Thank you for purchasing the TST Tire Pressure Monitoring System. With minimal care, your new TPMS will provide reliable service for many years. Please read and understand the information contained within this manual. Keep this manual for future reference.
SENSOR FEATURES

1. The sensors easily install on the valve stem.
2. Sensors are water resistant. Sealed for the trucking Industry.
3. Pressure and temperature data is read constantly read.
4. Removal of a sensor (0 lbs. pressure) will shut off the sensor battery.
5. Long-life sensor batteries.
6. Tire leaks and high-temperatures are detected quickly.
7. Each sensor has a unique, six (6) digit code for programming.
8. Automatic sensor coding feature on the display.

DISPLAY FEATURES

1) Easy to read display.
2) Two mounts included.
3) Wake-up activation of the display when in motion.
4) Automatic display illumination in dark conditions.
5) Programable high and low-pressure alarm thresholds.
6) Programmable high-temperature alarm.
7) Visual and audible warning alarms when temperature or pressure exceeds thresholds.
8) Multiple pressure units: PSI, BAR.
9) Selectable temperature unit: °C or °F.
10) Program up to 110 tires and four different trailers.
11) Tire pressure and temperature is displayed simultaneously for quick viewing of each tire.

12) The tractor or trailer display can be electronically removed from the screen if needed.

13) Push button programming.

14) The display is powered by a USB cable. A 12v adapter is also supplied.

15) Tire temperature and pressure settings are configured “per axle.”

**SYSTEM COMPONENTS IN KIT**

- Monochrome Display
- 507 SCE Sensors
- Repeater
- Power Adapter
- Suction Cup Mount
- Cradle Mount
- Display Holder

**DISPLAY CONTROLS**
Pressure Unit: BAR, PSI, user-selectable. Temperature unit: C° or F°, user-selectable.

PROGRAMMING SENSOR CODES INTO THE DISPLAY

**Note:** It is recommended to label each sensor first with the provided numbering code stickers, similar to the following pattern, before you code the sensors. This allows you to know which sensor is programmed to which tire position.

![Sensor Codes Diagram](image)

AUTOMATIC CODE LEARNING (option #1)

**Note:** Code all the sensors to the display BEFORE screwing them onto the tire valve stem unless otherwise noted.

1. Push and hold the “SET” button until it beeps. You are now in the programming mode. The “HI PRESSURE SET” parameter will blink at the bottom of the screen. Push the (+) button and scroll through the parameters until “LEARN ID” appears.
2. Quickly press and release the “SET” button. The first tire on the display will blink. If you want to program a different tire, press the (+) button to move to the correct tire. Push the “SET” button again and “FFF FFF” will flash. Put the sensor for that tire position next to the display and press the “GO” button. The display will capture the sensor code and show it on the screen. Again, push and release the “SET” button to save the code to that position. When coded correctly, a six (6) digit unique code will be shown.

3. Use the (+) button to move to the next tire position you want to program. Again, press the “SET” button and “FFF FFF” will blink. Put the sensor for that tire position next to the display and press the “GO” button to capture the sensor code. Press “SET” again to save.

4. When you are finished programming all of your sensors, press the “BACK” button to return to the parameter at the bottom of the screen. Use the (+) or (-) buttons to scroll to another parameter, if necessary. If finished programming, press the “BACK” button again to go to the Main Screen. (Your sensors will begin reading “0” pressure and will alarm. Press the (+) button to silence the alarm while you continue your set-up).

**Note:** To delete a single sensor code:

Press the “SET” button until it beeps (approx. 3 seconds). Push the (+) button and scroll through the parameters until “LEARN ID” appears. Press and release the “SET” button. Use the (+) or (-) buttons to scroll to the tire you wish to remove. Press the “SET” button to select that tire. It will start flashing. Press and hold the “BACK” button. You will hear 3 beeps. The code will change to “FFF FFF” which will be flashing. Press “SET” once. The flashing will stop and the ID code will be deleted. If you do not want to delete the code, push the back button.
**Note:** To delete all of the tire codes:

Follow the single sensor code deletion. Instead of holding the “BACK” button for 3 beeps, hold it until you hear 6 beeps and “DEL ALL” will appear. Press “SET” to delete. All ID codes are deleted. Press the “BACK” button twice to go to the Main Screen.

**Note:** When in the coding mode, the display will time-out within approximately one (1) minute if no buttons are pushed. At that point, you will have to start the coding process again.

**Note:** Keep all sensors 3 feet away from the sensor being coded.

**PRESSURE CODING (option #2)**

1. Be sure your sensors are numbered. Screw the sensors partly onto each valve stem in the order you numbered them. Do NOT screw them down far enough to hear air hissing out.

2. Push the “SET” button until it beeps. You are now in the programming mode. The “HI PRESSURE SET” parameter will blink at the bottom of the screen. Push the (+) button and scroll through the parameters until “LEARN ID” appears. Quickly press and release the “SET” button.

3. The first tire on the display will blink. If you want to program a different tire, press the (+) button to move to the correct tire. Push the “SET” button again and “FFF FFF” will flash. Move the display close to the sensor.

4. Tighten the sensor down on the corresponding tire valve stem. The ID code will display and flash.

5. To save the ID code setting. Press “SET” once. It will beep and sensor code is saved.

6. To remove the ID code setting, Press “BACK” once.
“FFF FFF” will re-appear. The setting will not be saved.

7. Press “BACK” twice to return to the Main Screen.

MANUAL CODING (option #3)

Note: This method is mainly used to program sensor codes from an old monitor to a new monitor if you do not have the sensors available.

1. Push the “SET” button until it beeps. You are now in the programming mode. The “HI PRESSURE SET” parameter will blink at the bottom of the screen. Push the (+) button and scroll through the parameters until “SET ID” appears.

2. Quickly press and release the “SET” button. The first tire on the display will blink. If you want to program a different tire, press the (+) button to move to the correct tire. Push the “SET” button again and the first digit of “FFF FFF” will flash. Press the (+) button to select the correct number or letter. Press “GO” to move to the next position. Press the (+) button to change to the correct number or letter. Continue this procedure until all six digits are changed.

3. Press “SET” once to save the new codes. You will hear a beep and the code will stop flashing.

4. To stop the coding for any position, Press “BACK” once. “FFF FFF” will reappear. No settings will be saved.

5. Press “BACK” twice to return to the Main Screen.

SENSOR INSTALLATION-After Automatic Code Learning

• Screw the correctly marked sensor onto the valve stem for that tire position. Tighten the sensor until the air stops leaking and the sensor bottoms-out on the valve stem. Then give it a slight twist to seat it. Do Not Overtighten!
• The sensor will start to transmit its data. The first time the display is turned on, it could take up to 20 minutes for the display to receive all the sensor data.

DISPLAY MOUNTS

• The display mounts that come with the kit includes a suction cup mount and a rubberized cradle.

DISPLAY BUTTONS

• There are five (5) programming buttons located on the left and right sides of the display. They are: “Go,” “Set”, “Back”, (+) and (-).

NOTE: The side power switch will not turn the display off if the display is plugged into a constant power source. Unplug the USB cable and the power slide switch will function.

PARAMETER SETTINGS (Setting the sensor alarms)

NOTE: The factory default settings are:

Pressure Unit: PSI Temperature units: °F
High Pressure: 175 lbs. High Temperature: 158°F (70°C)
Low Pressure: 100 Lbs.

NOTE: Be sure your monitor is ON and it is showing the Main Screen.
PRESSURE PARAMETERS

To choose the Pressure Parameter, press the “SET” button until it beeps. Press the (+) button three (3) times and “SET” will appear at the bottom of the screen and BAR/PSI will be blinking on the screen. Press the “SET” button again and then use the (+) button to select “PSI” (or “BAR”). Press “SET” again to select it. Press “BACK” to go back to the Main Screen.

TEMPERATURE PARAMETERS

To set the Temperature Parameters (°F or °C), press the “SET” button until it beeps. Press the (+) button four (4) times and “SET” will appear at the bottom of the screen and °F/°C will appear on the screen, blinking. Press the “SET” button again and then use the (+) button to select °F or °C. Press “SET” again to select it. Press “BACK” to go back to the Main Screen.

HIGH TEMPERATURE ALARM SETTINGS

To set the High Temperature Alarm, press the “SET” button until it beeps. Press the (+) button twice and “HI TEMP SET” will appear.
Again, press the “SET” button to enter that mode. Use the (+) or (-) buttons to adjust the High Temperature parameter, if desired. Press “SET” to save. When done press the “BACK” button.

**NOTE**: We recommend leaving this temperature setting at the default 158° for all types of tires.

**HIGH PRESSURE ALARM SETTING**

To set up the High-pressure Alarm, press the “SET” button until it beeps. “HI PRESSURE SET” will appear at the bottom of the screen. Again, press the “SET” button to enter that mode. Press the “GO” button to select the appropriate axle. Use the (+) or (-) buttons to adjust the high-pressure alarm 20-25% over your normal tire pressure for that axle. Press the “GO” button to move to the next axle. When done setting each axle that you have sensors on, press the “SET” button to leave that parameter and go back to the menu. When done, press the “BACK” button to go to the Main Screen.

When you get to the Trailer Section of the display, all the tires will flash. You can now set all the trailer axle high pressures as one group.
LOW PRESSURE ALARM SETTING

To set up the Low-pressure Alarm, press the “SET” button until it beeps. Press the (+) button once and “LOW PRESSURE SET” will appear. Again, press the “SET” button to enter that mode. Press the “GO” Button to select the appropriate axle. Use the (+) or (-) buttons to adjust the low-pressure alarm 10% below your normal tire pressure for that axle. Press the “GO” button to move to the next axle. When done setting each axle that you have sensors on, press the “SET” button to leave that parameter and go back to the menu. When done, press the “BACK” button to go to the Main Screen.

When you get to the Trailer Section of the display, all the tires will flash. You can now set all the trailer axle low pressures as one group.

**NOTE:** If your tire pressure is below 100 PSI, you must set the low-pressure alarms first and then, when done, set the high-pressure alarms. The high pressure cannot go below the default low pressure of 100 PSI until the low pressure is reduced.

RESTORE PARAMETERS TO FACTORY DEFAULT SETTINGS

First, turn off the display. Hold the “BACK” and “SET” buttons at the same time and turn the display back on. You will hear one beep. The display will power back on and original factory parameters will be restored. Tire codes will not be erased or changed.
DISPLAY ALERTS

Out of Parameter Alert

The 507 sensors send the tire pressure and temperature readings to the display every five minutes. If a tire is outside of the parameters that were set, the audible alarm will sound and the red LED light will immediately flash. The tire in question, pressure or temperature for that tire, and warning type will also flash. The audible alarm can be silenced for a short while by pushing any of the buttons on the front of the display. The red warning light will continue to flash until the pressure or temperature issue is resolved and brought back into your preset levels.

Fast Leak Alert

When a fast tire leak is detected, the sensor will send that data immediately to the display. The audible alarm will sound and the red LED light will immediately flash. The tire in question, pressure for that tire, and FAST LEAK will also flash. The audible alarm can be silenced for a short while by pushing any of the buttons on the front of the display. The red warning light will continue to flash until the pressure or temperature issue is resolved and brought back into your preset levels.

Sensor Low Battery Alert

The sensor low battery indicator will display when the sensor battery is at the end of its life. The tire affected will flash along with the pressure and temperature read-out and the low battery symbol and (!) on the left side of the display.

NOTE: This low battery alert will display for only a short time until the internal battery is exhausted. If you do not have the display on often, the low battery signal may be missed. If your sensor is not reporting to the display, call TST to troubleshoot potential issues first to see if the sensor has to be replaced.
OTHER FUNCTIONS

Normal Display Scrolling

The tire icons on the display will automatically scroll/cycle through, one by one. Each tire will be displayed for approximately 5-6 seconds. You can manually cycle through the displayed tires by pushing the (+) or (-) buttons on the display. The display will show the tire you choose for approximately 10 seconds before continuing to cycle.

Backlighting and Motion Detection

The display is equipped with a light sensor and a motion sensor. The backlight will turn on when the vehicle is in motion and there is little ambient light. If the vehicle has stopped for a while and the display is on the internal battery, the display will “go to sleep” until the vehicle resumes motion. To shut the light sensor off, press the (+) button for approximately 4 seconds.

Disconnecting and Reconnecting a Vehicle

When a trailer is displayed on the screen and you want to temporarily remove it (example: dropping a trailer at a yard), press the “GO” and (-) buttons and the trailer section of the display will disappear. The sensors on the trailer will not be read. To add the trailer section back on to the display, again, push the “GO” and (-) buttons at the same time and the towed vehicle will reappear.

When a tractor is displayed on the screen and you want to temporarily remove it, press the “GO” and (+) buttons and the truck (towing) section of the display will disappear. The sensors on the tractor will not be read. To add the truck (towing) section back on to the display, again, push the “GO” and (+) buttons at the same time and the tractor will reappear.
Charging the Display

The display is powered by a non-replaceable, lithium-ion battery. A battery level indicator is located on the left side of the display. When the indicator shows one bar, it is recommended you charge the display as soon as possible to avoid disruption when in use. It will take approximately four (4) hours to fully charge. Display run time is 5-7 days on a full charge.

TROUBLESHOOTING TIPS

• It may take up to 15 minutes for the sensor data to appear on the display the first time you set up the system. Leave the display on until all sensor data appears. After the sensor data is received the first time, subsequent system use should only take minutes to acquire the sensor information.

• When done programming the sensor codes into the display, remember to quickly push the “SET” button to save the codes. Push the “BACK” button twice to go back to the Main Screen.

• If your tire pressure is under 100 PSI, you will have to program the Low-Pressure alarm first and then program the High-Pressure alarm. The high pressure cannot go lower than the low-pressure setting, which defaults to 100 PSI.

• When the display is on and reading, you can press the (+) or (-) buttons to quickly scroll through the tires on your display. The automatic scrolling function will resume after 10 seconds when no buttons are pushed.

• If your display is plugged into a constant power source, the sliding power switch on the side will not function. To turn the display off, unplug the USB power supply and the switch will now operate.
ADDITIONAL FUNCTIONS

Swap Tire Sensor Positions

- Press the “SET” button until the display beeps and then release.
- Press and release the (+) button 7 times until “TIRE” appears. Press “SET”.
- Use the (+) or (-) buttons to select the tire sensor code you want to swap.
- Press “SET” and then select the tire you want to swap the code to using the (+) or (-) buttons.
- Push “SET” to move the sensor code to the new tire.
- Push the back button twice to get into the Main Screen.

Set ID Truck (Three Digit ID Identifier)

- Press the “SET” button until the display beeps and then release.
- Press the (+) button 8 times until “SET ID TRUCK” appears.
- Press the “SET” button to enter that mode.
- Press “SET” again, the first digit will blink.
- Use the (+) to (-) buttons to set the first digit. Press “GO” to move to the next digit.
- Again, press the (+) or (-) buttons to select the next digit. Continue for the final (3rd) digit.
- When done, push the “SET” button to save.
• Push the “BACK” button twice to get back to the Main Screen.

Set ID Trailer (Three Digit ID Identifier)

• Press the “SET” button until the display beeps and then release.
• Press the (+) button 9 times until “SET ID TRUCK” appears.
• Press the “SET” button to enter that mode.
• Press the “GO” button to select the trailer (1-4) to set the ID.
• Press “SET” again, the first digit will blink.
• Press “GO” to go to the first digit on the trailer section on the screen.
• Use the (+) or (-) button to set the 1st digit. Press “GO” to select the next digit. Continue for the final (3rd) digit.
• Press “SET” to save the 3 digit code. To select the next trailer, press the “GO” button.
• When done, push the “SET” button to save.
• Push the “BACK” button twice for the Main Screen.

Trailer Selection

Four different trailers with sensors can be programmed into the display and each can be selected to be viewed on the screen. On the Main Screen press the “GO” button to scroll through trailers you have sensors on. When selecting different trailers on the display, remember to adjust your high and low pressure alarms for each trailer you are using that has sensors coded to it.
REPEATER

The repeater is used to strengthen/amplify the sensor signal forward to the display. A repeater is packaged with this system.

Wire the repeater into a 12v source that will be constant while driving. The red light on the repeater will illuminate when operational. When working properly, the repeater’s light will be steady at times and will occasionally blink. The unit is waterproof and can be mounted inside or outside.

There is no set-up needed for the repeater.

COMMON QUESTIONS

• What do I do if my sensor is not reading?

1) Unscrew the sensor off the valve stem, wait 10 seconds, and then reinstall it. The sensors are pressure sensitive and will reset once reinstalled.

2) If it still does not read, try placing a working sensor from another tire on that valve stem. Keep in mind, the sensor you just moved will continue to read in its original tire position on the display. If that sensor does not read normally, you may have a valve stem problem. Try unscrewing the valve core until it just starts to leak, then screw it back in slightly to stop the leak. Reinstall the sensor. If the switched sensor does read normally, it may be a sensor issue. Call 770-889-9102 for more troubleshooting.
3) If your sensor is not transmitting data to the display, try re-coding the sensor to the same tire position. See Automatic Code Learning (Option #1) above.

- **Why does my display sometimes “drop” sensor data from a tire position?**

1) Do you have your repeater installed and is it operational? Because of the extended distances from the tractor to the trailer, a repeater is necessary. That is why it is provided with the 507SCE system. Sensors will “drop” (not read) if the repeater is not functional.

2) Be aware that an indoor/outdoor thermometer with an external temperature sensor may interfere with the TST TPMS. Temporarily remove all of the batteries in the display AND exterior sensor and see if the problem is corrected. A thermometer with a higher frequency (915 Mhz) may be required. Atomic clocks can also cause interference with the sensors.

- **Why does my display sometimes alarm while I am sitting still in the evening?**

As night approaches and outdoor temperatures decrease, your tire pressures may drop below the parameters you have set, thus causing an out of spec alarm. When temperatures drop, turn your display off overnight. As the air temperature rises the next day or as you start driving, the tires will also heat up and come back into your parameters. You can also add air to your tires to bring them back into the parameters you set up.

- **Why can’t I set a lower pressure than 100 PSI for the high or low pressure alarm?**

The high-pressure alarm cannot go lower than the low-pressure alarm setting. If your tire pressure settings are
below 100 PSI, you must first set the low-pressure alarm settings and then set the axles’ high-pressure settings. When done, be sure to press and release the “SET” button to save all the parameter settings.

- **What conditions cause the display to alarm?**
  
The display will alarm for the following reasons:

  1. A rapid leak (“FAST LEAK” at bottom of screen).
  2. A low sensor battery (upper left battery icon flashes).
  3. An overheating tire temperature (“HIGH TEMP” at bottom of screen).
  4. A “HIGH” or “LOW” pressure reading (be sure your parameters are set correctly).

  In every instance, the tire Pressure and Temperature numbers will also flash when the tire with the problem flashes.

- **How do I remove my trailer from the display screen when I am not using it?**

  To electronically disconnect the trailer tire icons from the screen:

  1. Momentarily press the “GO” and (-) buttons.
  2. The trailer section on the display will disappear.
  3. To electronically reconnect the trailer section, again, momentarily press the “GO” and (-) buttons.

  When the trailer section on the display will reappear.
• **How do I remove my towing vehicle from the display screen when it is parked?**

To electronically disconnect the towing vehicle (tractor) tire icons from the screen:

1. Momentarily press the “GO” and (+) buttons.
2. The tractor section on the display will disappear.
3. To electronically reconnect the tractor section, again, momentarily press the “GO” and (+) buttons.

The tractor section on the display will reappear.

• **How do I remove an unwanted tire icon from the monitor?**

1. To delete a single sensor code:

2. Press the “SET” button until it beeps (approx. 3 seconds). Push the (+) button and scroll through the parameters until “LEARN ID” appears. Press and release the “SET” button. Use the (+) or (-) buttons to scroll to the tire you wish to remove. Press the “Set” button to select that tire. It will start flashing. Press the “Back” button for 3 seconds. You will hear 3 beeps. The code will change to “FFF FFF” which will be flashing. Press “SET” once. The flashing will stop and the ID code will be deleted.

**Note:** To delete all of the tire codes in the “LEARN ID” mode: Press and hold the “BACK” button until you hear 6 beeps. “DEL ALL” will appear on the screen. Press “SET” once. You will hear one beep. “FFF FFF” will appear. All ID codes are deleted. To cancel the function, press the “BACK” button.
# SENSOR SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature Operating Range</td>
<td>-40° F – 176° F / -40° C – 80° C</td>
</tr>
<tr>
<td>Storage Temperature Range</td>
<td>-40° F – 185° F / -40° C – 85° C</td>
</tr>
<tr>
<td>Pressure Range</td>
<td>0 – 196 PSI / 0 – 13.5 bar</td>
</tr>
<tr>
<td>Pressure Accuracy Range</td>
<td>+/- 3 PSI / +/- .02 bar (with a digital gauge)</td>
</tr>
<tr>
<td>Temperature Accuracy Range</td>
<td>+/- 3°</td>
</tr>
<tr>
<td>Transmission Power</td>
<td>&lt;10dBm</td>
</tr>
<tr>
<td>Transmission Frequency</td>
<td>433.92 MHz</td>
</tr>
<tr>
<td>Approximate Battery Life</td>
<td>3 – 4 years</td>
</tr>
<tr>
<td>Physical Sensor Size</td>
<td>1.14” Diameter x 1.26” Height</td>
</tr>
<tr>
<td></td>
<td>29mm Diameter x 32mm Height</td>
</tr>
<tr>
<td>Sensor Weight</td>
<td>1.27 oz. / 36 grams</td>
</tr>
</tbody>
</table>

# DISPLAY SPECIFICATIONS

<table>
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</tr>
<tr>
<td>Charger Input Voltage</td>
<td>5v – 30v DC</td>
</tr>
<tr>
<td>Frequency</td>
<td>433.92 MHz</td>
</tr>
</tbody>
</table>
This system is designed to monitor air pressure and temperature within the tire. It is only for added safety and not meant to replace regular tire maintenance and exercise of reasonable care when operating a motor vehicle. The system cannot prevent accidents nor will TST be responsible for damage or injury due to (a) improper use, (b) failure to follow the product instructions or to perform any preventative maintenance, (c) unauthorized repair or modifications, (d) use of products beyond their useful life, or (e) external causes such as accidents, abuse, or other actions or events beyond TST’s reasonable control.

NOTES: