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# WIRELESS TIRE PRESSURE MONITORING SYSTEM

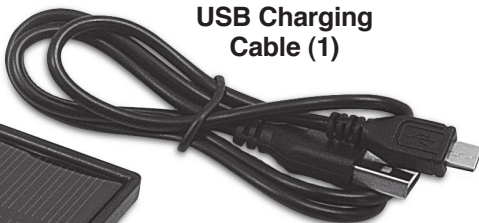
STEP BY STEP INSTALLATION & USERS GUIDE

## Tire Pressure Monitoring System Parts List

Optional  
Theft-Deterrent  
Hex Nuts (4)  
And Wrench



USB Charging  
Cable (1)



LCD Display (1)



Reusable Mounting Adhesive  
Pad (1) (Not Shown)



Tire Sensors (4)  
(Specifically Marked)

The **SmartShore Marine Tire Pressure Monitoring System (TPMS)** will improve your safety levels while driving or towing a trailer by keeping you updated on monitored tire air pressures and temperatures. Once the display unit is programmed and installed in your vehicle and the tire sensing units are securely installed onto each vehicle or trailer tire's valve stem, the system will automatically monitor air pressure and temperature for each tire and send the data to the display unit. This system uses wireless communications to get tire pressure and temperature data from each of the four (4) individual tire sensing units. Display data is updated about once per minute. Each tire has a dedicated icon on the display that shows tire's location, current tire air pressure, and current tire temperature.



The LCD Display unit has three (3) user keys located along the top side. The left arrow key serves as the power ON/OFF key (by pressing and holding for three (3) seconds until display turns on or off) and is used in programming to lower the value of a setting by pressing this key for one (1) second. The middle key is the SET key and is used for beginning the programming process (press and hold for three (3) seconds or longer to enter Programming Mode) or to save the value and move to the next programming step (press for one (1) second or less). The right key is used in programming to increase the value of a setting pressing for a second. A double-sided sticky mounting pad is provided for securing the display to a selected location in the vehicle (usually on the dash). Clean the mounting area and the display unit where the pad will be attached before installing. The display can easily be removed later for USB cable charging, cleaning, or relocating. To reactivate the adhesive pad, rinse with water, dry, and stretch several times.

The provided tire sensing units replace your existing valve stem caps. When the measured air pressure on any tire exceeds the programmed high pressure warning value, or falls below the programmed low pressure warning value, the LCD Display unit is updated; an audible alarm will sound, the display will flash the location of the specific tire out of range as well as display the measured air pressure. The audible alarm can be turned off by pressing any keys on the LCD Display unit for one (1) second or less. **It is the responsibility of the driver to react promptly and with discretion to any high or low tire pressure alerts.** Abnormal tire inflation pressure should be corrected at the earliest opportunity.

For security purposes optional theft-deterrent flat hex nuts are provided. To install, screw the hex nut onto each valve stem until it touches the bottom thread, next install the correct tire sensor unit for that tire location and tighten. The tire sensor units are marked per below:

**F.L - Front Left Tire**  
**R.L - Rear Left Tire**  
**F.R - Front Right Tire**  
**R.R - Rear Right Tire**

Turn the hex washer anti-clockwise using the provided wrench and turn the tire sensor unit clockwise until the washer and sensor unit are locked in place. To remove the sensor unit, reverse the process. The TPMS will function correctly without using the theft-deterrent nuts if you do not want to install them. Once you have all the tire sensing units installed, check for any air leaks around the tire sensor unit.

Activating the TPMS is quick and easy. After installing all the sensors and mounting the display unit securely on the vehicle dash, connect your trailer to your tow vehicle and drive for a minute or two. The installed tire sensors will activate with the movement and begin to communicate with the display unit. The display screen will provide the measured information from each tire for air pressure and temperature.

If the vehicle is not in use for about ten (10) minutes, the display unit will go into sleep mode to save battery charge and will not receive any data. Once the vehicle begins to move, the display unit will activate and begin receiving data from the tire sensor units. Occasionally the wireless communications between the display unit and the tire sensor units may not function correctly due to harsh or noisy signal environments, incorrect installation, or a tire sensor issue (such as low battery level in sensor). Each tire sensor unit has an internal battery that should provide adequate power for one (1) to two (2) years or more depending upon use. This battery can be replaced if needed.

If you decide to have your vehicle's tires rotated, you should temporarily remove each tire sensing unit and then reinstall it in the same tire location after any tire balancing and rotation processes are completed and the tires have been remounted to the vehicle. If a tire change is necessary, remove the tire sensing unit from the worn or failed tire being replaced. Inflate the replacement tire to the recommended tire air pressure and reinstall the tire sensing unit. If you are using the TPMS on a boat or other type trailer, the tire rotation process is seldom performed.

## Tire Pressure Monitoring System Programming Steps

### Step 1

Press the left key on top of the display unit and hold down for three (3) seconds to **Power On** the unit. Check the battery charge level indicator in the top right section of the display and verify that the battery is fully or almost fully charged. Determine the recommended tire pressure for the vehicle tires or trailer tires that you will be monitoring. Based on this recommended value, select a lower tire pressure value and a higher tire pressure value for programming the warning levels for your unit.

### Step 2

Press the middle key and hold for three (3) seconds to enter the **Programming Mode**. On each of the Steps 3 through 8 below, press the middle key to save the value you have selected and then move to the next programming step.

### Step 3

On the left side of the display, you will see either PSI (pounds per square inch) or BAR (barometric pressure). Use the left key to cycle between PSI and BAR and decide which to use.

### Step 4

On the right side of the display, you will see either F (degrees Fahrenheit) or C (degrees Celsius). Use the left key to cycle between F and C and decide which to use.

## Tire Pressure Monitoring System Programming Steps (Cont'd)

### Step 5

Select the low warning tire pressure value for the front axle left and right tires by using the left (decrease) or right (increase) key.

### Step 6

Select the high warning tire pressure value for the front axle left and right tires by using the left (decrease) or right (increase) key.

### Step 7

Repeat Steps 5 and 6 for the rear axle left and right tires.

### Step 8

The high temperature warning value will be shown on the left of the display and you can use the arrow keys to select a lower or higher value. This value will apply to each of the four (4) tires. The standard setting is at 167 degrees F and that would be a reasonable selection to use.

## Tire Pressure Monitoring System Programming Steps (Cont'd)

### Step 9

Remove the valve stem screw-on cover on each tire and install the correct tire sensor on each tire location. When the tires have rotated several times while traveling, the units will “wake up” and begin broadcasting data on measured tire air pressure and temperatures to the display which will then show those values for each tire on the display. Typically, this data will be updated about once per minute while moving.

### Step 10

If the display does not experience any sense of movement for about ten (10) minutes, it will go into a “sleep mode” to reduce current drain from the battery until movement is again detected. If the unit will not be used for several days (for instance if the system is used for a trailer tire monitoring system and the trailer will not be in use for several days), you can turn the display unit off by pressing the left arrow key and holding it down for at least three (3) seconds.



## Users Notes

If a tire for a trailer is inflated to a recommended cold tire pressure of 50 PSI, the air pressure might increase to 52 or 53 PSI after towing the trailer for a while (friction from the road surfaces could cause the measured tire pressure to increase by two or three PSI). For the low tire pressure warning value, we recommend a value from 35 to 40 PSI, and for the high tire pressure warning, a value from 55 to 60 PSI. Measured tire pressures that fall below the low-pressure warning value or rise above the high-pressure warning value will generate an audible and visual alarm from the display unit and the alarm indicates a significant tire pressure change and should be investigated.

A temperature level above the high temperature setting would indicate that the tire or its associated wheel bearings are about to fail, and action should be taken as soon as possible. The tire sensor modules are rated at IP67 for moisture and dust protection, meaning that the tire sensor modules can be submerged in water up three (3) feet deep for up to thirty (30) minutes with no detrimental effects. This allows them to be used in boat trailer applications where boats are launched and loaded with the trailer partially submerged for several minutes.

## Tire Pressure Monitoring System Alarm Descriptions

### **Low Tire Air Pressure**

Audible and visual warning on the display unit when a tire's air pressure falls below the programmed level. The relevant tire icon will flash on the screen. The audible alarm can be turned off by pushing any key.

### **High Tire Air Pressure**

Audible and visual warning on the display unit when a tire's air pressure increases beyond the programmed level. The relevant tire icon will flash on the screen. The audible alarm can be turned off by pushing any key.

### **Fast Leak Detected**

Audible and visual warning when a tire deflates rapidly from the preset level. The relevant tire icon will flash on the screen. The audible alarm can be turned off by pushing any key.

### **High Temperature Detected**

Audible and visual warning when a tire's temperature exceeds the programmed level. The relevant tire icon will flash on the screen. The audible alarm can be turned off by pushing any key.

## Tire Pressure Monitoring System Alarm Descriptions (Cont'd)

### **Low Battery Detected**

Audible and visual warning when the display unit's battery voltage drops below the minimum power level for the display unit to continue to operate. The relevant icon will flash on the screen. The audible alarm can be turned off by pushing any key. The unit can be supplied with power and the battery charged using the USB cable and an available USB port in the vehicle.

### **Signal Loss**

Audible and visual warning that the wireless signal between the display unit and the tire sensing units has been interrupted. The display unit may not receive a signal due to poor environmental conditions or a sensor issue (such as low battery level for the tire sensor). The system cannot read data accurately during the communications interruption. The relevant icon will flash on the screen indicating which tire sensing unit is no longer communicating. The audible alarm can be turned off by pushing any key.

## Product Warranty

This SmartShore Marine by Hypertech product is warranted against defects in materials or workmanship for ninety (90) days from the date of purchase. Hypertech/SmartShore Marine's liability under this warranty shall be limited to the prompt replacement of the monitor screen and/or tire pressure sensors if deemed as a defective unit. This limited ninety (90) day warranty is to the original purchaser providing all the information requested is furnished. You must retain a copy of your original sales invoice or receipt. Without proper documentation, a service fee will be applied. **Third party resellers and resold units are NOT covered under this warranty.** Shipping cost is the sole responsibility of shipper.

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Part #LIT109  
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