TPM-100 (MTPM-100) Product Description

Kit content:

1. 4 Generation 1 Wheel sensors
2. Receiver
3. Display
4. 1 x 17cm Wire Antenna
5. 1 x 2.5 meter antenna
6. Wiring harness
7. Accessories

Optional accessories:

1. 2 x Generation 1, Wheel Sensor Kit for 6 Wheel Vehicles
2. Generation 1 Wheel sensor
3. Valve (in separate items, as specified at "*Wheel sensor*")

Wheel sensor:

- Specialized LITEON valve to be purchased from Record. 300-0087810
- Generation I sensor-unit (433.92 MHz)
- Washer 215-0096300
- Slider accessory 200-0028140

The nut that holds the sensor-unit to the valve is fixed with a drop of LOCTITE 243 (Cat No. 18941).

Receiver:

The receiver should fit in a VS350/VS320 housing.
Connectors accessible from the outside:

- SMB connector (Snap On Coupling) 1 pcs. (Antenna)
- MOLEX 70555, 3 pin connector 1 pcs. (Wiring harness)
- MOLEX 70555, 4 pin connector 1 pcs. (Display)

Display:

- TPM-100 - A10-2489170 RX SW (IR switch with TPMS logo)
- MTPM-100 - Waeco Specific ID Design Switch.
- MOLEX 70066G, 4-pin connector (Terminals: MOLEX 70058-0022)
  The terminals should be connected to the wiring but the connector should be separate in the kit. This to enable a proper installation of the switch on the dashboard (as with IR-switch)

Antenna:

- 1 x 17cm flexible antenna and SMB connector (Snap On Coupling)
- 1 x 2.5 meter flexible antenna and SMB connector antenna

Wiring harness:

- MOLEX 70066G, 3 pin connector & MOLEX 70058-0022 terminals.
- 0.5- meter cable (2 pcs, red, orange and black) – Permanent Feed Connection on this system.
- Separate fuse with 15cm of wiring on each end. (Not connected to main wiring harness!)

Accessories:

- 3 cable ties (5x430mm)
- 1 double- sided pad (size of largest surface of the receiver-module)
- 1 double- sided pre shaped pad (VST (Very Strong Tape) #6080G) for fixing display.

Functionality:

Normal Operation Mode:

As soon as the ignition is switched on, the system will perform a self-test. This self-test should take no longer than 108 seconds to be completed. The self-test period is defined as the period from the point that the ignition is switched on to the point that the Electronic Module receiver has received the latest Tire Conditions from each wheel taught to the system. If the system is permanently fed the signals are received when the ignition is switched off. As a result, the self-test period takes 2 seconds and then the latest Tire Conditions are displayed. During the first 2 seconds of the self-test period, the LED will turn on RED for 2 second and the buzzer will sound for 0.3 seconds. After this 2-second period, one of 3 sets of conditions will be displayed:-

i) If all Tire Conditions were OK when the ignition was last switched off, then the LED will start to flash Green at a rate of 0.5 Seconds ON/0.5 Seconds OFF. If all Tire Conditions are still OK at the end of the self-test period, then the LED will turn Constant Green.

ii) If all Tire Conditions were OK when the ignition was last switched off, then the LED will start to flash Green at a rate of 0.5 seconds ON/0.5 Seconds OFF. If Tire Condition information is received from a sensor indicting a Warning or Alert conditions (either Temperature or Pressure), then the LED will immediately indicate the detected Condition. Note : This should happen as soon as the information is receiver – do not wait until the end of the self-test period.

iii) If Tire Conditions were not OK when the ignition was last switched off, then the LED should immediately display the relevant Tire Condition Warning or Alert. This Tire Conditions will continue to be displayed throughout the self-test period. At the end of the self-test period, the display will either change to indicate all tire conditions are now OK (LED on Green) if the problem has been rectified or to show the Tire Condition Warning or Alert if the conditions still exists.

If the Tire Conditions of all tires are OK, the LED will light up Green and will turn-off after one minute (To avoid distraction/ irritation of the driver).

When the button is pressed (LED is OFF), the LED will show the latest condition (To give the driver the feeling the system is still working).

If no signal has been received from one sensor for more then 10 minutes (with the ignition on), the LED will change colour continuously indicating that the receiver is searching for a signal. (0.25 seconds green / 0.25 seconds orange / 0.25 seconds red / 0.25 seconds orange / etc.)

Pressure Learning Mode:

Before starting this procedure, all tires must be inflated conform the vehicle manufacturer's recommended cold inflation pressure.

1. Push and hold button
2. Switch on ignition.
3. Keep the button pressed until confirmed (3 seconds) by a high beep tone. (1 second)
4. The system will start reading out the pressure of each wheel to calculate the preset pressures:
   a. Front Preset Pressure: The average pressure of the two front wheels.
   b. Rear Preset Pressure: The average pressure of the two rear wheels or 4 rear wheels if inside rear tires have been taught to the system.

   During this procedure the LED will change color continuously showing the driver the system is busy. (0.25 seconds green / 0.25 seconds orange / 0.25 seconds red / 0.25 seconds orange / etc.)
5. The receiver will confirm within 54.6 seconds that all tire pressures are read-out by a high beep tone (1 seconds).
6. The receiver exits the "Pressure Learning Mode" and returns to its normal operation mode.

This device complies with Part 15 of the FCC Rules. Operation is object to the following two conditions:

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

Tire Conditions:

During the "Normal Operation Mode" the system will continuously check the condition of all tires. The conditions are then represented by 3 colors:

Green

Condition: The condition (pressure & temperature) of all tires is ok.
(The tire pressure is between (>)75% and (<)150% of the Front or Rear Preset Pressure and the tire temperature is below 85°C.)

Indication: The display (LED) will light up green and will turn off after 1 minute.
Whenever the driver pushes the button, the display will show the current condition again. (And of course turn off again after 1 minute)

Orange

Condition: The pressure of one (or more) tires is 75% of the Front or Rear Preset Pressure or lower.

Indication: The display (LED) will blink orange (0.2 seconds on, 0.8 seconds off) for one minute and beep in the same frequency for 15 seconds. The driver must be able turn off the beeping whenever he pushes the button. After this minute the LED will continuously light up orange.
This complete procedure will be repeated only once again after 10 minutes.
After this it will light up orange continuously.

Red

Conditions: The pressure of one (or more) tires is 50% of the Front or Rear Preset Pressure or lower.
The pressure of one (or more) tires is 150% of the Front or Rear Preset Pressure or higher.
The temperature is 85°C or higher.

Indication: 1. The display (LED) will blink red (0.2 seconds on, 0.8 seconds off) for 2 minutes and beep at the same frequency for 15 seconds. The driver must be able turn off the beeping whenever he pushes the button.
2. The display (LED) will blink red only with doubled frequency (0.1 seconds on, 0.4 seconds off) for 2 minutes and beep at the same frequency for 15 seconds. Again the driver must be able turn off the beeping whenever he pushes the button.
3. The display (LED) will blink red at a doubled frequency (0.05 seconds on, 0.2 seconds off) and beep at the same frequency for 15 seconds. And again the driver must be able turn off the beeping whenever he pushes the button.
This last cycle (3) will be repeated continuously until the condition is improved (orange or green condition has been met).

Notice : The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

IMPORTANT NOTE: To comply with the FCC RF exposure compliance requirements, no change to the antenna or the device is permitted. Any change to the antenna or the device could result in the device exceeding the RF exposure requirements and void user's authority to operate the device.