

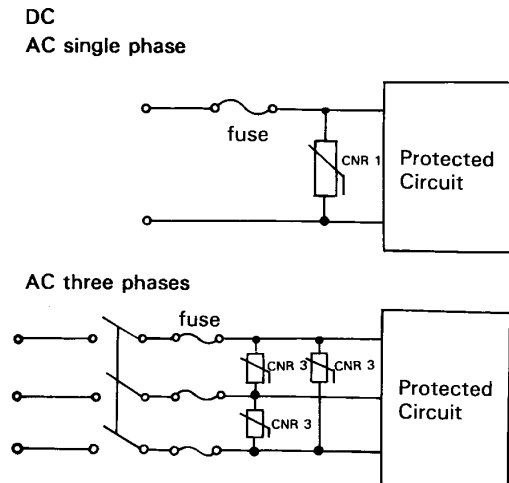


TRANSIENT/SURGE ABSORBER TRANSIENT VOLTAGE SURGE SUPPRESSORS

APPLICATION NOTE

1. Line protection

Line to Line Protection Connections



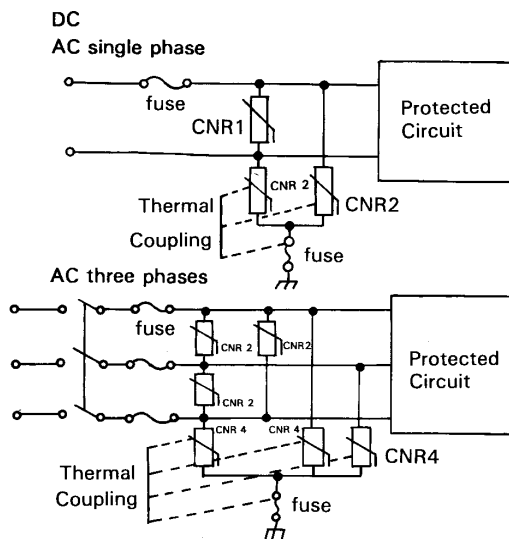
Selection of Ratings and Varistor Voltage Line to Line

Symbol	Line Voltage	Part Number	
CNR 1	DC 12V	CNR-□□D220K	
	DC 24V	CNR-□□D390K	
	AC 100V		CNR-□□D201K, CNR-□□D221K
			CNR-□□D241K*, CNR-□□D271K*
	AC 120V	CNR-□□D241K, CNR-□□D271K*	
	AC 127V	CNR-□□D271K	
	AC 200V		CNR-□□D391K, CNR-□□D431K
CNR-□□D471K			
CNR 3	AC 240V	CNR-□□D431K, CNR-□□D471K*	
		CNR-□□D511K	
	AC 265V	CNR-□□D511K	
	AC 380V	CNR-□□D821K	
	AC 415V	CNR-□□D911K	
	AC 460V	CNR-□□D112K	
	AC 480V	CNR-□□D112K	

Notes:

1. Maximum operating voltage shall be lower than maximum allowance voltage of CNR at any time.
2. CNRs with * are recommended for single phase, 3 wire applications to withstand a temporary over voltage caused by unbalance load.

Line to Line and Line to Ground Protection Connections



Selection of Ratings and Varistor Voltage Line to Ground

Symbol	Line Voltage	Part Number
CNR 2	AC 100V to AC 220V	CNR-□□D431K, CNR-□□D471K CNR-□□D431K, CNR-□□D471K or CNR-□□D751K **
	AC 240V	or higher Varistor Voltage or CNR-□□D182K ***
CNR 4	AC 240V	CNR-□□D431K CNR-□□D471K or CNR-□□D751K ** or higher Varistor Voltage or CNR-□□D182K ***

Notes

1. When the 500V insulation resistance test of the circuits employing CNRs is conducted, CNR shall be removed after getting approval from the customer, or CNR ** with the Maximum Allowable Voltage exceeding to test voltage shall be used.
2. When the 100V withstanding voltage test is conducted, CNR shall be removed after getting approval from the customer according to the relevant regulations, or CNR *** with the Maximum allowable exceeding to the test Voltage shall be used.
3. To avoid CNR failure caused by the ground fault, CNR with higher Varistor Voltage listed in the table shall be used for the AC 120V line to ground application.