

## SELECTING A USB HUB FOR YOUR NEXT PROJECT

Use the selection table on p2 to quickly narrow your search for a USB hub that best suits your project. Below are a few helpful questions to help narrow your selection:

■ **Should you consider isolation to help protect against surges, spikes and grounding issues?**

- Select B+B SmartWorx hubs offer 2.5 kV or 4kV isolation.

■ **Mechanical specifications that you should consider:**

- Are you considering a design with high retention USB capabilities?

Retain a positive connection with high retention USB ports or cables so as not to disrupt data communications.

- Do you have USB 3.0 devices (such as hubs, external hard drives, flash drives)?

Select B+B SmartWorx hubs support USB 3.0 SuperSpeed.

- Is there a particular mounting format or physical size that best fits your application best?

Inline, compact design (common for field service applications)

DIN rail mountable (good for in cabinet designs)

Panel mountable (use on a desktop or flat panel mounted)

- How do you intend to power the hub? - from the USB bus or from an external power supply?

■ **What environmental or safety aspects do you need?**

- Is the device meant for field service or will it be left alone in a harsh environment application?
- Do you need a device that supports UL or UL Class I Division 2 ratings?
- Are shock, vibration or drop testing specification needed for the application?

■ **Once you have a product selected, you should ask a few more questions:**

- Do you have all the accessories needed to make the connections you need?

Cables, Power Supplies, Cabinets, Surge Protection

- When do you need product? Do you need samples for proof-of-concept and full production?

### Assistance

If you need additional product assistance, contact B+B SmartWorx Technical Support.

### APPLICATIONS

- Industrial Automation
- Manufacturing/Factory Automation
- Medical
- HVAC
- Field Service
- Point-of-Sale
- OEM Solutions

### INDUSTRIAL USB HUBS

B+B SmartWorx industrial USB hubs are designed with high ESD protection, wide operating temperature ranges and high retention USB connectors for instant plug-and-play connectivity.

- Designed and tested to meet heavy industrial EMC standards
- High-retention ports for connections that won't come loose
- Wide operating temperature range (-40 to +80°C) options
- Tested to withstand 50G shock and 4G vibration
- 4 kV isolation between upstream and downstream USB ports
- USB 3.0 SuperSpeed options
- Rugged metal cases or IP30 plastic
- Versatile mounting options - panel, DIN rail, desk

### ETHERNET ENABLED USB HUB

USB over Ethernet solutions make it easy to communicate quickly with USB-enabled devices over your LAN.

- Access, monitor, control up to four USB 2.0 devices
- Save time and money – no need for a local PC
- 10/100/1000 Mbps Ethernet
- High-speed USB (480 Mbps)
- Easy-to-use management software
- Compatible with the Windows® 7 operating system

# USB HUBS

## PRODUCT SELECTION GUIDE (continued)








## USB PORTS - FEATURES & CONSIDERATIONS

**High Retention USB Ports** - The world is fast adopting USB as a cost-effective, useful tool. But, without a strong retention mechanism for the connector, it can be deemed inadequate for some industrial applications. Manufacturers have responded with proprietary connectors and cables featuring a custom thumbscrew. While this attempts to address the issue, it adds cost and size. Worse yet, it requires the purchase of a custom USB cable that you will not find at a local store when you are stuck on a job site.

Now you can forget about annoying cable disconnections due to vibration. B+B SmartWorx designs high-retention Type B USB ports connectors into most USB products. These orange color high retention ports are 50% stronger than conventional ones, so they hold on tight to standard USB cable connections. The interface meets Class I/Division 2 minimum withdrawal requirements of 15N. You can rest assured that your USB connections will hold together in demanding applications.

**USB 3.0 Ports** - unique blue color indicates that the port is USB 3.0 SuperSpeed. If you have USB 3.0 devices (hubs, external hard drives, flash drives, etc.), it is recommended to use 3.0 ports. Otherwise, 2.0 ports will suffice.

### USB HUBS - SELECTION TABLE

							
Product Family:	<b>Super-speed, USB 3.0 4 &amp; 7-port Hubs</b>	<b>Industrial-grade, Super-speed USB 3.0 4-port Hub</b>	<b>Industrial-grade, High-speed 4-port Hubs</b>	<b>Industrial-grade 7-port Hubs</b>	<b>Industrial-grade 4-port Mini Hub</b>	<b>OEM Module USB Hub</b>	<b>USB over Ethernet 4-port Hub</b>
Model Number/Series:	<b>USH20x series</b>	<b>USH304</b>	<b>UHRx04 series</b>	<b>UHRx07 series</b>	<b>UH104</b>	<b>USBHUB4OEM</b>	<b>UE204</b>
USB Port Count	4 or 7	1 - upstream 4 - downstream	1 - upstream 4 - downstream	7 - upstream 4 - downstream	1 - upstream 4 - downstream	1 - upstream 4 - downstream	4
High Retention USB?	-	Lockable USB 3.0 cable (included)	✓	✓	✓	✓	-
Interface	USB 3.0	USB 3.0 and 2.0 compatible	USB 1.1 and 2.0 compatible, full and low speed	USB 1.1 and 2.0 compatible, full and low speed	USB 2.0	USB 2.0	USB 1.1 and 2.0 compatible, full and low speed
Ethernet Port	-	-	-	-	-	-	RJ-45 (10/100/1000 Mbps)
Data Rate	5 Gbps	5 Gbps	1.5 or 12 Mbps (#UHR204 = 480 Mbps also)	1.5 or 12 Mbps (#UHR207 = 480 Mbps also)	480 Mbps	480 Mbps	1.5, 12, and 480 Mbps
Isolation?	-	2.5 kV (upstream)	#UHR304 - 4kV	#UHR307 - 4kV	-	-	-
ESD Protection?	✓	✓	-	-	✓	✓	✓
Wide Temperature?	-	-	✓	✓	✓	✓	-
USB Bus Powered?	-	✓	External (#UHR204: USB bus powered)	External	✓	✓	-
Mounting	DIN/Panel	DIN rail	DIN rail or 6-way panel	DIN rail or 6-way panel	Panel/In-line	Open board	Panel/Desktop
Additional Key Features	USB 3.0 SuperSpeed	Isolated USB 3.0 SuperSpeed	UL Listed Class 1/Division 2 for hazardous locations (#UHR304: 60601-1 medical, shock, vibration)	Shock, vibration tested	Compact size	Compact size. Available in pack of 12.	-
<b>MODEL #</b>							
	USH204	USH304	UHR304	UHR307	UH104	USBHUB4OEM	UE204
	USH207		UHR204	UHR207		USBHUB4OEM-12PK	