

TPM Technical Description

There are two types of sensor/transmitters for the Tire Pressure Monitor. They both shared a similar circuit design but with different layouts for fitting in individual housings.



Sensor/transmitter TPM-S1, as shown next, is for mounting on the tire valve stem.

Sensor/transmitter TPM-S2, as shown here,



, is for mounting inside the tire, on the wheel itself.

For conserving battery, each sensor/transmitter is equipped with an omni-directional power switch that would turn on only after subjecting to a certain centrifugal force, such as the force generated by a rotating wheel.

The function of the TPM is to detect tire pressures and, upon detection of pressure irregularity, to issue warnings to the driver. The wireless transmission is event driven, that is, it occurs only when there was something happen: (1) initial health transmission when the car speed reached 15mph and, thereby, turned on the sensor/transmitter power switch and, (2) when the tire pressures were not in the range specified (during monitoring). There is no continuous wireless transmission, which is unnecessary and also battery draining. There is minimal information needed to be transmitted; a 6-byte fixed length code plus checksum is sufficient.

