One and Two Port Ruggedized USB Isolators
BB-UHR401 & BB-UHR402

The BB-UHR401 and BB-UHR402 are one and two port ruggedized Isolators. They are designed and tested to meet heavy industrial EMC standards. High retention USB connectors hold standard USB cables tight and are perfect for high vibration applications – requiring up to 3.2 lbs force to disconnect them. They have 4 kV isolation between the upstream and downstream USB ports to protect expensive equipment from dangerous ground loops and to help ensure data integrity.

The heavy industrial EMC specifications allow these isolators to operate in unfriendly electrical environments – such as near variable frequency drives, motor control centers, welding, and other large electrical loads.

They are powered from an external 10 to 30 VDC power supply (required). An international power supply is included that has USA, EU, and UK blades. The downstream port(s) provides up to 500 mA of power to connected USB devices.

PRODUCT FEATURES
- 4 kV isolation protects equipment and data
- ESD protection – 15 kV Air
- USB 2.0, full speed (12 Mbps)
- Panel mount, heavy-duty case (optional DIN rail adaptor clips)
- High retention USB connectors
- One and Two Port Versions
- Both a power supply and a USB cable are included

ORDERING INFORMATION

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<th>MODEL NUMBER</th>
<th>USB SPEED</th>
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<td>BB-UHR401</td>
<td>1-Port Rugged USB Isolator</td>
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<td>BB-UHR402</td>
<td>2-Port Rugged USB Isolator</td>
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Includes: 12 VDC Wall Plug-In Power Supply and 1.8 m (6 ft) USB Cable.

ACCESSORIES - sold separately
- BB-PS12VLBL-INT-MED - Replacement power supply 12VDC, Medical Grade - US, EU, UK blades.
- BB-MDR-20-24 - DIN rail mount power supply 24VDC, 1.0 A output power
- BB-PSPT-LB - Stripped and tinned power connector for use with industrial power supply. Locking barrel connector.
- BB-USBAMBM-6F - USB Cable, 1.8 m (6 ft), Type A Male/Type B Male (Grey) (one included)
- BB-DRAD35 - DIN rail adapter clip

All product specifications are subject to change without notice.
BB-UHR401 & BB-UHR402_1319ds
## One and Two Port
### Ruggedized USB Isolators
**BB-UHR401 & BB-UHR402**

### SPECIFICATIONS

#### USB INTERFACE
- **Standards**: USB 1.1 & 2.0 (12 Mbps)
- **Upstream Port**: (1) Type B Female – High Retention
- **Downstream Port**: (1 or 2) Type A Female – High Retention
- **Speed**: 12 Mbps Multi-transaction Translator, 1 per port
- **Isolation**: 4 kV – Upstream to Downstream
- **ESD**: 15 kV Air, 8 kV Contact
- **High Retention**: USB ports require 15 N (3.2 lbs-force) withdrawal force using standard USB cable

#### INTERFACE
- **USB Ports**: High Retention USB Type B (Upstream), Type A (Downstream), Minimum withdrawal force of 15 Newtons (~3.4 lbs-force)
- **LED Indicators**: Power from USB bus

#### POWER
- **Source**: External, required (included)
- **Power Connector**: Threaded barrel jack
- **Input Voltage**: 10 to 30 VDC
- **PSU**: Input: 110 – 240 VAC, 50 / 60 Hz, US, EU, UK blades included; Output: 12 VDC
- **Barrel Jack**: Barrel Jack, Center Positive
- **Power**: BB-UHR401 – 4 Watts (external source), BB-UHR402 – 7 Watts (external source), Locking / Threaded, Center Positive
- **Downstream Power**: 500 mA per port

#### INDICATORS
- **Power**: Green LED
- **Port Ready**: Green LED

### MECHANICAL
- **Dimensions**: 7.9 x 5.4 x 2.7 cm (3.1 x 2.1 x 1.1 in)
- **Enclosure**: IP 30, Plastic
- **Weight**: 0.15 lb (80 g)

#### MEANTIME BETWEEN FAILURES (MTBF)
- **MTBF BB-UHR401**: 375842 Hours
- **MTBF BB-UHR402**: 353807 Hours
- **MTBF Calc. Method**: MIL 217F Parts Count Reliability

#### ENVIRONMENTAL
- **Operating Temperature**: 0 to +50 °C
- **Storage Temperature**: -40 to +85 °C
- **Operating Humidity**: 0 to 95%, non-condensing

#### APPROVALS/CERTIFICATIONS
- **FCC, CE**
- **KCC, R(MSIP)** (ID#: MSIP-REM-AK0-UHR401 (Models BB-UHR-401, BB-UHR402))
- **Directives** - CE
  - 2014/30/EU - Electromagnetic Compatibility Directive
  - 2011/65/EU - Reduction of Hazardous Substances Directive (RoHS)
  - 2012/19/EU - Waste Electrical and Electronic Equipment (WEEE)
- **Standards** - CE
  - EN 55032 (Class B) - Electromagnetic compatibility of multimedia equipment - Emission requirements
  - EN 55024 - Information Technology Equipment - Immunity Characteristics - Limits and Methods of measurement
  - EN 61000-6-4 - Generic Emission standard for industrial environments
  - EN 61000-6-2 - Generic Immunity standard for industrial environments
- **Other**
  - IEC60068-2-27 - (Shock) 50G Peak, 11 ms, 3 axes
  - IEC60068-2-32 - (Drop) 10 total drops from sides, corner, edges

### MECHANICAL DIAGRAM

![Mechanical Diagram](image-url)