



# Neutral Grounding Resistors At Your Fingertips

## Vishay Milwaukee Series:

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

## What They Do

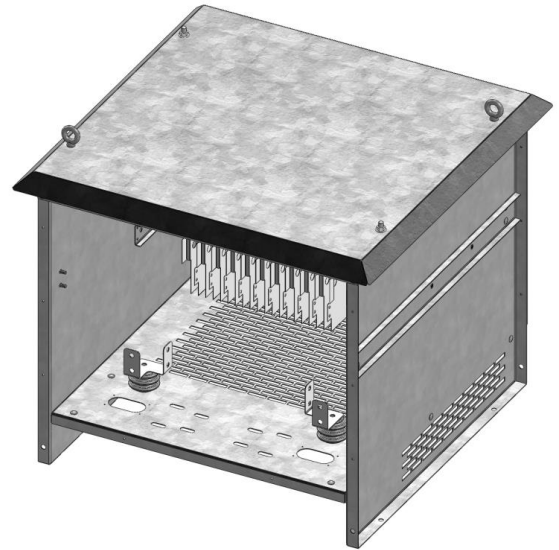
- Neutral grounding resistors (NGRs), also known as neutral earthing resistors (NERs) are used in the grounding of electric power systems to offer ground fault, overvoltage, and short circuit protection.

## 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

## Key Parameters

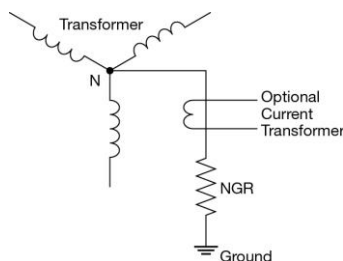
- Rugged IP23 rated outdoor enclosures
- Stainless Steel resistor elements offer high thermal capacity
- Per IEEE-32, standard NGRs are designed for an on-time of 10 sec continuous duty and a maximum temperature rise of 760 °C
- Current Transformers (CT) optional



## 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.

## Schematic



## 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?



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## Information Required for Quote

System Volts ( $V_{L-L}$ ): \_\_\_\_\_  
Current (A): \_\_\_\_\_

Line-Neutral Volts ( $V_{L-N}$ ): \_\_\_\_\_  
Resistance, VL-N/A ( $\Omega$ ): \_\_\_\_\_

On Time:	10 sec	30 sec	60 sec	Ext Time	Continuous
IEEE Temp rise:	760°C	760°C	760°C	610°C	385°C

### Enclosure Info (Standard in Bold)

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

Finish:      **Mill Galvanized**      Stainless Steel      Other

### Customizations:

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

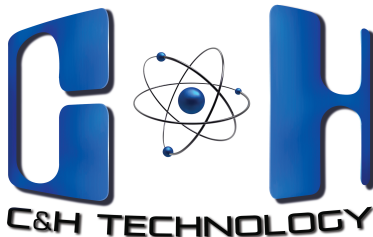
<b>Current Transformer Required?</b>	yes	no	
600V Window type CT on Ground side: (Lowest cost option)		_____	:5 ratio
Line rated Bar type CT on Line side: (much more expensive, offers greater accuracy)		_____	:5 ratio

**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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