Neutral Grounding Resistors

Vishay Milwaukee Series:


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?
## Neutral Grounding Resistors

**COMPLETE FORM TO RECEIVE A QUOTATION**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>System volts (VL-L)</td>
<td></td>
</tr>
<tr>
<td>Line-neutral volts (VL-N)</td>
<td></td>
</tr>
<tr>
<td>Current (A)</td>
<td></td>
</tr>
<tr>
<td>Resistance, VL-N/A (Ω)</td>
<td></td>
</tr>
<tr>
<td>On time</td>
<td>10 s  30 s  60 s  Ext time  Continuous</td>
</tr>
<tr>
<td>IEEE temp rise</td>
<td>760 °C  760 °C  760 °C  610 °C  385 °C</td>
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</tbody>
</table>

### 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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**SALES INFORMATION**

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