V102A

BLE TPMS Internal Sensor

Drove West

Vehicle Diagnostics Solutions

Product Specification

v1.0 • Released: 2026-02-08

Document Information

Model	V102A	**Product Type**	Internal TPMS Sensor (Direct)
Document Version	v1.0	**Last Updated**	2026-02-08

Overview

V102A is a direct tire pressure and temperature monitoring sensor (TPMS) based on Bluetooth Low Energy (BLE 4.0/5.0). The sensor is installed inside the wheel. It measures tire pressure and tire temperature and sends data wirelessly to a smartphone.

Scope & System Architecture

This specification applies to the V102A Bluetooth TPMS internal sensor. The system consists of two modules: a BLE communication module (internal sensor installed in the tire/wheel) and a smart terminal (Android/iOS phone) running the TPMSII app.

BLE 4.0/5.0
2.4 GHz wireless to TPMSII app; broadcast TPMS1-4_XXXXXX

Pressure: 0-1500 kPa
Direct measurement with ±1% kPa accuracy

Temp: ±1.5 °C
Real-time tire temperature monitoring

Ultra-Low Power
≤ 1.4-1.8 µA static; 350 mAh; 3-5 yr battery life

IP67 / 95% RH
Dust & water protected for harsh tire environment

TPMSII App
iOS & Android; QR code one-click binding; configurable alerts

Physical Specifications
78.5 × 49.3 × 18 mm
Weight: 30.8 g (internal)
Battery: 350 mAh | IP67
Chip: DA14531 / ARM M0

Key Features

- Direct measurement of tire pressure and tire temperature (internal sensor).
- Fast response time: ≤ 5 s.
- Temperature accuracy: ±1.5 °C.
- Ultra-low power design with long battery life.
- BLE 4.0/5.0 communication (2.4 GHz).
- Pressure range: 0-1500 kPa; pressure accuracy: ±1% kPa.
- Waterproof rating: IP67; working humidity up to 95% (max.).
- Each sensor has a unique ID code for tire position binding.

Communication & Compatibility

- **Broadcast name:** TPMS1-4_XXXXXX
- **Supported OS:** Android and iOS (BLE 4.0+)
- **Communication:** Bluetooth 4.0/5.0 (BLE)
- **App:** TPMSII (scan QR card or search in app store)

Technical Specifications

Core	ARM M0	**Main chip**	DA14531
Working voltage	3 V	**Static current**	≤ 1.4-1.8 µA
BLE frequency	2.4 GHz	**BLE TX power**	0 dBm (max.)
Response time	≤ 5 s	**Display**	Phone APP
Waterproof	IP67	**Working humidity**	95% max.
Pressure range	0-1500 kPa	**Pressure accuracy**	±1% kPa
Temperature accuracy	±1.5 °C	**Operating temp.**	−30 to +70 °C
Storage temp.	−30 to +70 °C	**Battery capacity**	350 mAh (internal)
Battery life	3-5 years (internal)	**Weight**	30.8 g (internal)
Dimensions	78.5 × 49.3 × 18 mm		

Installation & Pairing Notes

1. Internal sensor installation should be done by a professional technician.
2. After installation, inflate the tire and check for air leakage.
3. Recommended binding method: scan the "one-clicking binding" QR card or scan each sensor ID code.
4. Alternatively, open the app (choose "Auto Pair") and press "Search" to bind sensors.
5. For internal sensors: if data cannot be obtained, drive the car more than 20 km/h for about 2–3 km.

Notes & Disclaimer

- The product is displayed through the mobile app. Be careful when checking tire data on your phone while driving.
- Due to different hardware performance of Android phone manufacturers, data transmission may be delayed (normal).
- This product can read tire pressure and temperature, but it cannot avoid sudden accidents caused by tires. If tire pressure rises or drops continuously, stop and check the tire.

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