Hubport®

USB Hub

Installation Guide

원문: Digi Hubport 사용설명서(영문) · 제조사 원문 자료입니다. 사양은 제조사 사정에 따라 변경될 수 있습니다.

Revision history—90000664

Revision	Date	Description
D	January 2009	Updated homologation information.
E	April 2009	Added China RoHS information.
F	January 2010	Updated specification information.
G	September 2017	Updated branding and added documentation for Hubport/Super Speed.
H	October 2018	Updated references to SuperSpeed.

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Contents

Get started

Introduction to Hubs 5
Connect to your Hubport 6
Installing Hubport drivers 6

Hardware specifications and device LEDs

Hubport/4c/7c and Hubport/4c/7c DC (Industrial) 8
Hubport/14 8
Hubport/SuperSpeed 9

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Introduction to Hubs 5
Connect to your Hubport 6
Installing Hubport drivers 6

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Introduction to Hubs

This installation guide covers the following models:

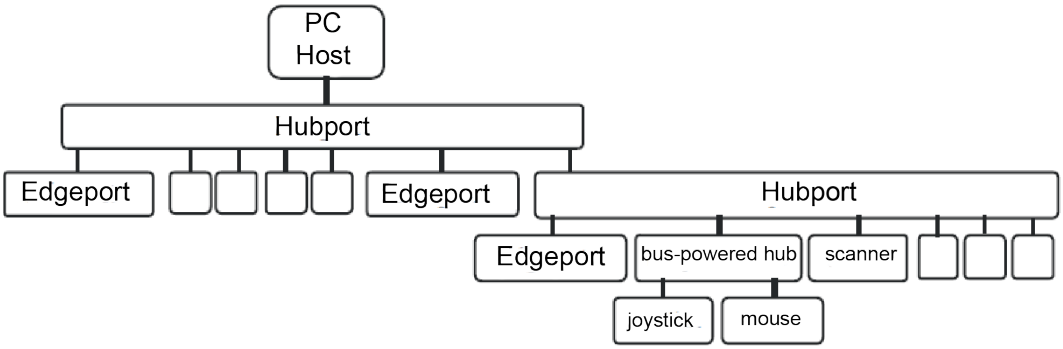
- Hubport/4c
- Hubport/7c
- Hubport/4c DC
- Hubport/7c DC
- Hubport/14
- Hubport/SuperSpeed

Thank you for purchasing the Hubport, a self-powered Universal Serial Bus (USB) hub designed to provide a convenient and effective means of bringing USB connectivity to your PC, server, or laptop.

Hubs, which are critical components in the USB architecture, are wiring concentrators that enable the attachment of multiple devices, thus converting a single attachment point into multiple attachment points. USB architecture allows a cascaded multiple hub configuration with certain power limitations (explained later in this section).

Digi's Edgeport product, which is a USB-to-serial converter, can be connected to your Hubport device, enabling you to install one or more Edgeports.

See the following figure.



Example of a typical hub configuration

Each hub has an upstream port, connecting to the host, and multiple downstream ports, connecting to downstream devices, possibly including other hubs. A hub can detect attachment and detachment of downstream devices and enable and monitor the distribution of the power to downstream devices via their integral hardware and the operating system.

Each USB device reports its power requirements to the operating system, which then enables and disables the device as a function of its power requirements and the amount of available power. High-powered devices typically need to be connected to a self-powered hub, such as the Hubport, which obtains power from its external power supply and provides up to 500 mA for each downstream port. Only low-powered devices, such as a mouse, can be connected to a bus-powered hub, which obtains power from its upstream host and provides up to 100 mA for each downstream port.

Due to the limited available power for bus-powered hubs, cascading two bus-powered hubs is an illegal topology, and devices connected to the second hub will not function. USB specifications limit the connection of a bus-powered hub to a self-powered hub or host only. All Hubports, except the Hubport/4c in bus-powered mode, operate as self-powered hubs, and are not affected by this limitation.

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According to the USB specification, the maximum limit of hubs cascaded in a series cannot exceed five. In other words, you may have a maximum of five hubs between any device and the host. This does not mean that the maximum number of hubs in a system is five; up to seven hubs can be connected parallel at any given level.

You must tally both external and embedded hubs when counting downstream hubs.

Connect to your Hubport

To connect the cables included with your Hubport:

1. Plug one end of the power supply into the back of your Hubport and the other end into an AC outlet.

   Note Power to this product may be supplied by a UL Listed Direct Plug-In Power Unit marked “Class 2” with a minimum rating listed in the Hardware specifications and device LEDs section if used in the U.S. and Canada, or you use a power supply with a similar rating approved by your local safety code, in other locations.

2. Connect the Hubport device to a PC or standard USB device.
   - To connect the Hubport to a PC, plug the Type A end of the USB cable into one end of the PC's USB Type A slots and the Type B end of the USB cable into the back of the Hubport.
   - To connect the Hubport to a standard USB device, plug the Type A end of the USB cable into the Hubport and the Type B end into the device.
3. DC power/polarity:
   - For units equipped with a pigtail connection, follow the polarity markings on the cable.
   - Hubport/SuperSpeed units may be equipped with a removable terminal connec tor for DC power. Follow the polarity marking on the device.

Current Hubport models

Legacy and obsolete Hubports

Installing Hubport drivers

Once you have connected the Hubport hardware, the operating system will detect the Hubport device and will provide a notification that it is installing the Hubport drivers.

After the driver installation is complete, your new communication ports are ready and are numbered sequentially following the existing ports in your system.

Hardware specifications and device LEDs

Hubport/4c/7c and Hubport/4c/7c DC (Industrial) 8
Hubport/14 8
Hubport/SuperSpeed 9

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Hubport/4c/7c and Hubport/4c/7c DC (Industrial)

Dimensions

Length: 2.61 in (6.63 cm)

Width: 3.00 in (7.62 cm)

Height: 1.00 in (2.54 cm)

Weight: 6.20 oz. (175.80 g)

Environmental

- Hubport/4c/7c:

  Operating temperature: 0° C F to 55° C (32° F to 131° F)

  Relative humidity: 0% to 95% (non-condensing)

- Hubport/4c/7c DC (Industrial)

  Operating temperature: -40° C to 70° C (-40° F to 158° F)

  Relative humidity: 0% to 95% (non-condensing)

Power requirements

- The Hubport/4c/7c requires 5.0 VDC @ 15 W.
- The Hubport/4c/7c DC requires 5.5 V to 30 VDC @ 15 W.

Hardware interface features

The unit provides a single upstream (standard B-type receptacle) and 4/7 downstream (standard A-type receptacles) USB 2.0 compliant ports. The unit will attach to the upstream device as a full/high-speed hub. The downstream ports support low-speed, full-speed and high-speed downstream devices.

Each downstream facing port provides a green LED status indicator. Color definitions are as follows:

Off	Port out of operation.
Green	Port fully operational.

The unit features a green system status LED with the following color definitions:

Off	Unit out of operation.
Green	Unit is powered.

Hubport/14

Dimensions

Length: 4.97 in (12.62 cm)

Width: 17.00 in (43.18)

Height: 1.74 in (4.42 cm)

Weight: 35.00 oz. (1134 g)

Environmental

Operating temperature: 32° F to 131° F (0° C to 55° C)

Relative humidity: 0% to 95% (non-condensing)

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Power requirements

The Hubport/14 uses a single 120/230 VAC 50/60 Hz power input through the rear IEC 60320 inlet. The maximum power requirement of the Hubport/14 is 40 W.

WARNING! HAZARDOUS VOLTAGE(Hubport/14 only). This unit contains an internal power supply. Before servicing the device, make sure the power is disconnected.

Hardware interface features

The unit provides a single upstream (standard B-type receptacle) and 14 downstream (standard A-type receptacles) USB 2.0 compliant ports. The unit will attach to the upstream device as a full/high-speed hub. The downstream ports support low-speed, full-speed and high-speed downstream devices.

Each downstream facing port provides a green LED status indicator. Color definitions are as follows:

Off	Port out of operation.
Green	Port fully operational.
Blinking off/green	Port needs attention.

The unit features a green system status LED with the following color definitions:

Off	Unit out of operation.
Green	Unit is powered.

Hubport/SuperSpeed

Dimensions

Length: 2.61 in (6.63 cm)

Width: 3.00 in (7.62 cm)

Height: 1.00 in (2.54 cm)

Weight: 6.20 oz. (175.80 g)

Environmental

Operating temperature: -40° F to 158° F (-40° C to 70° C)

Relative humidity: 0% to 95% (non-condensing)

Power requirements

The Hubport/SuperSpeed requires 6 V to 28 VDC. The maximum power requirement of the Hubport/SuperSpeed is 35 W.

Hardware interface features

The unit provides a single upstream (standard B-type receptacle) and 7 downstream (standard A-type receptacles) USB 3.0 compliant ports. The unit will attach to the upstream device as a full/high/SuperSpeed hub. The downstream ports support full-speed, high-speed, and SuperSpeed (Gen 1) downstream devices.

Each downstream facing port provides a dual LED status indicator. Color definitions are as follows:

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Off	Port out of operation.
Blue	SuperSpeed (Gen 1).
Yellow	Full/high speed.

The unit features a green system status LED with the following color definitions:

Off	Unit out of operation.
Green	Unit is powered.

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