



MPS I2C Interface System User Guide

[Home](#) » [MPS](#) » MPS I2C Interface System User Guide 

Contents

[1 MPS I2C Interface System](#)

[2 INTRODUCTION](#)

[3 INSTALLATION](#)

[4 USAGE](#)

[5 Documents / Resources](#)

[5.1 References](#)

[6 Related Posts](#)



MPS I2C Interface System



INTRODUCTION

What is the MPS I2C GUI

The MPS I2C Interface system is a system that helps customers easily use MPS parts with an I2C function. The system includes an EVB board, an I2CBUS KIT between the PC and IC, and a computer with Windows 7 or

higher system (see Figure 1 and Figure 2).

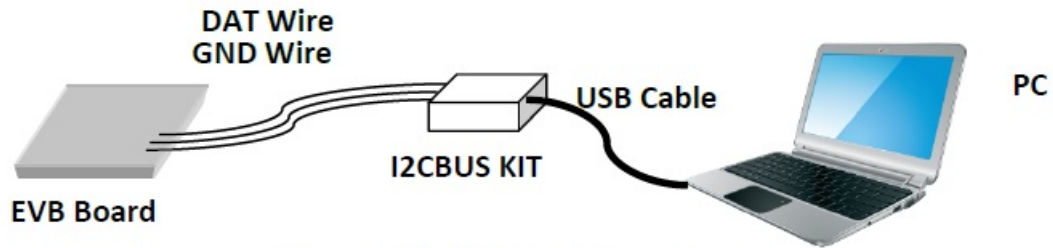


Figure 1: MPS I²C Interface System



Figure 2: MPS I2CBUS KIT (Top and Bottom)

System Requirements

Software	Operating System	.Net Framework Version
Windows 7 or later	.NET Framework 4.0 or later	

NOTE: .Net Framework can be downloaded from Microsoft.com. The .net Framework4.0 can be downloaded here: <https://www.microsoft.com/en-US/download/details.aspx?id=17718>

INSTALLATION

The MPS IIC GUI.rar can be downloaded from the MPS website. Extract it into a directory.

Installing the MPS IIC GUI

Double click the .exe file and follow the set-up guide (see Figure 3). For this example, we'll be using the MP5515.

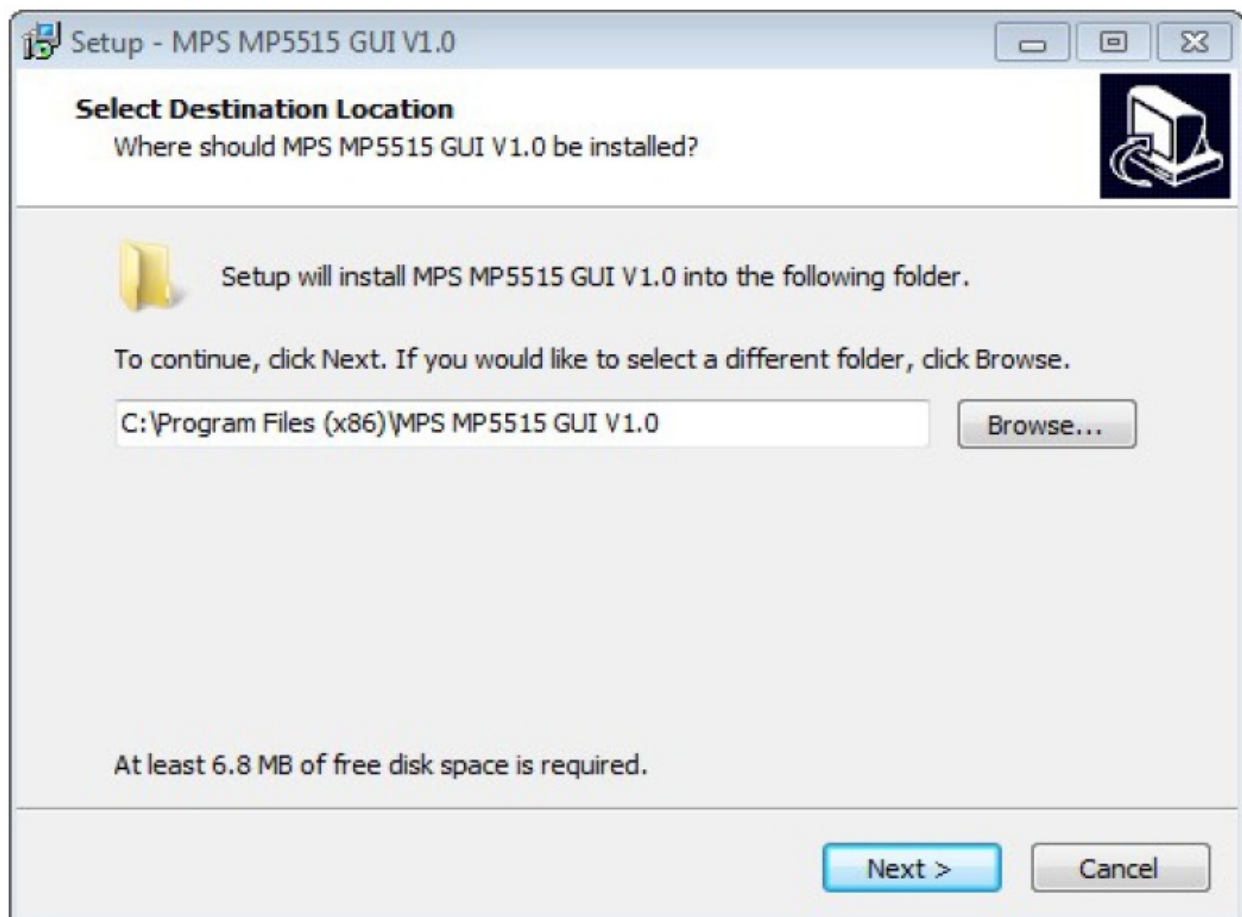
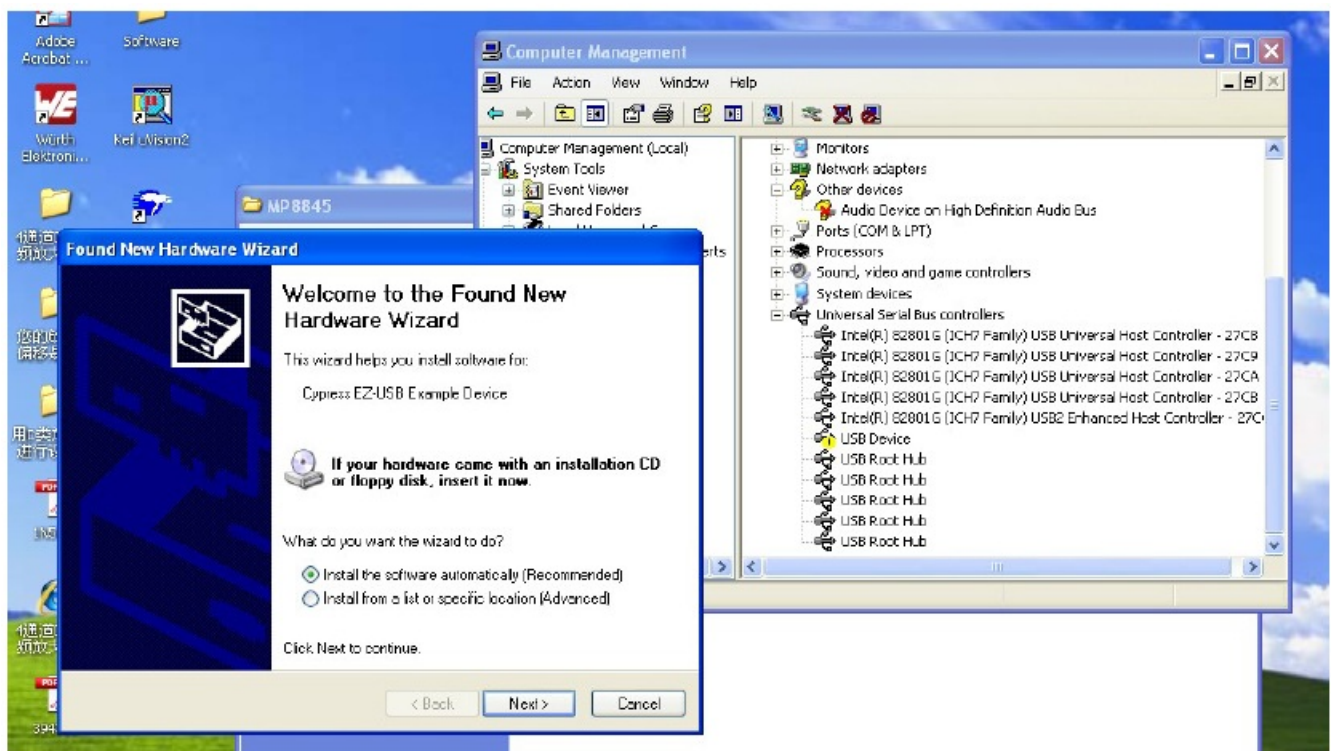


Figure 3: MPS IIC GUI Set-Up Guide

Installing the USB Driver

The USB-to-I2C driver should be installed before using the system. Follow the steps below to install this driver.

1. Connect the MPS I2CUSB KIT to your PC through the black USB cable. Windows will find the new hardware and open a dialog box to instruct you on installing the driver.



2. Select "Install from a list or specific location (Advanced)" and press "next".



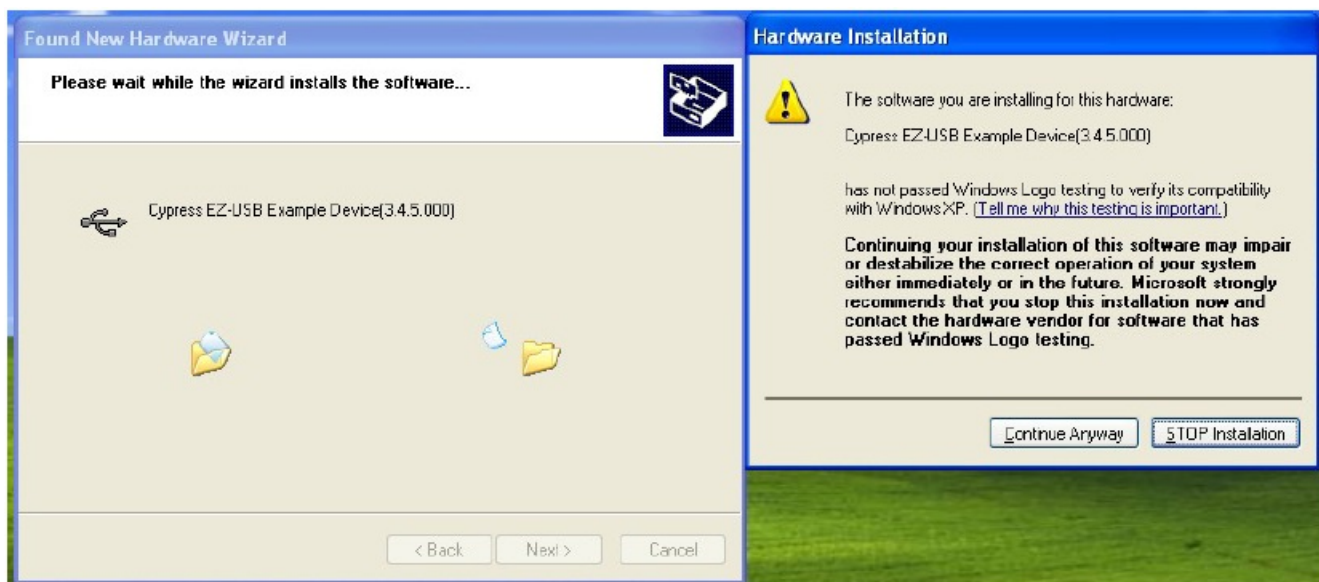
3. Bxr8o6w sDer ivtoe rt”h eo rl otchaet io“xn6 4th aDtr iyvoeur” efxotlrdaecrt,e dd etpheen “d.rianrg” ofilne yboeufor rsey asntedm c htyopoes,e aenitdh eprp ethses “next”.

Contact your system administrator is you need to know your PC’s system type.



4. Press “Continue Anyway” to install the driver. Wait for the installation to finish and remove the USB cable from PC.

Sometimes the PC cannot recognize the USB device and shows an “unknown USB device” warning. Try connecting the device to a different USB port. If that does not work, please contact your administrator.



USAGE

Hardware Connection

Use the colored wires to connect the EVB to the MPS I2CBUS KIT (see Figure 4). Please refer to the specific part datasheet for EVB pin definitions.

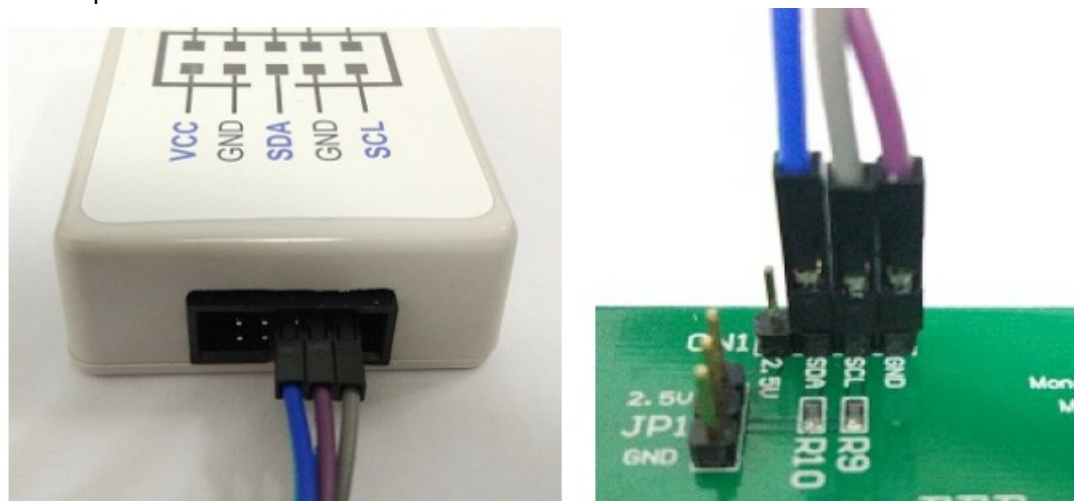


Figure 4: EVB to MPS I2CBUS KIT Wire Connection

Refer to the EVB datasheet to start up the EVB and connect it to the PC via the IICBUS KIT.

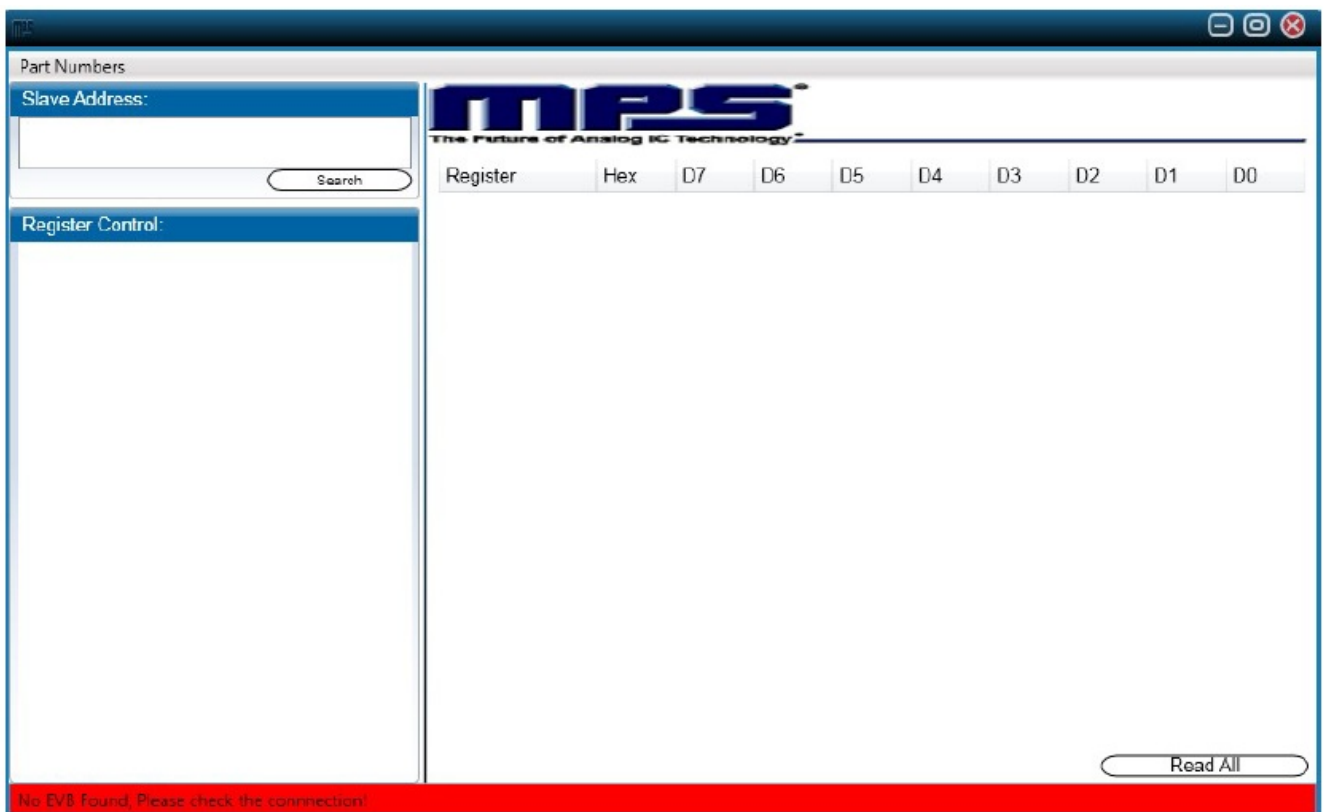
Using the GUI

After installing the software, start it up from by selecting the desktop shortcut icon or from the Start menu.

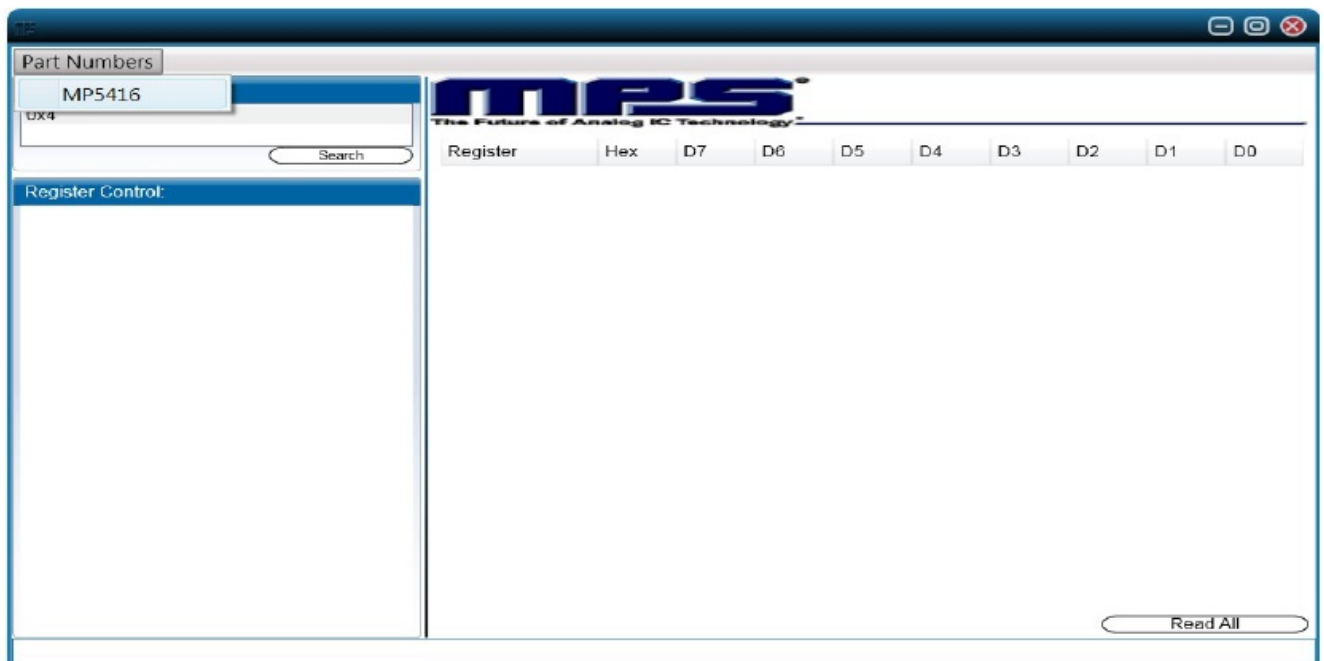


Follow the steps below to use the GUI software.

1. Start the software. It will check the EVB connection automatically. If the connection is not successful, a warning will appear at the bottom. Otherwise, the address will be listed in the "Slave Address."



2. Select the part number, then, the control information will be seen in the "Register Control."



3. Find the item you want to change, select the value, and the changed information of the item will appear on the right side. Click the "Read All" button to update all the item's values.

MP5416-5V POWER MANAGEMENT IC WITH I2C No Locked V1.2

Part Numbers

Slave Address:

0x4

Search

Register Control:

BuckControl

VSET1(0x4)

ENBUCK1(D7)

Disable Buck1(0)

Buck1OutPutV(D0)

0.6625V(0000101)

VSET2(0x5)

ENBUCK2(D7)

Disable Buck2(0)

Buck2OutPutV(D0)

1.175V(0001111)

VSET3(0x6)

ENBUCK3(D7)

Disable Buck3(0)

MPS

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Name	D7	D6	D5	D4	D3	D2	D1	D0
CTL0	SYSEN	SFRST	RESERVED				RESERVED	RESERVED
CTL1	RESERVED	MODEBUCK1	MODEBUCK2	MODEBUCK3	MODEBUCK4	DISCHGBUCK3	DISCHGBUCK2	DISCHGBUCK1
CTL2	DVS SLEW RATE		DISCHGLD03	DISCHGLD02	DISCHGLD01	DISCHGLD04	DISCHGLD05	RESERVED
ILIMIT	ILIMBUCK1		ILIMBUCK2		ILIMBUCK3		ILIMBUCK4	
VSET1	ENBUCK1	BUCK1 OUTPUT VOLTAGE SET: 0.6V-2.1875V/12.5mV STEP						
VSET2	ENBUCK2	BUCK2 OUTPUT VOLTAGE SET: 0.8V-3.875V/25mV STEP						
VSET3	ENBUCK3	BUCK3 OUTPUT VOLTAGE SET: 0.8V-2.1875V/12.5mV STEP						
VSET4	ENBUCK4	BUCK4 OUTPUT VOLTAGE SET: 0.8V-3.875V/25mV STEP						
VSET5	ENLDO2	LDO2 OUTPUT VOLTAGE SET: 0.8V-3.875V/25mV STEP						
VSET6	ENLDO3	LDO3 OUTPUT VOLTAGE SET: 0.8V-3.875V/25mV STEP						
VSET7	ENLDO4	LDO4 OUTPUT VOLTAGE SET: 0.8V-3.875V/25mV STEP						
VSET8	ENLDO5	LDO5 OUTPUT VOLTAGE SET: 0.8V-3.875V/25mV STEP						

Register	Hex	D7	D6	D5	D4	D3	D2	D1	D0
CTL0(0x0)	0	0	0	0	0	0	0	0	0
CTL1(0x1)	80	1	0	0	0	0	0	0	0
CTL2(0x2)	5	0	0	0	0	0	1	0	1
ILIMIT(0x3)	FF	1	1	1	1	1	1	1	1
VSET1(0x4)	5	0	0	0	0	0	1	0	1
VSET2(0x5)	F	0	0	0	0	1	1	1	1
VSET3(0x6)	F	0	0	0	0	1	1	1	1
VSET4(0x7)	5	0	0	0	0	0	1	0	1
VSET5(0x8)	5	0	0	0	0	0	1	0	1
VSET6(0x9)	5	0	0	0	0	0	1	0	1



Read All

Monolithic Power Systems www.monolithicpower.com

Documents / Resources

 MPS I2C Interface User Manual	MPS MPS I2C Interface System [pdf] User Guide MPS I2C Interface System, MPS I2C, Interface System, System
 MPS I2C Interface User Manual	MPS MPS I2C Interface System [pdf] User Guide MPS I2C Interface System, MPS I2C, Interface System, System

References

-  [Microsoft – Cloud, Computers, Apps & Gaming](#)
-  [Download Microsoft .NET Framework 4 \(Standalone Installer\) from Official Microsoft Download Center](#)

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