



InnoTechRV



Tire Pressure Monitoring System Operating Instructions (For Rvs and Trucks)

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1 Introduction

Congratulations on purchasing the new InnoTechRV TPMS-X Tire Pressure Monitoring System. This system is a safety system for monitoring the vehicle's tire pressure and temperature. It consists of externally mounted wireless sensors, fitted to the vehicle's wheel tire valves, and a hand-held monitor. The sensor will monitor the tire's air pressure and temperature. The sensor transmits the tire pressure and temperature information to the dash-mounted/hand held monitor.

The monitor can be placed on the dashboard, on the sun visor or mounted in any convenient place in the vehicle using the window mount included.



SENSOR

2 Function

The monitor's function is to receive the temperature and pressure information transmitted from the sensors fitted to each tire and display this information on the screen in the specific units of measurement of your choice.

The monitor will emit an alarm when a tire pressure or temperature varies markedly from the targeted tire pressure and/or temperature (refer section 4.) The system will detect high or low air pressure as well as high temperature or rapid leakage from the tires. The monitor will flash a red warning LED lamp and an alarm will sound to remind the operator to check if the tires are high or low in air pressure, there is leakage, a high temperature condition, the monitor's battery is low, or there is a problem with a sensor. This advanced tire monitoring system offers these great features and benefits, is reliable, lightweight and compact.



JET-M-400C
(MONITOR)



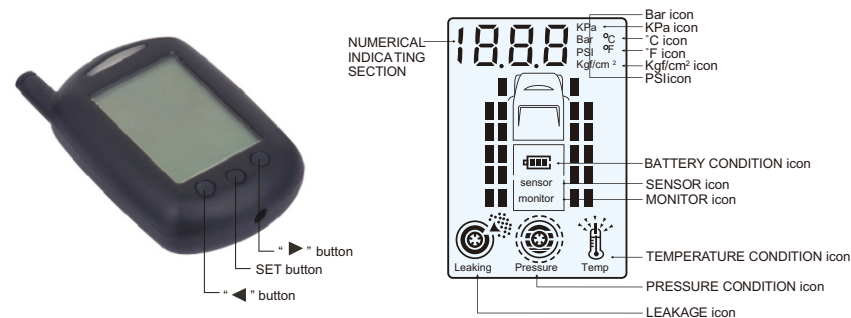
JET-M1-400C
(MONITOR)



JET-M2-400C
(MONITOR)

3 Installation & Operating Instructions

The following graphics identify the icons on the monitor.



Units Conversion Formulae Temperature

$$F = 9C/5 + 32$$

Note: C = Celsius; F = Fahrenheit

Pressure

$$1 \text{ Bar} = 14.5 \text{ psi}$$

$$1 \text{ Bar} = 100 \text{ kPa}$$

$$1 \text{ Bar} = 1.02 \text{ kgf/cm}^2$$

Important; before installing the tire sensors:

- ensure you have inflated the vehicle's tires to your required pressures. **Note: It is recommended to set tire pressures at those recommended by the manufacturer or listed in the vehicle's handbook,**
- ensure the monitor battery is fully charged and is in the tire alignment mode,
- ensure batteries have been fitted to each sensor.

Tire alignment mode

Hold down the “◀” and “▶” buttons simultaneously on the monitor for 5 seconds to enter tire alignment mode, and press either “▶” or “◀” button to select the specific tire that needs to be aligned.

Screw a sensor to the Tire valve stem and the current pressure will be displayed against the corresponding flashing Tire icon on the screen. Once the Tire is aligned successfully the green light appears on the monitor. The red LED light appears on the monitor if the sensor hasn't been aligned and “- - -” also appears on the monitor.

Note: If the sensor is to be removed from one valve and fitted to another valve, you must delete the current setting on the monitor and realign this sensor to the new tire. To delete an aligned sensor from a tire, whilst in tire alignment mode, select the tire position and then hold down the middle button until “- - -” appears on the monitor.

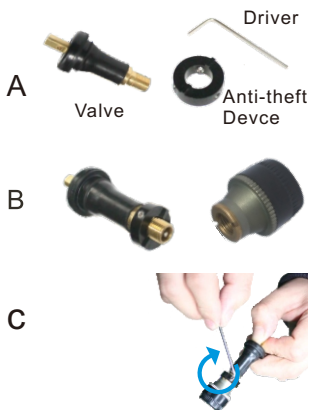
When all tire sensors have been aligned with the monitor, exit tire alignment mode by again holding down the “◀” and “▶” buttons simultaneously on the monitor until the monitor beeps (approx 5 seconds).

To check the pressures and temperatures, scroll through the selected tire positions using the left or right buttons. The monitor will indicate the pressure and then the temperature of each tire. After your checks are completed, the backlight will go out and the monitor will indicate the Tire pressure of the selected Tire.

Note: The monitor may initially show abnormalities until you have set your required pressures and units of measurement. These will be done in the Standard Pressure Setting and unit selection setting below.

Installation of the Sensor and anti-theft device

The sensors of the INNOTECHRV TPMS-X have an optional anti theft ring to prevent the sensors being stolen. If you wish to fit these then, with the sensor off the valve stem, place the anti-theft ring over the valve stem, with keyed face facing out, replace the sensor and then with the anti-theft ring knobs fitted to the slots of the sensor tighten the grub screws with the hex key provided.



Note:

1. Always install the sensor when the Tire is cold
2. Please check each Tire valve is not damaged.
3. Check to ensure there are no leaks and the sensors are firmly secured to each Tire valve.

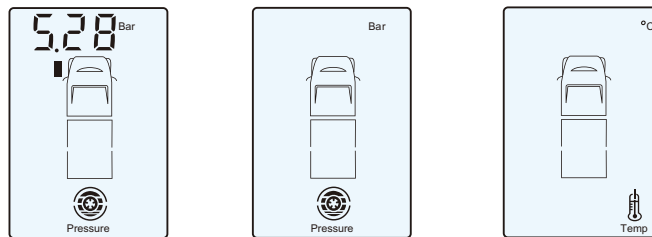


Installation of the Monitor

The monitor may be mounted using the pedestal supplied. The monitor can be fixed to a suitable surface in the vehicle, sun visor, dashboard etc. It has a built-in lithium battery or you may wish to use the charger provided to power the monitor continuously.

Programming Standard Settings

Hold down the middle button of the monitor for 5 seconds to enter into Standard Settings Mode (left graphic below). The first tire position will be selected. Press the “◀” or “▶” button to set the required pressure for this tire position then press the middle button to select the next tire and repeat this sequence to set the standard pressure on each of the remaining tires.



Once you have completed setting all the tire pressures, then set your preferred units of temperature and pressure measurement, “kpa”, “Bar”, “PSI” and “kgf/cm2” for pressure units and “F” and “C” for temperature, by pressing the “◀” or “▶” buttons. Hold down the middle button for 5 seconds to exit the Standard Settings mode.

Reading Current Tire Conditions

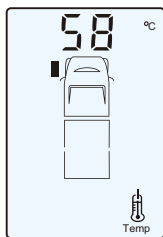
Whilst in Standby mode, press “◀” or “▶” button to check the air pressure and temperature of each of the tires in turn starting with the front left tire (graphics A & B right).

The monitor indicates “- -” if a specific sensor's alignment is lost from the monitor. Refer to Tire Alignment Mode to realign sensor (graphic C right).

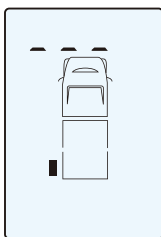
The monitor will indicate the “no S” signal whenever a sensor is either out of range or may be faulty. (graphic D right).



A



B



C



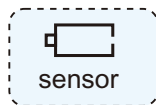
D

Battery Low Indicators of the Monitor and Sensor



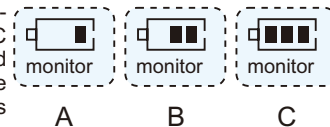
When the monitor battery charge is low, the battery icon and “MONITOR” icon on the screen flash, the beeper gives a 10 second intermittent alarm. The monitor will then beep every 30 seconds when it is within 5 minutes of total discharge.

When a tire sensor has a low battery, the battery icon and “SENSOR” icon together with the corresponding tire icon flash on the screen and a 10 second intermittent alarm will sound. If the power of any of the sensors becomes too low, please replace the corresponding battery immediately.



Charging the Monitor

The built-in lithium battery of the monitor is rechargeable. Please connect the 12/24V DC charger into the port at base of the monitor, and then insert the adapter plug into the port of the vehicle's 12/24V DC accessory port. It takes approximately 6 hours to fully charge the monitor.

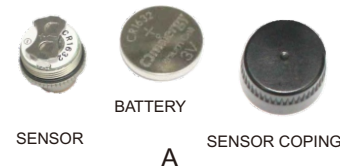


The battery icon cycles as it is charging (as above) and the monitor will give beep and the charging icon will disappear once charging is complete. Note: Please keep the monitor in a cool environment when charging.

Note: Please keep the monitor in a cool environment when charging.

Sensor battery replacement

Replace the corresponding sensor's battery when the monitor indicates a low battery. Unscrew the plastic cap from the sensor, take out the battery and replace with a new button cell battery, (CR 1632). Ensure the “+” terminal is touching the upper bracket. Screw down the cover.



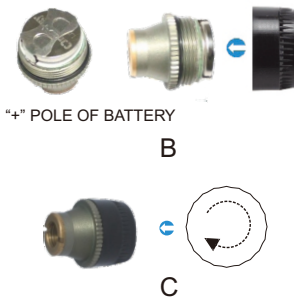
Note:

1. The battery model required for the sensors is a CR1632 button battery.
2. The “+” and “-” pole of sensor battery must be placed in the correct position with the “+” terminal facing up; failure to do so may cause the sensor to burn out.
3. In order to make sure that the battery is replaced correctly, enter Tire alignment mode and delete the alignment of the respective sensor and realign it again.

Power up

Quickly press SET button to enter into stand-by mode from the powered off state.

Note: Once the monitor is on, the information from all Tires can take up to 4 minutes to be received in normal conditions. When the sensors are in an area of strong interference or in very cold conditions, the monitor may not receive the signal. Pull out the monitor's antenna to increase the strength of the signal.



Power off

Hold down the middle button for at least 8 seconds, and the monitor will automatically switch off. Please note: the system will first enter into the setting mode 5 seconds after holding down SET button, continue holding down the SET button for a further 3 seconds or more to power off the monitor.

Note: Whether the monitor is turned on or off, the sensors are always in standby mode.

Standby Time

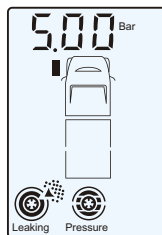
The monitor has an intelligent 15 minute suspend mode. The monitor goes into suspend mode to save power after the vehicle has been switched off for more than 15 minutes. When the vehicle is started, the monitor automatically turns on and connects to the vehicle's sensors.

4 Warning Conditions

The INNOTECHRV TPMS-X has two primary functions, monitoring the temperature and pressure conditions of the vehicle's tires. The following are the abnormal conditions that will trigger a warning.

Rapid Leakage

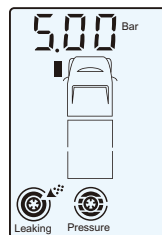
When the air pressure of a tire drops more than 0.2 Bar (3psi) within 2 minutes, the monitor will signal an audible alarm and the corresponding icon will flash on the monitor's screen to indicate which tire has the abnormal air pressure and what its current air pressure reading is. The air pressure icon will also flash along with the flashing red LED on the monitor.



Slow Leakage

When the air pressure of a tire drops more than 0.2 Bar (3psi) over a period of between 2~10 minutes, the monitor will signal an audible alarm and the corresponding icon will flash on the monitor's screen to indicate which tire has the abnormal air pressure what its current air pressure reading is. The air pressure icon will also flash along with the flashing red LED on the monitor, as the right graphic shows.

Note: If there is a fast or slow leak the sensor will send a message to the monitor whether driving or stationary.



High Temperature Warning: Stage 1

When the temperature inside the tire exceeds 167oF (75oC) the system will give a stage 1 high temperature alarm and the monitor will indicate the position of the tire with the abnormal temperature along with its current temperature. Abnormal temperature is indicated by the flashing red LED on the monitor and the temperature icon flashing on the screen.

High Temperature Warning: Stage 2

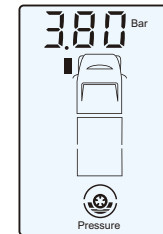
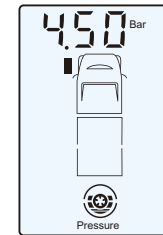
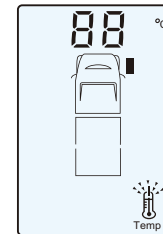
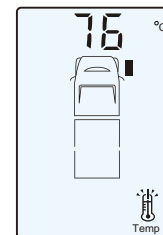
When the temperature inside the tire exceeds 185 oF (85 oC) the system will give a stage 2 high temperature alarm and the monitor will indicate the position of the tire with the abnormal temperature along with its current temperature. Abnormal temperature is indicated by the flashing red LED on the monitor and the temperature icon flashing on the screen.

Low Pressure Warning: Level 1

When the actual tire pressure is equal to or falls below 85% of the set pressure the system will give an alarm and the monitor will indicate the position of the tire with the abnormal air pressure and its current pressure. The low pressure is indicated by the flashing red LED on the monitor and the pressure icon flashing on the screen.

Low Pressure Warning: Level 2

When the actual pressure is equal to or falls below 75% of the set pressure the system will give an alarm and the monitor will indicate the position of the tire with the abnormal air pressure and its current air pressure. The low pressure is indicated by the flashing red LED on the monitor and the pressure icon flashing on the screen.



Low Pressure Warning: Level 3

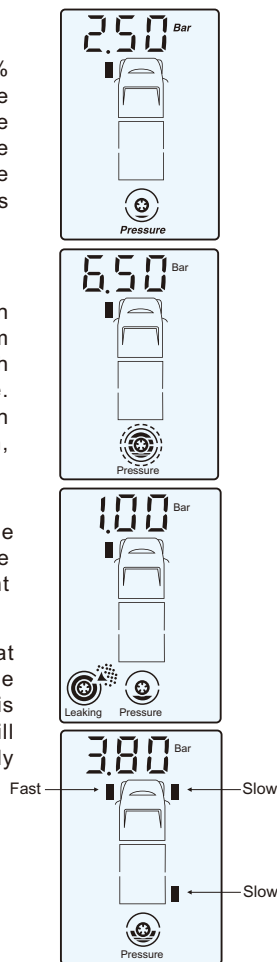
When the actual pressure is equal to or falls below 50% of the set pressure the system will give an alarm and the monitor will indicate the position of the tire with the abnormal air pressure and its current air pressure. The low pressure is indicated by the flashing red LED on the monitor and the pressure icon flashing on the screen, as the graphic on the right shows.

High Air Pressure Warning

When the actual pressure is equal to or greater than 120% of the set pressure the system will give an alarm and the monitor will indicate the position of the tire with the abnormal air pressure and its current air pressure. The low pressure is indicated by the flashing red LED on the monitor and the pressure icon flashing on the screen, as the graphic on the right shows.

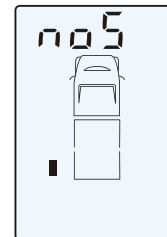
Multi-Warning Indication

1. When there are many kinds of abnormalities with one Tire simultaneously, the monitor will indicate all the various abnormalities, as the graphic on the right shows.
2. When there are abnormalities with two or more tires at the same time, the respective tire icons with the abnormalities will all flash on the screen. In this situation the current tire reading being displayed will be indicated by that tire icon flashing more rapidly than the other icons.



Sensor Abnormality Indication

If the monitor does not receive a signal from one or more of the sensors within 20 minutes of coming out of standby mode, the audible alarm will sound for 15 seconds along with the flashing red LED on the monitor. The corresponding icon of the abnormal sensor will also flash and indicate "no S" which indicates there is either a fault with the sensor, the sensor is damaged or the sensor is out of range. The system will alarm every 20 minutes if the monitor still can't receive the signal from the sensor, as the graphic on the right shows.



Note: When the monitor has been off or in standby mode, the monitor will display "no S" instead of the detailed pressure and temperature readings. The monitor will indicate the correct readings within 4 minutes of activation.

Notes:

In an alarm condition the monitor will sound a continuous audible alarm for 15 seconds with the flashing red LED and the back light will remain on for 5 minutes along with the corresponding faulty tire icon flashing. Pressing the "◀" or "▶" button will stop the audible alarm. Shortly afterwards the back light will automatically go off but the red LED will remain on until the fault condition clears. The system alarm will sound again after one hour to further remind the operator if the condition has not cleared.

When a sensor is removed to inflate or deflate a Tire, this will cause the sensor to detect rapid and/or slow leakage because the sensor has suddenly detected zero pressure. Once the sensor is refitted the monitor will return to normal and the alarm will clear within approximately 10 minutes.

If you wish to add further sensors to the monitoring system, i.e. fitting sensors to an additional trailer, etc. refer to procedure 3, Installation & Operating Instructions.

5 Technical Specifications

Sensor

Working Temperature	14 °F TO 185 °F (-10°C -- 85°C)
Working Humidity	0 -- 95%
Dimension	24 x 21 x 21mm
Weight	11g(±1g)
Battery Voltage	3V DC (CR1632)
Battery Life	1 year
Standby Current	500nA
Working Current	6mA
Pressure Measure Range	0 psi -- 232 psi(0 bar-- 16 bar)
Pressure Measure Precision	±4.35 psi(±0.3 bar)
Temperature Measure Range	14 °F TO 185 °F (-10°C -- 85°C)
Temperature Measure Precision	±3°C
Signal Transmitting Frequency	433.92 MHz
Operating Distance	up to 20M(65ft)Booster recommended If towing or over 25ft(Receiver to rear Tire)

Monitor

Working Voltage	3V DC
Working Temperature	-4 °F TO 140 °F (-20°C -- 60°C)
Working Humidity	0 -- 90%
Standby Current	0.1mA
Working Current	15 mA
Signal Receiving Frequency	433.92 MHz
Color of Backlight	White
Dimension	Monitor size: 82mm×55mm×23mm (JET-M-400C) Monitor size: 87mm×55mm×20mm (JET-M1-400C) Monitor size: 82mm×52.5mm×16.5mm (JET-M2-400C)

6 Box Contents

Description	Quantity
Tire Sensors (TPMS-X)	X = no. of sensors (4-22)
Monitor	One (1)
Bracket	One (1)
12/24 V DC Accessory Power Socket Adapter	One (1)
Sensor anti-theft security devices	X = no sensors (4-22)
Hex Allen Key	One (1)
User Manual	One (1)

This system is distributed by:
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 Cumming, GA 30040
 P: 770 530 0274
 E: info@innotechrv.com
 W: www.innotechrv.com

For customer reservation

Name: _____

Model No.: _____

Date of Purchase: _____

Place of Purchase: _____

Note:

1. We offer one-year warranty and free repair services for the products from the date of purchase.
2. We offer lifetime maintenance services for our products.
3. Our warranty excludes the normal abrasion of any subassemblies and accessories, any damages from improper use, accidents and dismantlement, and the damages of any accessories.
4. Please keep this part and the commercial invoice as the guarantee for the repair and examination of the products during warranty.

Distributor:

(Signature and seal) _____

(This guarantee card will become effective upon the seal of the distributor.)

**Thank you for choosing our products.
Please carefully fill in the following form.**

Name: _____

Post Code: _____

Address: _____

Model No.: _____

Tel: _____

Invoice No.: _____

Date of Purchase: _____

Name of the Distributor: _____

What makes you choose our products?

☐Economy ☐Service ☐Advert ☐Other

☐Quality ☐Website ☐Recommendation from friends

Please fill in this card and send it back to our after service department. It will be the main guarantee for your right to gain the after services during the warranty.