Technical Bulletin, Stability Requirements; Final Calibration of Flow Computer

NOTE: User Manual Reference - This Technical Bulletin complements the information contained in Volume 1, and is applicable to Revision 20.74/24.74+. This bulletin was previously published with a different page layout.

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Scope

All OMNI 6000/3000 Flow Computers have calibration stability requirements.

Abstract

Because of the temperature sensitivity and bit resolutions of the A/D and D/A converters, and the high accuracy requirements, it is important that the procedures are followed when calibrating flow computer I/O circuits.

Conditions Necessary for Final Calibration

(1) Adjust the power supply to give 5.05-5.10 VDC at backplane test points. Personnel calibrating unit should ensure 5V is within tolerance if potentiometer seal is broken and adjust if needed.

(2) All final calibrations must be performed using the matching set of combo modules and power supply module (i.e. changing the power supply or adjusting the voltage during the final calibration requires that a sample calibration made up to that point be checked. If there is a noticeable change, all calibrated points should be rechecked).

(3) Before calibrating, eliminate temperature gradient errors by closing the box and allowing at least 20 minutes for temperature stabilization to occur. Ensure that unit is not in a high air draft area (i.e. in the path of a fan or AC duct). Make adjustments such as jumper repositioning quickly. Wherever possible keep the unit closed to retain internal heat. Board replacements will require that sufficient time be allowed to achieve temperature stability.

(4) Observe temperature stability requirements of any equipment used in the calibration process (i.e., current and voltage generators, digital voltmeters etc.).

DOCUMENT REVISION HISTORY

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REVISION	DATE	PURPOSE / CHANGE REQUEST
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B	23-February-2009	DCR 090045