TP2 Tire sensor

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User's Manual

TP2 Tire sensor

TPMS (Tire Pressure Monitoring System)

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You are cautioned that any change or modification not expressly approved in this manual could void your authority to operate this equipment.

Important safety and warning

This section contains important information on the safety and efficient operation of your TPMS device. Read this information carefully before using your TP2 system (TPMS).

Important safety warning

It can be caused to death or serious injury in case of wrongly use.

- TP2 is strongly recommended to install at the authorized dealer shops by SEETRON Inc.
- TP2 is installed for the 4 tire vehicles-sedans, RV,SUV- with radial tires whose tire pressure is less than 50 PSI. TP2 cannot work for the tube tire vehicles.
- TP2 is designed to monitoring tire pressure and temperature and transmit those data to the monitor inside the vehicles by wireless. It is unable to generate any warning signal in advance of the abrupt tire explosion.
- The valve nut should be tightened using a calibrated torque wrench to 4.0~4.5 N·m when you install it to the tire wheel. You should use torque wrench to tighten it and check the torque value after tightening. Improperly tightened tire sensor may be loosened during the driving. If the nut of tire sensor is overtightened, sensor can be damaged. If sensor nut is undertightened, it may cause air leaks.
- You may install the monitor in the cigarette socket or somewhere on the cockpit and may be unable to hear the warning alarm and display due to position of monitor. Install the monitor in visible and audible area.
- Do not place the monitor in the air bag deployment area.
- Do not place the monitor to interrupt your driving.
- The alert alarm can be disturbed by AV system in vehicle.
- TP2 is wireless device and there is no guarantee that interference will not occur by unexpected radio frequency energy. It may malfunction briefly.
- The antenna of receiver locates in the monitor. Keep certain distance not to interrupt the antenna.
- Do not adjust the monitor during driving.
- When the alert and warning occur, reduce speed and proceed to a safe location. And stop the car and check the tires.

TP2 is designed to provide convenience of preventing potential accidents, SEETRON shall not be liable for any accidents due to tire explosion or otherwise in terms of any law.

General warning

It can be caused to serious injury or damage of TP2 in case of wrongly use.

- Do not shake or strike the TP2.
- All warranties are void when TP2 disassembled or modified without supervision of SEETRON Inc.
- The rubber seal of tire sensor valve should be replaced whenever you change the tire. Hardened rubber seal can cause air-leaks of tire.
- Do not inject any tire liquid or aerosol tire sealant into tires, as this may cause a malfunction of the tire sensor.
- TP2 tire sensor cannot be mounted in the temporary tire (spare-tire) and special design wheel that the diameter of valve hole is not Ø11.5 mm and special contour on the rim.
- The monitor in the cigarette socket may be loosened by rolling of long driving or rattle over the road. Check the power connection of monitor before start.
- When you install the monitor on the cockpit, demount the flexible power adaptor from the monitor and connect additional power cable. The matching of antenna may be influenced by location.
- Do not contact with liquid, water, rain, extreme humidity or heavy perspiration, sand, dirt or the like.
- Until the vehicle is in motion, no data will be transmitted by tire sensor.The sensor will be active over certain acceleration of tire.
- The TP2 will not be able to give any indication if tire get punctured during parking time.
- When the battery is discharged, the tire sensor should be replaced.

Caution : Max capacity of outlet connection at 12 V inlet/outlet port

- Do not connect the electric device over 200 mA. to outlet port. The outlet port is designed for GPS only.
- While the flexible power adapter is connected , do not input power through 12V input/output port together.

NOTICES

1 FCC NOTICE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part15 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, the user is encouraged to 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 for help.

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.

Note: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

Introduction

The TP2 system is used for continuous monitoring of tire pressure in 4 wheel vehicle and spare tire while the vehicle is moving. It assists the driver in checking tire pressures, and provides warning message on the monitor.

1 System scope

Tire sensor : 4 each
Monitor : 1 each
12V flexible power adaptor : 1 each (aplug-in type, built in monitor)
Color code sticker for tire location identification: 1 set
Double coated tape : 1 each
Operation manual : 1 book.
* Option : Spare-tire

2 Getting to know your TP2


Power adapter

3 Alert & warning

The tire sensor TP2 warns of sudden loss of tire pressure and protects the driver against accident caused by defective tires and punctures.

- low pressure alert
- low pressure warning
- high temperature alert
- high pressure alert
- battery low warning
- broken sensor warning

4 Specification

Tire sensor

Frequency: 447.4 MHz / 433.92 MHz
Out put power : below 10 mW
Operating temperature : -40 ℃ to 125 ℃
-40 ℉ to 257 ℉
Operating pressure : 0~51 PSI (0~3.5 bar)
Size L*H*W : 51*32*13 mm(2*1.3*0.5 inch)
Weight : 39 g (1.37 oz)
Power : 3.6 VDC Battery

Monitor

Frequency : 447.4 MHz / 433.92 MHz
Power consumption : below 100 ma
Operating temperature : -20 ℃ to 80 ℃
-4 ℉ to 176 ℉
Size L*H*W : 81*51*32 mm (3.2*2*1.3 inch)
Weight : 80 g (2.82 oz)
Power : 12 VDC

Installation and start

1 Quick start guide

1. Plug in the monitor to cigarette socket and turn on the key to ACC mode
   * Caution: Do not keep ACC mode too long to prevent discharge of battery.
2. Mount the tire sensor.
3. Confirm the monitor display shows all tire pressure.
   * NOTE : Check the tire pressure before engine start.
4. Input your placard tire pressure in **MENU1** tire pressure mode

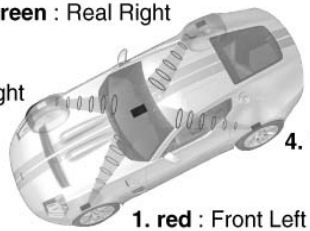

ACC mode

2 Quick location guide of tire sensor

Four tire sensors (red, yellow, green, and blue) have preset location and mount the tire sensor according to color.
Remember the color location that follows the color sequence of rainbow in clockwise.

3. green : Real Right

2. yellow : Front Right



4. blue : Real Front

1. red : Front Left (driver)

Use color code sticker on the wheel and wheel base to mark the location correctly.

* NOTE : If the tire sensor location does not correct, the wrong information shall be displayed on the monitor.

3 Mounting of tire sensor

1. Remove the tire and deflate the tire by removing valve core.
   Make the bead-unseating process by the bead breaker of tire changer. <photo 1>


<photo 1>

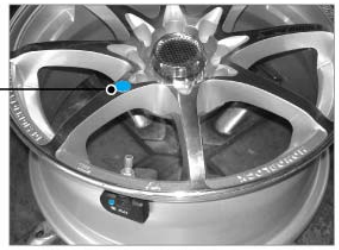
2. Place the tire/wheel assembly on the turn table and press the tire by bead pressing tool <photo 2>. Remove the valve and mount the sensor valve. When the bead is too stiff, remove the tire from the wheel completely and mount the sensor valve.
   * Caution : Clean the bead seats and valve stem hole thoroughly.
   * Caution : Lubricate the rubber seal (grommet) on the tire sensor.
   * Caution : Push the sensor down gently into the hole to seat the rubber seal without wrinkle.


<photo 2>

3. Tighten the hex nut by hand until it contacts the wheel. Torque the hex nut to 4.0~4.5 N·m using a calibrated torque wrench. Tighten it slowly to reduce the spring back of rubber seal. <photo 3>
   * Caution : Overtightening the valve nut will cause the sensor valve to break. Make sure tighten the nut below 5 N·m
   * NOTE : 4.0 N·m = 35 INCH Lbs.


<photo 3>

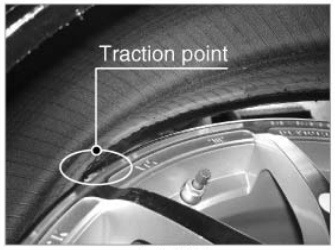
4. Put the color code same as sensor color showing tire location on the outside of wheel. <photo 4>



<photo 4>

5. When remove tire from wheel completely, be careful to mount the tire with sensor to the wheel.

5-1. To avoid damaging tire sensor, position the wheel with sensor should locate around 4 to 6 o'clock in relation to the mounting head at 12 o'clock.
The valve stem should be slightly ahead of the traction point. The traction point is the area where the bead contacts the rim flange. <photo 5-1>
Rotate the tire/wheel assembly to mount the bottom bead. Locate the sensor around 4 to 6'clock again and mount the upper bead by rotating the tire/wheel assembly. <photo 5-2>



<photo 5-1>


<photo 5-2>

* Caution : Clean the tire and wheel before mounting. The dirt in tire may cause the damage of sensor.

6. Inflate tire pressure. To inflate the tire pressure accurately, use the electronic tire inflator. <photo 6>

7. Make balancing and fix the tire on vehicle according to the color code indication.


<photo 6>

4 Replacement of tire with tire sensor

When you replace the used and worn out tire with new tire, you must be careful not to damage the tire sensor.

1. Remove the valve core and deflate the tire.

2. Unscrew the valve nut using M12 socket and push the valve stem to let the sensor fall inside the tire.Gently bounce the tire several times to ensure that the sensor drops to the bottom of the tire.


Push the stem gently

3. Separate the bead from the rim using bead breaker of tire changer.

4. Demount tire and wheel using tire changer and remove the sensor.

Replace rubber seal

5. To ensure a leak-free installation, always replace the old rubber seal before mounting the sensor.

6. Repeat the mounting process NO. 2~7. at page 9-10.

* Caution : Do not discard the original valve core. If the valve core is damaged, replace it with the same type to avoid air-leak due to galvanic corrosion.


Push and change

5 Installation of monitor

1. Installation on cigarette socket or 12V power outlet

1) Plug in the flexible power adaptor built-in monitor to the socket.

2) When use GPS or the device of low power consumption together with TP2, connect DC 12V power cable between in/out power port and GPS (or the device).
   * Caution : Do not connect the additional device over power consumption of 200 mA.
3) Adjust the viewing angle.

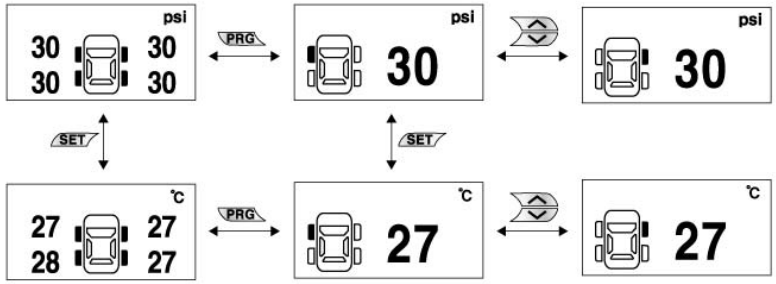
2. Installation on the cockpit

1) Demount the flexible power adaptor from the monitor and position the monitor in any convenient location on the cockpit within sight and reach of the driver.
2) Fix the monitor using double coated tape.
3) Connect the additional power cable to 12V in/out port.
   * Caution : Do not place the monitor in the air bag deployment area.

Operation

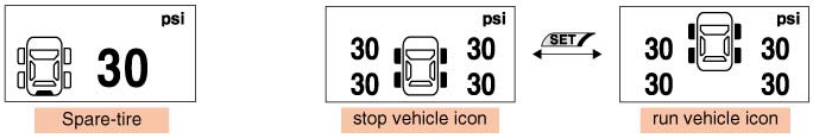
1 RUN MODE

Once turn on the power, the monitor goes into stand-by mode waiting for transmission of sensor. Until the vehicle in motion no data will be transmitted and only vehicle icon shall be displayed. After receiving the data, monitor displays the tire pressure in sequence. Monitor displays 4 tires data as standard and the single display is selected by pressing PRG button. Press ^ / v button to scroll through the tires in single display.



Press SET button to select tire temperature from pressure display.

* Caution : No data shall be displayed without receiving the sensor transmission.
* Caution : The data of spare-tire can be seen in single display only after registration.



* NOTE : To stop the moving vehicle icon, press SET button for 2 second.