

USB2Dynamixel

Part Photo



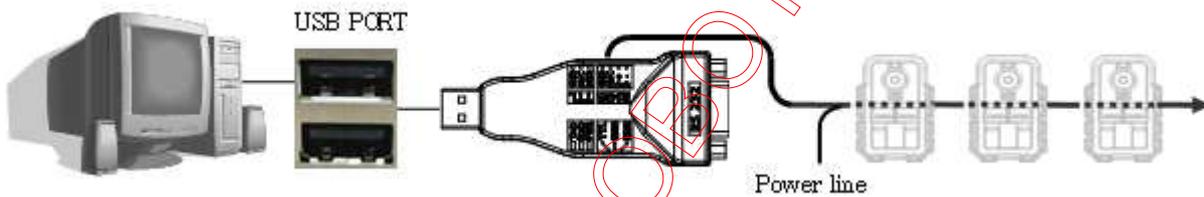
[USB2Dynamixel]

Product Usage

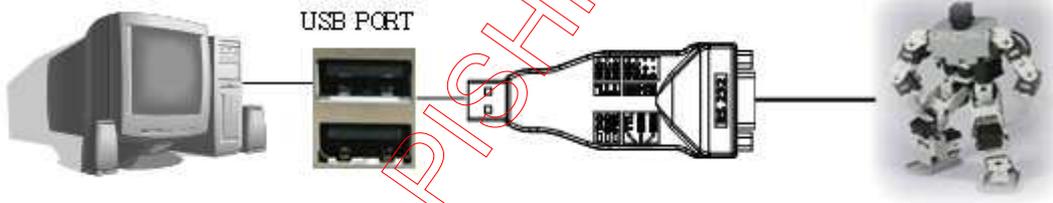
USB2Dynamixel is a device used to operate Dynamixel directly from PC. USB2Dynamixel is connected to USB port of PC, and 3P and 4P connectors are installed so that various Dynamixels can be connected.

Also, USB2Dynamixel can be used to change from USB port to Serial port on the PC without serial port such as notebook computer, etc. The function is very useful in the cases when the Dynamixel exclusive controllers such as CM-2, CM-2+, CM-5, and CM-510 are connected to USB Port, or when ZIG2Serial is connected to USB port to control robots wirelessly.

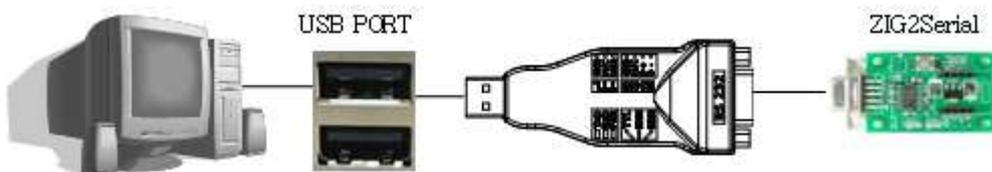
o Dynamixel Control Using PC



o Changing Serial Port



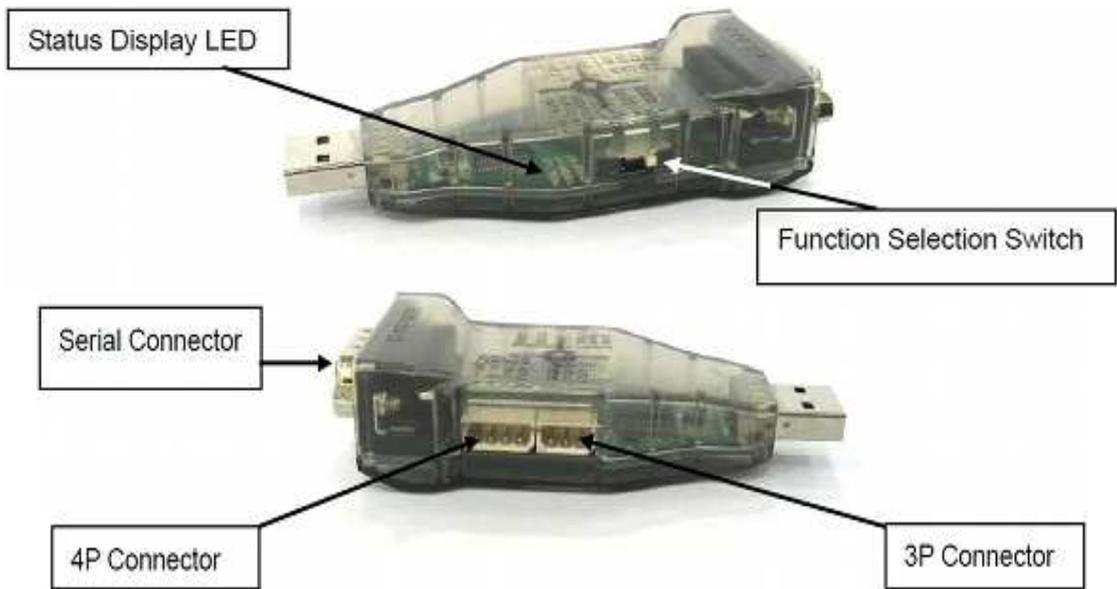
o Wireless Communication



Difference in voltage may cause unstable USB2DXL connections.

Ensure that both connecting equipment and PC are properly grounded.

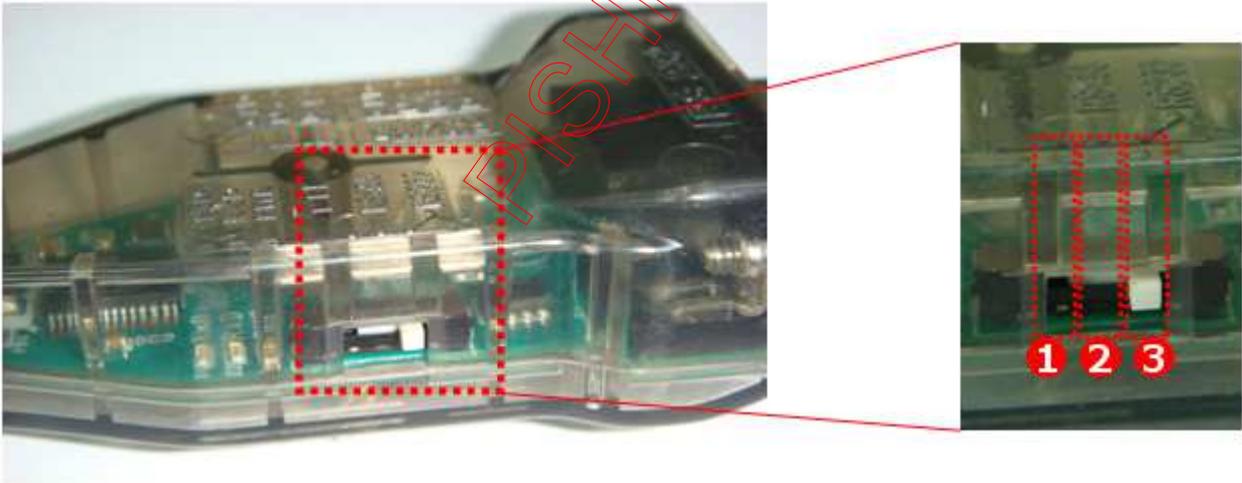
Name and Usage of Each Part



Name	Description
Status Display LED	Display power supply, TXD(data writing), and RXD(data reading) status.
Function Selection Switch	Select the communication method of TTL, RS-485, and RS-232.
3P Connector	Connect Dynamixels of AX Series through TTL communication.
4P Connector	Connect Dynamixels of DX, RX Series through RS-485 communication.
Serial Connector	Change from USB port to Serial port through RS-232 communication.

How to Select The Communication Mode

The communication mode can be selected by changing the switch of USB2Dynamixel as below.



1. TTL Communication : Dynamixels using 3-pin port such as AX Series, AX-S1 etc.
2. RS485 Communication : Dynamixels using 4-pin port such as DX Series, RX Series, EX Series etc.
3. RS232 Communication : Controllers using serial cable such as CM-5, CM-510 etc.

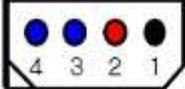
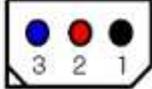
Usage

- Dynamixel can be controlled directly by C language using USB2Dynamixel SDK.

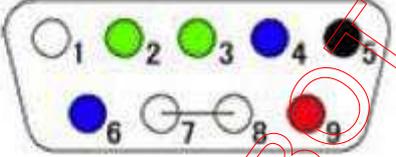
PIN Figure

The following pictures show the usage of connector pins used by USB2Dynamixel. If you want to use each pin for your own purpose, please use them after you learn the usage of each pin.

[PIN Figure of 4P / 3P Cable Connectors]

4 Pin Cable			3 Pin Cable		
Pin No.	Signal	Pin Figure	Pin No.	Signal	Pin Figure
1	GND		1	GND	
2	NOT Connected		2	NOT Connected	
3	DATA + (RS-485)		3	DATA (TTL)	
4	DATA - (RS-485)				

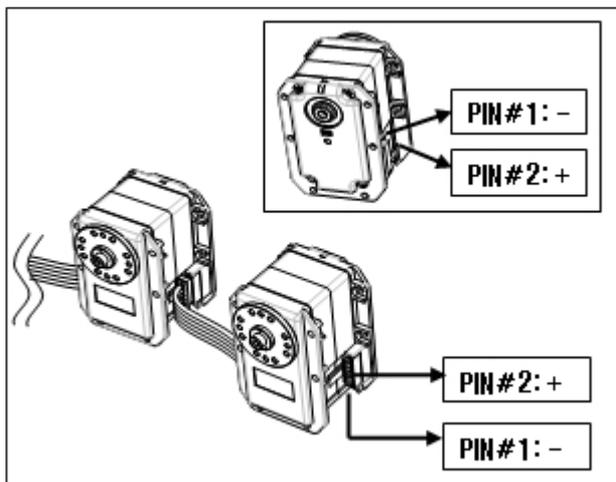
[PIN Figure of Serial Connector]

Pin No.	Signal	Pin Figure
1	Data (TTL)	
2	RXD (RS-232)	
3	TXD (RS-232)	
4	D+ (RS-485)	
5	GND	
6	D- (RS-485)	
7	Short with No. 8	
8	Short with No. 7	
9	USB power (5V)	

How to Supply Power

USB2Dynamixel does not supply power to Dynamixel. Therefore, the power must be supplied separately to operate Dynamixel as the following pictures. Please refer to the explanation page of each Dynamixel regarding proper voltages for each Dynamixel mode.

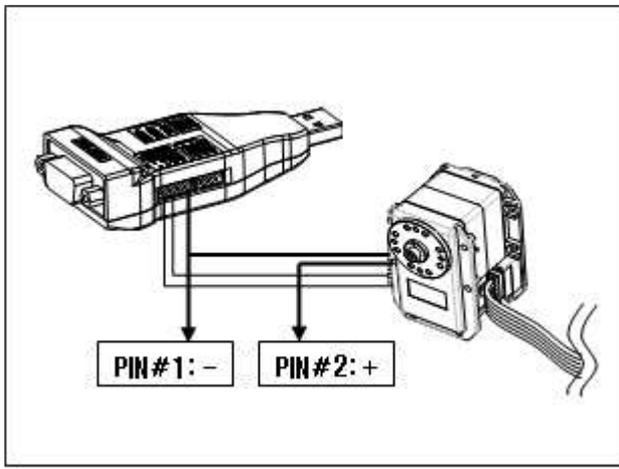
[Applying Power to the Dynamixel]



Referring to PIN Figure, apply positive (+) voltage to the #2 PIN of the connector, and negative (-) voltage on #1 PIN of the connector.

Since the 2 connectors of Dynamixels are equal, power can be applied at any of.)

[Applying power between USB2Dynamixel and Dynamixel]



If power cannot be applied as above, apply the power between USB2Dynamixel and Dynamixel as below.

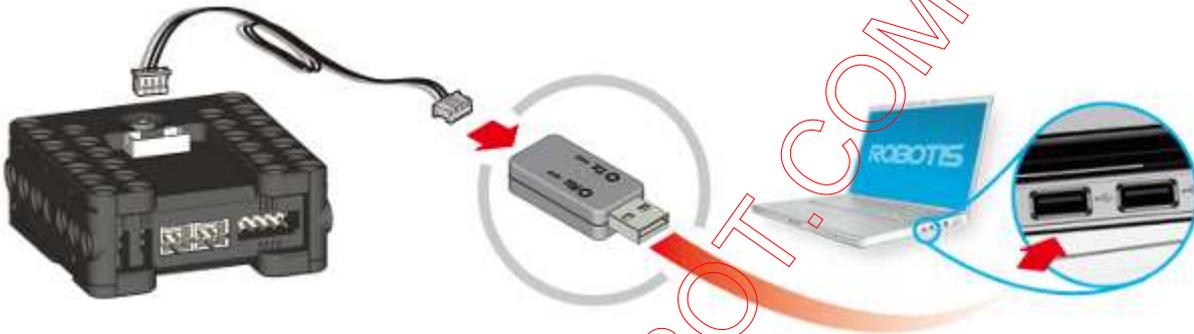
Separate the power cable on the #2 PIN of USB2Dynamixel connector, and then apply positive(+) voltage.

Connect additionally Y-cable to the power cable on the #1 PIN of USB2Dynamixel connector, and then apply negative (-) voltage.

How to Check the Driver Installation

How to check whether the USB downloader(LN-101) driver is installed correctly is as follows.

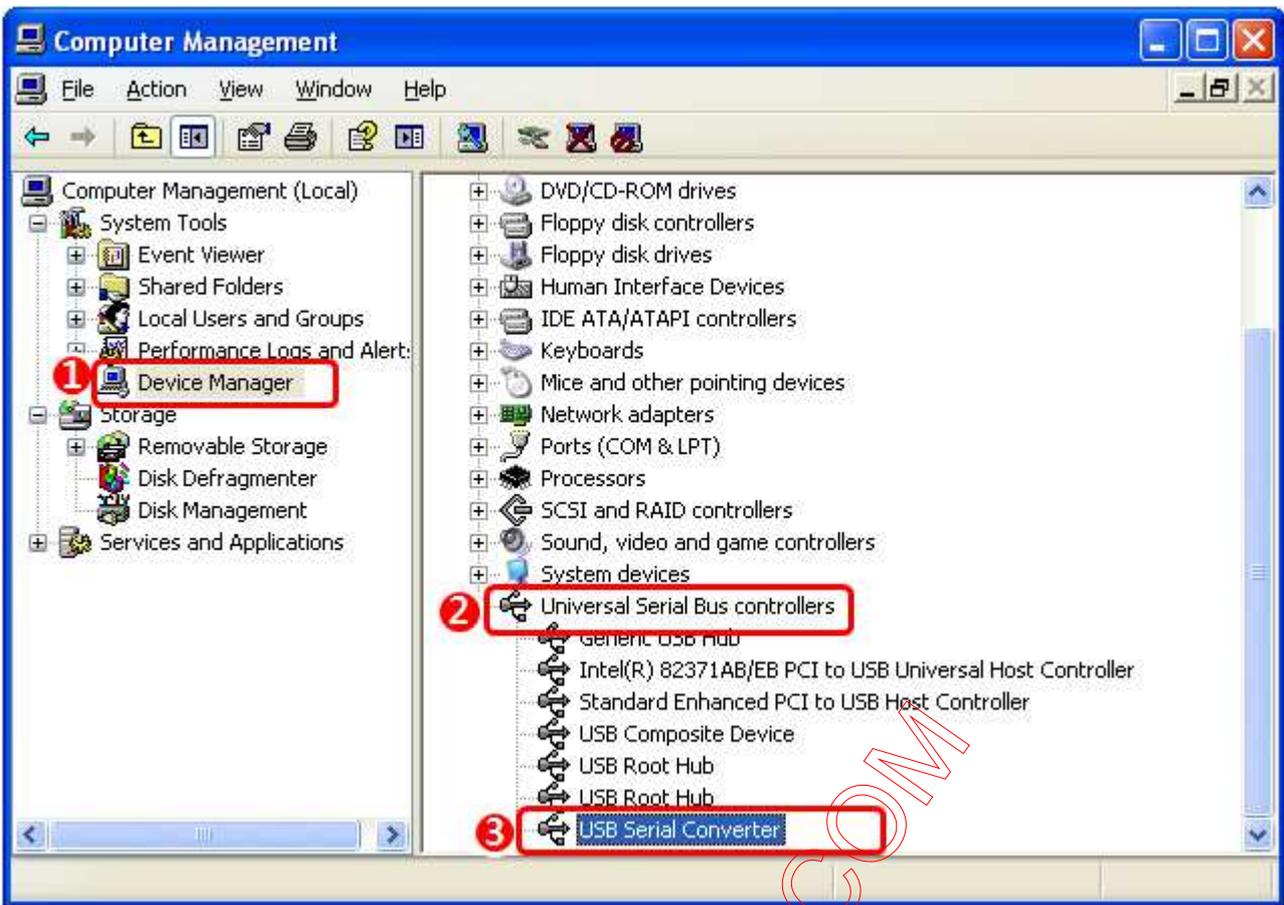
1. **Connect USB Downloader (LN-101)** to the **USB Port** of PC.



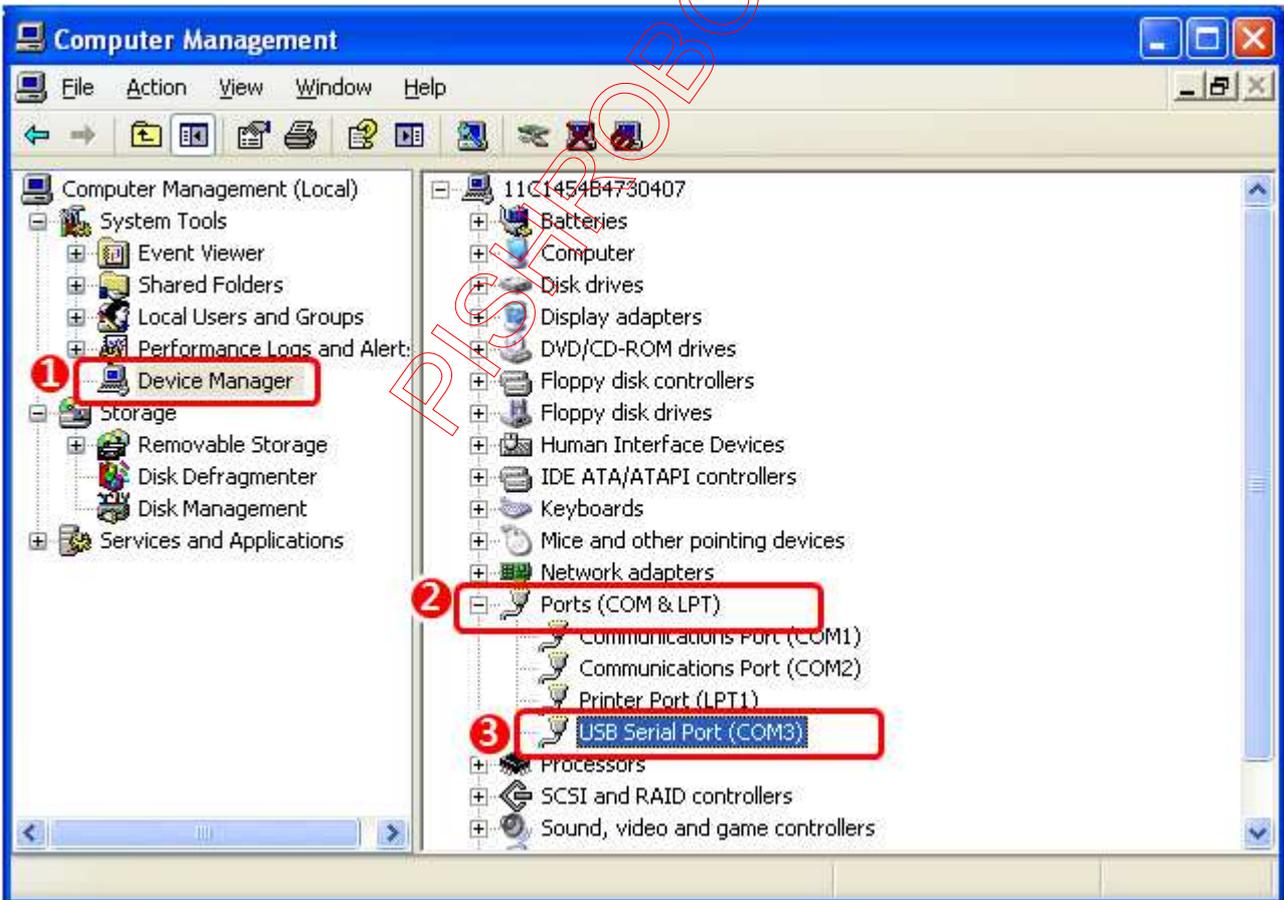
2. Select **Manage** in the **popped-up menu** shown by **right-clicking My Computer**.



3. Check **USB Serial Converter** in **Universal Serial Bus Controllers** of **Device Manager**.



4. Check **USB Serial Port(COMx)** in the list of **Ports (COM & LPT)**.
(COM Port number may vary depending on each system.)



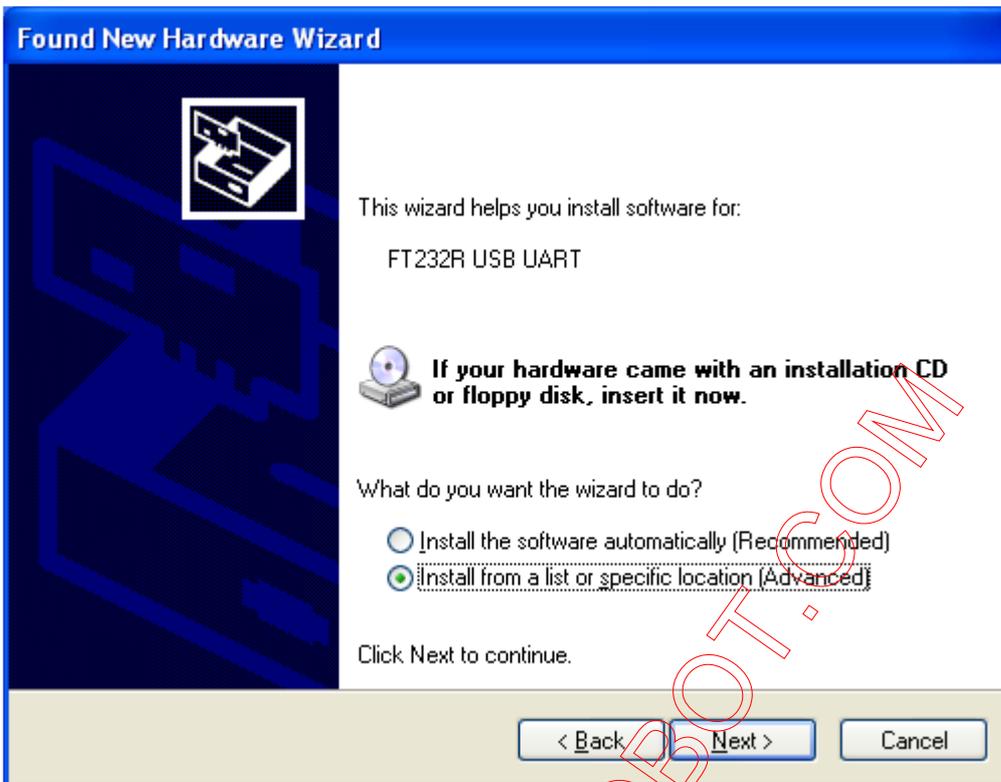
Installing the Driver Manually

If you install the RoboPlus, FTDI Driver (USB2Dynamixel, USB Downloader (LN-101) driver) is installed together automatically.

If you didn't install the RoboPlus yet, or if the driver is not installed appropriately, please install it manually according to following procedures.

1. Connect a device to PC. If the driver is not installed yet, **Found New Hardware Wizard** will be popped up.

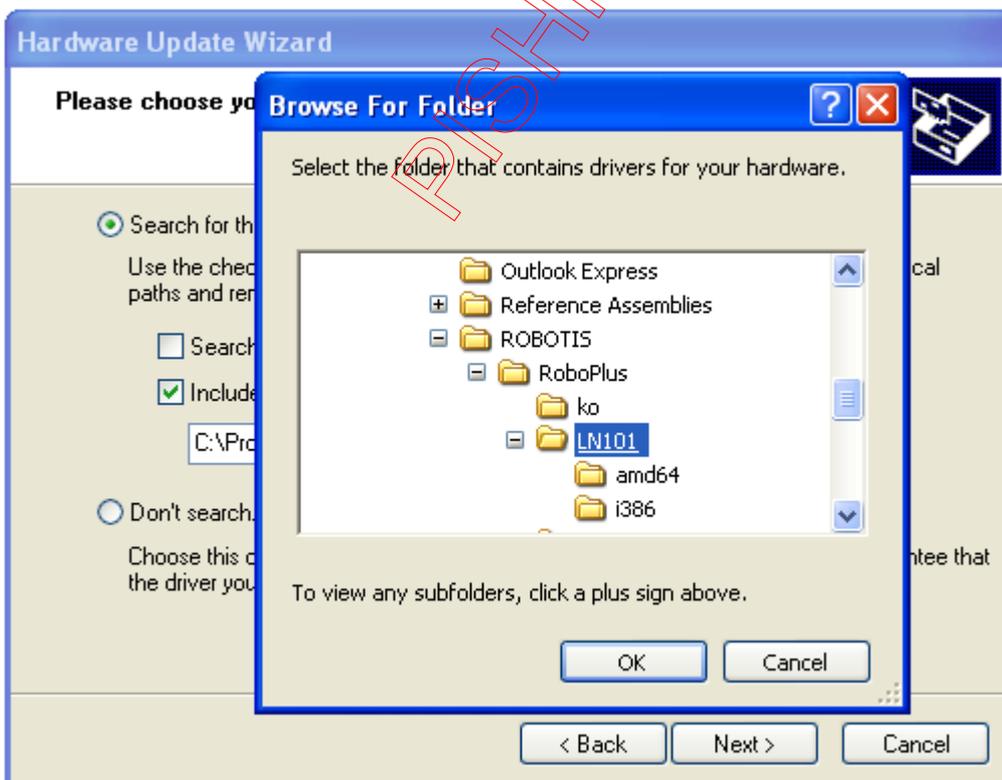
Install from a list or specific location (Advanced)(S) -> Next(N)

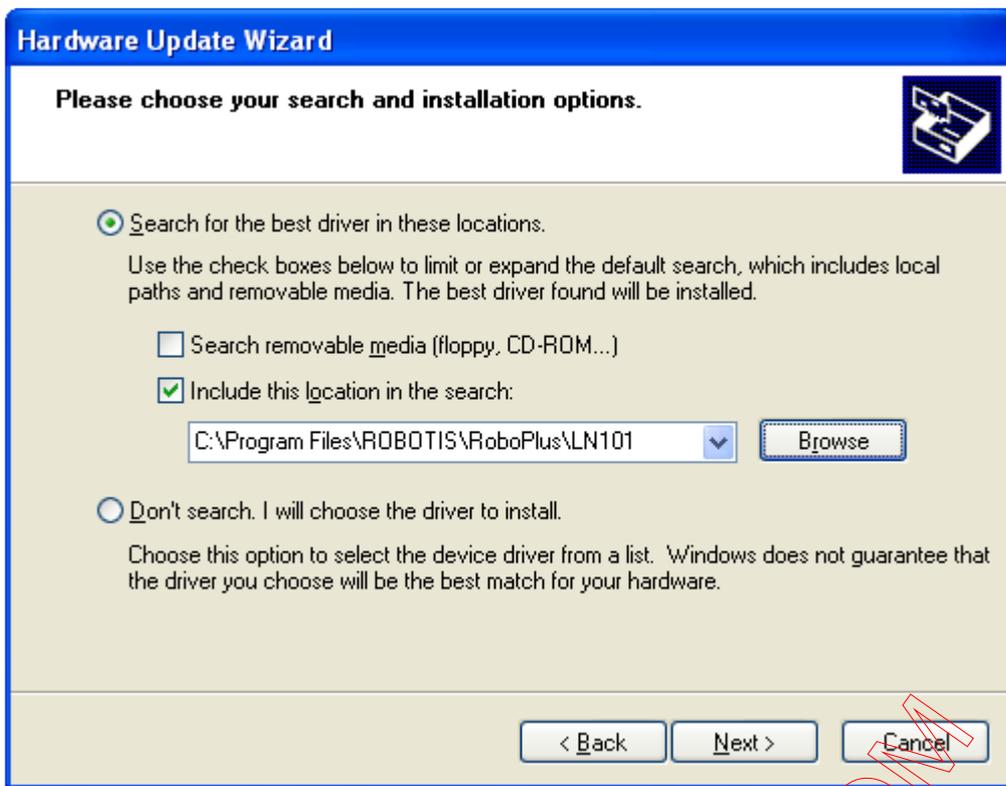


2. **Decide the location of Driver.**

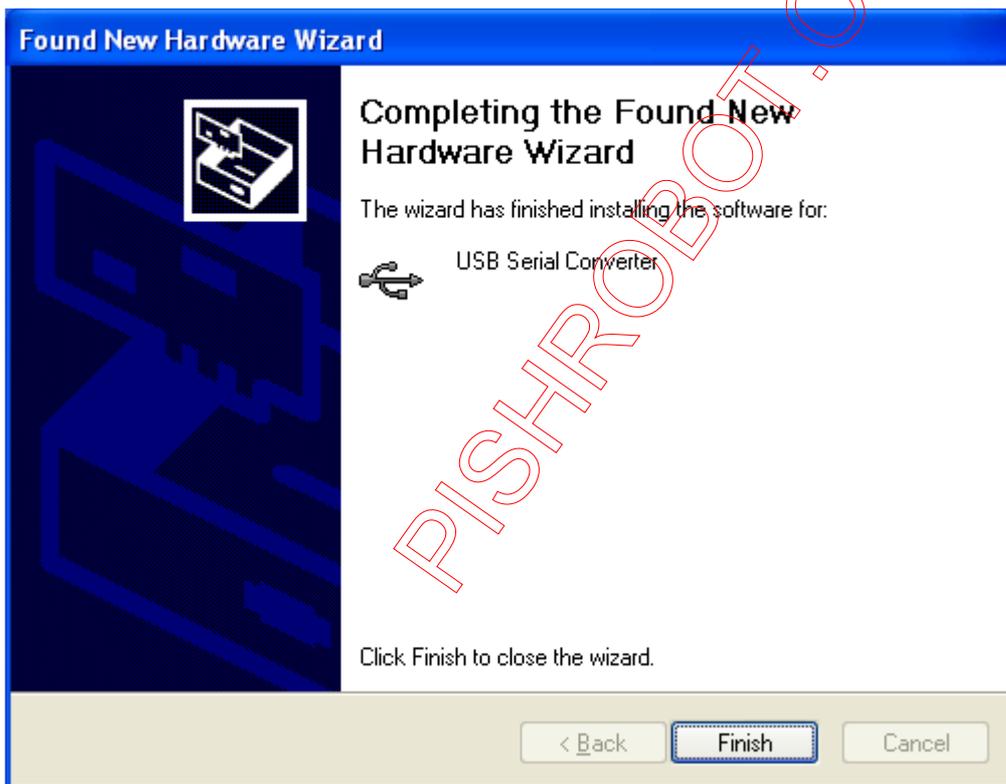
If RoboPlus S/W has been installed automatically, the driver is in LN101 folder of RoboPlus Installation folder.

Or if you want to install the newest version, download the newest version VCP driver from [FTDI Driver Download](#) page.





3. Click the **Next(N)** button to start the installation. Installation of **USB Serial Converter** driver is completed.



4. Install the **USB Serial Port** driver in the same way.

Found New Hardware Wizard



Completing the Found New Hardware Wizard

The wizard has finished installing the software for:



USB Serial Port

Click Finish to close the wizard.

< Back

Finish

Cancel

Error Report

Copyrights (c) 2010 ROBOTIS All rights reserved.

PISHROBOT.COM