

A Series

Assets Tracker Specification











A series assets tracker is an intelligent hardware terminal that integrates CAT.1/CAT.M1/NB-IoT, GNSS, Wi-Fi Bluetooth and a variety of sensors. It contains several variants covering different regions and networks around the world.

It is mainly used to monitor the real-time position and status of assets in the warehouse, during transportation and the entire logistics links, and realize automatic alarm for abnormal location and status, such as over speeding, vibration, tampering, dwelling, delay and abnormal lights. At the same time, data are packaged, encrypted and uploaded to the cloud in real time, so asset transportation scheduling and analysis can be managed through the cloud platform visually, which improves transportation efficiency and reduces risks and costs.

The device is easy to install, it can be magnetic mounted or screw mounted. The IP68 dustproof and waterproof rating is suitable for harsh outdoor environments, and its battery life is up to 10 years in standby mode. It can monitor multiple assets in parallel in real time. Stable connection and flexible configuration are ideally for cost sensitive assets management applications.

Key Benefits

- ◆ Integrate GNSS, Wi-Fi, LBS Multi-positioning technology, can quickly and accurately locate the assets, and support Bluetooth positioning indoors.
- ◆ Worldwide LTE CAT.1/CAT.M/, NB-IoT and GSM/GPRS/EDGE coverage.
- ◆ Integrate multiple sensors to monitor motion, shock, light and vibration.
- ◆ IP68 Grade waterproof, suitable for harsh outdoor environments.
- ◆ At least 7 years battery life under 1 report per day condition. Can be magnetic mounted or screw mounted, easy to install.
- ◆ The visualized cloud platform supports the full-scene status monitoring of assets and goods. At the same time, it also supports FOTA.

 CAT.1/ CAT.M/ GSM/ NB-IoT	 Multi-constellation GNSS	 Wi-Fi 2.4G
 Bluetooth 5.0	 IP68	 Brightness change alarm
 Large capacity battery pack	 Cloud-Platform	 Firmware Upgrade

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Variant for the Global

AT001-M-GL (Cat M1):

LTE FDD: B1/B2/B3/B4/B5/B8/B12/B13/B14/ B18/B19/B20/B25/
B26*/B27/B28/B66/B71/B85
GSM: 850/900/1800/1900MHz

AT001-L-GL* (Cat 1):

LTE FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/ B20/B25/B26/
B28
GSM: 850/900/1800/1900MHz

AT001-G-GL* (GSM only):

GSM: 850/900/1800/1900MHz

Variant for China/India

AT001-L-CN (Cat 1):

LTE FDD: B1/B3/B5/B8
LTE TDD: B34/B38/B39/B40/B41
GSM: 900/1800MHz

Variant for EMEA

AT001-L-EM (Cat 1):

LTE FDD: B1/B3/B5/B7/B8/B20/B28
GSM: 850/900/1800/1900MHz

Variant for Latin America

AT001-L-LA (Cat 1):

LTE FDD: B2/B3/B4/B5/B7/B8/B28/B66
GSM: 850/900/1800/1900MHz

Variant for North America

AT001-L-NA* (Cat 1 only):

LTE FDD: B2/B4/B5/B12/B13/B25/B26

AT001-M-NA (Cat M1 only):

LTE FDD: B1/B2/B3/B4/B5/B8/B12/B13/B14/B18/B19/B20/B25/
B26*/B27/B28/B66/B71/B85

Air Protocol

LTE (Cat 1):

LTE FDD: Max 10Mbps (DL)/Max 5Mbps (UL)
LTE TDD: Max 8.96Mbps (DL)/Max 3.1Mbps (UL)

LTE (Cat M1):

LTE FDD: Max 588Kbps (DL)/Max 1119Kbps (UL)

GSM:

GPRS: Max 107Kbps (DL)/Max 85.6Kbps (UL)
EDGE: Max 296Kbps (DL)/Max 236.8Kbps (UL)

Command Set: Track protocol command

Transmit protocol: TCP, MQTT*

Working modes: Power saving mode for long standby time
Continuous mode for emergency tracking

Scheduled Timing Report:

Report position and status at preset time intervals

Wakeup Report: Report when the device wakes up

Geo-fences*: Support up to 5 internal geo-fence regions

Low Power Alarm: Alarm when internal battery is low

Motion Detection: Motion detection based on internal 3-axis accelerometer

Hardware Features

USB: × 1, Micro

(U)SIM Interface: Nano SIM card

Cellular Antenna: internal

GNSS Antenna: internal, GPS/GLONASS/BeiDou

LED: × 3, Power Light, Network Light, GNSS Light

WLAN: 2.4G (AT001-G-GL*)

Bluetooth: 5.0 (AT001-G-GL*)

Motion Sensor:

Gravity Measurement Range: ±2g/±4g/±8g/±16g

ODR Bandwidths: 1Hz ~ 400Hz

Light Sensor:

Measuring Range: 1~ 1000 levels

Spectral Peak: 540 nm

Battery Capacity: 7800 mAh (Lithium thionyl chloride batteries)

GNSS Features

Horizontal Position Accuracy: Autonomous: <2.5m CEP

Velocity Accuracy: Without Aid: <0.1m/s

Acceleration Accuracy: Without Aid: <0.1m/s²

Reacquisition Time: <1s

TTF @-130dBm with EASY™:

Cold Start: <15s; Warm Start: <5s; Hot Start: <1s

TTF @-130dBm without EASY™:

Cold Start: <35s; Warm Start: <30s; Hot Start: <1s

Electrical Characteristics

Supply Voltage: 3.6V Non-rechargeable

Stand-by Current: ≤70uA

Battery Life: 7 Years @ 1 report per day

General Features

Operating Temperature: -20°C ~ +70°C

Dimensions: 138mm × 72mm × 22mm

Weight: Approx. 192g (AT001-L/AT001-G/AT001-M)

Firmware Upgrade: USB interface, OTA

IP Grade: IP68

Data Encryption: TEA, AES or RSA (optional)

* Under Development