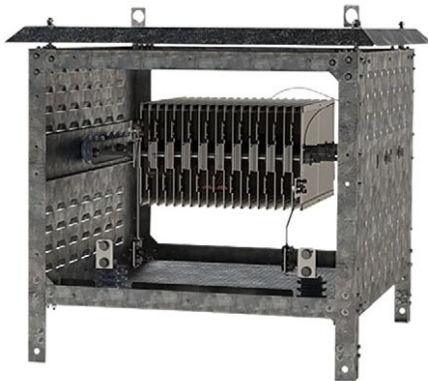


# Reliable Neutral Grounding Resistors, High Current Grid Resistors



## FEATURES

- Tied live design so that there are no floating voltages in the assembly
- Rugged shock resistant IP23 rated enclosures available environmental protection
- Lifting eyes allow safe and easy installation
- Stainless steel resistive elements
- High thermal capacity to absorb high currents
- Can be designed for specific applications
- Custom design on demand
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

## APPLICATIONS OF NEUTRAL GROUNDING (NEUTRAL EARTHING)

Vishay Milwaukee resistor offers a complete line of custom and standard neutral grounding resistors (NGRs), also known as neutral earthing resistors (NERs). Milwaukee resistor neutral grounding resistors are designed to absorb a large amount of energy without exceeding temperature limitations defined in IEEE-32. These resistors are used for grounding of generators and transformers in wye configurations for ground fault, overvoltage, and short circuit protection.

## CONTACT THE FACTORY FOR CUSTOM DESIGN AND OPTIONS FOR STANDARD DESIGNS

Options include: current transformers, enclosure style and entrance location, enclosure stands, disconnects, bushings, etc. For custom designs please include: system voltage, line-neutral voltage, max. on-time, current rating

## CSA CODE SPECIAL INSPECTION AVAILABLE UPON REQUEST

An independent, not-for-profit, member-based association dedicated to advancing safety, sustainability, and social good, the CSA Group is an internationally accredited standards development, testing, and certification organization. By offering CSA code special inspection for its NGR series of neutral ground resistors, Vishay allows its customers to take advantage of one-time verification programs that help them get products to the market quickly and safely when certification is not practical.

STANDARD ELECTRICAL SPECIFICATIONS					
MODEL	SYSTEM VOLTAGE (kV)	LINE-NEUTRAL VOLTAGE (kV)	CURRENT (A)	RESISTANCE VALUE $\Omega$	TOLERANCE $\pm$ %
NGR1390	2.4	1.39	100 to 1000	1.39 to 13.9	10
NGR2400	4.16	2.4	100 to 1000	2.40 to 24.00	10
NGR4160	7.20	4.16	100 to 1000	4.16 to 41.60	10
NGR7200	12.47	7.2	100 to 1000	7.2 to 72	10
NGR7620	13.2	7.62	100 to 1000	7.6 to 76	10
NGR8000	13.8	8	100 to 1000	8 to 80	10

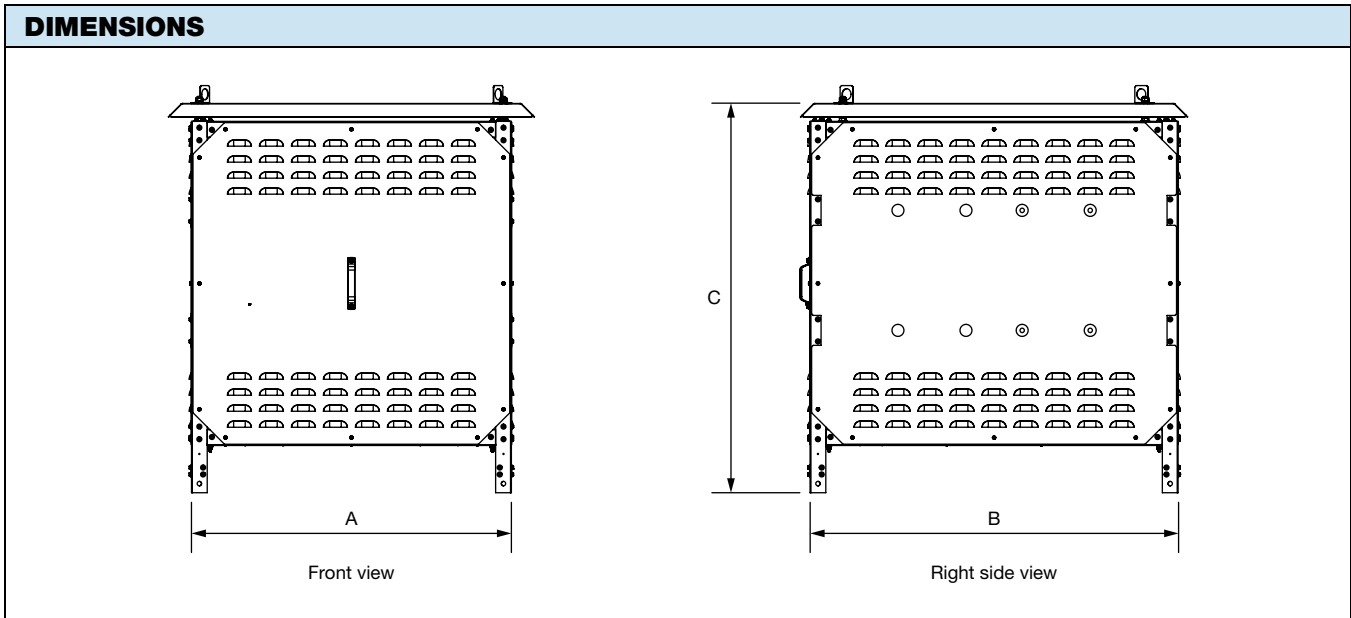
### Note

- Per IEEE-32, standard NGRs are designed for a maximum on-time of 10 s and a maximum temperature rise of 760 °C

CONTACT INFORMATION
For design assistance, contact: <a href="mailto:vishaymilwaukeeeresistor@vishay.com">vishaymilwaukeeeresistor@vishay.com</a> or +1-888-616-6666



DETAILED PRODUCT RATINGS - AVAILABLE VOLTAGE AND CURRENT VALUES								
GLOBAL MODEL	HISTORICAL MODEL	SYSTEM VOLTAGE (kV)	LINE-NEUTRAL VOLTAGE (kV)	CURRENT (A)	RESISTANCE (Ω)	DIMENSIONS (inches)		
						A	B	C
<b>5 kV VOLTAGE CLASS</b>								
NGR1390K0100B00000	MRC13100	2.4	1.39	100	13.9	36	36	34
NGR1390K0200B00000	MRC13200	2.4	1.39	200	6.95	36	36	34
NGR1390K0300B00000	MRC13300	2.4	1.39	300	4.63	36	36	34
NGR1390K0400B00000	MRC13400	2.4	1.39	400	3.48	36	36	34
NGR1390K0500B00000	MRC13500	2.4	1.39	500	2.78	36	36	34
NGR1390K0600B00000	MRC13600	2.4	1.39	600	2.32	36	36	34
NGR1390K0800B00000	MRC13800	2.4	1.39	800	1.74	36	36	48
NGR1390K1000B00000	MRC131000	2.4	1.39	1000	1.39	36	36	48
<b>5 kV VOLTAGE CLASS</b>								
NGR2400K0100B00000	MRC24100	4.16	2.4	100	24.00	36	36	34
NGR2400K0200B00000	MRC24200	4.16	2.4	200	12.00	36	36	34
NGR2400K0300B00000	MRC24300	4.16	2.4	300	8.00	36	36	34
NGR2400K0400B00000	MRC24400	4.16	2.4	400	6.00	36	36	34
NGR2400K0500B00000	MRC24500	4.16	2.4	500	4.80	36	36	34
NGR2400K0600B00000	MRC24600	4.16	2.4	600	4.00	36	36	48
NGR2400K0800B00000	MRC24800	4.16	2.4	800	3.00	36	36	48
NGR2400K1000B00000	MRC241000	4.16	2.4	1000	2.40	36	36	48
<b>5 kV VOLTAGE CLASS</b>								
NGR4160K0100B00000	MRC41100	7.20	4.16	100	41.60	36	36	34
NGR4160K0200B00000	MRC41200	7.20	4.16	200	20.80	36	36	34
NGR4160K0300B00000	MRC41300	7.20	4.16	300	13.87	36	36	34
NGR4160K0400B00000	MRC41400	7.20	4.16	400	10.40	36	36	48
NGR4160K0500B00000	MRC41500	7.20	4.16	500	8.32	36	36	48
NGR4160K0600B00000	MRC41600	7.20	4.16	600	6.93	36	36	48
NGR4160K0800B00000	MRC41800	7.20	4.16	800	5.20	36	36	63
NGR4160K1000B00000	MRC411000	7.20	4.16	1000	4.16	36	36	63
<b>15 kV VOLTAGE CLASS</b>								
NGR7200K0100B00000	MRC72100	12.47	7.2	100	72	42	48	48
NGR7200K0200B00000	MRC72200	12.47	7.2	200	36	42	48	48
NGR7200K0300B00000	MRC72300	12.47	7.2	300	24	42	48	48
NGR7200K0400B00000	MRC72400	12.47	7.2	400	18	42	48	63
NGR7200K0500B00000	MRC72500	12.47	7.2	500	14.4	42	48	63
NGR7200K0600B00000	MRC72600	12.47	7.2	600	12	84	48	48
NGR7200K0800B00000	MRC72800	12.47	7.2	800	9	84	48	63
NGR7200K1000B00000	MRC721000	12.47	7.2	1000	7.2	84	48	63
<b>15 kV VOLTAGE CLASS</b>								
NGR7620K0100B00000	MRC76100	13.2	7.62	100	76	42	48	48
NGR7620K0200B00000	MRC76200	13.2	7.62	200	38.1	42	48	48
NGR7620K0300B00000	MRC76300	13.2	7.62	300	25.4	42	48	48
NGR7620K0400B00000	MRC76400	13.2	7.62	400	19	42	48	63
NGR7620K0500B00000	MRC76500	13.2	7.62	500	15.2	84	48	48
NGR7620K0600B00000	MRC76600	13.2	7.62	600	12.7	84	48	48
NGR7620K0800B00000	MRC76800	13.2	7.62	800	9.5	84	48	63
NGR7620K1000B00000	MRC761000	13.2	7.62	1000	7.6	84	48	63
<b>15 kV VOLTAGE CLASS</b>								
NGR8000K0100B00000	MRC80100	13.8	8	100	80	42	48	48
NGR8000K0200B00000	MRC80200	13.8	8	200	40	42	48	48
NGR8000K0300B00000	MRC80300	13.8	8	300	26.7	42	48	48
NGR8000K0400B00000	MRC80400	13.8	8	400	20	42	48	63
NGR8000K0500B00000	MRC80500	13.8	8	500	16	42	48	48
NGR8000K0600B00000	MRC80600	13.8	8	600	13.6	42	48	48
NGR8000K0800B00000	MRC80800	13.8	8	800	10	42	48	63
NGR8000K1000B00000	MRC801000	13.8	8	1000	8	-	-	-


**Note**

- See “Standard Product Ratings” table for product specific dimensions

TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Resistance tolerance	%	10
Operating temperature	°C	-55 to +760
Maximum working voltage	kV	0.6 to 15 (product dependent)

MATERIAL SPECIFICATIONS	
Resistive element	Stainless steel
Element insulators	Ceramic
Enclosure	Steel (stainless steel upon request)
High voltage insulation	Porcelain

GLOBAL PART NUMBER INFORMATION					
Global Part Numbering example: NGR8000K1000BZZZZZ (NGR-ZZZZZ 8000 V 1000 A 10 % B)					
N	G	R	8	0	0
			0	K	1
					0
					0
					B
					Z
					Z
					Z
					Z
					Z
MODEL (3 digits)	VALUE (4 digits)	TOLERANCE (1 digit)	SIZE (4 digit)	PACKAGING (1 digit)	SPECIAL (5 digits)
NGR	1390 = 1390 V line-neutral 2400 = 2400 V line-neutral 4160 = 4160 V line-neutral 7200 = 7200 V line-neutral 7620 = 7620 V line-neutral 8000 = 8000 V line-neutral	<b>K</b> = ± 10 %  <b>K</b> = standard for all types and values	<b>0400</b> = 400 A <b>1000</b> = 1000 A	<b>B</b> = bulk <b>D</b> = wood crated <b>R</b> = international, heavy duty and plastic skids  <b>B</b> = standard for all types and values	Allowable range <b>00000</b> to <b>ZZZZZ</b> alphanumeric  Engineering controlled internal document number



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