

Scope:

This application note explains how to set up Murata's **D1U86G-W-460-12-HBxDC series** PSU using a Windows based computer + external hardware for I2C communication.

Reference Documentation:

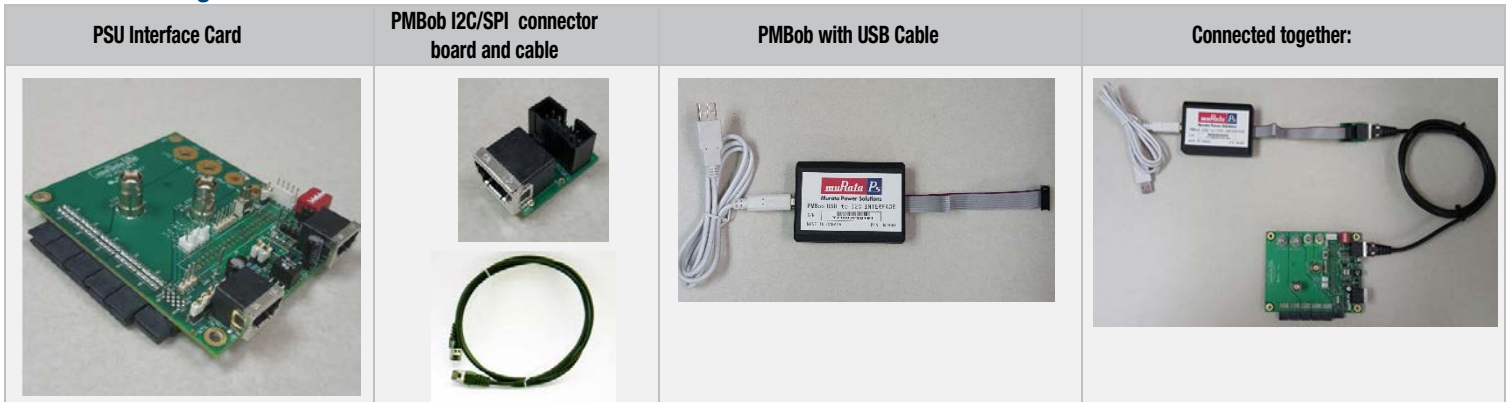
Document	Description	Link
D1U86G-W-460-12-HBxDC	Datasheet, Power Supply	http://www.murata-ps.com/datasheet?http://www.murata-ps.com/data/acdcsupplies/d1u86g-w-460-12-hxx.pdf
ACAN-65	Application Note , Interface Connection Card	http://power.murata.com/datasheet?/data/apnotes/acan-65.pdf
ACAN-68	Application Note , I2C Communication Protocol	http://power.murata.com/datasheet?/data/apnotes/acan-68.pdf

Required Hardware (See images below):

Item	Description	MFG	QTY
D1U86G-12-CONC-460 ¹	PSU Connector Card; refer to ACAN-65 for application note as required: http://power.murata.com/en/application-notes/ac-dc-application-notes.html	Murata PS	1
PMBob P/N 77902017881 ¹	PMBob I2C/USB to PSU connector card adapter board, available from:	Murata PS	1
MMC CAB4R	Cable, connects the PSU connector card to PMBob I2C/USB Adapter board available from: http://www.mcc-us.com	MMC	1
Aardvark I2C/SPI Host Adapter and required drivers	Alternative to Murata PS PMBob P/N 779020178811 - Link: http://www.totalphase.com/products/aardvark-i2cspi/	Totalphase	1
Windows operating system and computer			

¹ consult factory for availability

Hardware Images:



Required Software and drivers for Windows

Description	Link
GUI for Murata PS D1U86G-W-460-12-HXXDC series PSU. Filename: "dp1746i2cCntlPhnV103"	Contact Murata PS
² National Instruments "LabVIEW™ Run-Time Engine 2013"	http://www.ni.com/download/labview-run-time-engine-2013/4061/en/
National Instruments "NI Visa"	http://www.ni.com/download/ni-visa-run-time-engine-15.5/5847/en/
PMBob drivers (Murata PS)	Contact Murata PS LabVIEW program

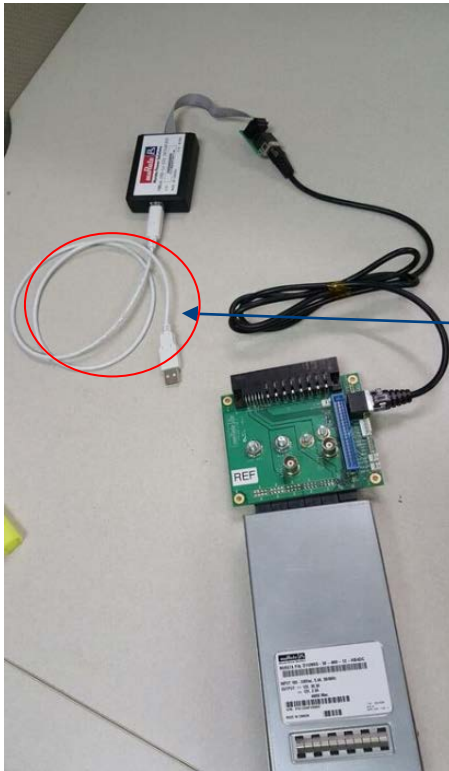
² labVIEW™ is a trademark of National Instruments. This application note is independent of National Instruments, which is not affiliated with Murata PS, and does not authorize, sponsor, endorse or otherwise approve this application note.

Setting up the software and hardware:

1. Install National Instruments **LabVIEW Run-Time Engine 2013** “LVRTE2013std_downloader.exe”
<http://www.ni.com/download/labview-run-time-engine-2013/4061/en/>
2. Install NI VISA “NIVISA1550runtime.exe”
<http://www.ni.com/download/ni-visa-run-time-engine-15.5/5847/en/>
3. Install PMBob, provided by Murata PS by running “Setup”

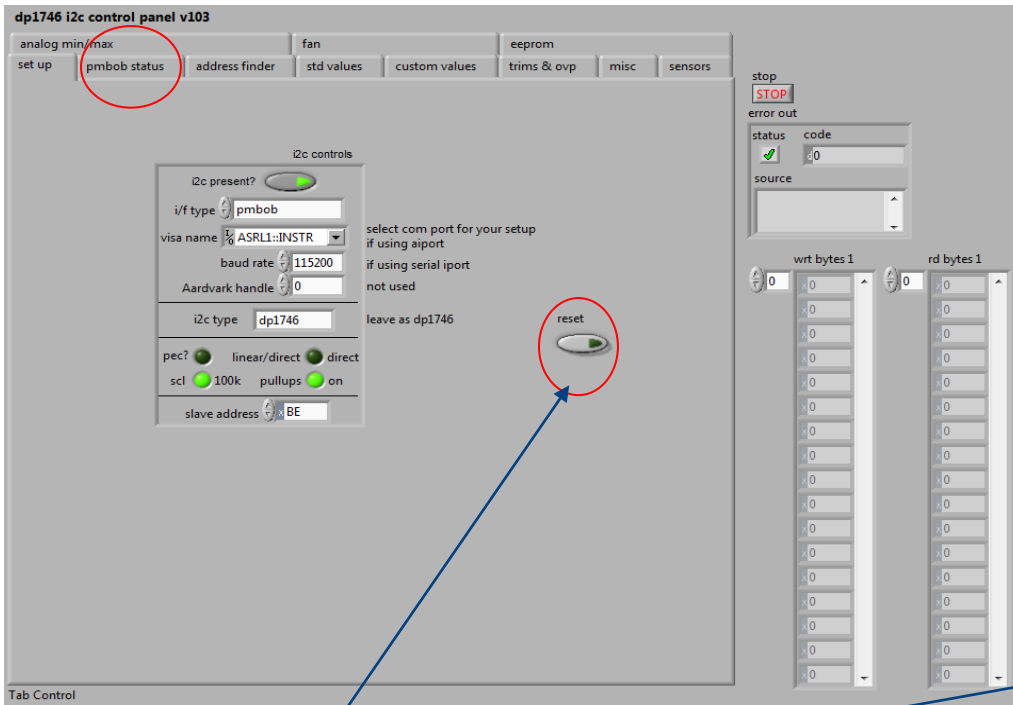


4. Connect the hardware as follows:

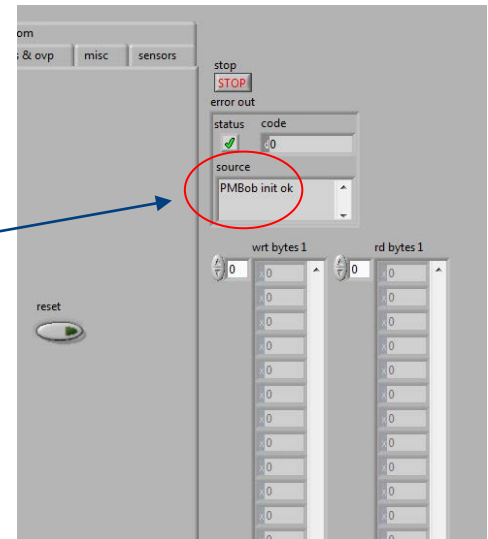


Connect the white USB cable to the MS Windows based computer.

5. Start the Murata PS GUI / control panel Filename: dp1746i2cCntlPnlV103.exe which should open up like this:



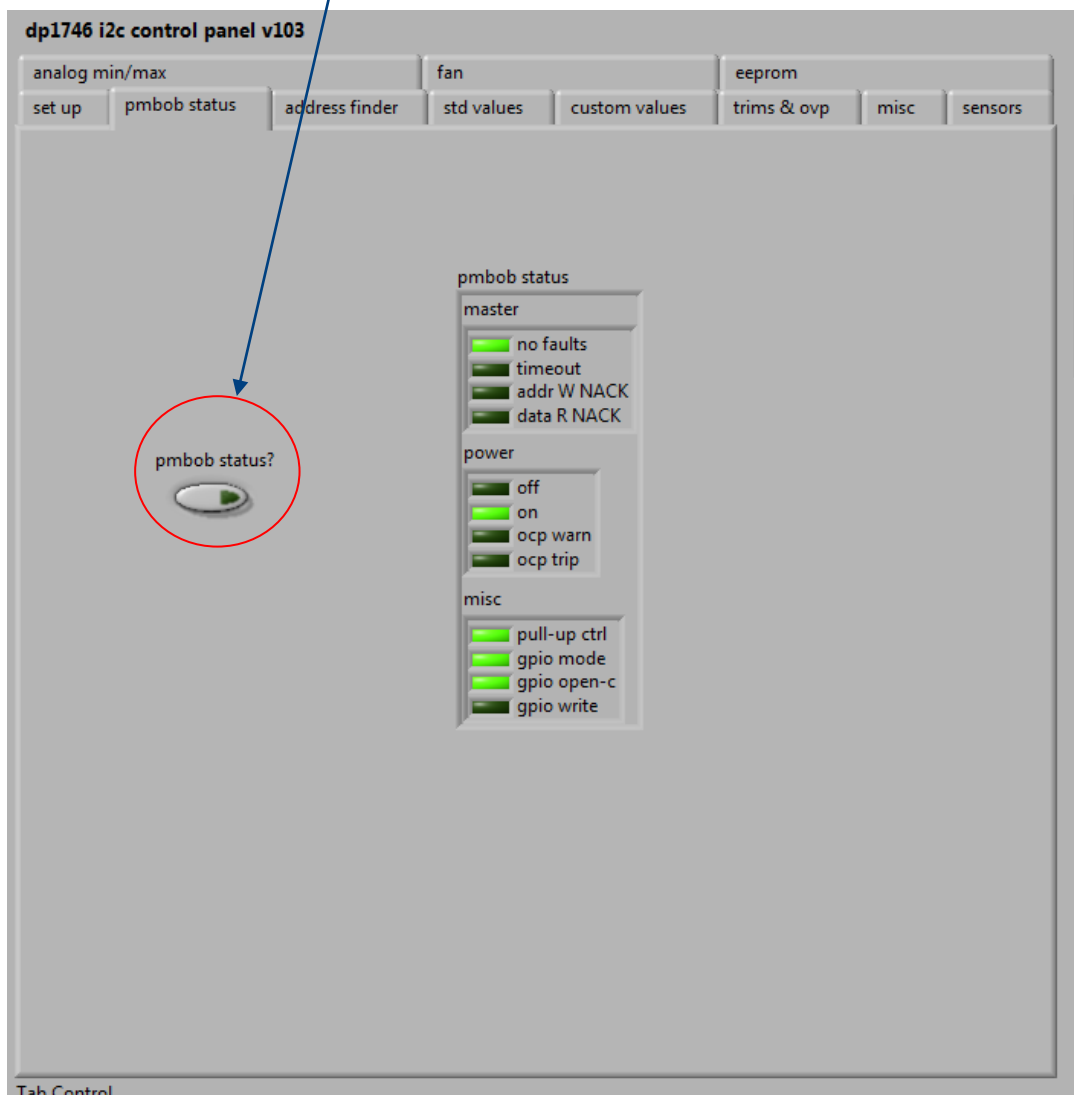
6. Click the rest button
Source Box should now look like this



7. Select the "PMBob Status" Tab, which should look like this:

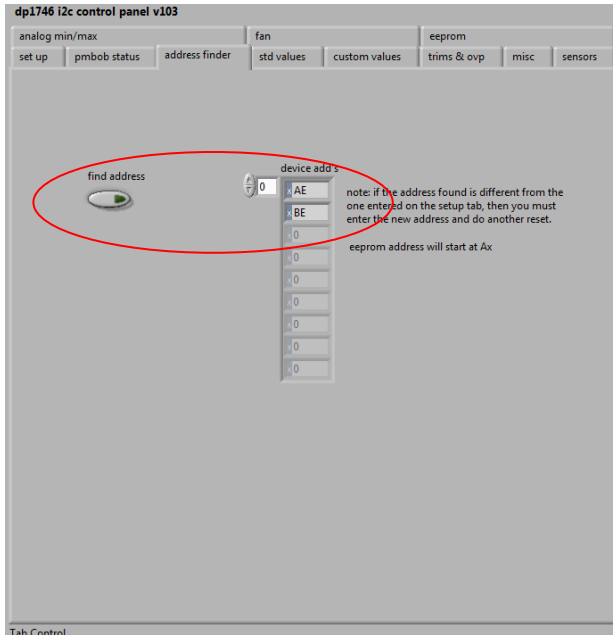


8. Click the “pmbob status?” button which should now look like this:



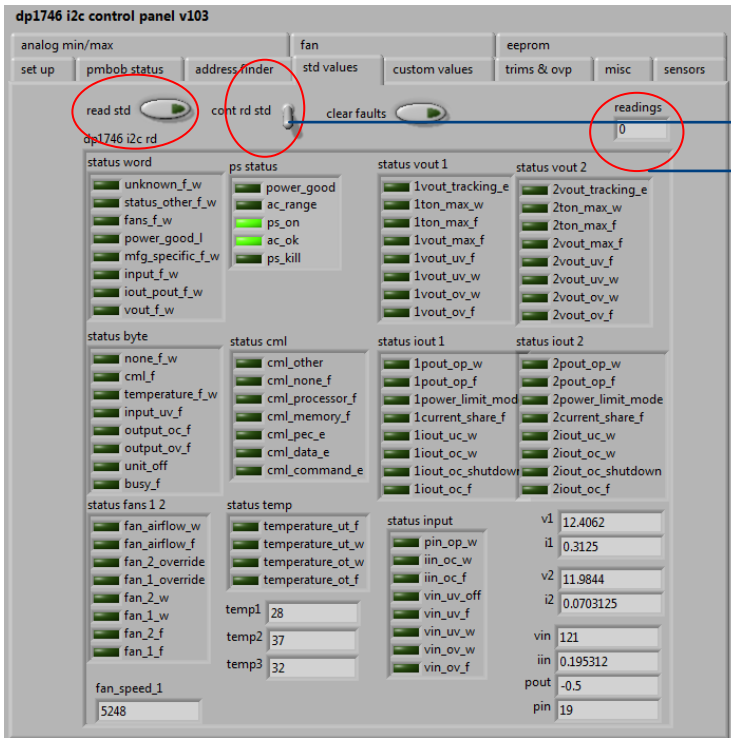
Control panel is now able to communicate with power supply.

9. Addressing:



The addresses of all devices on the bus will be listed in the “device add’s” array. Make note of the Bx address (that is the address of the microcontroller, and the values could be between B0 to BE) and go back to the “set up” tab to compare against the address in the “slave address” field.

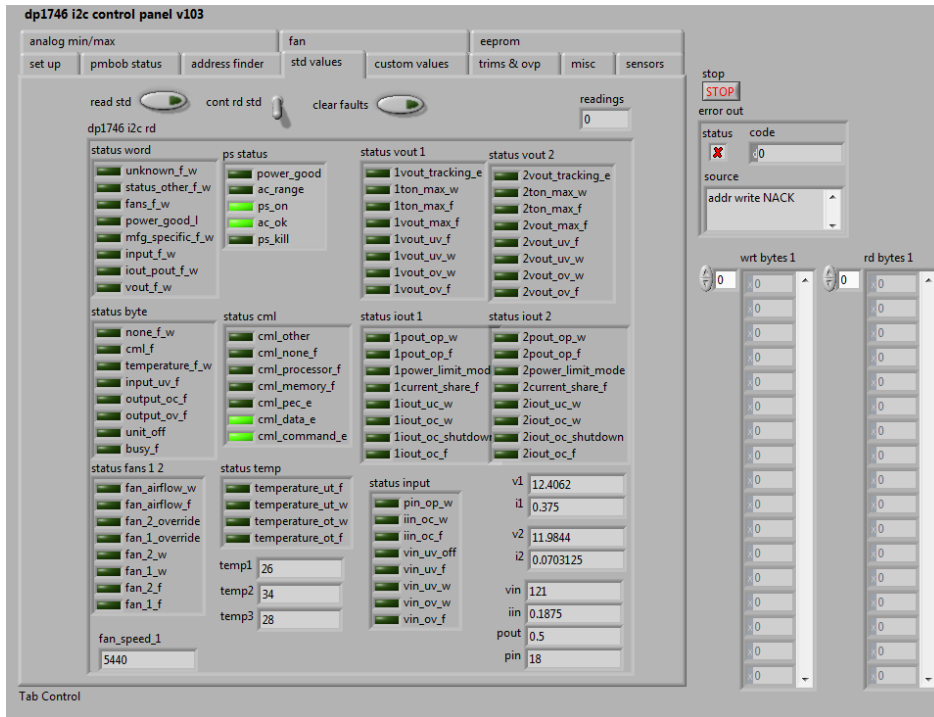
10. “std values” tab contains the main view for returned results and status of the power supply parameters. An example of actual data of a power supply operating within specification.



Parameters can be read continuously by clicking toggle switch + “read std”
 Counts as each reading takes place

Pressing “read std” will display a one-time read of the data received from the unit. If continuous monitoring is needed, flip up “cont rd std” switch and press again “read std” button.
 All the fields will be updated as the data is received from the unit, the “read std” button will not rebound and the number of read will be counted in the “readings” field. To stop the communication, either flip down “cont rd std” switch or press again “read std” button.

11. Exiting the application:



In order to close the application, first press the “STOP” button, then close the window. By pressing the button, the communication between the PC and your I2C interface (either PMBob or Aardvark) will be properly terminated; otherwise there might be issues trying to establish the communication again next time and a hardware reset of the I2C interface might be necessary, by cycling the power.

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ISO 9001 and 14001 REGISTERED



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Refer to: <http://www.murata-ps.com/requirements/>

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