



MOTORGUARD SINEWAVE FILTER



Pulse Width Modulated (PWM) power supplies and Variable Frequency Drives (VFDs) are typically used to improve energy efficiency. However, a major drawback to using PWM power sources and VFDs is that the output is a square wave form, which can cause major motor damage. Critical applications such as HVAC systems and electric submersible pumps require a sinusoidal output waveform.

TCI's KMG MotorGuard sinewave filter converts the PWM wave form to a near sinusoidal wave form by eliminating the carrier frequency, allowing sensitive applications to take advantage of the efficiencies and savings that PWM output power supplies and VFDs can offer.

Features of the MotorGuard Sinewave Filter

- Universal acceptance - can be used with virtually all AC induction motors, lead lengths and lead types and used with a wide range of carrier frequencies from 2 kHz to 16 kHz and beyond
- Reach long lead lengths up to 15,000 ft. for specific applications
- Increases the life of your motor by eliminating voltage wave reflection and torque ripple
- Provides motor and cable protection by reducing motor noise, vibration and heat
- Ideal for constant torque applications

Typical Applications for Sinewave Filters

- Multiple motor applications such as conveyors, blowers, pumps and fans
- Test floor and test stand applications
- Shore-to-ship power for non-60 Hz systems
- HVAC systems to reduce audible noise
- Low voltage PWM power supply to medium voltage power



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Technical Specifications

Current Ratings	480 V, 600 V
	Continuous current: 8 to 750 amps; Intermittent current: 150% for 1 min/60 min
VFD Output Voltage	460/480 and 575/600 V, 3ph, at fundamental base frequency
VFD Output Frequency	Up to 80 Hz
VFD Carrier Frequency	2 kHz to 16 kHz
Filter Performance	Maximum peak voltage of output waveform: 480 V: 815 V; 600 V: 1,018 V
	Maximum dV/dt of output waveform: 480 V: 5 V/μs; 600 V: 6 V/μs
Environmental Conditions	
Maximum Elevation	Up to 2,000 m (6,600 ft.) without derating
Operating Temperature	40°C (104°F) without derating
Maximum Storage Temp	Open Panel 50° C (122° F) Enclosed Panel 40° C (104°F)
Maximum humidity	95%, non-condensing
Enclosure Options	UL Open, UL Type 1
Reference Technical Standards	
Agency Approvals	cULus Listed
Voltage Drop	3% at nominal voltage, frequency and rated current
Fusing and Protection	Unit has internal fusing protection and a performance monitoring circuit.
Capacitors	Oil filled high endurance design (no PCBs)

Part Numbering

KMG 130 A 01 A

Series: KMG

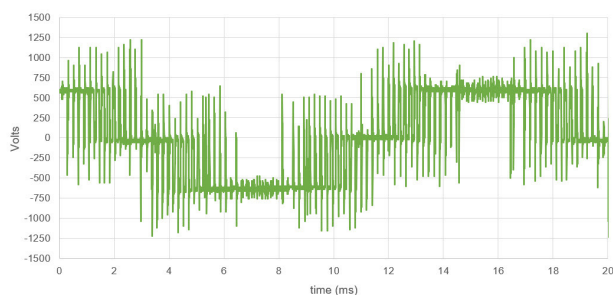
Current Rating: 130

Voltage Rating: A
A - 480 V
C - 600 V

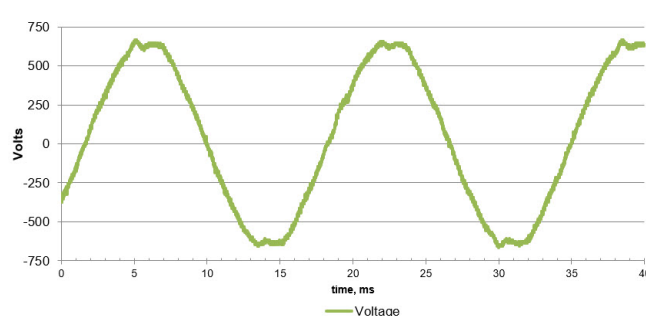
Enclosure: 01
00 - Open Panel
01 - Type 1

A - Standard: A

Voltage without KMG MotorGuard



Voltage with KMG MotorGuard



Performance Guarantee - Properly sized and applied, the addition of a MotorGuard Output Filter is guaranteed to bring the application into compliance with NEMA Standards Publication No. MG-1 Part 31. If the system fails to meet MG-1 Part 31 standards with the addition of a MotorGuard filter, TCI will take back the output filter and pay shipping both ways. This offer is valid for 60 days from the installation date.



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