

# A Series

## Assets Tracker Specification



The A series tracker devices are ideally for field assets , returnable containers with rugged IP68 enclosure and long battery life up to 7 years .Magnet install free for labor cost saving .Integrates global connectivity by cellular network 2G,4G Cat.1 , NB-IoT and Cat.M1 without data plan contract .

The A series tracker devices have integrated multiple sensors for monitoring of movement , vibration , tampering , delay , overspeed and geofence .Indoor and outdoor positioning supported by WIFI ,LBS and GPS ,GLONASS ,GALILEO and BEIDOU . Short range wireless BLE [Bluetooth Low Energy] is flexible for easy configuration, pair with external BLE sensors or accessories, which makes A series tracker device working as BLE gateway .

Firmware over the air OTA is always important for after sale maintenance. The insight platform view location and condition data of your shipments in real time to ensure on time and in full delivery, specify the constraints relevant to your shipments and receive notifications when issues arise and create detailed reports to share with customers and analyze your data to identify improvement opportunities.



### 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/, NBIOT 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/ NBIOT



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:  $\pm 2g/\pm 4g/\pm 8g/\pm 16g$

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/s<sup>2</sup>

**Reacquisition Time:** <1s

**TTFF @-130dBm with EASY™:**

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

**TTFF @-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

### Buffer storage

AT001-M: 60000 messages

AT001-L: 34000 messages

### 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