

NEUTRAL GROUNDING RESISTORS LOAD BANKS



INTRODUCTION

RARA Neutral Grounding Resistors are designed to provide added safety to industrial distribution systems by limiting ground fault current to reasonable levels. In a typical grounded three phase system, the NGR is connected directly to the earth ground. This can cause high ground fault current (typically 10,000 to 20,000 amps) and excessive damage to transformers, generators, motors, wiring, and associated equipment. Installing a RARA Neutral Grounding Resistor between neutral and ground limits fault current to safe levels while still allowing sufficient current flow to operate fault clearing relays

- custom designed for your particular system
- durable, all stainless steel resistor elements
- elements are well insulated from ground for added safety
- corrosion resistant enclosures
- several stages of assembly depending on shipping needs

Our NGR elements fall into three categories: Strip, edge wound and wire wound types. The dimensions of these range from thicknesses of 0.6-2.5mm and widths from 4-100mm. The element type depends on the power of the NGR. Our enclosures have voltage ratings from 0.2KV to 72KV and meet IEEE32. We can manufacture NGRs with IP ratings up to IP54 and NEMA ratings up to NEMA3S.

Characteristics of Metal Resistive Elements

- reliable electrical characteristics
- resistor contact points are spot or argon-welded eliminating contact defects
- high resistance to mechanical vibration
- advanced cutting and trimming technology ensures low resistance tolerance
- easy maintenance and verification

Minimum Information Needed for Model Selection

- voltage rating [KV/R3]
- current rating [A]
- time rating [sec.]
- resistance [ohms]
- indoor/outdoor
- ambient environmental conditions

RATED VOLTAGE (Line to Neutral)		440/√3V		3.3/√3kV 3.45/√3kV	
RATED CURRENT	TEMP. RISE(°C)	10SEC	30SEC	10SEC	30SEC
	750	GRL-501S	GRL-503S	GR3H-501S	GR3H-503S
	350	GRL-501T	GRL-503T	GR3H-501T	GR3H-503T
100A	750	GRL-1001S	GRL-1003S	GR3H-1001S	GR3H-1003S
	350	GRL-1001T	GRL-1003T	GR3H-1001T	GR3H-1003T
200A	750			GR3H-2001S	GR3H-2003S
	350			GR3H-2001T	GR3H-2003T
300A	750				
	350				
400A	750				
	350				
500A	750				
	350				

RATED VOLTAGE (Line to Neutral)		6.6/√3kV 6.9/√3kV		22/√3kV 22.9/√3kV	
RATED CURRENT	TEMP. RISE(°C)	10SEC	30SEC	10SEC	30SEC
50A	750	GR7H-501S	GR7H-503S	GR24H-501S	GR24H-503S
	350	GR7H-501T	GR7H-503T	GR24H-501T	GR24H-503T
100A	750	GR7H-1001S	GR7H-1003S	GR24H-1001S	GR24H-1003S
	350	GR7H-1001T	GR7H-1003T	GR24H-1001T	GR24H-1003T
200A	750	GR7H-2001S	GR7H-2003S	GR24H-2001S	GR24H-2003S
	350	GR7H-2001T	GR7H-2003T	GR24H-2001T	GR24H-2003T
300A	750	GR7H-3001S	GR7H-3003S	GR24H-3001S	GR24H-3003S
	350	GR7H-3001T	GR7H-3003T	GR24H-3001T	GR24H-3003T
400A	750	GR7H-4001S	GR7H-4003S	GR24H-4001S	GR24H-4003S
	350	GR7H-4001T	GR7H-4003T	GR24H-4001T	GR24H-4003T
500A	750			GR24H-5001S	GR24H-5003S
	350			GR24H-5001T	GR24H-5003T

- Resistance (R) = Line to neutral voltage (V) / Rated current (I) - Tolerance : ±10 percent
- Power frequency withstand test(One minute)
 - Rated 600V or less : <2 X Line voltage> + 1000V
 - Rated over 600V : <2.25 X Line voltage> + 2000V
- Listed neutral grounding resistors are designed, tested, and rated in accordance with ANSI/IEEE Std 32-1972 (Reaffirmed 1990).

AISI-304 Neutral Grounding Resistors Dimensions

Model		Dimensions(mm)			Model		Dimensions(mm)		
		W	D	H			W	D	H
G R L -	501S, 503S	500	420	160	G R 7 H -	3001T	640	690	1120
G R L -	501T, 503T	640	420	160	G R 7 H -	3003S	640	690	1120
G R L -	1001S & 3S	640	420	160	G R 7 H -	3003T	640	780	1580
G R L -	1001T & 3T	640	420	160	G R 7 H -	4001S	640	600	660
					G R 7 H -	4001T	640	690	1120
G R 3 H -	501S	640	600	350	G R 7 H -	4003S	640	690	1120
G R 3 H -	501T	640	780	350	G R 7 H -	4003T	640	1140	1580
G R 3 H -	503S	640	780	350					
G R 3 H -	503T	640	600	580	G R 24 H -	501S	780	780	1110
G R 3 H -	1001S	640	600	350	G R 24 H -	501T	780	870	1340
G R 3 H -	1001T	640	780	350	G R 24 H -	503S	780	870	1340
G R 3 H -	1003S	640	780	350	G R 24 H -	503T	780	870	1800
G R 3 H -	1003T	640	600	580	G R 24 H -	1001S	780	780	1110
G R 3 H -	2001S	640	600	350	G R 24 H -	1001T	780	870	1340
G R 3 H -	2001T	640	780	350	G R 24 H -	1003S	780	870	1340
G R 3 H -	2003S	640	780	350	G R 24 H -	1003T	780	870	1800
G R 3 H -	2003T	640	690	810	G R 24 H -	2001S	780	780	1110
					G R 24 H -	2001T	780	870	1340
G R 7 H -	501S	640	600	660	G R 24 H -	2003S	780	870	1340
G R 7 H -	501T	640	780	660	G R 24 H -	2003T	780	1410	1800
G R 7 H -	503S	640	780	660	G R 24 H -	3001S	780	780	1110
G R 7 H -	503T	640	600	1120	G R 24 H -	3001T	780	960	1800
G R 7 H -	1001S	640	600	660	G R 24 H -	3003S	780	960	1800
G R 7 H -	1001T	640	780	660	G R 24 H -	3003T	780	1410	1800
G R 7 H -	1003S	640	780	660	G R 24 H -	4001S	780	780	1110
G R 7 H -	1003T	640	600	1120	G R 24 H -	4001T	780	960	1800
G R 7 H -	2001S	640	600	660	G R 24 H -	4003S	780	960	1800
G R 7 H -	2001T	640	780	660	G R 24 H -	4003T	780	1410	Note1
G R 7 H -	2003S	640	780	660	G R 24 H -	5001S	780	870	1340
G R 7 H -	2003T	640	690	1580	G R 24 H -	5001T	780	960	1800
G R 7 H -	3001S	640	510	660	G R 24 H -	5003S	780	960	1800
					G R 24 H -	5003T	780	1410	Note1

Note1: 1800 + 1800 (mm)