

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 Advantech hubs offer 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 Advantech hubs will 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 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 Advantech Technical Support.



INDUSTRIAL USB HUBS

Advantech 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)


HIGH RETENTION USB PORTS

GRIP STANDARD USB CABLES TIGHT



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

USB HUBS - SELECTION TABLE

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