# D-Link®

# User Manual

# USB 3.0 to Gigabit Ethernet Adapter

DUB-1312

# Manual Overview

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# Table of Contents

# Package Contents

DUB-1312 USB 3.0 to Gigabit Ethernet Adapter

DUB-1312 Drivers and Manual on CD-ROM

Quick Installation Guide

If any of the above items are missing or damaged, please contact your reseller.

# System Requirements

| System Requirements | **Computer with the following:**<br>• Microsoft Windows® 8/7/Vista®/XP, Linux,  or Mac OS X 10.6 to 10.8<br>• Pentium 2.0 GHz or higher with a minimum of 32 MB RAM<br>• Available USB port (USB 3.0 required for Gigabit speeds)<br>• CD-ROM drive |
| --- | --- |

# Introduction

Thank you for choosing the D-Link DUB-1312 USB 3.0 to Gigabit Ethernet Adapter. The DUB-1312 is specifically designed to plug into an available Universal Serial Bus (USB) port on a desktop, laptop, or netbook computer running Microsoft Windows 8/7/Vista/XP/2000, Mac OS X, or Linux. Based on the USB 3.0 standard, the DUB-1312 extends the transfer speed of earlier USB Fast Ethernet adapters to true 1 Gbps connectivity. Power for the DUB-1312 is provided directly by the USB port, eliminating the need for an external power adapter. It also supports USB energy-saving suspend and resume functions to minimize power consumption, which is especially useful for laptop/notebook users.

# Features

Designed for versatility and performance, the DUB-1312 USB 3.0 to Gigabit Ethernet Adapter has the following features:

- Compliant with the latest USB 3.0 specification. Also backwards compatible with USB 2.0/1.1/1.0 specifications.
- True 1 Gbps network connectivity
- Compliance with IEEE 802.3ab gigabit Ethernet standards and IEEE 802.3 Ethernet standards
- Plug-and-Play installation (operating system dependent)
- Auto 10/100/1000 Mbps speed detection
- Supports half and full-duplex at 10 Mbps, half /full-duplex at 100 Mbps, and half/full duplex at 1 Gbps
- Built-in RJ-45 connector
- Autonegotiation to the highest available speed
- Two LED indicators: Connection Speed, Link/ACT
- Driver support:
    - Microsoft Windows 8
    - Microsoft Windows 7 (x86, x64)
    - Microsoft Windows Vista
    - Microsoft Windows XP
    - Linux (kernel 2.6.14 & above)
    - Macintosh OS X (10.4 to 10.8)
    - Microsoft Windows 2000

# Hardware Overview
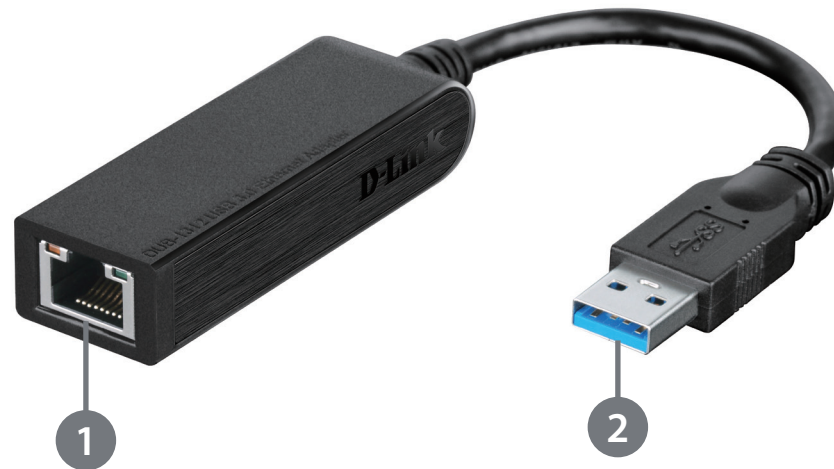
| ID | COMPONENT | DESCRIPTION |
|---|---|---|
| 1 | Ethernet Port | Plug an Ethernet cable from a switch, hub, or router into this port. |
| 2 | USB Connector | Plug this connector into a USB port on your PC (use USB 3.0 for best performance). |

# Software Installation

Insert the CD included with the DUB-1312 into your computer's DVD or CD drive, then proceed to the appropriate installation section on the following pages according to your operating system.

**Note**: If the user interface does not start up, please go to the Autorun folder in your PC's CD drive and open Autorun.exe manually.
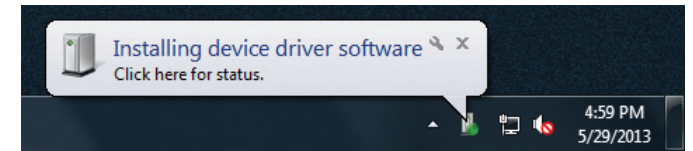
# Windows 7

After you have inserted the CD into the CD drive, the DUB-1312 user interface menu screen will appear. Click on **Install** to begin the DUB-1312 driver installation. The InstallShield Wizard will then pop up and run automatically.

**Note**: The DUB-1312 user interface may differ in appearance depending on your region.
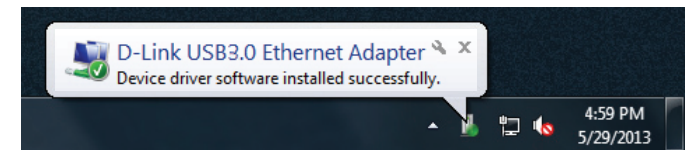
When the InstallShield Wizard is completed, plug the DUB-1312 into your PC and the driver software installation will be completed automatically.

When the Windows 7 driver installation is complete, please then proceed to "Connecting the Adapter to a Network" on page 16.
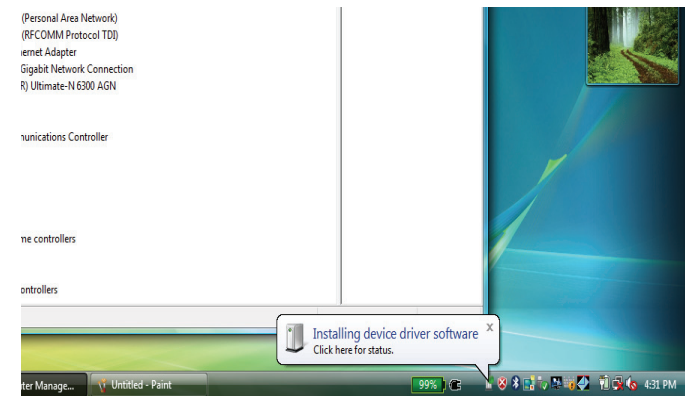
# Windows Vista

After you put the CD into the CD drive, the DUB-1312 user interface menu screen will appear. Click on **Install** to begin the DUB-1312 driver installation. The InstallShield Wizard will then pop up.

This driver is not WHQL signed. If you receive a warning message, you will have to accept the unsigned driver installation in order to continue. Windows Vista x64 user will have need to disable WHQL checking in order to install the driver.

**Note**: The DUB-1312 user interface may differ in appearance for different regions.

Plug the DUB-1312 into your PC and the driver software installation will be completed automatically.

When the Windows Vista driver installation is complete, you can connect the DUB-1312 to a USB port on your computer. Please then proceed to "Connecting the Adapter to a Network" on page 16.
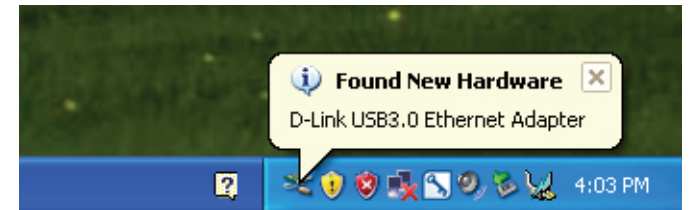
# Windows XP

After you put the CD into the CD drive, the DUB-1312 user interface menu screen will appear. Click on **Install** to begin the DUB-1312 driver installation. The InstallShield Wizard will then pop up.

This driver is not WHQL signed. If you receive a warning message, you will have to accept the unsigned driver installation in order to continue. Windows XP x64 user will have need to disable WHQL checking in order to install the driver.

**Note**: The DUB-1312 user interface may differ in appearance for different regions.

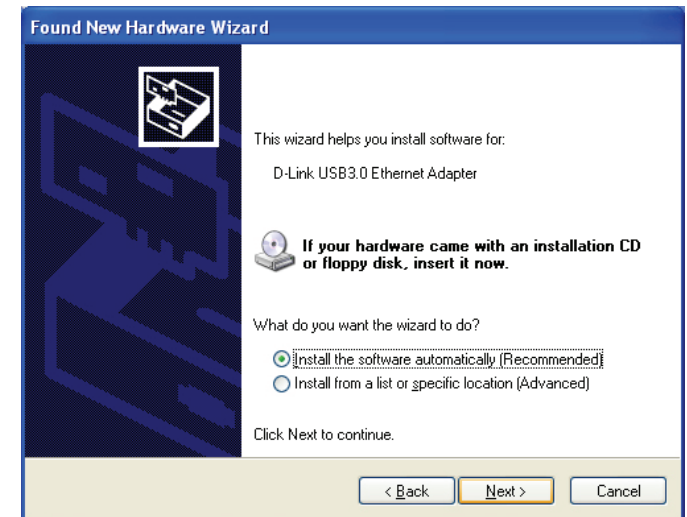Plug the DUB-1312 into your PC.

The Found New Hardware box will appear. Select **Yes, this time only** and click **Next** to continue.
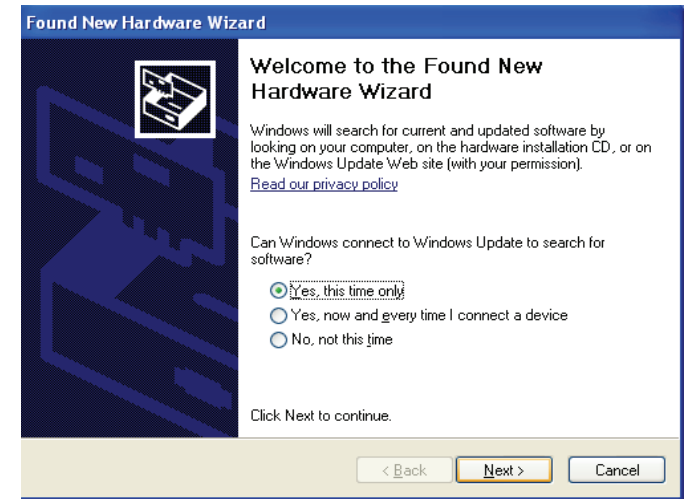
Choose **Install the software automatically** and click **Next** to continue.

When the Windows XP driver installation is complete, you can connect the DUB-1312 to a USB port on your computer. Please then proceed to "Connecting the Adapter to a Network" on page 16.
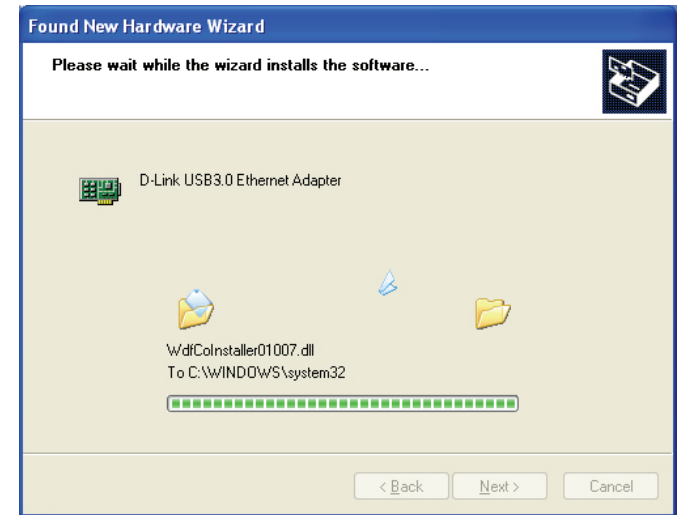
# Mac OS X

The following screenshots were taken from Mac OS X 10.5, but the steps are similar in other versions of OS X. Your operating system must be version 10.4 or above.

Please insert the DUB-1312 CD into your computer's DVD or CD drive, then go to the DUB-1312 folder and navigate to **\Drivers\MAC.**

Double-click **DUB-13X2_v1.4.0.pkg**.
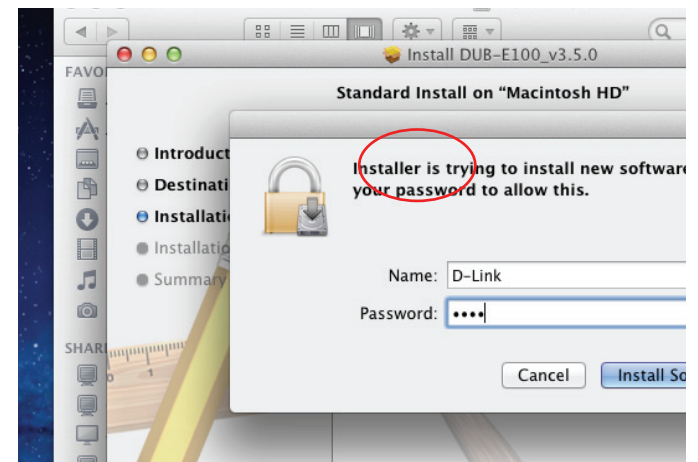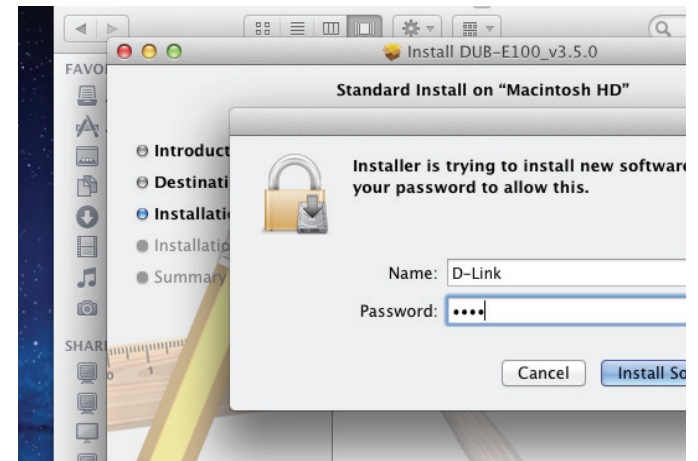
Click **Continue**.
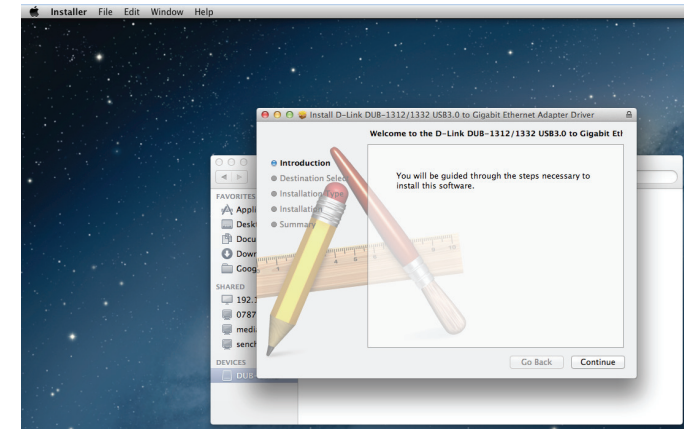
Click **Install** to perform a standard installation. If you wish to change the drive where the installation will take place, click **Change Install Location**.
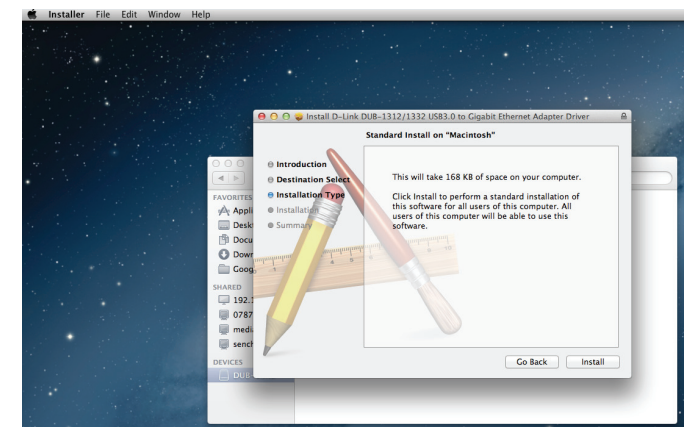
If you clicked **Change Install Location**, you will see the Destination Select screen. Select a **Destination Volume**, then click **Continue**.
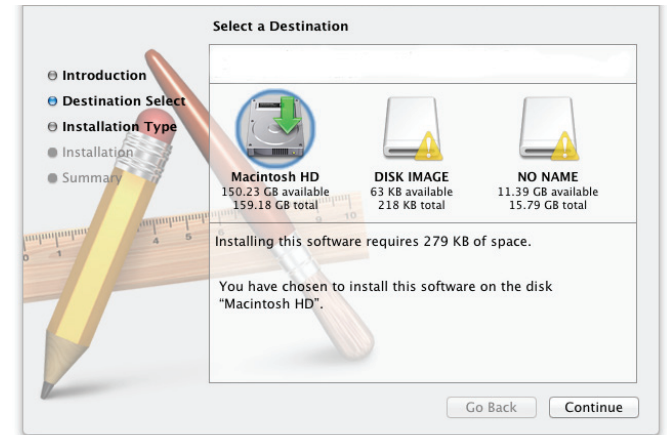
Enter the name and password of a user with administrative rights.
Click **OK**.

The installer will then remind you that your computer will need to be restarted once the installation has been completed. Click **Continue Installation** to proceed with the installation. The computer will then restart itself after the installation is complete. Please then proceed to Connecting the Adapter to a Network on page 14.
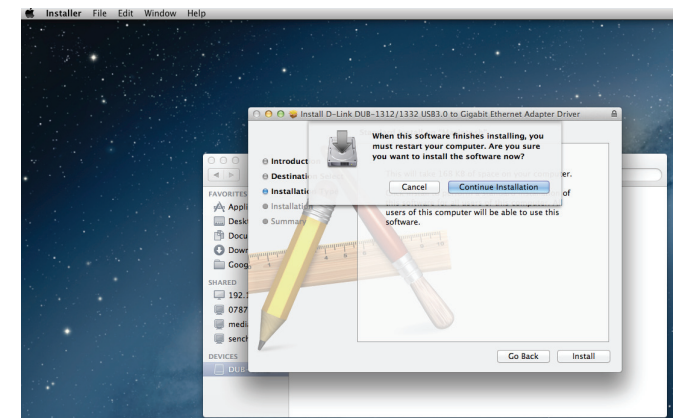
# Linux 2.6.14

This driver is designed for Kernel 2.6.14.x or above. To compile the provided Linux driver, you need the Linux 2.6 Kernel source. Also, please make sure the kernel is built with "Support for Host-side, EHCI, OHCI, and UHCI" option. Please follow these steps.

    1. Insert the CD into the CD drive of your computer and go to the Drivers\Linux\ directory.

    2. Copy the **Linux Driver** folder from the CD to your temporary directory.

    3. Go to the Linux Driver folder in your temporary directory and execute the following command to compile the driver.

        **[root@localhost template]# tar -xf DRIVER_SOURCE_PACKAGE.tar.bz2**

    4. Now, the driver source files should be extracted under the current directory.
    Execute the following command to compile the driver:

        **[root@localhost template]# make**

    5. If the compilation is successful, the **DUB-13X2.ko** will be created under the current directory.

If you wish to use the modprobe command to mount the driver, execute the following command to install the driver into your Linux:

        **[root@localhost template]# make install**

If you wish to load the driver manually, go to the driver directory and execute the following commands:

**[root@localhost template]# modprobe usbnet**
**[root@localhost template]# insmod DUB-13X2.ko**

If you wish to unmount the driver, execute the following command:

**[root@localhost anywhere]# rmmod DUB-13X2**

Please then proceed to "Connecting the Adapter to a Network" on page 16.

# Connecting the Adapter to a Network

Attach an Ethernet cable to the Ethernet port on the DUB-1312.

Attach the other end of the Ethernet cable to your network switch, hub, or router. If your switch, hub, or router has ports with gigabit capability, you should use these ports in order to achieve maximum data transfer speeds.

# Completing the Installation

When the installation of the DUB-1312 is complete, the Connection Speed LED will illuminate solid orange when the DUB-1312 is connected to a 1 Gbps network and remains off when connected to a 10/100 Mbps network. The Link/ACT LED will be solid green when a connection is present, and flash green when data is being transmitted or received. If both LEDs are unlit, there may be  a problem with the physical connection. Check the connection and cables between the DUB-1312 and your hub, switch, or router. Also verify that your network hub, switch, or router is powered on.

| Number | Indication | Status | Description |
|--------|-----------|--------|-------------|
| 1 | Connection Speed | Solid | 1 Gbps connection present |
| | | Off | 10/100 Mbps connection present |
| 2 | Link/ACT | Solid | An active connection is present |
| | | Flashing | Data is being transmitted/received |

# Troubleshooting

## Do I need to use a crossover cable or straight-through cable?

With most of D-Link's switches/routers, the Ethernet ports are Auto MDI-II/MDI-X. This means the port will auto-detect the cable type. Auto MDI-II/MDI-X ports may react differently if the Ethernet cable is not properly pinned. If you make your own cables, it is very important that they follow the industry standard pin-out (568A and 568B).

Computer connections to a hub, switch, or router typically use a straight-through cable. When connecting a computer to another computer or to an uplink port then a cross-over cable is typically required. Rule of thumb: "If there is a link light, the cable is right."

## Why isn't my DUB-1312 achieving 1 Gbps speeds?

1 Gbps (1,000 Mbps) is the theoretical maximum speed of the gigabit Ethernet standard, and actual speeds may vary. Gigabit connectivity is dependent on a number of factors, and just one weak link in your network can reduce data speeds. If you are not achieving gigabit speeds, you should check the following:

- Ensure that the DUB-1312 is plugged in to a USB 3.0 port, and that the drivers for this port are correctly installed.
- Check your network cable. A cable of specification CAT 5e or above is required for gigabit speeds, with a maximum length of 100 metres. Also check the cable for damage, or wear and tear.
- If you are connected to a switch, hub, or router, ensure that this device is also gigabit-capable.
- Network congestion can also affect data rates. Slower speeds may be due to heavy data traffic elsewhere on the network.

## How do I verify that my DUB-1312 is properly installed?

**Windows**

You can verify that the adapter has been properly installed in Device Manager by following these steps:
  • Right-click on the My Computer icon and select **Properties**.
    - For Windows XP: Go to the **Hardware** tab and click on the **Device Manager** button
    - For Windows Vista: Click on the **Device Manager** item under the **Tasks** group.
    - For Windows 7, click on the **Device Manager** link in the left-hand frame of the window.
    - For Windows 8, use the search function to search for "Control Panel." Once located, open the control panel and choose the **System and Security** group. Next, click on the **Device Manager** link under **System**.
  • Expand the **Network Adapters** heading by clicking on the plus (+) sign next to Network Adapters.
  • Right-click on the **My Computer** icon and select **Properties**.
  • The D-Link USB DUB-1312 should appear with a green and gold network adapter symbol.
  • If the D-Link USB DUB-1312 in Device Manager appears with a bright yellow exclamation mark or a red x, there may be a hardware conflict present.

**Mac**

  • Click the Apple icon on the task bar, select **System Preferences**, and then click the **Network** icon.
  • You will find that a new Ethernet network interface is available. It is usually named Ethernet Adapter (en1) or Ethernet Adapter (en2).

**Linux 2.6.x**

To verify if the DUB-1312 driver is properly installed:

- Load the DUB-1312 module by the following command:
  **[root@localhost template]# modprobe usbnet**
  **[root@localhost template]# insmod DUB-13X2.ko**

- List the loaded modules with the specified pattern "DUB_13X2":
  **[root@localhost template]# lsmod | grep DUB_13X2**

  Then you should get a reply similar to the following lines:
  
  DUB_13X2
  DUB_13X2     22667  0
  Usbnet          25214 1 DUB_13X2

If you still have a problem installing the D-Link DUB-1312 USB driver, please contact D-Link Technical Support.

# Technical Specifications

## Firmware Specifications

**OPERATING SYSTEM**

- Microsoft Windows 8/7/Vista/XP
- Mac OS X 10.6 to 10.8
- Linux 2.6.14 or higher

## Hardware Specifications

**PACKAGE CONTENTS**

- DUB-1312 USB 3.0 to Gigabit Ethernet Adapter
- Quick Installation Guide
- CD-ROM with:
  - Drivers
  - Manual

**STANDARDS**

- USB Specification Version 3.0
- USB Specification Version 2.0
- USB Specification Version 1.1
- USB Specification Version 1.0
- OHCI (Open Host Controller Interface)
- EHCI (Enhanced Host Controller Interface)
- IEEE 802.3 Ethernet
- IEEE 802.3u 100BASE-T, TX and T4 compatible
- Supports suspended mode and remote wakeup
- Supports full and half duplex in fast Ethernet mode

**PORTS/CONNECTORS**

- USB Type A
- RJ-45 (10/100/1000 Mbps)

**DIAGNOSTIC LEDS**

- Connection Speed
- Link/ACT

**POWER**

- Bus powered 0.5 A @ 5 V DC

**DIMENSIONS (W X D X H)**

- 73 x 21.3 x 20 mm (2.87 x 0.84 x 0.79 inches)

**WEIGHT**

- 46.4 g (1.64 ounces)

**OPERATING TEMPERATURE**

- Operating: 0 ˚ to 45 ˚C (32 ˚ to 113 ˚F)
- Storage: -20 ˚ to 70 ˚C (-4 ˚ to 158 ˚F)

**HUMIDITY**

- Operating: 10% to 90% (non-condensing)
- Non-operating: 5% to 90% (non-condensing)

**CERTIFICATIONS**

- CE
- FCC