

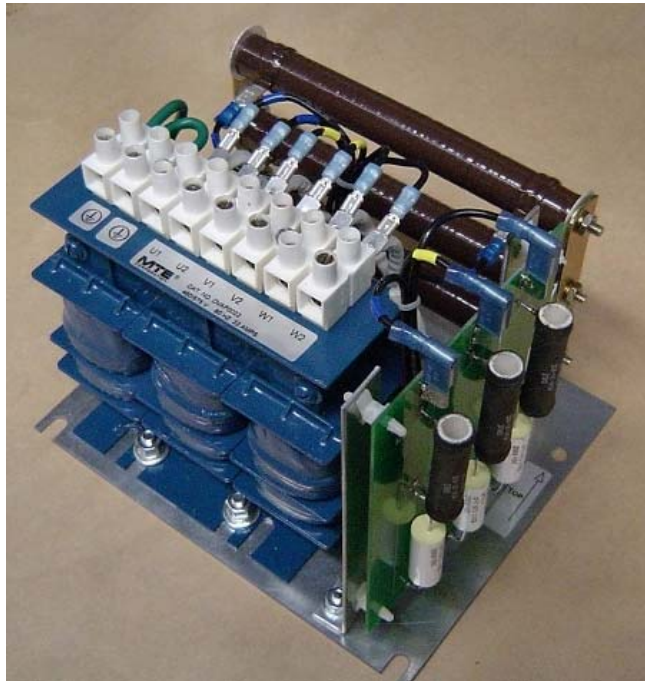
Series A dV/dT Filter

440—600 VAC

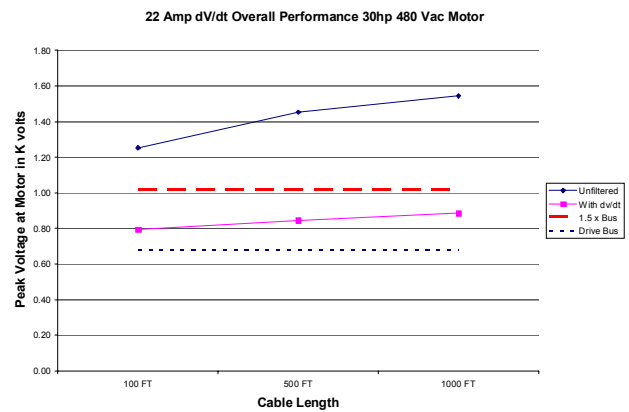
MTE Series A dV/dT filters are designed to protect AC motors from the destructive effects of peak voltages facilitated by long cable runs between the inverter and motor. Depending on the switching time of the power semiconductor used in the inverter and the size of the motor, cable lengths as short as eight feet can result in motor peak voltages that exceed the rating of the motor's insulation system. However, the longer the cable the greater the problem.

The MTE dV/dT filter is **guaranteed** to meet its maximum peak motor voltage specification (150% of bus voltage) with up to 1,000 feet of cable between the filter and the motor. It is also rated for a maximum dV/dT of 200 volts per microsecond. However, in specific applications, the filter has provided excellent performance with cable runs up to 3,000 feet. The dV/dT filter has a "3% insertion impedance" which ensures motor torque is not affected by added voltage drops from the filter. The MTE dV/dT filter is a passive fourth order device that reduces transmission line effects of motor cables by dampening the rate of voltage increase and minimizes the peak voltage that occurs at the motor terminals. MTE Series A dV/dT filters are designed for use with inverters operated at switching frequencies between 900 Hz and 8 kHz.

The dV/dT filter has a continuous current rating of 100% RMS and intermittent current of 150% for 1 minute and 200% for 10 seconds. Available as panel-mount or in NEMA 1, 2 and 3R enclosures the new dV/dT filter is rated for use in temperatures up to 50° C as panel mount or 40° C with enclosed cabinets. Typical applications include submersible pumps, HVAC equipment and process automation lines. Motors rated 100 hp and below and standard NEMA B motors, MG1 Part 30, are prone to failure as a result of high voltage spikes and will benefit from dV/dT filtering.



dV/dT Filter Performance



dV/dT Filters

Service Conditions:

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

Altitude without de-rating: 1000 meters

Performance

Maximum peak motor terminal voltage with 1000 ft cable: 150% of bus voltage
Maximum dV/dT: 200 volts per microsecond

Frequency

Inverter switching frequency: Minimum – 900 Hz , Maximum - 8 kHz
Drive operating frequency: Nominal: 60 Hz, Minimum: 6 Hz, Maximum with de-rating: 120 Hz

Current Rating

Continuous current rating: 100% RMS
Intermittent current ratings: 150 % for 1 minute, 200 % for 10 sec.

Output compatibility

Loading: 3 phase induction motors
“No load / open circuit ” continuous operation

Insertion Loss

Insertion loss: 3% of rated voltage maximum

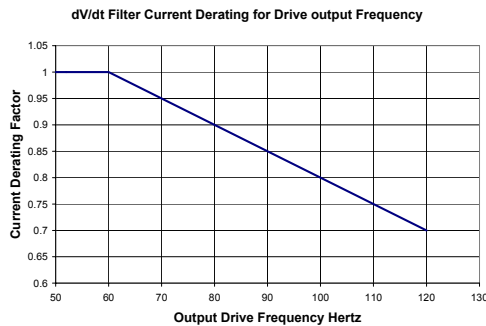
Agency Approvals

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

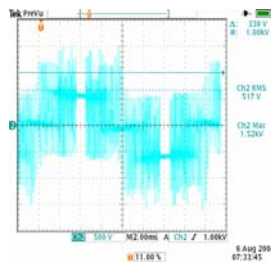
Noise:

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

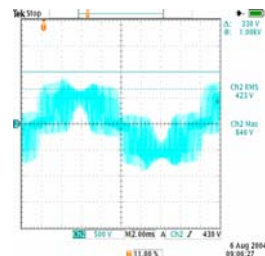
Data subject to change without notice.



1000 ft Full Load 8K
Switching
Unfiltered shielded Cable



1000 ft Full Load 8K
Switching
dV/dT Filtered



For Technical Support: appengrg@mtcorp.com

For Sales Support: sales@mtcorp.com

World Headquarters
W147 N9525 Held Drive
P. O. Box 9013
Menomonee Falls, Wisconsin 53052-9013
Toll Free 1-800-455-4MTE
Phone: (262) 253-8200
Fax: (262) 253-8222



The International Power Quality Resource

Visit us on the Web at:

www.mtcorp.com