

# Short circuit current withstand rating and drives

The short circuit current withstand capability is a measure of the short circuit current a device can tolerate without being damaged when a fault occurs on the output of the device. It is usually defined in terms of the short circuit current capability of the source or system. For variable speed drives this definition is not applicable. The electronic protection features of a drive operate within microseconds. Any short circuit on the output of the drive is disconnected before the system has time to feed short circuit current to the fault. The Eaton drives listed below were successfully tested within a system capable of producing up to a 100kA fault. Note, that in case of an internal fault, the overcurrent protective devices in front of the variable speed drive must be rated for the short circuit current of the source.

Eaton SVX, SPX, LCX, HVX, H-Max, and M-Max drives (all frames and power ranges) have been tested and can be connected to a 100kA source.

It is recommended that a line filter is connected when an M-Max drive is installed in a system with a source current capability that exceeds 10 times the kVA\* of the drive. This will extend the life of the drive by protecting the rectifier and eliminating excessive ripple currents on the DC bus. In the case of the other drives listed previously a line filter or DC choke is integrated into the drive and additional filters are not suggested.

Eaton drives have been listed and tested by UL and are contained in UL file #E134360.

\* KVA= (V x A x 1.73)/1000



For additional information on Eaton drives and services please visit [www.eaton.com/drives](http://www.eaton.com/drives).



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