Single Port, Compact USB Isolators
BB-UH401 Series

PRODUCT FEATURES

- 2 kV or 4kV Isolation Protection for PCs, Laptops, Equipment
- 15 kV ESD Protection
- Full (12 Mbps) or Low (1.5 Mbps) USB Speed Options
- -40 to +80 °C Wide Operating Temperature
- Ultra-Compact Size with Quick Inline Installation
- High Retention USB Connectors
- USB Bus Powered
- USB Cable Included (0.9m / 3ft length)

At just 4.32 x 5.08 x 2.03 cm (1.7 x 2.0 x 0.8 in), these little isolators pack a powerful punch against electrical noise, surges and spikes - up to 4kV isolation. Protect expensive PCs and equipment from damaging electrical storms, power surges and other high EMI/RFI disturbances. This isolation barrier eliminates ground loops which are disruptive in measurement applications.

BB-UH401 and BB-UH401SL provide 4 kV isolation.
BB-UH401-2KV and BB-UH401SL-2KV provide 2kV isolation.

Data rates are preconfigured at the factory. You should select a model that is appropriate for your USB peripheral (low-speed or full-speed). If high speed (480 Mbps or greater) isolation is needed, consider B+B isolated USB 3.0 Hub, model number BB-USH304.
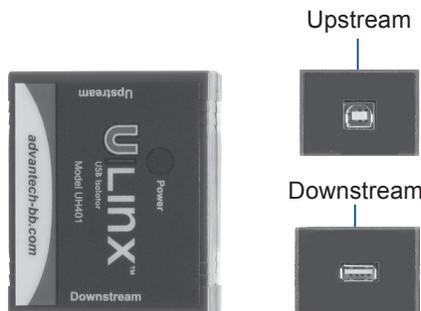
Four models are available. Select a low speed version, BB-UH401SL or BB-UH401SL-2KV, if you are using a low speed device. Low speed devices are typically human interface devices such as a mouse or keyboard. Use a full speed model for full speed USB devices, such as Models BB-UH401 or BB-UH401-2KV, available from B+B SmartWorx.

ORDERING INFORMATION

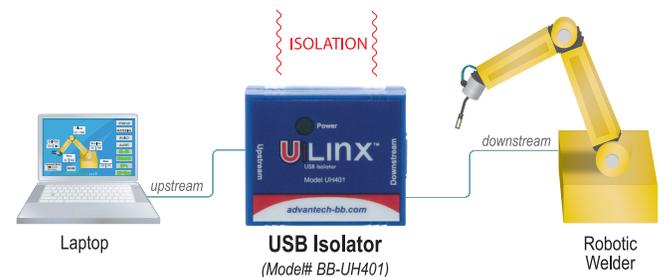| MODEL NUMBER *	USB SPEED	ISOLATION
BB-UH401	Full (12 Mbps)	4 kV
BB-UH401SL	Low (1.5 Mbps)	4 kV
BB-UH401-2KV	Full (12 Mbps)	2 kV
BB-UH401SL-2KV	Low (1.5 Mbps)	2 kV

* Each isolator includes: (1) one USB cable, Type A male/Type B male, 0.9m (3ft), Model# BB-USBAMBM-6F

ACCESSORIES - sold separately

BB-USBAMBM-3F - USB Cable, 0.9 m (3 ft), Type A Male/Type B Male (Grey)
  (one included)

BB-USBAMBM-6F - USB Cable, 1.8 m (6 ft), Type A Male/Type B Male (Grey)

NOTES:
- All models are USB bus powered and provide up to 100mA of current to attached downstream devices when they are attached to a full power (500 mA) USB host port.

- If the full 500 mA is required to power downstream devices, select B+B SmartWorx isolator models BB-UHR401 or BB-UHR402.

- One USB cable (0.9m/3ft) is included with each isolator. An additional cable may be required to connect the downstream device to the isolator.

APPLICATION

ISOLATION

upstream

downstream

Laptop

USB Isolator
(Model# BB-UH401)

Robotic Welder

Upstream

Downstream

All product specifications are subject to change without notice.
BB-UH401 Series_1619ds

Single Port, Compact USB Isolators
BB-UH401 Series

SPECIFICATIONS

TECHNOLOGY	
Standards	USB 1.1 12 Mbps (BB-UH401 & BB-UH401-2KV) 1.5 Mbps (BB-UH401SL & BB-UH401SL-2KV) Note: These devices are transparent to the operating system, do not require software drivers, and will not be enumerated in device manager.
INTERFACE	
USB Ports	High retention USB Type B (upstream), High retention USB Type A (downstream), Minimum withdrawal force of 15 Newtons (~3.4 lbs force)
LED Indicators	Power from USB bus
POWER	
Input Voltage	Standard USB bus power (5 VDC)
Downstream Power Provided	Up to 100mA with full-power upstream connection
Isolation	BB-UH401-2KV = **2KV** BB-UH401SL-2KV = **2KV** BB-UH401 = **4KV** BB-UH401SL = **4KV**

ENVIRONMENTAL	
Operating Temperature	-40 to +80 °C (-40 to +176 °F)
MEANTIME BETWEEN FAILURES (MTBF)	
MTBF	1049851 hours
MTBF Calculation	MIL 217F Parts Count Reliability Prediction
MECHANICAL	
Enclosure	IP30 plastic case
Dimensions	4.32 x 5.08 x 2.03 cm (1.7 x 2.0 x 0.8 in)
APPROVALS, DIRECTIVES, STANDARDS	

FCC Class A, CISPR 32, CE
KCC, (R(MSIP) ID#: MSIP-REI-AAD-BB-UH401 (Model BB-UH401)

CE – Directives	2014/30/EU – Electromagnetic Compatibility Directive 2011/65/EU – Reduction of Hazardous Substances Directive (RoHS) 2012/19/EU – Waste Electrical and Electronic Equipment Directive (WEEE)
CE – Standards	**EMC:** EN 55032 + AC, Class A – Information Technology Equipment EN 61000-6-4 – Generic Emissions Standard for (Heavy) Industrial Environments EN 61000-6-2 – Generic Immunity Standard for (Heavy) Industrial Environments

MECHANICAL DIAGRAM

4.32 cm
1.70 in

5.08 cm
2.0 in

2.03 cm
0.80 in

ADVANTECH

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