

SilverLeaf Electronics, Inc.
PressurePro Tire Monitoring Installation Manual

This is an Installation Manual Only. Read all PressurePro documentation for important information on tire pressure and safety.

Installation

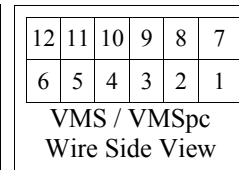
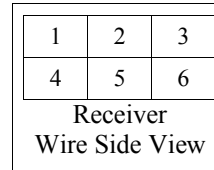
Receiver Installation

The receiver can be mounted anywhere on or in the vehicle, and should be placed in a position to get the best possible signal from the tire sensors. The receiver is sealed for external mounting, but it is still susceptible to corrosion of the antenna base and should not be installed in a wheel well.

Wiring

The receiver requires 12V power, and is connected to the VMS in the dash via the accessory J1587/J1708 data pair. The connections are as follows:

Receiver Pin	Description	VMS Pin	VMSpc Pin
1	Data Link +	9	3
3	Data Link -	10	4
4	Ground	1	1
6	12V Power	7	7



If the receiver is wired to full-time power, it will allow the user to check the tire pressure at any time instantly. Of course, it will also drain the batteries. If the receiver is wired to ignition or accessory power, it can take up to five minutes to get readings from all tires.

VMS Settings

The VMS must be set to listen for PressurePro data. In the Installer's Configuration menu, look for "Tire Monitor" or "Tire Monitor Option", and set it to "PressurePro". The details depend on the VMS model.

VMS Model	Minimum Software Version	Key Combo to Access Menu	Menu Location
VMS 240	40RV18	Diag + Info	Main Menu
VMS 440	40RV08	Drive + Scan	Miscellaneous Configuration
VMS 640	40**25	Drive + Scan	Setup Options
VMS 200	40**PP	Trip + Spec	Miscellaneous
VMS 120	40RVPP	Info + Prog	Main Menu

If you want the unit to automatically beep and switch to the Tire Status screen on any Red Alert, make sure the "Trouble Monitor" is also activated in the VMS configuration.

After changing the setting, the unit must be rebooted, or turned off and on, for the settings to take effect.

Programming the VMS and Receiver

Once the system is wired and configured, it must be programmed to associate each sensor with a specific position on the vehicle. The VMS has a specific screen programmed for this purpose. Press the DIAG key until the "Tire Setup" screen appears. (Illustrated here is a VMS 240. Other models will vary in dimensions, but the procedure is the same for all.)

Initially the left side of the screen will be blank, as no tires will be programmed. This part of the screen is a grid providing room for 20 tires spread over 5 axles. (The system can only accept 16 tires at one time,

however.) Turn the knob to move the box-cursor through the various positions.

To set up a sensor, move the cursor to the desired position, and press the knob. Then install the sensor (see the next section.) Within 10-20 seconds an icon should appear indicating the sensor has been detected. The icon will show as a tire with an “X” through it, indicating that although the sensor has been installed, we as yet have no valid pressure data. Within another 10-20 seconds the tire icon should change to a green tire, indicating that pressure data has been received.



Repeat the process with each tire, using the cursor to set up the tires to match the axle/tire layout of the vehicle and/or trailer. If a sensor does not appear within 30 seconds of installation, remove the sensor and let it sit for at least 30 seconds. Then press the knob again on the VMS and repeat the installation process.

If you accidentally position a sensor in the wrong place on the display, move the cursor to that position and press “Clear”. Remove the sensor from the tire, allow it to sit for 30 seconds, and then continue the installation process.

Rotating Tires

Rotating the tires does not require reprogramming the system. Simply remove the tire sensors while keeping track of their position on the vehicle. Then replace the sensors to their original position - not their original tire. Allow the sensors to sit at least 30 seconds before reinstalling, to allow the target pressures to reset as well.

VMSpc

Instructions for setting up the tire layout for VMSpc is included in the VMSpc manual, available on the SilverLeaf web site (www.simply-smarter.com) or by contacting SilverLeaf Electronics. VMSpc version 2.4 is the minimum software version required to use PressurePro.

Installing the Sensors

How the Sensors Report Pressures

Each sensor reports by sending a packet of data in much the same way that a garage door opener sends a message to open or close the door. Each packet contains the current pressure, approximate temperature, and a serial number that identifies the sensor. The receiver then processes that data and sends it to the VMS for display.

The sensor transmits this data roughly every five minutes, but only if it detects at least some pressure. If the sensor is not mounted on a tire, it does not transmit at all. Thus, if you plan on storing the vehicle for a period of time, you should remove the sensors to maximize the battery life. The sensor also transmits whenever it sees a rapid pressure loss. And it transmits immediately when it is first attached to a tire, as long as it has sat without pressure for at least thirty seconds.

Target Pressure

When the sensor is first installed on the tire, whatever pressure it finds at that time becomes the “target pressure” for that tire. This data is contained in the sensor, and the only way to change it is to remove the sensor, wait at least 30 seconds, then remount the sensor on the tire.

The sensor will report a “Low Pressure” (“Yellow Alert”) warning when the pressure drops more than 12.5% from the target. It will report a “Red Alert” when the pressure drops more than 25% below the target.

Installing the Sensor

The sensor screws onto the valve stem like an ordinary stem cap. Usually you will hear a slight amount of air escape as the sensor reaches the valve. Keep turning the sensor past the point that the sound ends, as far as possible using only your hands. Do not use any tools to tighten - over-tightening may damage the stem.

Using the System

To monitor your tire pressure, press the “Info” key. You will be presented with a view of the status of every tire, and the pressure and temperature of one tire at a time. The unit will automatically scan through each tire in turn, showing the pressure data for each. You may turn the knob to speed your way to any specific tire.

There are four possible tire icons - Green, Yellow, Red, and No Data. The No Data icon indicates that the sensor has not reported recently. If the receiver has just been powered on, it may take up to five minutes for all sensors to report and the No Data icons to disappear. Yellow alerts usually mean the tire pressure is over 12.5% below target, but also can mean the battery is low or the temperature is high. A Red icon indicates pressure over 25% below target.

Some VMS models do not have a color screen. The Green/Yellow/Red icons are distinguished by shape rather than color. Green is shown with an open tire icon consisting of two concentric circles. The Yellow icon fills in the space between the circles to make a “doughnut” icon. Red is an exclamation mark in a circle. The No Data icon shows a tire with an “X” through it.

The Yellow Alert usually means a loss of pressure, but it can also mean a low battery or high temperature. To tell the difference, press the Diag button repeatedly to return to the configuration screen. There more detailed error information is provided.

Troubleshooting

A variety of things can interfere with the signal reception by the PressurePro receiver. Usually this can be mitigated by moving the antenna to a location that is closer to or has a better line-of-sight to the tires, or moving it away from interference sources such as some electronic devices. To help find the ideal location, the system provides a “Signal Strength” indicator for every sensor.

The Strength is indicated on the Tire Setup screen. However, this data may take up to three minutes to be received and processed. After moving the receiver, it may take up to eight minutes for the sensors to all retransmit and all data to be processed and received. Although much good can be done standing still, a proper test should include driving the vehicle, since the tire motion and relative position of the stem during rotation affect reception.

A signal strength of over 30 for all tires is required for reliable results. The maximum strength is approximately 96.