



EMI Filters and RF Shielding Products

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USB EMI Filters

The FOIL™ USB filters utilize Patent Pending technology and are the only EMI/RFI filters on the market for USB 2.0 applications that offer 100dB performance from 10kHz to 10GHz and higher. Housed in a single, convenient filter package, FOIL™ USB Filters are the easiest and most reliable solution for bringing USB 2.0 communication to all varieties of shielded rooms and enclosures.

Standard signal line filters rely on capacitors and inductors to eliminate unwanted RF signals. However, these types of filters often eliminate the high frequencies that make up the sharp edges of high speed digital square wave signals thereby degrading the integrity of the signal. In order to avoid this side effect, it is necessary for standard signal line filters to have extended passbands that allow the higher frequencies to pass unimpeded. Even the best standard USB filters offer only 60dB from 1GHz to 6GHz. Also, it is important to note that standard signal line filters do not differentiate between USB signals and undesirable signals. They act like a "hole" in the shielded enclosure to all signals - good and bad - within the passband.

Unlike standard signal line filters, FOIL™ USB Filters utilize a fiber optic isolation link (FOIL) to maintain 100dB shielding integrity. The filter converts ONLY USB signals, so there is no passband and no transmission of unwanted signals.

Customization

FOIL™ brand USB filters can be modified to meet specific customer requirements. If you need a USB filter for a military or harsh environment or require customized housings or functions, please [contact us](#) to discuss your application.

Typical Performance

Shielding Effectiveness*

100dB from 10kHz to 10GHz

Insertion Loss*

100dB from 10kHz to 10GHz

Radiated Emissions*

FOIL USB filters are active filters and produce radiated emissions inside the shielded enclosure. Please [contact DJM Electronics](#) for information regarding your particular application.

Environmental

Operating Temperature: 0°C - 50°C (32°F - 122°F)

Humidity: 20% - 80% (non condensing)

***Note**

These results reflect preliminary tests.

Communication Performance

Compatibility

Compatible with USB 1.1 Low-Bandwidth (1.5Mbps), Full-Bandwidth (12Mbps) and USB 2.0 Hi-Speed (up to 230 Mbps). Operates with USB 2.0 high-speed host controllers and USB 1.1 classic hosts.

Supported Data Connections

Supports all USB device communication transfers: Control, Interrupt, Bulk and Isochronous up to 230Mbps.

Supported Operating Systems

Supports Windows®, Mac OS®, and Linux®. No new driver installation required.

Power Output

5VDC, 500mA available at output connector

Connectors

Input connector: USB-B Receptacle (Female)

Output connector: 4 USB-A Receptacles (Female)

Construction

Filter Housing

- 12 ga zinc plated cold rolled steel
- 1" NPT threaded penetration w/brass mounting flange nut and mesh gasket

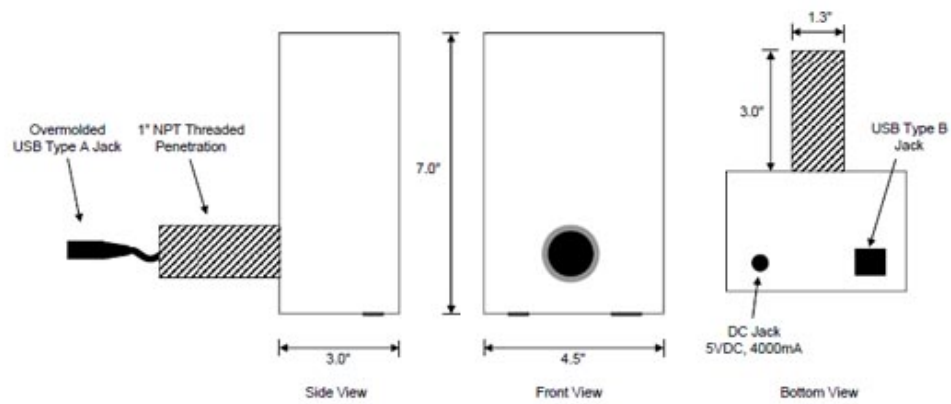
Power Requirements

- Input: 100-240VAC; 50/60Hz
- Output: +5V / 4000 mA maximum
- DC plug type: center positive

Dimensions

7.00" x 4.50" x 3.00" with 3" threaded penetration (1" NPT)

Drawings



[Click here to request a quote](#)
or more information on the FOIL™ USB 2.0 Filters

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