LMS2, Diagnostics, Sensor Faults

This document details diagnostic information relating to simultaneous sensor faults.

For more information please visit http://sil3.com.au/lms2/

Description of System

This diagnostic information relates only to multiple hydraulic pressure sensor fault codes being displayed on the LMS display. These fault codes will state both Yellow and Green and Blue (if fitted) pressure sensors did not respond on the network within 3 seconds.

The diagnostics actions below will determine if the network cable's communication wires are open circuit, if the display is connected correctly, or if the display's network communications port is electrically correct.

THIS DIAGNOSTIC PROCEDURE IS DIFFERENT TO A SINGLE GREEN OR YELLOW OR BLUE SENSOR FAULT!

Affected Components

This diagmostic information relates to:

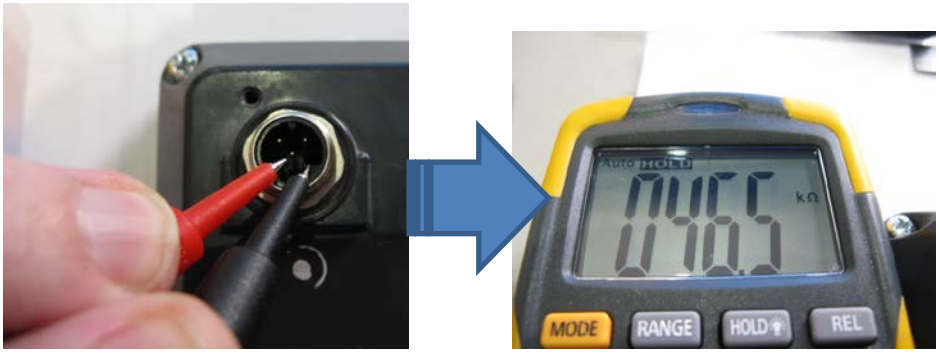
- LMS2-LASX015 – Display Module
- LMS2-LASX153 – Display Module
- LMS2-LASX006 – Green Pressure Sensor
- LMS2-LASX007 – Yellow Pressure Sensor

Action Required

Ensure the LMS display module connector is correctly screwed in. It should be flush mounted against the LMS display as shown below.

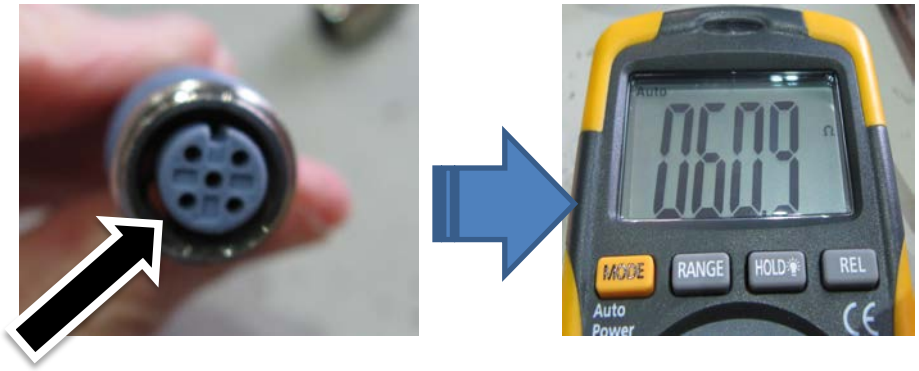
Check the resistance of the LMS display CAN network connector. Using a multi-meter set to OHM's mode, place the positive lead on the centre of the LMS display connector, and the negative lead on the bottom right hand pin. This will test the integrity of the network communications device inside the display.

You should get a reading of about 50KOhms. If you get a value of 0, or infinite, replace the display module.



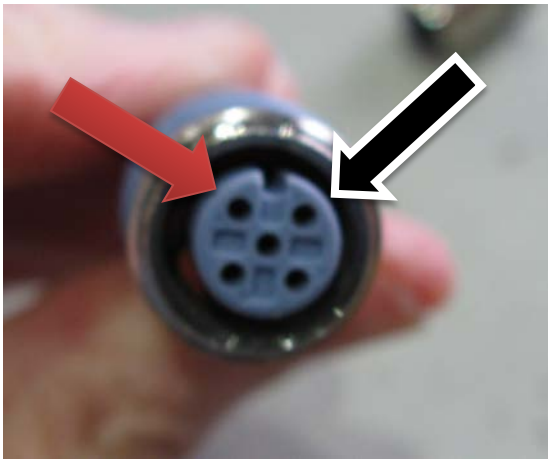
Finally check the integrity of the network data cable and its termination resistors. Use a multimeter with long tipped probes, or use some lengths of wire, paper-clips, etc. and probe the centre pin and the LOWER LEFT HAND PIN of the connector leading into the display (located on the cab wall). Place the positive lead in the centre and the negative lead on the lower left hand pin. You should measure about 60.5 OHMS of resistance.

If you measure a value of 120 OHMS it will indicate that either the cable reel or Network IO module is not connected properly.



If the above tests prove successful, it would be prudent to change over the LMS display module and check to see if the error occurs again.

Finally the network voltage should be measured. Ideally this should be measured from the cable reel end of the cable. The LMS must be switched on during this test.



Select a voltage measurement mode on your multi-meter. The voltage at these points should be approximately 5.0V and may be has high as 5.4V.

If the voltage is lower than 4.5V then it is possible the power supply to the machine (battery, isolator, alternator, electrical connections, fuse, etc.) is the source of the problem.

Additional Notes

Infield experience since 2008 has shown that the majority of multiple sensor faults are caused by damaged cables or connectors preventing correct CAN network operation.