Model FT1 Flowmeter Troubleshooting Guide
Fox Thermal Instruments
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This document has been created to assist Fox's technical service staff to resolve flowmeter problems. Your assistance to provide complete details is appreciated.

Section A: General information:

1. What is the serial number and model number of the flowmeter?

2. Please describe the problems in detail.

3. Approximately when did the problem start? Did the flowmeter ever work properly or has the problem existed since the initial installation?

Section B: Troubleshooting:

4. If the problem is with a model FT1 flowmeter, please provide all alarm codes shown on the display. You can also read the alarms using a laptop and Fox's FT1 View™ software.

5. The serial number on the electronics housing must match the serial number on the probe/sensor assembly. It is a common mistake to mix the serial numbers when multiple meters are orders. Please confirm the probe serial number is the same as on the electronics housing.

6. What is the measured input power to the flowmeter?

7. Test/Check fuses and LED status lights for FT1.
   • With the power off, take a resistance measurement across the fuse to ensure it is a short circuit.
   • Is the LP4 LED on and steady?
   • Is the LP1 LED on display board blinking once per second?

8. Have any of the flowmeter settings been changed since you receive the meter from Fox?

9. If advised by a Fox technical representative please confirm the following sensor resistances are correct. Turn off power to meter and disconnect sensor wires from TS 8 (the sensor termination terminal strip located at the bottom of FT1 main board) before taking measurements.
   • Sensor wiring: White to White wires= 200 to 225 ohms, Red to Red = .1 ohms, Red to Yellow = 9 to 10 ohms.

Link to the Fox model FT1 Instruction Manual located on the "Downloads" tab of the FT1 Product Webpage:
http://www.foxthermalinstruments.com/pdf/FT1/FT1_Manual.pdf

Section C: Investigating flowmeter inaccuracy:

11. How high or low is the flowmeter reading and at what flow rate? Please provide specific data.

12. Are the readings taken from the flowmeter display or from the customers system (PLC or DCS)? The 4mA and 20mA settings in the PLC or DCS must match the flowmeters settings. If you are using the 4 to 20 mA output also confirm that the measurement unit (SCFM, KG/HR, NM3H, etc.) in the Fox meter is the same as in your PLC/DCS.

13. Did the meter ever read accurately or do you believe it has read in error since it was installed?

14. If measuring a gas mixture, have you checked to be sure that the mixture parts equal 100%? If not, what gas are you currently measuring?

15. Has there been any change in meter location or pipe configuration?

16. Is the insertion depth setting in accordance with the instruction manual?

17. What is the inside diameter (ID) of the pipe? Is the actual pipe ID the same as listed on the Calibration Certificate? Is the area setting programmed into the flowmeter correct?

18. How much straight pipe is upstream and downstream of the flowmeter?   Fox recommends a minimum of 15 diameters of straight pipe upstream of the flow meter and 10 diameters downstream.

19. Is the flow indicator on the flow meter probe pointing in the direction of flow?

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