

## ACTIV 10G Ethernet Electromagnetic Interference (EMI) Filter



The ACTIV 10G electromagnetic interference (EMI) Filter is the most advanced and effective EMI filter for Ethernet available on the market. The filter is designed to pass Ethernet speeds from 10 Megabits to 10 Gigabits and all standards in between. Invisible to connected network devices, the ACTIV 10G will auto-negotiate to the fastest data rate supported by both end points. Utilizing proprietary Digital Signal Processing (DSP) techniques, the ACTIV 10G faithfully reproduces the Ethernet signals without interference. The filter rejects unwanted signals from 10kHz to 40GHz at better than 100dB. Military grade passive filtering technology ensures that Ethernet packets traverse the filter in complete and absolute isolation from each other and the outside world. Signal lines are balanced perfectly throughout the multilayered cards to avoid disturbing the fast rise times required by digital square wave signals. The result is a pristine digital output far surpassing the filtering capabilities of any other EMI filters.

Each ACTIV 10G Filter is constructed with the highest quality electrical components, starting with a super accurate, ultra stable high speed crystal clock which drives the specially developed DSP circuitry and Ethernet chipset. To protect against unanticipated voltage and/or current surges, the filter incorporates ESD and transient voltage suppressors, inrush current limiters, and gas discharge tubes. ACTIV-10G EMI Filters are mounted in a rugged protective housing machined from solid aluminum stock. The housing not only provides physical protection to the filter components, but is also an integral contributor to the filter's effectiveness. The unique structure of the housing effectively disrupts undesirable emissions from propagating through the filter while simultaneously providing low impedance pathways for interference to be directed out of the filter. Between the housing and protection circuitry, the ACTIV 10G EMI Filter is suitable for nearly any environment ranging from climate-controlled commercial use to harsh and unforgiving military applications.

### Features:

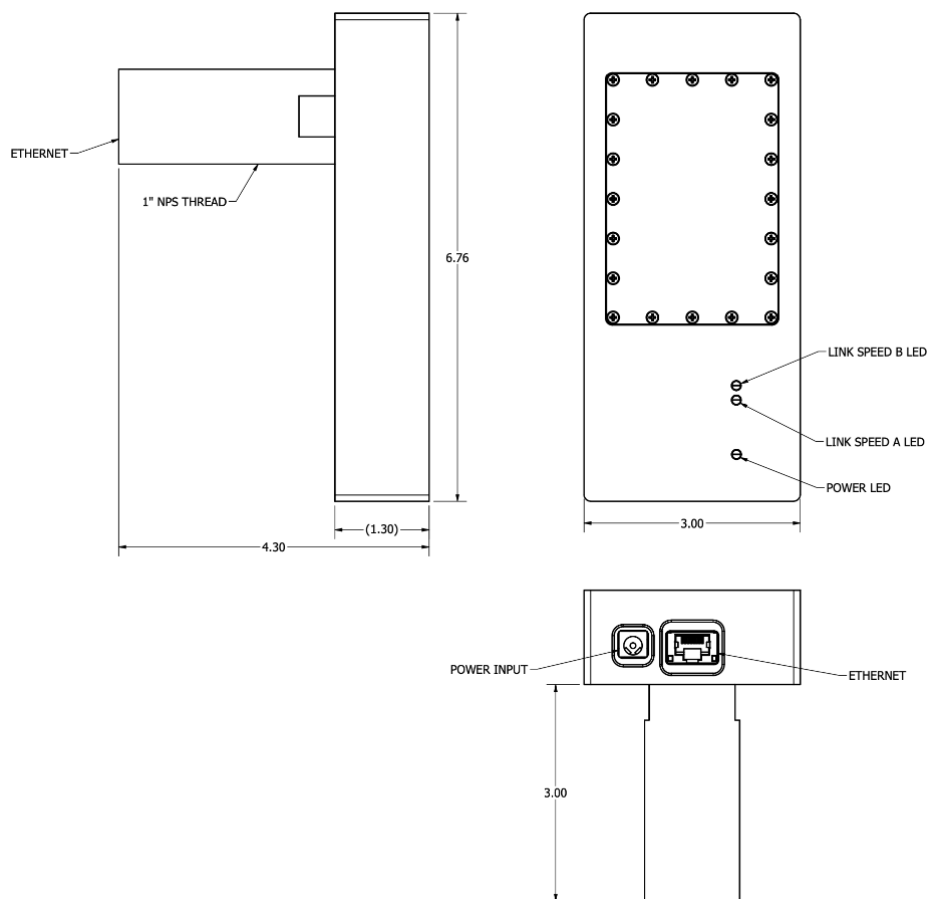
- Proprietary DSP technology provides unmatched EMI filtering
- Military grade passive filtering techniques maintain clean and sharp signals
- Highest quality electrical components deliver long service life
- Rugged protective housing insures reliability in any environment

**The ACTIV-10G EMI Filter**  
**The critical choice when blocking EMI is paramount.**

## Specifications

Filter Performance	Shielding Effectiveness	>100dB from 10kHz to 40GHz (Measured using a method based on IEEE 299-2006)
	Insertion Loss	>100dB from 0.05kHz to 40GHz (Measured using a method based on MIL-STD-220B)
	Radiated and Conducted Emissions	Exceeds MIL-STD-461 CE102 Exceeds MIL-STD-461 RE102 Exceeds FCC Part 15 A, B Exceeds EN 55022 Class A, B
Network Performance	Auto MDI/MDI-X	Automatically detects and configures MDI or MDI-X.
	Auto Negotiation	Input and output automatically configure 10Mbps, 100Mbps, 1Gbps, 2.5Gbps, 5Gbps or 10Gbps
	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	IEEE802.3i 10Base-T (Ethernet) IEEE802.3u 100Base-T (Fast Ethernet) IEEE802.3ab 1000Base-T (Gigabit Ethernet) IEEE802.3an 10GBase-T (10G Ethernet) IEEE802.3bz 2.5GBase-T/5GBase-T (2.5G/5G Ethernet)
Safety and Regulatory	File Number	E362686
	Standards	UL 62368-1 CSA C22.2 No. 62368-1 EN 62368-1 IEC 62368-1:2020+A11:2020 RoHS 2011/65/EU RoHS 2015/863 REACH SVHC CA Prop 65 FCC 47 CFR Part 15.247*AEI ICES-003:2020 Ed. 7 EN 55032:2015+A11 EN 55035:2017+A11 EN 61000-3-2:2014 EN 61000-3-3:2013+A1;A2 EN 6100-4-2,3,4,5,6,8,11
Environmental	Operating Temperature	0°C - 40°C (32°F - 104°F) Continuous
	Humidity	5% - 90% (non-condensing)
Construction	Filter Housing	Aluminum w/Electroless Plated Nickel
	Power Requirements	+12VDC TYP / 2A MIN; Marked "LPS" or "Class 2" only. Center Positive
	Dimensions	6.76" x 3.00" x 1.30" 1" NPS Threaded Penetration (1.32" Ø x 1", 3" or Custom Length)
	Connectors	RJ-45 8P8C Jack (x2) 2.1mm x 5.5mm DC Barrel Jack
	Indicator LEDs	Power – Red When Power is Present Link Status (Input/Output) - 10Mbit - Red - 100Mbit - Green - 1Gbit – Dark Blue - 2.5Gbit - Yellow - 5Gbit - Purple - 10Gbit – Light Blue

## Drawing



## Connector Pinout

Pin	Ethernet (T568B)	
	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 -