

Kontrol-Flo Version 4.6 Software Changes

Recent field problems have been encountered where the flow meter temperature sensor is failing after the flow meter has been in operation a short period of time. Indications are that the failure is a temperature sensor manufacturing defect. The result of the sensor failure causes the meter to read non zero flow in a stopped condition.

This controller software version 4.6 is being provided as a software work around to the problem, should it occur, that will allow the user to continue operating in what is typically a short application window.

IMPORTANT: This software version can be installed only in controllers that are used with digital flow meters. A digital flow meter can be identified as one where the signal wires are attached to the top cover plate as shown in Figure 1. Older analog flow meters have the signal wires connected to the side edge of the meter and cannot be used with this 4.6 chip. In addition to providing product temperature, the sensor also stores the meter size and meter revision information. If the controller cannot read the sensor, you will need to verify that the controller is set to use the right meter size at power on. A controller set to the wrong meter size will provide inaccurate flow readings.

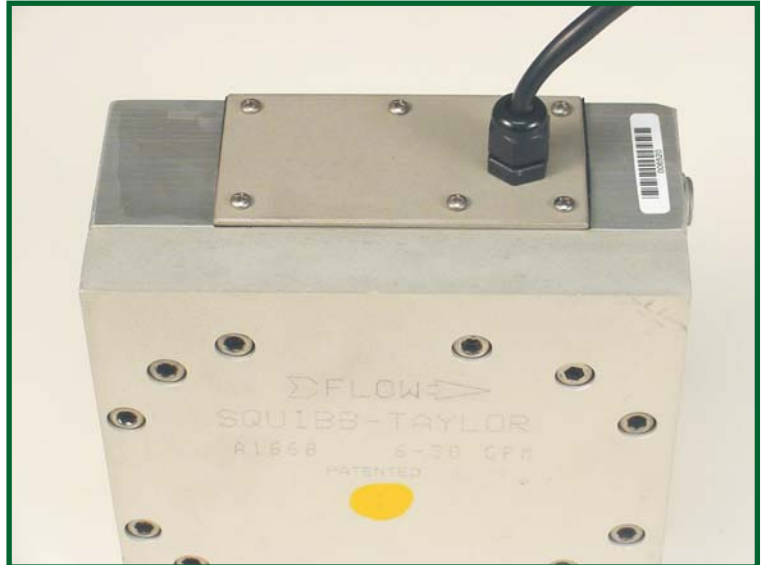


Figure 1

Temperature sensor error while running

The flow meter includes a temperature sensor that the controller uses to determine ammonia density at the flowing temperature. If the sensor fails while running the "TEMP SENSR ERROR" message will flash on the bottom display line of the controller for 60 seconds. While the error message is flashing, the last good temperature reading will be used. If the sensor provides good readings within 60 seconds, the alarm message is removed and the controller will go back to using the meter temperature. If the sensor is unreadable for more than 60 seconds, the alarm message will be removed, and the controller will use a fixed correction temperature of 30° F.

Starting Up with a Defective Temperature Sensor

At "power on", the temperature sensor is read to verify proper operation. If the controller is unable to detect the sensor, and a digital flow meter is connected to the controller, the controller will not be able to automatically verify that the meter size setting is right and the controller will display;

Set Meter To: 1 Inch (Can be: 1 Inch, 1 Inch Low Flow, or 1.25 Inch)

The last meter size setting will show on the bottom line. Use the SETUP switch if necessary until the right meter size is shown. Toggle the SELECT switch to save and use this meter size. Toggle CANCEL to cancel changes and use the old meter size.

Changing the Default Temperature

If debris buildup blocks the meter paddle from fully closing, it is possible that the meter will not read zero when flow stops. When this happens, the controller will show the measured flow rate and operate as though you are still flowing. To help keep you running until the meter can be serviced, version 4.6 will automatically attempt to increase the minimum flow at "power on" to ensure a zero reading in a no-flow state. If a low flow rate is detected during the power-on sequence (less than 5 GPM for 1" and 1.25" meters and less than 2 GPM for 1" low-flow meters), the minimum flow will be raised slightly above the measured flow reading. Flow readings below the minimum flow will display as 0 GPM by the controller. When this condition is detected, and adjustments to the minimum flow are made, a notification display will show the new minimum flow value. The new minimum flow will be shown after the meter size is displayed. If the controller needs to adjust the minimum flow it is usually an indication of meter wear or debris inside the meter movement. A small amount of accuracy may be lost while using the meter in this condition.



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