

600A/900A 35 kV Class T-Body Deadbreak Connector



APPLICATION

The Chardon 600A/ 900A, 35kV Class T-Body Deadbreak Connector is used to terminate high-voltage underground cables to deadfront apparatus such as transformers, switches and switchgear. It is fully shielded, submersible, and meets the requirements of IEEE Std 386™ standard—Separable Insulated Connector Systems.

The capacitive test point on the insulating plug provides a means of testing the circuit without disturbing the bolted connection. In addition to the capacitive test point feature on the insulating plug, Chardon offers an optional capacitive test point on the T-Body connector. This allows the use of fault indicators, and

provides a hotstick operable means of determining circuit condition when used with high impedance voltage sensing devices designed for test points.

T-Body Connectors are designed for use on solid dielectric cable (XLPE or EPR) with extruded semi-conductive shields and concentric neutral, with or without a jacket. Installation on jacketed concentric neutral cable may require additional sealing material. A special grounding adapter is available for tape shield, linear corrugated, unshield, and drain wire cables for use with Deadbreak connectors.

KEY FEATURES

- ! 100% factory production testing for partial discharge and AC withstand per IEEE 386.
- ! Peroxide cured EPDM rubber provides low tension set and high dielectric strength.
- ! Optional selection of test point installed to provide voltage indication.
- ! 200BIL Products is available.
- ! Molded semiconducting shield provides ground shield continuity per the requirements of IEEE 592.
- ! Grounding Tab and Stress Relief Cone design provide operational safety.
- ! Fully meets IEEE 386–2006 specifications.

PRODUCT RATINGS

| | |
|--|--|
| Voltage Class | 35 kV |
| Max. Rating Phase to Ground | 21.1 kV |
| AC 1 Minute Withstand (70kV for 200 BIL Product) | 50 kV |
| DC 15 Minute Withstand | 103 kV |
| BIL and Full Wave Crest (200kV for 200 BIL Product) | 150 kV |
| Minimum Corona Level | 26 kV (3pC) |
| Continuous | 600Arms |
| 24 Hour Overload | 1,000Arms |
| Momentary | 25,000A symmetrical 10 cycles / 10,000A symmetrical 3.00 sec |

Voltage/Current ratings and characteristics are in accordance with IEEE Std 386 standard.

• 35TB600-062123-REV07

PRODUCTION TESTS

Tests conducted in accordance with IEEE Standard 386.

- ! AC 60 Hz 1 Minute Withstand - 50kV
- ! Minimum Corona Voltage Level - 26kV

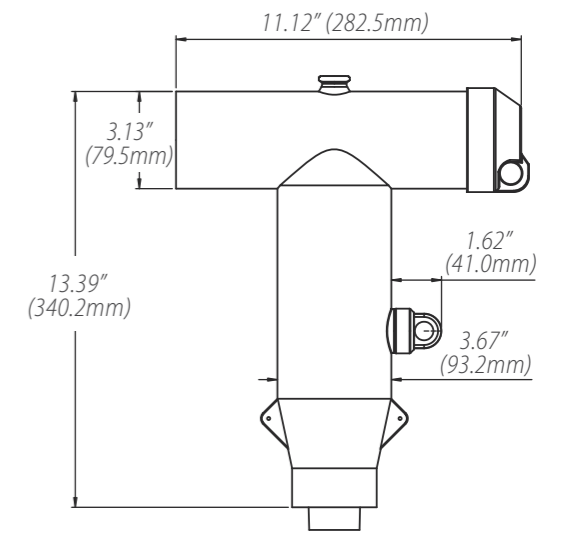
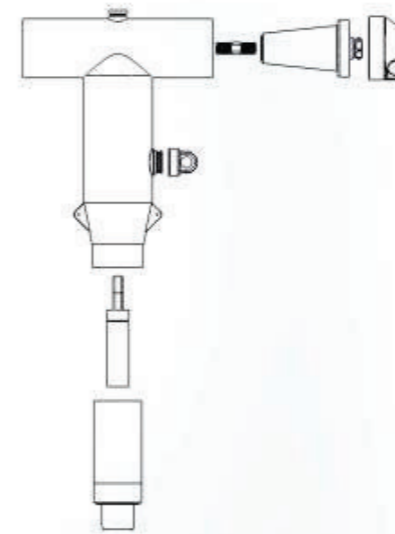
Tests conducted in accordance with Chardon Manufacturing Process requirements:

- ! Physical Inspection
- ! Periodic Dissection
- ! Periodic X-ray Analysis

T-BODY KIT CONTENT

Tests conducted in accordance with IEEE Standard 386.

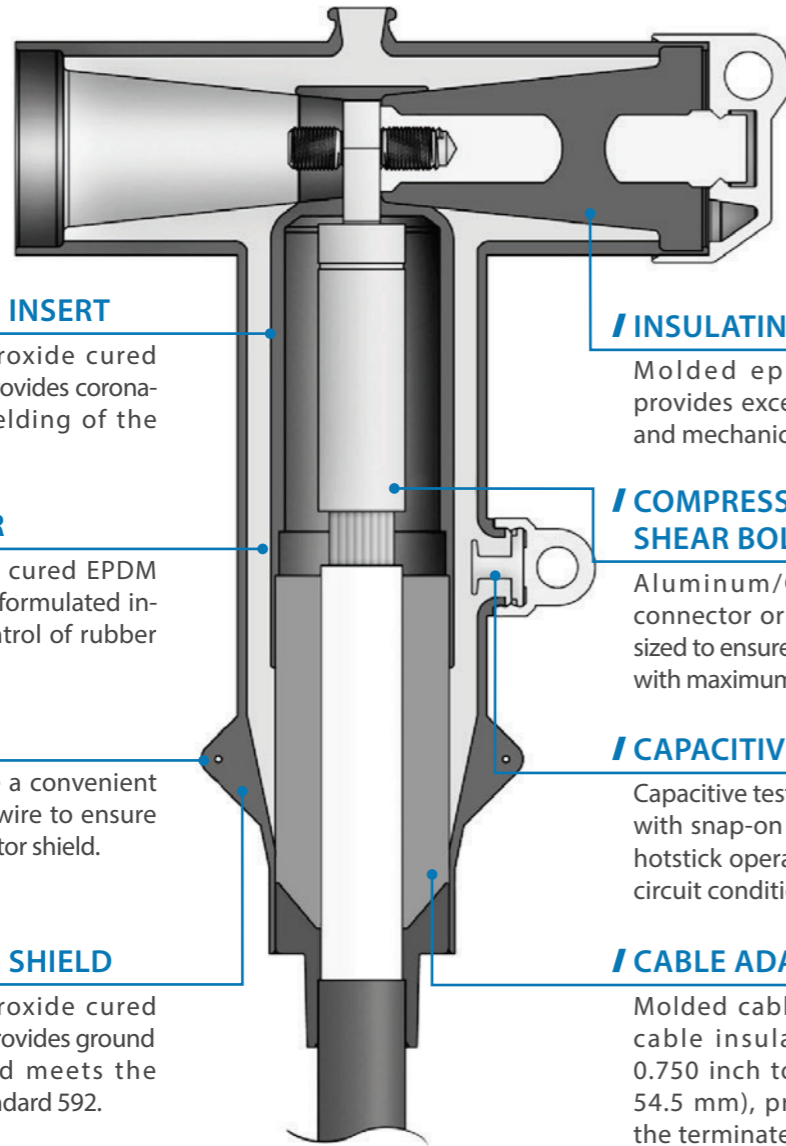
- ! T-Body
- ! Insulating Plug (Al for 600A, Cu for 900A)
- ! Cable Adapter
- ! Stud
- ! Compression Lug (Al for 600A, Cu for 900A)
- ! Silicone Grease



DETAILED COMPOSITION OF THE CHARDON T-BODY DEADBREAK CONNECTOR

/ T-BODY CONNECTOR BODY

Molded T-body adapts to all cable sizes and provides a dead front shielded connection.



/ SEMICONDUCTING INSERT

Precision molded peroxide cured semiconducting insert provides corona-free electrostatic shielding of the compression connector.

/ INSULATION LAYER

High quality peroxide cured EPDM Insulation is mixed and formulated in-house for complete control of rubber characteristics.

/ DRAIN WIRE TABS

Drain wire tabs provide a convenient point to connect drain wire to ensure grounding of the connector shield.

/ SEMICONDUCTING SHIELD

Precision molded peroxide cured semiconducting shield provides ground shield continuity and meets the requirements of IEEE Standard 592.

/ INSULATING PLUG

Molded epoxy insulating plug provides excellent electrical, thermal and mechanical reliability.

/ COMPRESSION CONNECTOR/ SHEAR BOLT CONNECTOR

Aluminum/Copper compression connector or shear bolt connector is sized to ensure a cool running connector with maximum current transfer.

/ CAPACITIVE TEST POINT

Capacitive test point on molded T-Body with snap-on cap provides a shielded, hotstick operable means to determine circuit condition.

/ CABLE ADAPTER

Molded cable adapter, sized to fit cable insulation diameters from 0.750 inch to 2.145 inches (19.1 to 54.5 mm), provides stress relief for the terminated cable.

ORDERING INFORMATION

| | | | |
|-------|--------------|--------------|--------------|
| 35-TB | ---- | — | ---- |
| | STEP1 | STEP2 | STEP3 |

| | |
|--------------|------|
| STEP1 | ---- |
|--------------|------|

Selection of Current Rating and test Point

| Code | |
|------|---------------------------|
| 600 | 600AMP WITHOUT Test Point |
| 600T | 600AMP WITH Test Point |
| 900 | 900AMP WITHOUT Test Point |
| 900T | 900AMP WITH Test Point |

Note :

- (1) 600A compression lugs are made from aluminum.
- (2) 600A insulating plugs include an aluminum conductor.
- (3) 900A compression lugs are made from copper.
- (4) 900A insulating plugs include a copper conductor.

| | |
|--------------|---|
| STEP2 | — |
|--------------|---|

Selection of Cable Insulation Dimension

| Range Code | Inches | mm |
|------------|---------------|-------------|
| D | 0.750 - 0.985 | 19.1 - 25.0 |
| E | 0.930 - 1.040 | 23.6 - 26.4 |
| F | 0.980 - 1.115 | 24.9 - 28.3 |
| G | 1.040 - 1.175 | 26.4 - 29.9 |
| H | 1.095 - 1.240 | 27.8 - 31.5 |
| J | 1.160 - 1.305 | 29.5 - 33.2 |
| K | 1.220 - 1.375 | 31.0 - 34.9 |
| L | 1.285 - 1.395 | 32.6 - 35.4 |
| M | 1.355 - 1.520 | 34.4 - 38.6 |
| N | 1.485 - 1.595 | 37.7 - 40.5 |
| P | 1.530 - 1.640 | 38.9 - 41.7 |
| Q | 1.575 - 1.685 | 40.0 - 42.8 |
| R | 1.665 - 1.785 | 42.3 - 45.3 |
| S | 1.775 - 1.875 | 45.1 - 47.6 |
| T | 1.845 - 1.965 | 46.9 - 49.9 |
| U | 1.935 - 2.055 | 49.1 - 52.2 |
| V | 2.025 - 2.145 | 51.4 - 54.5 |

ORDERING INFORMATION

| | | | |
|-----------------|--------------|--------------|--------------|
| 15/25-TB | ----- | - | ----- |
| | STEP1 | STEP2 | STEP3 |

STEP3

Selection of Conductor Size (Al or Cu)When selecting a shear bolt connector, use “shear bolt connector conductor code chart” and add

SBC in the end of part number. For example, SBC-B-25-50/1.

Conductor Code Table

| CONDUCTOR CODE | Concentric or Compressed | | Compact or Solid | |
|----------------|--------------------------|-----------------|------------------|-----------------|
| | AWG or kcmil | mm ² | AWG or kcmil | mm ² |
| 0002 | #2 | 35 | #1 | - |
| 0001 | #1 | - | 1/0 | 50 |
| 0010 | 1/0 | 50 | 2/0 | 70 |
| 0020 | 2/0 | 70 | 3/0 | - |
| 0030 | 3/0 | - | 4/0 | 95 |
| 0040 | 4/0 | 95 | 250 | 120 |
| 0250 | 250 | 120 | 300 | 150 |
| 0300 | 300 | 150 | 350 | - |
| 0350 | 350 | - | 400 | 185 |
| 0400 | 400 | 185 | 450/500 | - |
| 0450 | 450 | - | 500/550 | 240 |
| 0500 | 500 | 240 | 600 | 300 |
| 0550 | 550 | - | 650 | - |
| 0600 | 600 | 300 | 700 | - |
| 0650 | 650 | - | 750 | 400 |
| 0750 | 750 | 400 | 800 | - |
| 0800 | 800 | - | 900 | - |
| 0900 | 900 | - | 1000 | 500 |
| 1000 | 1000 | 500 | - | - |

Note :
Aluminum lug and Bi-metal lug for use on copper and aluminum conductors. Copper lug for use on copper conductors only. Add BIL200 in the end of the part number if a 200BIL product is required.

ORDERING INFORMATION

Chardon Shear Bolt Connector

Example:
For a Shear Bolt Connector with a conductor range between 20-50 mm², the part number would be : SBC-B-25-50/1.

| CATALOG NO. | Conductor Range(mm ²) |
|-----------------|-----------------------------------|
| SBC-B-25-50/1 | 25 - 50 |
| SBC-B-70-95/1 | 70 - 95 |
| SBC-B-70-120/2 | 70 - 120 |
| SBC-B-150-240/2 | 150 - 240 |
| SBC-B-300-400/3 | 300 - 400 |
| SBC-B-500-630/3 | 500 - 630 |



ORDERING EXAMPLE

For a Chardon 35 kVT-Body Connector with a test point, cable insulation outer dimension of 1.65 inches, and a compression connector size of 550, the part number would be as follows:

| | | | |
|----------------|-------------|----------|-------------|
| 35 - TB | 600T | Q | 0550 |
|----------------|-------------|----------|-------------|

If a shear bolt connector is selected in this kit, the part number would be as follows:

| | | | |
|----------------|-------------|----------|----------------------|
| 35 - TB | 600T | Q | SBC-B-25-50/1 |
|----------------|-------------|----------|----------------------|

If a 200 BIL T body is required, the part number would be as follows:

| | | | |
|----------------|-------------|----------|--------------------|
| 35 - TB | 600T | Q | 0550-BIL200 |
|----------------|-------------|----------|--------------------|

The part number includes the insulating plug, cap, and stud.



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