Deadbreak Apparatus Connectors

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 1 – Voltage Rating and Catalog Sections	
kV Class	**Catalog Section**
15	CA650017EN
25	CA650059EN
35	CA650055EN

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		
kV Class	**AC Withstand (kV)**	**Min. PD Extinction Voltage (kV)**
15	34.0	11.0
25	40.0	19.0
28	50.0	26.0

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