High-Power, High-Current Grid Resistors

KEY BENEFITS

• Resistance range: 0.25 Ω to 50 Ω
• Low inductance: 10 µH to 40 µH
• Drop-in replacement for competitive products
• Modular design
• Power rating from 4 000 W to 24 000 W
• IP20- and IP23-rated enclosures available to hold 1-, 2-, or 3-resistor banks. See datasheet for details and dimensions

APPLICATIONS

• Industrial
• Locomotives
• Renewable energy
• Harmonic filtering
• Neutral grounding

RESOURCES

• Datasheet for GRE1/GRE2: http://www.vishay.com/doc?31833
• For technical questions contact vishaymilwaukeeresistor@vishay.com
High-Power, High-Current Grid Resistors

OVERVIEW
Vishay Milwaukee Resistor, a division of Vishay Dale Electronics, offers a complete line of custom and standard grid resistors (GRE1, GRE2), also known as steel grid, punched grid, and plate resistors. With a robust all-welded construction, Vishay Milwaukee Resistor grid resistors are designed using stainless steel resistance elements to repeatedly absorb high-energy pulses.

APPLICATIONS OF GRID RESISTORS

Dynamic Braking
When an electric-motor-driven load is being decelerated, the motor acts as a generator, converting kinetic energy of the load to electrical energy. The dynamic braking circuit converts this electrical energy into heat to slow the load, through the use of dynamic braking resistors. Braking resistors ensure proper motor operation, allow heavy loads to stop quickly, and protect the drive from damage. Furthermore, dynamic braking resistors that are improperly cooled, incorrectly sized, physically damaged, or electrically compromised can cause costly and unwanted downtime.

Harmonic Filters
Within a harmonic filter installation, the filter resistors are used to dissipate unwanted harmonic frequencies as heat.

Load Banks
Custom-designed resistive load banks allow for load simulation of many electrical applications for testing purposes.

CONTACT THE FACTORY FOR CUSTOM DESIGNS, AND OPTIONS FOR STANDARD DESIGNS
Options include: custom mounting configurations, custom IP-rated enclosures, element size / shape, power, multiple resistors in a single enclosure, etc.
For custom designs please include: duty cycle, total power, resistance, and mounting requirements.

<table>
<thead>
<tr>
<th>GLOBAL PART NUMBER</th>
<th>POWER RATING (W)</th>
<th>MIN. RESISTANCE (Ω)</th>
<th>MAX. RESISTANCE (Ω)</th>
<th>TOLERANCE (%)</th>
<th>TEMPERATURE COEFFICIENT (PPM/°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRE2AxxxxxK00N0000</td>
<td>4000</td>
<td>0.04</td>
<td>10</td>
<td>10</td>
<td>± 930</td>
</tr>
<tr>
<td>GRE2BxxxxxK00N0000</td>
<td>6000</td>
<td>0.06</td>
<td>15</td>
<td>10</td>
<td>± 930</td>
</tr>
<tr>
<td>GRE2CxxxxxK00N0000</td>
<td>8000</td>
<td>0.08</td>
<td>20</td>
<td>10</td>
<td>± 930</td>
</tr>
<tr>
<td>GRE2DxxxxxK00N0000</td>
<td>10 000</td>
<td>0.1</td>
<td>25</td>
<td>10</td>
<td>± 930</td>
</tr>
<tr>
<td>GRE2ExxxxxK00N0000</td>
<td>12 000</td>
<td>0.12</td>
<td>30</td>
<td>10</td>
<td>± 930</td>
</tr>
<tr>
<td>GRE2FxxxxxK00N0000</td>
<td>14 000</td>
<td>0.14</td>
<td>35</td>
<td>10</td>
<td>± 930</td>
</tr>
<tr>
<td>GRE2GxxxxxK00N0000</td>
<td>16 000</td>
<td>0.16</td>
<td>40</td>
<td>10</td>
<td>± 930</td>
</tr>
<tr>
<td>GRE2HxxxxxK00N0000</td>
<td>18 000</td>
<td>0.1</td>
<td>45</td>
<td>10</td>
<td>± 930</td>
</tr>
<tr>
<td>GRE2JxxxxxK00N0000</td>
<td>20 000</td>
<td>0.2</td>
<td>50</td>
<td>10</td>
<td>± 930</td>
</tr>
<tr>
<td>GRE2KxxxxxK00N0000</td>
<td>22 000</td>
<td>0.22</td>
<td>55</td>
<td>10</td>
<td>± 930</td>
</tr>
<tr>
<td>GRE2LxxxxxK00N0000</td>
<td>24 000</td>
<td>0.24</td>
<td>60</td>
<td>10</td>
<td>± 930</td>
</tr>
</tbody>
</table>

GLOBEAL MODEL RESISTANCE VALUE TOLERANCE ENCLOSURE TYPE ENCLOSURE HEIGHT SPECIAL
5 digits 5 digits 1 digit 2 digits 1 digit 4 digits
GRE2A to GRE2L per electrical table above 2R128 = 2.128 Ω K = 10 % (standard) 00 = IP00 / NEMA 0 (standard) N = No enclosure (standard) Allowable range
R - Decimal resistance value is for each individual resistor bank Tolerance value is for each individual resistor bank IP = IP rating 00 = IP00 / NEMA 0 (open) 20 = IP20 / NEMA 1 (screen) 23 = IP23 / NEMA 3 (outdoor) GRE2 options 1 = 1 resistor bank high 2 = 2 resistor banks high 3 = 3 resistor banks high Assumes all resistor banks to be identical, per the first 11 digits of the part number, and all resistors will be customer wired as required. 00000 to ZZZZZ alphanumeric engineering controlled internal document number

www.vishay.com