

# Neutral Grounding Resistors

## INFORMATION

VISHAY INTERTECHNOLOGY, INC.

### Vishay Milwaukee Series:

- NGR: <http://www.vishay.com/doc?31873>

### What They Do

- Neutral grounding resistors (NGRs), also known as neutral earthing resistors (NERs), are used in the grounding of electric power systems to offer ground fault, overvoltage, and short circuit protection

### Electrical Capabilities

- System voltage: 2.4 kV to 13.8 kV
- Line-neutral voltage: 1.39 kV to 8 kV
- Current ratings: 5 A to 1000 A
- Tied live design to eliminate floating voltages
- Additional options available upon request

### Key Parameters

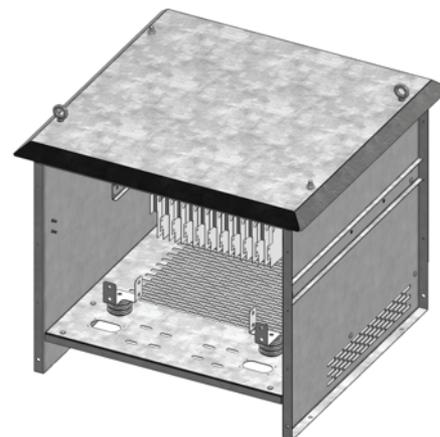
- Rugged IP23-rated outdoor enclosures
- Stainless steel resistor elements offer high thermal capacity
- Per IEEE-32, standard NGRs are designed for an on-time of 10 s continuous duty and a maximum temperature rise of 760 °C
- Current transformers (CT) optional

### Application Specifics

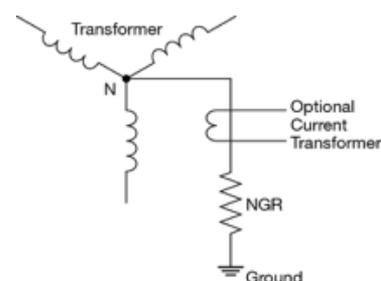
- Found in substations within the oil & gas, industrial, and utility markets
- Typically integrated with medium-voltage generators and large power transformers
- The neutral grounding resistor is located between the system neutral and ground

### How Can We Help

- Do you integrate NGR resistors into your system for certain applications?
- What is your typical line-to-neutral voltage and current rating?
- Do you usually buy the resistor complete with a bottom entry / exit IP23 outdoor-rated enclosure?
- Does your application ever require current transformers to be housed inside the enclosure?



### Schematic



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COMPLETE FORM TO RECEIVE A QUOTATION

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System volts (VL-L): \_\_\_\_\_

Line-neutral volts (VL-N): \_\_\_\_\_

Current (A): \_\_\_\_\_

Resistance, VL-N/A ( $\Omega$ ): \_\_\_\_\_

On time:  10 s  30 s  60 s  Ext time  Continuous

IEEE temp rise:  760 °C  760 °C  760 °C  610 °C  385 °C

## Enclosure Info (Standard Underlined)

Type:  Indoor (IP20)  Outdoor (IP23)  Frames (IP00)

Finish:  Mill galvanized  Stainless steel  Other

## Customizations:

Space limitations: \_\_\_\_\_

Current transformer required?  Yes  No

600 V window-type CT on ground side: \_\_\_\_\_ :5 ratio

*(Lowest cost option)*

Line-rated bar-type CT on line side: \_\_\_\_\_ :5 ratio

*(Much more expensive, offers greater accuracy)*

Enclosure entry:  Bottom hub  Top bushing  Side bushing

*(Bottom entry / exit is standard)*

Enclosure exit:  Bottom hub  Top bushing  Side bushing

*(Bottom entry / exit is standard)*

Elevating stand required? : \_\_\_\_\_

Stand height? : \_\_\_\_\_

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