



**TOTALFLOW**  
***Technical Bulletin 129***  
**BTU 8000 Flash Update Procedure**

**Totalflow Technical Bulletin**

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**ABB Inc.**

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## 1. Purpose

This document describes how to download a flash file into a BTU 8000/8100.

## 2. Description

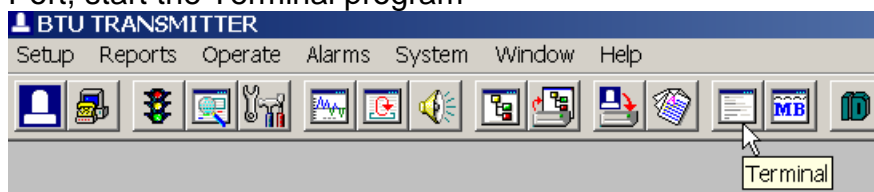
It has been determined that the 2100528-007 firmware for the BTU 8000/8100 operates more efficiently when it is loaded and run out of the flash memory module than when it is run from the EPROM. All BTU 8000/8100s have been traditionally shipped from the factory running out of EPROM. From April 11,2005 on all BTU 8000/8100s are being shipped running from flash memory.

**The effect of this difference between flash and EPROM may never be noticed under normal operating conditions**, however, in situations where large amounts of data are requested on a regular basis using Remote MMI protocol some anomalies may be seen. The most noticeable effect is that the Un-normalized Total, on a single or on several consecutive cycles, will change noticeably while data collection is taking place.

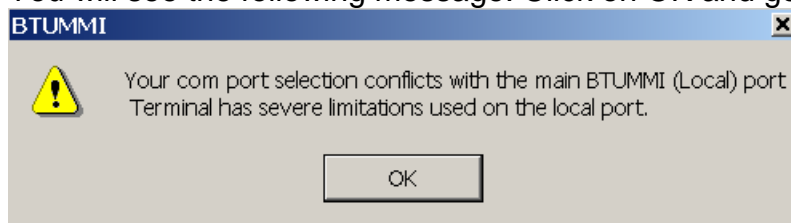
This effect on Un-normalized Total has been seen to occur while data is being collected on the remote communication port (RS485) or RS232 using Totalflow Remote MMI protocol. The larger the request for data (i.e. collecting historical data for 3 streams) the larger the effect will be. If there are multiple BTU 8000/8100s on the same RS485 communication bus, collection of data from one device can affect the other devices data.

These steps are not necessary for transmitters with any version of EPROM other than 2100528-007, but these steps can be followed by anyone needing to upgrade the flash file (or operating system) in their BTU 8000/8100 Transmitter.

1. To determine if your BTU 8000/8100 Transmitter is running from Flash or from EPROM you can connect the local communications cable to the MMI Comm Port, start the Terminal program



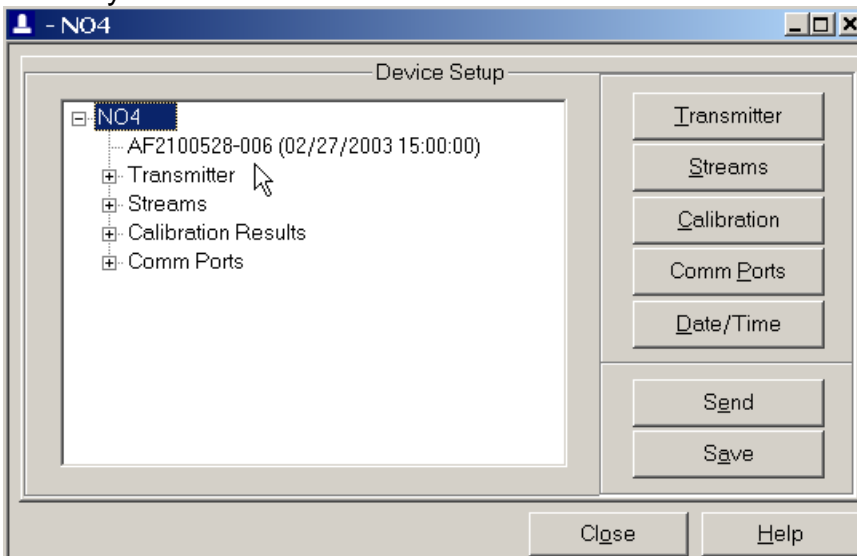
2. You will see the following message. Click on OK and go on.



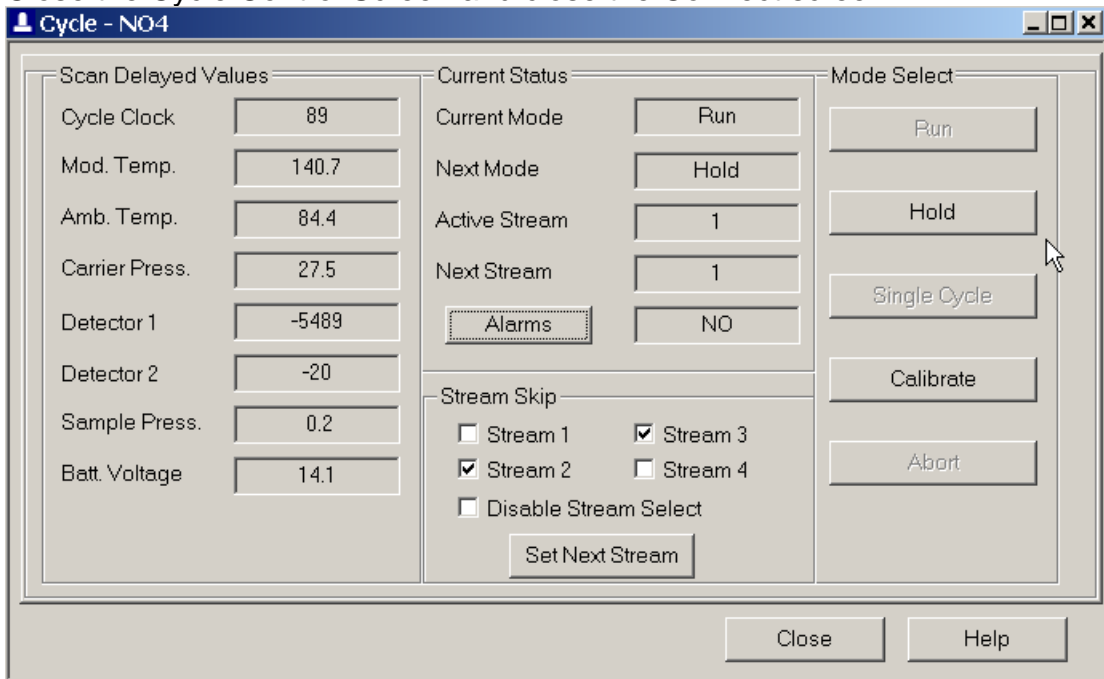
3. Type OK in capital letters. If the Transmitter responds with an N it means that you need to enter the security code. The default security code is four zeros. (0000). Type CODE=0000 (or your security code) and then type OK again. The transmitter should respond with a Y if you have access privileges.



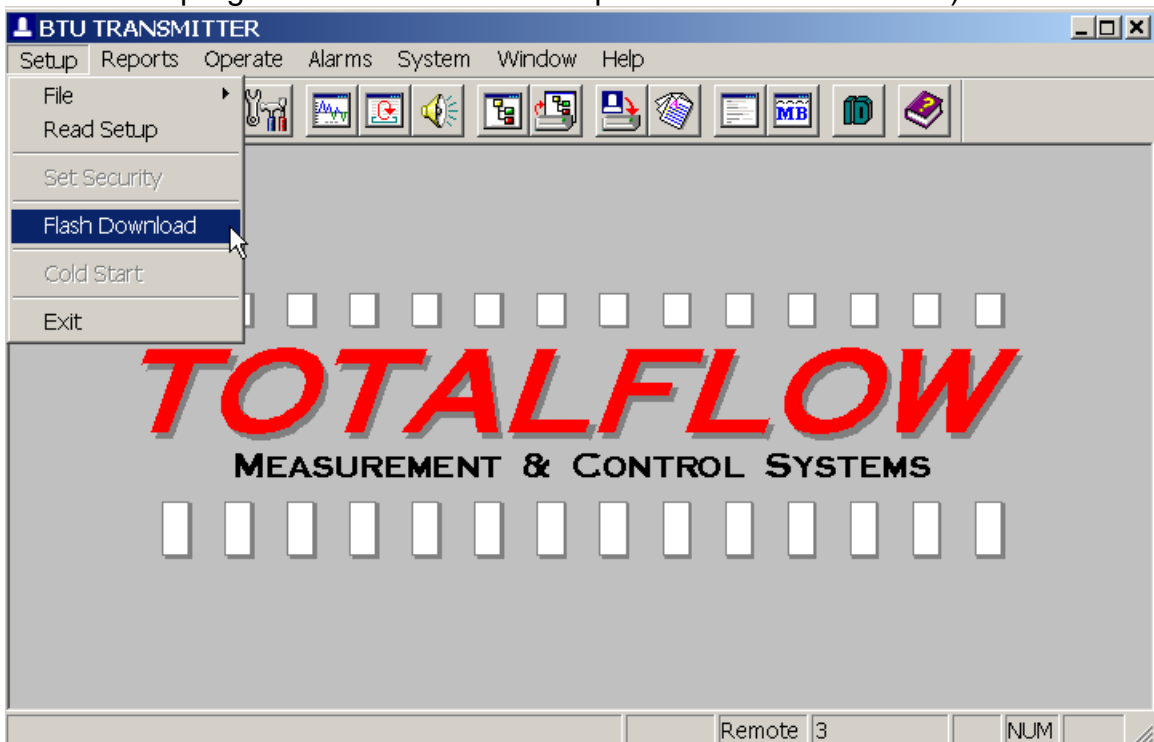
4. Next type BOOT. The unit will respond with a 00 if it last booted out of Flash memory or a 01 if it booted out of EPROM.
5. The current version of firmware will be listed on the Current results reports or can be seen on the setup screen underneath the Transmitters ID. This will, however, not tell you if the transmitter was started from flash or from EPROM.



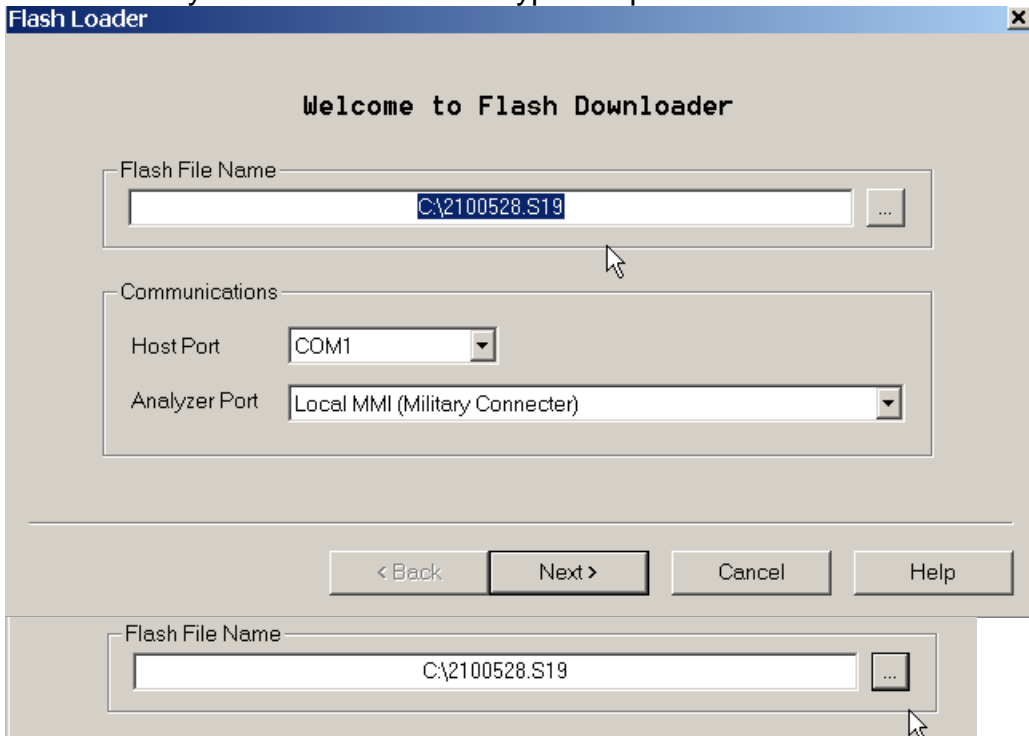
- To update the flash in the GC, connect to the GC and open the Cycle Control Screen. Place The GC in Hold Mode. Once the BTU Transmitter is in HOLD, Close the Cycle Control Screen and close the Connect screen.



- To access the Flash Loader, select Flash Download from the Setup menu. (The flash loader program for the BTU 8000 is part of the MMI software.)

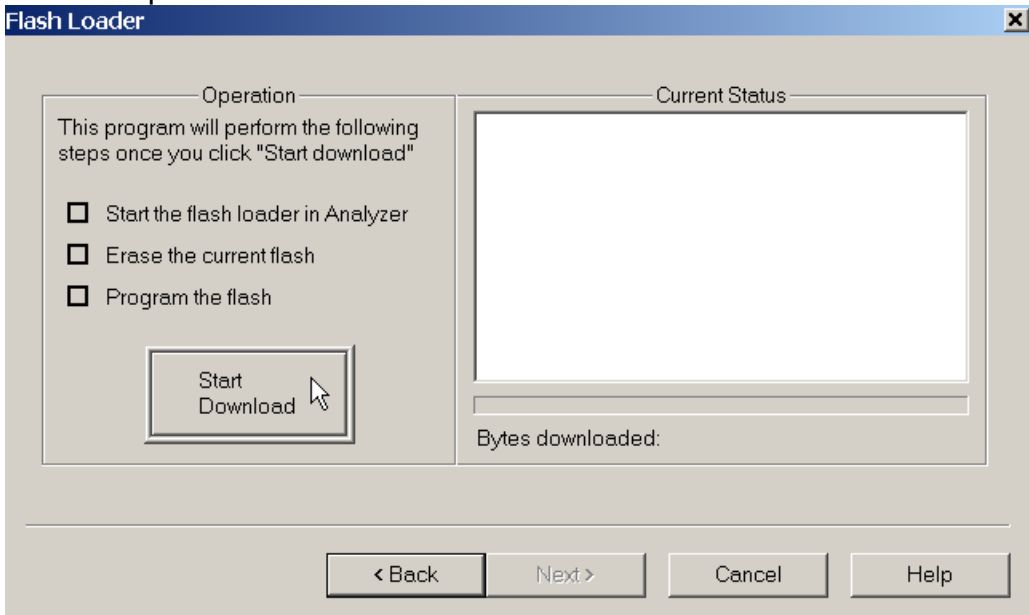


- You will need to have available a copy of the latest flash image. This file can be found on our web site, ([www.abb.com/totalflow](http://www.abb.com/totalflow)) or may be emailed to you if you contact Totalflow Customer Service at the numbers listed on this document. The flash file may be named several ways (2100528.007 or 2100528.S19) Once you have the file you will need to either type the path to the flash file

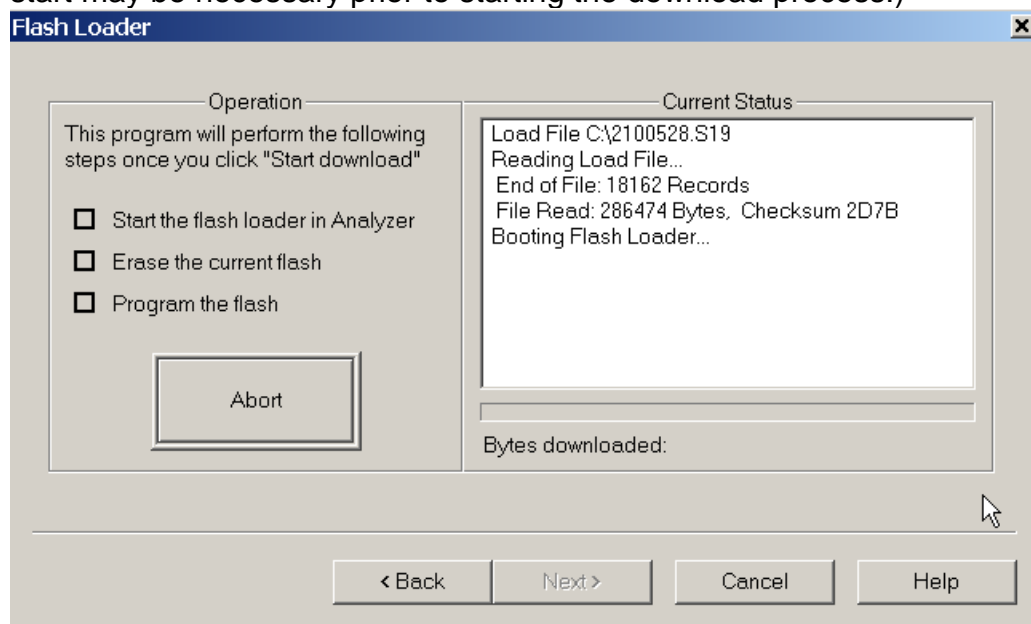


or use the Browse button (...) to find the file.

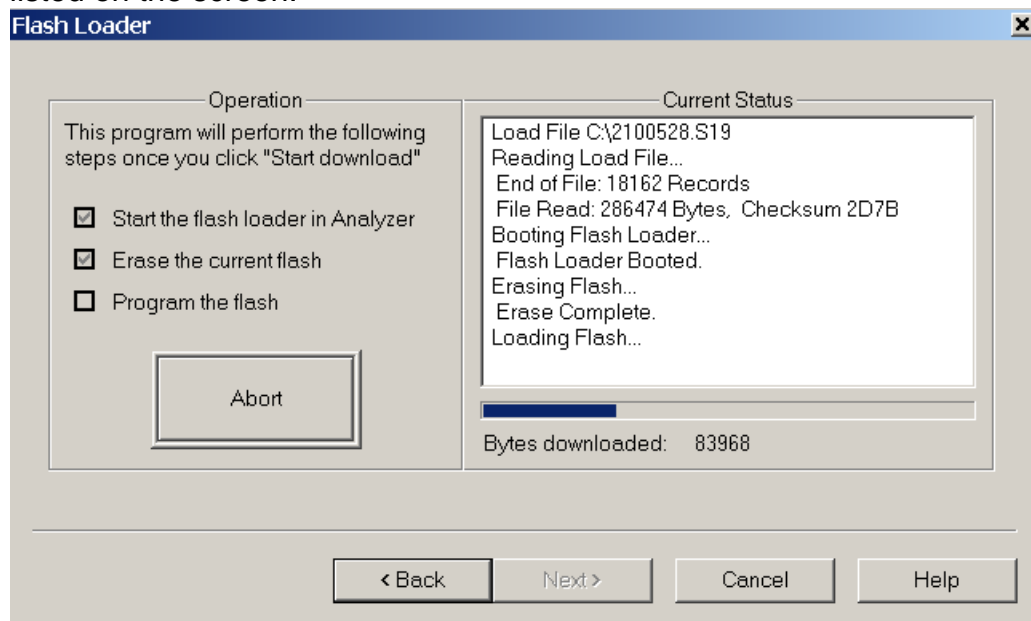
- Once you have selected the flash file, connect the local MMI cable to the BTU 8000 and press the Start Download button.



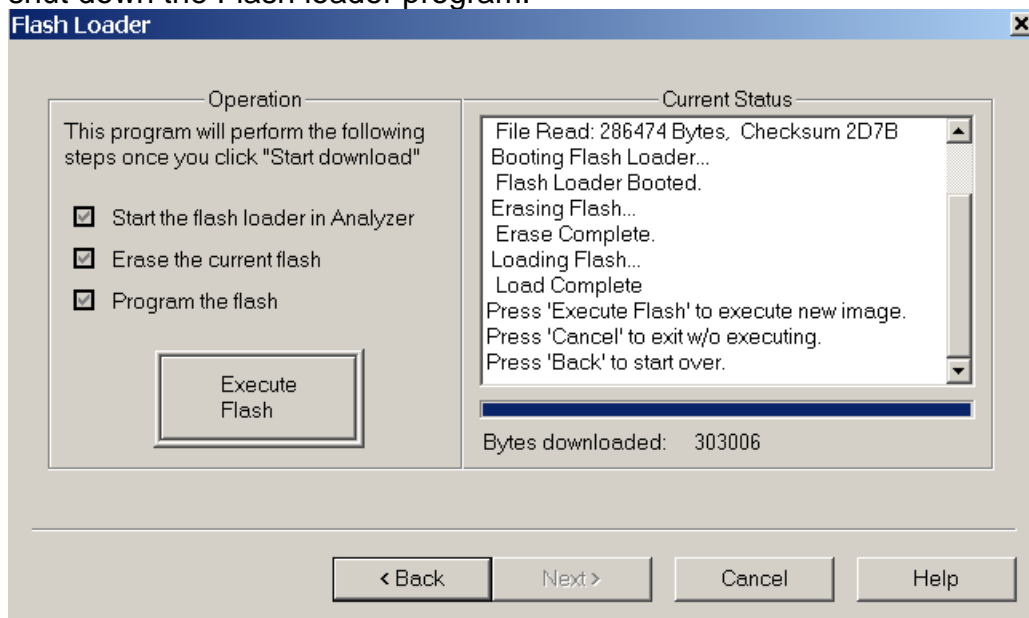
(If the Flash Loader in the BTU transmitter fails to start, it may be necessary to Warm start the BTU transmitter by turning the power off and back on. After the unit has been back on for at least 30 seconds, it should be possible to attempt the connection again. If this fails, you may need to abort the startup tests in the BTU Transmitter Startup Screen and try the download again. If this fails a Cold start may be necessary prior to starting the download process.)



10. The flash loader program will progress automatically through the three steps listed on the screen.



- When it is finished, an Execute Flash button will appear. Press the button and shut down the Flash loader program.



- Perform a Warm Start on the BTU 8000. The BTU 8000 will determine if it needs to perform a Cold Start or a Warm start when the Execute Flash command is sent. The selection will depend on what version of firmware you originally have in the BTU 8000 and what version you are upgrading to.
- If you are updating from the 2100528-007EPROM to the 2100528-007 Flash, a warm start should be all that is required. However, it is always a good practice to download data and save a copy of the BTU transmitters Setup file prior to performing these steps.

## Conclusion

It is recommended that the above process be performed on any BTU transmitter that is running the 2100528-007 firmware from the EPROM to avoid communications related analysis problems.

This process can also be used anytime you need to upgrade the Firmware in a BTU 8000/8100.