

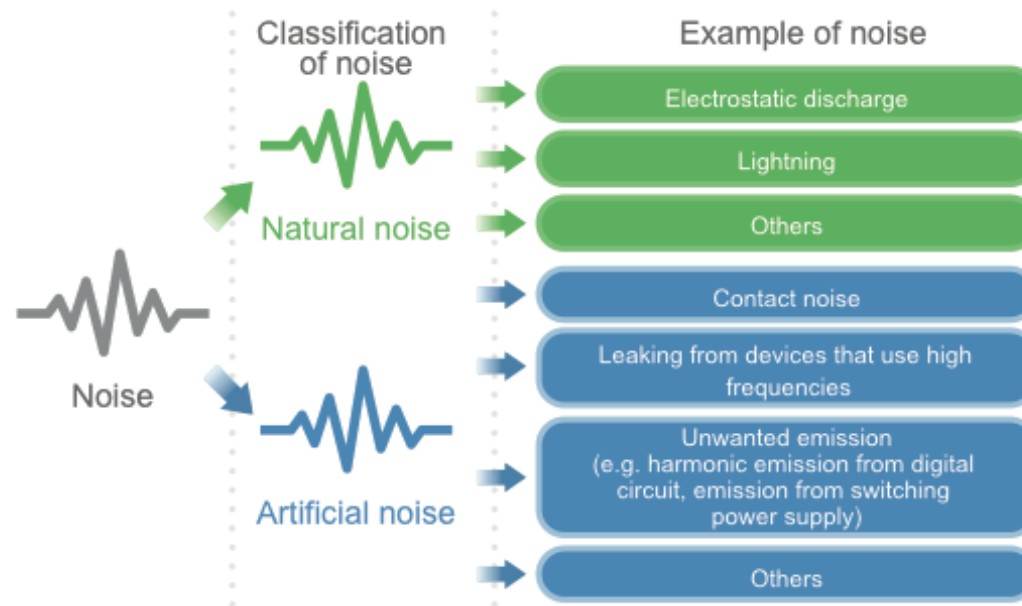


# EMI Filter Overview

# EMI Filter

EMI or Electromagnetic interference is a disturbance generated by an external source that affects a circuit and degrades performance.

EMI can be caused by induction or outside radiation from sources like solar interference, cellular interference, radio frequency interference, etc.



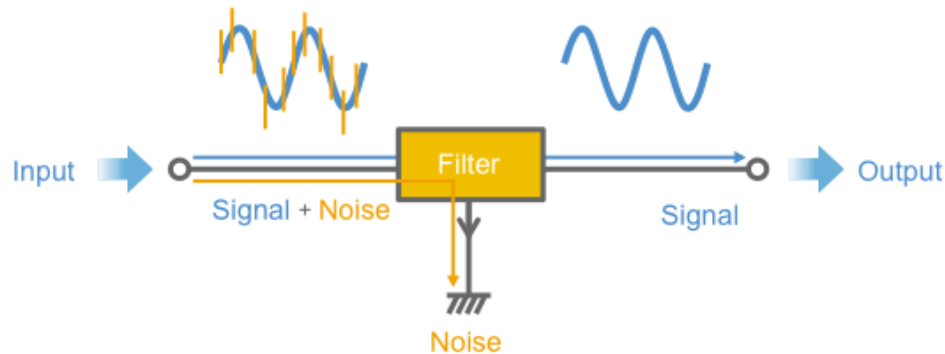
# EMI Filter

Therefore, any device that is powered by electrical energy is susceptible to EMI and can be helped by the application of an EMI filter.

What does an EMI filter do?

When attached to devices or circuits, EMI filters can suppress electromagnetic noise transmitted through conduction. These filters extract any unwanted current conducted through wiring or cables, while allowing desirable currents to flow freely.

Many industries have regulatory standards for permissible EMI levels that EMI filters can help comply with.



# EMI Filter Technology Summary

Altran Magnetics, is a leading Global Solution Provider of EMI Filter Technologies. With **850+** standard products, Altran provides one of the most comprehensive product lines of EMI Filters.

Altran offers 3 Core Product Groups of EMI Filters: Power Line Filters, Power Entry Modules, and 3-Phase Filters.

Understanding that every application has its own unique electrical, mechanical and EMI challenges, our Global Design Team can modify or develop custom any EMI Filter product to meet your specific application requirement.



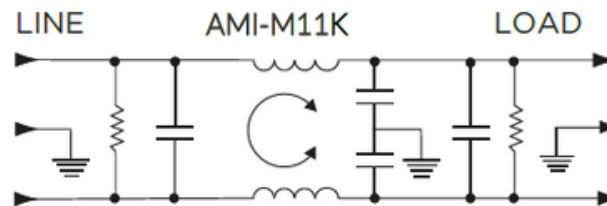
# EMI Filter Types

## Power Entry Module

Filters with an international standard power cord connector and options for fusing (single or double), voltage selections, switching, and filtering.

Example Model: AMI-M11K-7-3-B-1 (UL Approved)

AMI Designation	Input/output Style IEC Socket	Current Rating A	Inductance mH	Capacitance		Resistor KO	Leakage Current@ 120VAC 60Hz/250 VAC 50 Hz mA	TIL Insertion Loss	Case Style
				Cx nF	Cy pF				
AMI-M11K-7-3-B-1	7	3	1.76	200	5500	1500	0.5/1.0	004	H



# EMI Filter Types

## Powerline Filter

AMI Powerline Filters (with rated current ranging from .5 - 80A) are ideal for use in controlling EMI emissions or susceptibility across an array of applications. Available with many termination and mounting options, these general-purpose Filters offer a cost-effective solution to most EMI applications.

Example Model: AMI-M12A-1-3-B (UL and TUV Approved)

AMI Designation	Input/output Style			Current Rating	Inductance	Capacitance		Resistor	Leakage Current @ 120 VAC 60Hz/250 VAC 50 Hz	TIL Insertion Loss	Case Style
						Cx	Cy				
Available Part Numbers	6.3mm Spade Terminals	Wire Leads	Threaded Bolts	A	mH	nF	pF	KΩ			
						AMI-M12A-1-3-B	1				



# EMI Three Phase Filter Types

## Three Phase

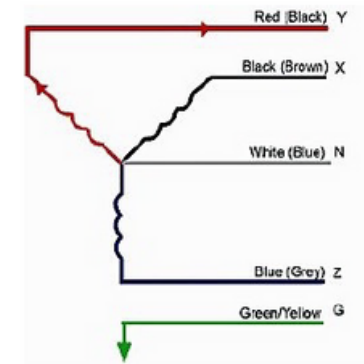
Three phase is a combination of three single-phase circuits that deliver power in a way so that it never falls to zero and the load is the same at any instant. These filters are available in either wye or delta configuration and range from 6A-200A.

### Three Phase: Wye configuration

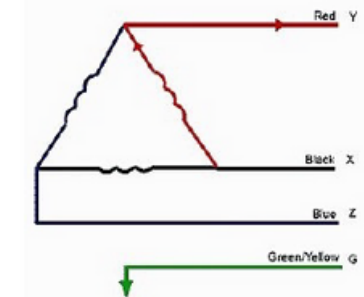
Wye configuration has 5 wires: 3 hot, 1 neutral, and 1 ground. The voltage between the 2 hot wires measures 208VAC while the voltage between hot and neutral is 120VAC. Wye filters can provide 2 different voltages for 3-phase or single-phase devices.

### Three Phase: Delta configuration

Delta configuration has 4 wires: 3 hot and 1 ground and always measures 208VAC between any 2 hot wires.



3-Phase Wye



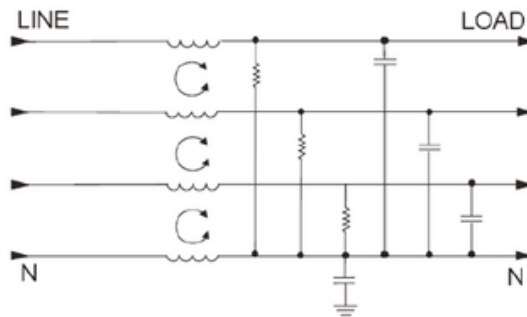
3-Phase Delta

# EMI Filter Types

## Three Phase Filters

Example Model: AMI-M31NC-1-20-D (UL Approved)

AMI Designation	Input/Output Style	Current Rating	Inductance	Capacitance		Resistor K $\Omega$	Leakage Current @ 120 VAC 60Hz/250 VAC 50Hz	TIL Insertion Loss	Case Style
			L mH	Cx nF	Cy pF				
Available Part Numbers	6.3mm Spade Terminals								
AMI-M31NC-1-3-D	1	3	1.0	100	15000	1500	2.0/3.0	001	A

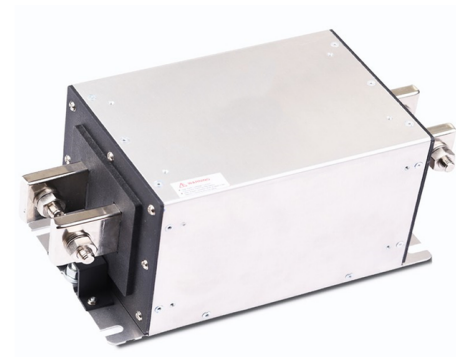
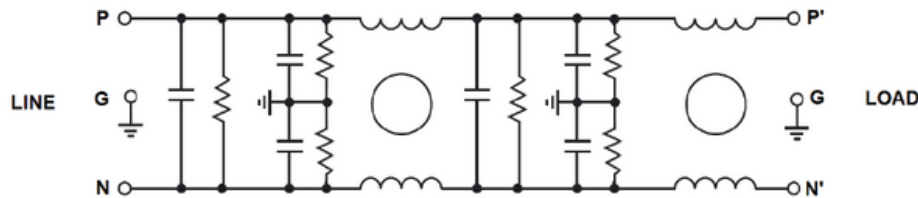


# EMI Filter Types

## DC EMI Filters

Example Model: AMI-2240A-150-C00

Part Number (500VDC)	Part Number (1000VDC)	Part Number (1500VDC)	Rated Current @55°C	Total Capacitance to G (nF)	Busbars Cross Section (mm)
AMI-2240A-150-C00	AMI-2240B-150-C00	AMI-2240C-150-C00	150A	0	25x3



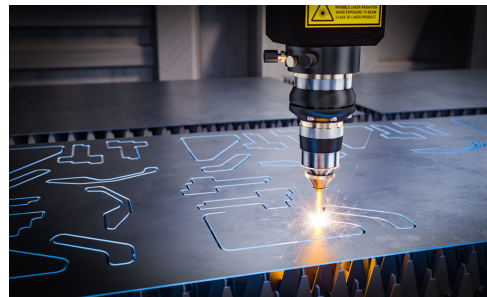
## Power Entry Applications:

- Appliance
- Communications
- Medical Device
- Industrial Machinery



## Powerline Applications:

- Consumer Electronics
- Variable Speed Drives
- Commercial Equipment
- Drive Motor and Controllers
- Single Phase Industrial Applications
- Heating Ventilating and Air Conditioning (HVAC)
- Switching Power Supplies with transient currents



## Three Phase Applications:

- Alternate Energy Converters
- Automated Test Equipment
- Elevators and Escalators
- Frequency Converters
- Industrial Control Systems
- Laser Welding Machines
- Motors and Motor Control Centers
- Power Conditioning Units
- Process Automation Equipment
- Uninterruptible Power Supplies (UPS)