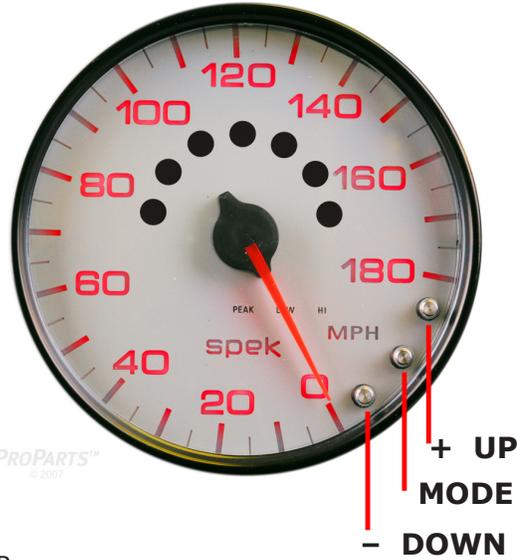
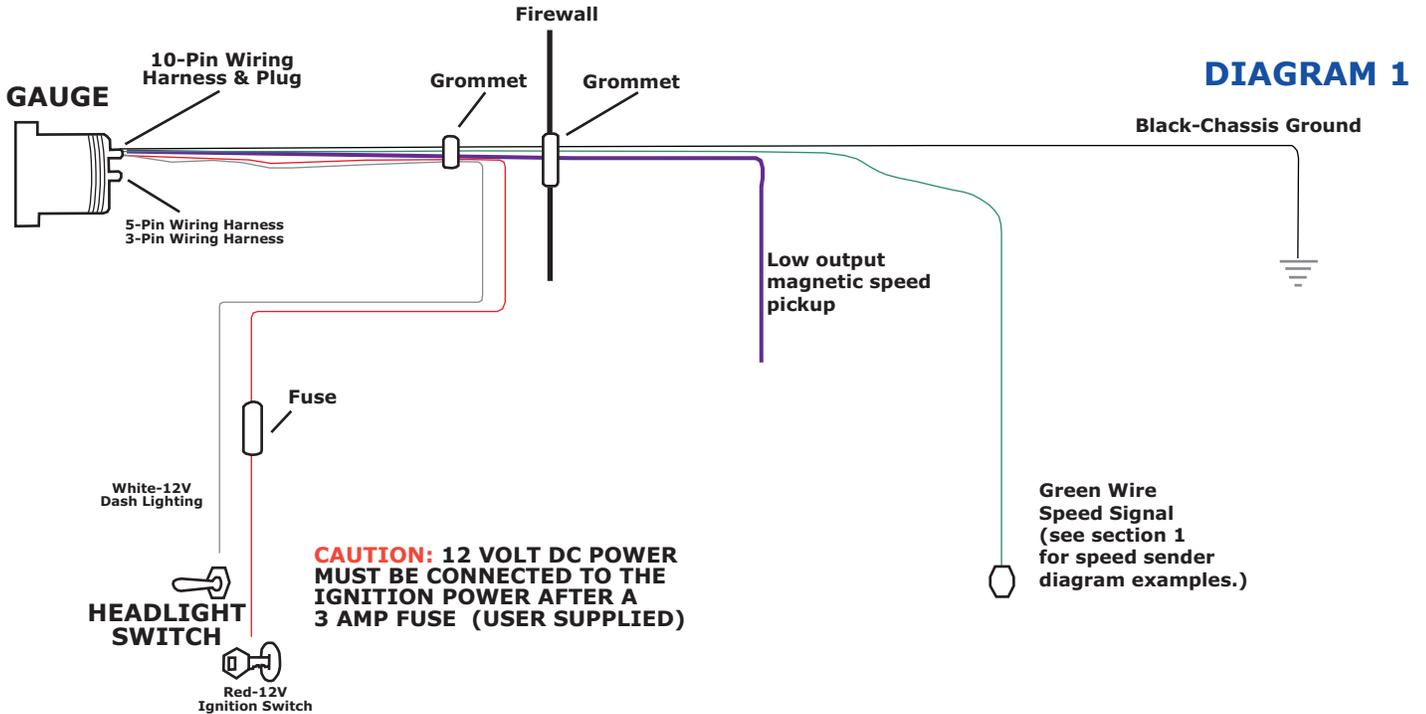


Spek Pro Pro Racing Speedometer With High Speed Warning Instruction



WIRING:

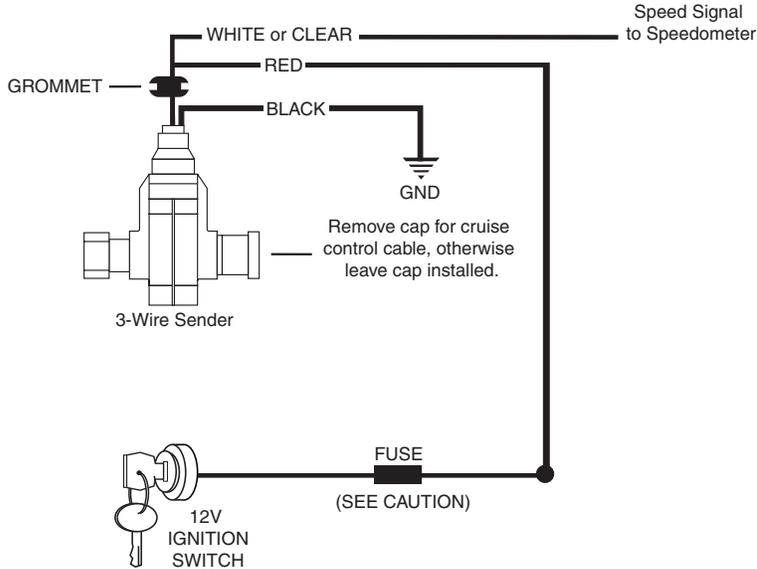
- RED:** SWITCHED, KEY ON POWER.
- BLACK:** CHASSIS, OR ENGINE GROUND.
- GREEN:** SPEED SIGNAL
- WHITE:** DASH LIGHTS DIMMING CIRCUIT (POWER CONTROLLED, NOT GROUND CONTROLLED)
- PURPLE:** LOW OUTPUT MAGNETIC SPEED PICKUP



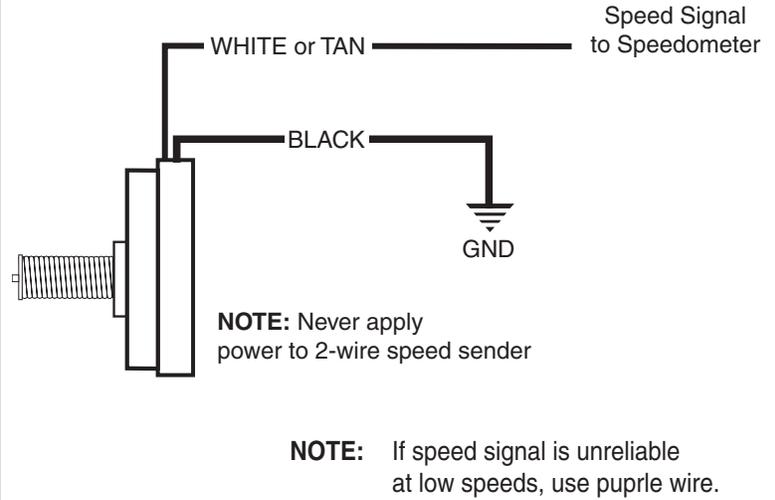
Spek Pro Pro Racing Speedometer With High Speed Warning Instruction

Section 1: Speed Signal Diagrams

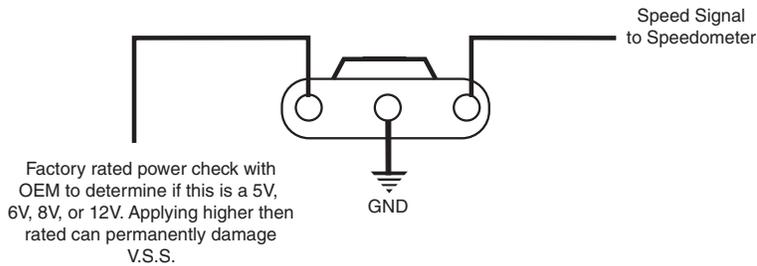
Wiring w/ typical aftermarket 3-wire sender



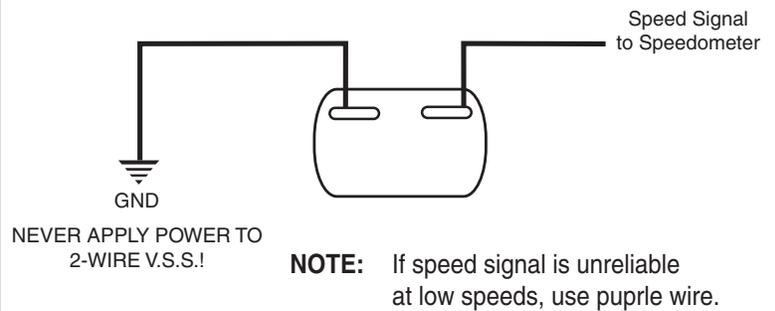
Wiring w/ typical aftermarket 2-wire sender (and no computer)



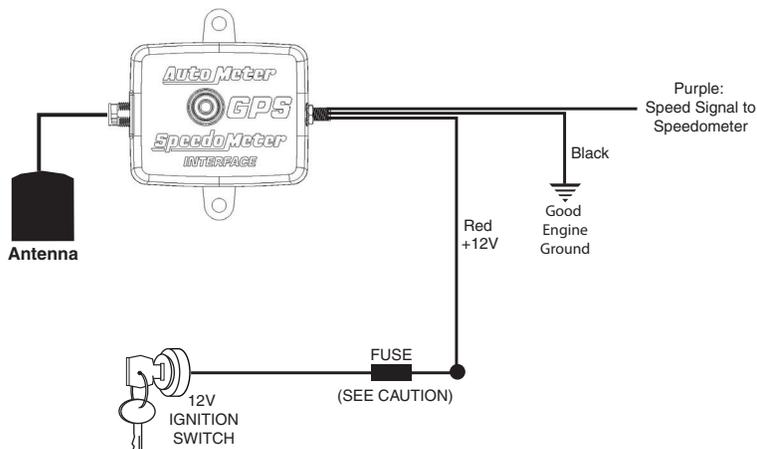
Wiring w/ most OEM 3-wire V.S.S (Vehicle Speed Sensor)



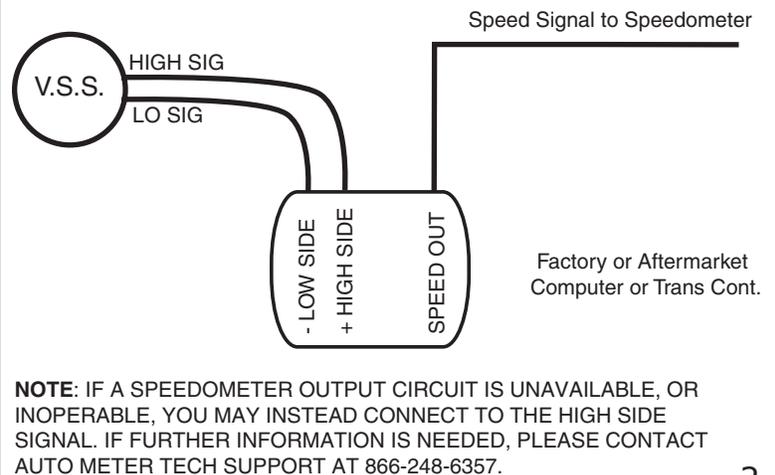
Wiring w/ most OEM 2-wire V.S.S (When no computer involved)



Wiring w/ Auto Meter 5289 GPS Interface



Wiring w/ most OEM 2-wire V.S.S. when using computer or trans controller



Spek Pro Pro Racing Speedometer With High Speed Warning Instruction

Operation Basics:

Before using this speedometer, it needs to be set up to the pulses per mile that your vehicle uses. There are choices of factory options available, but for best results it is recommended that you calibrate the speedometer.

During normal operation, the speedometer will alert you when your speed goes above a high warn point (Backlight turns red and "HI" light illuminates), or optionally alert you when your speed goes below a low warn point (Backlight turns green and "LOW" light illuminates). The speedometer will also record your peak speed. Each time you set a new peak speed, the "PEAK" light will briefly illuminate to let you know you have exceeded your previous peak speed. The stored peak speed can be reset at any time.

The backlight can be set to many different colors and brightness settings to suit your needs. It includes independent day and night brightness settings for more flexibility.

NOTE: THIS SPEEDOMETER HAS NO ODOMETER, THEREFORE IS INTENDED FOR OFF ROAD USE AND MAY NOT BE LEGAL IN ALL JURISDICTIONS!

Programming Basics:

The programming is achieved in steps, using the middle button on the face of the gauge. Think of the middle button, as a "MODE" button. The Left and Right buttons are basically "DOWN" and "UP" buttons. Please note, that each push and release of the buttons require about a 1 second push to activate. A quick tap may not register to the gauge, that you have pushed the button. Programming requires no speed signal going to it. If the speedometer does not go into a menu or submenu, cycle power off and then back on.

Demo Mode:

With power on, press and release the MODE button 4 times. The PEAK, LOW, and HI indicators and the gauge illumination will flash. Press and hold both the MODE button and the UP button until the pointer stops climbing, and the indicators and illumination stop flashing, and immediately release the buttons. The speedometer will automatically start sweeping the pointer up and down, and going through several colors. To Exit demo mode, press and release the MODE button 1 time.

Factory Reset:

With power on, press and release the MODE button 1 time. The pointer will go to the current peak speed. Press and hold both the MODE button and the UP button until the pointer stops climbing. Hold the buttons for an additional 2 seconds and then release both buttons. The pointer will sweep back and forth and the factory settings will be restored.

Lighting:

Gauge Illumination Color Set:

With power on, press and release the MODE button 4 times. The PEAK, LOW, and HI indicators and the gauge illumination will flash. Use the UP button to move the pointer up and use the DOWN button to move the pointer down to the desired color. The pointer will sweep stopping incrementally on each color. You may press and release the MODE button 3 times to save and exit.

Gauge Illumination Brightness:

With power on, press the MODE button 5 times. The PEAK, LOW, and HI indicators will be off and the pit road speed lights will cycle. Press and hold both the DOWN button and the MODE button until the pointer stops climbing, then continue to hold these buttons (for another 2 seconds after the pointer stops climbing). Once there, release both buttons. Use the UP button to make the lighting brighter and use the DOWN button to dim the illumination. You may push and release the MODE button to exit and save.

NOTE: This can be set for daytime brightness (0 volts on white wire) and nighttime brightness (1-12V on white wire). When setting nighttime brightness, this setting adjusts the maximum brightness with 12+ V on the white wire. As voltage is reduced, brightness is also reduced.

NOTE: On older versions (FW0432v1), adjusting the daytime brightness also adjusts the nighttime Gauge

Illumination Brightness.

Speed Warning Indicators Brightness:

With power on, press the MODE button 5 times. The PEAK, LOW, and HI indicators will be off and the pit road speed lights will cycle. Use the UP or DOWN buttons to brighten or dim the speed warning indicators. You may press and release the MODE button twice to exit and save.

NOTE: This can be set for daytime brightness (0 volts on white wire) and nighttime brightness (1-12V on white wire). When setting nighttime brightness, this setting adjusts the maximum brightness with 12+ V on the white wire. As voltage is reduced, brightness is also reduced.

NOTE: On older versions (FW0432v1), adjusting the daytime brightness also adjusts the nighttime Speed Warning Indicators Brightness.

Spek Pro Pro Racing Speedometer With High Speed Warning Instruction

Changing Lit Pointer Brightness:

With power on, press and release the MODE button 4 times. The PEAK, LOW, and HI indicators and the gauge illumination will continue to flash. Press and hold both the DOWN button and the MODE button until the pointer stops climbing. Hold the buttons for an additional 2 seconds (or until the indicators quit flashing) and then release both buttons. Use the UP button to make the lighting brighter and use the DOWN button to dim the illumination. You may press and release the MODE button to exit and save. NOTE: This can be set for daytime brightness (0 volts on white wire) and nighttime brightness (1-12V on white wire). When setting nighttime brightness, this setting adjusts the maximum brightness with 12+ V on the white wire. As voltage is reduced, brightness is also reduced.

High/Low Speed Warning & Peak Recall:

High Speed Warning Set Point:

With power on, press and release the MODE button twice. The HI indicator will illuminate and the pointer will go to the current high setting. Use the UP button to move the pointer higher and use the DOWN button to move the pointer lower to the desired High Set point. You may press and release the MODE button 5 times to exit and save.

Low Speed Warning Set Point:

With power on, press and release the MODE button 3 times. The LOW indicator will blink and the pointer will go to the current low setting. Use the UP button to move the pointer higher and use the DOWN button to move the pointer lower to the desired Low Warning Set point. You may press and release the MODE button 4 times to save and exit.

Peak Erase:

With power on, press and release the MODE button 1 time. The PEAK indicator will illuminate. The pointer will move to the peak speed reading. If no button is pushed for 4 seconds, the gauge will default back to the current speed reading. To clear the peak, push the DOWN button while the peak is displayed. The Pointer will sweep to full scale and then return to the current speed indicating it has cleared the peak memory.

--Alternate--

While in normal mode, press the DOWN button and the peak light will light up indicating the peak was reset.

Input Wire Change and Zero Position Adjustment:

Changing Speedometer Input wire:

With power on, press and release the MODE button 2 times. The PEAK indicator will blink and the pointer will go to the current High Warn Set Point. Press and hold both the DOWN button and the MODE button until the pointer stops climbing. Hold the buttons for an additional 2 seconds (or until the indicators quit flashing) and then release both buttons. Press DOWN to use the green wire for the digital input pin (DEFAULT). Gauge will show 0 MPH. Press UP to use the purple wire as a high sensitivity magnetic pickup input. Gauge will show 180 MPH. Press and release the MODE button 1 time to save and exit.

NOTE: If you are not sure which input to use, use the Green wire. The purple wire input is useful for low output magnetic speed pickups. Some of these sensors have a very low output at low speeds and will not work when using the standard input wire (green). If you find that the speedometer does not read consistently at low speeds, try the purple wire instead.

Adjust Pointer to Zero:

With at least 12 volts applied to the white wire and the speedometer powered on, press and release the MODE button 5 times. The PEAK, LOW, and HI indicators will be off and the pit road speed lights will be cycling. Press and hold both the MODE button and UP button until the pointer stops climbing, and the pit road lights stay on solid then immediately release. The pointer will go to "0". Use the UP button and the DOWN button to adjust the pointer to move it to the center of the tick mark. You may press and release the MODE button 1 time to save and exit.

Calibration:

Change Default Pulses Per Mile:

Press and hold both the MODE button and the UP button until the pointer stops climbing. Hold the buttons for an additional 2 seconds and then release both buttons. The pointer will indicate which default Pulses Per Mile is used by pointing to different speeds indicating a different pulse per mile setting.

Spek Pro Pro Racing Speedometer With High Speed Warning Instruction

Factory available settings are:

PULSES PER MILE	POINTER LOCATION
2,000	0 MPH
4,000	20 MPH
5,280	40 MPH
8,000	60 MPH
12,000	80 MPH
16,000	100 MPH
24,000 (DEFAULT)	120 MPH
*32,000	140 MPH
*48,000	160 MPH
*60,000	180 MPH

NOTE: older versions (FW0432v1) of this gauge used different settings:

PULSES PER MILE	POINTER LOCATION
24,000	0 MPH
6,000	10 MPH
5,280	20 MPH
*60,000	30-180 MPH

*PPM ranges above 30,000 will have reduced max MPH range

Calibration (Steady 60 MPH method)

This requires a button push while driving at a steady 60 mph, therefore this is best performed on a closed-from-public road or track, a chassis dyno, or a very low traffic road.

Step 1: This step should be performed with vehicle sitting still. Prior to starting out and with the power on, or engine running, push and hold the MODE and DOWN buttons at the same time until the pointer stops climbing (about 5 seconds), then hold an additional 2 seconds and let go of the buttons. The gauge illumination will now be white and continuously flashing on and off. You may now proceed to the next step.

Step 2: The speedometer will not indicate speed while in calibration mode. Bring the vehicle up to 60 MPH (as verified with a lead vehicle, or some other speed source such as a GPS) and hold the speed steady. Push and Release the MODE button. The speedometer will now be calibrated. The accuracy of your speedometer will be directly affected by the accuracy of the 60 MPH speed driven during your calibration.

Calibration (Drive 1 mile method)

This requires driving exactly 1 mile. The gauge will count how many pulses occur in 1 mile.

Step 1: This step should be performed with vehicle sitting still. Prior to starting out and with the power on and engine running, press and release of the MODE button 1 time and then push and hold the MODE and DOWN buttons at the same time until the pointer stops climbing (about 5 seconds), then hold an additional 2 seconds and let go of the buttons. The gauge illumination will now be blue and continuously flashing on and off. You may now proceed to the next step.

Step 2: The speedometer will not indicate speed while in calibration mode. Press the UP button to start the pulse counting. The display color will change to white and continuously flashing. Drive 1 mile at any desired speed. As soon as you have driven exactly 1 mile, press the MODE button once to store the total count. The display will go dark and the needle will sweep to full and back to zero to indicate the value is stored. Note, it is recommended to start and end your mile at a low speed (10-20 MPH) to increase the accuracy of the calibration.