

One and Two Port Ruggedized USB Isolators

UHR401 & UHR402

B+B SMARTWORX

Powered by

ADVANTECH

www.advantech-bb.com



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 Versions

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.

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

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

ACCESSORIES

PS12VLB-INT-MED - Replacement power supply 12V DC, 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.

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

DRAD35 - DIN rail adapter clip

All product specifications are subject to change without notice.
UHR401 & UHR402_1317ds

One and Two Port Ruggedized USB Isolators

UHR401 & 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
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 °C	
Storage Temperature	-40 to 85 °C	
Operating Humidity	0 to 95% Non-condensing	
APPROVALS/CERTIFICATIONS		
FCC, CE		
Directives	2014/30/EU - Electromagnetic Compatibility Directive 2011/65/EU - Reduction of Hazardous Substances Directive 2012/19/EU - Waste Electrical and Electronic Equipment (WEEE)	
EMC	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 EN 61000-4-2 - (ESD) +/- 8kV contact, +/-15 kV air EN 61000-4-3 - (RI) 10 V/m, 80-1000 MHz; 3 V/m 1.3 to 2.7 GHz EN 61000-4-4 - (EFT Burst) +/- 2kV DC ports; +/- 1 kV signal ports EN 61000-4-5 - (Surge) +/- 2 kV com; +/- 1 kV differential EN 61000-4-6 - (CI) 10 Vrms, 0.15 to 80 MHz EN 61000-4-8 - (Magnetic) 10 A/m, 50 Hz & 60 Hz	
	Other	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

