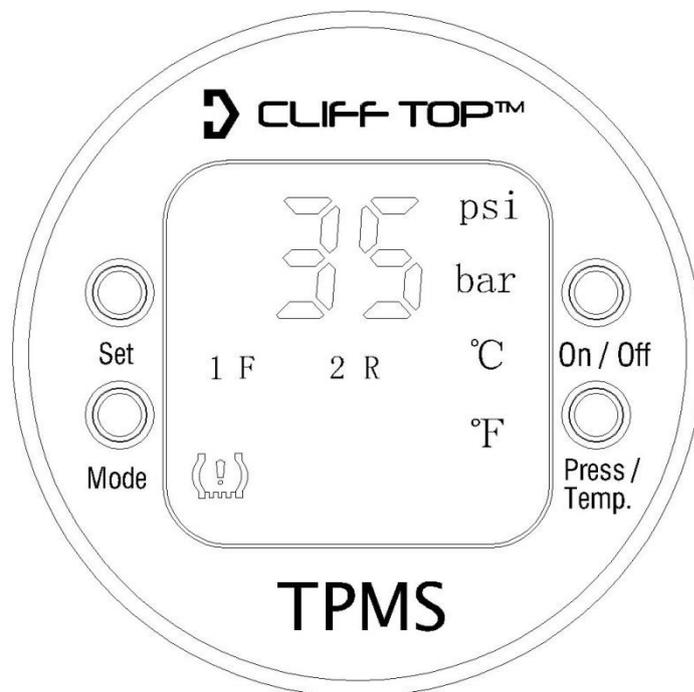# Cliff-Top® Waterproof Motorcycle DIY TPMS (Tire Pressure Monitoring System) with External Sensor LCD Display

User Manual

1. External Tyre Pressure Monitoring System Introduction

The M2(TPMS M2) tyre pressure monitoring system is installed on the tyre rim of a vehicle to monitor real-time tyre pressure and temperature and can transfer specific signals to the receiver inside the vehicle via RF mode. In this way, drivers are aware of tyre conditions, which can contribute to decreasing the rate of car accidents.

1.1 System Application

The M2(TPMS M2) tyre pressure monitor system must be installed according to the steps indicated in the installation manual by a qualified operator so that it can be used accurately and ensure the product warranty. This system is applicable to the tyres of common family two-wheel vehicles. It can measure tyre pressure up to 60 psi (420 kpa). When the alert lights or alert bells signal, drivers should slow down and park in a safe area, check the condition of the tyre and have it repaired at a qualified repair company nearby.

Warnings

1. Applying sealant or special chemical fillings to the tyre may cause errors in the TPMS or affect emitter function.

2. The tyre pressure monitor system (TPMS) is an affiliated piece of equipment for vehicle safety. Drivers should always make routine inspections of tyre tread and tyre condition.

3. This system transfers wireless signals; therefore, in specific circumstances, signals may be weakened or blocked due to interference factors, incorrect operating or inappropriate installation. We suggest choosing electronic products that comply with requirements related to vehicle safety.

4. Drivers are supposed to maintain good driving habits and enact routine maintenance of all key systems, which can help to reduce fuel consumption.

Drivers are supposed to make routine inspections and replace tyre valves yearly, in case of leaking or other problems.
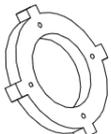
1.2 System Specifications

> ➢ **M2 receiver host specifications**

Voltage	DC 12V~24V
Storage temp range	-40℃ ~ +85℃
Temp range	-25℃ ~ +75℃
Host weight	42 g
Host external size	Diameter 42(mm) Height 35 (mm)

> ➢ **M2 external emitter module specifications**

Battery voltage	DC 3V	Weight of module	9 g ± 1 g
Working frequency	433.92 MHz	Module external size	Diameter21.9(mm) Height 20.2 (mm)
Tyre pressure measure range	0~60 psi± 1 psi	Storage temp range	-40℃ ~ +85℃
Tyre temp measure range	-30℃ ~ +85℃± 4℃	Battery life	Roughly 1~2 years (depending on service condition)

1.3 Accessory List

Receiver		1	Sensor		2
Installation manual		1	CR1632 battery		2
Wrench		1	Press nut		2
Wrench		1	Cross circle		2

2. Installation Procedure

2.1 Install Emitter

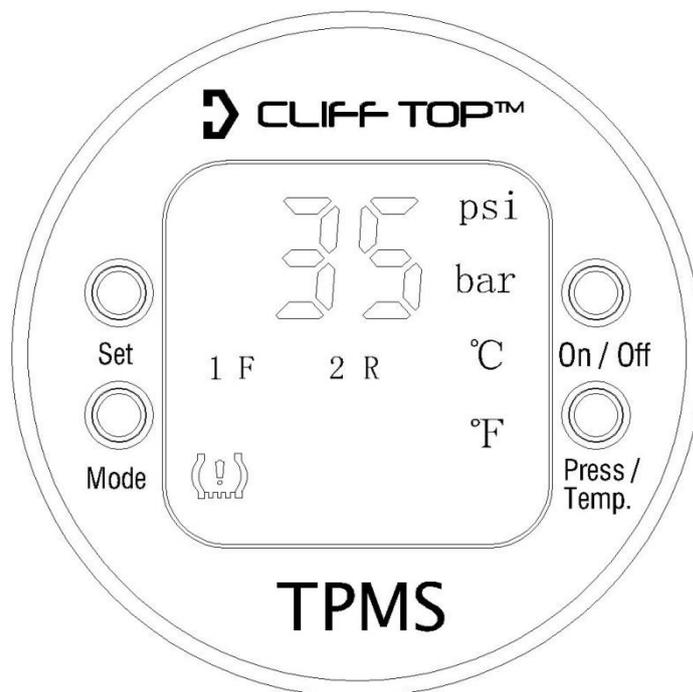No.1 = front wheel (1F)

No.2 = rear wheel (2R)

a. Loosen tyre valve cap and put on the nut.

b. Lock 1F emitter on the tyre valve cap until tight.

c. Use emitter wrench to tighten the nut and tyre valve cap.

d. Next in order: No.2 emitter; repeat steps a-c.

2.2 Install Receiver

   a. Open fuse box and connect red line to positive pole and black line to negative pole.

   b. With power and lights on, TPMS will be functional.

3. Operating Instructions

3.1 Button functions

Functional buttons	Functions
ON/OFF	Switch to screen (on/off); turn off alert

2.

Press/Temp	Switch display (press/temp) value
Set	Function setting
Mode	Mode switch

Display description

35 | Tyre pressure displayed

1 F | Front wheel

psi
bar | Temp unit displayed

2 R | Rear wheel

℃
℉ | Temp unit displayed

E1 | Receiver initial value setting error

E2 | Emitter low voltage signal light

3.3 Display Mode Switch

Tyre pressure is displayed as the factory default setting. Press the Press/Temp button and switch to tyre temperature.

3.4 Press/Temp Unit Switch

- Pressure unit: psi, bar

- Temp unit: ℃, ℉

  -When the pressure unit is displayed on the receiver, press <u>Mode </u>for three seconds and switch to pressure unit (psi -> bar).

  -When temp unit is displayed on the receiver, press <u>Mode </u>for three seconds and switch to temperature unit (℃ -> ℉).

4. Factory Default Settings

> Turn on the system and press the <u>Set </u>button of the receiver for three seconds; you will see the front wheel tyre pressure setting displayed.

> Set tyre pressure to factory default tyre pressure: 35 psi (35 psi=2.4 bar).

> Set tyre temperature to factory default tyre temperature: 80℃ (80℃=176℉).

(Note: please refer to standard factory default and set values)

a. 1F front wheel tyre pressure settings

● Picture on the right side displayed on the receiver; factory default tyre pressure is 35 psi, with a green light on.

● If you do not want to reset, press the <u>Set</u> button and enter rear wheel standard tyre pressure settings.

● Press the <u>Mode </u>button on the receiver to adjust standard tyre pressure; each press of the <u>Mode</u> button will add 1 psi to it.

- Adjustable range is 27~50 psi. When higher than 50 psi, settings will revert to 27 psi and cycle.

  (Note: for the bar unit, 0.1 bar will be added; range is 1.9~3.5 bar).

- After setting front wheel standard tyre pressure, press the Set button and enter front wheel standard tyre pressure settings.

b. 2R rear wheel tyre pressure value settings

- Picture on the right side displayed on the receiver; factory default tyre pressure is 35 psi, with a green light on.

- If you do not wish to reset, press the Set button and enter rear wheel standard tyre pressure settings.

- Press the Mode button on the receiver to adjust standard tyre pressure; each press of the Mode button will add 1 psi.

- Adjustable range is 27~50 psi. When 50 psi is exceeded, it will revert to 27 psi and cycle.

c. After setting standard tyre pressure, press the Set button and enter the high temp alert settings.

D. High temp alert settings

- On the receiver, four groups of tyre temp are displayed at a factory default value of 80℃, with lights green.

- If you wish to retain the default settings, press the Set button to finish the high temp alert value settings.

Press the Mode button on the receiver and adjust high temp alert value settings. Each press of the Mode button will add 1℃. Adjustable range is 60~99℃; a value higher than 99℃ will automatically revert to 60℃ and circulate settings.

(Note: for ℉ unit, each press will add 1℉; adjustable range is 140~210 ℉)

- f. When finished setting high temp alert value, press the Set button and the system will be active and in display mode.

5. System Alert Modes Descriptions

	Modes	Conditions and Alerts
A.	Tyre pressure error	Condition: tyre pressure>standard tyre pressure*1.3 tyre pressure<standard tyre pressure*0.7 ※e.g., if standard tyre pressure is 35 psi, there will be an alert when actual tyre pressure is >46 psi or < 25 psi Alert: red light on this tyre , tyre problem signal light shines alongside persistent "bee" alert bell
B.	High temp of tyre	Condition：actual tyre temp>high temp alert value ※e.g.，88℃>80℃ (factory default) Alert: red light on this tyre , tyre problem signal light

		shines alongside persistent "bee" alert bell
C.	Rapid air leak out of tyre	Condition: rapid air leak out of tyres. (pressure changes for 3 Psi or more in 4 seconds.) Alert: Red light on this tyre, (!) tyre problem signal light shines, with pressing "bee" alert bell.
D.	Receiver initial value error	Condition: receiver initial value error caused by electromagnetic interference in the environment Alert: E1 signal light on receiver screen alongside persistent "bee" alert bell
E.	Low voltage of emitter battery	Condition: emitter battery low voltage Alert: both the signal light of this emitter and the E2 light are shining alongside a persistent "bee" alert bell. ※e.g., when the 2R tyre emitter is powered off, the 2R tyre signal light and E2 light will shine at the same time. If there are two emitters power off, both signal lights will shine at the same time.

6. Tyre Exchange Setting (external)

6.1 Tyre Exchange Setting – Method 1

➢ Remove the two emitters from the tyre and also remove the two batteries. When the tyre exchange setting is completed, put the emitters back in order (according to the Chapter 2.1 installation procedure).

6.2 Tyre Exchange Setting – Method 2

➢ After exchanging tyres, press both the <u>Set</u> button and <u>Mode</u> button for three seconds; the system will enter the tyre exchange setting mode. Press the <u>Mode</u> button one more time and it will exit the tyre exchange setting mode.

➢ The number 1f being displayed on the receiver confirms that you can do the front wheel setting now.

➢ Setting in this order: NO.1F (<u>front wheel</u>) → NO.2R (<u>rear wheel</u>); finish setting and it will exit setting mode and return to the normal operation screen.

   a. <u>NO.1F setting</u> (front wheel)

   ●When the number 1F is displayed on the receiver you can effect front wheel setting.

   ●Please take out the batteries of the 1F (<u>front wheel</u>) emitter and put them back right away. The setting is done when you hear the "bee" alarm.

If you do not wish to reset, press the <u>Set</u> button; the system will bypass setting automatically and enter the setting mode for No. 2 (rear wheel).

b. <u>NO.2R setting</u> (rear wheel)

● When the number 2R is displayed on the receiver you can effect rear wheel setting.

● Please take out the batteries of the 2R (<u>rear wheel</u>) emitter and put them back right away. The setting is done when you hear the "bee" alert bell.

● If you do not wish to reset, press the <u>Set</u> button; the system will bypass setting automatically and return to normal operation.

7. Troubleshooting

1. E1 displayed on the screen.

This is a receiver initial value error caused by electromagnetic interference in the environment. Please restart the receiver. If this does not solve the problem within 10 minutes, please contact the local motorcycle workshop.

2. E2 displayed on the screen.

This indicates a low voltage for emitter batteries. Please replace emitter batteries.

3. Is it normal that the results of traditional tyre pressure testers and this tyre pressure monitor system are different?

Yes, it is normal. Traditional tyre pressure testers must be corrected regularly for more accurate measurements. However, the error range of electronic measurement is ±1 psi and as such, this TPMS is more accurate than traditional tyre pressure testers.

4. Will the emitter stop working when the power is off?

Yes. The driver can tell from the receiver which emitter is powered off. If you are using an external tyre pressure monitor, buy a CR1632 battery to replace the old one, reset the values and it should return to normal operation.

5. Should I unload the emitter when exchanging tyres?

Please refer to Chapter 6: "Tyre Exchange Setting".

6. Can I adjust tyre pressure or temperature set value?

This product comes with default pre-set values. If you have other setting requirements you can adjust them according to the tyre's characteristics.

8. When does TPMS start monitoring?

When the engine and vehicle runs, TPMS will start monitoring, making the driver aware of tyre conditions.

8. Warranty/Disclaimer/Insurance

8.1 Warranty

Thank you for purchasing our company's product. This product comes with a one-year free warranty from the date of purchase. During the warranty period, if any problems arise despite correct use, we will provide a repair or replacement service to you and protect your rights and

interests.

The following circumstances will not be covered by warranty and clients are responsible for all repair fees.

1. Damage caused by natural disasters, thunder, insects, pests or other unavoidable factors.

2. Damage caused by artificial factors including incorrect installation, modification, overhaul, etc.

3. Fault or failure caused by other products (equipment).

4. Damage caused by using other accessories instead of original fittings.

5. Consumables or accessories that need to be replaced at regular intervals.

8.2 Disclaimer

This product is affiliated equipment for vehicle safety that provides alerts and convenience to users. Please follow the advice of the vehicle manufacturer and effect regular maintenance on it via a repair company. If car accidents occur due to broken tyres or inappropriate driving behaviour, our company will not be responsible for civil or criminal litigation.

8.3 Product Insurance

This product has been insured by Xin'an Tokyo Oceania Product Insurance, with liability coverage of *20 million NTD. Insurance No：１７０００４ＭＬ０００２３５. Quality assured.

9. Technical Support

By pressing the <u>Reset</u> button, the product can be reset to factory defaults.

Download operating manual and more info.

Warranty

PRODUCT MODEL	M2	NO.	
Purchase date	Month Date Year		
Wholesaler stamp			