TyrePal

www.tyrepal.co.uk

Motor cycle

Tyre Pressure Monitoring System

TD-4000AX

User manual

CONTENTS

IMPORTANT SAFETY NOTES

Please read the following important safety information before installing the system.

1.1 System safety

The tyre pressure monitoring system (TPMS) continuously monitors your tyre pressures and temperatures and warns you of any abnormality. It is intended to help you maintain your tyre pressures at the optimum levels for performance, fuel economy, tyre life and environmental impact.

It is your responsibility to ensure that it is suitable for your particular machine and that it is working correctly. It must be properly maintained and checked regularly.

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

1.2 Batteries and small parts

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. It may cause a short circuit.
Do not recharge, disassemble or dispose of batteries in a fire. Batteries can explode if mistreated.

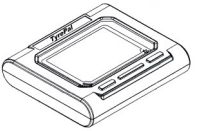
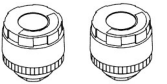
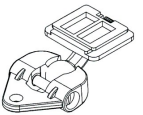
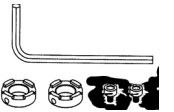
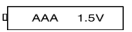
1.3 Before installation

Before installing the system, ensure that it is suitable for your machine.
Check that the operating pressure of your tyres is within the range of the system. i.e. no greater than 60psi (4.1bar).
Check that sensor valve caps do not foul on anything as the wheels turn.
Check that tyre valve stems are in good condition before

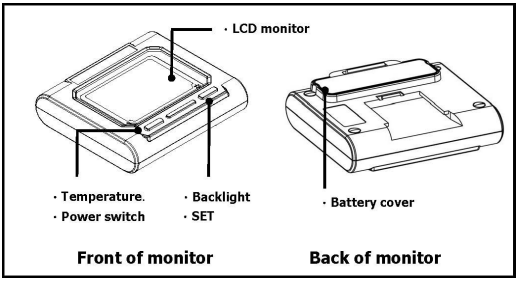
fitting the sensors. Because rubber valve stems can perish in strong sunlight, we recommend using metal valve stems. Do not use the system with tyres that are charged with puncture sealant.

2. PACKAGE CONTENTS

The following components are included in the package, together with this user manual:

Monitor 	Sensors quantity 2 
Mounting bracket 	Handlebar clamp 
Silicone rubber case 	Anti-theft set 
AAA battery, quantity 1 	CR 1632 lithium battery quantity 2 

3. OVERVIEW AND LOCATION OF CONTROLS



4.QUICK START

4.1 Insert battery into monitor

4.2 Insert batteries into sensors

4.3 Screw sensors on to tyres

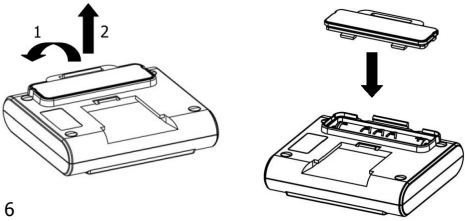
4.4 Fit monitor to handlebar

5. DETAILED SET-UP INSTRUCTIONS

5.1 Monitor battery

Open the battery cover by carefully lifting the tab. Insert one AAA battery and close the cover, making sure it is correctly aligned and clicks closed.

Take care not to damage the battery cover gasket.

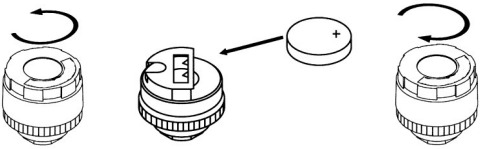


The boot-up screen is immediately displayed and may show zeros or the pressures stored from testing the system.

5.2 Sensor batteries

Each sensor requires one lithium CR1632 battery.

The sensors are marked with the positions where they should be installed: 1 FRONT, 2 REAR, so keep the battery cover with the correct sensor when fitting the batteries.



Unscrew the sensor battery cover and insert the battery, making sure the polarity is correct (+ upwards), then replace the cover.

The monitor receives the signal from the sensor, shows the sensor communicating icon and displays the pressure.

As the sensor has not yet been mounted on the tyre, it displays 00.0psi alternating with the low pressure alert.

Low pressure alert - display alternates and LED flashes

If a sensor battery has to be removed and refitted for any reason, allow ten seconds for the system to reset before refitting the battery.

5.3 Fit sensors to tyres

The pack includes optional anti-theft rings.

Remove the tyre valve dust cap and slide the anti theft ring onto the valve.

Screw on the appropriate sensor in place of the original dust cap, but do not over-tighten.

Adjust the position of the anti-theft ring so that it prevents the sensor being unscrewed and lock it into place with the hex key provided. Do not over-tighten.

When both tyre sensors are fitted, check that there are no leaks by brushing a little detergent and water on the valve stems. If bubbles appear, slacken the locking key and refit the sensor.

The monitor displays the tyre pressure.

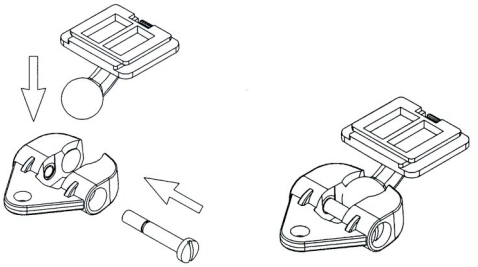
Wheel balancing

The weight of the sensors is within the tolerance generally achieved for wheel balancing, so there is usually no need for the wheels to be rebalanced after installing the system. Some machines are more sensitive to wheel balance than others, so if vibration is felt when driving at speed after fitting the system, the wheels must be rebalanced.

6. MOUNTING BRACKET

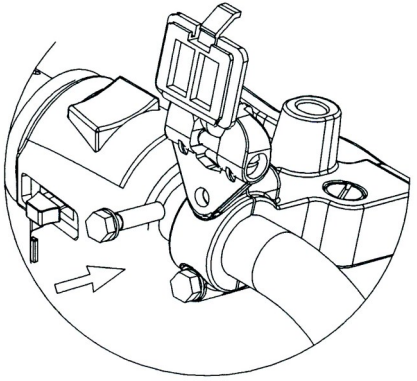
The monitor can be fixed to the brake fluid reservoir or clamped to handlebars of various sizes.

Assemble the mounting bracket as shown



6.1 Fitting to brake fluid reservoir

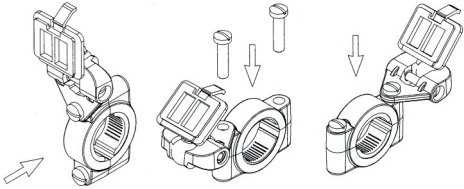
Attach bracket directly to brake fluid reservoir using the original bolt to avoid any damage.



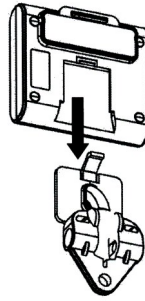
6.2 Fitting to handlebar

Select the correct size anti-slip insert and assemble the handlebar clamp.

Attach the bracket to the handlebar clamp as required. Various configurations are possible.



6.3 Fitting monitor to bracket



Slide the monitor in place until it clicks.

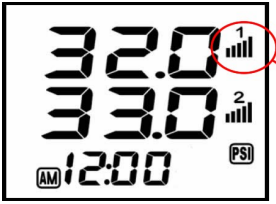
Remove it by lifting the lever at the top of the bracket.

The monitor is water-protected, but we strongly recommend using the silicone cover for additional protection in wet conditions. If the cover is already wet, air dry it before fitting.

7. DISPLAY AND ALARMS

7.1 Initialisation

When the system first wakes up, it beeps once and displays the tyre pressures stored from the last time it was used. After a minute or so, when it has established communication with the sensors, it displays the current pressures, with the small status symbol that confirms that it is communicating.

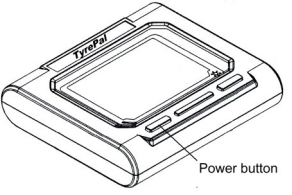


Most of the time, the display will remain in this mode.

7.2 Power saving

If the bike is not being used and there is no vibration for 20 minutes or so, the system will automatically power off. It automatically restarts when there is any vibration.

The system can also be turned off by pressing and holding the left button for three seconds. Pressing either button restarts it.



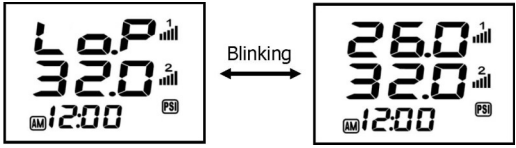
7.2 Alarms

When there is an alert condition, the red LED lights up and the display shows the reason for the alert, which should be investigated and corrected without delay.

Press any button to turn off the LED.

Tyre pressure low

If the pressure of one or more tyres is below the warning level (factory default is 26psi), an alert is given. The display alternates between displaying `Lo.P` and the actual tyre pressure.

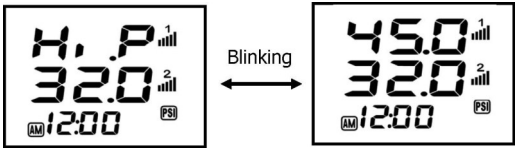


Puncture or air leak - tyre pressure continuing to fall

An alert is given when the pressure first falls below the warning level and is repeated for every further fall of 1psi.

Tyre pressure high

If the pressure of one or more tyres is above the high warning level (default 45psi), an alert is given. The display alternates between displaying `Hi.P` and the actual tyre pressure.



Tyre pressure continuing to rise

An alert is given when the pressure first rises above the warning level and for every further increase of 1psi.

Tyre temperature high

If the temperature of a tyre is above the warning level (default 70ºC), an alert is given. The display alternates between displaying `Hi.T` and the actual temperature.

Tyre pressure continuing to rise

An alert is given when the temperature first rises above the warning level, and is repeated for every further increase of 1ºC.

Low battery

When the monitor battery is low, the battery icon appears near the top of the display. Replace the battery.

When a sensor battery is low, the battery icon appears by the appropriate wheel. The sensor battery (lithium CR1632) must be replaced to keep the system working.

Low monitor battery

Low battery, sensor 1

The battery icons disappear when the new batteries are installed.

8. SETTING AND OPERATING

8.1 Function buttons

Left button: temperature and power

Press once to display tyre temperatures. After about ten seconds the display reverts to the main screen.

Press and hold for three seconds to turn off the monitor.

Right button: backlight and functions

Press once to turn on the backlight. After about ten seconds it turns off.

Press and hold for three seconds to enter the settings mode, or press and hold for five seconds to enter learning mode.

8.2 Settings mode – units and warning levels

The settings mode is used to select the units for display and also for setting the warning levels. To **enter the settings mode**, press and hold the right button for more than three seconds.

The display shows ***Uni Set*** *and the current pressure units.*

If no buttons are pressed for a period of thirty seconds while in the settings mode, the system saves the settings and reverts to normal monitoring mode.

Use the left button to scroll through the **pressure units** psi, Kpa, bar, or Kg/cm^2

When the desired pressure units are displayed, press the right button again to store the selection and move on to **temperature units**.

Select either ºC or ºF using the left button.

Press the right button again to move on to the **front tyre low pressure warning** level. Press the left button to increase the low pressure warning level in steps of 1psi or press and hold for rapid increase. For lower settings, scroll though past the maximum (100psi) to start again at the minimum (10psi).

Press the right button to move on to the **front tyre high pressure warning level**. Adjust as above with the left button.

Press the right button to move on to the **front tyre high temperature warning level**. Adjust as above with the left button.

Press the right button again to move on to the rear **tyre settings.**

Press the right button again to move on to **hour and minute settings.**

8.3 Learning mode

This mode is only required if you ever need to replace one of the sensors with a new one. Special replacement learnable sensors are available from TyrePal Limited.

Switch the system off and leave for at least ten seconds. Then hold down the right button for five seconds. The system enters the learning mode and displays **LEN** in the main screen.

Insert a battery into the replacement learnable sensor. When the sensor is identified, the LED flashes once and updates the display. The sensor exits this m ode automatically after about 30 seconds.

Note that this function only works with a special learnable sensor and the system will not accept a standard pre-assigned sensor.

9. MAINTENANCE

The system provides information that can be important for safety, so it must be properly maintained and checked regularly.

- Check the physical condition of the valve stems and sensors regularly.
- Occasionally remove one or more sensors from the tyre valve to ensure that an alert is produced.

10. TROUBLE-SHOOTING

If you experience any problems with your tyre pressure monitoring system, please check the following.

10.1 Blank display

Power may not be reaching the system

Turn on the power switch.

Check that monitor batteries are correctly installed – note polarity.

Check monitor battery condition - replace with fresh batteries.

10.2 Dashes instead of pressure readings

The monitor is not receiving signals from the sensors

Sensors may not be receiving power

Make sure sensor batteries are installed with correct polarity (+ upwards).

Batteries normally last about 12 months depending on conditions of use.

When you need to re-install a sensor battery, remove the old battery from the sensor and wait ten seconds with the

monitor switched on to allow it to reset.

Wipe the new battery with a dry cloth to ensure good contact and insert it making sure polarity is correct.

Incorrect sensors used

The sensors are specific to each monitor and cannot be exchanged between systems. If necessary, replace the incorrect sensors with the original ones or install replacement learnable sensors.

10.3 Monitor beeps continuously

Alarm condition - Check the tyres!

Monitor battery may be low

If the system is left running for several days with the low-battery warning on, it may beep continuously. Replace the monitor batteries.

10.4 Monitor display going dark

If the monitor LCD panel is above 80ºC it will go dark. When the temperature returns to normal, the display returns to normal.

10.5 System response slow

The system response may be slower when the temperature is below -25ºC. This is within the specification and is not a fault.

10.6 Tyre pressure readings rise and fall over time

This is normal. Please see Section 11.

10.7 Displayed pressure disagrees with a gauge

Many tyre pressure gauges are not very accurate, especially those on garage forecourts. If in any doubt, have tyres and pressure gauge checked by a specialist.

11. MANAGING TYRE PRESSURES

11.1 Effects of incorrect pressure

Incorrectly inflated tyres reduce the contact area with the road, leading to:

- less grip
- increased braking distances
- poor cornering
- uneven tyre wear

If tyres are under-inflated, they 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.

11.2 What is the correct pressure?

The recommended cold inflation pressures are given in the vehicle handbook. There may be different pressures for front and rear tyres. The side-wall of the tyre is embossed with the maximum pressure rating for the tyre. This is NOT the recommended service pressure.

11.3 Effect of temperature

Recommended 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 be inflated to the recommended level while they are cold.

A tyre inflated to 32psi at 25ºC increases about 1psi for each 10º rise in temperature.

In winter, tyre pressures fall due to lower temperatures and they should be re-inflated to the correct pressure.

11.4 Pressure gauge accuracy

The pressure indicated by garage forecourt equipment can only be taken as a rough guide. There are no regulations about maintaining accuracy and surveys in the UK have shown wide variations.

If the readings displayed on the TPMS differ significantly from your gauge, get your tyres checked by a specialist. Note that the sensors are accurate to ± 1psi.

12. SPECIFICATION AND STANDARDS

System frequency: 433.92MHz
Operating temperature: -20ºC to 85ºC
Pressure range/accuracy: 0 to 60psi ± 1psi
Temperature accuracy: ±2ºC
CE and FCC approved.
EMC e-marking approved, ref: e24031606

The product is protected by international patents in the EU, US, Taiwan and China.

13. ADDITIONAL INFORMATION

13.1 Information about tyre pressure monitoring

Additional information about tyre pressure monitoring and tyre pressure monitoring systems is available on the TyrePal website, www.tyrepal.co.uk, which is regularly updated with news, comments and technical information.

13.2 Systems for other types of vehicle

TyrePal Limited can supply systems for all kinds of vehicle, from motorbikes, cars, trailers, vans, trucks and buses, to vehicles with up to 36 wheels and pressures up to 180psi. See the website for details.

14. SERVICE AND WARRANTY

Register your guarantee by returning the warranty card or completing details on our web site. For warranty claims or if service is required, please contact TyrePal Limited for instructions.

www.tyrepal.co.uk

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