



TOTALFLOW

Technical Bulletin 162

Calibration Check Events not Matching User's Entry

Totalflow Technical Bulletin
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Description

Many customers are using USB to RS-232 serial adapters because some laptop manufacturers have stopped offering 9 pin serial ports. There are many USB to serial adapters available from third party manufactures but some work better with Totalflow devices than others.

We have recently discovered a communications issue with a Keyspan USB/RS-232 adapter that can cause incorrect calibration check event data to be saved to Totalflow's Flow Computer events file. The problem is caused by poor communications between the USB/232 converter and the Flow Computer using PCCU32 software. PCCU software is designed to retry a command up to ten times when a communications error occurs. The user will be unaware of the retries thus could change the calibration pressure standard before the value gets written to the Flow Computer. This action could cause an incorrect pressure to be measured by the transmitter and recorded to the events file.

Possible Scenario:

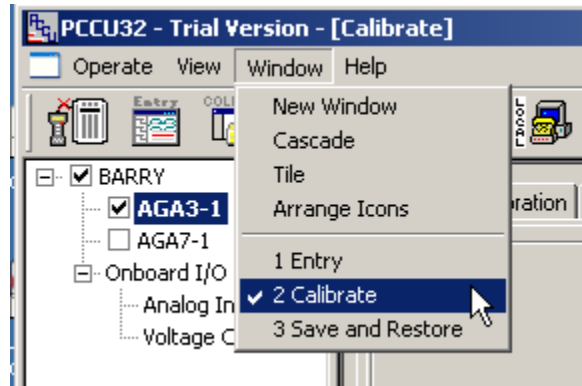
1. User performs a calibration check on Flow Computer
2. User Apply pressure standard to transmitter and enters the calibration check value using PCCU
3. PCCU and Flow Computer begin an exchange of the calibration check data up to 10 times when communications issue exists (this is most likely caused by using a USB to serial converter that is not tested and certified by Totalflow)
4. Customer assumes the check value was successfully sent to Flow Computer and begins changing their pressure standard to 2nd pressure point
5. The data was successfully sent during a retry but after the customer changed the calibration standard pressure to the transmitter
6. The calibration event shows the value the customer entered (old value) but the Flow Computer pressure (new value) is logged incorrectly due to the customer changing the pressure input (moving to the new pressure point before the event was logged)

Workaround

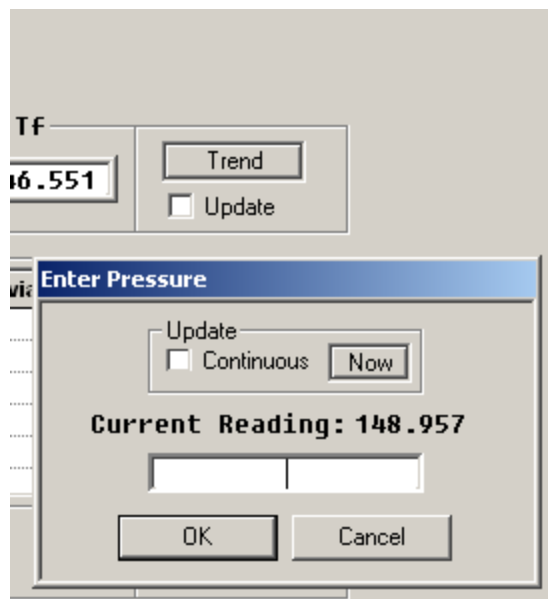
The following actions before and during calibration checks can reduce or eliminate the communications issue between PCCU32 and a Flow Computer (Generation 1 through Generation 4)

- Turn off any active monitor screens
 - The easiest way to verify and turn off active screens is by going to "window" to determine if other items are active. In the example below, there are three active screens (entry, calibration and save/restore). One

at a time select all but the calibration window and close until only "calibration" is active.



- Uncheck "Update" and "Continuous" check box on check and calibration screens
 - Press the "now" button when you want to see an updated current reading



- Be suspicious of sequential readings that don't vary at all.
- After pressing "OK" on the Enter Pressure dialogue, wait 10 seconds before changing to the next benchmark pressure applied to transmitter.

Conclusion

Totalflow currently recommends digi International's Edgeport/1 USB to Serial adapter. This adapter can be purchased from either ABB Totalflow (part# 1801382-001) or direct from Digi International (part# 301-1001-11). For Windows XP, 2000 and Windows 2003 Server, ABB recommends Digi's updated **4.5** driver. As of the creation of this bulletin



the 4.5 driver was not available on Digi's web page. The latest driver found on Digi's web site was 4.4. Totalflow will be placing Digi's XP/2000 4.5 driver on its web page sometime in May 2008. *Digi recommends that the user uninstall any older driver prior to installing the 4.5 driver.*

Totalflow's web page:

www.abb.com/totalflow

Digi's Driver Download Page:

<http://www.digi.com/support/productdetl.jsp?pid=2628&osvid=57&tp=1&s=0>

Totalflow is also evaluating and planning a PCCU32 modification to provide positive confirmation once the value has been downloaded and accepted from the Flow Computer. Totalflow will also replace the "current reading" value with --.—(dashes) whenever communications between PCCU32 and the Flow Computer is temporarily lost. This change should eliminate the need for the workaround (listed above) once this feature has been implemented. Totalflow currently plans to implement this new feature in PCCU32 7.0x to be released sometime in May-June 2008.