

CC180

NB-IoT GPS+ Vehicle Tracker

High-precision, low-power NB-IoT positioning terminal for fleet management, asset tracking, and personal vehicle security. Multi-constellation GNSS, 8–100V wide-voltage input, IP65-rated rugged construction.



NB-IoT CONNECTIVITY

Ultra-low power consumption with extended coverage & deep indoor penetration. Supports global bands B1/B3/B5/B8/B20/B28.

REAL-TIME POSITIONING

GPS + GLONASS + LBS triple-mode positioning. High sensitivity -162dBm receiver. Accuracy within 5 meters.

SMART ALERTS

Geo-fence, over-speed, shock, movement, ACC ignition, and low-battery alarms. Instant push notifications via APP.

TECHNICAL SPECIFICATIONS

| Category | Parameter | Specification |
|----------------|-----------------------|---|
| Communication | Network Type | NB-IoT (Narrowband IoT) |
| | Standard | 3GPP R13 / R14 |
| | Chipset | HiSilicon Hi2115 |
| | Frequency Bands | B1@2100 / B3@1800 / B5@850 / B8@900 / B20@800 / B28@700 MHz |
| | SIM Type | Nano SIM / e-SIM (optional) |
| | Data Protocol | TCP/UDP, MQTT, CoAP, LwM2M |
| Positioning | Satellite Systems | GPS L1 + GLONASS L1 (Multi-GNSS) |
| | Assisted Positioning | LBS (Cell Tower Triangulation) |
| | Receiver Sensitivity | Tracking: -162dBm Acquisition: -148dBm |
| | Position Accuracy | ≤ 5 meters (open sky) |
| | Cold / Hot Start TTFF | < 35s (cold) / < 2s (hot) |
| | GPS Antenna | Built-in 25x25x4mm Ceramic Patch |
| | Update Interval | Configurable: 10s / 30s / 1min / 5min |
| Power | Input Voltage | DC 8V – 100V (Wide Range) |
| | Backup Battery | 110mAh / 3.7V Li-Polymer |
| | Standby Current | < 0.5mA (deep sleep mode) |
| | Working Current | ~40mA (active tracking) |
| Physical | Dimensions | 72 x 35 x 17 mm (L x W x H) |
| | Weight | 39.5 g |
| | Housing Material | ABS + PC, Flame Retardant |
| | Protection Rating | IP65 (Water & Dust Resistant) |
| | Color | Black / Dark Gray |
| Sensors & I/O | G-Sensor | Bosch 3-Axis Accelerometer |
| | LED Indicators | Power (Red) / NB-IoT (Blue) / GPS (Green) |
| | I/O Interface | ACC Ignition, Power (+), Ground (-) |
| Environmental | Operating Temp. | -20°C to +85°C |
| | Storage Temp. | -40°C to +85°C |
| | Humidity | 5% – 95% RH (Non-condensing) |
| Certifications | Regulatory | CE, FCC, RoHS (optional by region) |

Note: Specifications subject to change without notice. Measured under standard test conditions.

KEY FEATURES & FUNCTIONALITY

■ Real-Time Tracking

Continuous GPS position reporting at configurable intervals. View real-time location, speed, heading, and status on web platform or mobile APP.

■ ACC Ignition Detection

Detect vehicle ignition ON/OFF via ACC wire. Automatically switches between active and parked reporting modes for power optimization.

■ Movement Alarm

Alerts when the vehicle moves without authorization. Ideal for anti-theft monitoring during parked mode.

■ Multi-Platform Support

iOS / Android APP, web-based management console, and RESTful API for third-party platform integration.

■ Historical Route Playback

Store and replay up to 180 days of trajectory data. Export route history for analysis and reporting.

■ Over-Speed Alert

Set speed thresholds; the device sends an immediate alert when the vehicle exceeds the predefined speed limit.

■ Low Battery & Power Alerts

Notification when backup battery is low or external power is cut. Device continues reporting on backup battery.

■ Blind Spot Data Compensation

Stores positioning data locally when out of network coverage; auto-uploads once connection is restored.

■ Geo-Fence (Electronic Fence)

Define circular or polygonal virtual boundaries. Instant alert when the vehicle enters or exits the designated area.

■ Shock / Vibration Alarm

Built-in Bosch G-sensor detects abnormal vibration, collision, or towing events and triggers instant alarm notifications.

■ Remote Configuration (OTA)

Configure tracking interval, alarm thresholds, and firmware updates remotely via NB-IoT network. No physical access needed.

■ Wide Voltage Compatibility

DC 8–100V input range supports cars, trucks, motorcycles, construction equipment, and more.

APPLICATION SCENARIOS

● Fleet Management

Real-time monitoring of entire fleets. Optimize routes, reduce fuel costs, monitor driver behavior, improve operational efficiency.

● Private Car Security

Anti-theft protection with movement detection, shock alarm, and geo-fence. Discreet installation keeps your vehicle protected 24/7.

● Logistics & Cold Chain

Monitor transport vehicles and high-value cargo in transit. Ensure route compliance with real-time visibility.

● Insurance Telematics

Usage-Based Insurance (UBI) data collection. Monitor driving behavior, mileage, and risk patterns for actuarial analysis.

● Car Rental & Leasing

Track vehicles in real time. Geo-fence restricted areas, monitor mileage, detect unauthorized usage, receive tamper alerts.

● Motorcycle & E-Bike

Compact 39.5g design fits motorcycles and e-bikes. Wide voltage compatibility supports diverse vehicle types.

● Construction Equipment

Track excavators, bulldozers, heavy machinery. Prevent theft, monitor usage hours, manage assets across job sites.

● Government & Public Sector

Public bus tracking, waste collection monitoring, emergency vehicle dispatch management.

USE CASE ILLUSTRATIONS



Private Car Application



Fleet Management Application

INSTALLATION & WEARING METHODS

The CC180's compact size (72×35×17mm) and lightweight design (39.5g) enable flexible, discreet mounting in any vehicle. The wide 8–100V DC input supports direct connection to virtually any vehicle electrical system.

Method 1: Wired Installation (Recommended)

Connect directly to the vehicle electrical system:

- **Red Wire (VCC):** Vehicle positive power (DC 8–100V)
- **Black Wire (GND):** Vehicle ground / chassis
- **Yellow Wire (ACC):** Ignition-switched power for ACC detection

Secure under dashboard or behind interior panels with cable ties. Ensure GPS antenna side faces upward.

Method 2: Magnetic Mount (Optional)

For temporary or tool-free installation:

- Attach magnetic base accessory to the device
- Place on any flat metal surface inside the vehicle
- Avoid direct sunlight or extreme heat exposure
- Best suited for fleet trial deployments and short-term tracking

Method 3: OBD-II / Cigarette Lighter Adapter (Optional)

Quick plug-and-play deployment:

- Use compatible OBD-II power adapter harness
- Or use 12V cigarette lighter power adapter
- Ideal for rental cars, test drives, and short-term monitoring
- No professional installation required

INSTALLATION PRECAUTIONS

- Ensure GPS antenna side (top side with LED indicators) faces upward toward the sky for optimal signal.
- Avoid installing near large metal objects or electronic devices that may cause signal interference.
- Do not install in locations exposed to direct water spray, even with IP65 rating.
- For optimal NB-IoT signal, avoid mounting inside fully enclosed metal compartments.
- Test GPS fix, network registration, and data upload before finalizing installation.
- Use a 3A fuse on the positive power line for electrical safety.

PRODUCT GALLERY

VEHICLE TRACKER INSTALLATION WORKFLOW

- CONNECT POWER**
 Wire connection to vehicle 12V/24V power system, no transformer needed.
- INSTALL IN VEHICLE**
 Secure compact black tracker (72x35x17mm) under car dashboard using mounting screws.
- DOWNLOAD APP**
 Download the vehicle tracking app from App Store or Google Play.
- CONFIGURE**
 Complete app setup wizard to connect to NB-IoT network and GPS.
- TRACK & MONITOR**
 Start real-time tracking and monitor your vehicle anytime, anywhere.

- COMPACT & RELIABLE**
 72 x 35 x 17 mm
- SECURE INSTALLATION**
 Easy to install
 Hidden & discreet
- SMART CONNECTIVITY**
 NB-IoT Network
 GPS Tracking

VEHICLE TRACKER

SMARTER TRACKING. GREATER CONTROL



- UNIVERSAL WIDE VOLTAGE**
 Direct connection to 12V/24V systems, no transformer needed for electric cars, motorcycles, trucks, and private vehicles.
- NB-IOT + GPS/BEIDOU**
 Advanced dual positioning with low power consumption and excellent signal penetration through NB-IoT network.
- 110MAH BACKUP BATTERY**
 Built-in 3.7V backup power for continued tracking when vehicle power is disconnected.
- THIRD-PARTY COMPATIBLE**
 Open protocol support for integration with existing fleet management platforms.
- MOBILE APP SUPPORT**
 Full-featured smartphone application for real-time tracking and vehicle management.
- CUSTOMIZABLE**
 Accepts OEM/ODM customization for branding and feature requirements.
- COMPACT SIZE**
 Sleek 72 x 35 x 17 mm design for discreet installation in any vehicle.
- HIGH GPS SENSITIVITY**
 -162dBm sensitivity for reliable signal acquisition in challenging environments.
- 5-METER ACCURACY**
 Precise positioning for accurate vehicle location tracking.
- MULTI-SYSTEM POSITIONING**
 GPS, BeiDou, GLONASS, and LBS for global coverage and redundancy.

How to Use the Device

Key Features Overview

PRODUCT CRAFTSMANSHIP

72 x 35 x 17 mm

- 110mAh Battery
- NB-IoT Module
- GPS/BeiDou/GLONASS Positioning Chip
- Main Circuit Board

Secure Connection

- Power Input Wires
- Secure Terminals

Rugged & Durable Design

- Matte Black ABS Housing
- Decorative Diagonal Grooves
- Mounting Screw Holes
- IP-Rated Waterproof Sealing

IP-Rated Waterproof Sealing

LED Indicators

- Blue LED - GPS Lock
- Green LED - Power

Internal Design & Build Quality

ORDERING INFORMATION

| Model | Description | Part Number |
|---------|--|----------------|
| CC180-B | NB-IoT GPS+ Vehicle Tracker, Basic (GPS+LBS) | SX-CC180-B-001 |
| CC180-G | NB-IoT GPS+ Vehicle Tracker, GLONASS Enabled | SX-CC180-G-001 |
| CC180-E | NB-IoT GPS+ Vehicle Tracker, e-SIM Embedded | SX-CC180-E-001 |

PACKAGE CONTENTS

- ✓ CC180 NB-IoT Vehicle Tracker Device x 1
- ✓ Wiring Harness (Power + ACC + GND) x 1
- ✓ Quick Start Guide x 1
- ✓ Warranty Card x 1
- ✓ Optional: Magnetic Mount Bracket
- ✓ Optional: OBD-II Power Adapter

PLATFORM COMPATIBILITY

- Mobile APP: iOS 12+ / Android 8.0+ (App Store & Google Play)
- Web Platform: HTML5 console (Chrome, Edge, Safari recommended)
- API Integration: RESTful API / MQTT for third-party platforms
- Server: Cloud SaaS or private on-premise deployment
- Multi-language: English, Chinese, Spanish, and more

Contact Us

For inquiries, pricing, technical support, or partnership opportunities, please reach out to our sales team.

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