Protect Your Motor From Long VFD Output Circuits!

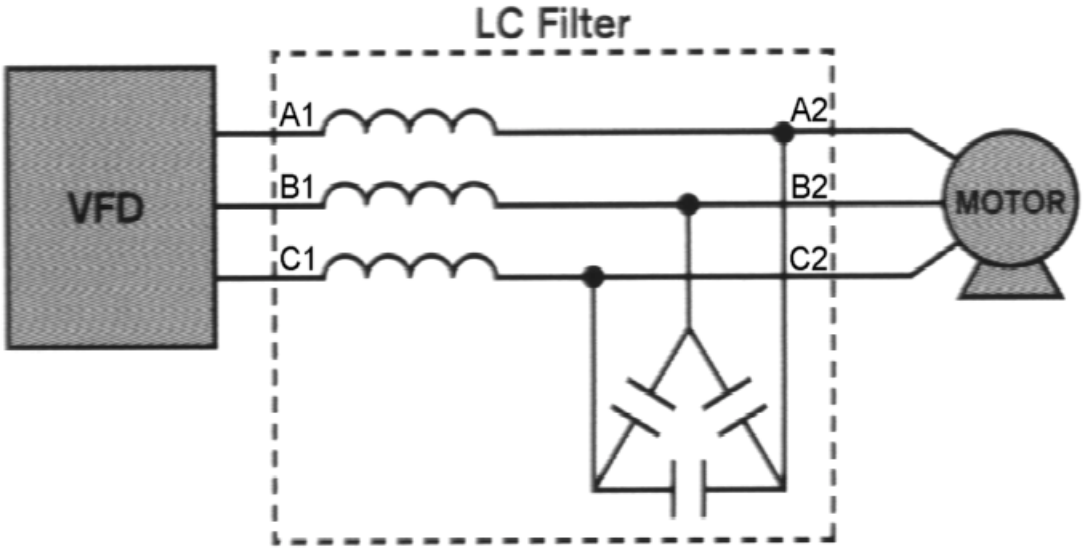
Guard your motor's insulation system against stress caused by high voltage peaks and dv/dt often experienced with use of a VFD at long distance from the motor.

Selection and Use of the MTE Motor Protection Filter
(LC Sine Wave Type)

Verify that the sine wave filter is compatible with your application:

- VFD switching (carrier) frequency set in range of 5kHz to 20kHz?
- VFD output frequency 60Hz or less?
- Ambient temperature 40°C or less?
- Altitude 1,000 meters or less?
- 480V (up to 600HP) or 600V (up to 20HP) supply?

If you can answer yes to the questions above, apply the appropriate standard MTE Motor Protection Filter. Select based on motor HP/voltage rating. The connection is shown below. **Please note that improper connection can cause damage to the components of filter or drive. Capacitor connections must be on the "motor side" of the reactor.**



Selection:

The filter model selection is based on the HP and Full Load Amp rating from the motor's nameplate. The Motor Protection Filter's fundamental current rating must be as close as possible to the motor FLA. The first three digits of the filter's catalog number indicate its fundamental current rating. Care should be taken in selection, as significant oversizing or undersizing of the filter may cause damage to the filter components.

The Motor Protection Filter design requires that the impedance of the motor load be within a certain value relative to the current rating of the filter. The filter must be selected to match the motor. If the filter is much larger than necessary, it will not be matched to the motor, and is misapplied.

Location:

Consider that the output filter is a heat source, and should be installed a suitable distance from combustible surfaces.

In some applications, the filter can produce high-frequency audible noise, so installation near workstations, living areas, or on ductwork should be avoided.

Installation of the output filter is typically near the VFD, but may be at the motor or anywhere on the output circuit. Locating the filter at the VFD is usually most convenient, and is the best location for protecting output circuit wiring and VFD output semiconductors.