TIV2501A/B Universal Programmable TPMS Sensor

Installation and Operation Manual

CRITICAL SAFETY WARNINGS

■ PROFESSIONAL INSTALLATION REQUIRED: TIV2501A/B sensors MUST be installed by qualified technicians.

■ PRE-PROGRAMMING MANDATORY: Program sensors using Tirevio-compatible TPMS tool BEFORE installation.

■ CERTIFIED COMPONENTS ONLY: Use only Tirevio-certified valve stems.

■ NOT A SUBSTITUTE: TPMS does not replace manual tire pressure checks.

■ DO NOT USE: Tire sealants or balancing beads/sand (will damage sensors).

■ OPERATING LIMITS:

- Max Speed:
  - ◆ METAL VALVE STEMS: Max 250 km/h (155 mph)
  - ◆ RUBBER VALVE STEMS: Max 210 km/h (130 mph) ← TRA Requirement

■ WARRANTY: 36 months or 45,000 km (30,000 miles), whichever comes first. Excludes improper installation damage.

1. PRE-INSTALLATION PREPARATION

1.1 REQUIRED TOOLS:

- Tirevio-compatible TPMS Programming Tool*
- Calibrated Torque Wrench

1.2 SENSOR PROGRAMMING (MUST COMPLETE BEFORE INSTALLATION):

• Use Tirevio-compatible TPMS tool (e.g. TVT01)

• Program with vehicle-specific parameters

• Verify successful programming

*Contact Tirevio for compatible tool models

1.3 COMPONENT INSPECTION:

✔ Sensor body (d) - no cracks/damage

✔ Valve stem (c) - certified type (metal/rubber)

✔ Lock nut (b) and washers (metal valves only)

✔ Sealing gaskets

1.4 TORQUE WRENCH SETTINGS:

- Sensor Assembly: 1.25 Nm (11 in-lbs)
- Wheel Installation: 5.0 Nm (44 in-lbs)

2. INSTALLATION PROCEDURE

A. For Sensors with METAL VALVE

1: Assemble Sensor & Valve Stem (If NOT factory pre-assembled)

- Insert the valve stem (c) into the sensor body (d).Secure with carriage bolt (e). Tighten the carriage bolt (e) to 1.25 Nm (11 in-lbs) using the torque wrench. (Note: Typically factory pre-assembled)

2: Mount Sensor to Wheel

-From the INSIDE of the wheel rim, insert the valve stem with attached sensor through the valve hole.

-Press the sensor body (d) firmly against the wheel hub.

-Hand-tighten the lock nut (b) for metal valves.

3: Secure Sensor (Metal Valve Stems)

-Ensure torque wrench is set to 5.0 Nm (44 in-lbs).

-Continuously tighten the lock nut (b) until the torque reaches 5.0 Nm (44 in-lbs), securing the sensor firmly to the wheel hub.

4: Final Positioning Check

-Ensure NO PART of the sensor body (d) contacts the wheel rim.

-Ensure the sensor is NOT pinched between the tire bead and the rim.

B. For Sensors with RUBBER VALVE

[TRA COMPLIANCE NOTICE]

According to TRA standards (Section E.7):

• Rubber valve stems SHALL NOT be used for speeds >210 km/h (130 mph)

• Vehicles exceeding this limit MUST use metal valve stems

• High-speed failure risk: Rubber may deform above 130 mph

1. Lubricate rubber valve (g) with tire bead lubricant

   - Avoid coating sensor (i)

2. Insert valve using ONLY Tirevio compatible Tool

   - Standard valve tools are UNACCEPTABLE

3. Pull vertically through rim hole

   - Ensure sensor is not tilted

4. Verify installation:

   - Valve seated correctly

   - Sensor floats freely without rim contact

3. TIRE MOUNTING CRITICAL PROTOCOLS

► POSITIONING:

- Keep mounting head(m) ≥10 cm (4") from valve hole (k)

- Maintain 120° minimum clearance zone around sensor

► SENSOR PROTECTION:

■ NEVER allow tire bead to contact sensor body

■ PREVENT lubricant from entering pressure port

■ AVOID sensor contact with rim weights

► POST-INSTALLATION CHECK:

- Sensor fully seated against wheel hub
- Valve stem perpendicular to rim surface
- No visible damage to components

4. TPMS RELEARN PROCEDURE

4.1 VEHICLE-SPECIFIC METHOD SELECTION:

[✓] Automatic Relearn [✓] Manual Relearn [✓] OBD Relearn

4.2 EXECUTION STEPS:

1. Inflate tires to manufacturer's specified pressure
2. Initiate relearn via:
   - Vehicle menu system OR
   - Tirevio-compatible programming tool
3. Follow tool/vehicle prompts precisely
4. Confirm completion when TPMS warning light extinguishes

4.3 VERIFICATION:

• Test drive vehicle (minimum 15 minutes > 25 km/h)

• Confirm no TPMS warning lights

• Verify pressure readings in vehicle display

5. MAINTENANCE & REPLACEMENT

5.1 VALVE STEM REQUIREMENTS:

► RUBBER VALVES:

- MUST be replaced at EVERY tire change
- Discard after single use

► METAL VALVES:

- Replace washer nut and gasket at EVERY tire change
- Annual inspection for corrosion/damage

5.2 SENSOR SERVICE:

• Clean sensor surface during tire rotation

• Inspect for physical damage or corrosion

• Replace entire unit if:

- Casing is cracked
- Valve stem shows wear
- Error codes persist after troubleshooting

6. TECHNICAL SPECIFICATIONS

MODEL: TIV2501A/B

CERTIFICATION: QUALIFIED CERTIFICATE TYPE: TIV2501A/B

PROGRAMMING TOOL: Tirevio-compatible TPMS tools required*

OPERATING TEMPERATURE: -40°C to +125°C (-40°F to +257°F)

BATTERY LIFE: 5-7 years (typical)

FREQUENCY: 315 MHz / 433 MHz (region dependent)

VALVE ANGLE: 20°

*Compatibility list: www.tirevio.com/service/compatibility

CONTACT & SUPPORT

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