630 A deadbreak companion tee connector for DTS624/636

**DTB624 – 24 kV applications**
**DTB636 – 36 kV applications**

**Related products**
- DTS624/636 Bolted Tee Connector

**Installation**
- No special tools, heating, taping, or potting are required
- Connector may be energized immediately after installation on its mating part
- Mates with the matching bolted tee connector DTS624 or DTS636 only

**Application**
- For connection of extruded polymeric cable to transformers, switchgear, motors and other equipment with a premoulded separable connector
- For indoor and outdoor installations
- System voltage up to 36 kV
- Continuous current 630 A (900 A overload for 8 hours)
- Cable particulars:
  - Extruded polymeric cable (XLPE, EPR, etc.)
  - Copper or aluminum conductors
  - Semi-conducting or metallic screens
- Conductor size: 12 kV 25-300 mm²
  - 24 kV 25-300 mm²
  - 36 kV 25-240 mm²

**Features**
- Provides a fully screened and fully submersible separable connection when mated with the proper bushing or plug
- Built-in capacitive test point allows for an easy check of the circuit status or installation of a fault indicator
- No minimum phase clearance requirements
- Mounting can be vertical, horizontal, or any angle in between
- 100% factory tested
  - AC Withstand
  - Partial Discharge

**Standards**
- Meets the requirements of IEC 60502-4 and CENELEC HD 629.1 S2
Quality assurance

• Our manufacturing facility is registered to ISO 9001 by third party audit
• Required Production Tests
• Periodic X-Ray Analysis

Packaging

• Supplied in a kit with all necessary parts, approximate weight 3 kg

Features and detailed description

Table 1. Electrical Ratings

<table>
<thead>
<tr>
<th></th>
<th>DTB624</th>
<th>DTB636</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum System Voltage ($U_{\text{m}}$)</td>
<td>24 kV</td>
<td>36 kV</td>
</tr>
<tr>
<td>Impulse</td>
<td>125 kV</td>
<td>170 kV</td>
</tr>
<tr>
<td>AC Withstand (5 min.)</td>
<td>54 kV</td>
<td>81 kV</td>
</tr>
<tr>
<td>Continuous Current</td>
<td>630 A</td>
<td>630 A</td>
</tr>
<tr>
<td>Overload (8 hrs. Max.)</td>
<td>900 A</td>
<td>900 A</td>
</tr>
<tr>
<td>Short Circuit Withstand, 1 sec. (rms sym)</td>
<td>35 kA</td>
<td>35 kA</td>
</tr>
</tbody>
</table>

Notes: Ratings are based on IEC Standards and do not reflect maximum capability.

1. Clamping Screw and Connecting Rod
   Tin-plated brass screw secures the conductor contact to the bushing.

2. Insulation
   Moulded EPDM insulating rubber is formulated and mixed in-house to ensure high quality.

3. Basic Insulating Plug
   Moulded epoxy part has a threaded metal insert to accept the clamping screw.

4. Capacitive Test Point
   Capacitive test point provides means to check circuit status.

5. Rubber Cap
   Moulded EPDM conducting rubber cap protects and earths the test point during normal operation. Includes pulling eye.

6. Internal Screen
   Moulded EPDM conducting rubber screen controls electrical stress.

7. Capacitive Test Point (Optional)
   Provides a means to mount a fault indicator. A moulded EPDM conducting rubber cap provides a watertight seal.

8. Stress Relief
   The configuration of the outer screen and the cable adapter provide cable stress relief.

9. Cable Adapter
   The sized opening provides an interference fit to maintain a watertight seal and provides the initial cable stress relief.

10. Earthing Eyes
    Moulded into the external screen for connection of an earthing wire.

11. External Screen
    Moulded EPDM conducting rubber provides an external screen at earth potential for operator safety.

12. Conductor Contact
    Inertia welded bimetallic compression connector accepts copper or aluminum conductors.

13. Screen Break
    Insulation added to the outer screen to provide a screen break for cable screen testing. Also available without screen break.


**Kit contents**

The complete kit includes 1 each moulded tee housing, cable adapter, conductor contact, connecting rod, clamping screw, silicone lubricant, and installation instructions.

**Notes:** The insulating plug and rubber cap are supplied with the mating DTS624/636 tee connector.

**Ordering information**

To order a 24kV or a 36kV bolted tee connector, see the following Steps 1-3.

**Step 1**

Determine the required voltage rating for the companion tee and whether a test point is required or not. Pick the basic catalog number from the list below:

- 24 kV with test point DTB624R2C3TSB*
- 24 kV without test point DTB624R2C3SB*
- 36 kV with test point DTB636R2C3TSB*
- 36 kV without test point DTB636R2C3SB*

* Remove “SB” for non-screen break option.

**Table R2. Cable Insulation Range**

<table>
<thead>
<tr>
<th>Insulation Range Designation</th>
<th>Cable Insulation Range Ø (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min.</td>
</tr>
<tr>
<td>AA</td>
<td>13.5</td>
</tr>
<tr>
<td>A</td>
<td>16.3</td>
</tr>
<tr>
<td>B</td>
<td>18.3</td>
</tr>
<tr>
<td>C</td>
<td>20.0</td>
</tr>
<tr>
<td>D</td>
<td>23.1</td>
</tr>
<tr>
<td>E</td>
<td>25.6</td>
</tr>
<tr>
<td>F</td>
<td>27.7</td>
</tr>
<tr>
<td>G</td>
<td>30.9</td>
</tr>
<tr>
<td>H</td>
<td>34.0</td>
</tr>
</tbody>
</table>

**Step 2**

Determine the cable’s diameter over insulation. Then identify a cable range from Table R2 that covers the minimum and maximum insulation diameters. Select the correct cable range code from table R2 and insert into the catalog number determined in Step 1.

**Step 3**

Identify the conductor size and type in Table C3 and select the conductor code from the appropriate column (DIN style, EDF style or Mechanical Connector style). Insert the selected code in the catalog number determined in Step 1.

**Cable seal adaptors are ordered separately**

**Table C3. Conductor Code**

<table>
<thead>
<tr>
<th>Stranded Conductor Size (mm²)</th>
<th>DIN Type</th>
<th>EDF Type</th>
<th>Mechanical Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>25</td>
<td>E25</td>
<td>S150</td>
</tr>
<tr>
<td>35</td>
<td>35</td>
<td>E35</td>
<td>S150</td>
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<td>S150</td>
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<td>E185</td>
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</tr>
<tr>
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<td>S300</td>
</tr>
<tr>
<td>300</td>
<td>300</td>
<td></td>
<td>S300</td>
</tr>
</tbody>
</table>

**Notes:** Bimetallic connectors can be used with aluminum or copper conductors.

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**Figure 2. DTS624/636 deadbreak tee connector with one DTB624/636 companion tee**

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www.eaton.com/cooperpowerseries
Figure 3. DTS624/636 deadbreak tee connector with two DTB624/636 companion tee