



TOTALFLOW

Technical Bulletin 108

Xseries and MicroFLO -99 and -100 Event Issue

Totalflow Technical Bulletin

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Purpose

This paper describes a problem found in certain X-Series MicroFLO flash releases affecting differential measurement tube applications.

Problem Description

Some numbers of XFC and MicroFLO Flow Computer Units have logged several occurrences of event site codes –99, HOLD, -100. In addition, flow data alarms showed absolute pressure error (AE), differential pressure error (DE) and temperature error (TE) alarms for several hours.

The –99 hold event is being logged whenever the DP over-ranges (creating the analog/digital A/D over-range) for six consecutive seconds. This typically only occurs on intermitting or erratic flowing conditions. In this scenario the FCU should indicate an over-range condition on differential pressure and not create an event. The fact that an event is created could cause the event file to fill up before the user has time to collect the historical data causing an audit trail issue.

Software Problem

Analog to Digital (A/D) fail condition is reported when any of the A/D measurement channels is not successfully read for more than 6 seconds. When an A/D failure occurs, event code –99 is logged and the tube is placed in HOLD mode. Alarms AE, DE and TE are also set. When A/D fail clears, event site code –100 is logged and the tube HOLD mode is reset. Alarms AE, DE and TE are also reset, unless one of the channels reports an over-range condition.

In the DP analog processing function for the measurement tube, the logic for A/D fail was incorrect. If an over-range condition occurred, DP flags were set incorrectly. If the over-range condition remained for more than 6 seconds, A/D fail condition was reported and incorrectly logged the –99 event.

FLASH Images Affected

X-Series MicroFLO images released after 2/8/2003 will have this problem. The following part numbers will be released with the A/D site code correction.

2101048-006 or later – uFLO, ENRON
2100395-014 or later – XFC, with IEC
2100805-014 or later – XRC, with IEC
2100825-012 or later – XRC, No IEC
2100826-016 or later – XFC, No IEC
2101033-002 or later – XRC, ENRON, No IEC
2101034-004 or later – XFC, ENRON, No IEC
2101050-005 or later – XFC, No Liquid, No IEC
2101052-005 or later – XRC, No Liquid, No IEC



2101203-004 or later – XFC, No Liquid, No IEC, 32 RAMS alarms
2101264-002 or later – XFC, ENRON – CROSSTEX, No IEC
2100874-002 or later – XRC, Selectable Units, No IEC
2100880-003 or later – XFC, Vcone, No IEC
2100955-004 or later – XFC, Instromet, No IEC
2100964-003 or later – XRC, Vcone, No IEC
2101004-005 or later – XRC, Pump Controller, No IEC
2101005-005 or later – XFC, Pump Controller, No IEC
2100917 – uFLO, now withdrawn

Conclusion

An upgrade is only required if your flowing conditions create multiple Differential Pressure (DP) over-range conditions each day. An over-range condition typically occurs if the DP goes 15-20 percent over the DP range as ordered from the factory.

Determining the Flash Image in your Xseries or MicroFLO

The FLASH part number can be viewed either locally using PCCU32 or remotely using WinCCU software. Remotely use WinCCU and perform a status poll. The FLASH part number will be displayed in the “firmware part number” field.

| Item Description | Value |
|---|--------------------|
| Station ID | TOTALFLOW |
| Device ID | SONIC-FWD |
| Collection date/time | 9/02/2003 11:26:12 |
| Firmware Part Number | 2100992-001 |
| Software revision | |
| ----- Current Values ----- | |
| Uncorrected Volume | 918.267 |
| Current Measured Static Pressure (PSIA) | 16.304 |
| Current Flowing Temp (Deg F) | 97.150 |
| Battery (Volts) | 13.973 |
| Flow Rate (MCF/Day) | 48.448 |

Locally the part number can be viewed in the “entry” menu using PCCU32. Select the station name in the tree view and then the “registry” tab. The FLASH part number will be displayed in the “software number” field.

TOTALFLOW

- ⊕ Communications
- ⊕ I/O Subsystem
 - TotalSonic Interface
 - Holding Registers
- ⊕ Measurement
 - Trend System
- ⊕ Display

Station Setup
Applications
Resources
Registry

| | Description | Value |
|-------|-------------------------|-----------------------|
| 0.9.3 | System Serial Number | 105988 |
| 0.9.4 | Board Serial Number | 353 |
| 0.9.5 | Initial Date of Service | 05/28/03 08:20:41 |
| 0.0.0 | Hardware Part # | 2100204 |
| 0.0.1 | Software Number | 2100992-001 |
| 0.0.2 | Software Description | XSeries Flow Computer |
| 0.8.7 | Software Checksum | DD5E |

If you have one of the above listed FLASH images with the A/D issue then an upgrade is available at no charge. Please call our technical service staff at (800) 442-3097 option 1,2 for upgrade information.