The Application Note is pertinent to the all AC and DC Drives

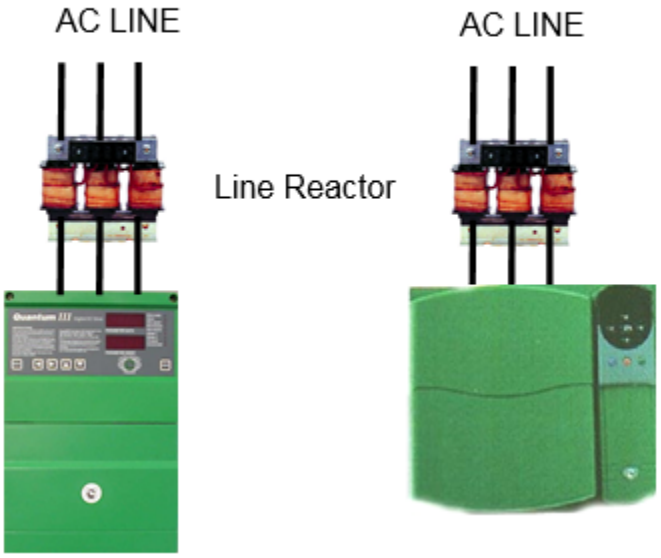
Line Reactors

Line Reactors (sometimes called Line Chokes) are a common power accessory for electronic variable speed drives. These components add an extra margin of protection for AC and DC drives by reducing the devastating effects of power line transients resulting from Power Factor Correction Capacitor switching, heavy load switching, lightning storms and general power grid switching.

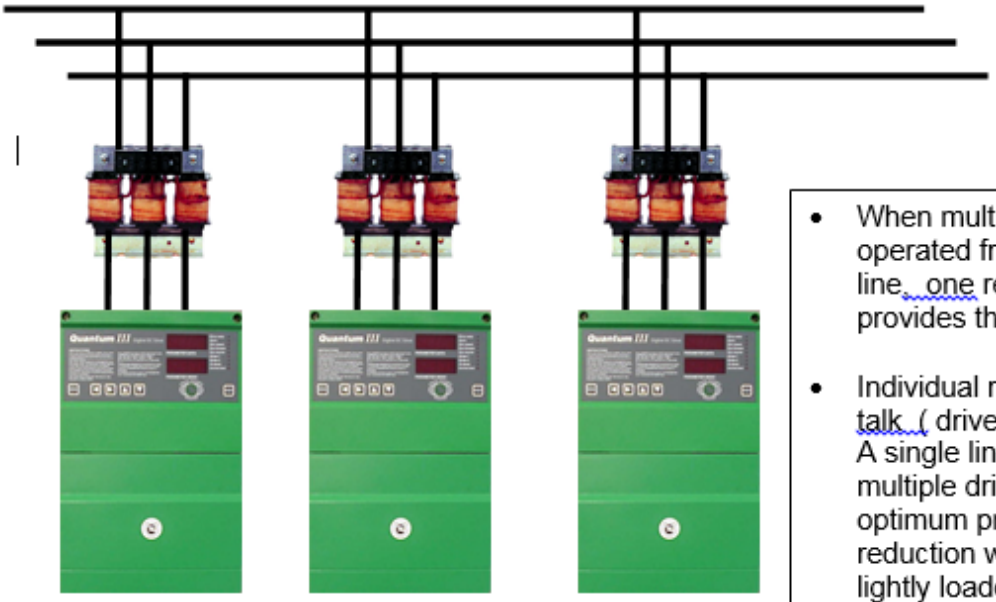
AC Drive Applications:

- Offers reduction of input line current harmonic distortion by reducing the current Form Factor (Peak to RMS value) thereby improving power factor and helping to meet IEEE 519 criteria.
- Improves input line current balance on rectifier input PWM AC Drives due to line voltage imbalance.
- Reduces nuisance over-voltage tripping of drives due to transient voltage spikes and general power line notches.
- Offers “in-rush” protection to input rectifiers caused by sudden power line surges and sags.
- Reduces ripple current in the DC Bus Capacitor bank thus extending their life due to lower internal heating.
- When used on the output of the drive, helps to reduce Output voltage dv/dt thereby providing a degree of motor protection from Long Lead Effects.

General Application Information



- When used on the Input of a Drive, they offer protection to power line surges and spikes.
- Improves input line current balance on rectifier input PWM AC Drives due to line voltage imbalance.
- Reduces ripple current in the DC Bus Capacitor bank thus extending their life due to lower internal heating.



- When multiple drives are being operated from a common power line, one reactor per drive provides the best surge protection.
- Individual reactors reduce cross-talk (drive to drive interference). A single line reactor serving multiple drives will not provide optimum protection or harmonic reduction when the system is lightly loaded.

Resources: can be found on our website: www.controltechniques.com
For help contact techsupport.cta@mail.nidec.com, or
call Technical Support at 952-995-8000, 24/7/365