

Series A Sine Wave Filter

Motor Protection • 440 - 600 VAC 2 - 8 kHz

New MTE Series A sine-wave filters provide a sine-wave output voltage when driven from PWM inverters with switching frequencies from 2 kHz to 8 kHz. For drive applications, these filters eliminate the problem of motor insulation failures and reduce electromagnetic interference by eliminating the high dV/dT associated with inverter output waveforms.

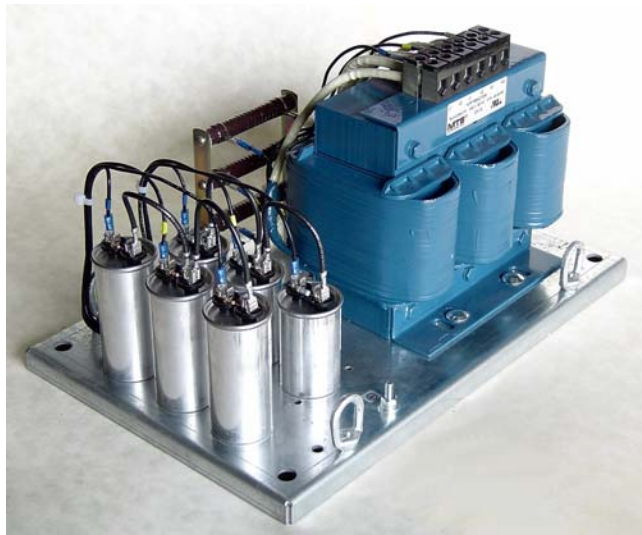
For alternative energy applications, such as wind driven generators, where an inverter is used to return power to the utility distribution system through a step-up transformer, these filters meet the requirements of IEEE-519 and permit the use of standard transformers. Harmonic voltage distortion feeding a transformer at full load and at 60 Hz is 5% maximum. Harmonic voltage distortion feeding a motor at full load and at 60 Hz is 5% typical.

The Sine wave filter is available in 440 – 480 VAC and 550 – 600 VAC for motors from 1.5 to 700 hp.

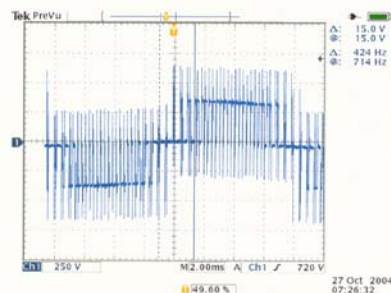
Panel-mount or NEMA 1, 2 and 3R enclosures are available.

Typical applications include submersible pumps, low voltage drives feeding medium voltage motors, HVAC equipment, wind turbines and applications where the distance between the motor and the inverter is up to 15,000 feet.

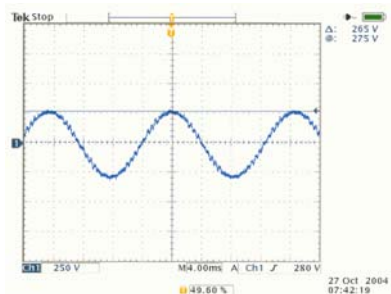
The Sine Wave filter has a continuous current rating of 100% RMS and intermittent current of 150% for 1 minute.



Sine Wave Filters help eliminate the high dV/dT associated with inverter output waveforms in applications where the distance between the motor and the inverter is up to 15,000 feet.



Raw output voltage waveform.



Output Voltage after Sine Wave Filter

PRODUCT SPECIFICATIONS

Sine Wave 2-8 kHz Series A Filter

Service Conditions:

Maximum ambient temperature: 50° C open filters; 40° C enclosed filters

Altitude without de-rating: 1000 meters

Performance:

Harmonic voltage distortion feeding a transformer at full load and at 60Hz: 5% maximum

Harmonic voltage distortion feeding a motor at full load and at 60Hz: 5% typical

Frequency

Minimum inverter switching frequency: 2 kHz

Maximum inverter switching frequency: 8 kHz

Inverter operating frequency: Nominal: 60 Hz, Minimum: 6 Hz, Maximum with de-rating: 90 Hz

Current Rating:

Continuous current rating: 100% RMS Intermittent current ratings: 150 % for 1 minute

Output Compatibility

Loading: Conventional 3 phase motors

Standard step-up transformer with 4% minimum output impedance

"No load" continuous operation

Maximum Motor Lead Length: 15,000 feet

Insertion Loss: 10% of rated voltage maximum

Agency Approvals:

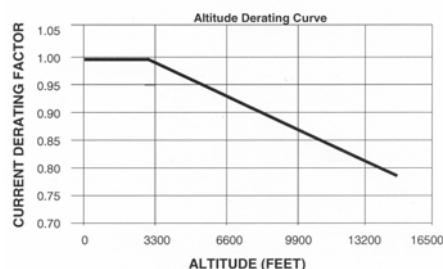
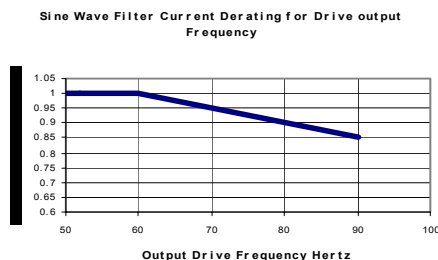
UL and cUL listed to UL508 and CSA-C22.2 No 14-95

File E180243: 3 -1000 hp, 120VAC through 600 VAC 50/60 Hz Three Phase

Noise:

Maximum audible noise level at two meters for standard configuration: 76 dB-A

Data subject to change without notice.



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