

To ensure correct operation and service please read these instructions before installing and operating the TPMS feature of the TPMS/GPS unit.

Owners Manual for TPMS plus GPS

TABLE OF CONTENTS

TIRE PRESSURE MONITORING SYSTEM.....	2
SPECIFICATIONS OF TPMS.....	3
GPS FEATURE	4
ACCESSORIES OF TPMS + GPS	4
TPMS SENSOR INSTALLATION.....	6
DISPLAY UNIT INSTALLATION	8
TPMS RECEIVER INSTALLATION.....	8
TPMS PRODUCT SOFTWARE FUNCTIONS	8
SOFTWARE INTERFACE INTRODUCTION	9
TPMS USER TIRE SETTING MANUAL	11
NOTE.....	14
TABLE1	14
TABLE2	15
WARRANTY POLICY.....	16

Tire Pressure Monitoring System

Thank you for your purchase of the Orange Electronic Tire Pressure Monitoring System (TPMS). TPMS systems are designed to enhance vehicle safety. Once professionally and properly installed in your vehicle, the TPMS system will automatically monitor the pressure and temperature of your tires. This system includes a sensing device and monitor designed to measure and display real-time tire temperature and pressure conditions. A visual and audible warning notifies the driver when readings are detected outside the setting limits. Benefits of proper tire inflation include extended tire life, reduced fuel consumption and enhanced safety.

Applications

Your TPMS product is intended for use with passenger cars and light trucks with a maximum tire pressure rating of 74 psi.

FCC Notice

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 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, 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

Caution: Any changes or modifications in construction of this device, which are not expressly approved by the party responsible for compliance, could void the user's authority to operate the equipment. To comply with the FCC RF exposure compliance requirements, this device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

TPMS Use and Warnings

This system is a sensing device designed to measure and display tire pressure and temperature and / or to activate an alert to the driver when pressure and temperature irregularities are detected which are outside the setting limits entered into the unit. It is the responsibility of the driver to react promptly and with discretion to alerts.

Caution: It is recommended to have this product professionally installed. The system is a wireless Radio Frequency (RF) product; therefore, it may not receive a signal due to poor environmental conditions, incorrect operation or incorrect installation. When the system does not receive a signal from any tire sensor for more than 10 minutes, the system will send warning signals to GPS unit. The TPMS function installed in the GPS unit (INSERT TPMS SYMBOL RED) will flash "red flash". If it is safe to move the vehicle, reposition the vehicle to another location. If the warning symbol remains illuminated, seek a qualified tire or auto technician for a functional system check.

Specifications of TPMS

1. SENSOR AND TRANSMITTER SPECIFICATIONS	
Storage temperature	-40°C to 125°C
Operating temperature	-40°C to 120°C
Operating humidity	Mix 95%
Operating frequency	433.92MHz
Pressure monitoring range	0~74psi
Pressure reading accuracy	At Normal condition ± 1psi at normal pressure range
Temperature reading accuracy	± 4°C in normal environmental condition
Transmission power	Max 5 dBm
Battery	3.0V
Sensor weight	32g ±3g
2. RECEIVER SPECIFICATINS	
Operating voltage	5V DC
Operating current	33mA
Storage temperature	-40°C to 85°C
Operating temperature	-30°C to 75°C

GPS Feature

1. Hardware	
GPS Chipset	SiRF Atlas 5
Antenna	Real built-in antenna
Display	5.0 inch TFT color touch Screen
Resolution	480*272
Battery	1200 mAh
Internal Memory	128MB DDRII RAM 2GB Flash Memory
External Memory	TF Card Slot
Car Charger	Input Voltage: 12V to 24V Output Voltage: 5V ± 0.3V Output current: 1.5A
Operating temperature	-10°C to 60°C
Storage temperature	-20°C to 70°C
2. Software	
Operating System	WINCE 6.0 Core Version
Language	Simplified Chinese / English, Traditional

Accessories of TPMS + GPS

NO.	Accessory Name	Quantity
A	GPS Display Unit	1
B	Wireless Receiver	1
C	Power Connection for Vehicle Power Outlet	1
D	Wireless Transmitter Sensor (Remote Sensing Module)	4
E	Tire Valves	4
F	Screws to attach sensor to Tire Valves (Nylock screw)	4
G	Holder	1
H	USB connector	1



TPMS Sensor Installation

Step	Operation Process	Photograph
1	TPMS System should only be installed by a professional tire dealer or auto mechanic.	
2	Remove the tires and release air pressure Take off the core air valve from the tire from the wheel. (NOTE: You must install the TPMS provided valve).	
3	Identify the ID number on each sensor (D) with position of tire on the vehicle. (IMPORTANT) <ul style="list-style-type: none"> a. RF - 1 = Right Front, No. 1 b. RR - 2 = Right Rear, No. 2 c. LR - 3 = Left Rear, No. 3 d. LF - 4 = Left Front, No. 4 	
4	Install the new TPMS special valve (E) in the wheel.	
5	Use the new TPMS special Nylock screw (F) to tighten the transmitter sensor into the valve on the wheel. 2.9 ft./lb torque.	 
6	Adjust the transmitter sensor angle so that the transmitter fits tightly on the wheel and then tighten the screw for the transmitter's sensor so that it is fixed on the wheel.	
7	Clean inside the tire to prevent the tire from damaging the transmitter sensor.	

8	<p>Inflate tires manufacturer's specifications. Balance the tires to the manufacturer's specification.</p> <p>Balance the tire</p> <ol style="list-style-type: none"> Balance tires by using a balancing machine A lead tire weight may be required for proper balancing. Balance until the tire balance shows balance as "OK". <p>The Steps above will require the assistance auto mechanic. It is important that the wheels are balanced after the fitting of the TPMS sensors in order to ensure the safe operation of the tire.</p>	  
9	Repeat Steps 1-8 for the remaining tires.	
10	Turn the ignition key of the vehicle until the power is activated on vehicles power outlet. Plug in Accessories A, B & C to activate the TPMS feature of the GPS unit.	

Note

1. Temporary resealing or re-inflation products containing internal sealants or propellants in any tire assembly may adversely affect the operation of the sensor/transmitter.
2. Strongly recommend to examine or exchange "tire valve", to prevent tire valve puncture.
3. The valve and Nylock screws that are included with the TPMS + GPS unit are considered wear items and are not covered by the manufacturer's warranty. Replacement parts may be purchased by contacting sale@oenatpms.com or 1-888-407-8767.

Display Unit Installation

TPMS Receiver Installation

1. Plug in one side of (C) the power connection for Cigarette Lighter into (B) the TPMS wireless receiver located on the USB side.
2. (B) TPMS wireless receiver plug in (A) GPS USB power connection.
3. Plug (C) Power Connection to Cigarette Lighter into the vehicle's cigarette lighter socket.
4. Set up (G) holder, and then install the GPS unit with holder in front of driver at an appropriate position
5. After set up the monitor please take off the protection film from the panel of monitor.



TPMS Product Software Functions

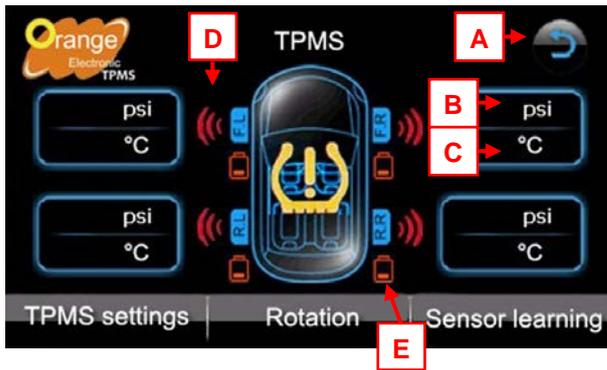
Once Orange TPMS (Tire Pressure System) is properly installed the GPS software will automatically detect TPMS function when GPS system is turned on. The tire pressure function will be operational only when accessories A, B, & C are connected and the GPS unit is powered on. The TPMS + GPS system will automatically monitor the pressure and temperature of your tires. This system includes a sensing device and monitor designed to measure and display real-time tire temperature and pressure conditions. A visual and audible warning notifies the driver when readings are detected outside the setting limits. The GPS product software will be updated periodically please check for updated revisions. The user can search this website and download newest software at <http://www.orange-electronic.com>



Software Interface Introduction

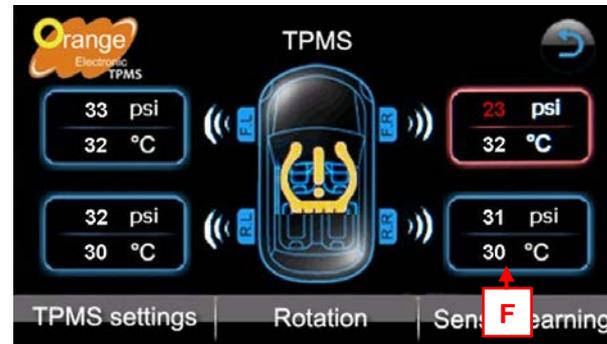
GPS System Homepage:

Homepage displays 2 icons GPS and TPMS functions. These are one touch icon function keys PRESS "Orange TPMS" tire icon on the screen to enter TPMS function system.



Orange TPMS interface introduction:

A: (Back Button): Back to previous page
B: (Tire Pressure): Unit (kPa ' psi ' bar)
C: (Tire Temperature); Unit (°C ' °F)
D: (Connection Status): **White** = RF Signal received and normal. **Red RF Signal** connection interrupted and signal not received for more than 10 minutes.
E: (Battery Status): Low Battery indicator indicates insufficient battery power and new replacement sensor will be required.



F: (Frame): **Blue Frame** = Tire pressure and temperature are normal with in the range of user settings. **Red Frame:** Tire pressure and Temperature are outside the range of user settings.

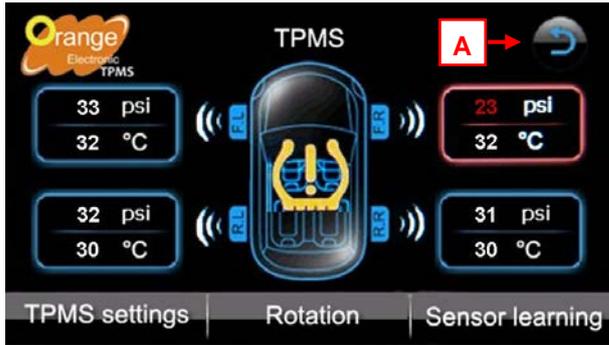
G: (TPMS Warning): If tire pressure and temperature are outside the range of user settings a warning icon will be displayed (**G**) and a warning alarm will sound.

GPS Function Home Screen

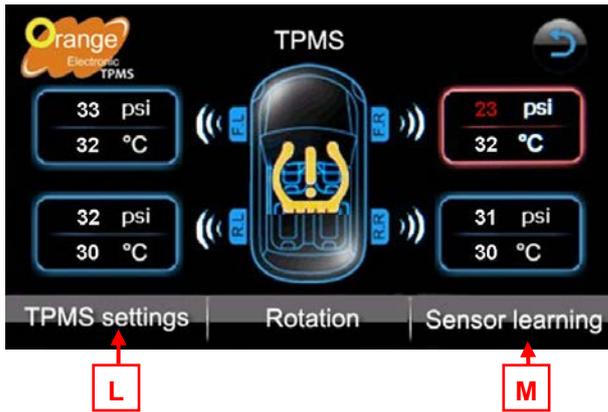


GPS Navigation Interface:

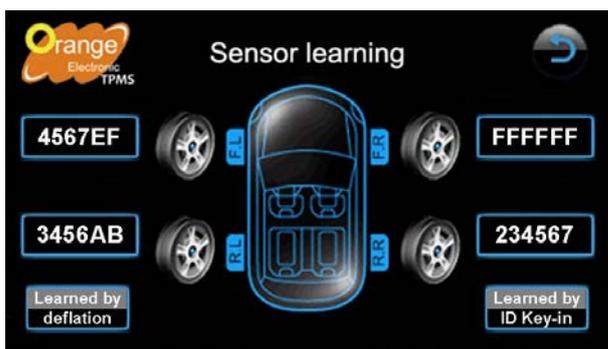
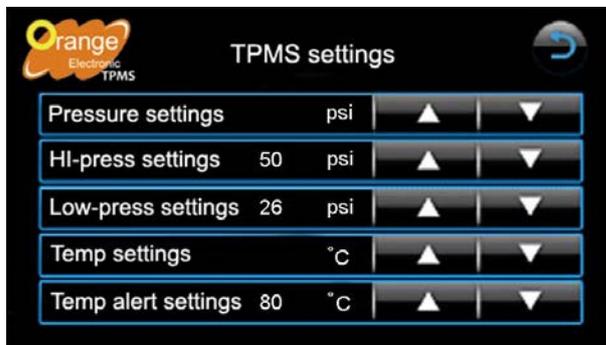
H: (Enter TPMS System): In primary, GPS menu PRESS (**H**) TPMS icon to enter into TPMS screen. To return back to Navigation menu, PRESS (**A**) back icon to return to GPS Function Home Screen.



I: (Alert Window) In GPS Navigation window a warning window will be displayed to alert the driver when tire pressure or temperature is above or below user settings. (Alert Window): PRESS **(I)** TPMS window to close. PRESS **(J)** to enter TPMS interface. PRESS **(K)** to mute alarm. NOTE: If tire pressure and temperature are outside the user setting limits. This window will display every 5 minutes to remind user that abnormal conditions exist.



The system settings are preset at recommended settings only it is the responsibility of the user to check your factory tire settings before you enter data.



TPMS User Tire Setting Manual

Orange TPMS (Tire Pressure Monitoring System) has 3 function settings:

1. TPMS settings
2. Sensor Learning
3. Tire Rotation.

L: PRESS (L) “TPMS Settings” to activate TPMS Settings Screen.

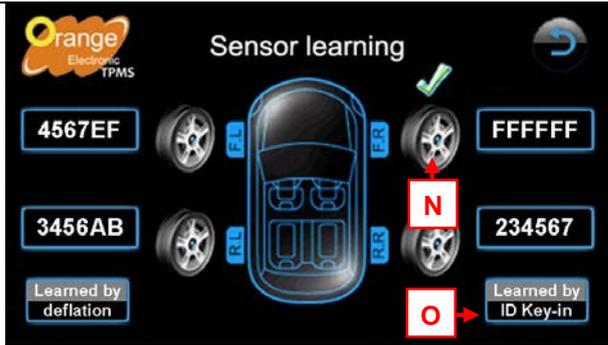
TPMS Settings: The settings screen

1. This is the user interface screen to set the high and low limits or your tires factory settings. The unit of measurement have available options: Pressure (Psi, kPa, bar), and Temperature: Celsius and Fahrenheit (C,F)
2. To establish your alarm settings, set pressure and temperature warning parameters by using "▼" "▲" button. This will adjust the values according to your tire factory recommended settings limits. An alarm notification will sound if tire pressure and temperature exceed your input settings.

Sensor Learning:

To initiate sensor location, replacement of a sensor or rotating tire order, the sensor ID codes and tire location have to match the positions shown on the monitoring screen. There are two options for system sensor learning: (1) “manually enter ID” and (2) “ auto learn by tire deflation”

M: PRESS (M) to activate sensor learning screen.



Every sensor has specific ID code identified on the sticker on the sensor.

Manually entering in Sensor ID:

Use keyboard to enter specific sensor ID code.

N: PRESS Specific Tire in which you will be identifying sensor ID. Ensure the sensor ID matches the tire location on the screen. A “✓check” sign will indicate the tire selected.

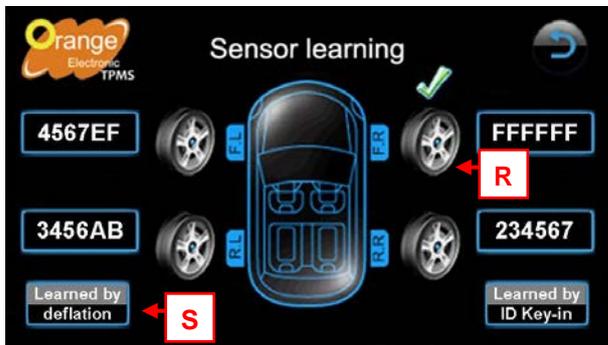
O: PRESS (Learn by ID Key-in): and a keyboard will be displayed.



P: (Keyboard): Enter ID number identified and located on the sticker on sensor.

Q: (Yes): After entering ID number of sensors press the enter button to finish ID key in.

Repeat steps **(N-Q)** to enter ID numbers and location for remaining tires and sensors.

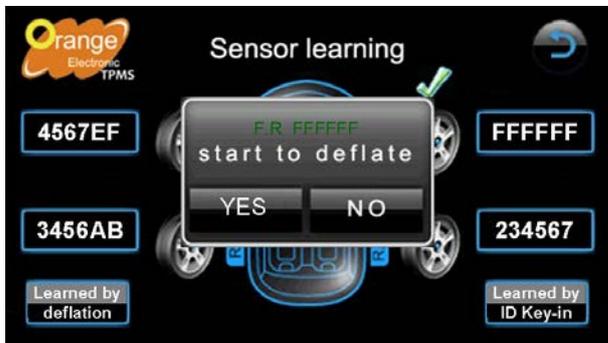


Auto Learn by Tire Deflation:

Deflate the tires to retrieve specific Sensor ID codes.

R: (Choose Tire): PRESS a specific tire a “✓Check” will indicate tire selection.

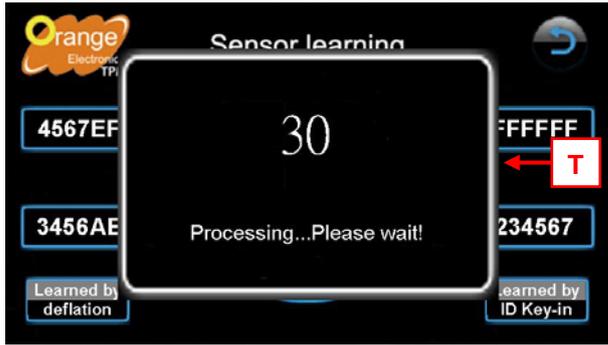
S: (Learn by deflation): PRESS, “learn by deflation” to conduct sensor learning.



PRESS “Yes” and wait approximately 10 seconds.

T: A 30 second display window will appear. The user has 30 seconds to start tire deflation. If operation is successful the 30 second display window countdown will stop and the ID learning will finish automatically.

Repeat steps **(R-T)** above operation 3 times to complete auto learning by tire deflation process.

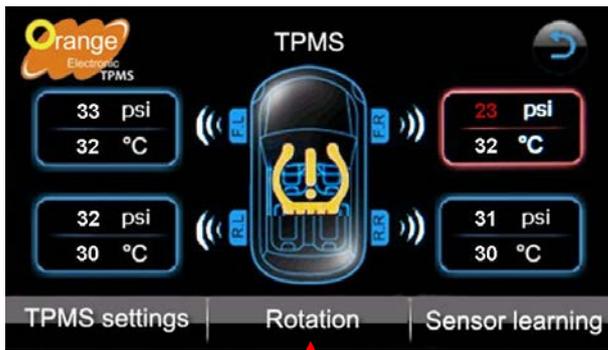


U: (Deflation failure): If Auto Learning by Tire Deflation failed review possible causes of failure.

Make sure Accessories A, B, and C are all connected with vehicles power outlet and GPS unit is powered on.

A strong RF frequency maybe interfering with the signal. If it is safe to move the vehicle, reposition the vehicle to another location.

Repeat steps **(R-T)** until it becomes successful.

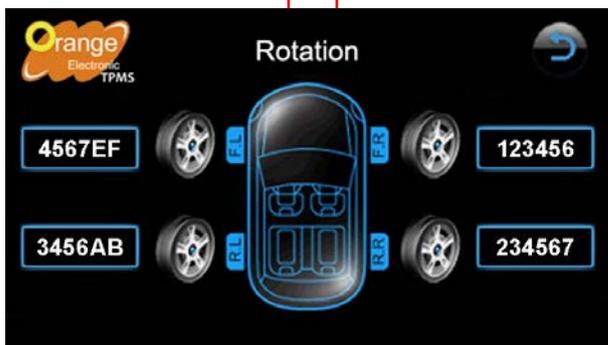


Tire Rotation Setup:

Rotating your tires: The TPMS sensor ID position has to be adjusted to the rotated position of the tire and match what is displayed on screen. This is to identify the correct location of the sensors ID and properly display the location on the screen.

V: PRESS **(V)** to activate the tire rotation screen

Tire and Sensor ID current location before rotation.





W: PRESS tire rotation sequence a “check” sign will indicate sequence in which tires are being rotated.

YES: PRESS the tire sequence tire were rotated and PRESS “YES”to proceed with the rotation of the wheels or “NO” to cancel the selection.

Note

1. After TPMS receiver is connected to the GPS unit (accessories A, B and C). Turn on GPS unit and a window will display a message at the bottom Right-rear side of screen. “TPMS Receiver Connected Successfully” OR “TPMS Receiver Removed”. If “TPMS Receiver Removed”, please check any loose connections of for the TPMS receiver, and GPS.

When TPMS receiver is removed from GPS, or GPS Unit or vehicles power source is powered off, Right-rear side of frame will show “TPMS Receiver Removed”.

2. When warning alert occurs, it is the responsibility of the driver to react promptly and with discretion to alerts.

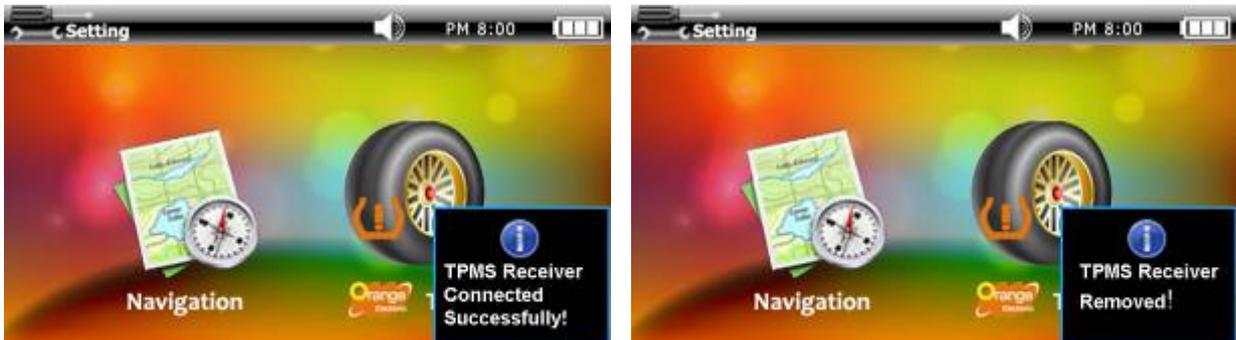


Table1

Glossary

kPa	Pressure reading in Kilo Pascal
psi	Pressure reading in pound per square inch
bar	Pressure reading in bar
°C	Temperature reading in degrees Celsius
°F	Temperature reading in degrees Fahrenheit

Table2

kPa , psi, bar Conversion Table								
kPa	psi	bar	kPa	psi	bar	kPa	psi	bar
10	1	0.1	210	31	2.1	410	59	4.1
20	3	0.2	220	32	2.2	420	61	4.2
30	4	0.3	230	34	2.3	430	62	4.3
40	6	0.4	240	35	2.4	440	64	4.4
50	7	0.5	250	37	2.5	450	65	4.5
60	9	0.6	260	38	2.6	460	67	4.6
70	10	0.7	270	39	2.7	470	68	4.7
80	12	0.8	280	41	2.8	480	70	4.8
90	13	0.9	290	42	2.9	490	71	4.9
100	15	1	300	44	3.0	500	73	5
110	16	1.1	310	45	3.1			
120	17	1.2	320	47	3.2			
130	19	1.3	330	48	3.3			
140	20	1.4	340	50	3.4			
150	22	1.5	350	51	3.5			
160	23	1.6	360	53	3.6			
170	25	1.7	370	54	3.7			
180	26	1.8	380	55	3.8			
190	28	1.9	390	57	3.9			
200	29	2	400	58	4.0			
°C / °F Conversion Table								
°C	°F	°C	°F	°C	°F			
-40	-40	20	68	80	176			
-30	-22	30	86	90	194			
-20	-4	40	104	100	212			
-10	14	50	122	110	230			
0	32	60	140	120	248			
10	50	70	158	125	257			

Warranty Policy

We warrant our products for one year (365 days) from the date of original purchase to be free from defects in materials and workmanship. If, during this period, the product fails under normal usage, because of a manufacturing defect, we will replace or repair the item. To obtain repair or replacement under the terms of this warranty, please return the product to the place of purchase. Proof of purchase and date of purchase are required to validate the warranty claim. All implied warranties, including the warranty of merchantability, are limited to this same ninety-day period from date of original purchase. We are not liable for any direct or consequential loss or property damage arising from any use of this product. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. This does not affect your statutory rights.

Note: Warranty does not cover consumed accessories: The valve and nylock screws that are included with the TPMS + GPS unit are considered wear items and are not covered by the manufacturer's warranty. Replacement parts may be purchased by contacting sale@oenatpms.com or 1-888-407-8767. All the Tire valves and the Screws are recommended to be replaced with when rotating the tires, changing of tires, and changing of Wireless Transmitter sensors. (Whenever a Wireless Transmitter Sensor is installed or reinstalled a new Tire valve" and "Screws for the Tire Valve" must be used).

Warning only use TPMS sensor replacement parts (these can be purchased from Agents). TPMS cannot use other brands of TPMS sensors for replacement parts. Using other brands will cause failure and will void the warranty.

Any other questions and questions relate to warranty, it could directly contact with represented vendor.

service@orange-electronic.com

Other update news relate to Orange TPMS (Tire pressure monitoring system), it could get latest news from Orange website.

www.orange-electronic.com

www.orange-tpms-usa.com

Finally, Orange appreciates your support and purchase of Orange TPMS..