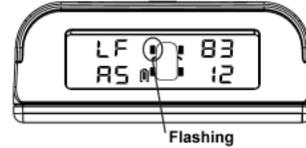


## 9. REGISTERING SENSORS

This procedure can be used to register an additional sensor for the spare tyre, or to register replacement sensors in any position.

- In standby mode, press and hold the **UP (+)** button until the beep. The first tyre icon flashes and the monitor displays the letters LF, followed by the ID code of the sensor registered to this location.
- With the monitor near the tyre, press the **DOWN (-)** button to select the desired tyre position.
- Screw the sensor onto the tyre. When the sensor is registered, the system beeps and displays the ID code of the sensor.
- Press and hold the **SET** button for three seconds. The system saves the settings and returns to standby mode.
- If no action is taken for one minute, the monitor returns to standby mode without saving any changes.



## 10. MANAGING TYRE PRESSURES

### 10.1 Recommended pressures

The recommended tyre pressures are given in the vehicle handbook are designed to give the best balance between comfort, road-holding and fuel economy for a given vehicle. The side-wall of the tyre is embossed with the maximum pressure rating for the tyre. This is NOT the recommended service pressure.

Under-inflated tyres have greater rolling resistance, so they waste fuel and wear faster. Driving on tyres below a critical inflation pressure can cause a blow-out, and can damage wheel rims because the tyres no longer support the vehicle. Over-inflation reduces grip and causes uneven wear.

### 10.2 Effect of temperature

Tyre pressures are specified for cold tyres, but the tyres warm up when driving, and the pressure increases by about 10% in normal service. Tyres should therefore be inflated to the recommended level before they are heated by driving. In winter, tyre pressures fall due to lower temperatures and additional air is required to bring them to the manufacturer's recommended level. If a tyre overheats, it may blow out or cause permanent damage to the sidewall.

## 11. SERVICE AND WARRANTY

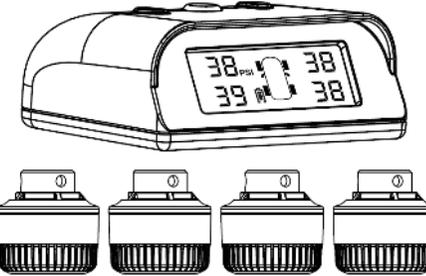
Please register your guarantee by completing details on our website. The system is warranted to be free from manufacturing defects and is guaranteed for a period of twelve months from date of purchase. There are no user-serviceable parts inside and if internal parts have been tampered with, the warranty may be void. The warranty does not affect your statutory rights.

*Wheel Solutions Limited, Unit 2 Upper Keys Business Park, Keys Park Road, Hednesford,  
Cannock, Staffordshire, WS12 2GE, United Kingdom  
Tel: +44 (0)1543 870 170 e-mail: [enquiries@tyrepal.co.uk](mailto:enquiries@tyrepal.co.uk) [www.tyrepal.co.uk](http://www.tyrepal.co.uk)*

## Tyre Pressure Monitoring System

### TB99

### User manual



**TyrePal**  
A WSL COMPANY  
TYRE PRESSURE MONITORING SYSTEMS

**Innovative safety solutions for your peace of mind**

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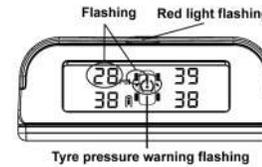
## 7. WARNINGS AND ALERTS

In the event of an abnormality, an alert is given as follows

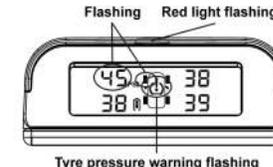
- Audible alarm
- Red light flashes
- The corresponding icon on the monitor blinks

You can press any button on the monitor to silence the alarm, but the red light will continue to flash and the icon will continue to blink until the problem has been corrected.

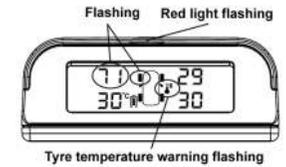
### 7.1 Tyre pressure and temperature alerts



Low pressure or leakage alert



High pressure alert



High temperature alert

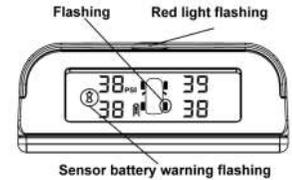
### 7.2 Low battery warnings



If the monitor battery is low, the monitor battery icon will change from full to empty. Plug in to charge the battery and the icon becomes animated to show charging in progress.

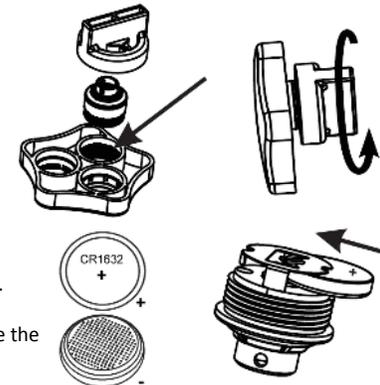


If a sensor battery is low, the sensor battery icon blinks, together with the appropriate tyre icon. The CR1632 sensor battery must then be replaced. They are available on-line from TyrePal Limited.



## 8. REPLACING A SENSOR BATTERY

- Take the sensor off the tyre, but do not completely remove the locking screw.
- Use the sensor tools to remove the battery cover from the sensor and expose the battery.
- Replace the CR1632 battery making sure the positive + side is upwards and that it goes inside the metal cage, not on top of it.
- Check that the waterproof rubber seal is in position and replace the battery cover, using the sensor tool to replace the cover.



## 5. INSTALL THE SENSORS

For four-wheel systems, the sensors are pre-registered and marked with the appropriate wheel positions. If a fifth sensor has been supplied for the spare tyre, it will have to be registered to the system. Please see section 9 for the sensor registration procedure .

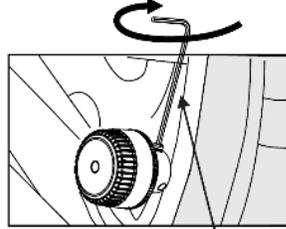
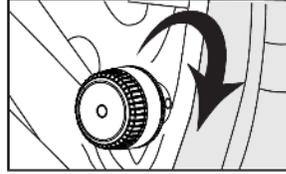
Turn the monitor on before installing the sensors.

Remove the tyre valve dust cap and screw on the appropriate sensor in its place, but do not over-tighten. The monitor displays the pressure of the tyre as each sensor is installed.

For added security, use the hex key to tighten the locking screw. If it is difficult to reach, take the sensor off and insert the locking screw into a different hole.

Keep the hex key in a safe place as it is needed to remove the sensor.

When the sensors have been installed, test for leaks by brushing a little detergent and water on the valve stems. If bubbles appear, release the locking screw and re-tighten the sensor.



Hex key

## 6. OPERATION

In normal operation, with the vehicle in motion, the sensors check the tyre pressures and temperatures every six seconds. If a tyre pressure is falling, data is transmitted to the monitor immediately to give an alert. If the pressure is not falling, data is only sent to the monitor every five minutes. This is to save the sensor batteries.

### 6.1 Sleep mode

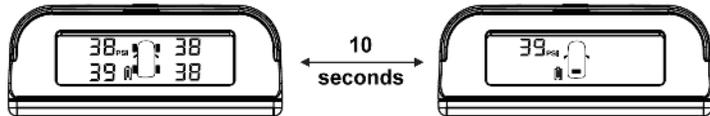
The monitor has a motion detector that automatically shuts it down when the vehicle is not in use, and wakes it up when it senses vibration like the opening of the car door. The sensors only transmit while the wheels are turning.

### 6.2 Backlight

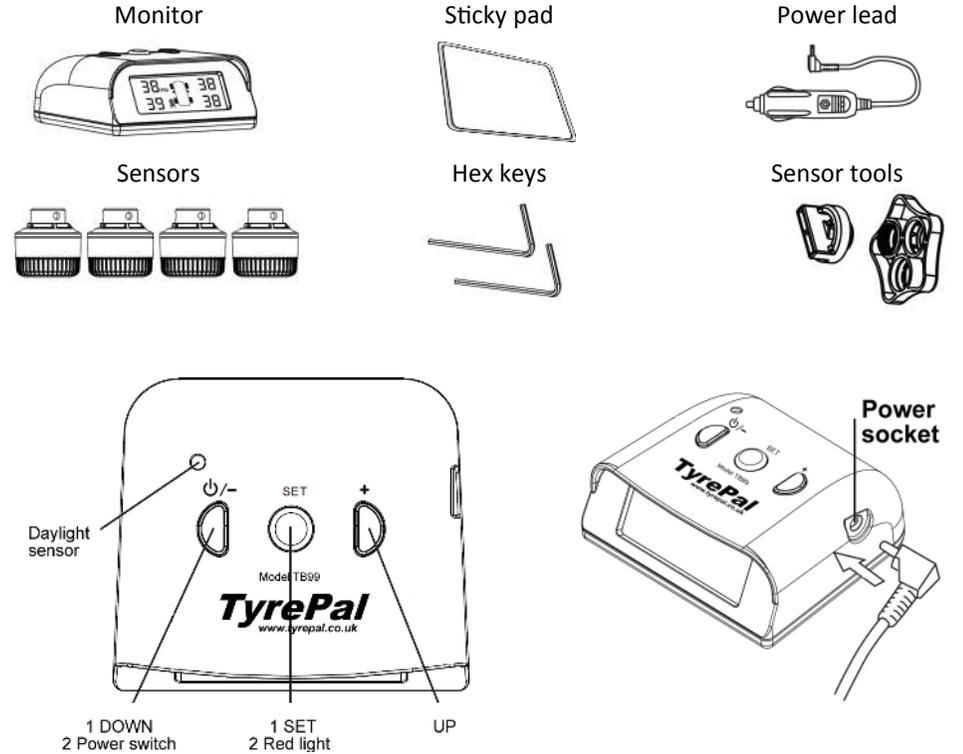
A backlight comes on when it is dark and the brightness can be adjusted in three steps: off - medium - bright. Cover the sensor so the light is visible while making this adjustment, then press the **DOWN** (-) button briefly to step through the options. If the light does not come on in the dark, check this adjustment to turn it on.

### 6.2 Normal display

In normal display, the tyre pressures are displayed on the monitor. You can press the **SET** button to display the temperatures and it reverts to pressure display after ten seconds. Note that the reading is not instantaneous, but is the value stored in the monitor which is updated every five minutes. If a fifth sensor has been registered to the system, the display will alternate between showing the four tyres and the spare.



## 1. SYSTEM COMPONENTS



## 2. IMPORTANT SAFETY NOTES

The TyrePal system can help you maintain tyre pressures for safety, fuel economy, tyre life and environmental impact.

It is your responsibility to ensure that it is suitable for your particular vehicle and that it is working correctly and properly maintained. Check the sensors and valve stems regularly, as some road salts can cause corrosion.

**The system does not replace the need to carry out regular checks on the condition and wear of the tyres.**

Keep the small parts and especially the batteries out of the reach of children. If a battery is swallowed, consult a doctor. Do not hold a battery with metallic tweezers as it will cause a short circuit and may lead to burning or even explosion of the battery.

### 3. BEFORE INSTALLATION

Before installing the system, ensure that it is suitable for your vehicle.

- The operating pressure of your tyres must be within the range of the system. i.e. 0 - 6.5bar (0-99psi).
- Check that tyre valve stems are in good condition before fitting the sensors. Do not use the system with aluminium valve stems.
- Do not fit sensors to tyres that have been treated with internal tyre sealant. The sealant may damage the sensor or impair its action.
- To avoid danger of damage to the sensors, check that sensor valve caps will not protrude excessively beyond the outside profile of the tyres when fitted.

#### 3.1 Wheel balancing

The weight of the sensors is within the tolerance normally achieved for wheel balancing, so there is usually no need for the wheels to be rebalanced after installing the system. If vibration is felt when driving at speed after fitting the system, the wheels must be rebalanced.

#### 3.2 Battery charging

The monitor is powered from an internal rechargeable battery that may need to be charged before first use. A full charge takes 2<sup>1</sup>/<sub>2</sub> hours and provides about 28 hours operation, or about one week driving four hours per day. It is not harmed by partial charging and does not have to be fully discharged before recharging. If the power is low, a battery warning icon will appear.

The monitor should only be charged using the supplied cigarette lighter lead.

#### 3.3 Monitor mounting

A re-usable sticky pad is provided for mounting the monitor. Just place the sticky pad on a clean flat surface and position the monitor on top. Choose a position where it can be seen by the driver without interrupting the view of the road. For security, it can be removed and hidden while the vehicle is unattended.

The pad can be removed and repositioned without leaving any residue and can be washed in warm water if it gets dusty and loses its stickiness.

#### 3.4 Turning on and off

It is not normally necessary to turn the monitor off. It has a motion detector that automatically shuts it down when the vehicle is not in use, and provided there is some charge in the battery, it wakes up when it senses vibration like the opening of the car door. To turn off manually, press and hold the power button until it beeps.

#### 3.5 Tyre pressures and alert levels

The following alert levels are suggested, based on the vehicle manufacturer's recommended tyre pressures:

High pressure alert level:	20% above recommended pressure
Low pressure alert level:	15% below recommended pressure
High temperature alert level:	70°C (factory default)

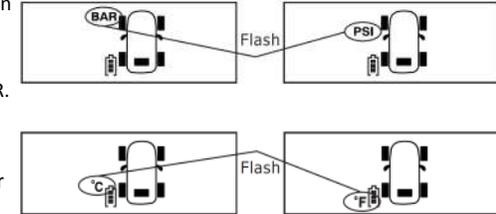
### 4. SETTINGS MODE

The settings mode is used to set the units for display and the alert levels.

- Press the **SET** button and hold it until the beep.
- Press the **SET** button repeatedly to scroll through the setting options.
- Press the **UP (+)** or **DOWN (-)** button to adjust the parameters.
- Press and hold the **SET** button for three seconds. The system saves the settings and returns to standby mode.
- If no action is taken for one minute, the monitor returns to standby mode without saving any changes.

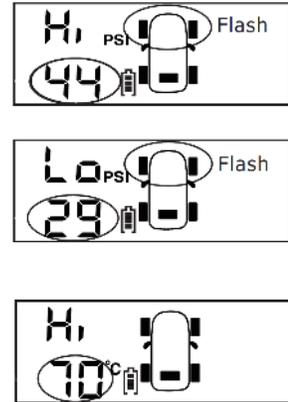
#### 4.1 Set units

- From standby mode, press and hold the **SET** button to enter the settings mode.
- When the **PSI** or **BAR** icon flashes, press the **UP (+)** or **DOWN (-)** button to switch between **PSI** or **BAR**.
- Press the **SET** button to move on to temperature units.
- When the **°C** or **°F** icon flashes, press the **UP (+)** or **DOWN (-)** button to switch between **°C** or **°F**.
- Press the **SET** button to move on to set the alert levels.



#### 4.2 Set alert levels

- In settings mode, scroll through the pressure and temperature settings until the wheels for the front axle are flashing.
- Press the **UP (+)** or **DOWN (-)** button to adjust the setting.
- Press the **SET** button to move on and set the low pressure alert level using the **UP (+)** or **DOWN (-)** buttons.
- Press the **SET** button again to move on to the rear axle pressure settings and adjust them with the **UP (+)** or **DOWN (-)** buttons.
- Press the **SET** button again to move on to the spare tyre pressure settings and adjust them with the **UP (+)** or **DOWN (-)** buttons. This can be left at the factory default if the spare is not being monitored.
- Press the **SET** button again to move on to the high temperature alert level that applies to all the tyres. (this can conveniently be left at the factory default of 70°C.
- Finally, press and hold the **SET** button for three seconds. The system saves the settings and returns to standby mode.



**Please note:**

If no action is taken for one minute, the monitor returns to standby mode without saving any changes.