

UHR401 & UHR402
One and Two Port Ruggedized USB Isolators

✓ 4 kV Isolation
✓ High Retention USB Connectors
✓ ESD Protection – 15 kV Air
✓ Heavy Duty Case – Panel Mount with DIN Rail Adapters
✓ USB 2.0 – Full Speed
✓ One and Two Port Version

The UHR401 and 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. They are also suitable for integration into medical applications requiring 60601-1 certification.

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 unit. The product comes with an international power supply that has US, EU, and UK blades.

The downstream port(s) provides up to 500 mA of power to connected USB devices.

Remember B&B Electronics when it comes to USB applications in harsh electrical environments.

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**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

**Power**

- Source: External
- 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: UHR401 – 4 Watts (External Source)
- 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: 3.1 x 2.1 x 1.1 in (7.9 x 5.4 x 2.7) cm
- Enclosure: IP 30, Plastic
- Weight: 0.15 lbs (80 g)
- MTBF UHR401: 375842 Hours
- MTBF 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

**Ordering Information**

- UHR401: 1 Port Rugged USB Isolator
- UHR402: 2 Port Rugged USB Isolator
- DRAD35: DIN Rail Adapter - Sold Separately

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## Approvals / Certifications

<table>
<thead>
<tr>
<th>Emissions</th>
<th>FCC Class B, CISPR Class B (EN55022)</th>
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<tbody>
<tr>
<td>CE</td>
<td>EN61000-6-2:2005 (Heavy Industrial)</td>
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<td>EN61000-4-2:2008 (ESD) +/- 8kV contact, +/-15 kV air</td>
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<td>EN61000-4-3:2006 (RI) 10 V/m, 80-1000 Mhz; 3 V/m 1.3 to 2.7 GHz</td>
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<td>EN61000-4-4:2004 (EFT Burst) +/- 2kV DC ports; +/- 1 kV signal ports</td>
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<td>EN61000-4-5:2005 (Surge) +/- 2 kV com; +/- 1 kV differential</td>
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<td>EN61000-4-6:2008 (CI) 10 Vrms, 0.15 to 80 MHz</td>
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<td>Other</td>
<td>EN61000-4-8:2001 (Magnetic) 10 A/m, 50 Hz &amp; 60 Hz</td>
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<td>IEC60068-2-27 (Shock) 50G Peak, 11 ms, 3 axes</td>
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<td>IEC60068-2-6 (Vibration) 140-500 Hz, 4G, 3 axes</td>
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<td>IEC60068-2-32 (Drop) 10 total drops from sides, corner, edges</td>
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