Deadbreak Apparatus Connectors

T-OP II Deadbreak Connector

Functional Specification for T-OP II Deadbreak Connector

1.0 Scope

1.1 This specification covers the electrical and mechanical characteristics of the T-OP II deadbreak connector, for cables with conductors ranging from #2 AWG to 1250 kcmil. Product is per Eaton’s Cooper Power series product catalog sections below.

<table>
<thead>
<tr>
<th>Table 1 – Voltage Rating and Catalog Sections</th>
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</thead>
<tbody>
<tr>
<td>kV Class</td>
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<tr>
<td>---------</td>
</tr>
<tr>
<td>15</td>
</tr>
<tr>
<td>25</td>
</tr>
<tr>
<td>35</td>
</tr>
</tbody>
</table>

2.0 Applicable Standards

2.1 All characteristics, definitions, and terminology, except as specifically covered in this specification, shall be in accordance with IEEE Std 386™-2006 standard – Separable Insulated Connector Systems. All connectors are to be fully shielded and submersible.

3.0 Construction

3.1 Rubber - High-quality, peroxide-cured EPDM Insulation shall be mixed and formulated for complete control of raw rubber characteristics.

3.2 Adapter - Molded cable adapter, sized to fit cable insulation diameters from 0.610” to 2.210” (15.5 to 56.1 mm), provides stress relief for the terminated cable.

3.3 Loadbreak Reducing Tap Plug - Loadbreak reducing tap plug (LRTP) will be 200 A, three-phase loadbreak and three-phase fault close rated. It incorporates a captured rotating nut that threads onto a copper alloy stud in the apparatus bushing upon installation as well as provides a mechanical back-off feature during removal.

4.0 Installation

4.1 The T-body will be assembled onto prepared cable with a threaded coppertop compression connector and using a T-Wrench, the loadbreak reducing tap plug is threaded into the connector. Kits shall be furnished with a special copper alloy stud, which is torqued onto a de-energized 600 A bushing. The assembled housing is then connected to the apparatus bushing using an O&T tool (with cap) and an installation torque tool.

The connector should utilize a rotating nut to provide ease of removal of the connector system from the apparatus bushing.

5.0 Production Tests

5.1 These tests shall be conducted in accordance with IEEE Std 386™-2006 standard. The values from these tests are shown in Table 2 below:

- AC 60 Hz 1 Minute Withstand
- Minimum Partial Discharge Extinction Voltage
Table 2 – Voltage Ratings and Test Results

<table>
<thead>
<tr>
<th>kV Class</th>
<th>AC Withstand (kV)</th>
<th>Min. PD Extinction Voltage (kV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>34.0</td>
<td>11.0</td>
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<tr>
<td>25</td>
<td>40.0</td>
<td>19.0</td>
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<tr>
<td>28</td>
<td>50.0</td>
<td>26.0</td>
</tr>
</tbody>
</table>

5.2 The following tests shall be conducted in accordance with manufacturer requirements:
- Physical Inspection
- Periodic Dissection
- Periodic Fluoroscopic Analysis

6.0 Optional Features
- Protective Cap
- Capacitive Test Point
- All Copper Connector
- Cold Shrink Cable Seal Kit
- Cable Shield Adapter Kit
- T-Wrench
- Torque Tool
- Operating and Test/Torque Tool
- Socket Drive Tool

7.0 Approved Manufacturers
7.1 Eaton