

**Neousys Technology Inc.**

**PCIe-USB380/ 340 Card  
Frame Grabber Card**

**User Manual  
Rev. A1.1**

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<b>FCC Conformity</b>	<p>This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.</p> <p>Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.</p>
<b>CE Conformity</b>	The product(s) described in this manual complies with all applicable European Union (CE) directives if it has a CE marking. For computer systems to remain CE compliant, only CE-compliant parts may be used. Maintaining CE compliance also requires proper cable and cabling techniques.

# Safety Precautions

Read these instructions carefully before you install, operate, or transport the system.

- Install the system or DIN rail associated with, at a sturdy location
- Install the power socket outlet near the system where it is easily accessible
- Secure each system module(s) using its retaining screws
- Place power cords and other connection cables away from foot traffic.
- Do not place items over power cords and make sure they do not rest against data cables
- Shutdown, disconnect all cables from the system and ground yourself before touching internal modules
- Ensure that the correct power range is being used before powering the device
- Should a module fail, arrange for a replacement as soon as possible to minimize down-time
- If the system is not going to be used for a long time, disconnect it from mains (power socket) to avoid transient over-voltage

# Service and Maintenance

- ONLY qualified personnel should service the system
- Shutdown the system, disconnect the power cord and all other connections before servicing the system
- When replacing/ installing additional components (expansion card, memory module, etc.), insert them as gently as possible while assuring proper connector engagement

## ESD Precautions

- Handle add-on module, motherboard by their retention screws or the module's frame/ heat sink.
- Avoid touching the PCB circuit board or add-on module connector pins
- Use a grounded wrist strap and an anti-static work pad to discharge static electricity when installing or maintaining the system
- Avoid dust, debris, carpets, plastic, vinyl and styrofoam in your work area.
- Do not remove any module or component from its anti-static bag before installation

# About This Manual

This manual introduces and describes how to setup/ install Neousys Technology PCIe-USB380/ 340, they are USB3.0 host adaptor cards that offer expandability, stability and SuperSpeed USB3.0 performance to your existing system.

## Revision History

Version	Date	Description
A1	Aug. 2013	Initial release
A1.1	Apr. 2019	Updated jumper settings Updated DIP switch settings

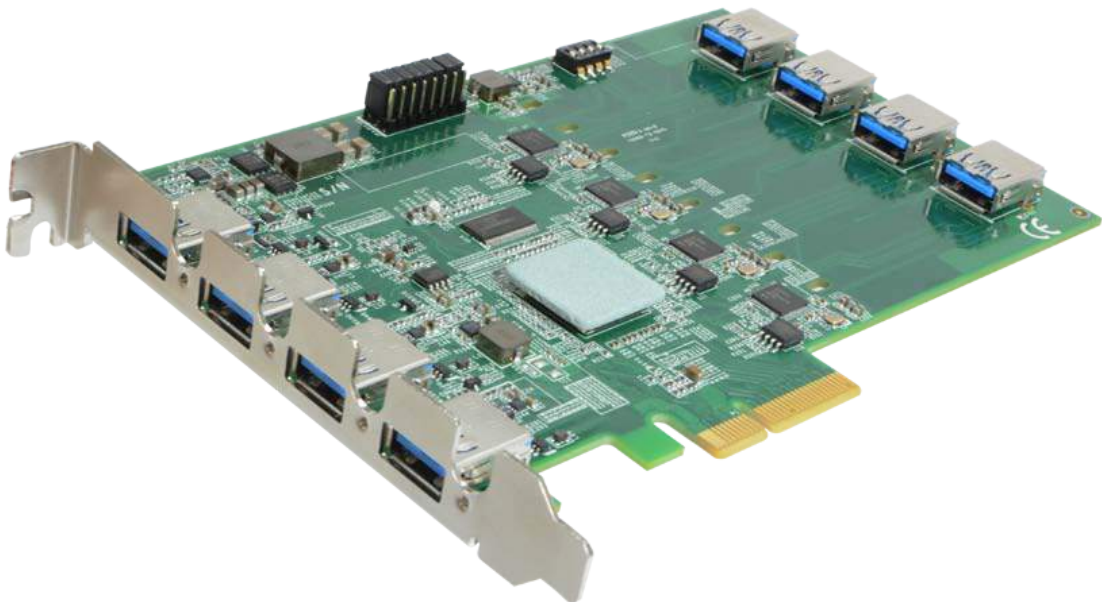


# 1 Introduction

Neosys PCIe-USB380/340 is an 8/4-port USB 3.0 host adapter dedicatedly designed for industrial and vision applications. USB 3.0, or SuperSpeed USB, is an emerging bus technology to deliver ten times of data rate over USB 2.0, and is particularly useful for high-speed data storage and image devices.

Most off-the-shelf USB 3.0 cards implement multiple ports with a single USB 3.0 controller that may result in significant performance degradation for multi-port operation. To achieve maximal per-port performance, PCIe-USB380/340 has four independent NEC/ Renesas  $\mu$ PD720202 USB 3.0 Host Controllers and x4 PCI Express® Gen2 interface to offer up to 5Gbps of bandwidth for each port even when all ports are plugged in and accessed simultaneously. In addition to the bandwidth advantage, Neosys PCIe-USB card features on-board regulated 5 VDC power supply with user-configurable 900mA/ 1500mA current limit design to supply stable 5 VDC power to external USB devices. It also supports software-programmable per-port power on/off control for fault recovery operations.

Combining high bandwidth, industrial-grade power design and reliable cable connection, Neosys PCIe-USB Card brings expandability, stability and ultra-fast USB 3.0 performance to existing systems.



## 1.1 Product Specification

### Specifications

Bus interface	4-lanes, Gen2 PCI Express interface Compliant with PCI Express Base Specification Revision 2.0
USB ports	USB380: 8x USB 3.0 ports, compatible with USB 2.0/ 1.1/ 1.0 USB340: 4x USB 3.0 ports, compatible with USB 2.0/ 1.1/ 1.0
USB controller	4x NEC/ Renesas $\mu$ PD720202 Host Controllers Compliant with Universal Serial Bus 3.0 specification Revision 1.0 Compliant with Intel $\text{\textcircled{R}}$ xHCI specification Revision 1.0
USB connectors	4x on-panel USB 3.0 Type-A connectors with M2 screw threads 4x on-board USB 3.0 Type-A connectors with fix points for cable tie
USB current limit	User-configurable 900mA/ 1500mA per-port current limit
Power requirement	Maximal 2.0A @ 3.3V from PCI Express bus Maximal 5.5A @ 12V from directly PCI Express bus for USB devices
Operating temperature	0 ~ 60 C with ambient air flow
Dimension	167.7 mm (W) x 111.2 mm (H)
Compatible operating systems	Windows XP Windows Vista 32Bit Windows Vista 64bit Windows 7 32bit Windows 7 64bit Windows 8 Windows 8.1 Windows 10

## 2 Setting Up Your PCIe-USB Card

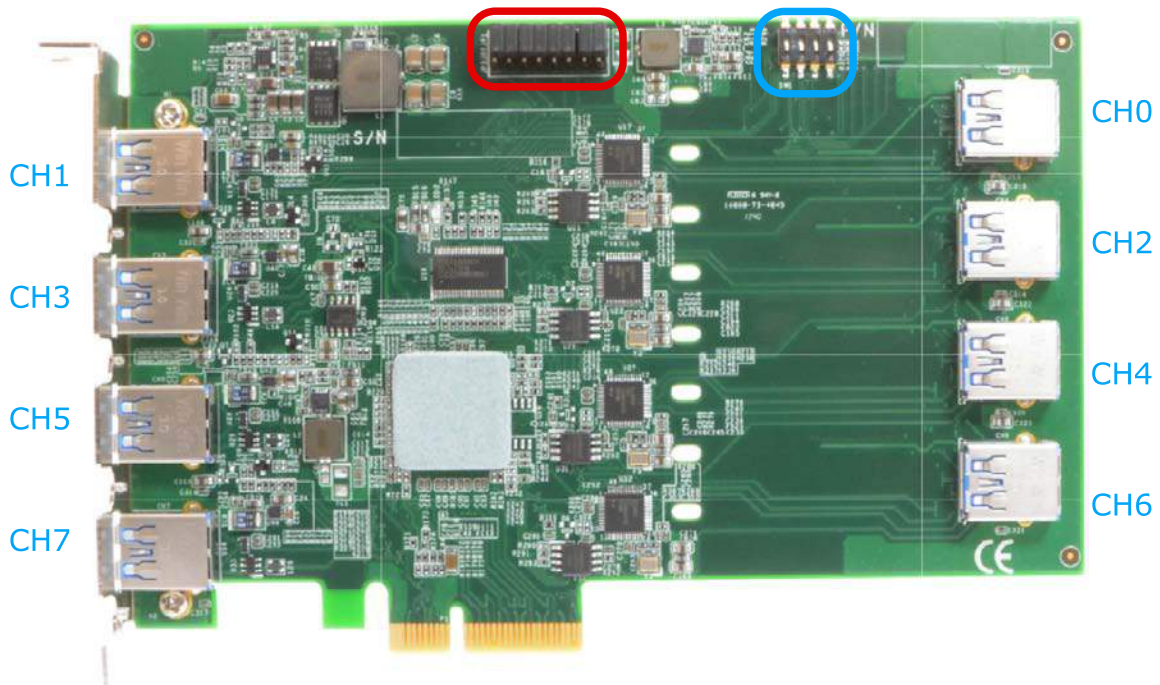
### 2.1 Unpacking Your PCIe-USB Card

Upon receiving the PCIe-USB card package, please check immediately if the package contains all the items listed in the following table. If any item is missing or damaged, please contact your local dealer or Neosys Technology Inc.

Item	Description	Qty
1	PCIe-USB card (USB380 or USB340)	1
2	Drivers & Utilities Disc	1

### 2.2 Superior View

Shown below is a PCIe-USB380 card, the four channels exposed on the external panel are channels 1/ 3/ 5/ 7 while the internal channels are 0/ 2/ 4/ 6. On the top, there are a set of jumper pins (indicated in **red**), they offer per-port current configurable settings of 900mA or 1500mA. Please refer to the [jumper pin settings](#) for details. Also at the top, there are a set of DIP switches (indicated in **blue**), they offer PCIe-USB card ID settings for when you install multiple cards in your system, the ID can help you identify each PCIe-USB card.



#### NOTE

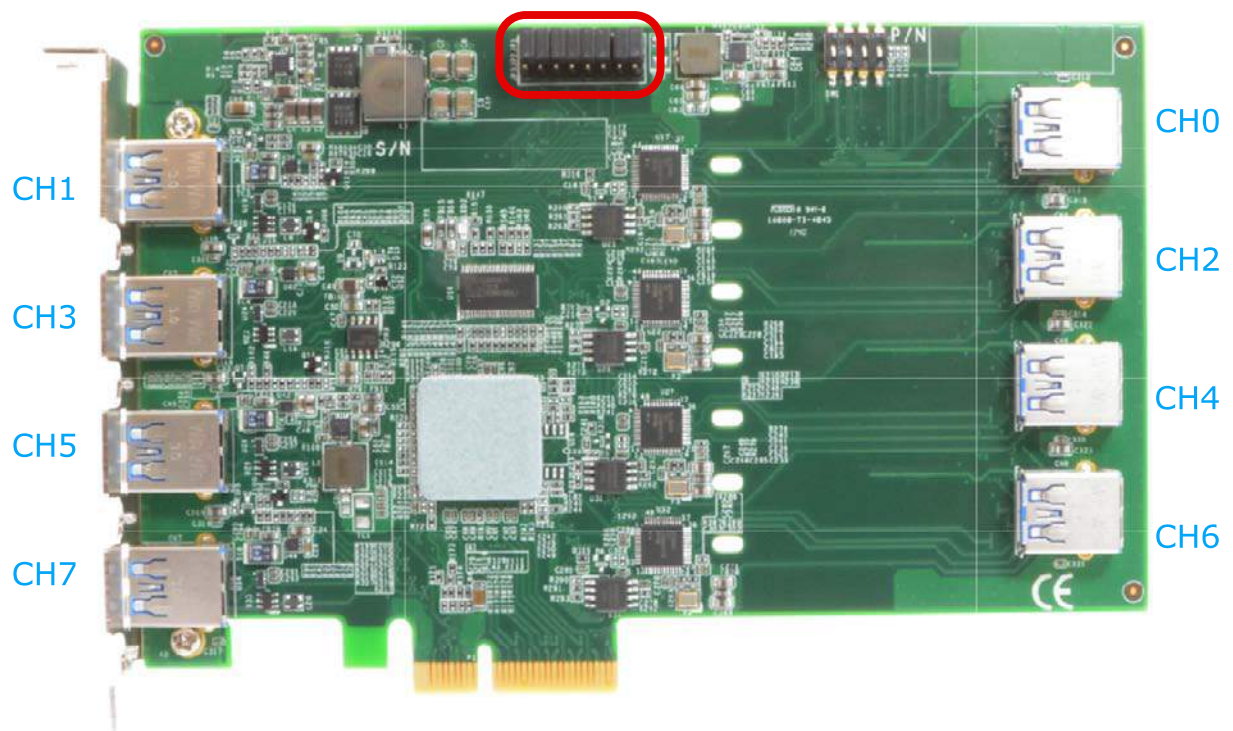
For PCIe-USB340, there are only channels 1/ 3/ 5/ 7 connectors and corresponding jumpers.

## 2.3 Jumper Pin Settings

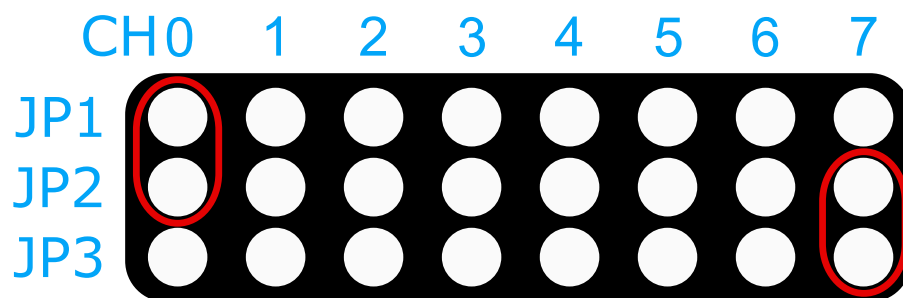
The current output setting can be configured for each individual USB port. The current output can be set at 900mA (JP2/ 3 connected) or 1500mA (JP1/ 2 connected). If the jumper pins are not set, the default output current will be 900mA. You may also set all channels to output 1500mA without any issue. Please refer to the following illustration and description for details.

### 2.3.1 Jumper Pin Location

The jumper pin location is indicated in **red**.



### 2.3.2 Jumper Pin Setting Example



**Channel 0** is set for 1500mA output

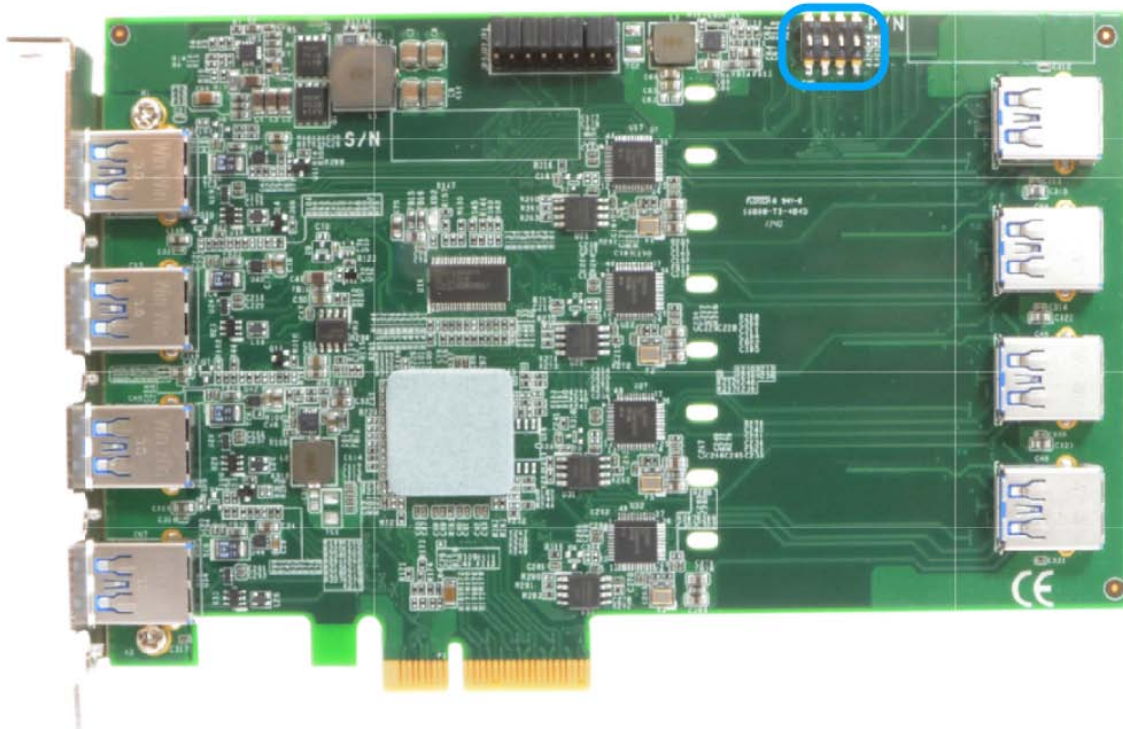
**Channel 7** is set for 900mA output

**Channels 1/ 2/ 3/ 4/ 5/ 6** have no jumper connection thus are offering 900mA output.



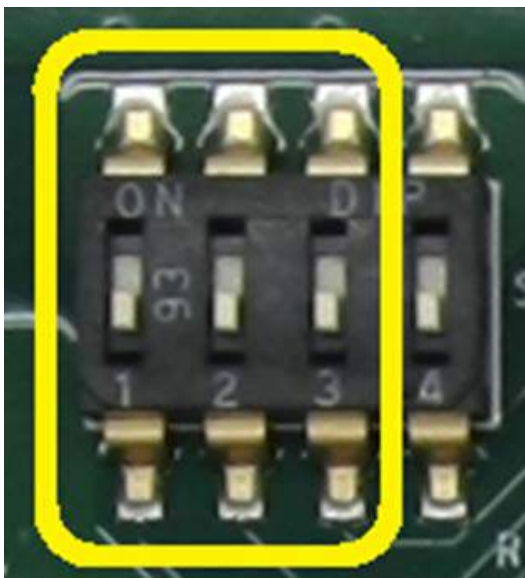
## 2.4 DIP Switch Settings

PCIe-USB cards feature per-port power on/off control via Neousys' API so you may manually cut off or resume the power delivery to the connected device. This feature is designed for failure recovery in the field to rest connected devices. To support per-port on/off control for multiple cards, PCIe-USB cards have a set of DIP switches (indicated in [blue](#)) to configure user-defined board ID. The board ID can be used as a parameter in API to specify the card.



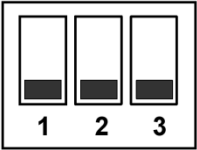
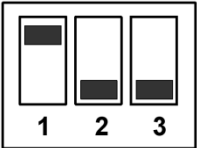
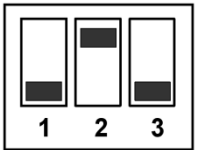
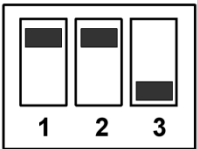
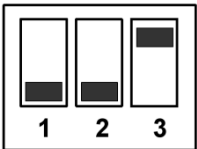
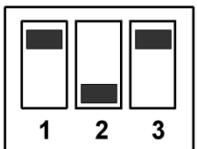
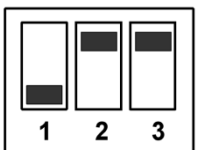
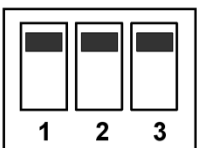
### 2.4.1 The DIP Switch

There are four DIP switches but to configure the board ID, you only need to configure the DIP switches 1~3.



## 2.4.2 Board ID Settings

To set board IDs, please refer to the following table.

Board ID	DIP Switch Position (P1 ~ P3)
0	
1	
2	
3	
4	
5	
6	
7	

## 3 PCIe-USB Card Installation

Once you have set up your PCIe-USB card, current output for each port or if you are installing multiple PCIe-USB cards, setting up the board ID, then you are ready to install the PCIe-USB card into the system. To install the PCIe-USB card, please refer to the following procedure.

### 3.1 Hardware Installation

1. Save and close all work in progress.
2. Power off and unplug the power cable from the system you wish to install to.
3. Open the chassis (side panel) of the computer you wish to install the PCIe-USB card into.
4. For PCIe-USB380, if you are going to connect to the internal USB ports, please do so before installing the card into the computer. First, insert the cable through the panel opening



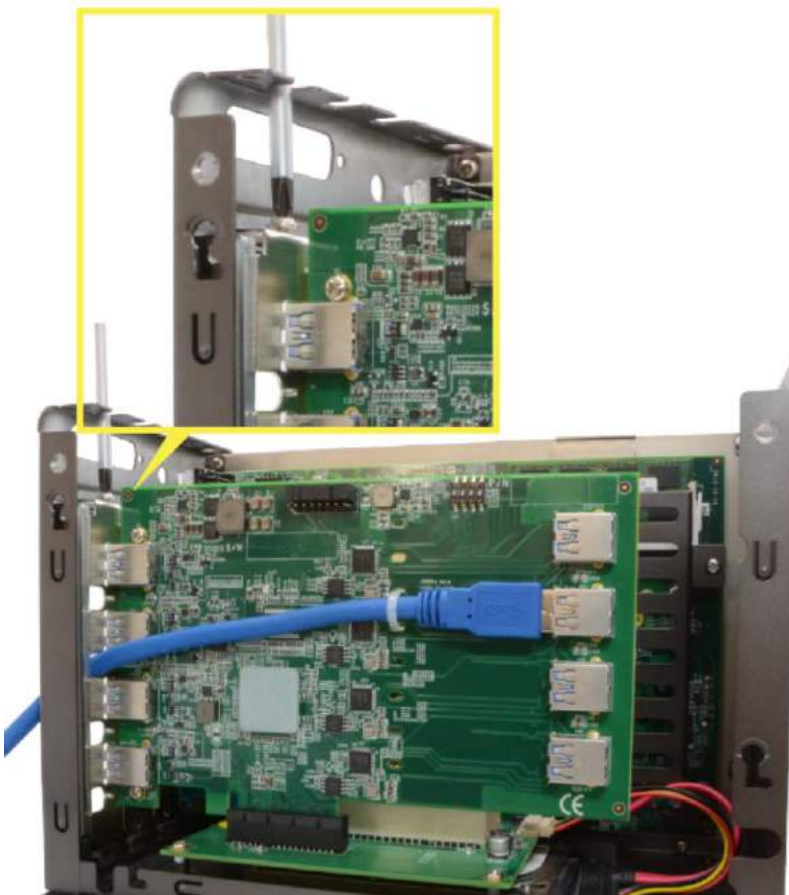
5. Second, plug in the USB connector and secure it using a cable tie.



6. Locate the x4 PCIe slot or a spare and compatible x16 PCIe slot.
7. Align and insert PCIe-USB card's gold finger into the PCIe slot.



8. Secure the PCIe-USB card to the chassis with a screw



9. Reinstall the system's chassis (panel) to complete the hardware installation process.



## 3.2 Software Installation

Some operating system may have built-in drivers included and automatically complete the installation upon entering the system. However, it is still recommended to run and install drivers provided by Neosys to take advantage of all the functions offered. To install the software component, please refer to the following procedure.

1. Plug in the power cable and power up the system.
2. Once you are in the system, insert the driver disc included in the package into the DVD-ROM.



3. Execute the file WIN\_PCIE-USB380\_340.exe, it may be located in the directory x:\Driver\_Pool\
4. If your system does not have a DVD-ROM, please go [here](#) to download the latest driver for PCIe-USB380/340.
5. Simply follow instructions to complete the software installation process.
6. You may begin using your PCIe-USB card after hardware/ software components have been installed.