



**TOTALFLOW**

***Technical Bulletin 93***

**Levelmaster Products**

**Loss of Level and Temperature  
Readings**

**Totalflow Technical Bulletin**

Version 1.2, Revision AC (30 July 2002)

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## Purpose

To describe a situation encountered with a small quantity of level sensors using active floats (mode 2). This situation does not exist with passive float systems. This bulletin will describe the potential problem and recommended corrective action for customers who encounter the symptoms described below.

## Description

ABB has identified a potential loss of communications between the Levelmaster interface board (ABB part # 2018580-002) and sensor assembly. This loss of communication has been linked to a temperature stability problem with the microcontroller located on the Levelmaster interface board.

The loss of sensor communications will cause a **-1** to be displayed where the level and temperature are normally displayed on the Flow Computer or Tankmaster LC Display. The **-1** can also be an indication of other types of problems including defective barrier, RS-485 communication failure, Flow Computer interface problem, or incorrect communication parameters. Follow the steps below if you suspect a temperature related problem with a level sensor.

These steps assume the sensor has failed and is returning a **-1** to the Flow Computer or Tankmaster. Also, since this problem is a temperature stability problem, the Levelmaster interface board should be above 50 degrees Fahrenheit for the following test to be valid.

- 1) Disconnect power from the failed sensor
- 2) Re-connect the power to the sensor and allow the Flow Computer or Tankmaster ample time to request level and temperature data. The user may want to force a poll of sensor data to determine if the problem still exists.

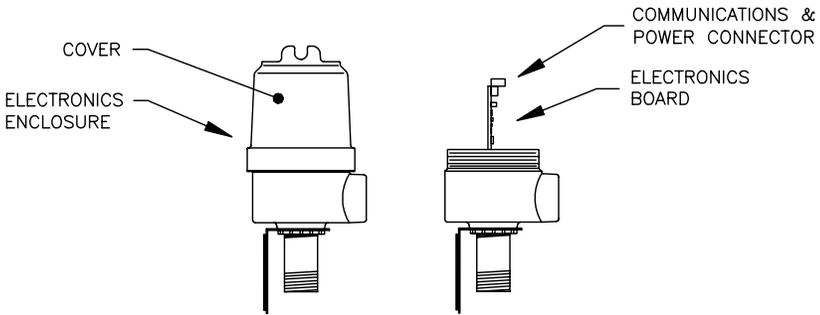
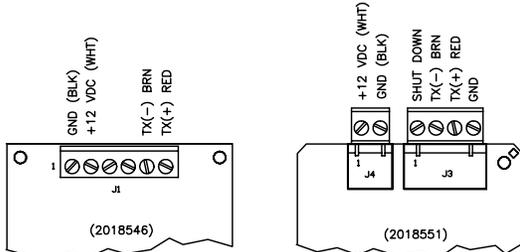
If valid data is returned to the Flow Computer or Tankmaster after disconnecting and re-connecting power then the interface board should be replaced. This test will differentiate a microcontroller problem from some other non-related communications problem.

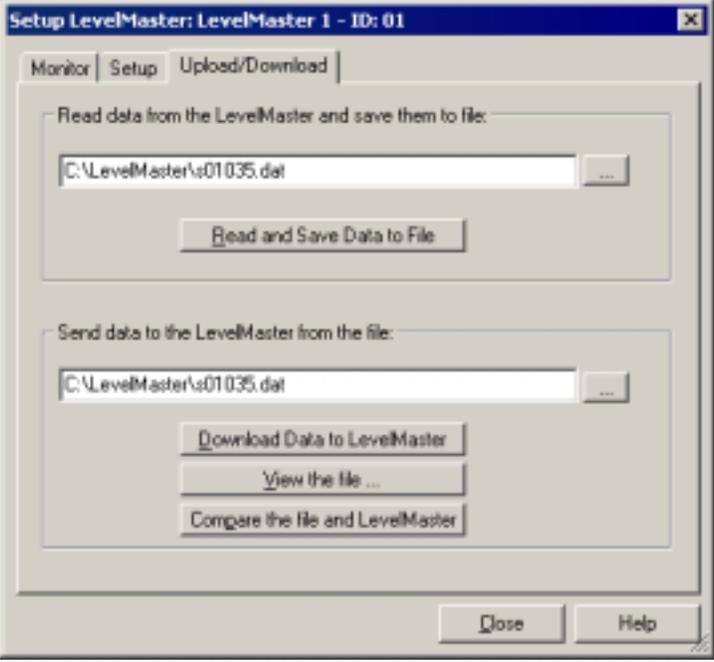
## Levelmaster Interface Board Replacement

**Introduction** The following procedure assumes there is a setup (.dat) file available that can be downloaded to the replacement board. The user should always read the setup information using the Upload/Download feature of MasterLink after making any type of changes. MasterLink would have automatically saved a file when the unit was originally installed. This file will have all the critical setup information even if subsequent changes were not saved.

For additional information when using MasterLink, click on the Help menu item on the main screen plus most of the individual screens have a Help button providing information for that screen.

**It is critical to upload the current configuration and calibration data from the existing interface board before powering down and removing the interface board. Make a note of the serial number and/or file name used to save the data to disk. This file name will be required by the Masterlink program to download the saved data to the replacement electronic board.**

Step	Procedure
1.	Remove the power going to the LevelMaster.
2.	Remove the cover from the Electronics Enclosure. 
3.	Unplug Communications and Power Connector(s). This may be one connector or two depending on the board.
4.	Hold the board by the edges and pull it slowly out. Unplug the 16-pin connector at the bottom of the board.
5.	Plug the 16-pin connector into the new board. The connector is keyed so it will only plug in one way.
6.	Slide the board back down into the Electronics Enclosure making sure the board is in the grooves on the edge of the enclosure.
7.	Re-install the Communications and Power Connector(s). If the new board has two connectors and the old board has one, rewire as follows. 
8.	Screw the cover back on the Electronics Enclosure.
9.	Reapply power to the LevelMaster.
10.	Connect the Laptop using the RS485/RS232 converter to the RS485 bus in a safe area.
11.	Start the MasterLink program and select the LevelMaster from the main screen.
12.	Click on the <b>Setup LevelMaster</b> button.
13.	Click on the <b>Upload/Download</b> tab.

<p>14.</p>	<p>In the bottom half of the screen, click on the Browse button [...] which is just to the right side of the <b>Send data</b> window. Locate the setup file for the LevelMaster. Each LevelMaster should have its own setup file that was hopefully saved during original installation. If not modified or saved as a different name, the default name will be the same as the 5-digit base serial number. To view the serial number, click on the <b>Monitor</b> tab.</p> 
<p>15.</p>	<p>After locating the file, select it and click the <b>Open</b> button. The file path and name should now show in the window.</p>
<p>16.</p>	<p>Click on the <b>Download Data to LevelMaster</b> button. Another screen will appear during the download to let you know when its done. Click <b>OK</b> to acknowledge and close the screen.</p>
<p>17.</p>	<p>You should now be able to click on the <b>Monitor</b> tab and see the Temperature and Level data using the newly downloaded setup information. This completes the Electronics Board replacement procedure.</p>

## Conclusion

If you are experiencing the above described symptoms and suspect a temperature sensitive interface board, please contact our customer service department at (800) 442-3097 option 2,1. We will provide a replacement electronic board at no charge. Make sure you reference ABB technical bulletin #93 and ask for replacement board # 2018580-004.