![Amber Connect logo] **amber connect**
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Quick Start Guide

AIT251
Amber Insight T251
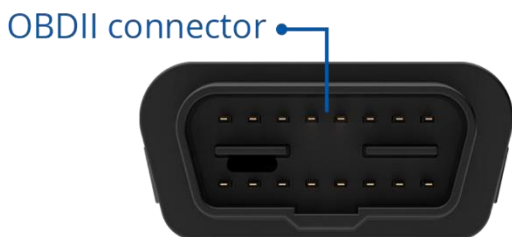
Advanced Plug and Track Device

1 Install Your device

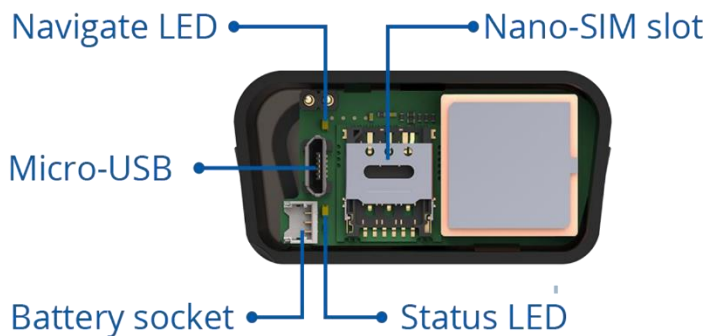**2** Download Amber Connect App
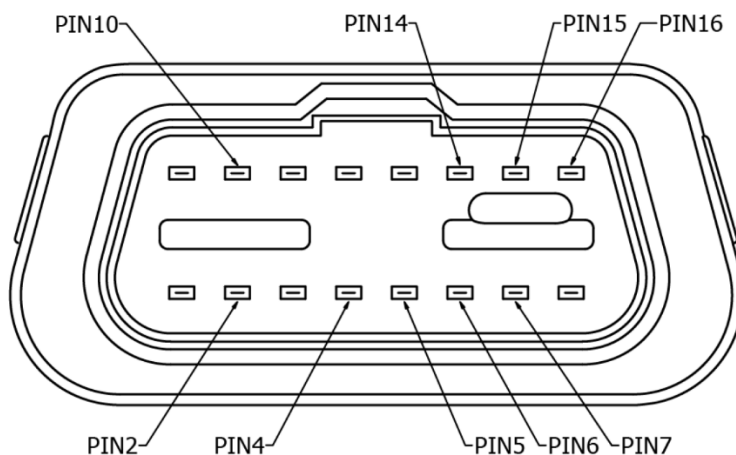
3 Activate the device

Know your device

Top view

OBDII connector

Bottom view
(without cover)

Navigate LED • Nano-SIM slot

Micro-USB •

Battery socket • Status LED

AIT 251 Device view

Pinout

AIT251 socket pinout

Pin number	Pin name	Description
2	PWM_BUS+/VPW	
4	GND (-)	Ground
5	GND (-)	Ground
6	CAN_H	CAN high
7	K-Line	
10	PWM_BUS-	
14	CAN_L	Ground pin. (10-30) V DC (—)
15	L-Line	CAN low
16	VCC (12 - 30)V DC(+)	Power supply (+12-30 V DC)

AIT 251 socket pinout

Set up your device

How to insert Micro-SIM card and connect the battery

1 **Cover removal**

2 **Micro-SIM card insert**

3 **Battery connection**

4 **Attaching cover back**
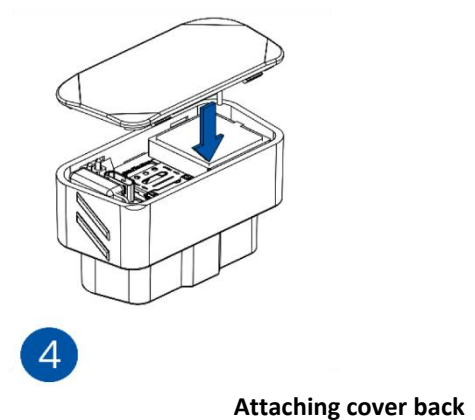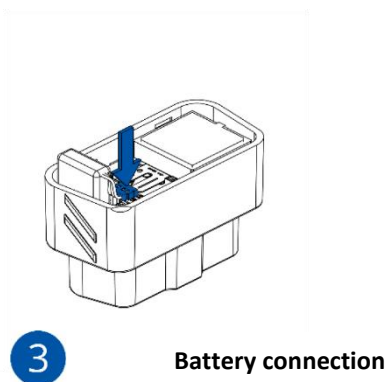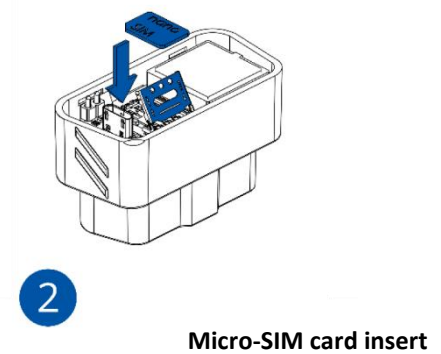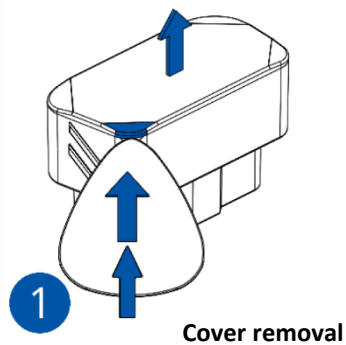
1. Open the top cover of the device. Cover is opened by unclipping it at the recessed corner.
2. Insert Nano-SIM card as shown with PIN request disabled or read our Wiki how to enter it later in amber Configurator. Make sure that Nano-SIM card is fitted properly into the holder.
3. Connect the battery as shown in the figure.
4. After configuration, see "PC Connection (Windows)", attach device cover back.

Device is ready to be mounted.

Mounting recommendations

Connecting the device to the vehicle:

- Find OBDII connector in your
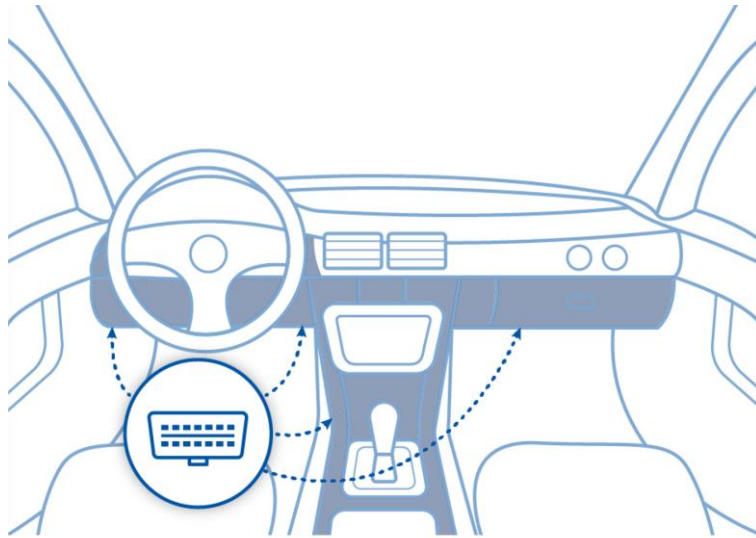
Most common AIT 251 connector locations.

LED indications

Navigation LED indications

Behaviour	Meaning
Permanently switched on	GNSS signal is not received
Blinking every second	Normal mode, GNSS is working
Off	GNSS is turned off because: Device is not working or Device is in sleep mode
Blinking fast constantly	Device firmware is being flashed

Status LED indications

Behaviour	Meaning
Blinking every second	Normal mode
Blinking every two seconds	Sleep mode
Blinking fast for a short time	Modem activity
Off	Device is not working or Device is in boot mode

Characteristics

Basic characteristics

Module	
Name	AIT 251
Technology	GSM, GPRS, GNSS, BLUETOOTH

GNSS

GNSS	GPS, GLONASS, GALILEO, BEIDOU, SBAS, QZSS, DGPS, AGPS
Receiver	33 channel
Tracking sensitivity	-165 dBM
Accuracy	< 3 m
Hot start	< 1 s
Warm start	< 25 s
Cold start	< 35 s

Cellular

Technology	GSM
2G bands	Quad-band 850/900/1800/1900 MHz
Data transfer	GPRS Multi-Slot Class 12 (up to 240 kbps)
Data support	SMS (text/data)

Power

Input voltage range	12 - 30 V DC with overvoltage protection
Back-up battery	3.7 V 45 mAh
Internal fuse	3 A, 125 V
Power consumption	At 12V < 6 mA (Ultra Deep Sleep) At 12V < 8 mA (Deep Sleep) At 12V < 11 mA (Online Deep Sleep) At 12V < 20 mA (GPS Sleep) At 12V < 35 mA (nominal with no load)

Bluetooth

Specification	4.0 + LE
Supported peripherals	Temperature and Humidity sensor, Headset, OBDII dongle, Inateck Barcode Scanner, Universal BLE sensors support

OBD INTERFACE

Data	K-Line, CAN Bus data
Data reading	Up to 32 vehicle onboard parameters, 9 supported OBD protocols

Interface

Connection	OBDII socket
GNSS antenna	Internal High Gain
GSM antenna	Internal High Gain
USB	2.0 Micro-USB
LED indication	2 status LED lights
SIM	Nano-SIM
Memory	128MB internal flash memory

Physical specification

Dimensions	52.6 x 29.1 x 26 mm (L x W x H)

Operating environment

Operating temperature (without battery)	-40 °C to +85 °C
Storage temperature (without battery)	-40 °C to +85 °C
Operating humidity	5% to 95% non-condensing
Ingress Protection Rating	IP41
Battery charge temperature	+10 °C to +45 °C

Battery discharge temperature	-20 °C to +60 °C
Battery storage temperature	-20 °C to +45 °C for 1 month -20 °C to +35 °C for 6 months
Features	
Sensors	Accelerometer
Scenarios	Green Driving, Over Speeding detection, Jamming detection, GNSS Fuel Counter, Excessive Idling detection, Unplug detection, Towing detection, Crash detection, Auto Geofence, Manual Geofence, Trip
Sleep modes	GPS Sleep, Online Deep Sleep, Deep Sleep, Ultra Deep Sleep
Configuration and firmware update	FOTA Web, FOTA, Amber Configurator (USB, Bluetooth), FMBT mobile application (Configuration)
SMS	Configuration, Events,Debug
GPRS commands	Configuration,Debug
Time Synchronization	GPS, NITZ, NTP
Fuel monitoring	OBDII
Ignition detection	Accelerometer, External Power Voltage, Engine

Safety information

This message contains information on how to operate AIT 210 safely. By following these requirements and recommendations, you will avoid dangerous situations. You must read these instructions carefully and follow them strictly before operating the device!

- The device uses SELV limited power source. The nominal voltage is +12 V DC. The allowed voltage range is +12...+30 V DC.

- To avoid mechanical damage, it is advised to transport the device in an impact-proof package. Before usage, the device should be placed so that its LED indicators are visible. They show the status of device operation.

- Before unmounting the device from vehicle, ignition MUST be OFF.

Do not disassemble the device. If the device is damaged, the power supply cables are not isolated or the isolation is damaged, DO NOT touch the device before unplugging the power supply.

All wireless data transferring devices produce interference that may affect other devices which are placed nearby.

Please consult representatives of your vehicle model regarding OBDII location on your vehicle. In case you are not sure about proper connection, please consult qualified personnel.

The programming must be performed using a PC with autonomic power supply.

Installation and/or handling during a lightning storm is prohibited.

The device is susceptible to water and humidity.

Amber is not responsible for any harm caused by wrong cables used for connection between PC and AIT 251

WARNING! Do not use AIT 251 device if it distracts driver or causes inconvenience due to OBDII placement. Device must not interfere with driver.


Battery should not be disposed of with general household waste. Bring damaged or worn-out batteries to your local recycling center or dispose them to battery recycle bin found in stores.

Certification and Approvals

- AIT 251 CE / RED
- AIT 251 E-Mark
- AIT 251 EAC
- AIT 251 RoHS
- AIT 251 REACH
- AIT 251 Declaration of IMEI assignment
- AIT 251 Declaration of device operation temperature
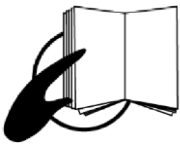
This sign on the package means that it is necessary to read the User's Manual before your start using the device. Full User's Manual version can be found in our Wiki.

This sign on the package means that all used electronic and electric equipment should not be mixed with general household waste.

Hereby, Amber declare under our sole responsibility that the above described product is in conformity with the relevant Community harmonization: European Directive 2014/53/EU (RED).

Warranty

Amber connect guarantees its products to be free of any manufacturing defects for a period of **24 months**. With additional agreement we can agree on a different warranty period, for more detailed information please contact our sales manager.

All batteries carry a reduced 6 month warranty period.
If a product should fail within this specific warranty time, the product can be:

- Repaired
- Replaced with a new product
- Replaced with an equivalent repaired product fulfilling the same functionality

- Amber can also repair products that are out of warranty at an agreed cost.

Warranty Disclaimer

Amber products are intended to be used by persons with training and experience. Any other use renders the limited warranties expressed herein and all implied warranties null and void and same are hereby excluded. also excluded from this limited warranty are any and all incidental or consequential damages including but not limited to, loss of use or revenue, loss of time, inconvenience or any other economic loss.

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Need help? Contact 24/7 live support!

In App Chat | support@amberconnect.com | Chat via website www.amberconnect.com

Works with Android phones and tablets, iPhone, iPad.
Compatible with Chrome, Mac and PC web browsers.

Download on the App Store

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Amber Connect