

# D.C. Milli-Ohm Meter

GOM-804 and GOM 805

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## FIRMWARE UPDATE MANUAL

GW INSTEK PART NO.V1.00



ISO-9001 CERTIFIED MANUFACTURER

**GW INSTEK**

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# INTRODUCTION

The GOM-804/805 DC Milliohm Meter has upgradable firmware to ensure your purchase has a long and useful life with updates and improvements.

The meter has two microcontrollers that require firmware updates, a master microcontroller and a slave microcontroller. The master microcontroller is used to control the display, the panel keys and SCPI command parsing. The slave controls the relays and ADC operation for the measurement circuits. The firmware for each microcontroller must be updated separately and as such this manual has a master microcontroller update section and a slave microcontroller update section.

The software used to update each microcontroller is the same (LMFlashProgrammer.msi), however the interface used and the procedure to update the controllers is slightly different.

## Requirements

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Hardware	<ul style="list-style-type: none"><li>• GDM-804 / GDM-805</li><li>• USB cable Type A/B</li></ul>
Software	<ul style="list-style-type: none"><li>• Windows Operating System (XP, Windows 7, 8, 8.1)</li><li>• Program kit using LM Flash Programmer</li><li>• DFU driver (device firmware upgrade)</li><li>• GOM-804 / 805 Firmware MASTER: GOM805_MASTER_*.BIN SLAVE: GOM805_SLAVE_*.BIN</li></ul>

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Note

Contact your local distributor for latest firmware.

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# LM Flash Programmer Installation

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## 1. Installation Steps

1. Double click the LMFlashProgrammer.msi file to start the installation.



LMFlashProgrammer.msi

2. The installer will launch. Follow the instructions to complete the installation.
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# Firmware Update

## Procedure

### Flashing the Master Microcontroller

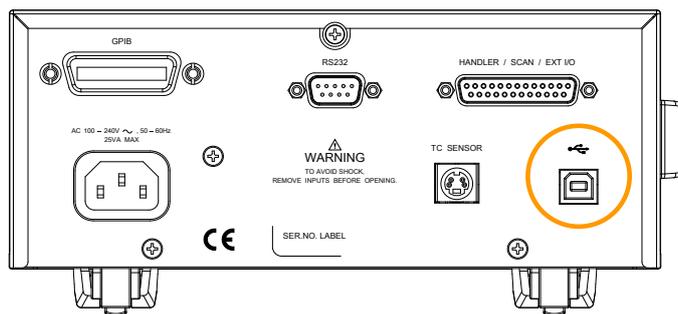


#### Note

Before performing the firmware update, please ensure that the USB driver for the GOM-804/805 has already been installed. See the user manual for installation details.

#### 1. Connection

1. To update the firmware, a Type A-B USB cable is required.
2. Ensure the power is off on the meter.
3. Insert the USB cable into the USB device port on the meter's rear panel.



4. Plug the other end of the USB cable into the PC that will perform the update.



## 2. Enter Boot loader Mode

5. Make sure that the power is off on the meter.
6. Press and hold the ESC key and the Drive key at the same time and then press the power button.



7. The boot loader screen will appear on the screen after the initial splash screen appears. (Note: The ESC and Drive keys need to be held until the boot loader screen appears.)
8. The unit is now ready for the master microcontroller firmware update.



### 3. Manual Configuration and the Serial Port Interface

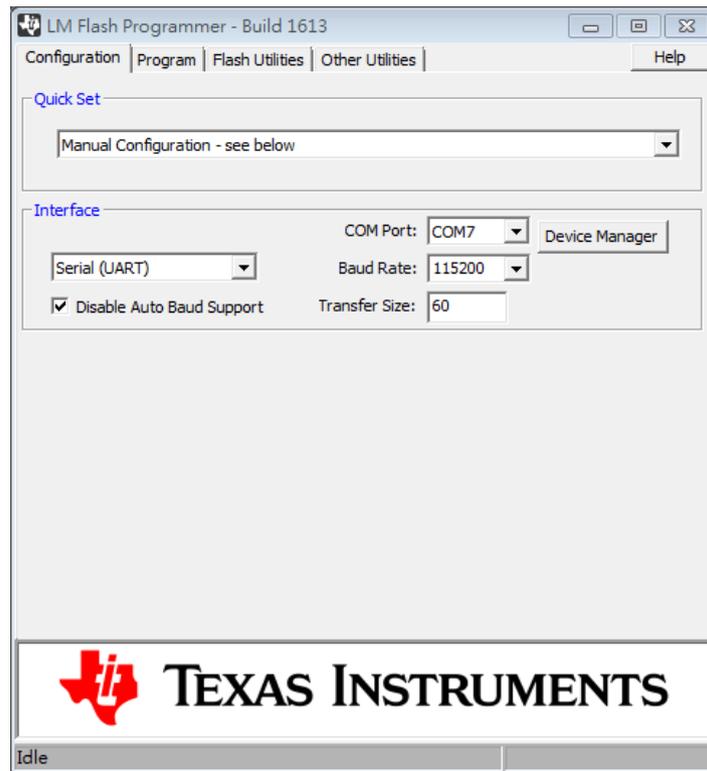
9. Open the LM Flash Programmer.
10. Select the Configuration tab.
11. In the Quick Set drop down list, choose Manual Configuration.
12. From the Interface area:

To update the “**Master**”, choose **Serial (UART)**.

Set the COM Port and Baud Rate settings (must be 115200).

If you are not sure of the COM port settings, click the Device Manager button. When Windows Device Manager dialog opens, expand the “Ports (COM & LPT)” node. The COM port and baud rate that is assigned to the target should be listed.

Leave the transfer size at the default 60.



13. Select the Program tab. This will allow you to program the flash on the Stellaris microcontroller.
14. In the Select .bin file area select the master firmware .bin file: GOM805\_MASTER\_\*.BIN

**Notice:** "Program Address Offset" must be set 2800.

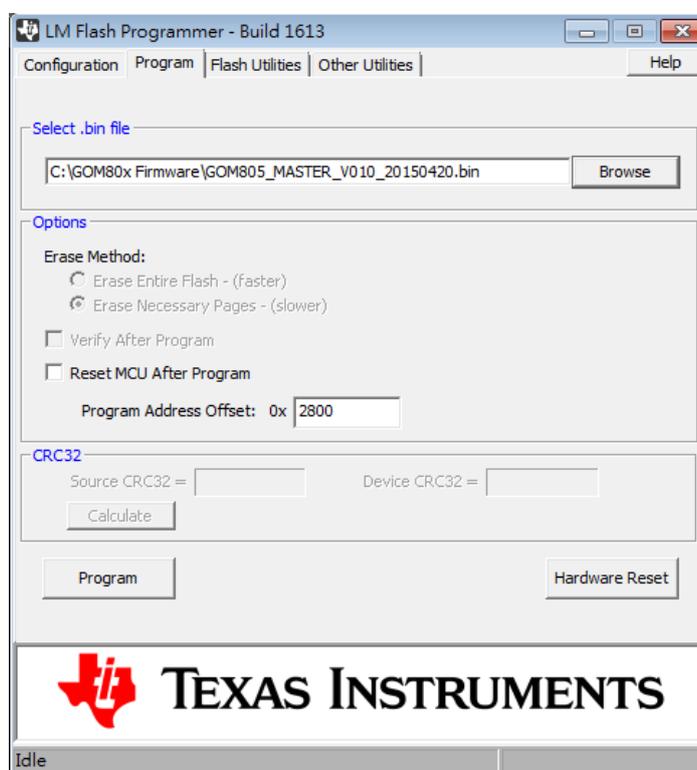
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 **Warning**

Failing to set the Program Address Offset to 2800 will lead to serious consequences in that the unit may fail to turn on properly and will need to be returned to GW Instek for repair.

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15. Click the Program button to begin flashing the microcontroller.



16. When the firmware has been flashed, power off the instrument & disconnect the USB cable from the rear panel of the instrument.
17. Power on the instrument. The instrument should now have the new firmware installed.

18. You can check the firmware on the instrument in the System menu:

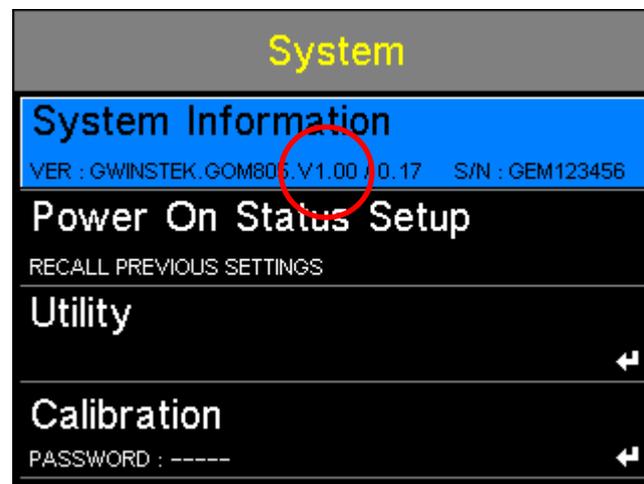
Select the “System” soft-key at the bottom of the screen and press Enter.

The master microcontroller firmware version will be displayed on the screen:

VER: GWINSTEK.GOM805.V1.00/0.17

S/N:GEMXXXXXX.

The master firmware version is shown in red.



19. The update procedure is complete.
20. If the update procedure fails, please repeat the update procedure again.

# Flashing the Slave Microcontroller

## Entering the Slave Bootloader mode

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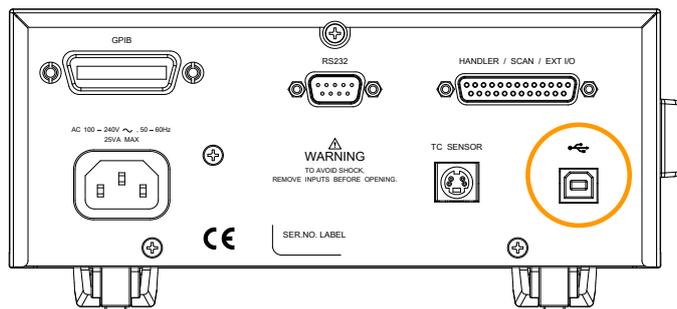
### Note

Before performing the firmware update, please ensure that the USB driver for the GOM-804/805 has already been installed. See the user manual for installation details.

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### 1. Connection

1. To update the firmware, a Type A-B USB cable is required.
2. Ensure the power is off on the meter.
3. Insert the USB cable into the USB device port on the meter's rear panel.



4. Plug the other end of the USB cable into the PC that will perform the update.



2. Enter Boot loader Mode

5. Make sure that the power is off on the meter.
6. Press and the hold the ESC key and the Range key at the same time and then press the power button.



7. The boot loader screen will appear on the screen after the initial splash screen appears. (Note: The ESC and Range keys need to be held until the boot loader screen appears.)
8. The unit is now ready for the DFU driver installation or the slave microcontroller firmware update.



## Installing the DFU Driver

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### Note

Before the slave microcontroller can be updated, the DFU driver needs to be installed.

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### 1. Installation

1. Enter the slave bootloader mode, as described previously on page 12. Do not remove the USB cable.

**The DFU driver can only be installed when in the slave bootloader mode.**

Install the DFU driver and follow the instructions of the installation wizard. To install the driver, launch Setup32.exe or Setup64.exe, depending on whether you are using a 32 or 64 bit version of Windows.

The driver is located in the User Manual CD, under the “Driver\DFU Driver Setup” directory.

If a Windows Security message appears, choose “Install this driver software anyway”.

Note: The GOM-804/805 must be in slave bootloader mode to install the DFU driver.

2. Check to see that the DFU driver was successfully installed in the Windows Device Manager.
3. Press: Start > Control Panel > Hardware and Sound > Device Manager.
4. There will be a new item in the device tree, “GOM Device Firmware Upgrade”, when successful.



## Flashing the Slave Microcontroller



Note

Ensure that the DFU driver has been installed before starting to flash the slave microcontroller.

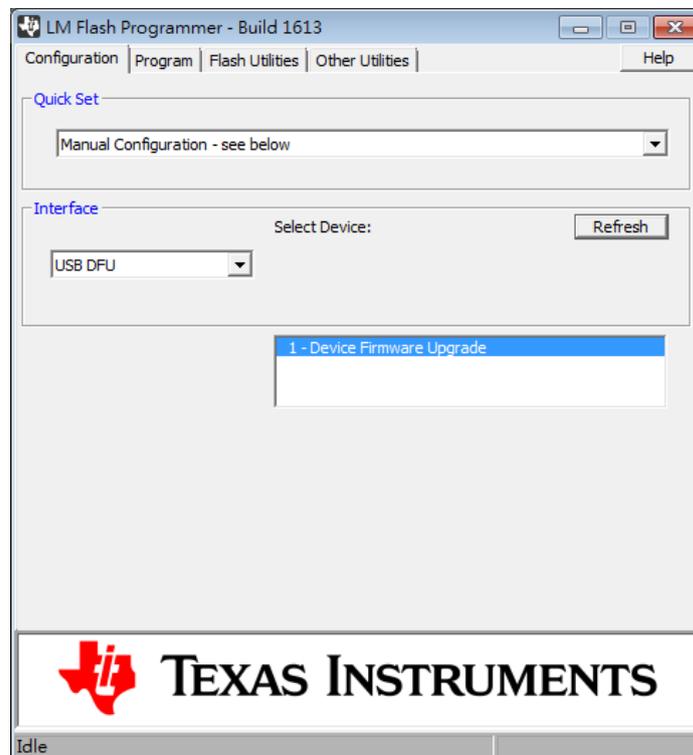
### 1. Manual Configuration and the USB DFU Interface

1. Open the LM Flash Programmer.
2. Select the Configuration tab.
3. In the Quick Set drop down list, choose Manual Configuration.
4. From the Interface area:

To update the “Slave” choose “USB DFU”

Remove the usb cable from the GOM-804/805 and then re-plug it in rear panel.

Press the “Refresh” button, the information window at the bottom should now read “1-Device firmware Upgrade”.



5. Select the Program tab. This will allow you to program the flash on the Stellaris microcontroller.
6. In the Select .bin file area select the slave firmware .bin file. GOM805\_SLAVE\_\*.BIN

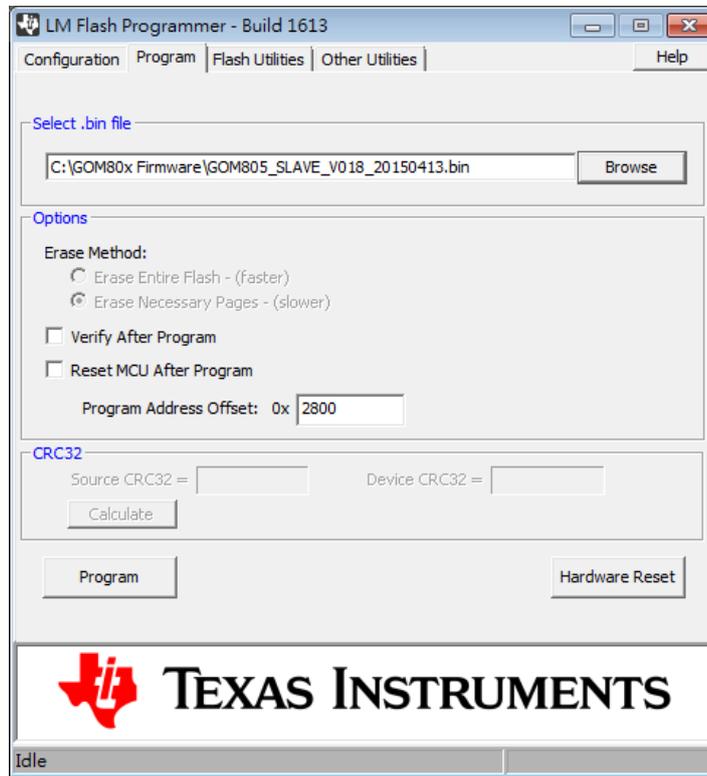
**Notice:** "Program Address Offset" must be set 2800.



**Warning**

Failing to set the Program Address Offset to 2800 will lead to serious consequences in that the unit may fail to turn on properly and will need to be returned to GW Instek for repair.

7. Click the Program button to begin the flashing the microcontroller.



8. When the firmware has been flashed, power off the instrument & disconnect the USB cable from the rear panel of the instrument.
9. Power on the instrument. The instrument should now have the new firmware installed.

10. You can check the firmware on the instrument in the System menu:

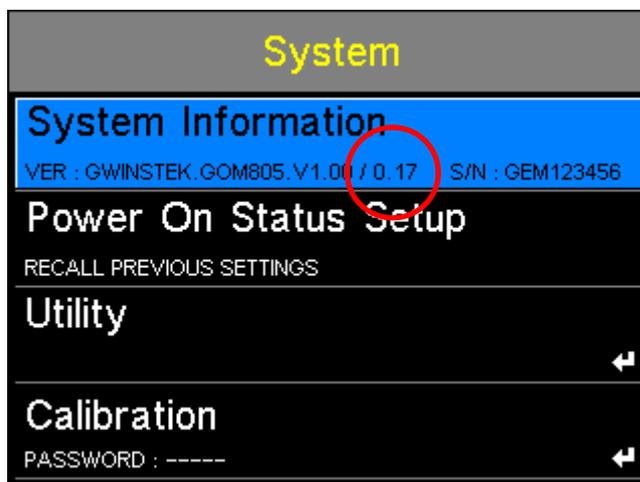
Select the “System” soft-key at the bottom of the screen using the arrow keys and Enter key. The ESC may need to be pressed first to exit from current function.

The slave microcontroller firmware version will be displayed on the screen:

VER: GWINSTEK.GOM805.V1.00/0.17

S/N:GEMXXXXXX.

The master firmware version is shown in red.



11. The update procedure is complete.
12. If the update procedure fails, please repeat the update procedure again.