

Single Port, Compact USB Isolators

BB-UH401 Series

B+B SMARTWORX

Powered by

ADVANTECH

www.advantech-bb.com



PRODUCT FEATURES

- 2 kV or 4kV Isolation Protection for PCs and 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

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.

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.

Data rates are preconfigured at the factory. You should select a model that is appropriate for your USB peripheral (low-speed or full-speed). Note that high speed (480 Mbps) cannot be isolated with existing technology.

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 the full speed version, BB-UH401 or BB-UH401-2KV, for full speed USB devices.

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 |

All product specifications are subject to change without notice.

BB-UH401 Series_3618ds

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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) |
| 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 Class A (EN55022) | |
| 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) |
| 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

