



## C.400 Programming Example

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## 1. Introduction

The nPoint C.400 controller USB interface is manufactured by Future Technology Devices International (FTDI). FTDI provides programming examples available for download at:

<http://www.ftdichip.com/Support/SoftwareExamples/CodeExamples.htm>

The Visual Basic .NET C.400 programming example provided by nPoint uses the FTDI .NET wrapper class available for download at:

<http://www.ftdichip.com/Support/SoftwareExamples/CodeExamples/CSharp.htm>

## 2. Overview

The Visual Basic .NET C.400 programming example provided by nPoint was developed in Visual Studio 2010 Professional, however the project can be opened with Visual Basic 2010 Express. Visual Basic 2010 Express can be downloaded for free from Microsoft at: <http://www.microsoft.com/visualstudio/en-us/products/2010-editions/visual-basic-express>

The project contains a reference to the FTDI .NET wrapper class. To add a reference to the FTDI .NET wrapper class in your own .NET project, click Add Reference under the project menu, and browse to the directory on your hard drive where you extracted the file.

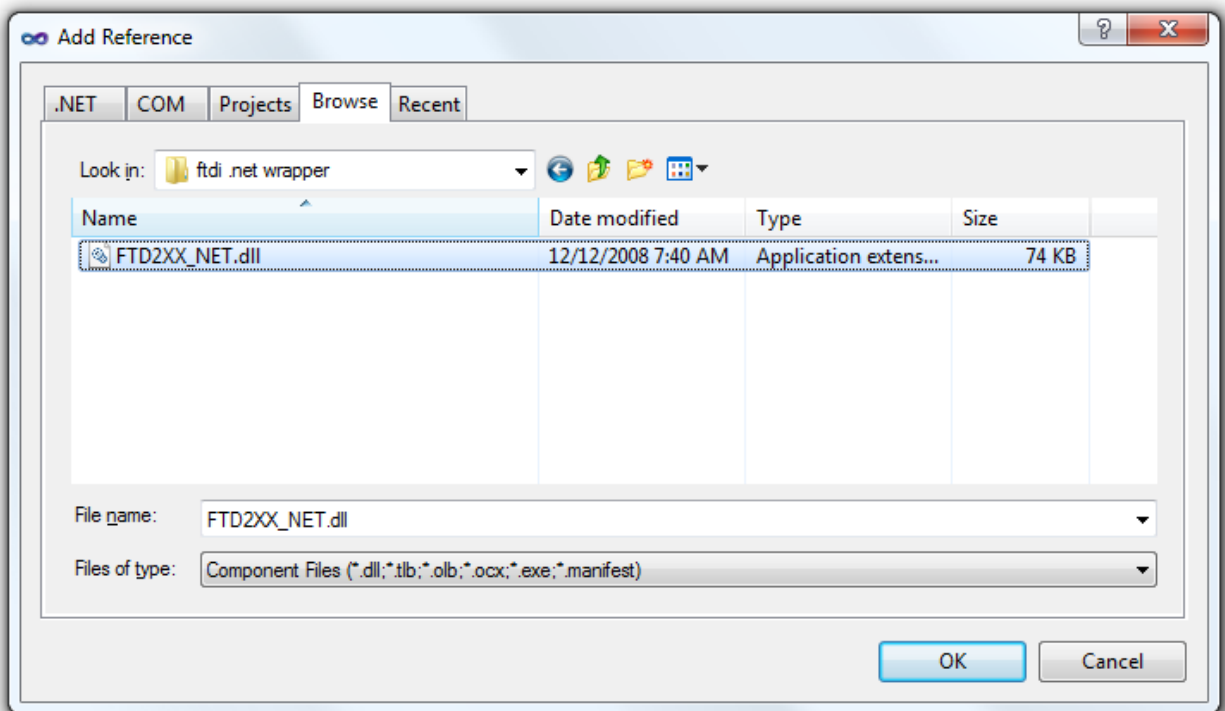


Figure 1 - Creating a reference to the FTDI .NET wrapper class

To open the example project, open either the C400\_Example.sln file or the C400\_Example.vbproj file. When the project loads press F5 or click the green arrow to run the program in debugging mode. Connect a C.400 controller to the PC via USB, and power it on. Click the List FTDI Devices button to populate the serial number and description of the controller. Click the Connect to Selected Device button to connect to the controller selected in the listbox. Once successfully connected, the positioning controls will be visible in the user interface. Click the Query Ch1 Sensor Value button to populate the Sensor Value text box with a sensor reading. Type a position value in the Digital Position Command text box, then click the Send Ch1 Digital Position Command button. Click the Query Ch1 Sensor Value button again to see the new sensor reading.

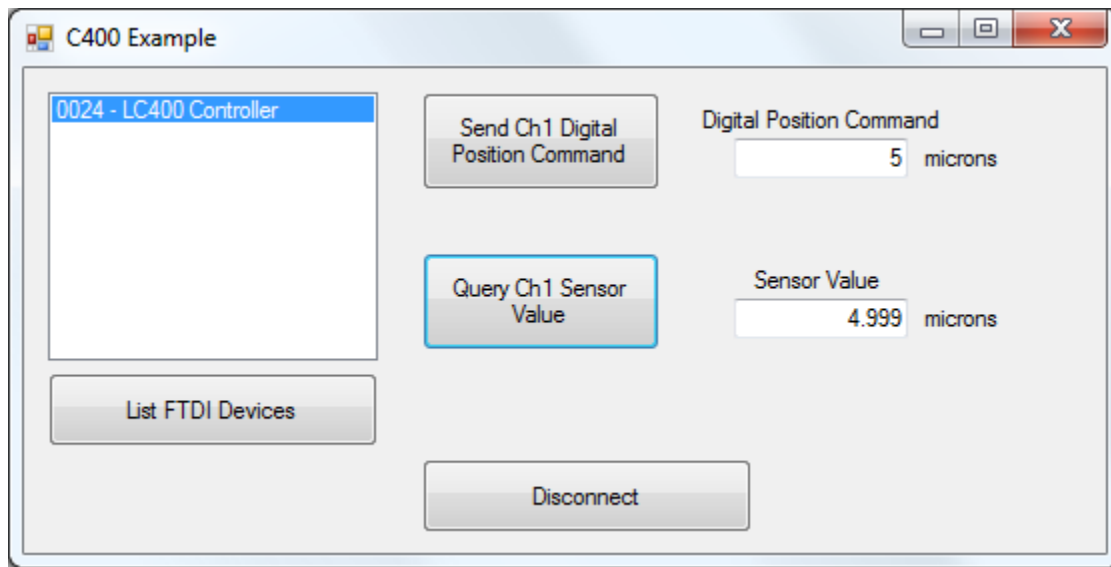


Figure 2 - C.400 Example user interface

### 3. Example Code

To view the example code, select the frmMain.vb file in the solution explorer, and click the View Code button at the top of the Solution Explorer. The example code contains comments explaining the order and purpose of steps. The event sub procedures for each user interface button are at the top, and the communication code for setting and querying controller memory addresses is at the end. C.400 memory addresses used in this project are enumerated in the enumeration.vb file visible in the Solution Explorer. For a description of the communication protocol and a list of additional memory addresses, please refer to the Communication section of the C.400 user manual.

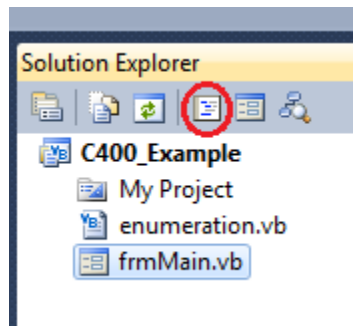


Figure 3 - Solution Explorer View Code button circled in red