

Signet

3-2551 Magmeter w/Display Troubleshooting Guide

Symptom	Possible Cause	Solution
<ul style="list-style-type: none"> Output is erratic and unstable. 	<ul style="list-style-type: none"> Magmeter installed too close to upstream obstruction. Magmeter located in area exposed to air bubbles/pockets. Magmeter is installed in pipe backwards. Electrical noise is interfering with the measurement. Electrodes are coated with deposits or chemical oxide layers. 	<ul style="list-style-type: none"> Relocate the magmeter to have straight uninterrupted pipe upstream of the sensor for at least 10 x the pipe diameter. Eliminate air bubbles in the pipe. Remove the magmeter and reinstall with the flow direction arrow on the sensor body pointed DOWNSTREAM. Review the grounding of the magmeter and the pipe. Install adequate Earth ground to allow the magmeter to operate properly.
<ul style="list-style-type: none"> Output is not 0 when flow is stopped. 	<ul style="list-style-type: none"> Electrodes not adequately conditioned in fluid. Fluid is moving inside the pipe. 	<ul style="list-style-type: none"> Allow the sensor to sit in full pipe for 24 hours then restart. Increase the Low Flow Cutoff. (section 7.0)
<ul style="list-style-type: none"> No 4-20 mA output. 	<ul style="list-style-type: none"> Loop power not connected correctly. 	<ul style="list-style-type: none"> Connect 24 VDC \pm10% connected to loop terminals 1 and 3.
<ul style="list-style-type: none"> 4-20 mA current output is incorrect. 	<ul style="list-style-type: none"> 4-20 mA is not scaled properly. 	<ul style="list-style-type: none"> Check and reset in the Setup Menu.
<ul style="list-style-type: none"> No Frequency output. No S³L output. 	<ul style="list-style-type: none"> 2551 is wrong model. Incorrect setting in Options Menu. Wiring is not correct. Frequency input to other manufacturer's flow instrument does not have pull-up resistor. 	<ul style="list-style-type: none"> Frequency/S³L model: 3-2551-21 (w/rlys) or -41 (w/o rlys) Select Frequency in the Options menu. Check wiring, make corrections. Install 10kΩ resistor. (section 5.1)
<ul style="list-style-type: none"> No flow rate, current output is 22 mA. 	<ul style="list-style-type: none"> The fluid is too clean for magmeter. Electronic component failure. 	<ul style="list-style-type: none"> Unsuitable application for magmeter. Return 2551 to factory.
<ul style="list-style-type: none"> Blank display, no backlighting, no relay LEDES, but external equipment using output signal is still working. 	<ul style="list-style-type: none"> 2551 AUX power is not connected. 	<ul style="list-style-type: none"> Connect AUX power (section 5.5) (9 to 24 VDC, 0.4 A max.)
<ul style="list-style-type: none"> Error Message: "Error Not Saved" 	<ul style="list-style-type: none"> Main power is below specification 	<ul style="list-style-type: none"> Correct the main power deficiency

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:

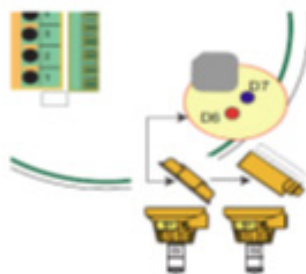
Empty pipe indication (electrodes are not wet.)

Blinking Red:

System errors (Electrical noise interference)

Solid Red:

Instrument error (defective electronic component)



Reverse flow:

- Frequency out cannot distinguish reverse flow from forward flow. The output will be the absolute value.
- Digital (S³L) output: Reverse flow results in 0 flow rate displayed on 8900
- 4-20 mA output can be spanned into negative flow range using the custom setup tool. (example: 4-20 mA = -100 to +100 GPM)

Empty Pipe Detection

- Frequency output will be locked to 0 Hz if electrodes are not wet.
- Digital (S³L) 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 the electrodes are not wet.