Caddock's Micronox® resistance films are the source of the Type MG Precision High Voltage Resistors' outstanding combination of performance features:

- Single-resistor values as high as 10,000 Megohms.
- Maximum continuous operating voltages as high as 48,000 volts ("-15" ratings).
- Overvoltage capabilities of 150% of standard working voltages for all models and values, (except "-15" ratings).
- Resistance Tolerances from ±1.0% to ±0.1%.
- Temperature Coefficient, for standard resistance range, of 80 ppm/°C in combination with resistance tolerances as tight as ±0.1%.
- Type MG resistors have demonstrated stability of 0.01% per 1,000 hours in extended load life testing of standard resistance range values.

This exceptional performance has been proven through many years of use in equipment that demands the highest reliability and stability, including TWT amplifiers, X-ray systems, geophysical instruments, and medical electronics.

Preconditioning for Power and Voltage Ratings
All power ratings and maximum operating voltage ratings are for continuous duty. These ratings are based on pre-stress voltage levels applied during the manufacturing process to provide for stable resistor performance even under momentary overload conditions.

Maximum operating voltages 60% higher than the values listed in the table may be specified by adding "-15" to the model number (Example: MG750-15). Note that overload and overvoltage ratings do not apply to the "-15" resistors. Resistance ranges for "-15" resistors shown in the table are from "-15 Min." to "Standard Max."

Non-Inductive Performance
Most models are manufactured with Caddock's Non-Inductive Design which uses a serpentine resistive pattern that provides for neighboring lines to carry current in opposite directions, thereby achieving maximum cancellation of flux fields over the entire length of the resistor. This efficient non-inductive construction is accomplished without derating of any performance advantages.

### Specifications:

#### Resistance Tolerance:

<table>
<thead>
<tr>
<th>Resistance Range</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>±1%, ±0.5%, ±0.25%, ±0.1%</td>
</tr>
<tr>
<td>Std with &quot;-15&quot; rating</td>
<td>±1%</td>
</tr>
<tr>
<td>Extended Range</td>
<td>±1%</td>
</tr>
</tbody>
</table>

#### Temperature Coefficient:

<table>
<thead>
<tr>
<th>Resistance Range</th>
<th>TC Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>±80 ppm/°C from -15°C to +105°C, referenced to +25°C</td>
<td></td>
</tr>
</tbody>
</table>

#### Insulation Resistance:

10,000 Megohms, min.

#### Overload/Overvoltage:

5 times rated power with applied voltage not to exceed 1.5 times maximum continuous operating voltage for 5 seconds. Type 1: DC Voltage. Type 2: DC Voltage or $V_{rms}$AC

#### Thermal Shock:

Mil-Std-202, Method 107, Cond. C, ΔR 0.25% max.

#### Moisture Resistance:

Mil-Std-202, Method 106, ΔR 0.4% max.

#### Load Life:

1,000 hours at +125°C at rated voltage, not to exceed rated power.

#### Solderable Leads:

Encapsulation: High Temperature Silicone Conformal.

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**CADDICK ELECTRONICS, INC.**

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For Caddock Distributors listed by country see caddock.com/contact/dist.html


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Type MG Precision High Voltage Resistors

Most models are available with Caddock’s Non-inductive Serpentine Pattern

Certain products shown in this catalog are covered by one or more patents, there are also patents pending.

Design Assistance in Developing High Voltage Resistor Sets with Low TC Tracking.

For immediate engineering assistance in developing Low Ratio TC matched high voltage resistor sets, contact our Applications Engineering and we will be pleased to offer the best solution from our high voltage resistor product capabilities.

For Caddock Distributors listed by country see caddock.com/contact/dist.html