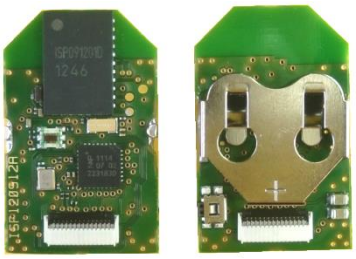
AN130405
Luminosity Sensor Demonstration



Introduction

This application note describes the PC software setup to use the ISP120911 luminosity demonstration program. The demonstration requires a ISP120911 Luminosity Sensor with a CR1632 battery, a Windows PC running XP, Vista or Windows 7, a Nordic Semiconductor Master Emulator nRF2739 (delivered with uBlue SDK) and appropriate software from Insight SiP.

The note describes the software installation procedure and the operating mode.

Software Installation

In order for the demonstration to operate the following software packages need to be installed on the PC:

- Microsoft .NET framework 4
- Nordic Semiconductor nRF8001 SDK v1.7 (for Master Emulator USB drivers)
- Luminosity Demo folder from Insight SIP with executable file and dll files

Microsoft .NET framework 4 Re-distribuable package

This can be downloaded from Microsoft at the following address http://www.microsoft.com/en-us/download/details.aspx?id=17718. To install this package follow the instructions on the Microsoft website.

Nordic Semiconductor nRF8001 SDK v1.7

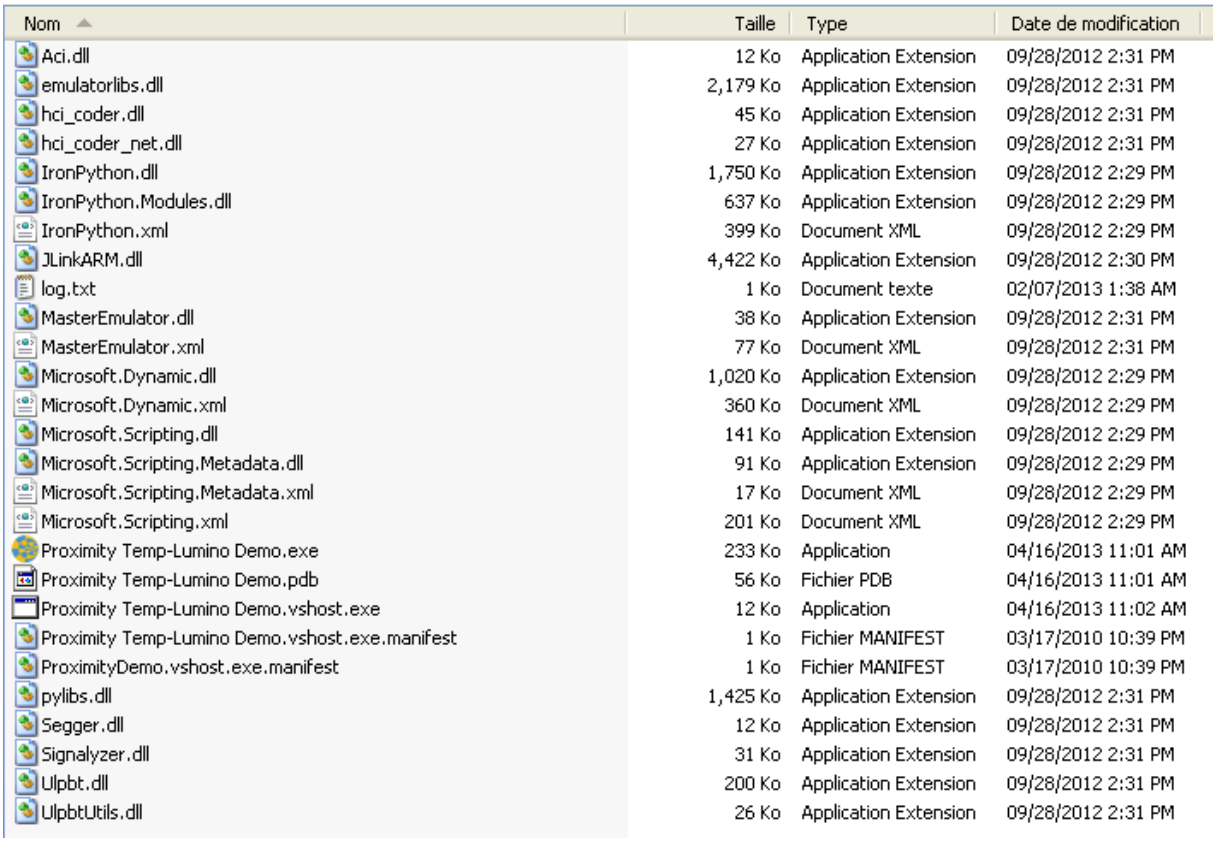
Run the nRF8001 SDK so as to be able to use the Master Emulator (USB drivers).

Luminosity Demo Folder

The Temp_Lum_Demo_EXE.zip file should be unzipped at any suitable location on the PC. This contains the executable file and all the dll files necessary for the demonstration to run.

Insight SiP – Green Side – 400 avenue Roumanille – BP 309 – 06906 Sophia-Antipolis Cedex – France – **www.insightsip.com**

The directory should be as shown below:



Nom	Taille	Type	Date de modification
Aci.dll	12 Ko	Application Extension	09/28/2012 2:31 PM
emulatorlibs.dll	2,179 Ko	Application Extension	09/28/2012 2:31 PM
hci_coder.dll	45 Ko	Application Extension	09/28/2012 2:31 PM
hci_coder_net.dll	27 Ko	Application Extension	09/28/2012 2:31 PM
IronPython.dll	1,750 Ko	Application Extension	09/28/2012 2:29 PM
IronPython.Modules.dll	637 Ko	Application Extension	09/28/2012 2:29 PM
IronPython.xml	399 Ko	Document XML	09/28/2012 2:29 PM
JLinkARM.dll	4,422 Ko	Application Extension	09/28/2012 2:30 PM
log.txt	1 Ko	Document texte	02/07/2013 1:38 AM
MasterEmulator.dll	38 Ko	Application Extension	09/28/2012 2:31 PM
MasterEmulator.xml	77 Ko	Document XML	09/28/2012 2:31 PM
Microsoft.Dynamic.dll	1,020 Ko	Application Extension	09/28/2012 2:29 PM
Microsoft.Dynamic.xml	360 Ko	Document XML	09/28/2012 2:29 PM
Microsoft.Scripting.dll	141 Ko	Application Extension	09/28/2012 2:29 PM
Microsoft.Scripting.Metadata.dll	91 Ko	Application Extension	09/28/2012 2:29 PM
Microsoft.Scripting.Metadata.xml	17 Ko	Document XML	09/28/2012 2:29 PM
Microsoft.Scripting.xml	201 Ko	Document XML	09/28/2012 2:29 PM
Proximity Temp-Lumino Demo.exe	233 Ko	Application	04/16/2013 11:01 AM
Proximity Temp-Lumino Demo.pdb	56 Ko	Fichier PDB	04/16/2013 11:01 AM
Proximity Temp-Lumino Demo.vshost.exe	12 Ko	Application	04/16/2013 11:02 AM
Proximity Temp-Lumino Demo.vshost.exe.manifest	1 Ko	Fichier MANIFEST	03/17/2010 10:39 PM
ProximityDemo.vshost.exe.manifest	1 Ko	Fichier MANIFEST	03/17/2010 10:39 PM
pylibs.dll	1,425 Ko	Application Extension	09/28/2012 2:31 PM
Segger.dll	12 Ko	Application Extension	09/28/2012 2:31 PM
Signalyzer.dll	31 Ko	Application Extension	09/28/2012 2:31 PM
Ulpbt.dll	200 Ko	Application Extension	09/28/2012 2:31 PM
UlpbtUtils.dll	26 Ko	Application Extension	09/28/2012 2:31 PM

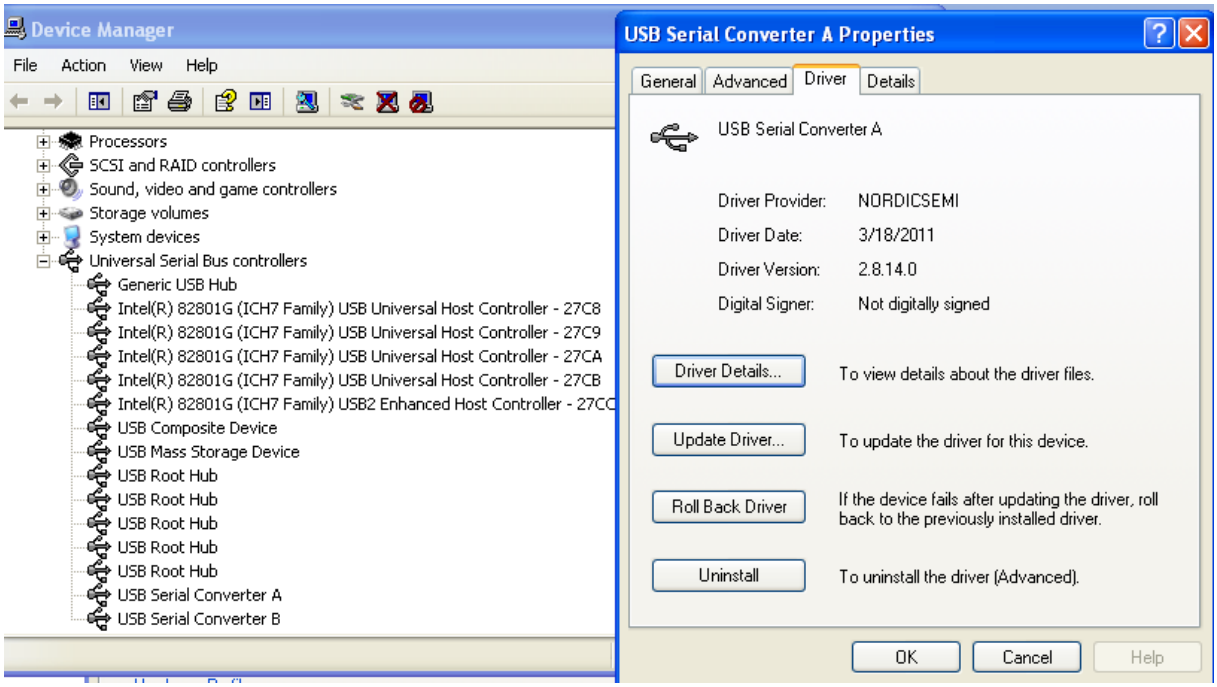
Hardware Setup

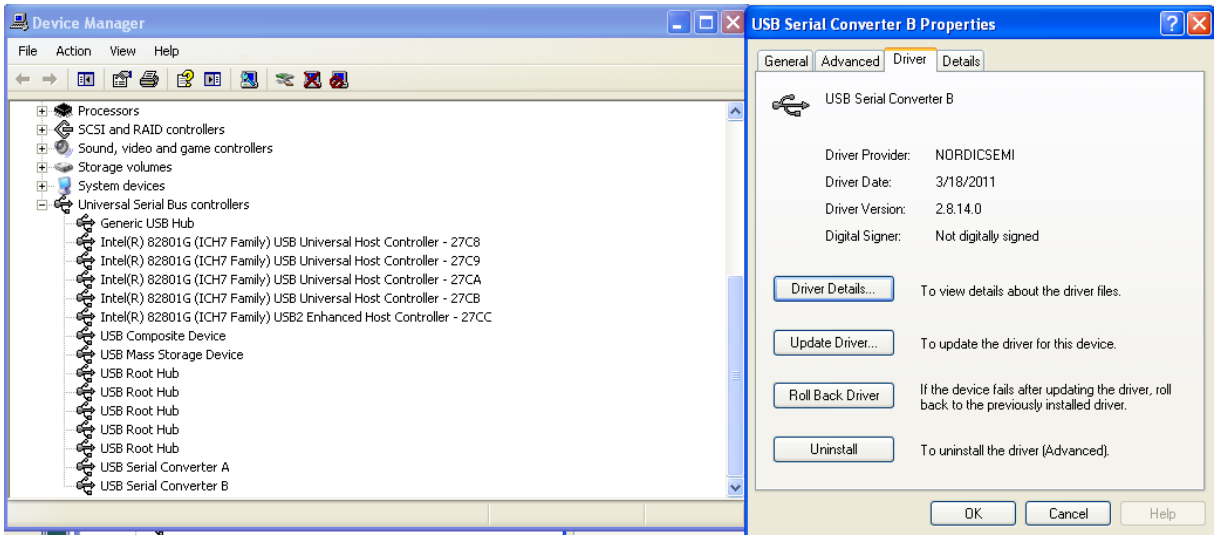
Master Emulator

Connect the nRF2739 Master Emulator to the PC and check to ensure that the USB drivers are correctly installed.

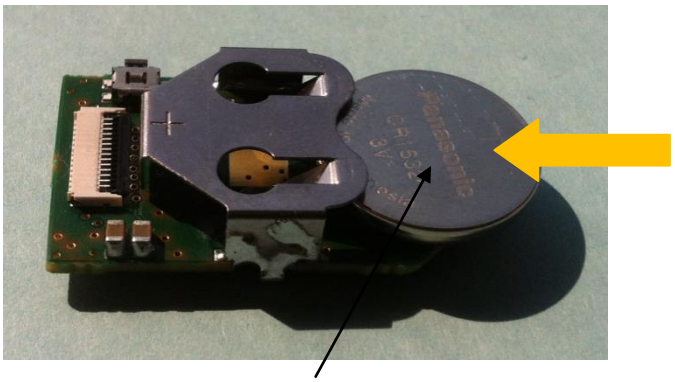
This can be checked on the Control Panel Device Manager under USB Controllers:
USB Serial Converter A
USB Serial Converter B

Should both be installed see below for details:

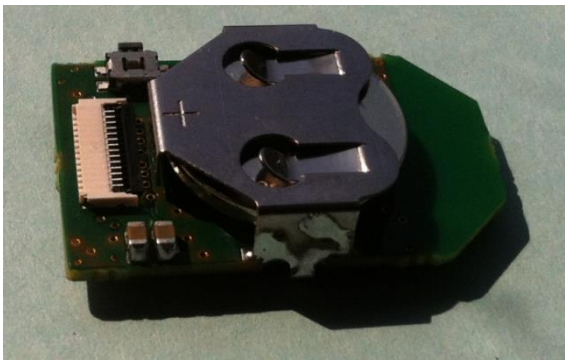




Connect Battery to ISP120911 Luminosity Sensor as shown below:



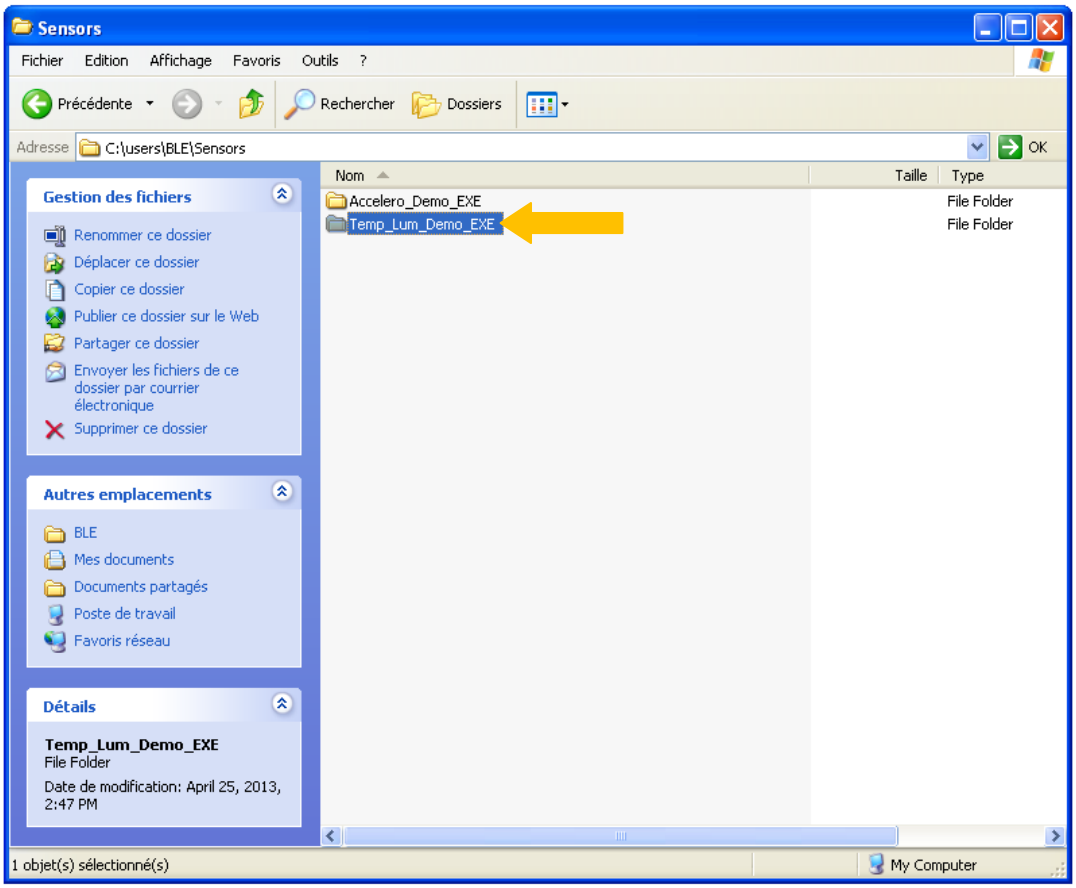
Battery CR1632 POS Terminal UP



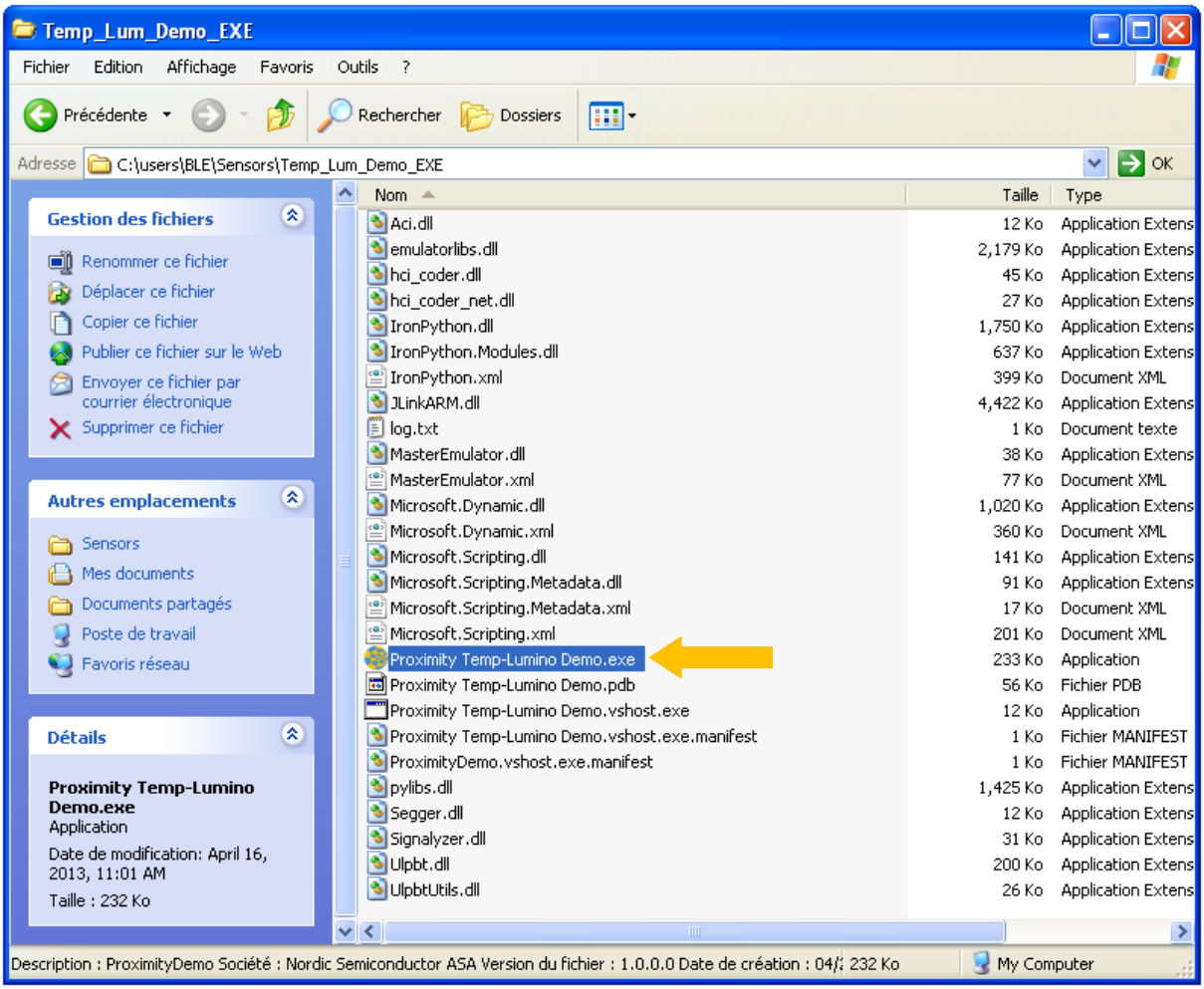
Battery CR1632 Fully Installed

Run Software

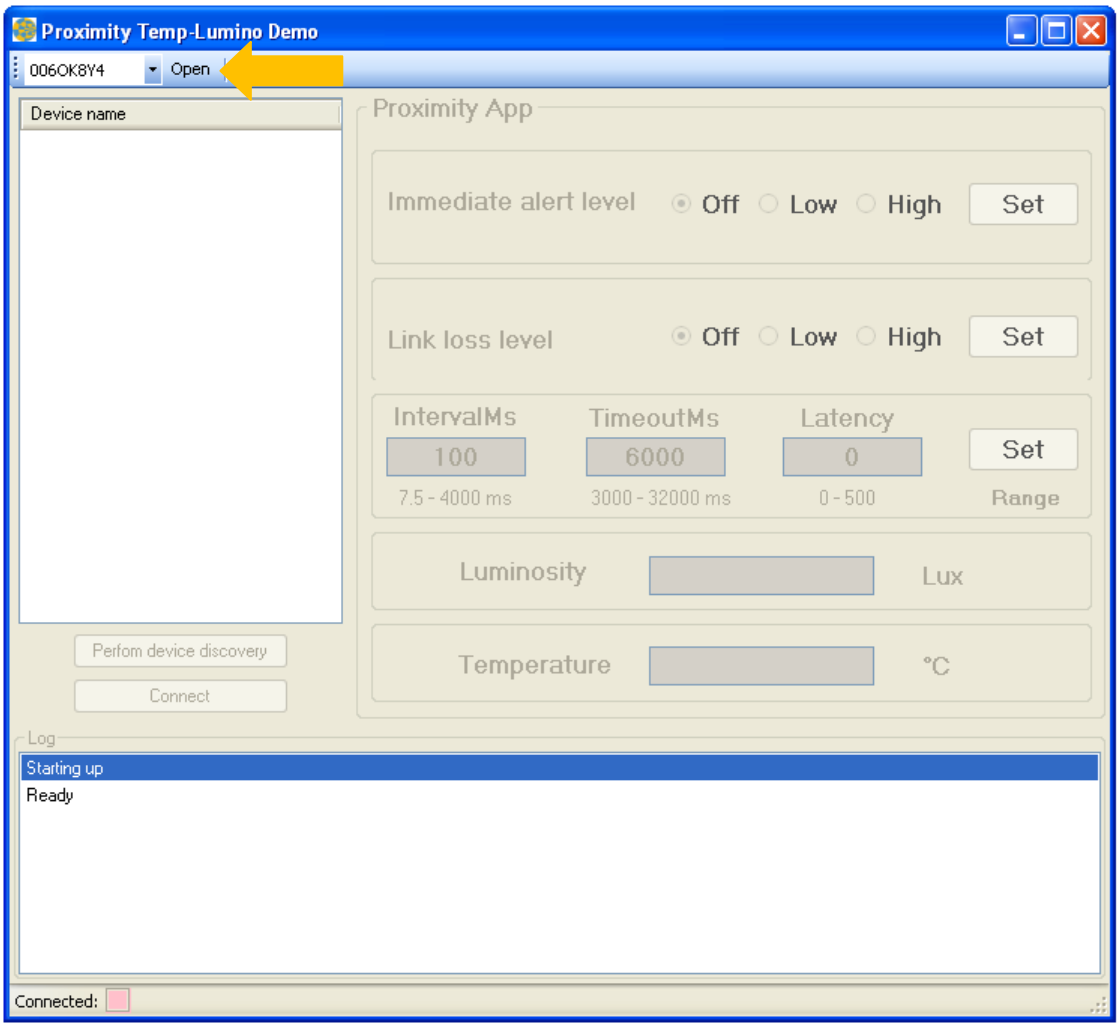
Navigate to the “Temp_Lum_Demo_EXE” folder:



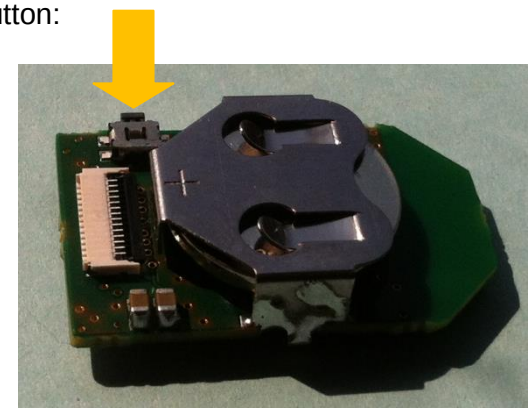
Launch “Proximity Temp-Lumino Demo.exe” (on some systems you may need to launch using “run as administrator”):



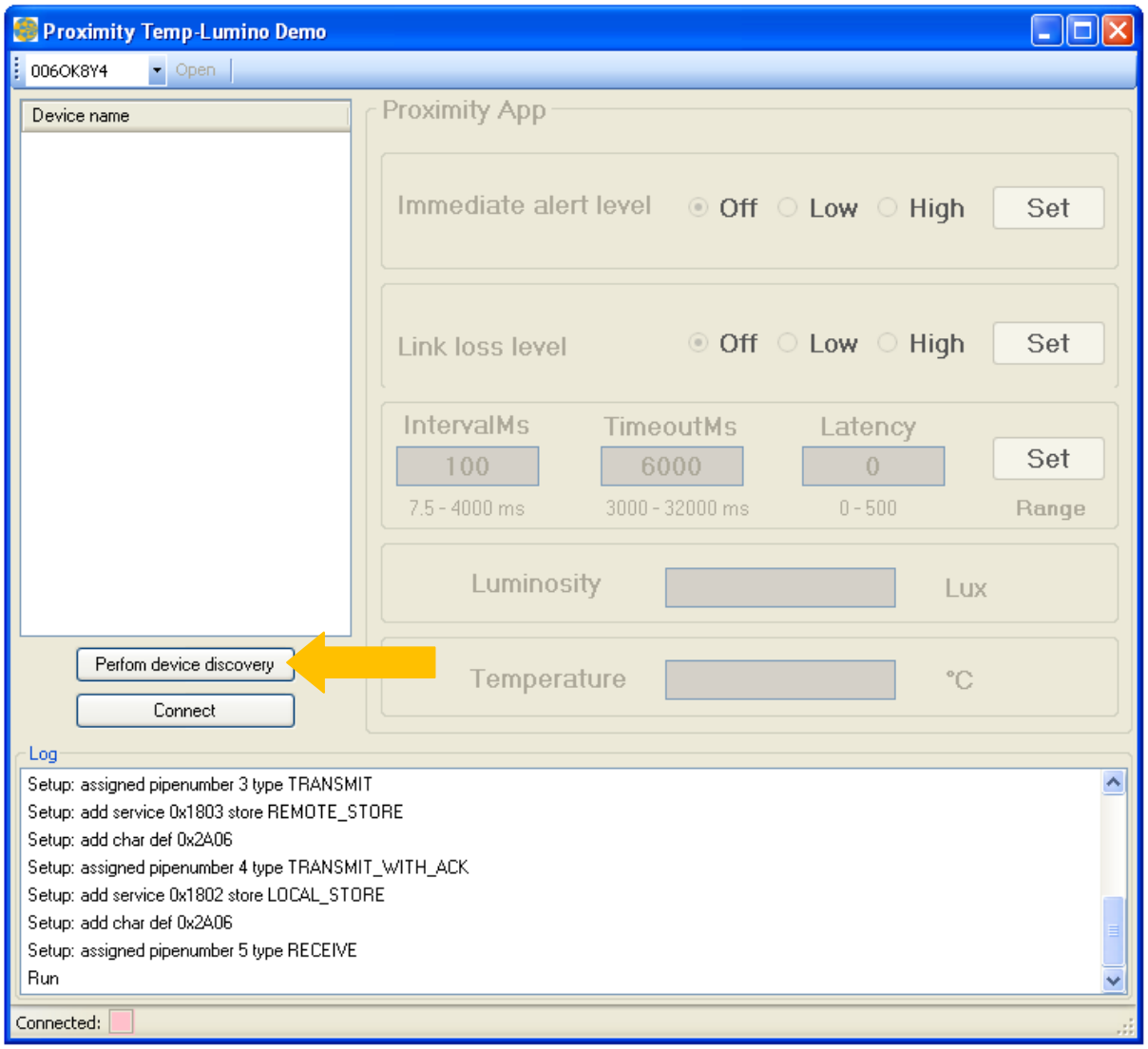
One screen should open. On this screen, click on “Open”:



Reset Luminosity Sensor with small reset button:

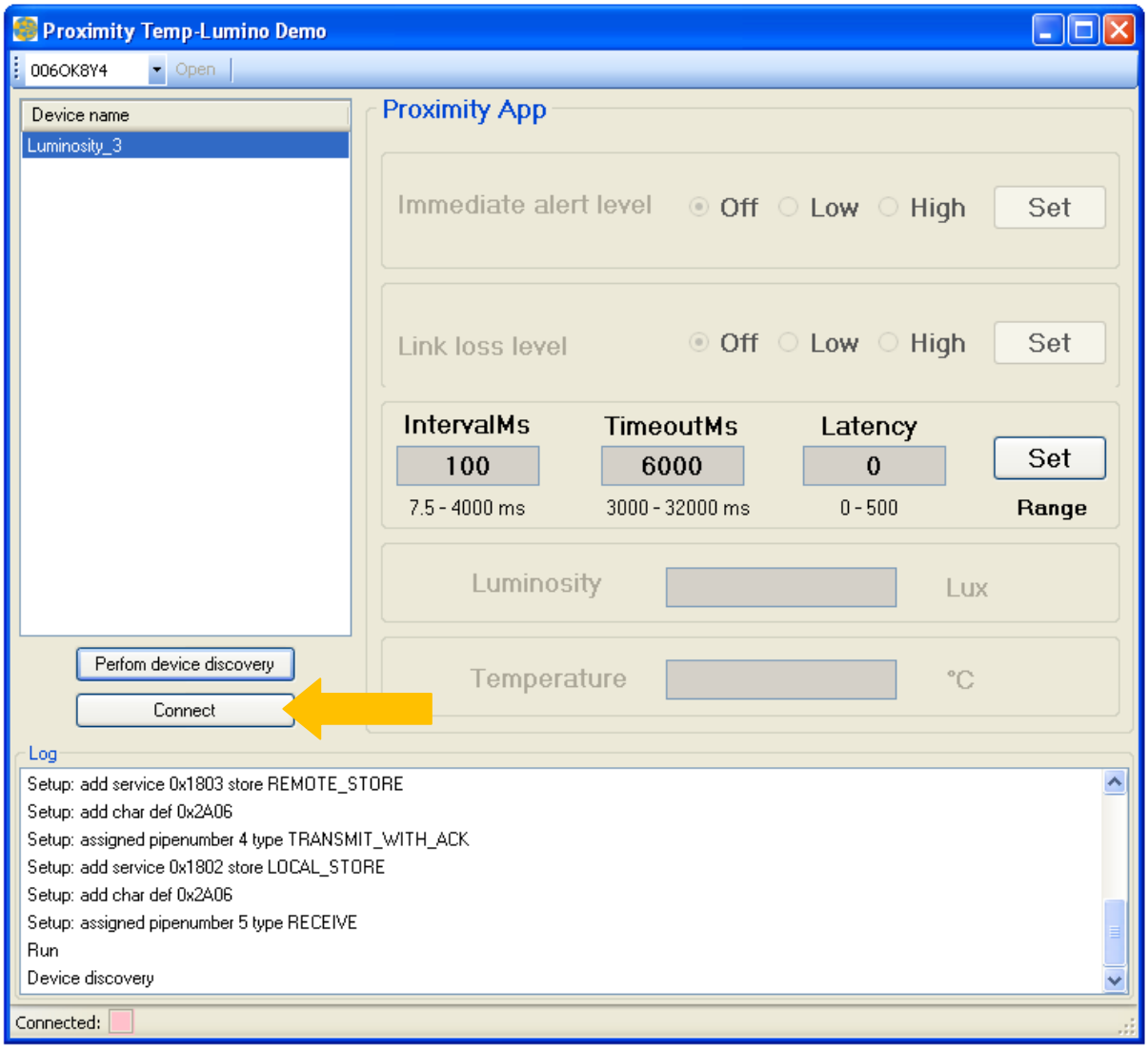


On Panel, click on “Perform Device Discovery”:

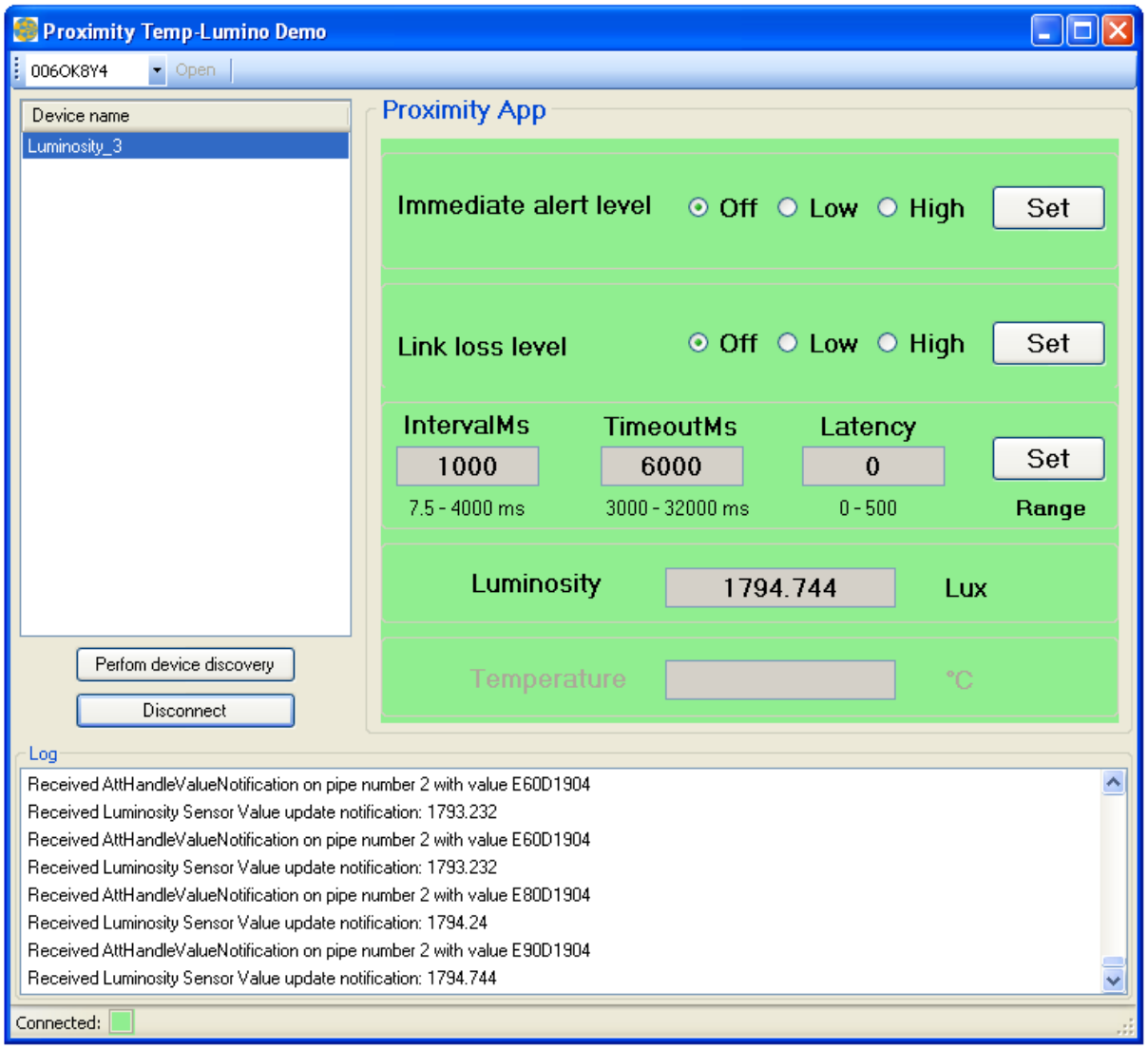


"Luminosity_x" should appear. If this fails, reset Luminosity Sensor (to put into advertising mode) and perform device discovery again.

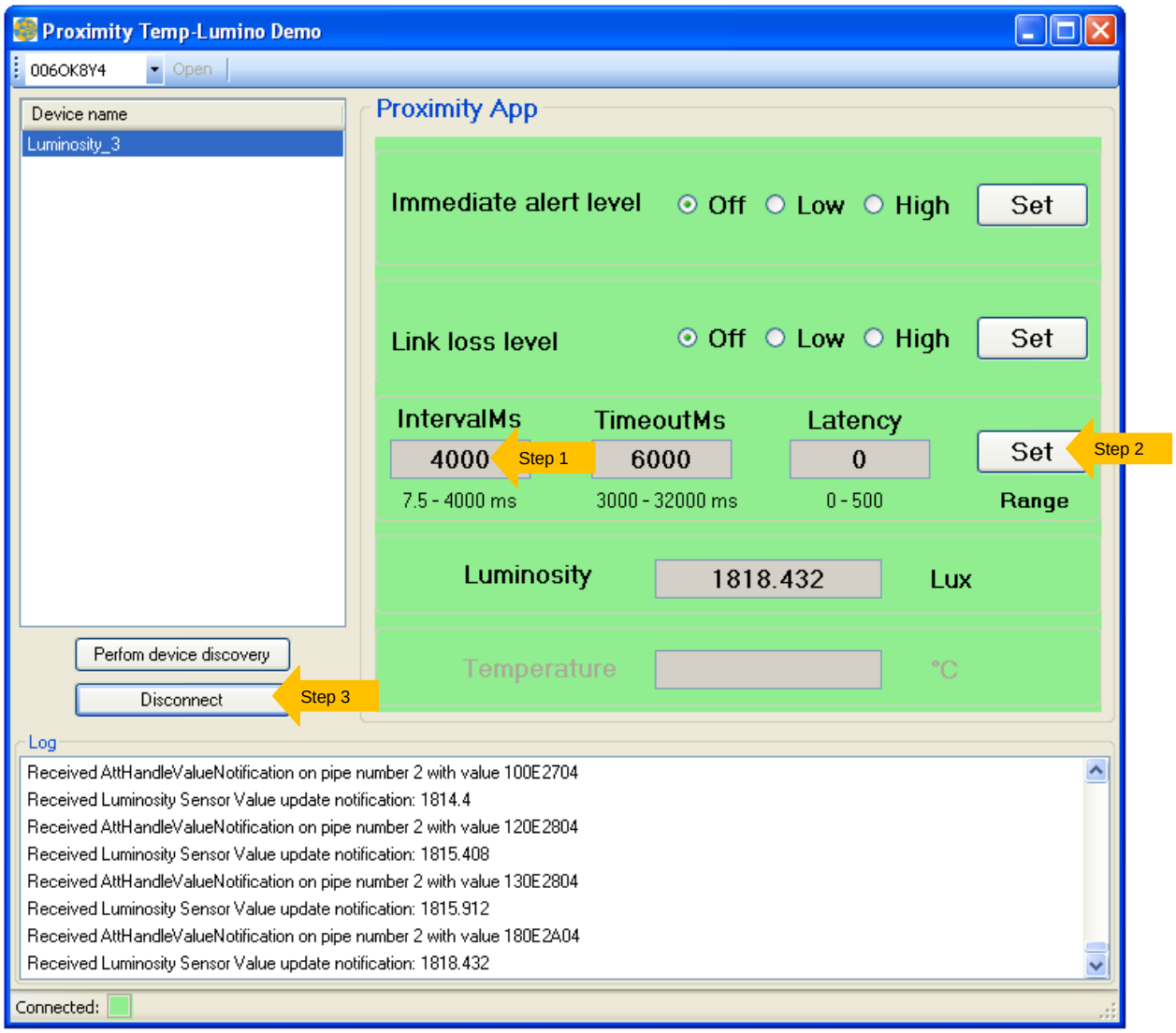
Press on "Connect":



Display should change and be updated every Interval Connection (IntervalMs). Interval Connection is adjustable between 7.5 to 4000 ms. Hereunder, Interval Connection is configured to 1000 ms:



To change Interval Connection to 4000 ms for example, write 4000 in tab “IntervalMs” (step 1), then click on “Set” (step 2). Then click successively on “Disconnect” and “Connect” (step 3):



Stop Software

To switch off PC program, click on top Right Corner of the window.

To switch off Luminosity Sensor, remove battery as shown below: