

# One and Two Port Ruggedized USB Isolators

BB-UHR401 & BB-UHR402

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## 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

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.

## ORDERING INFORMATION

MODEL NUMBER	USB SPEED
BB-UHR401	1-Port Rugged USB Isolator
BB-UHR402	2-Port Rugged USB Isolator

*Includes: 12 VDC Wall Plug-In Power Supply and 1.8 m (6 ft) USB Cable.*

## ACCESSORIES - sold separately

**BB-PS12VLB-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-USBAMB-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\_2220ds

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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
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)	
CE - Directives	2014/30/EU - Electromagnetic Compatibility Directive 2011/65/EU - amended by (EU) 2015/863 Reduction of Hazardous Substances Directive (RoHS) 2012/19/EU - Waste Electrical and Electronic Equipment (WEEE)
CE - Standards	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 +A1 - Generic Emission standard for industrial environments EN 61000-6-2 - Generic Immunity standard for industrial environments
IECx	IEC60068-2-27 - (Shock) 50G Peak, 11 ms, 3 axes IEC60068-2-6 - (Vibration) 4G, 140-500 Hz, 3 axes IEC60068-2-32 - (Drop) 10 total drops from sides, corner, edges

## MECHANICAL DIAGRAM



