



Embedded Rugged SuperSpeed 4-Port USB 3.1 Hub with Battery Charging Downstream Ports for OEM Applications

Part: HUB4SSBA-OEM | **Model:** Embedded Rugged SuperSpeed 4-Port USB 3.1 Hub

This 4-port embedded hub for OEM applications features robust ESD protections and is USB 3.1 compliant and backward compatible. The HUB4SSBA-OEM is designed to meet the advanced requirements for connecting multiple USB peripherals in extreme environments while achieving SuperSpeed operation.

Redefining Rugged

The Embedded Rugged SuperSpeed USB 3.1 Hub checks every box for industrial use:

- USB 3.1 compliant, providing up to 5 Gb/s data rate to the host
- -40°C to +85°C operating temperature
- Individual port power management
- 15kV ESD protections on USB 3.0 data lines
- 8kV ESD protections on USB 2.0 data lines
- Up to 1500mA available on all ports simultaneously
- Comprehensive input power protections (reverse polarity, voltage surge, overcurrent, under-voltage, over-voltage)
- Wide operating voltage range (9V-30V)
- Multiple Transaction Translator (MTT) design prevents data rate bottlenecks when legacy USB devices are attached

Charging Downstream Ports

The HUB4SSBA-OEM ships with port 4 configured as a Charging Downstream Port (CDP) capable of supplying up to 2.4A of current to a connected device. The remaining three CDPs supply up to 1500 mA to each connected device. All CDPs are USB Battery Charging Specification BCv1.2 compliant, ideal for charging batteries or powering high-current USB peripherals. The Multiple Transaction Translator (MTT) design prevents speed limitations, enabling multiple high bandwidth devices to operate at SuperSpeed.

Each downstream port has a Bi-Color Status LED that indicates two types of connections:

- USB 3.1/3.0 connection to the host will cause the LED to illuminate GREEN
- USB 2.0/1.1/1.0 connection to the host will cause the LED to illuminate YELLOW

Easy Installation & Use

Fully Supported in Microsoft Windows 8/10, and backward compatible with Microsoft Windows XP/7, and other USB-aware operating systems. The hub requires no separate drivers and is easy to install.

Features & Specifications

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Features

- Self-powered USB 3.1 Hub provides four downstream USB ports (4 CDPs)
- One CDP supplies up to 2.4A while the other three CDPs supply 1500mA each
- CDPs are battery charging specification BCv1.2 compliant
- Bus-Powered Mode: Device offers SDP charging when powered by USB (up to 500 mA for USB 2.0/1.1/1.0 connections or up to 900mA for USB 3.0/3.1 connections)
- Supports SuperSpeed (5Gbps), high-speed (480Mbps), full-speed (12Mbps) and low-speed (1.5Mbps) operation
- ESD protection
 - ±8kV on each USB 2.0 data line (D+, D-)
 - ±15kV on each USB 3.0 data line (SSTX+, SSTX-, SSRX+, SSRX-)
- Fully supported in Microsoft Windows 8/10 and other USB-aware operating systems (compatible with all operating systems that support USB 1.1/2.0/3.0)
- Optional wall-mount AC power supply accessory outputs 24VDC @ 2.71A (Item# TR152)
- Reverse polarity input voltage protection down to -40VDC with respect to GND
- Overvoltage Protection against input voltage surges up to 80VDC with respect to GND
- Overcurrent Protection against short circuits and excessive load currents

Specifications

Communications Chip	USB Hub (USB5734)
Dimensions	5.5" (L) x 5.125" (W) x 1.75" (H)
Humidity Range	10 - 95% Relative Humidity, Non-Condensing
Host Interface(s)	USB
Max Data Distance	18 Meters (Active USB 3.0 Cable), 3 Meters (Standard Passive USB 3.0 Cables), 30 Meters (Active USB 2.0 Cable), 5 Meters (Standard Passive USB 2.0 Cables)
Max Data Rate	5 Gbps (SuperSpeed)
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
# of Ports	4
Power Requirement	Bus-Powered Mode: 5VDC Nominal via Upstream USB Host Self-Powered Mode: 9-30VDC (24VDC Nominal via TR152)
RoHS Compliant	Yes
Storage Temperature	-40°C to 100°C (-40°F to 212°F)
USB Specification	USB 3.1 Gen 1, SuperSpeed (USB 3.0) compliant; 2.0, 1.1, 1.0 compatible