



**Application Note 51622**  
**(Revision -, 1/2020)**  
Original Instructions

## **LESV and LESVII LVDT SIL II Sensor Grounding**

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# LVDT SIL II Sensor Grounding

## Issue

Woodward valves with the SIL 2 rated sensor, PN 1680-1100, may go into a latch condition with an output of 0mA if the customer's power supply, pin 5&6, and input card connections, pins 1&2, have ground differentials between 250mA and 500mA and will shutdown the sensor. If this is maintained for more than 100ms or the current goes above 500mA, the current limiter circuitry will be permanently damaged.

This latch or 0mA output condition can be reset with a power cycle as described in B51617 or by installing a jumper between pins 2 & 6.

Signal + power supply		
Terminal	Pin	Function
	1	Output
	2	DC Ground
	3	Not connected
	4	Not connected
	5	+24 VDC (-15 / +20 %)
	6	DC Ground (0 V)
	7	Cable shield

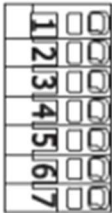


Figure 1. Terminal Pins Function Description

## Corrective Action

Woodward recommends using the same earth ground reference or earth ground references within 3m of each other for each of the two connections to the SIL 2 sensor. If this is not possible, Woodward suggests jumpering pins 2 & 6 on the sensor itself. It has been confirmed with the sensor manufacturer that jumpering pins 2 and 6 will not affect the SIL 2 rating of the sensor. This will not solve the ground differential issue but will allow the SIL 2 rated sensor to work as designed.

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