TESLA BTVMS01 TPMS Transmitter User Manual

Contents

TESLA BTVMS01 TPMS Transmitter

Product Information

Specifications:

- **Manufacturer:** Tesla Motors Netherlands B.V.
- **Model:** TPMS Transmitter
- **Frequency Range:** 2400-2483.5 MHz
- **Max. Transmit Power**: -0.82 dBm
- **Compliance:** FCC Part 15, RED Directive 2014/53/EU
- **FCC ID**: 2AEIM-BTVMS01
- **IC:** 20098-BTVMS01

Product Usage Instructions

Modes

- **Stationary Mode:**
  In this mode, the sensor/transmitter will transmit instantaneous measured data when a pressure change of 2.0 psi or greater occurs from the last transmission. If the change is a pressure decrease, it will transmit immediately each time it detects the change. If the change is an increase in pressure, there will be a 30-second silent period between transmissions to comply with FCC regulations.
- **Factory Mode:**
  This mode is used during manufacturing to transmit data more frequently to ensure the programmability of the sensor ID.
- **Off Mode:**
  Reserved for production parts sensors used during the production process and not in service environments.
- **LF Initiation:**
  The sensor/transmitter must provide data within 150.0 ms upon the presence of an LF signal. It must be

sensitive and able to detect the LF field.

RF Frequency Information:
To ensure proper operation and compliance, take the following steps if interference occurs:

1. Reorient or relocate the receiving antenna.
2. Increase separation between equipment and receiver.
3. Connect equipment to a different circuit than the receiver.
4. Consult dealer or technician for assistance.

Radiation Exposure:
Equipment should be installed and operated with a minimum distance of 20cm between the radiator and the body. FCC and IC RSS-102 radiation exposure limits are complied with when operating at a distance greater than 20cm from the user.

FAQ

- **What should I do if my TPMS Transmitter is not transmitting data?**
  Check the pressure in your tires and ensure they are within the recommended range. If the issue persists, consult your vehicle manual for troubleshooting steps or contact customer support for assistance.
- **How often should I replace the TPMS Transmitter batteries?**
  The batteries in the TPMS Transmitter typically last for several years. Monitor the battery status through your vehicle's dashboard display and replace them as needed to ensure proper functioning.
- **Can I calibrate the TPMS Transmitter on my own?**
  Calibration of the TPMS Transmitter is usually done during installation or service by trained technicians. Attempting to calibrate it on your own may lead to improper functioning, so it's recommended to seek professional help for calibration.

The TPMS Transmitter is installed to the valve stem in each tyre of a vehicle. The unit measures tyre pressure periodically and transmits this information by RF communication to a receiver inside the vehicle. In addition, the TPMS Transmitter performs the following functions:

- Determines a temperature compensated pressure value.
- Determines any abnormal pressure variations in the wheel.
- Monitors the state of the Transmitters' internal battery and informs the receiver of a low battery condition.

Modes

Rotating Mode

- While the sensor/transmitter in the Rotating Mode, it shall satisfy the following requirements. The sensor/transmitter shall transmit an instantaneous measured data, if a pressure change of 2.0 psi from the last transmission or greater has occurred with respect to the following conditions. If the pressure change was a decrease of pressure, the sensor/transmitter shall transmit immediately every time it detects the 2.0-psi or greater pressure changes from the last transmission.
- If the pressure changes of 2.0 psi or greater was an increase of pressure, the sensor shall not react to it.

Stationary Mode

- While the sensor/transmitter in the Stationary Mode, it shall satisfy the following requirements. The sensor/transmitter shall transmit an instantaneous measured data, if a pressure changes of 2.0 psi from the last transmission or greater has occurred with respect to the following conditions. If the pressure change was a decrease of pressure, the sensor/transmitter shall transmit immediately every time it detects the 2.0-psi or greater pressure changes from the last transmission.
- If the pressure changes of 2.0 psi or greater was an increase of pressure, the silent period between the RPC transmission and the last transmission shall be 30.0 seconds, and the silent period between the RPC transmission and the next transmission (Normal scheduled transmission or another RPC transmission) shall also be 30.0 seconds, to be in compliance of FCC Part 15.231.

Factory Mode
The factory mode is the mode that the sensor shall transmit more often in the factory to assure the programmability of the sensor ID during the manufacturing process.

Off Mode
This Off Mode is only for production parts sensors that are used for the builds during the production process and not in the service environment.

LF Initiation
The sensor/transmitter must provide data upon the presence of an LF signal. The sensor must react (Transmit and provide data) no later than 150.0 ms after the LF data code has been detected at the sensor. The sensor/transmitter must be sensitive (As sensitivity is defined in Table 1) and able to detect the LF field.

RF Frequency Information

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician to help.

Compliance with 2014/53/EU Radio Equipment Directive (RED)
In accordance with Article 10.8(a) and 10.8(b) of the RED, the following table provides information on the frequency bands used and the maximum RF transmit power of the product for sale in the EU:

Frequency range (MHz)	Max. Transmit Power
2400-2483.5 MHz	-0.82 dBm

This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Note: FCC Radiation exposure: All equipment complies with FCC and IC RSS-102 radiation exposure limits for an uncontrolled environment and the radio device and antennas operating at more than 20cm distance from user.

FCC ID: 2AEIM-BTVMS01 IC: 20098-BTVMS01
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Documents / Resources

	TESLA BTVMS01 TPMS Transmitter [pdf] User Manual BTVMS01 TPMS Transmitter, BTVMS01, TPMS Transmitter, Transmitter

References

- User Manual