

AT202 Installation Guide

Astra Telematics Generic Installation Recommendations:

- Devices should be configured for SIM and platform, details entered on the platform and tested to confirm configuration BEFORE being sent for installation
- Before starting, check the vehicle:
 - Make note of any fault warning lights or codes displayed on the vehicle dashboard
 - Measure the parasitic battery drain current with ignition off
- Devices and antennas should be securely mounted, so they cannot work loose
- If double-sided tape is being used to mount devices and/or antennas, surfaces should be flat and cleaned / de-greased with IPA before mounting
- Antennas and/or devices should not be mounted in close proximity to loudspeakers
- All connections should be soldered, using a gas-powered or battery-powered soldering iron
- Mains-powered or vehicle-powered soldering irons should never be used
- IDC crimps and any other form of insulated crimp connector should not be used
- Device permanent power should be taken directly from the battery or main battery feed, to avoid problems with current drain being detected by the vehicle ECU
- Ignition sense feed should be taken from an auxiliary or accessory circuit which goes live only when the vehicle ignition is on. For example, the auxiliary power socket or cigarette lighter socket is often a good choice
- Where the immobiliser feature is used, the relay should be fitted in the starter motor solenoid circuit, to prevent starting of the vehicle, NEVER in any manner that can prevent running mid-journey
- Immobiliser relays should be installed using the NORMALLY CLOSED contacts, to ensure that any failure in the device, wiring or configuration does not prevent starting of the vehicle (fail-safe mode)
- We recommend keeping notes of the installed astra device location for each installation and consider also taking a photo for verification of appropriate device location and mounting.
- Full diagnostics should be completed before replacing panels and leaving the vehicle (see last page)

Recommended Tools and Consumables:

- Butane gas or battery-powered soldering iron
- Cables ties (various widths and lengths)
- Double-sided foam adhesive tape (e.g. TESA 62936)
- Self-amalgamating insulating tape, fabric type (e.g. TESA 51608)
- IPA degreasing wipes, or IPA solvent and paper towels
- Craft knife
- Heat-shrink sleeve (various diameters)
- Side cutters (fine/sharp)
- Spare ATO fuses, 1A
- Volt meter

Clamp meter

AT202 Installation Procedure

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

- a. insert a SIM, the device should power-up, as indicated by the LEDs on each side of the connector:



NOTE: SKY SIDE should face the sky!

Carefully insert the SIM until it stops
(don't force it!)
Note the correct orientation, as shown on the top
side of the AT202 device enclosure



...and check that LEDs light

2. If LEDs do not light-up, unclip the AT202 enclosure, remove the PCB assembly and check that the battery is plugged into the PCB connector:



check that battery is plugged in here

- a. Do not attempt to remove the battery from the cover, once it has been stuck down, as prising or bending could cause fire and smoke.

3. Fit the Cable

- a. The AT202 is supplied with a 3-way power / ignition cable (basic kit) or a 9-way cable (standard kit). Connect the supplied cable to the device 16-way connector.



Standard kit, with CB203 14-way cable



Basic kit, with CB204 3-way cable

4. Hook up the electrical connections

- a. Connect the BLACK wire to GND and the RED wire to a PERMANENT +12V/+24V vehicle power source. 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):
- | | | | |
|------|-------|------------|----------|
| 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. Insulated 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.

5. Connect the iButton Probe (if required)

- a. Fit the IB001 iButton probe in the desired position on the vehicle dashboard (requires drilling a hole) and then connect to the matching connector on the CB203 standard cable (accessories are not supported using the basic 3-way cable).



- 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 CC001 CAN-click adapter (optional)

Fit the CC001 contactless CAN-click adapter to the CANH and CANL wires and then connect the other end to the matching connector on the CB203

7. Fit the CB242 OBD adapter cable (optional)

Our CB242 OBD cable provides 2 options for J1962 OBD CANH and CANL termination:

Pins 6 and 14 as per the J1962 standard (if unsure, we suggest you try this one)

Pins 1 and 9 as implemented by some vehicle manufacturers

Plug the CB242 OBD cable into the vehicle OBD socket and then connect the other end (marked "CAN 1&9" or "CAN 6&14") to the matching connector on the CB203 cable

8. Check status LEDs

- a. By now, the AT202 should have obtained a GNSS fix and registered with GPRS service. Check the status LEDs to confirm. During normal operation the LEDs should:

- | | | | |
|-----|-----------|--------|----------------------------------|
| i. | GREEN LED | (GNSS) | double flash ON once per second |
| ii. | BLUE LED | (GSM) | single flash OFF every 2 seconds |

- b. LED TROUBLE-SHOOTING:

- | | | |
|------|----------------------------|-----------------------------------|
| i. | GREEN LED SOLID (no flash) | no GNSS fix |
| ii. | GREEN LED SLOW FLASH | lost GNSS fix |
| iii. | GREEN LED FAST FLASH | Test mode – contact astra support |
| iv. | BLUE LED 0.8 SEC FLASH | no GSM service |
| v. | BLUE LED 2.0 SEC FLASH | registered with a network |
| vi. | BOTH LEDs OFF | device OFF, check SIM and power |

9. Mount the AT202 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 AT202 and the windscreen (i.e. nothing metallic, foil or carbon based)
- c. Secure the AT202 to a flat surface with double sided foam adhesive tape, being sure to degrease the vehicle side with an alcohol wipe. Alternatively, the AT202 can be secured with a cable tie.
- d. Make a note the device orientation with respect to the vehicle (e.g. 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 AT202 User Guide and the Driver Behaviour Application Note for more details.
- e. Consider taking a photograph and make a note of the device location for future reference.

10. Check Status and Commission Device

- a. Before replacing panels and leaving the vehicle, we STRONGLY 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, confirming external power, GNSS & GPRS status, driver ID operation, immobiliser operation and correct detection of ignition state.
 - ii. Check that any warning lights showing on the vehicle dash are the same as before the installation.
 - iii. Check parasitic battery drain, which should be approx. 50mA more than the original measurement, before the AT202 device installation.
 - iv. Send \$TEST to the device by SMS and confirm the response.
 1. Confirm device IMEI is as expected
 2. Confirm power connection and availability (should be near 100%)
 3. Confirm GNSS (GPS) status and availability (should be near 100%)
 4. Confirm GSM status and availability (should be near 100%)
 5. Confirm all other status checks are "OK"
 6. Confirm correct reporting of IGNITION state
 7. Confirm correct operation of immobiliser (if fitted)

- v. Any exceptions to the above should be addressed before leaving the vehicle
- vi. Please refer to the OTA Device Test application note for further details and examples of \$TEST command responses and advice on interpretation / handling of errors.

Example \$TEST command response:

```
TEST:AT202
7.0.50.0
357322042745742
02 UK
PWR:12.5V (100%)
BAT:100% (NC)
GPS:OK (95%)
GPRS:OK (98%)
APN:OK
SKT:OK
ACK:OK
IGN:OK (OFF)
IMOB:OFF
```

- vii. We recommend keeping records of device installation location and verification of appropriate mounting, orientation and location by photo.