Frequently Asked Questions

KDR and KLR Line Reactors

1. What is the Short Circuit Current Rating for KDR and KLR reactors?

Reactors are exempt per UL508A SB4.2.1.

2. Does it matter which way I wire through the KDR or KLR reactor?

No, so long as you are consistent for all three phases.

3. What is the impedance of the KDR reactors?

KDR Low Z reactors are 3% and High Z is 5%. The output reactors are 1.5% Z.

4. How do the KDR and KLR reactors have a 600 volt rated insulation, but be labeled a 690 volt reactor?

We are allowed to label reactors at 690 volts maximum based on additional insulation added and testing performed at the time of UL approved/witnessed heat runs.

5. Do 690 volt KDR and KLR reactors have the same terminations as other reactors?

Units rated 14 amps and lower have Quick Disconnect (QD) terminations. Units rated between 14 amps and 80 amps have Ring Lugs (RL) terminations. Units rated above 80 amps have Copper Bus (CB) terminations.

6. Have the impedances changed for 690V KDR or KLR reactors? What will my impedance be at 690 volts?

The units will have the same design as the 600 volt reactors, thus impedance is proportionately lower. Impedance is down to 4.3% (from 5%) or 2.6% (from 3%). 600/690 = 86.9% multiplied by 5% results in 4.3% (or multiplied by 3% results in 2.6%). Current ratings are standard 600 volt ratings.

7. Do you have 5% impedance KDR or KLR reactors at 690 volts?

High Z 690 volt reactors have 4.3% impedance.

8. What is the peak voltage for the 690 volt KDR and KLR reactors?

690 volt reactors have a peak voltage of about 976 volts.

9. Are the 690 volt KDR and KLR reactors UL Listed?

UL Listed 690 volt reactors are available upon request.

10. Can I use the 690 volt KDR and KLR reactors on the output of my drive?

690 volt reactors are available to be placed on the output of a drive.

11. Which safety standards do KDR and KLR Line Reactors meet?

KDR and KLR Reactors meet UL safety standards and have either the UL Listed mark or the UL Recognized Component mark. KDR and KLR Reactors are also CE-marked.

12. What is the difference between KDR and KLR reactors that are UL Listed and UL Recognized?

The UL Listed Mark on a product is the manufacturer's representation that samples of that complete product have been tested by UL to nationally recognized safety standards and found to be free from reasonably foreseeable risk of fire, electric shock and related hazards.

UL's Component Recognition Service covers the testing and evaluation of component products that are incomplete or restricted in performance capabilities. These components will later be used in complete end-products or systems Listed by UL.

13. Which KDR and KLR Line Reactors are available as UL Listed products?

All KDR Optimized Drive Reactors and KLR Line Reactors are available as a UL Listed product.

14. What is the advantage of having a UL Listed KDR or KLR Reactor?

The UL Listed mark provides a higher level of acceptability. KDR Optimized Drive Reactors that are UL Listed or UL Recognized meet the same safety standards but are viewed differently by Underwriters Laboratories. They consider UL Listed products as being complete end-products, versus components that will be used as part of a larger system. While a UL Recognized Reactor may adequately address a system's needs, the field inspection may require UL Listed products in a given installation. UL Listed Reactors meet a broad range of installation requirements. UL Recognized products may require an addition to a user's UL file, whereas UL Listed products may not.

15. What type of enclosure do I need for my KDR or KLR Reactor?

The enclosure you select for your reactor will depend on two things: the degree of protection the reactor must have against indoor and outdoor environments as well as the certification requirements of the installation. TCI offers NEMA 1 enclosures, UL Type 1 enclosures and UL Type 3R enclosures.

16. What's the difference between NEMA and UL enclosures for KDR or KLR?

The National Electrical Manufacturers Association (NEMA) develops standards for the electrical manufacturing industry. Underwriters Laboratories Inc. (UL) is an independent, not-for-profit product-safety testing and certification organization. Their ratings are based on similar application descriptions and expected performance. Installations require varying levels of standards and ratings to which TCI offers a range of products that meets those requirements.

17. What is the intended use of NEMA 1 enclosures for KDR or KLR?

NEMA 1 enclosures are best used when your application is indoors and you need protection against dust. The vent slot size provides cooling for the unit. KDR and KLR Reactors fit mechanically in the smaller NEMA 1 enclosures.

18. What is the intended use of UL Type 1 enclosures for KDR or KLR?

When your application is indoors and requires a larger space for wire bending, UL Type 1 enclosures are the optimal choice. UL Type 1 enclosures provide protection against a limited amount of falling dirt as well as a vent slot size that provides cooling for the unit. This larger enclosure provides the necessary space for heat dissipation.

19. What is the intended use of UL Type 3R enclosures for KDR or KLR?

Outdoor applications require an enclosure that provides a degree of protection against falling rain and the formation of ice on the enclosure. UL Type 3R enclosures are intended for outdoor use. This larger enclosure provides space for wire bending and adequate space for heat dissipation.

20. Why does there seem like there is a lot of empty space in my KDR or KLR enclosure?

Larger enclosures provide space for additional heat dissipation as well as room for the agency required wire bending space.

21. What are the benefits of KDR or KLR DIN Rail Reactors?

DIN Rail Drive Reactors reduce installation time. They have all of the capabilities of the smaller KDR and KLR Line Reactors. The convenient DIN Rail mounting assembly reduces installation time by over 75%. Simple 3 lines in, 3 lines out means clean cable layouts and improved cabinet organization.

22. What size DIN Rail are the KDR and KLR DIN Rail Reactors compatible with?

DIN Rail Drive Reactors are designed to be compatible with any 35mm DIN Rail.

23. What type of DIN Rail can KDR and KLR DIN Rail Reactors mount to?

DIN Rail Drive Reactors mount to either “Standard Steel High Profile” or “Heavy Duty Steel” DIN Rails.

24. Do I need specialized tools to install a KDR or KLR DIN Rail Reactor?

No specialized tools are required to install a DIN Rail Drive Reactor. The Reactor simply snaps onto the DIN Rail and then you connect the wires.

25. What size KDR or KLR DIN Rail Drive Reactors are available?

DIN Rails can support a limited amount of weight. DIN Rail Drive Reactors weigh 8 pounds or less and are equipped with a DIN Rail mounting assembly.

26. Would I be able to purchase a KDR and KLR DIN Rail mounting assembly without the reactor?

DIN Rail Drive Reactors are already assembled with the appropriate DIN Rail mount due to the weight limitations of DIN Rails. However, the mounting assembly is available upon request.