Avutrel T12-4

Avutrel TPMS T12-4 Tire Pressure Monitoring System User Manual

Brand: Avutrel | **Model:** T12-4

1. Introduction and Overview

The Avutrel TPMS T12-4 is a tire pressure monitoring system designed to enhance driving safety by providing real-time tire pressure and temperature data. This system features a clear LCD display, multiple alarm modes, and flexible charging options, making it suitable for a variety of 4-wheel vehicles.

- **Real-time HD Digital Display:** Provides clear, visible updates on tire pressure and temperature, day and night.
- **Four Alarm Modes:** Alerts for low tire pressure, high temperature, low sensor battery, and system failure with audible and visual warnings.
- **Dual Charging:** Supports continuous power via solar energy or USB cable, eliminating complex wiring.
- **Durable IP67 Sensors:** External sensors are waterproof and dustproof, designed for durability and optimal battery efficiency with automatic sleep technology.
- **Universal Compatibility:** Suitable for 4-wheel vehicles (0-5 Bar) including cars, SUVs, trucks, vans, and trailers.

2. What's in the Box

Please check the package contents to ensure all items are present:

- 1 x TPMS Monitor Display
- 4 x External Tire Pressure Sensors
- 1 x USB Charging Cable
- 1 x Installation Wrench
- 4 x Anti-theft Nuts
- 1 x User Manual



Figure 2.1: Package Contents. Shows the TPMS monitor, four external sensors, USB charging cable, wrench, and anti-theft nuts.

3. Setup and Installation

Follow these steps to install your Avutrel TPMS T12-4 system:

1. **Prepare the Valve:** Unscrew the original valve cap from the tire valve.
2. **Install Anti-theft Nut:** Screw the anti-theft nut onto the tire valve.
3. **Attach Sensor:** Screw the corresponding sensor (FL, FR, RL, RR) onto the tire valve clockwise. Ensure it is finger-tight.
4. **Secure Sensor:** Use the provided wrench to tighten the anti-theft nut counter-clockwise against the sensor. This secures the sensor and prevents theft.
5. **Check for Leaks:** Apply soapy water around the valve and sensor to check for any air leaks. If bubbles appear, re-tighten the sensor and nut.



Figure 3.1: Sensor Installation Steps. Illustrates unscrewing the valve cap, screwing on the nut, attaching the sensor, tightening the nut, and checking for leaks.

Place the TPMS monitor on your dashboard in a position that does not obstruct your view while driving. The monitor will automatically power on when it detects vehicle vibration.

4. Operating Instructions

The Avutrel TPMS T12-4 monitor provides real-time data and allows for parameter adjustments.

4.1 Display Overview



Figure 4.1: Monitor Display and Controls. Highlights the solar charging indicator, current tire pressure, current tire temperature, electricity level, and control buttons (On/Off/Set, Menu Choice, +/Mutton).

- **Solar Charging Indicator:** Shows when the device is charging via solar panel.
- **Pressure Value:** Displays the current tire pressure for each tire.
- **Temperature Value:** Displays the current tire temperature for each tire.
- **Battery Level:** Indicates the monitor's battery status.
- **Pressure Unit:** Displays the unit of pressure (e.g., Psi, Bar).
- **Temperature Unit:** Displays the unit of temperature (e.g., °C, °F).

4.2 Button Functions

- **Left Button (On/Off/Set):** Press and hold to power on/off. Short press to enter setting mode or confirm selection.
- **Middle Button (Menu Choice):** Short press to cycle through menu options in setting mode.
- **Right Button (+/Mutton):** Short press to increase values or navigate options in setting mode.

4.3 Setting Parameters

To adjust pressure units, temperature units, or alarm thresholds:

1. Press and hold the **Left Button** until the display enters setting mode.
2. Use the **Middle Button** to cycle through different settings (e.g., pressure unit, temperature unit, high pressure alarm, low pressure alarm, high temperature alarm).
3. Use the **Right Button** to adjust the value or select the desired unit.
4. Press the **Left Button** again to confirm the setting and move to the next parameter, or exit setting mode if all adjustments are complete.

5. Alarm Modes

The system provides timely warnings to ensure driving safety. The monitor will emit an audible alarm and display a visual warning when any of the following conditions are detected:

- **High Pressure Alarm:** Tire pressure exceeds the preset high limit.
- **Low Pressure Alarm:** Tire pressure drops below the preset low limit.
- **High Temperature Alarm:** Tire temperature exceeds the preset high limit.
- **Air Leak Alarm:** Rapid decrease in tire pressure.
- **Low Sensor Battery Alarm:** One or more sensors have low battery power.



Figure 5.1: Alarm Modes. Visual representation of the different alerts provided by the TPMS.

6. Charging the Monitor

The Avutrel TPMS T12-4 monitor offers two convenient charging methods:

6.1 Solar Charging

The monitor is equipped with a solar panel on its top surface. When exposed to sunlight, it will automatically charge the internal battery. Ensure the solar panel is not obstructed for optimal charging efficiency.

6.2 USB Charging

For faster charging or when solar charging is insufficient (e.g., during prolonged cloudy weather or night driving), use the provided USB cable. Connect the micro-USB end to the charging port on the side of the monitor and the USB-A end to a standard USB power source (e.g., car charger, power bank, computer USB port).



Figure 6.1: Dual Charging Options. Illustrates both solar and USB charging methods for the TPMS monitor.

7. Maintenance

Proper maintenance ensures the longevity and optimal performance of your TPMS.

- **Sensor Durability:** The external sensors are IP67 rated, making them waterproof and dustproof. They are designed to withstand various weather conditions, including cold and heat.
- **Automatic Sleep Mode:** The monitor features an automatic sleep mode to optimize battery efficiency. It will automatically power on when vehicle vibration is detected and power off after a period of inactivity.
- **Cleaning:** Wipe the monitor and sensors with a soft, dry cloth. Avoid using abrasive cleaners or solvents.
- **Battery Replacement:** The internal battery of the monitor is not user-replaceable. For sensor battery replacement, consult the manufacturer or a qualified technician.



Figure 7.1: Durable Sensors. Highlights the weather resistance and robust design of the external sensors.



Figure 7.2: Automatic Sleep Mode. Illustrates the monitor's power-saving feature.

8. Troubleshooting

If you encounter issues with your Avutrel TPMS T12-4, refer to the following common problems and solutions:

- **Monitor not turning on:** Ensure the monitor is charged via USB or exposed to sufficient sunlight. Press and hold the power button to manually turn it on.
- **No tire data displayed:** Verify that all sensors are correctly installed and tightened. Drive the vehicle for a short period (e.g., 10-15 minutes) to allow sensors to transmit data. Check sensor battery levels.
- **Inaccurate readings:** Ensure sensors are installed on the correct tires (FL, FR, RL, RR). Recalibrate the system if necessary by resetting the alarm thresholds.
- **Alarm sounds frequently:** Check the tire pressure and temperature against the preset alarm thresholds. Adjust thresholds if they are too sensitive for your vehicle's recommended tire specifications.
- **Sensor signal loss:** Ensure there are no major metallic obstructions between the sensors and the monitor. If a sensor is damaged, it may need replacement.

For persistent issues, please contact Avutrel customer support.

9. Specifications

Key technical specifications for the Avutrel TPMS T12-4:

Feature	Specification
Model Number	T12-4
Pressure Range	0-5 Bar
Monitor Dimensions (L x W x H)	16.5 x 13.5 x 4.5 cm
Monitor Weight	190 g
Sensor Material	Plastic
Display Material	Plastic and Glass
Charging Method	Solar / USB

Feature	Specification
Sensor Waterproof Rating	IP67
Operating Temperature (Sensors)	-20°C to 80°C



Figure 9.1: Product Specifications. Detailed view of the monitor and sensor with dimensions and labeled components.

10. Compatibility

The Avutrel TPMS T12-4 is designed for universal use with 4-wheel vehicles that operate within the 0-5 Bar pressure range. This includes, but is not limited to:

- Cars
- SUVs
- Trucks
- Vans
- Trailers



Figure 10.1: Vehicle Compatibility. Shows different vehicle types compatible with the TPMS.

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