



# TOTALFLOW

## *Technical Bulletin 126*

### Switched Voltage battery (Vbatt) Issue on Model 6200 microFLO and XSeries Products

#### Totalflow Technical Bulletin

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## 1. Purpose

To describe an apparent weakness with a small number of Field Effect Transistors (FET) that control receiver power on remote communications equipment.

## 2. Description

Signal Vbatt is used on both the microFLO and XSeries products to switch communications equipment on and off in an effort to conserve power consumption. This switching is typically used with Totalflow's protocol and is not used on certain communication devices that either cannot be duty cycled or the device's current consumption makes duty cycling unnecessary.

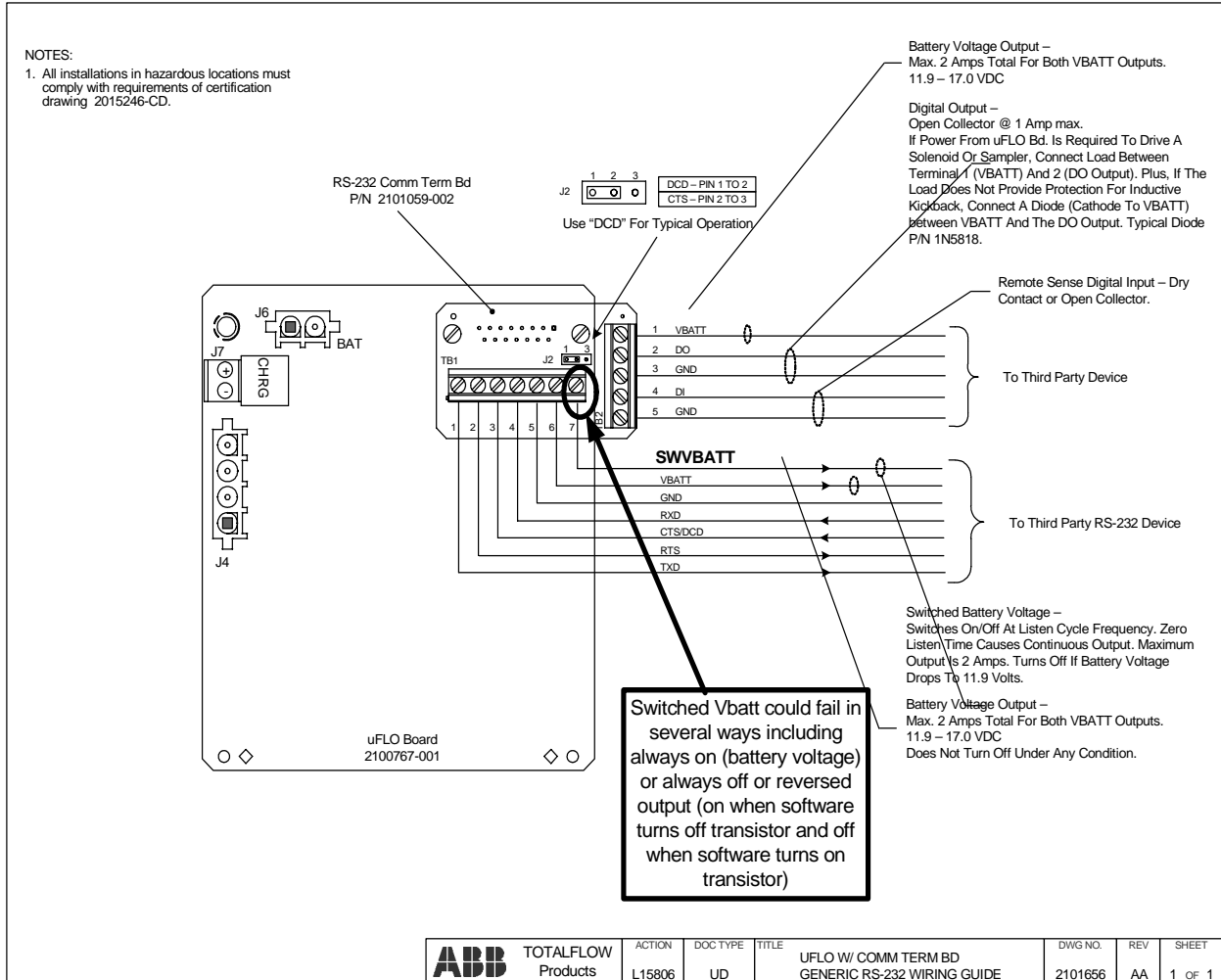
Switched Vbatt signal on both the microFLO and XSeries products are designed to allow up to 2 amps of current to be consumed without damaging the electrical circuit. A 2 amp resettable fuse is in-line to protect the circuit from a shorted or excessive current consumption situation.

A small number of microFLO 2100767-xxx, XFC 2100204-xxx and XRC 2100355-xxx electronic boards have been returned with Switched Vbatt's field effect transistor (FET) blown. The symptoms will vary depending on how the FET fails and include:

- Switched Vbatt always on (measuring battery voltage)
- Switched Vbatt always off (zero volts)
- Switched Vbatt reverses states, off (zero volts) when Flow computer attempts to turn on external device and on (battery voltage) when Flow computer attempts to turn off external device.

It is believed that the failures may be due to a bad lot of vendor supplied FET's. We do not believe these failures are due to excessive current consumption because 1) the circuit is protected by a 2 amp fuse and 2) some number of failures have occurred on sites where Switched Vbatt was sourcing less than 20 milli-amps of current.

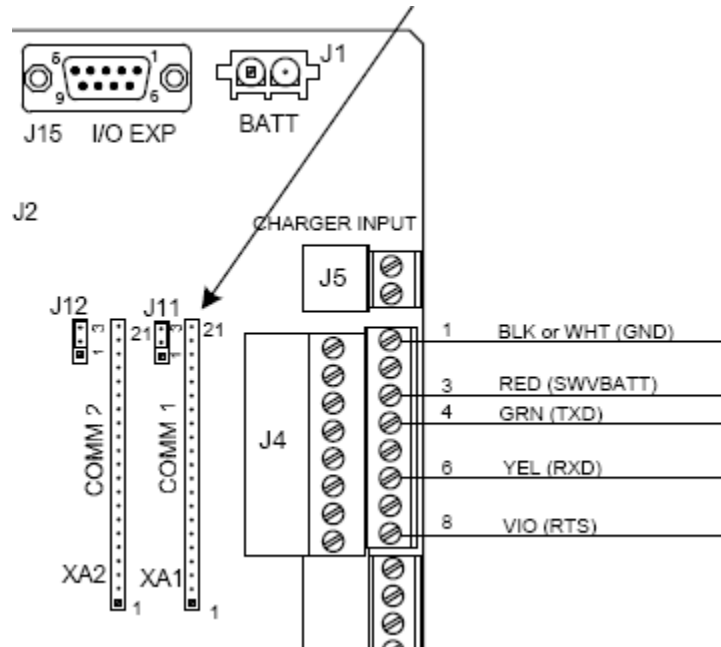
## microFLO wiring diagram showing Switched Vbatt signal when communications termination board is installed.



	TOTALFLOW	ACTION	DOC TYPE	TITLE	DWG NO.	REV	SHEET
	Products	L15806	UD	UFLO W/ COMM TERM BD GENERIC RS-232 WIRING GUIDE	2101656	AA	1 OF 1

### XFC (P/N 2100204-xxx) Switched Vbatt Signal Diagram

J4 pin 3 = Switched Vbatt for Communications port #1 and port #2



### XRC (P/N 2100355-xxx) Switched Vbatt Signal Diagram

J6 pin 3 = Switched Vbatt for Communications port #1

J6 pin 12 = Switched Vbatt for Communications port #2

PORT:RS232/RS485

J6	
COMM1:VBAT	1
COMM1:GND	2
COMM1:SW12V	3
COMM1:OPER	4
COMM1:RTS/RRTS	5
COMM1:DCD/BUS-	6
COMM1:RXD/BUS-	7
COMM1:CTS/BUS+	8
COMM1:TXD/BUS+	9
COMM2:VBAT	10
COMM2:GND	11
COMM2:SW12V	12
COMM2:OPER	13
COMM2:RTS/RRTS	14
COMM2:DCD/BUS-	15
COMM2:RXD/BUS-	16
COMM2:CTS/BUS+	17
COMM2:TXD/BUS+	18

### 3. Conclusion

There is still some uncertainty on what is causing the Switched Vbatt failures even though it is believed that a bad lot of components caused the failures. ABB changed the Switched Vbatt component as a precautionary step to ensure the highest product quality. This new FET has higher reliability specifications than the original component. All new products and any future repairs will be switched to this new part.

To help ensure most efficient handling of any such situation, please refer to this bulletin (number 126) when asking for assistance from our technical staff.

ABB will upgrade any microFLO or XSeries electronic board with a blown switched Vbatt component at no cost. ABB will use the new Switched Vbatt part for any upgrades. The customer will be required to ship ABB the electronic board to our Bartlesville facility for the upgrade. Please call our technical service staff at (800) 442-3097 option 1,2 for upgrade information and RA number.