

## 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:

### What is the speed of your peripheral devices?

- 1.5 Mbps (Low Speed)
- 12 Mbps (Full Speed)
- 480 Mbps (High Speed)
- 4.8 Gbps (SuperSpeed)

### 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 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 used for field service or located in a harsh environment application?
- Is USB isolation protection required?
- Do you need a device that supports UL or UL Class 1/Division 2 ratings?
- Is vibration, 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.



## INDUSTRIAL USB HUBS

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

- Expand one USB port to 4 or 7 USB ports
- Isolation options between upstream and downstream ports
- Wide operating temperature range (-40 to +80 °C) options
- Low, full, high and SuperSpeed options (USB 1.1, 2.0, 3.0)
- Versatile mounting options - panel, DIN rail, desk
- Rugged metal or IP30 plastic cases
- High-retention ports for connections that will not come loose
- Designed and tested to meet heavy industrial EMC standards
- Tested to withstand 50G shock and 4G vibration







## APPLICATIONS

- Industrial Manufacturing Automation • Medical
- Instrumentation • Security • Point-of-Sale • Vehicle

# USB HUBS

## PRODUCT SELECTION GUIDE (continued)

USB HUBS - SELECTION TABLE

						
<b>Product Family</b>	<b>USB 3.0 SuperSpeed 4 &amp; 7-port Hubs</b>	<b>Industrial-grade, USB 3.0 SuperSpeed 4-port Hub</b>	<b>USB 2.0/1.1 Industrial-grade, 4-port Hubs</b>	<b>USB 2.0/1.1 Industrial-grade, 7-port Hubs</b>	<b>USB 2.0/1.1 Industrial-grade 4-port Mini Hub</b>	<b>USB 2.0/1.1 OEM Module USB Hub</b>
<b>Model Number / Series</b>	<b>BB-USH20x series</b>	<b>USH304</b>	<b>UHRx04 series</b>	<b>UHRx07 series</b>	<b>UH104</b>	<b>USBHUB4OEM</b>
<b>USB Port Count</b>	1 - upstream 4 or 7 downstream	1 - upstream 4 - downstream	1 - upstream 4 - downstream	1 - upstream 7 - downstream	1 - upstream 4 - downstream	1 - upstream 4 - downstream
<b>High Retention USB port?</b>	-	Lockable USB 3.0 cable (included)	✓	✓	✓	✓
<b>Interface</b>	USB 3.0	USB 3.0 and 2.0 compatible	USB 2.0 and 1.1 compatible	USB 2.0 and 1.1 compatible	USB 2.0 and 1.1 compatible	USB 2.0 and 1.1 compatible
<b>Data Rate / Speed</b>	5 Gbps/SuperSpeed	480 Mbps/High or 5 Gbps/SuperSpeed	1.5/Low or 12 Mbps/Full # UHR204 = 480 Mbps/High also	1.5/Low or 12 Mbps/Full # UHR207 = 480 Mbps/High also	480 Mbps/High	1.5/Low, 12/Full, 480 Mbps/High
<b>Isolation</b>	-	2.5 kV (upstream)	#UHR304 - 4kV	#UHR307 - 4kV	-	-
<b>ESD Protection</b>	8 kV Air	4 kV Contact, 8 kV Air	8 kV Contact, 15 kV Air	8 kV Contact, 15 kV Air	8 kV Contact, 15 kV Air	8 kV Contact, 15 kV Air
<b>Temperature</b>	External Power: 0 to +40 °C	USB Bus Power: 0 to +60 °C External Power: 0 to +70 °C	USB Bus Power: -40 to +80 °C External Power: 0 to +40 °C	USB Bus Power: -40 to +80 °C External Power: 0 to +40 °C	USB Bus Power: -40 to +80 °C	USB Bus Power: -40 to +80 °C
<b>Downstream Power</b>	900 mA per port	900 mA per port	500 mA per port (#UHR204: 100mA per port, USB bus power)	500 mA per port	100 mA per port	100 mA per port
<b>USB Bus Power</b>	-	✓	✓ (# UHR204)	-	✓	✓
<b>External Power</b>	✓	✓	✓	✓	-	-
<b>Mounting</b>	DIN rail or Panel	DIN rail	DIN rail or 6-way Panel	DIN rail or 6-way Panel	Panel or Inline	Open board
<b>Additional Key Features</b>	<i>USB 3.0 SuperSpeed</i>	<i>Isolated USB 3.0 SuperSpeed</i>	<i>UL Listed Class 1/Division 2 for Hazardous Locations</i>	<i>Shock, vibration tested</i>	<i>Compact size</i>	<i>Compact size</i>
<b>Model #</b>						
	BB-USH204	USH304	UHR304	UHR307	UH104	USBHUB4OEM
	BB-USH207		UHR204	UHR207		