Embedded Rugged SuperSpeed 7-Port USB 3.1 Hub with Battery Charging Downstream Ports for OEM Applications

Part: HUB7SSBA-OEM | **Model:** Embedded Rugged SuperSpeed 7-Port USB 3.1 Hub

The HUB7SSBA-OEM for OEM applications features robust ESD protections, USB 3.1 compliance, and backward compatibility with legacy USB data rates. The HUB7SSBA-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 HUB7SSBA-OEM ships with port 7 configured as a Charging Downstream Port (CDP) capable of supplying up to 2.4A of current to a connected device. The remaining six 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 with 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

- USB 3.1 Hub provides seven Charging downstream USB ports (CDPs)
- One CDP supplies up to 2.4A while the other six CDPs supply 1500 mA each
- CDPs are battery charging specification BCv1.2 compliant
- 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) and mates via the HUB7SSBA-OEM's included locking DC Terminal block/connector
- 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 (USB5807C)
Dimensions	7.5" (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	7
Power Requirement	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