Protection and high cantilever strength for substation application requirements

Eaton’s Cooper Power™ series expands offering of VariSTAR station-class surge arresters

Eaton has set a new standard of excellence for UltraSIL™ silicone rubber-housed high-strength station-class surge arresters. Eaton’s Cooper Power™ series VariSTAR™ high-strength design provides the perfect choice when both high mechanical strength and excellent overvoltage protection are required.

Eaton’s new VariSTAR™ high-strength arresters have been tested to meet and exceed the demanding requirements of IEEE Std C62.11™-2012. In addition, they have been tested to meet IEEE Std 693 high seismic zone construction requirements.

The superior performance of the UltraSIL silicone rubber housing, is field-proven under the most demanding conditions. The unique high creep alternating shed profile has been designed to withstand the most extreme environmental conditions.

VariSTAR high-strength station-class arresters have been designed with advanced features to meet the demands of substation applications.

Eaton
Powering Business Worldwide
**Outstanding cantilever strength**

The innovative high-strength design incorporates the strength of porcelain arresters in a new lightweight polymer design, including a reinforced polymer tube that is incredibly strong and robust. This reinforced tube creates a superior strength that delivers not only the cantilever you need, but also provides the containment necessary if an end-of-life event occurs. The hollow core has the strength with the advantages of our UltraSIL polymer housing, in a package that is less than half the weight of a porcelain arrester.

**Directional venting**

The high-strength design incorporates directional venting which allows utilities to locate the arrester where it will maximize its effectiveness, while protecting their valuable assets if an end-of-life event occurs.

### Aluminum alloy end castings

- Directional venting
- Fiber glass reinforced tube provides high cantilever strength

### Eaton manufactured MOV blocks

- aluminum alloy 4-hole pad
- stainless steel nameplate

### Energy ratings

The high-strength arresters come in two models:

- **UHAF** model Class E rated disks (9 kJ/kV) of MCOV up to a 288 kV arrester
- **UXLG** model Class H rated disks (15 kJ/kV) of MCOV that has ratings to 396 kV

#### Arrester characteristic rating

<table>
<thead>
<tr>
<th>Arrester characteristic rating</th>
<th>UHAF</th>
<th>UXLG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrester voltage ratings (kV)</td>
<td>3-288</td>
<td>3-396</td>
</tr>
<tr>
<td>Double impulse discharge energy rating Mcov*</td>
<td>9 kJ/kV</td>
<td>15 kJ/kV</td>
</tr>
<tr>
<td>System frequency (Hz)</td>
<td>50/60</td>
<td>50/60</td>
</tr>
<tr>
<td>Impulse classifying current (kA)</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>High current withstand** (kA)</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Pressure relief rating (kA rms sym.)</td>
<td>63</td>
<td>63</td>
</tr>
<tr>
<td>Cantilever strength (in-lbs)</td>
<td>120,000</td>
<td>180,000</td>
</tr>
<tr>
<td>Ultimate cantilever strength (in-lbs)***</td>
<td>48,000</td>
<td>72,000</td>
</tr>
<tr>
<td>Static cantilever strength*** (in-lbs)</td>
<td>120,000</td>
<td>180,000</td>
</tr>
</tbody>
</table>

* Energy levels per IEEE Std C62.11™-2012 standard
** High current, short duration withstand (100 kA, 4/10 μs)
*** Maximum design cantilever load — static or maximum working load is 40% of the ultimate.