Installation Manual

Software and Firmware for TIPD165: Isolated, Shunt-Based Current Sensing Reference Design

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Revision History

Revision	Date	Descriptions/Comments	Author
1.0	10/30/2014	Initial Draft	X0211286
1.1	12/4/2014	Added Uniflash and regarding procedures	X0211286
1.2	12/18/2014	Added the documentation to install software using the installer	X0211286
1.3	12/19/2014	Initial release	A0273303

This Installation Manual provides steps to install various components required to run the software for the TI precision design *Isolated, Shunt-Based Current Sensing Reference Design*

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1. Precaution

Ensure that no USB connections are made until the installation is completed.

2. System Requirements

- Supported OS – Windows XP, Windows 7 (32 Bit,64 Bit)
- Recommended RAM memory - 4GB or higher
- Recommended CPU Operating Speed – 3.3 GHz or higher

3. Installation of Required National Instruments Components

3.1. Installation Procedure for LV Runtime engine

The following procedure will help you install the LabView run time engine

1. Click on the link to install the LabVIEW Run-Time Engine 2010 SP1 - (32-bit Standard RTE)
   http://www.ni.com/download/labview-run-time-engine-2010-sp1/2292/en/
2. Run LVRTE2010_SP1f5std.exe to install the LabVIEW 2010 SP1 Run-Time Engine (32-bit).
3. Follow the installation wizard and complete the installation.
4. The installation files for the Run-Time Engine are automatically extracted to a directory on disk. The installer does not remove the files after installing, if you want to remove these files from disk, be sure to note their location during the unzipping process.

3.2. Installation Procedure for LV VISA driver

The following procedure will help you install the LabView run time engine

The VISA driver must be downloaded and installed to communicate with the device.

1. Click the link to install the NI-VISA 5.0.3.
   http://www.ni.com/download/ni-visa-5.0.3/2251/en/
2. Run visa503full_downloader.exe
3. Follow the installation wizard and complete the installation.

4. GUI Software Installation

4.1. Installing the GUI

1. Run the “setup. Exe”
2. Accept the license agreements and continue with the installation.
3. The installer will install the listed software
    a. Isolated current Measurement application

    Location: C:\Program Files (x86)\Texas Instruments\Isolated VI Measurement\

    b. Installs NI-VISA USB driver for C2000
    c. Copies the C2000 firmware to the location
    C:\Program Files (x86)\Texas Instruments\Isolated VI Measurement\C2000 Firmware\
    d. Shortcut to the application will be created in the start menu.

    (Start→All programs→ Texas Instruments→ Isolated VI Measurement)

4. Restart the PC after installation.
5. Follow Section 5 to update the firmware code of C2000.
    Connect the C2000 device to the PC and check that, the Device is enumerated as shown in “Figure 2”

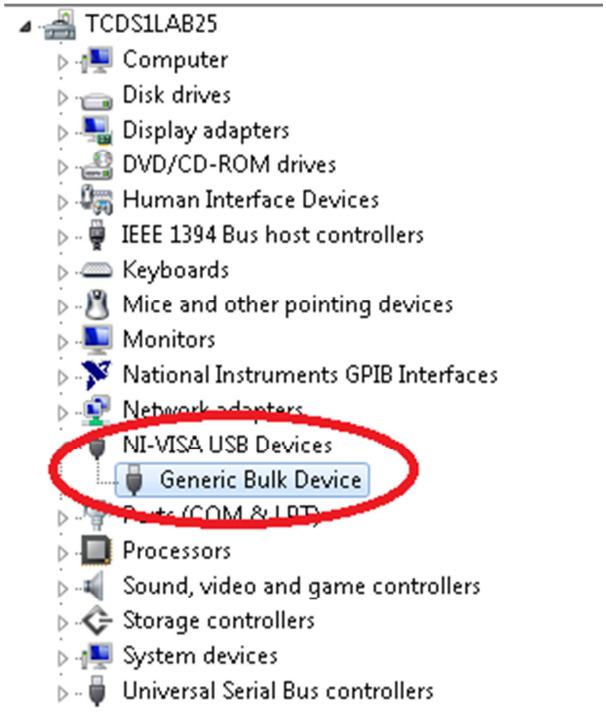

Figure 1: Device Identification

6. Run the GUI application from start menu or installed location to use it.

   Note: The PC should have LabView and VISA runtime to run the GUI application.
   Refer to Section 3 for installation steps

5. Firmware Download using Uniflash [Basic Installation]

5.1. Installation steps for Uniflash

The following procedure will help you to install the Uniflash and relevant drivers

1. Download the latest Uniflash tool from the below Link
   http://processors.wiki.ti.com/index.php/Category:CCS_UniFlash

2. Install Uniflash with default configurations and C2000 devices selected in Installation wizard
3. Update the uniflash components "C2000 device support" and "Debug server flash"
   a. Click on Help→Check for Updates
   b. Select the components as given in the below image and proceed with installation

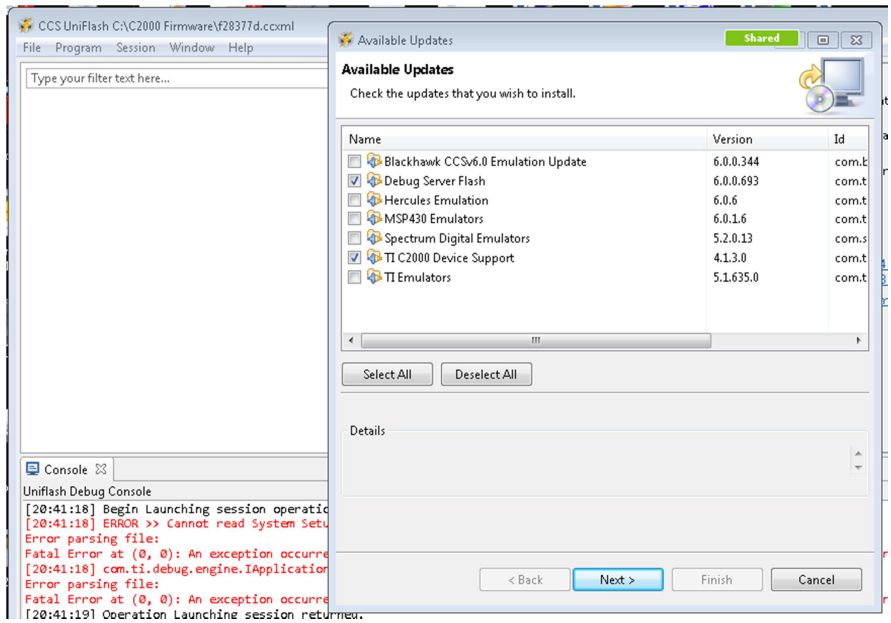

Figure 2: Uniflash Update options

4. Use the quick start guide to download the program into the device.
   http://processors.wiki.ti.com/index.php/UniFlash_Quick_Start_Guide

   Target Configuration Location: [Install Location]\C2000 Firmware**.CCXML
   Out File Location: [Install Location]\C2000 Firmware**.OUT
5. Restart the device.

Note: Select Only C2000 series to reduce the time of installation and size of the download.

6. Firmware Download using Code composer [Advanced Users]

6.1. Installation steps for Code composer

The following procedure will help you install the Code composer and relevant drivers

1. Download the latest code composer from the below link
   (http://processors.wiki.ti.com/index.php/Download_CCS)
2. Install Code composer studio with default configurations with C2000 devices selected in the Installation wizard

6.2. Installation steps for Control Suite

The following procedure will help you install the Control Suite

1. Download the latest Control suite from the below link
   (http://www.ti.com/tool/controlsuite?DCMP=mcu_controlsuite&HQS=controlsuite)
2. Install the control suite by following the installation wizard

6.3. Uploading the code to C2000 Using Code Composer

Below is the procedure to load the code into C2000 flash.

1. Open the code composer and create New workspace
2. Use the quick start guide to Import the project into the workspace
   http://processors.wiki.ti.com/index.php/Category:Code_Composer_Studio_v6
3. Use the debug option to build and load the code into C2000 flash
4. Run the Controller using the option in Menu- Run→Run
5. Terminate the Controller from PC using the option in Menu- Run→Terminate

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