

**Passenger Vehicle  
Tire Pressure Monitoring System  
Internal , External Sensor**

**Instruction Manual  
CL201**



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**Product Picture**



CL201 Monitor



SS Sensor



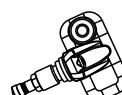
SU Sensor



SN Sensor



SO Sensor



SI Sensor

## 1. Product Introduction

### 1-1 Production Introduction

Thanks for choosing our TPMS products. The system is used to monitor the pressure and temperature of each tire. Once alarming condition is set up by the user, the system will alarm in case of abnormal pressure and temperature to make the driver be alerted of any danger . The system also enhance fuel efficient, prolong tire life and to make the driving more comfortable. Be sure to read the user guide carefully before installation and keep the manual for future use.

### 1-2. SAFETY CAUTION

**It is highly recommended to read the instructions below before install the system:**

- (1) The monitor should be installed inside the vehicle where it does not affect driving visibility.
- (2) The vehicle should be stopped for cooling if there is high temperature alarm in order to avoid braking problem or tire blowout.
- (3) Driver should stop the vehicle and get off to check the tire if there is continue high pressure or slow leakage alarm .
- (4) Be ware of tire blowout when there is high tire pressure, and be ware of fuel consumption and wheel balance while low tire pressure.
- (5)The system can effectively monitor tire pressure and temperature but cannot avoid all traffic accident or tire blowout. Using quality tire product and monitor correct tire pressure is still necessary.
- (6) Be ware of driving safety while checking tire data during driving.
- (7) After the system is installed correctly, the driver does not need to stare at the monitor all the time and feel interrupt during driving.

### 1-3. INSTALLATION TIPS

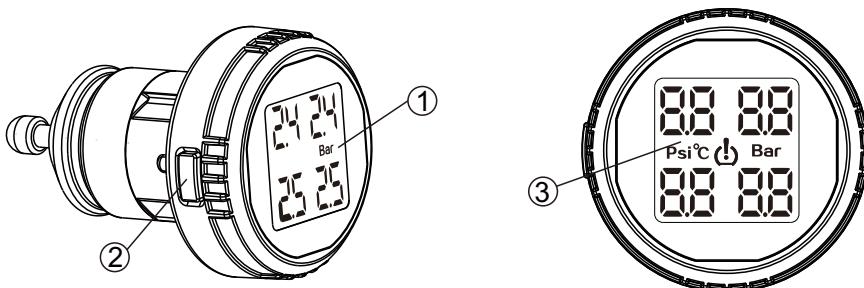
- 1.The signal transmission from the monitor and sensors is wireless, and the transmission distance is long enough for a passenger car due to internal anti-interference circuit design.
- 2.Due to the air expansion and contraction, the tire pressure and temperature will normally changing all the time while driving.
- 3.There is normal air leakage in every tire rim, TPMS should have no responsibility to keep the tire pressure unchanged after long time storage or driving.
- 4.Should you have any question or problem while installation, please contact with your local distributor.

## 2. Special Features

- Pressure, Temperature Alarm
- Visual & Audible Alarm
- Fixed Pressure, Temperature alarm level setting
- Tire setting Interchangeable
- Multiple measurement scale (PSI/BAR)
- 4 wheel display at the same time
- Fast leakage alert
- Easy installation, stable performance

## 3. Product Assembly

### 3-1 Display Key and LCD diagram



- ① LCD Screen
  - ② "SET" Key
  - ③ Full Character Display
- Pressure unit BAR/PSI**  
**Temperature °C only**

| ICON | Description        |
|------|--------------------|
|      | Alarm Status       |
|      | Sensor Battery Low |

### 3-2. Product Accessories

#### Receiver Parts



Enclosure details refer to actual product

#### Sensor accessories



SS Sensor



Hex Wrench  
(1pcs)



Hex Nut  
(4pcs)



Rubber O-Ring  
(4pcs)



SU Sensor



Opener Tool  
(1pcs)



Hex Wrench  
(1pcs)



Hex Nut  
(4pcs)



Rubber O-Ring  
(4pcs)



SN Sensor



Opener Tool  
(1pcs)



Hex Driver  
(1pcs)



screw  
(4pcs)



Rubber O-Ring  
(4pcs)



SO Sensor



Opener Tool  
(1pcs)



Hex Wrench  
(1pcs)



Hex Nut  
(4pcs)



Rubber O-Ring  
(4pcs)



SI Sensor



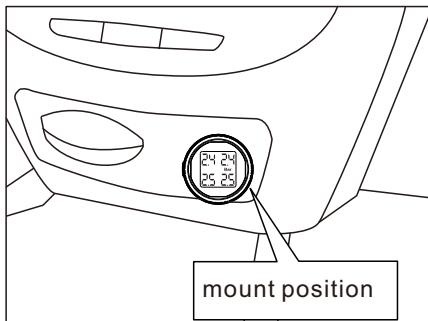
Hex Wrench  
(1pcs)

Quantity of Sensor will be shipped in 4 pieces or specified by customer to add one more pieces for spare at extra cost.

## 4. Installation Instruction

### 4-1. Monitor Display Installation

Design of this monitor is to use cigarette lighter adaptor (CLA) power for easier installation and avoid any obstacle to driver view. Please plug in the CLA firmly to begin the normal mode operation and upon power up through CLA.



#### Tips:

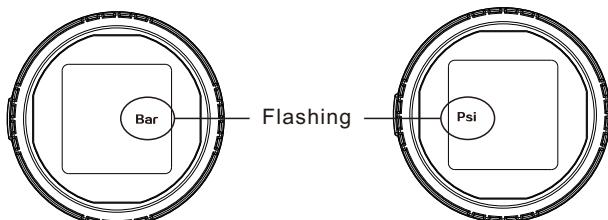
1. When reading the data from the monitor shall need additional safety awareness.
2. The purpose of this monitor is to allow alarm to the driver on time and no need driver's attention during driving.

## 5. Parameter Setting

### 5-1 Pressure unit selection

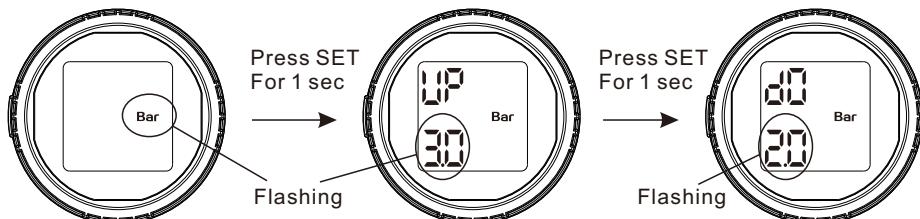
Selection of pressure unit (PSI or BAR) can be done by user, details as below:

Under normal condition, press "SET" key for 3 seconds until "Bi" sound to release, system will begin SETUP mode, press on flashing unit once will allow changing to another unit, upon selection of preference unit, press "SET" again for 3 second until "Bi" sound to release will resume normal mode and save the changes. If nothing was pressed during SETUP mode for one minutes, system will also return to normal mode but without saving changes.



## 5-2. High/Low pressure alarm level setting

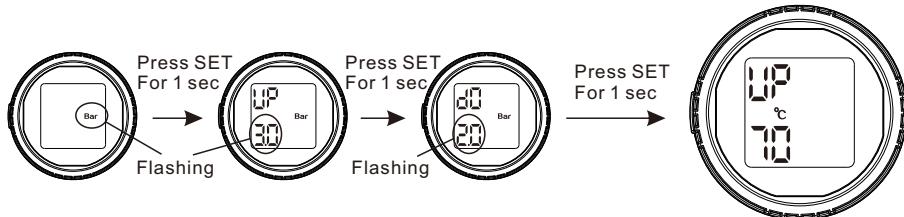
During normal mode operation, long press "SET" key for 3 second until "Bi" sound to release, system will enter initial setup mode for pressure units with flashing icon, press "SET" key for 1 second will change to high (UP) pressure alarm level setup mode, short press "SET" key to scroll to preference pressure value, press "SET" key for another 1 second will change to low (d0) pressure alarm level set up mode. Short press "SET" key to scroll to preference pressure value. Upon selection of above UP/d0 alarm level, Long press "SET" key until "Bi" sound to release and save the changes. If nothing was pressed during setup mode for one minutes, system will also return to normal mode but without saving changes.



## 5-3. Temperature alarm level setting

During normal mode operation, long press "SET" key for 3 second until "Bi" sound to release, system will enter initial setup mode for pressure units with flashing icon, press "SET" key for 1 second will change to high (UP) pressure alarm level setup mode and press "SET" key to next 1 second will change to low (d0) pressure alarm level set up mode. press "SET" key for next "1" second to enter temperature setup mode. Short press "SET" key to scroll preference temperature value. Upon selection of above temperature alarm level, Long press "SET" key until "Bi" sound to release and save the changes. If nothing was pressed during setup mode for one minutes, system will also return to normal mode but without saving changes.

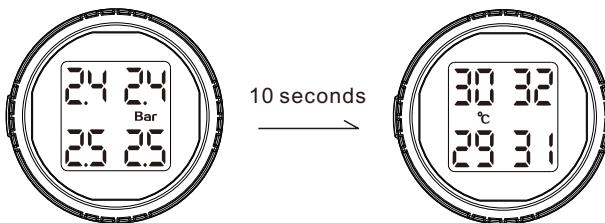
**SUMMARY: Pressure Unit/ High Pressure value/Low pressure Value/High Temperature value setup sequence as below:**



## 6. Monitor Parameter Display

Display can show 4 wheels Pressure & Temperature together:

During monitor displayed pressure, press "SET" once will change to temperature reading for 10 seconds and resume previous pressure reading.



## 7. Alarm Status

**High Pressure/ Low Pressure/ High Temperature/ Fast Leakage/ Sensor Low Battery alarm**

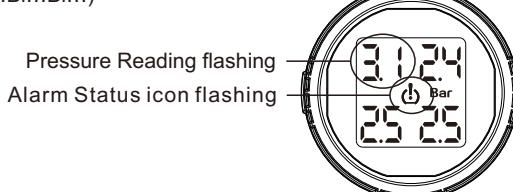
Display has design to use same user interface to show 4 wheels pressure & temperature reading together, when tire pressure excess its preset alarm limits, display will indicate corresponding alarm icon (H, L, T) through flashing and sound. Press "SET" once will stop the alarm sound , the flashing icon can only be stopped when tire problem can physically be resolved.

|                                   |                              |                 |
|-----------------------------------|------------------------------|-----------------|
| Factory default<br>alarm setting: | High Pressure Alarm level    | 3.0BAR (44 PSI) |
|                                   | Low Pressure Alarm level     | 2.0BAR (29 PSI) |
|                                   | High Temperature Alarm level | 70 °C           |

**Step to restore factory default setting:** press and hold SET key and plug the console into the cigarette lighter power socket until Bi sound to confirm factory setting was restored.

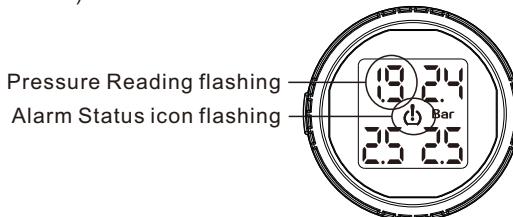
### 7-1. High Pressure Alarm

e.g. Left Front tire pressure reached 3.1BAR, display showing alarm together with (Bi...Bi...Bi...) sound as shown.



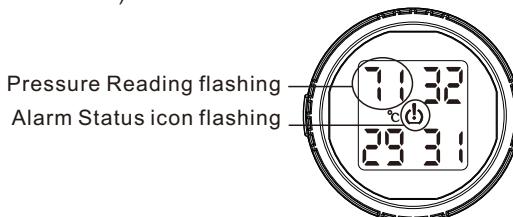
### 7-2 Low Pressure Alarm

e.g. Left Front tire pressure reached 1.9BAR, display showing alarm together with (Bi...Bi...Bi...) sound as shown.



### 7-3 High Temperature Alarm

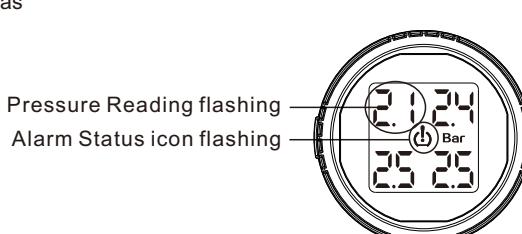
e.g. Left Front tire pressure reached 71°C, display showing alarm together with (Bi...Bi...Bi...) sound as shown



### 7-4 Fast Leakage Alarm

Once sensor has detected fast leakage will signal to monitor immediately, pressure reading, and alarm icon will flashing together, alarm (Bi...Bi... Bi...) will sound. Press "SET" once will stop the alarm sound , the flashing icon can only be stopped when tire problem can physically be resolved.

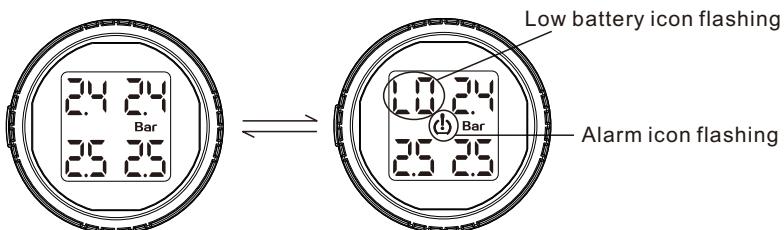
e.g. Left Front tire pressure dropped from 2.4BAR to 2.1 BAR, fast leakage display as shown.



### 7-5. Sensor Low Voltage Alarm

Once sensor battery has detected low voltage will signal to monitor immediately. Alarm (Bi..Bl..Bl..) sound for 10 seconds, and alarm icon “ , ” will flash. “Pressure reading” and “” icon will flash alternatively (“” flash 3 second, “pressure reading” flash 5 seconds). Those flashing icon can only be stopped when sensor battery was replaced by new one.

e.g. left front tire battery low was detected, monitor alarm display as shown:



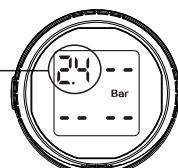
## 8. Custom ID coding

The factory has already coded 4 sensors to the monitor, and the sensors can be re-coded accordingly to actual tires' position after exchanging the tires. Below is Inflation Code Learning for re-code the sensors ID:

### 8-1 Inflate Code Learnings

- (1) In standby mode, short press “SET” button 5 times and release it after the “Bi..” sound to enter learning mode, the Left Front digits will flash on the LCD
- (2) Short press “SET” once to scroll tire position needed to re-code. Once ready, then mount the sensor on to the tire valve, once the sensor sensed the inflation, the sensor will send its own ID code to the monitor and the monitor will display the sensor code after the “Bi..” sound. Repeat above step to re-code others sensor if needed .
- (3) If no new ID code was detected, system will keep the old code unchanged.
- (4) The new ID code will immediately replace the old ID code when detected
- (5) Ensure to press “SET” until “Bi..” sound to ensure new code completed saved into the monitor and resume standby mode operation.
- (6) During learning mode if no key was pressed for one minute, the system will resume to standby operation without saving any changes.

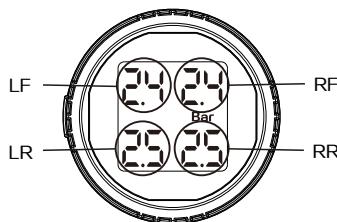
Corresponding tire display flashing



## 9. Sensors Installation:

The factory has already set up the codes to each tire position .The standards are 4 sensors with one monitor, and every sensors marked tire's position with: LF, LR, RF, RR with stickers. If there is spare tire in customers' car, so it's needed to mark it's position with stickers. Please stick the correct tire position for easier future reference .

Default Mounting Position

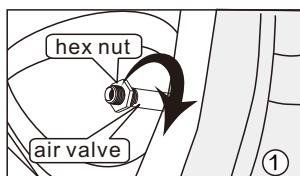


### Tips:

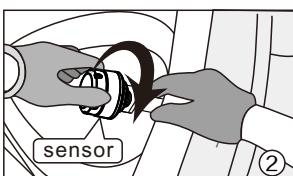
Please mount sensors based on Factory default position. If there are error coding or wrong tire position, please read "recode sensor session" before restart.

### 9-1. SS External Sensors Installation:

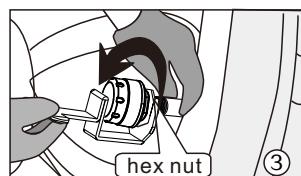
**Notice:** please ensure to turn on the monitor firstly before install the sensor so that the monitor can receive the sensor data on time.



Fix the hexagon nuts in tire valve.



Fasten sensor to the tire air valve.



Use special wrench to tight hexagonal nuts in counter clockwise direction.

### Tips:

1. Please mount the sensor in position according to label mark.
2. Low voltage alarm will appear when sensor battery voltage is low.
3. After mounting all sensors, please double check if there is air leakage by using soapy water in air intake.

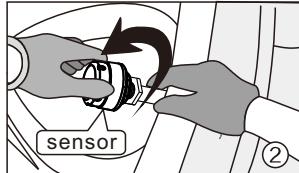
## 8-2. SS Sensor battery replacement

When the sensor low battery icon  shows on the monitor and corresponding tire icon is flashing, the sensor battery needs replacement. Using CR1632 battery cell which operates at -40°C to +80°C is recommended. You can buy replacement batteries from your local dealer.

- (1) Remove sensor from tire rim

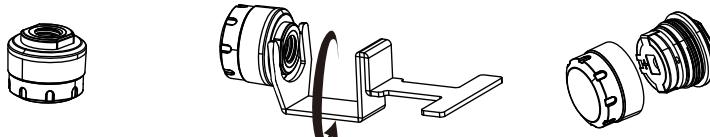


unfasten hex nuts in clock wise direction



Unmount sensor in counter clock wise direction

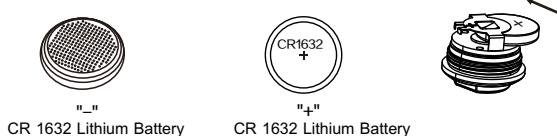
- (2) Use Special Wrench to turn Hex Nuts counter clockwise and unscrew the sensor by special Wrench in counter clockwise.



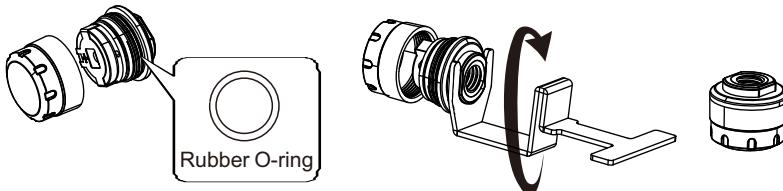
- (3) Use the hex wrench provided to remove the water proof cover from sensor.



- (4) Replace new CR1632, (+) terminal upward.



- (5) Open or fasten the sensor battery cover with special opener tools. Please check if the rubber O-ring is in good condition otherwise replace a new one.

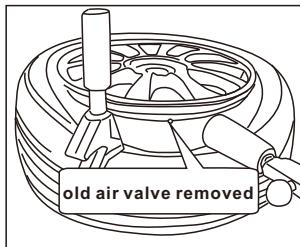
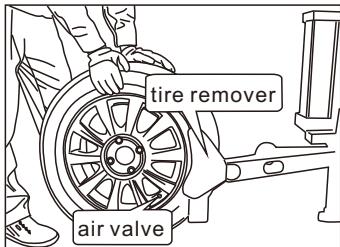


## 9-2 SI internal sensor installation

**Tips:** Before installation of sensors, please be sure to turn on the monitor in order to capture the data timely.

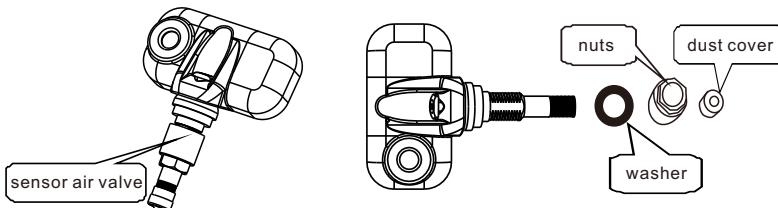
Remove complete wheel from Car, remove rubber tire from wheel, remove original tire valve from wheel and replace by the internal tire sensor valve to corresponding tire position (i.e. Left Front, Left Rear, Right Front, Right Rear). Cross check if washer and hexagonal nuts provide in the tire sensor valve has been mounted outside the wheel, reinstall rubber tire, inflate tire to standard pressure and balance the wheel then remount the complete wheel back to the car.

- (1) Remove complete wheel from car before deflation,
- (2) Use tire remover to remove rubber tire and cut out the original tire valve,



**Tips:** During Rubber tire removal, please to avoid operation at 15cm circular space above the top of sensor and be ware of broken the sensor accidentally.

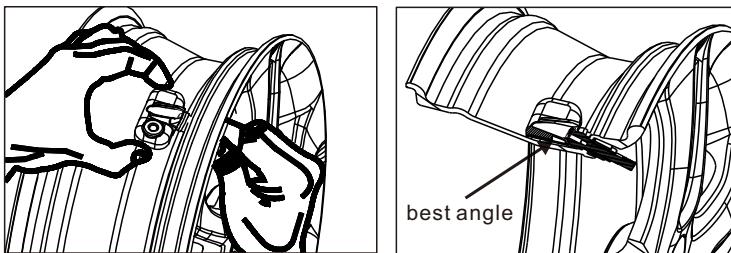
- (3) Remove all washer, nuts , dust cover from sensor air valve



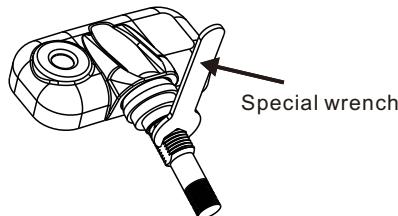
- (4) Use specific tool (wrench) provided to loosen or tuning the nuts position.



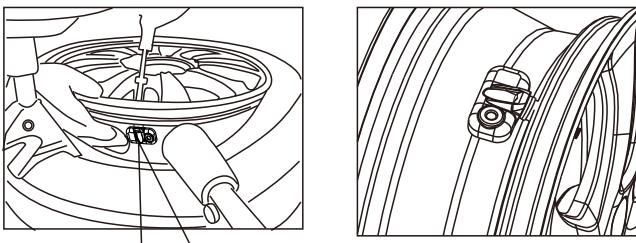
(5) Remove all washer, nuts , dust cover from sensor air valve. Get ready the special wrench for new air valve installation.



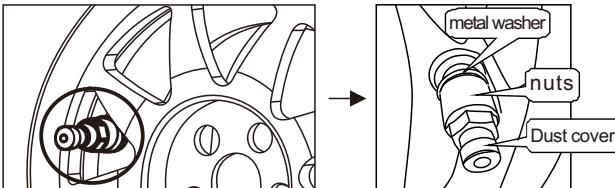
(6) Take out the sensor assembly from the wheel and use special wrench to lock the air valve position on sensor.



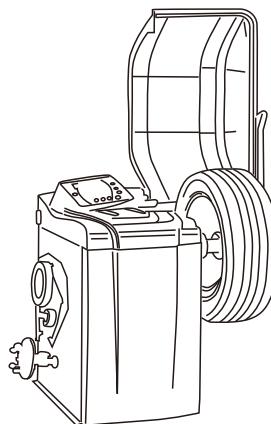
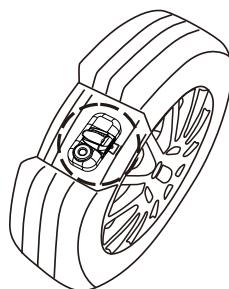
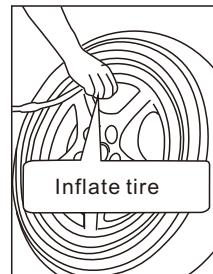
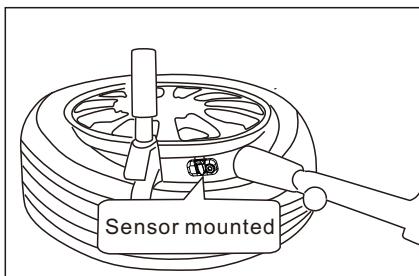
(7) Remove all washer, nuts , dust cover from sensor air valve



Tips: tighten the sensor position by only hand force and avoid sensor side to lying on the wheel.



- (8) Upon mounting of rubber tire wheel, inspect any damage to the sensor, all parts in right position or any sight of air leakage. Doing any wheel balance and mount the wheel back to the car

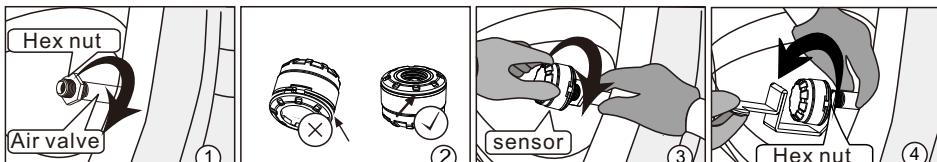


#### Tips:

1. Above sensor installation should be done by professional or trained technician
2. Need to pay attention to sensors mount position all the time aware of potential damage to the sensor.
3. Each sensor are labeled with its wheel position and highly recommended to be used during installation
4. Once sensor battery is low, monitor display will have sign for low battery alarm.
5. After all sensor has been installed, please ensure no any air leakage over wheel surface and may use soapy water for testing if necessary.

### 9-3 SU sensor installation

**Tips:** please be sure to turn on the monitor first before installation of sensor.



Mount the hex nuts

Check if locking cover is in place

Screw in sensor at clock wise direction

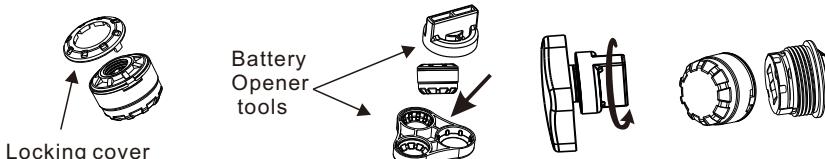
Tighten hex nuts in counter clock wise direction

**Tips:**

1. Each sensor are labeled with its wheel position and highly recommended to be used during installation
2. If battery inside sensor has insufficient voltage will trigger battery low alarm
3. After all sensor has been installed, please ensure no any air leakage over wheel surface and may use soapy water for testing if necessary.

### SU Sensor battery replacement

- (1) Use fixture provided inside package and open the plastic enclosure in counter clockwise direction



- (2) remove battery from battery holder



- (3) replace new lithium battery CR1225 with "+ve" polarity upside



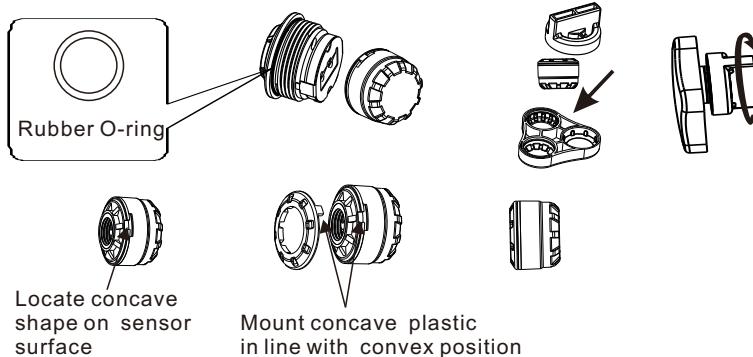
CR 1225 Lithium Battery



CR 1225 Lithium Battery



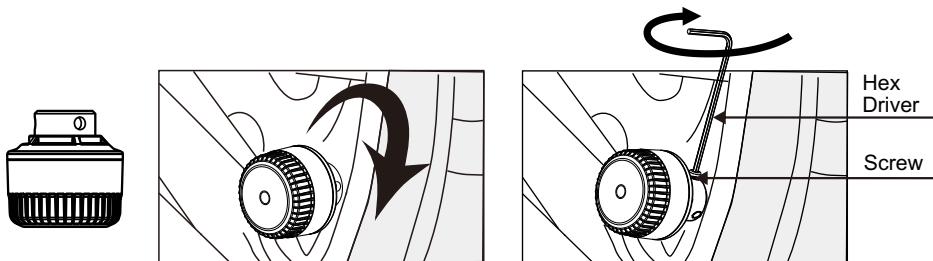
(4) remount plastic enclosure using the fixture provided in counter clockwise direction  
**Tips:** Please inspect the rubber o-ring if being damage and replace by new one if needed.



#### 9-4 SN External Sensors Installation:

**Notice:** please ensure to turn on the monitor firstly before install the sensor so that the monitor can receive the sensor data on time.

- (1) Remove dust cover from air valve intake.
- (2) Please mount the sensor in position according to label mark.
- (3) After mounting all sensors, please double check if there is air leakage by using soapy water in air intake
- (4) Use hex key to lock the hex screw on to the air valve.



\*use hand force to tight the sensor in clockwise direction and avoid damage to the sensor.  
 Use only specific hex key to counter lock or counter unlock the sensor position

**Tips :**

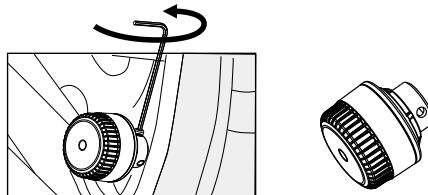
1. Please mount the sensor in position according to label mark.
2. Low voltage alarm will appear when sensor battery voltage is low.
3. After mounting all sensors, please double check if there is air leakage by putting soapy water in air intake.

**SN external sensor battery replacement**

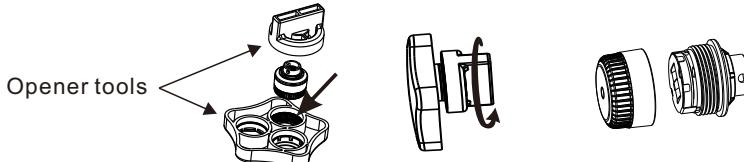
**Tips:** avoid confusion by label on battery door surface during battery replacement

When the sensor low battery icon  shows on the monitor and corresponding tire icon is flashing, the sensor battery needs replacement. Using CR1632 battery cell which operates at -40°C to +80°C is recommended. You can buy replacement batteries from your local dealer.

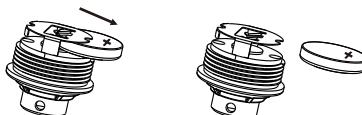
- (1) Use the hex wrench provided to remove the anti-theft screw and take out the sensor



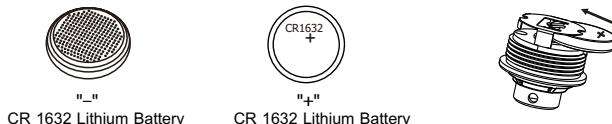
- (2) Hold the sensor inside opener tools and open sensor cover in clockwise direction.



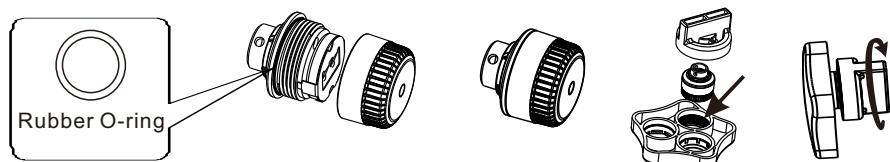
- (3) Take out old battery



- (4) Replace the new Lithium CR1632, ensure the positive+ is facing upwards



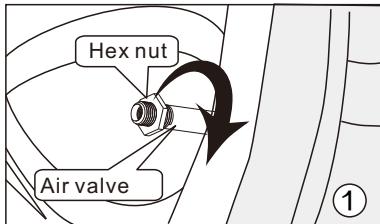
- (5) Open or fasten the sensor battery cover with special opener tools. Replace new battery with correct polarity. Please check if the rubber O-ring is in good condition otherwise replace a new one.



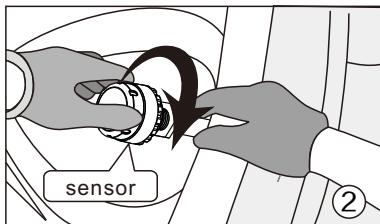
**9-5. SO External Sensors Installation:**

**Notice:** please ensure to turn on the monitor firstly before install the sensor so that the monitor can receive the sensor data on time.

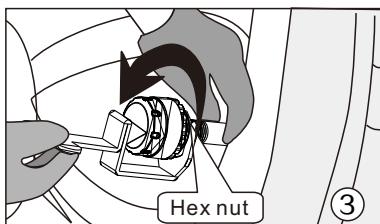
- ① Fix the hexagon nuts in tire valve.



- ② Fasten sensor to the tire air valve.



- ③ Use special wrench to tight hexagonal nuts in counter clockwise direction.

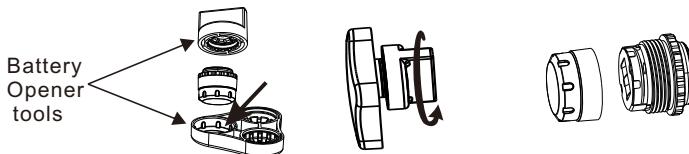
**Tips:**

1. Each sensor are labeled with its wheel position and highly recommended to be used during installation
2. If battery inside sensor has insufficient voltage will trigger battery low alarm
3. After all sensor has been installed, please ensure no any air leakage over wheel surface and may use soapy water for testing if necessary.

## SU Sensor battery replacement

When the sensor low battery icon  shows on the monitor and corresponding tire icon is flashing, the sensor battery needs replacement. Using CR1632 battery cell which operates at -40°C to +80°C is recommended. You can buy replacement batteries from your local dealer.

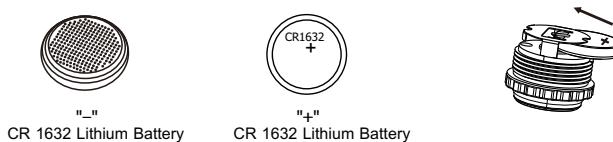
- (1) Use fixture provided inside package and open the plastic enclosure in counter clockwise direction



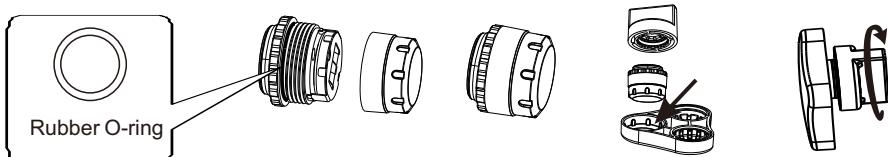
- (2) Use the hex wrench provided to remove the water proof cover from sensor.



- (3) Replace new CR1632, (+) terminal upward.



- (5) Open or fasten the sensor battery cover with special opener tools. Please check if the rubber O-ring is in good condition otherwise replace a new one.



## 10. Technical Specification

### 10.1 Monitor Specification

|                     |              |           |                    |
|---------------------|--------------|-----------|--------------------|
| Working temperature | -20°C ~ 80°C | Frequency | 433.92MHz          |
| Storage temperature | -30°C ~ 85°C | Size      | 33 (Φ) x 50 (H) mm |
| Output Voltage      | DC12~24V     | Weight    | 20 g               |

### 10.2 Sensor Specification

|                      |  SS sensor |  SI sensor |  SN sensor |
|----------------------|---|---|---|
| Working temperature  | -40 °C~ +80 °C  | -40 °C ~ 80 °C  | -40 °C~ +80 °C  |
| Storage temperature  | -40 °C~ +85 °C  | -40 °C ~ 85 °C  | -40 °C~ +85 °C  |
| Pressure range       | 0~6 bar (0~87 psi )   | 0~8 bar (0~116 psi )  | 0~6 bar (0~87 psi )   |
| Pressure Accuracy    | ±1.5 psi (± 0.1 bar )   | ±1.5 psi (± 0.1 bar )   | ±1.5 psi (± 0.1 bar )   |
| Temperature Accuracy | ±3°C  | ±3°C  | ±3°C  |
| Transmission Power   | <10dBm  | <10dBm  | <10dBm  |
| Transmission         | 433.92MHz   | 433.92MHz   | 433.92MHz   |
| Battery life         | ≥2 Yrs  | ≥3 Yrs  | ≥3 Yrs  |
| Dimenson             | 21 (Φ)X17.7 (H) mm  | 60 x 35 x 21mm  | 21 (Φ)X21 (H) mm  |
| Weight               | 9 g   | 48 g  | 9 g   |

|                      |  SO sensor |  SU sensor |
|----------------------|---|---|
| Working temperature  | -40 °C~ +80 °C  | -20 °C~ +80 °C  |
| Storage temperature  | -40 °C~ +85 °C  | -20 °C~ +85 °C  |
| Pressure range       | 0~6 bar (0~87 psi )   | 0~6 bar (0~87 psi )   |
| Pressure Accuracy    | ±1.5 psi (± 0.1 bar )   | ±1.5 psi (± 0.1 bar )   |
| Temperature Accuracy | ±3°C  | ±3°C  |
| Transmission Power   | <10dBm  | <5dBm   |
| Transmission         | 433.92MHz   | 433.92MHz   |
| Battery life         | ≥2 Yrs  | ≥2 Yrs  |
| Dimenson             | 21 (Φ)X17.5 (H) mm  | 18 (Φ)X13 (H) mm  |
| Weight               | 9 g   | 6 g   |

## 11. Friendly reminder

- (1) Please use the system correctly in the right condition. Our company is not liable for damages from the miss-use.
- (2) Installation should follow the instruction guide, if any damage occurs due to the wrong installation, our company is not liable for it.
- (3) The content and specification are subject to change without prior notice. Pictures in the article are just for illustration. Please take the actual product for reference.
- (4) Internal sensor installation should be carried out by professional person. Be ware of the internal sensors while reload the tire.