulated to avoid undesired behaviour.
- d. Connect the M12 cable to the AT220, taking care not to cross-thread it.

**NOTE: When using a 2 wire installation (IGNM=3), the power up sequence is important for proper calibration and operation or automatic engine mode sensing. Please follow the procedure below:**

- e. Install the AT220 with the vehicle ignition off and engine stopped (i.e not running).
- f. Leave the vehicle IGNITION OFF FOR AT LEAST 60 seconds
- g. Start the engine and LEAVE RUNNING FOR AT LEAST 60 SECONDS
- h. Turn the engine off and the AT220 should now be calibrated
- i. If you need to recalibrate for any reason send the command \$DIAG,5 by SMS whilst the ignition is OFF

## 7. Check Status and commission device

- a. After a few minutes, the AT220 should be registered on the network and have obtained a GPS location
- b. Confirm this by either:
  - i. Calling the Service Provider to check that the device is online
  - ii. Send \$STAT to the device by SMS and confirm the response

STATUS:352218030490538; ← confirm IMEI is correct

1.0.1;29/07/2010:14:24:38;

53.203355;-2.499878;0;187

;13.5;0;0;4/20;H;8;99;31;99

23433;0;0;0;0;0 ← all zeros indicates NO ERRORS

(check meaning of any "1"s below)

Permanent External voltage 13.5V

### ERROR CODES :

(1<sup>st</sup> of the 6 zeros above corresponds to "error 1" and the last is "error 6")

#### 1. NO GPS or GPS timeout

No GPS fix has been returned for the specified timeout period. Check device location. Move vehicle outside if parked undercover or with obscured view of the sky.

#### 2. No GPRS Service

Possible network/service issue or GSM SIM card is not enabled for GPRS.

#### 3. No GPRS Connection

Check GPRS APN settings (APAD, APUN and APPW) are correct for the network

#### 4. TCP socket error

Check IPAD and PORT settings and ensure that the service provider is (a) online and (b) has correctly commissioned the device IMEI number on their system

#### 5. TCP acknowledgment fail

As above

#### 6. Ignition input inactivity error

no ignition events have been detected for more than 24 hours. Turn ignition OFF and ON and recheck by re-sending \$STAT

