One and Two Port Ruggedized USB Isolators
UHR401 & UHR402

PRODUCT FEATURES

- 4 kV Isolation
- High Retention USB Connectors
- ESD Protection – 15 kV Air
- Heavy Duty Case – Panel Mount or optional DIN rail adaptor clips
- 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.

ORDERING INFORMATION

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

Both models include a 12 VDC Wall Plug In Power Supply and 6 ft. (1.8 m) USB cable.

ACCESSORIES

PS12VLB-INT-MED - Replacement Power Supply 12Vdc, Medical Grade - US, EU, UK Blades.

MDR-20-24 - DIN rail mount power supply 24VDC, 1.0 A output power

PSPT-LB - Stripped and Tinned Power connector for use with industrial power supply. Locking Barrel Connector.

USBAMBM-6F - 6 ft. (1.8 m), Type A Male to Type B Male (Grey)

DRAD35 - DIN rail adapter clip

Learn More!
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Ruggedized USB Connections for Tough Environments

www.bb-elec.com/USBTough

*Carrier data charges may apply.

SPECIFICATIONS

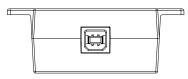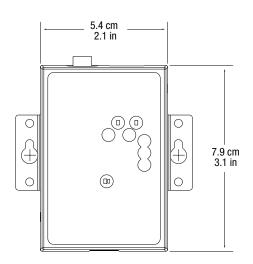| USB INTERFACE	
Standards	USB 1.1 & 2.0 (12 Mbps)
Upstream Port	(1) Type B Female – High Retention
Downstream Port	(1 or 2) Type A Female – High Retention
Speed	12 Mbps Multi-transaction Translator, 1 per port
Isolation	4 kV – Upstream to Downstream
ESD	15 kV Air, 8 kV Contact
High Retention	USB Ports 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
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	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 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°
Storage Temperature	-40 to 85°C
Operating Humidity	0 to 95% Non-condensing

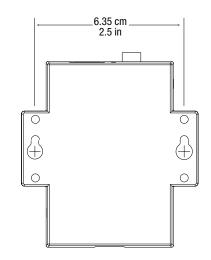| APPROVALS/CERTIFICATIONS	
Emissions	FCC Class B, CISPR Class B (EN55022)
CE	EN61000-6-2:2005 (Heavy Industrial) EN61000-4-2:2008 (ESD) +/- 8kV contact, +/-15 kV air EN61000-4-3:2006 (RI) 10 V/m, 80-1000 Mhz; 3 V/m 1.3 to 2.7 GHz EN61000-4-4:2004 (EFT Burst) +/- 2kV DC ports; +/- 1 kV signal ports EN61000-4-5:2005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

MECHANICAL DIAGRAM

5.4 cm
2.1 in

2.7 cm
1.1 in

6.35 cm
2.5 in

7.9 cm
3.1 in

B&B Electronics

orders@bb-elec.com
support@bb-elec.com

International Office: 707 Dayton Road PO Box 1040 Ottawa, IL 61350 USA   815-433-5100 Fax 433-5104
European Office: Westlink Commercial Park Oranmore Co. Galway Ireland   +353 91 792444 Fax +353 91 792445