

Aeris SmartSense[®]

Debugging Guide

Part Number: 01-571-8301

Revision: 8/26/15

Rev: A

Instructions: To help us better understand the issue, before returning the parts for warranty, please check with an “X” each box below and briefly explain the malfunction of the system on the blank space provided.

- Are all hoses connected together from the axle to the control box? **See setup section in debugging guide.**
- Did light blink 3 times in control box on power up? **See step 1 in debugging guide.**
- Did light at front of trailer blink 3 times on power up? **See steps 2 & 3 in debugging guide.**
- Is the light at the front blinking inconsistently after the 3 blinks? **See step 4 in debugging guide.**
- Is the light at the front staying on or blinking consistently? **See step 5 in debugging guide.**
- Does the light eventually turn off? **See step 6 in debugging guide.**

Setup

Connect the Driver Left Rear (Curbside rear) Axle Pressure line to the far left point on the flow manifold closest to the regulator.

Connect the Driver Left Front (Curbside front) Axle Pressure line to the second position on the flow manifold.

Connect the Driver Right Front (Roadside Front) Axle Pressure line to the third position on the flow manifold.

Connect the Driver Right Rear (Roadside Rear) Axle Pressure line to the far right point on the flow manifold farthest from the regulator.

Note: On single axle systems the two middle ports should be plugged as the front axle will not be used.

Connect control box to ABS connector pigtail

Connect Driver Warning Light (DWL) to 7 way connector power and ground

AERIS SmartSense installation debugging guide

1. With the entire system connected apply power. Does the red light D1 on the control box circuit board blink at power up 3 times?
 - If no then check power connections +12 and Ground continuity to the circuit board and the 7 pin connector and verify the ABS harness is firmly plugged in.
2. If all 4 flow lights (D2-D5) on the control box circuit keeps blinking after the power on 3 blink sequence then the system does not have air pressure yet.
 - Check that the air control valve is in the on position.
 - If the control valve is in the on position then the brake system has not received enough air to open the PPV valve yet. Wait for the airbrake tank to fill or check glad hands are connected to the tractor.
3. After power up works successfully and the system has Air Pressure, verify that the Front Driver Warning Light (DWL) blinks three times at each power up.
 - If the DWL does not blink on power up then check power +12V and Ground continuity on the terminals to the 7 pin connector and verify that the bullet connectors are firmly plugged in
4. Once all systems are blinking on a power on event check for a communication connection between the Control box and the DWL. If communications have not been established yet the LCD on the DWL should display a "1". Once communications are established the "1" will change to some other number and the bound icon (looks like a chain link) will be turned on along with a signal strength indication. The signal strength indication is continuously updated for about 10 minutes after each power on event and can be used to discover control box mounting problems.
 - If the LCD displays a "1" then the system has not established communications with the control box yet. The system should begin communicating with the control box in less than 1 minutes on a new install
 - If the bound icon is lit but the system still displays a "1" error code and this is part of a recent repair where the control box was replaced then communications will be reestablished in roughly 2 minutes.

- It is absolutely paramount that both the DWL and the control box have power cycled on them at the same time for the system to associate correctly. If power is only cycled to one unit then the “1” on the display will never change.
 - If the system continues to display a “1” on the LCD after a simultaneous power cycle then there is a communications problem in the system. Communication problems are best diagnosed by plugging in a different light or control box and cycling power again. **If a defective unit has been found send it back to Stemco warranty with a note indicating the problem and the test method used to diagnose it.**
5. Once the LCD on the DWL has established communications with the control box the system status will be displayed.
- If the error code displays a “2” then no error pressure exists in the system see step 2 in this debug guide sequence.
 - If the error code displays a “0” then the system is capable of functioning normally.
6. Once the system is functioning normally with an error code of “0” on the driver warning light the condition of the wheel ends can be checked.
- If 1 particular light lights up continuously then that particular wheel end is taking some air. If no hissing is heard coming out of the air connections then the tires are a little low and are being topped off. The light should go out in roughly 10-15 minutes providing there is not a leak in the tire.
 - If the light is blinking then the wheel is taking a large amount of air. If no hissing is heard coming out of the air connections then the tires are very low and taking a large amount of air. The system will raise the Tire pressure on a single wheel about 10 PSI in 10 minutes providing there is not a large leak in the tire.
7. If the system has taken air on a particular wheel end after a power up event then the wheel end trip alert indication will be turned on for the duration of that trip and will remain on until the next power on event even if no power is applied to the trailer.
- If a trip alert is shown and the trailer was sitting for a long period of time or temperature has changed significantly then the system probably just topped of a tire and no severe issues exist.
 - If the temperature has not dropped significantly and the trailer is used daily then a tire problem exists on that wheel end.

8. If the system has consistently taken air on a particular wheel end on a number of recent trips then the severe alert indication or maintenance alert triangle will be given on the display and will remain on until the system has completed a couple of trips without taking air. This icon stays on even when the system is not powered
 - If the severe alert icon or maintenance alert is turned on then there is either a leak in the system or a wheel end has a tire problem that will continue to get worse if it is not repaired.
 - The maintenance alert will not clear until the system has been error free for 1 entire day and at least 2 power on events have occurred.
9. If the light goes out after the first 3 blinks after a power on event and the error condition is "0" then all is ok and tires are aired up. A green light will be blinking in the control box in this condition acting as an "I'm alive" indicator.