

## GIGAFOIL™ V3 ETHERNET FILTER

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ETS-Lindgren's GigaFOIL Ethernet Filters utilize patented technology and are the only EMI/RFI filters for Ethernet on the market that offer 100 dB performance from 10 kHz to 10 GHz and higher. Housed in a single filter package, these filters are the most convenient and reliable solution for bringing Ethernet access 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.

Also, it is important to note that standard ethernet signal line filters do not differentiate between Ethernet signals and undesirable signals. They act like a “hole” in the shielded enclosure to all signals, good and bad, within the passband.

ETS-Lindgren's GigaFoil v3 is designed for 10/100 Ethernet and Gigabit Ethernet networks. This filter automatically selects the fastest communication speed and can translate between 10/100 and Gigabit networks.

**NOTE:** Product will not support POE (Power Over Ethernet). May be used in conjunction with an POE Injector. Contact factory for details.

## Key Features

- Insertion Loss: 100 dB from 10 kHz to 10 GHz
- Fiber Optic Isolation Link (FOIL) Technology
- Network Performance Unaffected; Will Not Increase Network Hop Counts

## Features

### Performance

GigaFOIL filters have an insertion loss of 100 dB from 10 kHz to 10 GHz. Insertion loss performance is extrapolated from tests performed using a method as close to MIL-STD-220B as possible. The nature of twisted pair cabling and RJ-45 connectors makes testing to this standard extremely difficult.

### FOIL Technology

GigaFOIL Ethernet Filters utilize a fiber optic isolation link (FOIL) to maintain 100 dB shielding integrity.

### Uninterrupted Network Performance

These filters convert only Ethernet packets, so there is no passband and no transmission of unwanted signals. These filters will not interfere with your network, increase hop counts or degrade network performance, which are common problems with standard signal line filters.

## Specifications

### Electrical Specifications

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Shielding Effectiveness: 100 dB from 10 kHz to 10 GHz

Insertion Loss<sup>1</sup>: 100 dB from 10 kHz to 10 GHz

Radiated Emissions<sup>2</sup>: Limited Amount. Please Contact ETS-Lindgren for Your Application

Auto MDI/MDI-X: Automatically Detects and Configures MDI or MDI-X

Auto Negotiation: Automatically Configures Speed

Flow Control: Supports 802.3x Flow Control for Full-duplex Mode and Back Pressure for Half-duplex Mode

Hot Pluggable: Can Be Plugged In/Out Without Affecting Filter or Other Links

Auto Link Restoration: Automatically Re-establishes Network Link After a Link Loss

Communication Standards:

- IEEE 802.3 10Base-T (Ethernet)
- IEEE 802.3u 100Base-T(Fast Ethernet)
- IEEE 802.3ab 1000Base-T (Gigabit Ethernet)

<sup>1</sup> Insertion Loss performance is extrapolated from tests performed using a method as close to MIL-STD-220B as possible. The nature of twisted pair cabling and RJ-45 connectors makes testing to this standard extremely difficult.

<sup>2</sup> Radiated emissions tests were performed using a method as close to CISPR 22 and FCC Part 15 as possible. The nature of the filter required it be mounted in a shielded room and tested from 3 meters away instead of on a standard OATS. Actual emissions performance may differ from filter to filter.

### Additional Specifications

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Product Configuration:

All GigaFOIL filters come with their power supplies

### Product Options

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## Product Charts

### GIGAFOIL V3 Connector Pinout

	GIGAFOIL V3	
Pin	Name	Description
1	BI_DA+	Bi-directional Pair A+
2	BI_DA-	Bi-directional Pair A-
3	BI_DB+	Bi-directional Pair B+
4	BI_DC+	Bi-directional Pair C+
5	BI_DC-	Bi-directional Pair C-
6	BI_DB-	Bi-directional Pair B-
7	BI_DD+	Bi-directional Pair D+
8	BI_DD-	Bi-directional Pair D-