

3-PHASE EMC
POWER LINE
FILTER

EMI FILTER



Limits high frequency noise

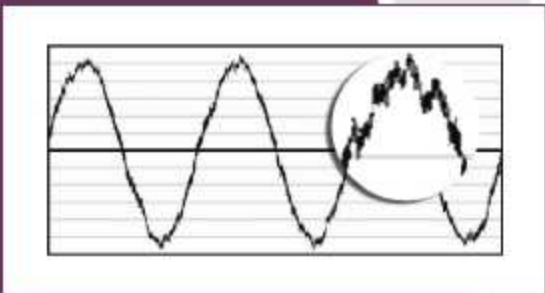
- Reduces interference
- Protects sensitive equipment
- Eliminates drive cross-talk
- Meet FCC Regulation 15, Subpart J



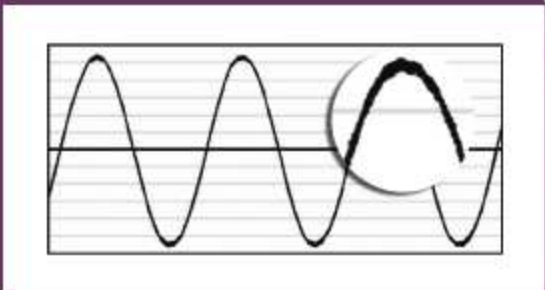
3-PHASE EMC POWER LINE FILTER

EMI

Before EMI



After EMI



Non-Linear Loads can draw harmonic current from the source, resulting in harmful high frequency noise

There are many pieces of equipment that can generate EMI (electro magnetic interference), variable frequency drives included. In the case of variable frequency drive, the electrical noise produced is primarily contained in the switching edges of the PWM controller. Increases in switching frequencies also increase the effective edge frequencies produces, thereby increasing the amount of electrical noise.

Reduce High Frequency Distortion

EMI filters use a combination of high frequency inductors and capacitors to reduce noise in the critical 150 kHz to 30 MHz frequency range. The inductors act as open circuits and the capacitors act as short circuits at high frequencies while allowing the lower power line frequencies to pass untouched.

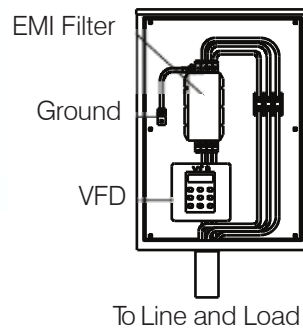
EMI filters assist with cost effective compliance to EMC directives, in a compact, efficient, light-weight design. The high common mode and differential mode reduction in the critical 150 kHz to 30 MHz frequency range ensures that potential interference from AC drives is reduced or eliminated.

EMI (Electro Magnetic Interference)

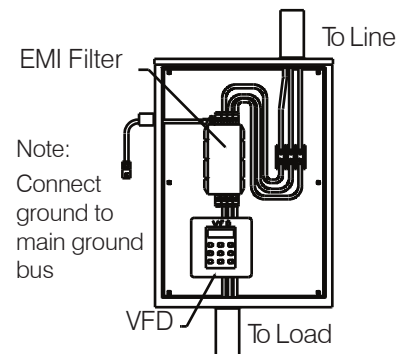
RFI (Radio Frequency Interference)

The terms EMI and RFI are often used interchangeably. EMI is actually any frequency of electrical noise, whereas RFI is a specific subset of electrical noise on the EMI spectrum. Conducted EMI is unwanted high frequencies that ride on the AC wave form.

Incorrect
Interconnection
Layout



Correct
Interconnection
Layout



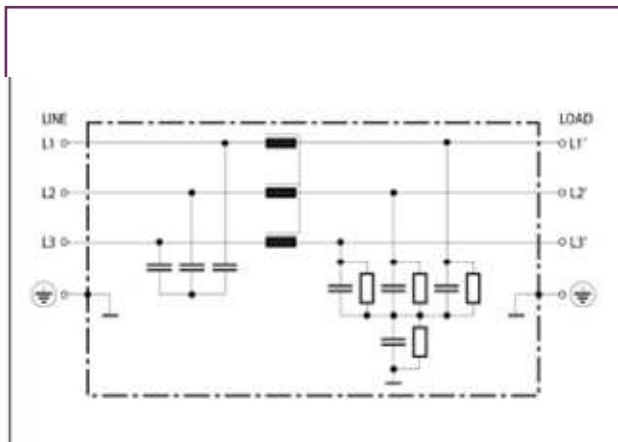


Equipment Interference and Failure

The power line noise emissions associated with variable frequency drives can cause disturbances in nearby equipment. Typical disturbances include:

- Dimmer and ballast instability
- Lighting disturbances such as flashing
- Poor radio reception
- Instability of control systems
- Common Links
- Flow metering fluctuation
- Computer system failures
- Remote I/O
- Encoder feedback
- Nuisance faults PLC
- Analog meter bouncing
- Thermostat control problems

Typical Circuit Diagram



Product Specifications

- 3-Phase
- System Voltage:
480 VAC (applied to 240 VAC - 520 VAC)
690 VAC (applied to 600 VAC - 760 VAC)
- Amp Ratings:
480V (8 - 2500)
690V (25 - 2500)
- Fundamental Frequency: 50/60 Hz
- Units to accommodate up to 2,500 amps
- Filtering: Advanced two-stage filtering design
- Warranty: 1 year
- Ambient Temperature: -25° to 100° C
- Maximum Altitude: 1,000 meters (3,000 feet)
Derating necessary above 1,000 meters
- Short Term Overload Rating: 150% rated I for 3 minutes or 250% for 30 seconds
- Tested Value: 100% tested for Hipot, ground continuity, input-output continuity and insertion loss characteristic
- Agency Approvals: ENEC, cU