



OEM Installation & Operation Manual

*Display: RT-FCT-1.a

*Repeater: RT-R-1.a

*Internal Sensor (only): RT-SN-1.a

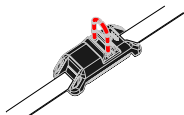
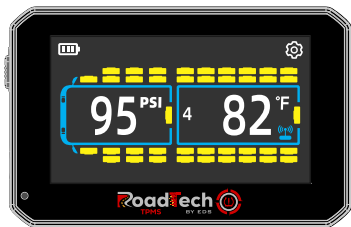


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1.FEATURES

1-1.DISPLAY FEATURES

***4.3-inch LCD Touchscreen Display**

- High-resolution color touchscreen with USB-C charging interface.

***Magnetic Suction Cup Mount**

- Secure attachment with easy detachment for convenience.

***Rechargeable Lithium Battery**

- Integrated high-capacity lithium battery for extended operation.

***Adaptive Display Brightness**

- Automatically adjusts based on ambient lighting conditions.

***Configurable Vehicle Profile**

- Customizable settings for different vehicle types.

***Multi-Vehicle Monitoring**

- Supports up to seven vehicles, tracking a total of 165 tires, including spares.

***Tire Pressure Unit Selection**

- User-selectable pressure units (PSI or BAR).

***Temperature Unit Selection**

- User-selectable temperature units (Celsius (°C) or Fahrenheit (°F)).

***Automated Alert Thresholds**

- Cold tire pressure input enables automatic high/low alert threshold configuration (default: +25% high, -10% low).

***Manual Alert Customization**

- Users can manually set high and low-pressure alert thresholds.

***Multi-Mode Alerts**

- Provides visual, text-based, audible, and warning icon notifications.

***Real-Time Data Display**

- Scrolling tire pressure and temperature readings; tap a tire position icon for individual tire details.

***Vehicle Connection Management**

- Manually connect or disconnect vehicles from the system.

***Tire Position Swap**

- Allows reassignment of tire locations for sensor accuracy.

***Customizable Vehicle Identification**

- Assign and configure unique Vehicle IDs.

***Sensor Battery Voltage Monitoring**

- Displays real-time sensor battery voltage levels.

***Flexible Sensor Pairing**

- Supports both Automatic Code Learning and Manual Code Input for seamless sensor programming.

1-2.SENSOR FEATURES

- *Internal Sensor Installation** – Can be installed inside the wheel/tire assembly or pre-installed by the OEM.

- *Battery Lifespan** – Designed to last approximately 4 to 5 years, with variations based on usage and environmental conditions.

- *Leak & Temperature Detection** – Provides real-time alerts to the display for rapid air loss, slow leaks, and high temperatures, ensuring prompt issue identification.

- *Water Resistance** – Engineered to withstand exposure to moisture and environmental elements.

- *Unique Sensor Identification** – Each sensor features a unique six-digit alphanumeric ID code etched onto the unit for precise programming and system integration.

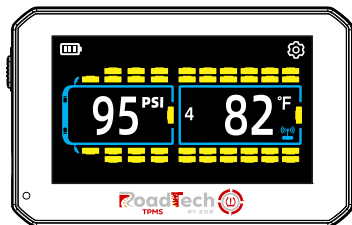
1-3.REPEATER FEATURE

- *The repeater is a critical component that must be installed to enhance sensor signal strength.**

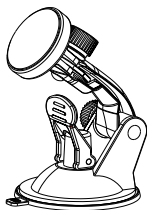
2. SYSTEM COMPONENTS

2-1.DISPLAY

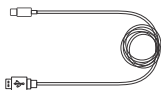
4.3" LCD Touch Screen Color Display (1pc)



Magnetic Suction Cup Mount (1pc)

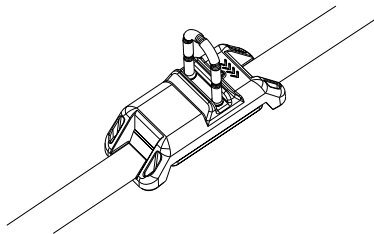


USB-C Charging Cable (1pc)



2-2.SENSOR

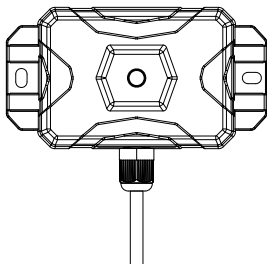
Slide-on Internal Sensor with Adjustable Metal Band



2-3.REPEATER

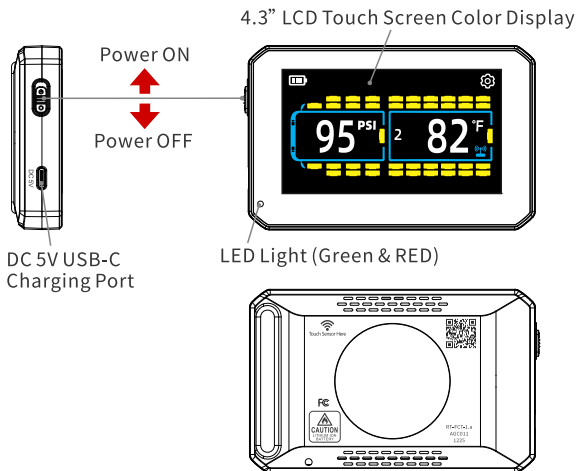
Repeater

Two Screws



Note: The repeater is an integral component to your TPMS system. Failure to install the repeater could void the warranty coverage.

3.DISPLAY ICONS AND INTRODUCTION

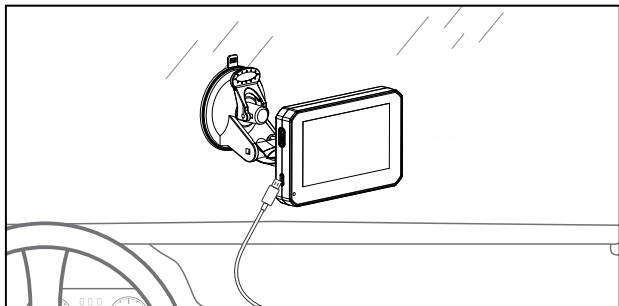


ICONS	Description	ICONS	Description
	Tire Normal (after coded)		Pressure Warning
	Tire Icon (not yet coded)		Temperature Warning
	Tire Alert (after coded)		Sensor Low Battery
PSI/BAR	Pressure Unit		Repeater Signal
°F/°C	Temperature Unit	2	Vehicle Icon (Vehicle 2 example)

4.DISPLAY INSTALLATION AND CHARGING

Display Installation:

Mount the provided magnetic display suction cup mount on the windshield, side window or directly on smooth nonporous surfaces which in an easy-to-see position that does not affect the driver's sight, place the display on the magnetic suction cup mount.



Display Charging:

To charge the display's non-replaceable, internal lithium-ion battery, plug the USB cable into DC 5V power port and plug another USB-C end into the left side of the display charging port (DC 5V/800mAh).

The  icon on the top left corner of display indicates you should charge display, while  and  icons indicate display battery levels. When charging the display, the battery icon changes to , When the battery is fully charged the  icon goes away, the LED light will be turned from RED to Green.

Note: Charge for at least three (3) hours for the first time, it will take approximately four (4) to five (5) hours to charge fully.

ATTENTION:

1. DO NOT connect with 12V power supply to charge directly, it will burn the display.
2. DO NOT keep a fully charged display plugged in constantly.
3. DO NOT place the display on the sunshine or high temperature location due to the display is built-in LITHIUM-ION BATTERY inside.

5.DISPLAY DEFAULT SETTINGS

Vehicle Type:

Vehicle 1:

- »Steer (Y/N): Y
- »No. Of Axles (1~3): 1
- »Tires Per Axle (2/4): 2
- »Spare (Y/N): Y

Vehicle 2 to 3:

- »No. Of Axles (1~6): 2
- »Tires Per Axle (2/4): 2
- »Spare (Y/N): Y

Vehicle 4 to 7:

- »No. Of Axles (1~6): 1
- »Tires Per Axle (2/4): 2
- »Spare (Y/N): Y

Parameters Setting:

Pressure Unit: PSI

Temperature Unit: °F

High Temperature: 158 °F

Pressure Alert Setting:

Need to define the cold pressure range the display will accept.

Vehicle 1 Cold Pressure

Steer Axle: 100 PSI

Drive Axle: 100 PSI

Spare Tire: 100 PSI

Vehicle 1 Manual Input High and Low Pressure Alert

HIGH (Steer /1/2/3/S): 125 PSI

LOW (Steer/1/2/3/S): 90 PSI

Vehicle 2 to 7 Cold Pressure, example is Vehicle 2

Vehicle 2 Cold Pressure: 100 PSI

Note: The Cold Pressure value entered for Vehicles 2-7 applies to all tires within the selected vehicle.

Vehicle 2 manual Input High and Low Pressure Alert

HIGH (Axles/S): 125 PSI

LOW (Axles/S): 90 PSI

COLD TIRE PRESSURE (CTP) DEFAULT SETTINGS

Example Scenarios

Steer Axle	CTP OF 90 PSI
Steer Axle High pressure alert	112 PSI (90 PSI CTP x 125% = 112 PSI)
Steer Axle Low pressure alert	81 PSI (90 PSI CTP x 90% = 81 PSI)
Drive Axle	CTP of 100 PSI
Drive Axle 1/2/3 High pressure alert	125 PSI (100 PSI CTP X 125% = 125 PSI)
Drive Axle 1/2/3 Low pressure alert	90 PSI (100 PSI CTP X 90% = 90 PSI)
Spare tire	CTP of 110 PSI
Spare tire High pressure alert	137 PSI (110 PSI CTP x 125% = 137 PSI)
Spare tire Low pressure alert	99 PSI (110 PSI CTP x 90% = 99 PSI)

6.MAIN SCREEN

***Startup Procedure** – Activate the display by sliding the power switch, located on the left side, to the upward position. The screen will initialize immediately and transition to the main interface.

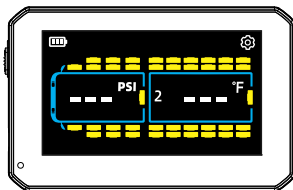
*The display will automatically rotate to each programmed tire position every 5 seconds.

Note: if an alarm occurs the display will move that to that position immediately.

*The repeater icon  will appear on the display, when connected.

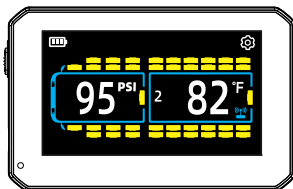
*Sensor Communication

– If the display does not receive data from a paired sensor, the corresponding tire pressure and temperature values will be represented by dashed lines (- - - - -) on the main screen.



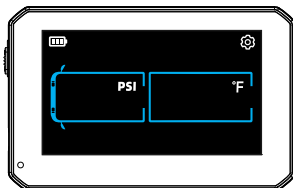
*Sensor Data Acquisition

- Upon startup, the display retrieves programmed sensor data, displaying real-time pressure and temperature readings on the main screen. Full sensor data acquisition may take approximately 2 to 3 minutes.



* Example: normal display data, e.g.: 95PSI, 82°F.

- *Main interface when no sensors are programmed or waiting to acquire sensor data just after startup.



7.TPMS SYSTEM ALERTS

*Alert Notification

- In the event of an alert, the corresponding tire position icon will change from yellow to red and begin flashing. The alert icon and associated text will also flash, accompanied by a flashing red LED indicator and an audible alarm.

*Alert Silencing & Visual Notification

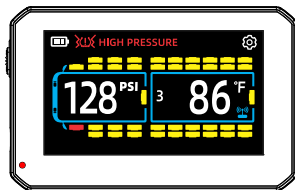
- You can silence the alert by touching the LCD screen anywhere, the audible alert will not sound again. The display will continue to visually cycle through the rest of the programmed tires, keeping the alert tire in RED. When the unit cycles back to the alert tire, the RED tire icon, alert icon, corresponding text and RED LED continue to flash as long as the alert is active.

Note: During active audible and visual alerts, all other active tires are being monitored.

7-1.High Pressure Alert

Example: The pressure is 128 PSI, greater than the set High Pressure Alert threshold of 125 PSI.

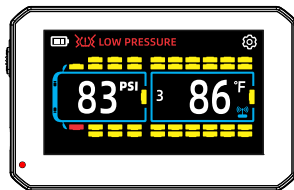
- 1). The corresponding tire position will flash RED.
- 2).  icon will flash.
- 3). A red LED on display will flash.
- 4). An audible alert will beep.



7-2.Low Pressure Alert

Example: The pressure is 83 PSI, lower than the set Low Pressure Alert threshold of 90 PSI.

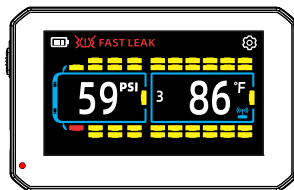
- 1). The corresponding tire position will flash RED.
- 2). **LOW PRESSURE** icon will flash.
- 3). A red LED on display will flash.
- 4). An audible alert will beep.



7-3.Fast Leakage Alert

Example: When pressure drops from 90 PSI to 59 PSI (Loss of 2 PSI or greater in less than one minute will activate the Fast Leak Alert)

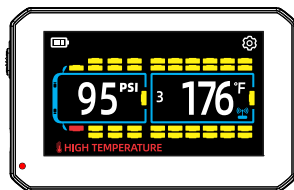
- 1). The corresponding tire position will flash RED.
- 2). **FAST LEAK** icon will flash.
- 3). A red LED on display will flash.
- 4). An audible alert will beep.



7-4.High Temperature Alert

Example: The temperature is 176 °F, greater than the High Temperature Alert threshold of 158 °F.

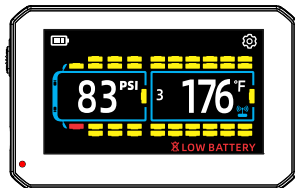
- 1). The corresponding tire position will flash RED.
- 2). **HIGH TEMPERATURE** icon will flash.
- 3). A red LED on display will flash.
- 4). An audible alert will beep.



7-5.Sensor Low Battery Alert

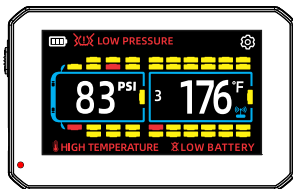
Example: When the battery installed in the sensor becomes 2.0V or less, it will activate the Sensor Low Battery Alert.

- 1). The corresponding tire position will flash RED.
- 2). **LOW BATTERY** icon will flash.
- 3). A red LED on display will flash.
- 4). An audible alert will beep.



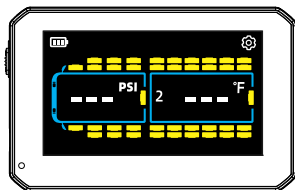
7-6.Alerts Multiple Tire Positions

- 1).When multiple alerts occur simultaneously, the display will cycle through each active alert sequentially.
- 2).Tap the touchscreen to mute an audible alert. The display will continue cycling through all programmed tire positions. You can manually select any programmed tire position by touching that tire position icon.



7-7. Sensor Loss Notification

If the display does not receive data from a sensor for 9 minutes, the pressure and temperature values will be replaced with dashed lines (- - - - -), indicating a loss of sensor transmission. Possible causes include a depleted battery, out-of-range sensor, sensor malfunction, or the sensor not being installed on the tire.



8. OTHER FUNCTIONS

8-1. Normal Display Scrolling

The tire icons will automatically scroll and each tire position will be displayed for approximately 5 seconds. You can manually cycle through the displayed tires by touching the tire icon on the screen.

8-2. Backlight and Motion Detection

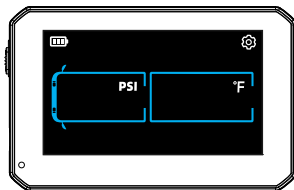
The display is equipped with both a light sensor and a motion sensor. The backlight will automatically activate when the vehicle is in motion and ambient light is low. If the vehicle remains stationary for a period of greater than 10 minutes and the display is running on internal battery power, the display will enter a "sleep" mode until motion is detected again.

8-3.Display Sleep Mode

If no motion is detected for 10 minutes, the display will automatically enter sleep mode, turning off the screen until motion is detected.

8-4.Display Auto-Hide Vehicle

If the display does not receive data from the sensors of a programmed vehicle (Vehicle 1 through Vehicle 7) for 5 consecutive minutes, the corresponding vehicle's tire icons and data will automatically be hidden. The sensors will reappear once they are within range and data is successfully received.



9.DISPLAY PARAMETER SETTINGS

Note: If display senses no input for 90 seconds, it will exit to **Main Screen** automatically.

Icons explanation:



Parameter Settings Access Screen



or



Page scroll



Return to previous page



Exit without saving



Confirm or save



Program the sensor



Delete ID code

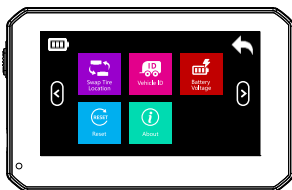


Enter into Keyboard Input Screen to set value

To adjust Default Settings, touch Main Screen  to enter into **Settings Menu Screen 1**, touch  or  to switch page between **Setting Menu Screen 1** or **Setting Menu Screen 2**.



Setting Menu Screen 1



Setting Menu Screen 2

10.Vehicle Type Settings

(This is a critical first step in the setup process. Please configure this setting first before proceeding with the other steps or settings.)

Note: The display supports monitoring of up to 7 vehicles. Vehicle 1 can track up to 15 tires, while Vehicles 2 through 7 can each monitor up to 25 tires. The system can manage a total of 165 tires, including spare tires.

On **Setting Menu Screen 1**, Touch  to enter into Vehicle Type setting, there are total 7 vehicles can be set. Touch  to confirm, Touch  to exit.

Vehicle 1

Light blue background means this vehicle type has been configured by you.

Vehicle 1

Gray background means this vehicle type has not been configured.

Vehicle 1

Dark blue background means vehicle type has been selected for configuring.

Vehicle 1 :

Note: Vehicle 1 Configuration – Designed for vehicles typically equipped with 2 steer tires and up to 3 axles, supporting a maximum of 15 tires, including the spare tire.

»**Steer (Y/N):** Tap square to select Y(Yes) or N(No);

»**No. Of Axles (1~3):** Tap square to select 1 or 2 or 3 axles;

»**Tires Per Axle (2/4):** Tap square to select 2 or 4 tires;

»**Spare (Y/N):** Tap square to select Y(Yes) or N(No);

Example:

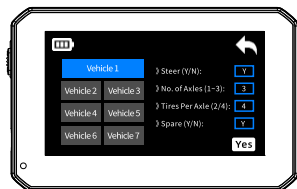
Vehicle 1:

»Steer (Y/N): Y

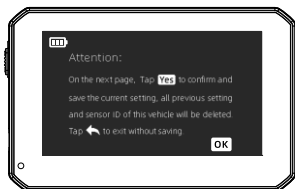
»No. Of Axles (1~3): 3

»Tires Per Axle (2/4): 4

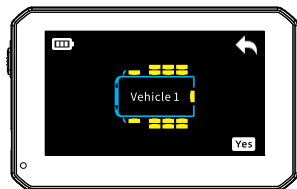
»Spare (Y/N): Y



(1)



(2)



(3)

Note: Only Vehicle 1 supports two configurable steer tires, whereas Vehicles 2 through 7 do not. Vehicle 1 can function as an independent vehicle, such as a truck, or be combined with Vehicles 2 through 7 to form a multi-unit configuration, such as a truck-trailer setup.

Vehicle 2 to 7

Note: Vehicles 2 through 7 can each support six axles and up to 25 tires, including the spare. All axles within each vehicle will share the same settings.

»No. Of Axles (1~6): Tap square to select 1 or 2 or 3 or 4 or 5 or 6 axles;

»Tires Per Axle (2/4): Tap square to select 2 or 4 tires;

»Spare (Y/N): Tap square to select Y(Yes) or N(No);

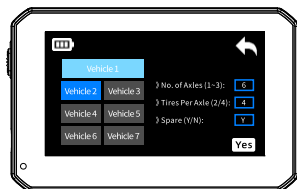
Example is Vehicle 1 + Vehicle 2:

Vehicle 2:

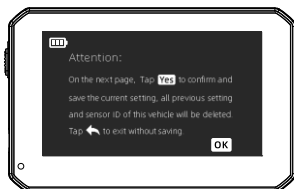
»No. Of Axles (1~6): 6

»Tires Per Axle (2/4): 4

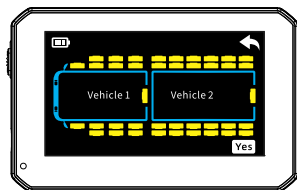
»Spare (Y/N): Y



(1)

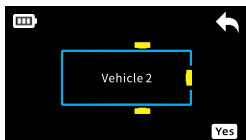


(2)

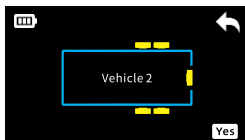


(3)

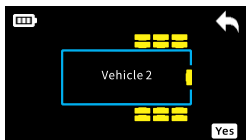
Vehicle 2 to 7 axle definitions:



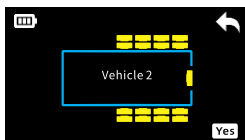
Selected 1 Axle
2 tires and spare tire



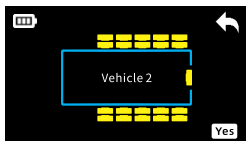
Selected 2 Axle
2 tires and spare tire



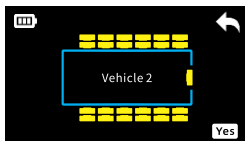
Selected 3 Axle
4 tires and spare tire



Selected 4 Axle
4 tires and spare tire



Selected 5 Axle
4 tires and spare tire



Selected 6 Axle
4 tires and spare tire

11. Parameters Settings

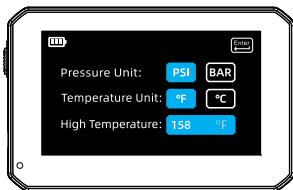
On **Setting Menu Screen 1**, Touch  to enter into parameters setting, change options by selecting Pressure unit, Temperature unit and High Temperature alert threshold setting. Touch  to exit.

Example:

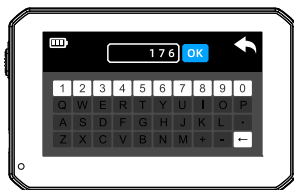
To change High Temperature alert to 176°F (default is 158 °F), touch the High Temperature blue box and use the **Keyboard Input Screen** to input the new value 176, touch  to save and exit, touch  to exit without saving, touch  to return to **Setting Menu Screen 1**.



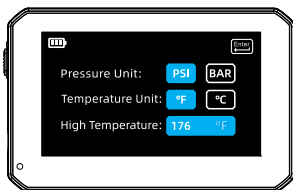
Setting Menu Screen 1



Parameter Setting Screen



Keyboard Input Screen



Parameter Setting Screen

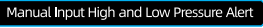
12. Pressure Alert Settings

Vehicle 1- Cold Pressure Configuration & Manual Alert Settings

Note: When setting the Cold Tire Pressure (CTP) with this option, the display automatically configures the High Pressure Alert threshold to 25% above CTP and the Low Pressure Alert threshold to 10% below CTP by default.

On **Setting Menu Screen 1**, Touch , touch  enter into Vehicle 1 Cold Pressure Screen.

Vehicle 1 Cold Pressure has **Steer Axle/Drive Axle**(3 axles)/**Spare Tire** settings, find the CTP value on the manufacturers placard, usually on the front drivers side of the vehicle. Touch "Steer Axle" or "Drive Axle" or "Spare Tire" to enter the **Keyboard Input Screen** to input your preferred Cold Tire Pressure value, touch  to save and exit, touch  to exit without saving.

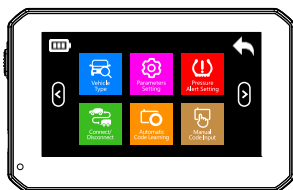
Touch  to set Vehicle 1 HIGH (Steer/ 1/2/3/S) and LOW (Steer /1/2/3/S) value manually, touch each box  to enter the **Keyboard Input Screen** to input your preferred High Pressure and Low Pressure Alert threshold which has one steer axle, 3 drive axles and one spare tire, touch  to save and exit, touch  to exit without saving.

ATTENTION:

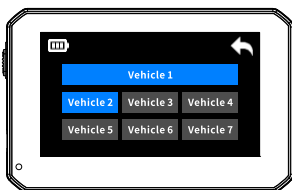
If the anticipated high-pressure alert threshold will be set lower than the default low-pressure alert threshold of 90 PSI, or a low-pressure alert threshold that has been previously set, the low-pressure alert threshold must be adjusted to a value lower than the desired high-pressure alert threshold.

If the anticipated low-pressure alert threshold will be set great than the default high-pressure alert threshold of 125 PSI, or a high-pressure alert threshold that has been previously set, the high-pressure alert threshold must be adjusted to a value great than the desired low-pressure alert threshold.

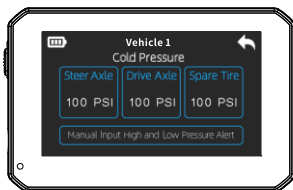
Note: If manual High and Low Pressure Alert values are entered, the default cold pressures for vehicle 1 will show as dashed lines ---.



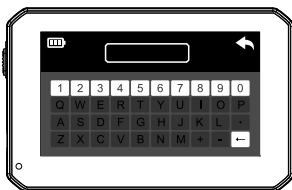
Setting Menu Screen 1



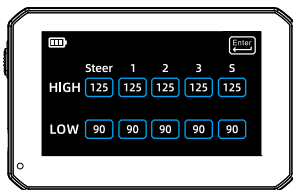
Vehicle Selection Screen



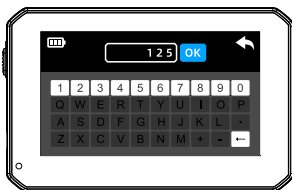
Vehicle 1 Cold Pressure Screen



Keyboard Input Screen



Manual Input High and Low Pressure Alert Value Screen



Keyboard Input Screen

Vehicle 2-7 - Cold Pressure Configuration & Manual Alert Settings

Note: When setting the Cold Tire Pressure (CTP) with this option, the display automatically configures the High Pressure Alert threshold to 25% above CTP and the Low Pressure Alert threshold to 10% below CTP by default.

On **Setting Menu Screen 1**, Touch , touch  enter into Vehicle 2 Cold Pressure Screen. (There are Vehicle 2,3,4,5,6,7, example is Vehicle 2).

Touch "Axles" to enter the **Keyboard Input Screen** to input your preferred Cold Tire Pressure, touch  to save and exit, touch  to exit without saving.

Touch  to set Vehicle 2 HIGH (Axles/S) and LOW (Axles/S) value, touch each box  to enter the **Keyboard Input Screen** to input your preferred High Pressure and Low Pressure Alert threshold, touch  to save, touch  to exit without saving.

ATTENTION:

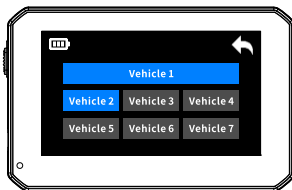
If the anticipated high-pressure alert threshold will be set lower than the default low-pressure alert threshold of 90 PSI, or a low-pressure alert threshold that has been previously set, the low-pressure alert threshold must be adjusted to a value lower than the desired high-pressure alert threshold.

If the anticipated low-pressure alert threshold will be set great than the default high-pressure alert threshold of 125 PSI, or a high-pressure alert threshold that has been previously set, the high-pressure alert threshold must be adjusted to a value great than the desired low-pressure alert threshold.

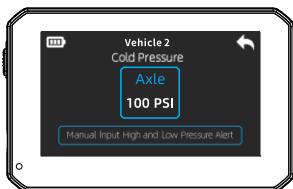
Note: If manual High and Low Pressure Alert values are entered, the default cold pressures for vehicle 1 will show as dashed lines ---.



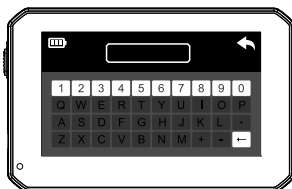
Setting Menu Screen 1



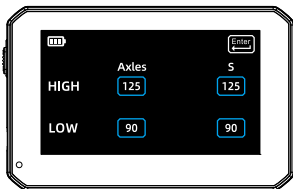
Vehicle Selection Screen



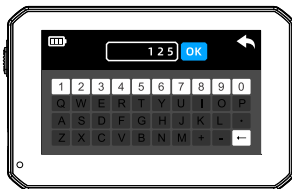
Vehicle 1 Cold Pressure Screen



Keyboard Input Screen



Manual Input High and Low Pressure Alert Value Screen



Keyboard Input Screen