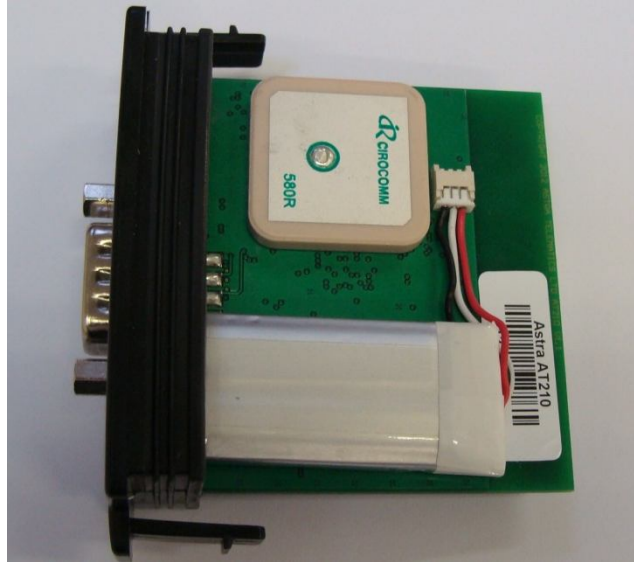


AT210 Installation Guide

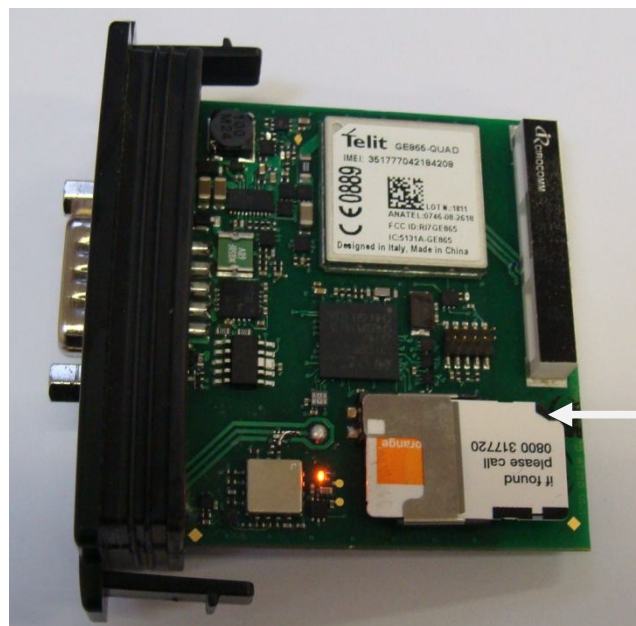
1. Check that the back-up battery is fitted and plugged-in:

- a. Each AT210 is supplied with a 450mAh back-up battery, which should be fixed to the PCB and connected as shown below:



- b. 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.

2. Slide the SIM into the holder:



Note that the AT210 powers up when the SIM is fitted

3. Fit the DB9 Cable

- a. Connect the sealed DB9 cable and tighten the jack-screws finger tight, until the seal is compressed against the enclosure end panel

4. Hook up the electrical connections

- a. Connect the RED and BLACK wires to a PERMANENT +12V/+24V vehicle power source via a 3A fuse. Connect the ignition sense input (Digital 1) 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. RED	+12 / +24V	1A FUSED
ii. BLACK	GROUND	1A FUSED
iii. WHITE	IGNITION	1A FUSED

- b. We recommend that all connections should be soldered to ensure reliable terminations. Crimps and IDC type terminations can be unreliable if used with the wrong tooling and/or wires sizes.
- c. All unused wires should be insulated to avoid undesired behaviour.

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

- d. Install the AT210 with the engine stopped (i.e not running).
- e. Leave the vehicle ENGINE OFF FOR AT LEAST 60 seconds
- f. Start the engine and LEAVE RUNNING FOR AT LEAST 60 SECONDS
- g. Turn the engine off and the AT210 should now be calibrated
- h. If you need to recalibrate for any reason send the command \$DIAG,5 by SMS whilst the ignition is OFF

5. Connect the iButton Probe (if required)

- a. Connect the DS9092 iButton Probe as below:

i. AT210 GREY WIRE	->	DS9092 PROBE GREY WIRE
ii. AT210 BLACK WIRE	->	DS9092 PROBE BLACK WIRE

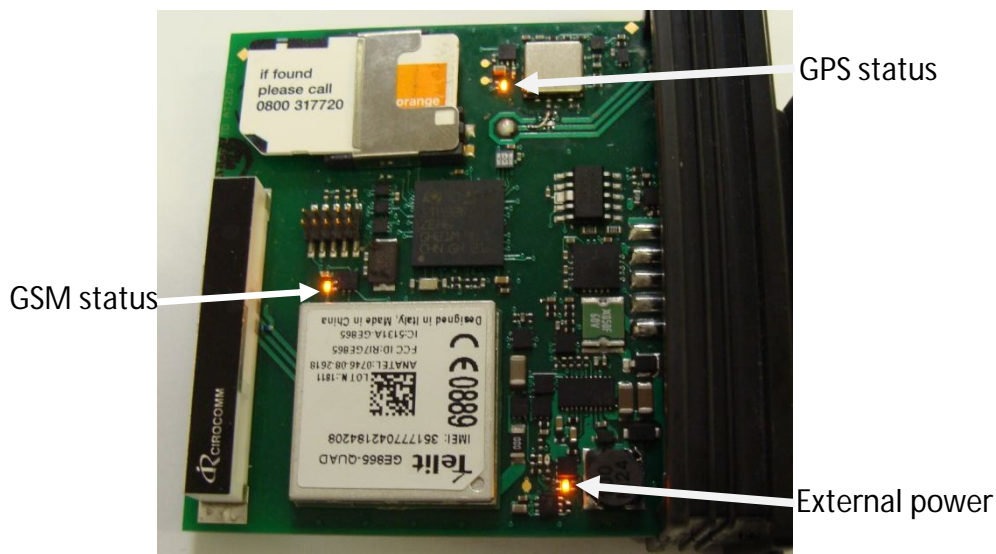
- b. Please refer to the Driver ID Application Note for more information regarding the use and configuration of iButton options and recommended iButton accessories.

6. Fit the external GPS antenna (if required)

- a. The AT210 has an internal GPS antenna, so an external antenna is not required in most cases, but if the device is mounted in a location with poor GPS visibility, an external antenna can be used. If this is required, remove the cover from the GPS antenna connector (adjacent to the DB9) and plug in the AE005 GPS active patch antenna.
- b. To maintain the IP67 sealing, it is necessary to seal the GPS antenna connector (after it has been connected) with silicone sealant or similar.
- c. If the external GPS antenna is not used, please leave the sealing cover in place.

7. Check status LEDs

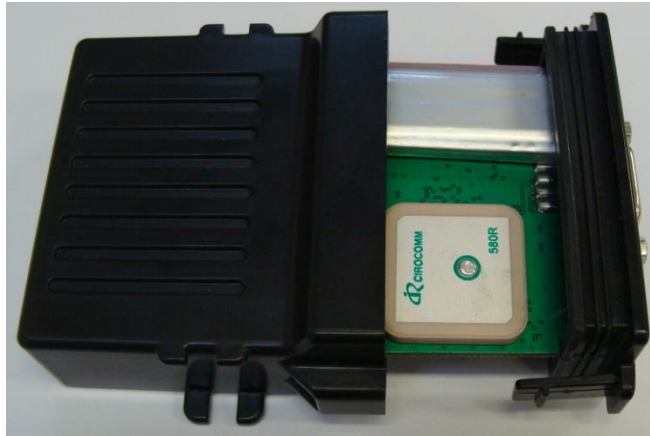
- a. Place the AT210 (or AE004 GPS antenna) somewhere with reasonable view of the sky in correct orientation for a minute or two and then check the status LEDs as below:



- a. During normal operation the LEDs should:
 - a. GPS double flash once per second
 - b. GSM single flash every 3 seconds
 - c. POWER stays on constantly

8. Slide the AT210 assembly into the enclosure

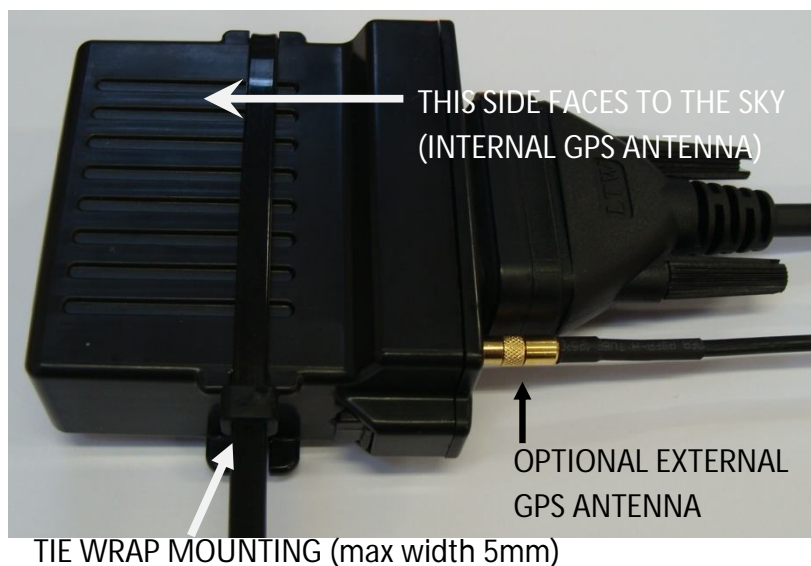
- a. Note that the GPS antenna faces the top of the enclosure (with the slots)



- b. Ensure that the PCB is aligned with the guide slots inside the enclosure and carefully push in until the clips snap together

9. Mount the AT210 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 AT210 and the windscreen (i.e. nothing metallic, foil or carbon based)
- c. Secure the AT210 to a flat surface with double sided foam adhesive tape, being sure to degrease the vehicle side with an alcohol wipe. If practical, the AT210 can be screwed in place using the two mounting lugs or secured with a tie wrap.
- d. Make a note the device orientation with respect to the vehicle (e.g. DB9 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 AT210 User Guide and the Driver Behaviour Application Note for more details.



10. Check Status and commission device

- a. Before replacing panels and leaving the vehicle, we recommend that you confirm normal operation and good communication, using either method below:
 - 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 is present (13.5V)

ERROR CODES :

(1st 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