

Table of Contents

1. 3M™ Wireless Tire Pressure Monitoring System	01
2. Warning	01
3. 3M™ Wireless Tire Pressure Monitoring System Specification Sheet	02
4. System Installation	03
5. 3M™ Wireless Tire Pressure Monitoring System Accessories List	03
6. Wireless Receiver and Display Unit Installation Guide	04
7. Wireless Tire Sensor and Emitter Unit Installation Guide	04
8. System Operations	06
9. System Warnings	06
10. System Setup	07
11. Low Tire Pressure Warning Value Configuration	07
High Tire Pressure Warning Value Configuration	07
High Tire Temperature Warning Value Configuration	08
How to Set up the System after Switching Tire Locations	09
12. How to Replace the Consumables in the Wireless Tire Sensor and Emitter Unit	10
13. Emitter Unit	14
14. Appendix A	16
15. Appendix B	16
16. System Warranty Policies	17
17. Q&A	18

3M™ Wireless Tire Pressure Monitoring System

3M™ Wireless Tire Pressure Monitoring System can provide the tire pressure and automobile voltage information to the car owner. By installing the 3M™ Wireless Tire Pressure Monitoring System onto your car, you can be aware of the pressure and temperature of each tire, as well as the battery/generator voltage condition at any time.

1. Upon the reception of any abnormal tire pressure or temperature, the system will immediately send warning signals to the 3MTM Wireless Tire Pressure Monitoring System within the car, and at the same time alert the driver that the tire pressure or temperature issue has to be repaired at once by displaying red light indicators, numeric values and warning titles.
2. When the battery/generator voltage becomes lower than 11.5V, the battery light indicator will turn from green to red and blink, alerting the car owner that the car needs to be brought to the service center for inspection immediately.

NOTE: It is strongly recommended that whenever the battery voltage becomes lower than 11.5V, whether before or after the engine is started, please drive your car to the automobile service center immediately and have it inspected and repaired by automobile professionals.

3. Through the system, the car owner can be aware of the car's tire pressure or temperature conditions at any time during car driving. Normal tire pressures can save fuel consumption efficiently and hence elevate the added value of your automobile products and driving experience. Meanwhile, by providing the battery voltage information, this system can make the car owner aware of the electricity supplying and charging conditions, and hence react appropriately before the battery is depleted.

! Warnings

EMC and FCC Warnings

This system complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this system may not cause harmful interference
(2) this system 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 wireless radio signals. If not installed and used in accordance with the instructions, it may cause interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception (this 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 the system
- Change the position or connection method of the receiver

Caution: Any changes or modifications to the system itself not expressly approved could void the user's authority to operate this system.

To comply with the FCC RF exposure compliance requirements, this device and its antenna must not be co-located or operating to conjunction with any other antenna or transmitter.

System Operating Ranges and Warnings

The 3M™ Wireless Tire Pressure Monitoring System uses sensors to measure the tire pressures and then uses radio signals to transmit the tire pressure information to the display so as to provide warnings to the driver. When abnormal tire pressure or temperature conditions are detected, the system will automatically generate warnings advising the driver to react immediately and to have the tire repaired, in order to prevent issues like insufficient tire pressure or high tire temperature. Conditions which may result in traffic accidents can therefore be detected in advance.

Warning: This system transmits signals via wireless transmission. Therefore, under certain conditions or environments, the wireless signal might be weakened or cannot be received due to interferences, incorrect operations or inappropriate installations. When the system cannot receive signals from a certain tire for 20 minutes, the displayed value for that tire would become "E1". When this happens, please drive the car away from its current position (because there might be strong radio signal interferences nearby), or go to the appointed tire service center immediately to inspect if the tire sensor has failed or if the battery in the tire sensor has depleted (if there exists a long-term abnormal condition, the tire sensor will need to emit radio warning signals continuously, and in this way the lifespan of the battery will become shorter than its expected normal lifespan). When the system cannot receive signals from any one of the tire for 20 minutes (probably because the receiver and display unit has failed), the displayed values of all four tires would become "E2". When this happens, please take the receiver and display unit to your distributor for inspection and repair immediately.

System Installation and Operation

The 3M™ Wireless Tire Pressure Monitoring System needs to be correctly installed by qualified operators according to the procedures listed in the installation manual in order for the system to function correctly and its warranties to be effective. This system applies to 4-wheel sedans, SUVs and 4x4 wheels, and has a maximum measurable pressure at 76 psi (gauge pressure) or 92 psia (absolute pressure). Please note that all pressures mentioned later in this manual are gauge pressures, which are more commonly used.

System Warnings

When the warning light indicator illuminates and the buzzer starts to beep, please lower your speed and seek for a safe parking place to have your tire inspected, and then go to the nearest qualified tire service center immediately for tire repair. Low tire pressure warning indicates that the tire pressure has dropped down below the safe tire pressure value. High tire temperature warning indicates that the tire temperature has risen up above the safe standard value.

Usage of Chemicals

Sealants or specific tire filling chemicals can result in the malfunction of the tire pressure monitoring system, or affect the function of the sensors.

3M™ Wireless Tire Pressure Monitoring System Specification Sheet

Tire Sensor and Emitter Unit Specifications	
Battery life	More than 5 years under normal usage
System adaptable circumstantial temperature	-40°C to 125°C
System operating temperature	-30°C to 105°C
System operating humidity	95%
System operating frequency	433.92MHz
Tire pressure monitoring range	0~76psi for general 4-wheel sedans

Tire Sensor and Emitter Unit Specifications	
Tire pressure measurement error	(under normal operating conditions) ± 1 psi
Temperature measurement error	$\pm 4^\circ\text{C}$ (under average normal circumstantial temperature)
Emitter frequency	433.92MHz
Emitter frequency	3.6V
Sensor weight	35g

Receiver and Display Unit Specifications	
System operating voltage	12V DC
System operating current	200mA
System adaptable circumstantial temperature range	-30°C to 85°C
System operating temperature range	-25°C to 85°C

System Installation

The 3M™ Wireless Tire Pressure Monitoring System can be divided into two major parts. Below is a description of each part's installation methods:

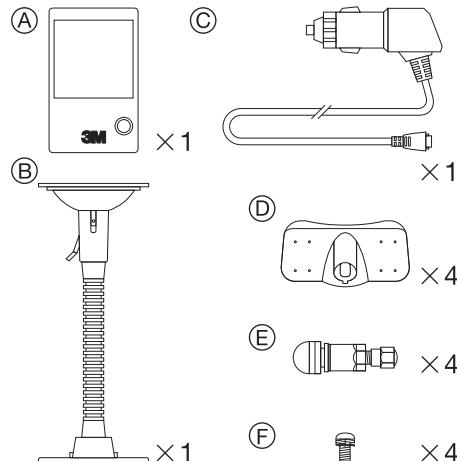
1. Wireless receiver and display unit, installed at the base of the front "A" post of the driver's seat within the car (as shown in the right figure).
2. Wireless tire sensor and emitter unit, installed within the tire

NOTE: It is strongly recommended that the wireless receiver and display unit should be installed first, and then the four wireless tire sensor and emitter units.



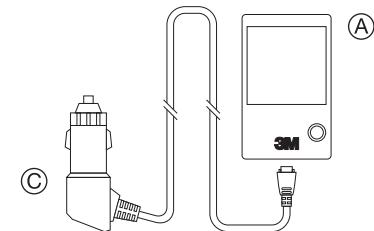
3M™ Wireless Tire Pressure Monitoring System Accessories List

NO.	Product unit name	Quantity
A	Wireless receiver and display unit	1
B	Wireless receiver and display unit stand	1
C	Power connection cord (3m) & Cigar lighter power connector The style of the actual cigar lighter power connector being sold may vary.	1
D	Wireless tire sensor and emitter unit	4
E	Tire valves	4
F	Tire valve locking screw (NYLOK screw)	5
G	Wireless tire pressure monitoring system wheel disk warning sticker	4
H	Wireless tire pressure monitoring system product installation labeling sticker	1
I	System operation manual	1
J	Warranty application letter	1

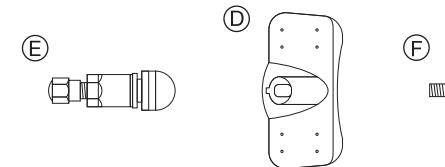


3M™ Wireless Receiver and Display Unit Installation Guide

- A. Plug the power cord connector into the power outlet on the back of the wireless receiver and display unit
- B. Install the receiver and display unit at the base of the "A" post of the driver's seat or other appropriate locations
 1. Remove dusty or greasy substances on the glass surface near the base of the "A" post
 2. Fix the suction-disk side of the TPMS stand to the glass surface near the bottom of the "A" post
 3. Fix the TPMS to the other side of the TPMS stand
- B. Plug the cigar lighter connector of the power cord into the cigar lighter outlet.



3M™ Wireless Tire Pressure Sensor and Emitter Unit Installation Guide



Step	Operation	Illustration
A	Use a bumper jack to have the car body elevated	
B	Remove the tires and mark each tire's location according to the locations of the sensors	
C	Deflate the tires, remove the tire skins, and then remove the tire valve on each tire's aluminum rims (to be replaced by 3M™ Wireless Tire Pressure Monitoring System's standard tire valve - E)	

D	<p>Confirm the numbers on the four wireless tire sensor and emitter units - D, and on which tire location should each unit be installed (this is very important since each wireless tire sensor and emitter unit has to be installed on the correct tire location - in order)</p> <p>a. RF - 1 = Right Front Wheel , No. 1 c. RF - 3 = Left Rear Wheel , No. 3 b. RR - 2 = Right Rear Wheel , No. 2 d. RR - 4 = Left Front Wheel , No. 4</p>
E	<p>On each tire's aluminum rim, install the standard tire valve provided by 3M™</p>
F	<p>Choose the correct wireless tire sensor and emitter unit, have it placed behind the corresponding tire valve, and then use the NYLOK screw specifically designed for the 3M™ Wireless Tire Pressure Monitoring System and a screwdriver to have the emitter part locked in place</p> <p>Caution:</p> <ol style="list-style-type: none"> 1. Choose the wireless tire sensor and emitter unit with the correct number according to the corresponding tire location 2. The NYLOK screw only provides one-time locking and attaching capability. Once locked and attached, DO NOT disassemble the NYLOK screw for a second use, otherwise the screw might not be locked up securely enough and loosening might occur as a result.
G	<p>Before locking up the screw, please adjust the angle of the wireless tire sensor and emitter unit so that its attachment to the aluminum rim can be as compact as possible, and then please ensure the NYLOK screw is locked up securely enough so that the emitter is locked in place</p>
H	<p>Ensure the tire's interior is free of debris or water, otherwise the function of the wireless tire sensor and emitter unit may be affected or obstructed</p>
I	<p>Tire balance adjustment</p> <ol style="list-style-type: none"> a. Place the tire on a tire balancer to adjust its balance

I	<ul style="list-style-type: none"> b. Additional lead blocks may be attached to correct the balance of the tire c. Continue to adjust the tire balance until the tire balancer shows " Balance OK " 		
J	<p>Put each tire successfully installed with the wireless tire sensor and emitter unit back onto the car according to their tire locations, and then use the original tire screws to lock and attach the tires to the car body.</p>		
K	<p>Turn on the car's power (without need for the car's engine to be running). The wireless receiver and display unit will now show the power status, and starts to activate/receive each tire's pressure and temperature signals, and instantly displays them in numerical values on the panel, so as to inform the driver of the current tire pressure and temperature values.</p> <p>According to the customer's requirements, you can use the Function button on the display unit to choose to display the pressure value or temperature value of each tire, or to show both of them simultaneously</p>		

System Operations

After the system has been successfully installed, the receiver and display unit will show the car's power status on its lower right corner, and the system will automatically start to monitor the pressure and temperature values of the tires. When the car's power is turned on, the system will first scan the ID value of each tire, and then display each tire's real-time pressure or temperature value in turn, in the order of the tire locations.

System Warnings

When the system detects any abnormal tire pressure value, the wireless receiver and display unit will beep to warn the driver, use the red light indicator to point out the location of the tire that might have problems, and display that tire's current pressure value. When the system detects any abnormal tire temperature value, the wireless receiver and display unit will beep to warn the driver, use the red light indicator to point out the location of the tire that might have problems, and display that tire's current temperature value. When the car's voltage becomes lower than 11.5V, as indicated by the car's power status, the battery light indicator will turn from green to red and blink, alerting the car owner that the car needs to be brought to the service center for inspection immediately.

System Declarations

When the wireless receiver and display unit detects a problem, the light indicator and the buzzer will continue to blink and beep until the problem is corrected or the power is turned off. This is to ensure the warning effects of the wireless receiver and display unit. Before the problem is corrected, the system will continue to display the problematic tire's light indicator as well as its numerical value.

By pressing the Setup button for 3 seconds, the system enters into the pressure and temperature setup mode. If no settings need to be modified, please press the Setup button three times to exit the setup mode. By doing so, all fault light indicators and warning beeps are also cleared. However, if the system receives any abnormal signal again, the relevant fault light indicators and warning beeps will reappear, alerting the driver that the tire needs to be repaired immediately.

System Setup

The following steps may be used by the driver to make system adjustments and to change the default settings for all kinds of warnings. (Note: This system contains factory default settings configured according to the tire standards. Before adjusting the settings by yourself, please consult the professionals if your new settings can provide correct safety warning range with regard to the tire pressure.)



Low Tire Pressure Warning Value Configuration

Step	Operation	Illustration
1	Press and hold the Setup button on the upper side of the wireless receiver and display unit for 3 seconds to make the system enter the Setup mode.	
2	In the lower part of the display, the wireless receiver and display unit will first show the red light indicators for Tire No.2 and No.3 (rear tires), the " psi " blue light indicator, the numerical light indicator (26 psi is the low tire pressure warning factory default value), and the " Lo " directive characters, indicating the system has entered into the low tire pressure setup mode.	

Step	Operation	Illustration
3	Press the Function button on the front of the wireless receiver and display unit to configure the low tire pressure warning value. By pressing the Function button once, the psi value will add 1; and the psi value will return to 18 when it has received 35. The system will use this setting as the standard value for low tire pressure monitoring, which means when the tire has deflated to a pressure value lower than this setting, the system will automatically start to warn the driver.	
4	The user may adjust this setting (from 18 to 35) to meet specific requirements from different tire categories. Note: Before adjusting the low tire pressure warning value by yourself, please consult the tire specialists to see if there is any special requirement from your tires which needs to be put into consideration when making adjustments to this value.	
5	Press the Setup button to exit the low tire pressure warning value setup mode. The system will automatically enter the high tire pressure setup mode.	

High Tire Pressure Warning Value Configuration

Step	Operation	Illustration
1	After you finish setting the low tire pressure warning value, the system will automatically enter the high tire pressure setup mode.	
2	The wireless receiver and display unit will now show the high tire pressure factory default value (50 psi), the red light indicators for Tire No.1 and No.4 (front tires) and the " psi " blue light indicator.	
3	Press the Function button on the front of wireless receiver and display unit to adjust the high tire pressure warning value. When the tire pressure exceeds this setting, the system will generate warning signals.	
4	The high tire pressure warning value can range from 40 to 60, and its factory default value is 50 psi.	
5	After finish configuring this value, press the Setup button on the top side of the wireless receiver and display unit once to exit the high tire pressure setup mode. The system will automatically enter the high tire temperature setup mode.	

High Tire Temperature Warning Value Configuration

Step	Operation	Illustration
1	After you finish setting the high tire pressure warning value, the system will automatically enter the high tire temperature setup mode.	
2	The wireless receiver and display unit will now show the high tire temperature factory default value (80°C), the red light indicators for Tire No.1, No.2, No.3 and No.4 (all four tires, as shown in the illustration), the " C " blue light indicator, and the " "Hi" " directive characters.	
3	Press the Function button on the front of wireless receiver and display unit to adjust the high tire temperature warning value. When the tire temperature exceeds this setting, the system will generate warning signals.	
4	The high tire temperature warning value can range from 60 to 99, and its factory default value is 80.	
5	After finish configuring this value, press the Setup button on the top side of the wireless receiver and display unit once to confirm the high tire temperature setting (and to exit the setup mode).	

- If the power of the wireless receiver and display unit is turned off during system configuration, the system will not make any changes to its settings, and will resume tire monitoring tasks after the power is restored.

How to Set up the System after Switching Tire Locations

After the car has been running for a certain distance, it might be necessary to switch tire locations so as to prolong the lifespan of the tires. Since the sensors of this system are wireless transmission devices, please be sure to perform the following steps to reset the system after switching tire locations, so as to ensure the actual tire locations and the locations displayed on the screen are the same.

3M™ Wireless Tire Pressure Monitoring System is equipped with automatic tire location adjustment setup function. This function can simplify system setup procedure, so that the driver can receive correct pressure and temperature information from each tire location.

The following steps will illustrate the setup procedure:

Press and hold both the Setup button and the Function button for 5 seconds to enter the Tire Switching Mode I. Press the Function button again to enter Mode II, and press the Function button more times to enter Mode III, Mode IV and Mode V in turn. Press the Function button now to exit Tire Switching Mode and go back to normal display mode.

Press the Function button to switch between the five modes. These five modes are, respectively:

NOTE: Green lights indicate the unadjusted tire locations; red lights indicate the adjusted tire locations (after switching locations); process 1-4 will display repeatedly

Mode I

Front tires and rear tires switch parallelly (No. 1*No. 2*No. 2*No. 1*No. 3*No. 4*No. 4*No. 3)

Display processes: the " 1 " displayed at the lower right corner means the system is now in Mode I"

Process 1: " 1 " is displayed at Tire No. 1; " 4 " is displayed at Tire No. 4; both are displayed in green"

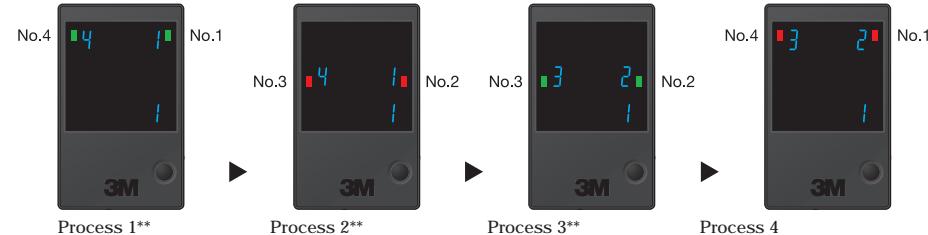
Process 2: " 1 " is displayed at Tire No. 2; " 4 " is displayed at Tire No. 3; both are displayed in red"

Process 3: "2" is displayed at Tire No. 2; "3" is displayed at Tire No. 3; both are displayed in green

Process 4: " 2 " is displayed at Tire No. 1; " 3 " is displayed at Tire No. 4; both are displayed in red

After you have done with the Tire Switching Mode, press the Setup button to complete the Mode 1 setup and go back to normal display mode.

procedure and go back to normal display mode."



Mode II

Front tires and rear tires switch crisscrossly (No. 1*No. 3*No. 2*No. 4*No. 3*No. 1*No. 4*No. 2)

Display processes: the " 2 " displayed at the lower right corner means the system is now in Mode II

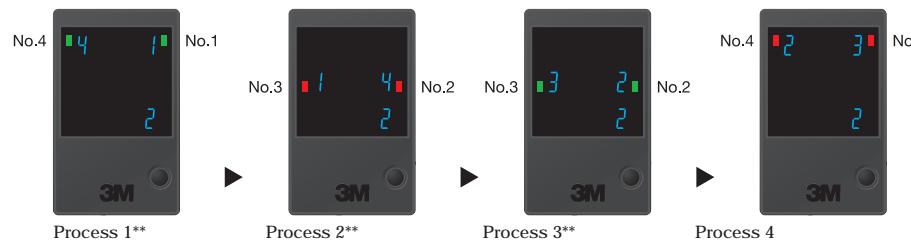
Process 1: " 1 " is displayed at Tire No. 1; " 4 " is displayed at Tire No. 4; both are displayed in green

Process 2: " 4 " is displayed at Tire No. 2; " 1 " is displayed at Tire No. 3; both are displayed in red

Process 3: " 2 " is displayed at Tire No. 2; " 3 " is displayed at Tire No. 3; both are displayed in green

Process 4: " 3 " is displayed at Tire No. 1; " 2 " is displayed at Tire No. 4; both are displayed in red

After you have done with the Tire Switching Mode, press the Setup button to complete the Mode II setup procedure and go back to normal display mode.



Mode III

Front tires move to rear crisscrossly; rear tires move to front parallelly (No. 1*No. 3*No. 2*No. 1*No. 3*No. 4*No. 4*No. 2)

Display processes: the " 3 " displayed at the lower right corner means the system is now in Mode III

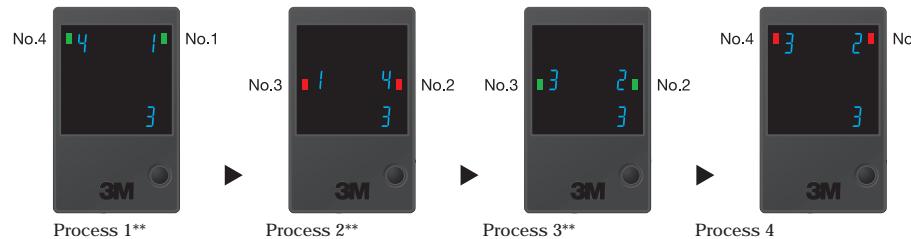
Process 1: " 1 " is displayed at Tire No. 1; " 4 " is displayed at Tire No. 4; both are displayed in green

Process 2: " 4 " is displayed at Tire No. 2; " 1 " is displayed at Tire No. 3; both are displayed in red

Process 3: " 2 " is displayed at Tire No. 2; " 3 " is displayed at Tire No. 3; both are displayed in green

Process 4: " 2 " is displayed at Tire No. 1; " 3 " is displayed at Tire No. 4; both are displayed in red

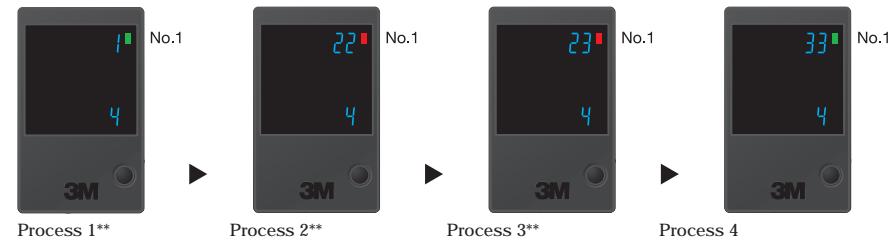
After you have done with the Tire Switching Mode, press the Setup button to complete the Mode III setup procedure and go back to normal display mode.



Mode IV-1

Arbitrary tire location rearrangement: the " 4 " displayed at the lower right corner means the system is now in Mode IV

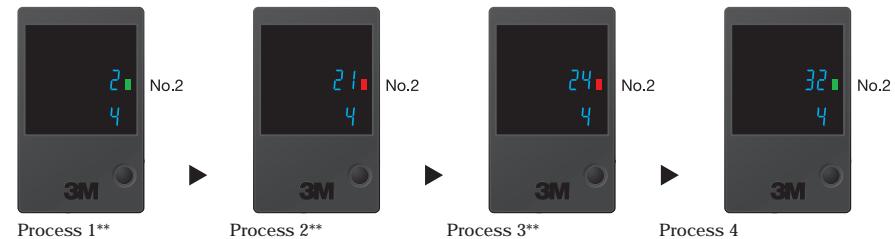
A green light indicator is displayed at Tire No. 1, and the " 1 " displayed aside indicates you're setting up the location for sensor No.1. Next, please deflate tire No. 1 to a pressure value lower than 26 psi. The pressure value is now displayed at Tire No. 1, along with a red light indicator. Then, please inflate tire No.1 to a normal pressure value (no less than 26 psi and no greater than the recommended normal pressure value). The normal pressure value is now displayed at Tire No. 1, along with a green light indicator. The " 4 " displayed at the lower right corner means the system is now in Mode IV. If sensor No.1 remains at the same position and needs no reconfiguration, please press the Setup button during Process 1 of Mode IV-1 to skip configuration of sensor No.1 and enter Mode IV-2 (as illustrated in Process 1 of Mode IV-2). The screen will pause for 2 seconds and then automatically enter Mode IV-2



Mode IV-2

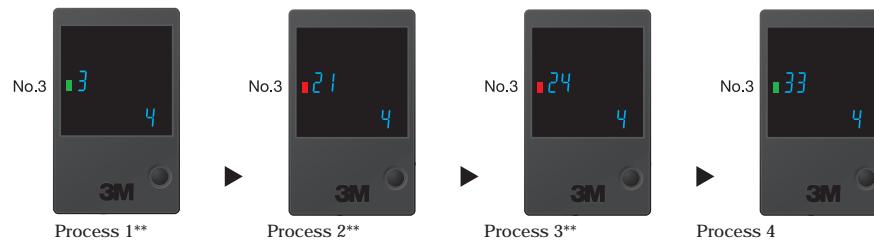
Arbitrary tire location rearrangement: the " 4 " displayed at the lower right corner means the system is now in Mode IV

A green light indicator is displayed at Tire No. 2, and the " 2 " displayed aside indicates you're setting up the location for sensor No.2. Next, please deflate tire No. 2 to a pressure value lower than 26 psi. The pressure value is now displayed at Tire No. 2, along with a red light indicator. Then, please inflate tire No. 2 to a normal pressure value (no less than 26 psi and no greater than the recommended normal pressure value). The normal pressure value is now displayed at Tire No. 2, along with a green light indicator. The " 4 " displayed at the lower right corner means the system is now in Mode IV. If sensor No. 2 remains at the same position and needs no reconfiguration, please press the Setup button during Process 1 of Mode IV-2 to skip configuration of sensor No. 2 and enter Mode IV-3 (as illustrated in Process 1 of Mode IV-3). The screen will pause for 2 seconds and then automatically enter Mode IV-3



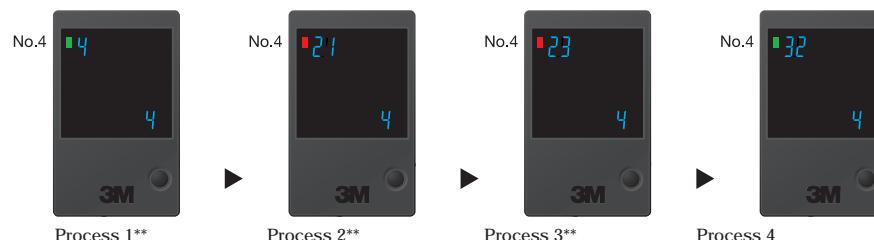
Mode IV-3

Arbitrary tire location rearrangement: the "4" displayed at the lower right corner means the system is now in Mode IV. A green light indicator is displayed at Tire No. 3, and the "3" displayed aside indicates you're setting up the location for sensor No. 3. Next, please deflate tire No. 3 to a pressure value lower than 26 psi. The pressure value is now displayed at Tire No. 3, along with a red light indicator. Then, please inflate tire No. 3 to a normal pressure value (no less than 26 psi and no greater than the recommended normal pressure value). The normal pressure value is now displayed at Tire No. 3, along with a green light indicator. The "4" displayed at the lower right corner means the system is now in Mode IV. If sensor No. 3 remains at the same position and needs no reconfiguration, please press the Setup button during Process 1 of Mode IV-3 to skip configuration of sensor No. 3 and enter Mode IV-4 (as illustrated in Process 1 of Mode IV-4). The screen will pause for 2 seconds and then automatically enter Mode IV-4.



Mode IV-4

Arbitrary tire location rearrangement: the "4" displayed at the lower right corner means the system is now in Mode IV. A green light indicator is displayed at Tire No. 4, and the "4" displayed aside indicates you're setting up the location for sensor No. 4. Next, please deflate tire No. 4 to a pressure value lower than 26 psi. The pressure value is now displayed at Tire No. 4, along with a red light indicator. Then, please inflate tire No. 4 to a normal pressure value (no less than 26 psi and no greater than the recommended normal pressure value). The normal pressure value is now displayed at Tire No. 4, along with a green light indicator. The "4" displayed at the lower right corner means the system is now in Mode IV. If sensor No. 4 remains at the same position and needs no reconfiguration, please press the Setup button during Process 1 of Mode IV-4 to skip configuration of sensor No. 4 and complete the setup procedure for Mode IV. The screen will pause for 2 seconds, then automatically exit the Tire Switching Mode and go back to normal display mode.



Mode V

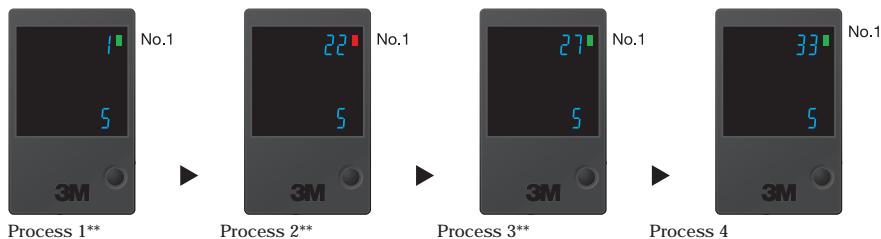
Single sensor replacement (e.g., sensor No.1 is damaged and needs replacement): the " 5 " displayed at the lower right corner means the system is now in Mode V

Step 1: A green light indicator is displayed at Tire No. 1, and the " 1 " displayed aside indicates you're going to replace sensor No. 1.

Step 2: Next, please deflate tire No. 1 to a pressure value lower than 26 psi. The pressure value is now displayed at Tire No. 1, along with a red light indicator. Then, please inflate tire No. 1 to a normal pressure value (no less than 26 psi and no greater than the recommended normal pressure value). The normal pressure value is now displayed at Tire No. 1, along with a green light indicator. The "5" displayed at the lower right corner means the system is now in Mode V.

The screen will pause for 2 seconds, and then the system will automatically exit the Single Sensor Replacement Mode and go back to normal display mode.

NOTE: If the sensor needing replacement is located on tire No. 2, please press the Setup button during step 1 to skip from sensor No.1 to sensor No. 2. The same rule applies to the rest of the sensors.



1. The wireless receiver and display unit's power being turned off or its power cord being disconnected during automatic tire location adjustment mode will result in system configuration failure. However, after the power is restored, the system will resume tire monitoring tasks according to previous settings.
2. After the system setup procedure is completed, please first test whether the system can receive information from 4 tires correctly. If not, please strictly follow the foregoing steps to reconfigure the system (at this stage, you may reference the "How to Replace the Consumables in the Wireless Tire Sensor and Emitter Unit" section to conduct single sensor replacement).

Appendix A

Explanations of Symbols and Specialty Terms

kPa	A unit for measuring tire pressure; kilogram-force per square meter
psi	A unit for measuring tire pressure; pound-force per square inch
bar	Pressure measuring unit; bar
°C	Celsius temperature measuring unit
°F	Fahrenheit temperature measuring unit
Circumstantial temperature during tire inflation	It is recommended that the tire can be inflated in a service center under a circumstantial temperature of 25° C
Low tire pressure warning	When the tire pressure becomes lower than this warning value (its factory default value is 26 psi), this system will generate visual and audio warnings to alert the driver
High tire pressure warning	When the tire pressure becomes lower than this warning value (its factory default value is 50 psi), this system will generate visual and audio warnings to alert the driver
High tire temperature warning	When the tire temperature becomes higher than this warning value (its factory default value is 80° C), this system will generate visual and audio warnings to alert the driver
Wireless receiver and display unit	A microelectronic product which contains a signal receiving chip, a computational chip, a display device and a warning speaker
Wireless tire sensor and emitter unit	A microelectronic product which needs to be installed within the tire. The sensor chip uses wireless RF technology to transmit real-time pressure and temperature values of the tire to the wireless receiver and display unit

Appendix B

kPa / psi Tire Pressure Unit Conversion Table

kPa	psi								
10	1	110	16	210	31	310	45	410	60
20	3	120	18	220	32	320	47	420	61
30	4	130	19	230	34	330	48	430	63
40	6	140	20	240	35	340	50	440	64
50	7	150	22	250	37	350	51	450	66

kPa	psi								
60	9	160	23	260	38	360	53	460	67
70	10	170	25	270	39	370	54	470	69
80	12	180	26	280	41	380	55	480	70
90	13	190	28	290	42	390	57	490	72
100	15	200	29	300	44	400	58	500	73

°C / °F Temperature Unit 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

System Warranty Policies

In Taiwan, we provide one-year free warranty for this product, beginning from the purchase date (as determined by the invoice date). The warranty duration can be determined by the invoice received by the customer when purchasing this product, or the warranty card of this product (must contain the purchase date and the original distributor's seal). If the last day of the warranty duration falls on a national holiday, the following day will become the last day of the warranty duration. In case you cannot provide the aforementioned evidence, we will use the original shipping date of the product purchased by you to determine the warranty duration. The original shipping date will be judged based on the serial number (S/N) of this product. Within the warranty duration, if there is any defect or fault in the performance of this product under normal operation and usage, we may choose to repair the product or replace it with a new one.

The following conditions are not covered by our warranty policies, so we may request you to pay a reasonable maintenance and shipping fee:

and shipping);

1. You are unable to prove the product is still within the warranty period;
2. Any breakdown or damage caused by non-compliance of regulations stated on the operation manual of this product
3. Any damage caused by act of God (such as natural disaster, flood, fire, earthquake, thunder, typhoon, etc.), artificial damage (such scratch, damage from fall, tenon breakage, strike, crack, impact, etc.), human negligence (such as loss, lack of proper care, etc.) or other abnormal conditions;
4. Any damage caused by installation, addition, expansion, modification or repair of parts not authorized or approved by us, performed by the customer him/herself or any other third party;
5. Consumable parts and accessories which need periodical replacement.

Important Notices

1. We reserve the right to modify, illustrate and interpret the above product warranty policies in writing or through our website.
2. The foregoing warranty policies supersede all other warranties, whether express or implied, including but not limited to implied warranties of merchantability and fitness for a particular purpose. In no event shall our company be liable for any incidental, indirect, special or consequential damages whatsoever arising out of the purchase or use of this product, and other property or physical damages resulting from breach of the above warranty policies, even if we have been advised of the possibility of such damages.
3. Without our consent, any distributor, dealer or employer of our company shall have no right to modify the warranty conditions or prolong the warranty period.
4. This product can only assist and should not replace normal tire pressure monitoring procedure. Customer should still perform manual tire pressure inspections, or conduct periodical inspections according to the regulations required by their service centers.

If you have any other question regarding our warranty policies, please contact your regional distributor directly, or contact our customer service department.

For latest information on 3M® Wireless Tire Pressure Monitoring System, please visit our website: www.3m.com/tw

Q & A

- If the battery voltage is lower than 11.5V before the engine is started, it means the battery is almost run out of power. When this happens, please check the storage capacity of the battery.
NOTE: If the battery voltage is always lower than 11.5V every time you start the engine, it is recommended that the car should be brought to the service center for inspection.
- If the battery voltage becomes lower than 11.5V when the engine is running, it means the generator has failed and needs to be brought to the service center for inspection and repair.

3M™ Wireless Tire Pressure Monitoring System - Troubleshooting Basics

Symptoms of Malfunction	Possible Causes	Solutions
1. The receiver shows no display after its power is turned on	1. The power cord connector is not in full contact with the receiver	<ul style="list-style-type: none"> ● Remove the power cord and plug it into the outlet again until it is seated completely
	2. The power cord has failed	<ul style="list-style-type: none"> ● Ask your distributor to have your power cord replaced and send the failed one back to its manufacturer for repair
	3. The safety fuse inside the receiver has blown	<ul style="list-style-type: none"> ● After ID, send the failed receiver back to its manufacturer for repair

Symptoms of Malfunction	Possible Causes	Solutions
2. The digits shown on the display panel become incomplete, or the light indicators become abnormal	The inner circuits of the receiver has failed	<ul style="list-style-type: none"> Ask your distributor to have your receiver replaced, reconfigure its ID using the Tire Switching Mode (Mode IV), and send the failed receiver back to its manufacturer for repair
3. The receiver cannot receive signal from any of the four tires after its power is turned on The numeric values representing tire locations displayed on the screen all become "E1"	<ol style="list-style-type: none"> 1. The IDs of the four tires are not configured correctly 2. The RF receiving circuit inside the receiver has failed 	<ul style="list-style-type: none"> Ask your installment vendor to reconfigure the IDs of the four tires using the Tire Switching Mode (Mode IV) Ask your distributor to have your receiver replaced, reconfigure the IDs of the four tires using the Tire Switching Mode (Mode IV), and then send the failed receiver back to its manufacturer for repair
4. The receiver cannot receive signal from one or some certain tires (but not all of them) after its power is turned on The numeric values representing the locations of those tires displayed on the screen become "E2"	<ol style="list-style-type: none"> 1. The IDs of those tires are not designed correctly 2. The emitters of those tires have failed 	<ul style="list-style-type: none"> Ask your installment vendor to reconfigure the IDs of the those tires by using the Single Sensor Replacement Mode (Mode V) Ask your distributor to have those emitters replaced, reconfigure the IDs of those tires by using the Single Sensor Replacement Mode (Mode V), and then send the failed emitters back to their manufacturer for repair
5. The Setup button or the Conversion button has no response	The inner circuits of the receiver has failed	<ul style="list-style-type: none"> Ask your distributor to have your receiver replaced, reconfigure the IDs of the tires using the Tire Switching Mode (Mode IV), and then send the failed receiver back to its manufacturer for repair
6. The pressure (or temperature) values show tire locations	<ol style="list-style-type: none"> 1. The tire is placed at a wrong location 2. The IDs of the four tires are not configured correctly 	<ul style="list-style-type: none"> Ask your installment vendor to switch the tire to the correct location Ask your installment vendor to reconfigure the IDs of the tires using the Tire Switching Mode (Mode IV)
7. The white light indicator of the Conversion button is always on or never on	The inner circuits of the receiver has failed	<ul style="list-style-type: none"> Ask your distributor to have your receiver replaced, reconfigure the IDs of the tires using the Tire Switching Mode (Mode IV), and then send the failed receiver back to its manufacturer for repair
8. The buzzer has no sound output	The inner circuits of the receiver has failed	<ul style="list-style-type: none"> Ask your distributor to have your receiver replaced, reconfigure the IDs of the tires using the Tire Switching Mode (Mode IV), and then send the failed receiver back to its manufacturer for repair