

# Signet

## 3-2551 Magmeter Troubleshooting Guide

Symptom	Possible Cause	Possible Solution
<ul style="list-style-type: none"> <li>Frequency, Digital or Current output is erratic.</li> </ul>	<ul style="list-style-type: none"> <li>Magmeter installed too close to upstream obstruction.</li> <li>Electrodes coated with solids.</li> <li>Electrodes exposed to air bubbles.</li> <li>Electrical noise interference.</li> <li>New sensor, metal surface not properly conditioned.</li> </ul>	<ul style="list-style-type: none"> <li>Move the Magmeter upstream at least 10 pipe diameters from obstruction.</li> <li>Clean the electrodes with soft cloth. Do not use abrasives.</li> <li>Eliminate air bubbles in the pipe.</li> <li>Remove the Magmeter and reinstall with the flow direction arrow on the sensor body pointed DOWNSTREAM.</li> <li>Modify grounding as required to protect the Magmeter from interference.</li> <li>Soak sensor overnight in fluid.</li> </ul>
<ul style="list-style-type: none"> <li>Output is not 0 when flow is stopped.</li> </ul>	<ul style="list-style-type: none"> <li>Electrode not adequately conditioned.</li> <li>Electrical noise interference.</li> <li>Vibration or other movement in pipe causes magmeter to detect flow.</li> <li>Defective Magmeter</li> </ul>	<ul style="list-style-type: none"> <li>Soak sensor overnight in fluid.</li> <li>Modify grounding to protect the Magmeter from interference.</li> <li>Set low flow cutoff higher.</li> <li>Return to factory for service.</li> </ul>
<ul style="list-style-type: none"> <li>4-20 mA output is incorrect.</li> </ul>	<ul style="list-style-type: none"> <li>Loop device not scaled same as Magmeter.</li> <li>Range Jumper not placed correctly.</li> <li>Defective Magmeter</li> </ul>	<ul style="list-style-type: none"> <li>Use 3-0250 Setup tool to respan the Magmeter to match Loop device.</li> <li>Respan Loop device to match Magmeter.</li> <li>Set Range Jumper correctly.</li> <li>Return to factory for service.</li> </ul>
<ul style="list-style-type: none"> <li>Frequency output is inoperative</li> <li>Digital (S<sup>3</sup>L) output is inoperative.</li> <li>Loop output is inoperative.</li> </ul>	<ul style="list-style-type: none"> <li>2551 is wrong model.</li> <li>Blue jumper not in correct position.</li> <li>Wiring is not correct.</li> <li>Frequency input to other manufacturer's flow instrument does not have pull-up resistor.</li> </ul>	<ul style="list-style-type: none"> <li>Frequency model is 3-2551-11.</li> <li>Place blue jumper correctly. (Sec. 5 pg. 4)</li> <li>Check wiring, make corrections.</li> <li>Install 10kΩ resistor. (Sec 8.1, pg. 6)</li> </ul>
<ul style="list-style-type: none"> <li>Output is 22.1 mA.</li> </ul>	<ul style="list-style-type: none"> <li>Conductivity is less than 20 μS/cm.</li> <li>Electronic component failure.</li> </ul>	<ul style="list-style-type: none"> <li>Unsuitable application for Magmeter. Return to factory for service.</li> </ul>

### 11.3 Troubleshooting with the RED and BLUE lights

No Lights:	The power is off or the sensor is not connected
Solid Blue:	The power is on but there is no flow in the pipe.
Blinking Blue:	Normal operation, blink rate is proportional to the flow rate.
Alternating Red-Blue:	Empty pipe indication (electrodes are not wet.)
Blinking Red:	System errors (Electrical noise interference)
Solid Red:	Instrument error (defective electronics component)

#### If the 2551 detects an Empty Pipe:

- Frequency output will be locked to 0 Hz if electrodes are not wet.
- Digital (S<sup>3</sup>L) output will be locked to 0 if electrodes are not wet.
- 4-20 mA will be locked to 4 mA if electrodes are not wet.
- Blue and Red LED indicators on the magmeter circuit will blink alternately if electrodes are not wet.

#### If the 2551 detects REVERSE FLOW:

- Frequency out cannot distinguish reverse flow from forward flow. The output will be the absolute value.
- Digital (S<sup>3</sup>L) output: Reverse flow results in 0 flow rate displayed on 8900
- 4-20 mA output can be spanned into negative flow range using the 3-0250 USB Setup Tool and software. (See section 9) (example: 4-20 mA = -100 to +100 GPM)

