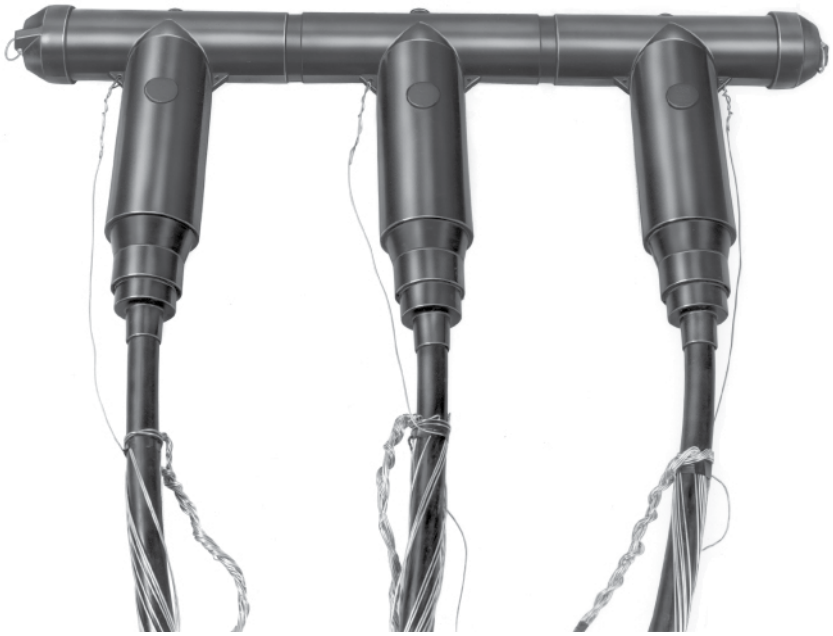
Splices
Catalog Data
CA650050EN

Effective May 2015
Supersedes 700-31 March 2009

COOPER POWER SERIES

600 A 35 kV class separable splices



General

Eaton's Cooper Power™ series 600 A, 35 kV Class deadbreak separable splices are used to splice two, three or four cables or to deadend a single cable. They are fully shielded, submersible and meet the requirements of IEEE Std 386™-2006 standard – Separable Insulated Connector Systems. The splices are rated for 600 A or 900 A and are suitable for the repair or extension of underground feeders. Installed either direct buried or in a vault, 600 A separable splices can be used on all 35 kV Class power distribution systems. They are made of high quality peroxide cured EPDM rubber to provide excellent electrical, thermal and mechanical reliability. All have 5/8 inch-11 UNC 2A aluminum threads that meet IEEE Std 386™-2006 standard requirements for 600 A separable connections. Optional all copper components are also available.

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, Eaton offers an optional Cooper Power series capacitive test point similar to the test points on its Cooper Power series 200 A Elbows. This allows the use of test point faulted circuit indicators and provides a clampstick operable means of determining the circuit condition when used with a high impedance voltage sensing device designed for test points.

Separable splices and deadends are designed for use on solid dielectric cable (XLPE or EPR) with extruded semiconductive shields and concentric neutral, with or without a jacket. Installation on jacketed concentric neutral cable may require additional sealing material. Cold shrinkable adapters are available for tape shield, linear corrugated and drain wire cable adaptation for use with separable splices.

900 AMP rating

Separable splices are rated for 900 A continuous when used with a coppertop compression connector (ordered separately), copper insulating plug, copper connecting plug, and copper stud.

Installation

The T-Body splice housings are assembled onto prepared cable with spade lug compression connectors. The rubber connecting plugs used to connect the housings are tightened using a torque wrench, 1" socket, and a 5/16" hex drive. Refer to *Service Information MN650002EN 600 A 35 kV Class BOL-T™ Connector Assembly Installation Instructions* for details.

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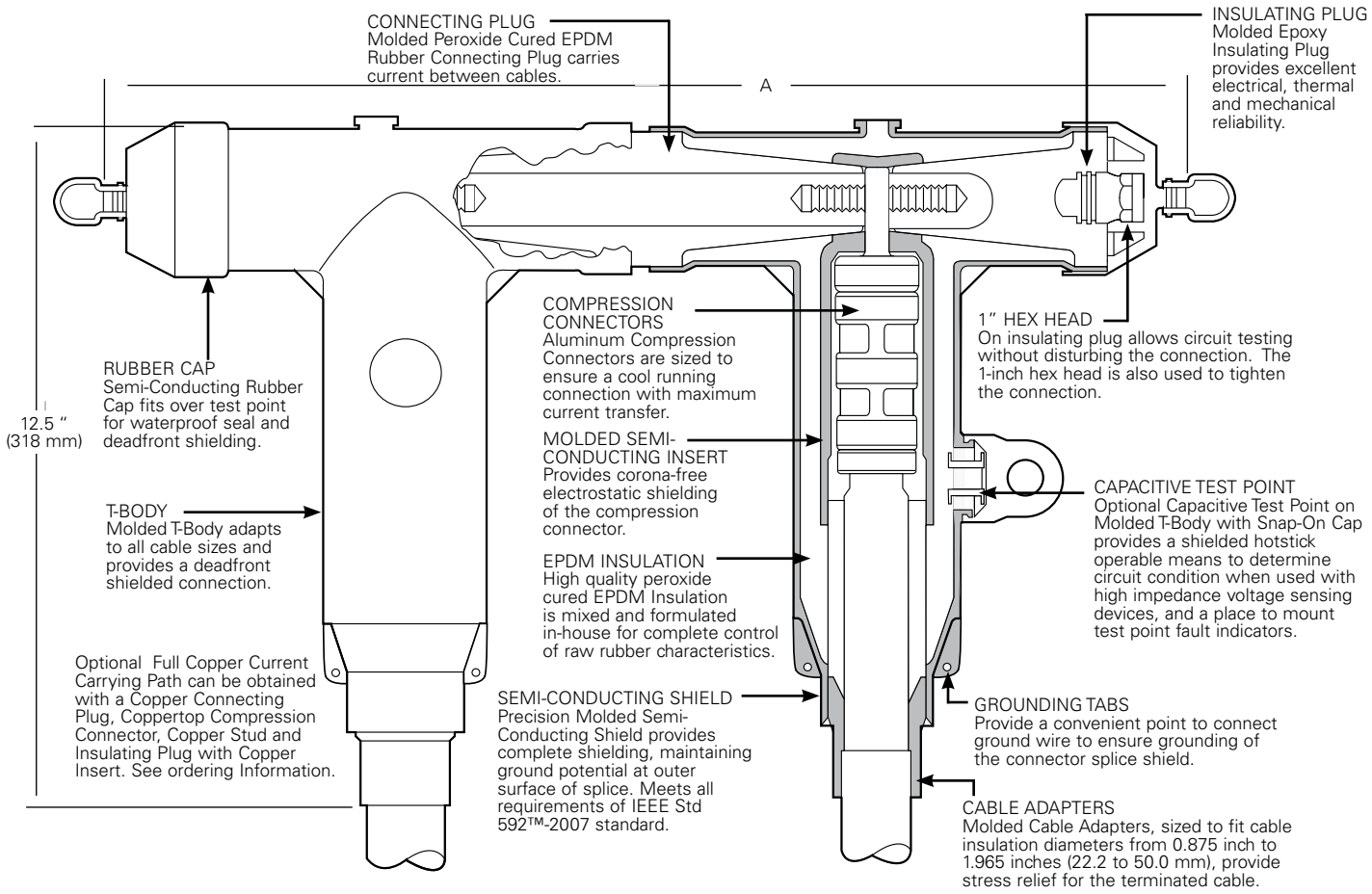


Figure 1. Illustration shows design characteristics and two-way splice connection.

Note: Dimensions given are for reference only.

Table 1. Separable Splices Dimensions

Dimensions in./(mm)

Assembly	A
Deadend	14.4
	(366)
2-Way Splice	24.6
	(625)
3-Way Splice	34.9
	(887)
4-Way Splice	45.1
	(1146)

Interchangeability

All 600 A deadbreak connectors conform to the electrical, mechanical and dimensional requirements of IEEE Std 386™-2006 standard. The connectors can be used on any comparably rated bushing interface that also meets the requirements of this standard. In addition, all cable adapters, insulating plugs, compression connectors and other component parts are designed to be interchangeable with those currently available from other major manufacturers.

Production tests

Tests are conducted in accordance with IEEE Std 386™ standard.

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

Tests are conducted in accordance with Eaton requirements.

- Physical Inspection
- Periodic Dissection
- Periodic Fluoroscopic Analysis

Table 2. Voltage Ratings and Characteristics

Description	kV
Standard Voltage Class	35
Maximum Rating Phase-to-Ground	21.1
ac 60 Hz 1 Minute Withstand	50
dc 15 Minute Withstand	103
BIL and Full Wave Crest	150
Minimum Corona Voltage Level	26

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

Table 3. Current Ratings and Characteristics

Description	Amperes
Continuous	600 A rms (Aluminum) 900 A rms (Copper)
4 Hour Overload	900 A rms (Aluminum 1200 A rms (Copper)
Short Time	40,000 A rms symmetrical for 0.20 s
	27,000 A rms symmetrical for 4.0 s

Current ratings and characteristics are in accordance with IEEE Std 386™-2006 standard.

Ordering information

To order a 600 A, 35 kV Deadend or Separable Splice kit, specify separate catalog numbers for:

- Basic Kit
- Each Compression Connector
- Each Cable Adapter
- One 5/16" Hex Drive HD635 (Figure 3)

Components included in separable splice kits and components that must be ordered separately are indicated in Table 5.

Each kit contains:

- Silicone Lubricant
- Installation Instruction Sheet

Example:

For a 3-Way cable splice without capacitive test points, with aluminum components, for three different size cables, specify SSPL635A3 for the basic kit, three additional catalog numbers for the three compression connectors, three catalog numbers for the three cable adapters, and the number for the 5/16" Hex Drive, if needed.

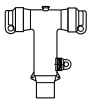
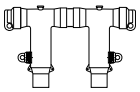
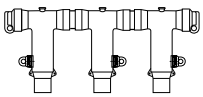
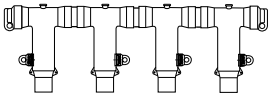
Note: If 900 A rating is required, select copper components.

Table 4. Separable Splice Kits

Description	Catalog Number	Description	Catalog Number
Deadend Kit		**3-Way Splice Kit**	
Aluminum Components without Test Point	SSPL635A1	Aluminum Components without Test Point	SSPL635A3
Copper Components without Test Point	SSPL635C1	Copper Components without Test Point	SSPL635C3
Aluminum Components with Test Point	SSPL635A1T	Aluminum Components with Test Point	SSPL635A3T
Copper Components with Test Point	SSPL635C1T	Copper Components with Test Point	SSPL635C3T
2-Way Splice Kit		**4-Way Splice Kit**	
Aluminum Components without Test Point	SSPL635A2	Aluminum Components without Test Point	SSPL635A4
Copper Components without Test Point	SSPL635C2	Copper Components without Test Point	SSPL635C4
Aluminum Components with Test Point	SSPL635A2T	Aluminum Components with Test Point	SSPL635A4T
Copper Components with Test Point	SSPL635C2T	Copper Components with Test Point	SSPL635C4T

Note: Studs are bagged and loose in kit. To have studs permanently installed at the factory, add a "P" at the end of the part number.

TABLE 5. Separable Splice Kits

	Each Splice Kit Contains:				Order Separately:	
Assembly	T-Body	Insulating Plug with Cap	Insulating Plug with Cap and Stud	Connecting Plug	Cable Adapter	Compression Connector
 **Deadend**	1	1	1	–	1	1
 **2-Way Splice**	2	1	1	1	2	2
 **3-Way Splice**	3	1	1	2	3	3
 **4-Way Splice**	4	1	1	3	4	4

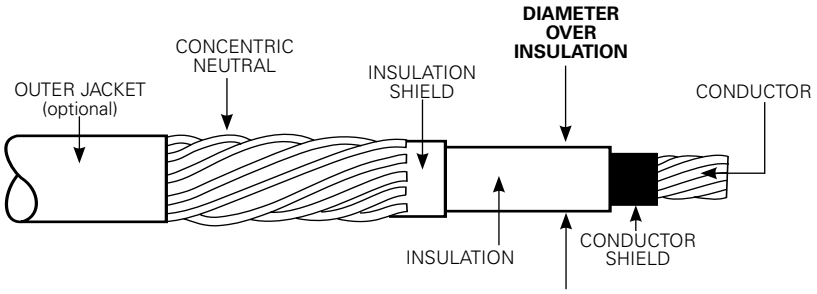


Figure 2. Cable cutaway showing conductor and insulation layers.

Ordering information

Cable adapter

To order cable adapters, refer to Table 6. These cable adapters are for use on the BOL-T™, T-OP™ II, BT-TAP™, and PUSH-OP™ connection systems, as well as separable splices.

Determine the cable diameter over the high-voltage insulation as shown in Figure 2 and specify the catalog number using Table 5. Minimum and maximum cable insulation diameter must fall within the range of the appropriate cable adapter as AEIC cable diameter can vary ±0.030".

Example: To order a cable adapter of 1.200", determine the cable diameter range as follows:

1.200 - 0.030 = 1.170 minimum diameter

1.200 + 0.030 = 1.230 maximum diameter

Therefore, specify **CA635H**.

Table 6. Cable Insulation Diameter Range

Cable Diameter Range					
Inches	**mm**	**Cable Range Code**	**Inches**	**mm**	**Cable Range Code**
0.875-0.985	22.2-25.0	**D**	1.355-1.520	34.4-38.6	**M**
0.930-1.040	23.6-26.4	**E**	1.485-1.595	37.7-40.5	**N**
0.980-1.115	24.9-28.3	**F**	1.530-1.640	38.9-41.7	**P**
1.040-1.175	26.4-29.8	**G**	1.575-1.685	40.0-42.8	**Q**
1.095-1.240	27.8-31.5	**H**	1.665-1.785	42.3-45.3	**R**
1.160-1.305	29.5-33.1	**J**	1.755-1.875	44.6-47.9	**S**
1.220-1.375	31.0-34.9	**K**	1.845-1.965	46.9-50.0	**T**
1.285-1.395	32.5-35.4	**L**	1.960-2.210	49.8-56.1	**U**
			2.100-2.360	53.3-59.9	**V**

Figure 3. HD635 hex drive.

Ordering information

Compression Connectors

Table 7. Conductor Size and Type

Conductor Size				Catalog Number		
Concentric or Compressed		Compact or Solid				
mm^2	AWG or kcmil	mm^2	AWG or kcmil	15/16 in. – 9 Threaded Coppertop	11/16 in. Unthreaded Aluminum	11/16 in. Unthreaded Coppertop
–	3	–	2	CC6C10T	CC6A10U	CC6C10U
–	2	–	1	CC6C11T	CC6A11U	CC6C11U
–	1	–	1/0	CC6C12T	CC6A12U	CC6C12U
50	1/0	70	2/0	CC6C13T	CC6A13U	CC6C13U
70	2/0	–	3/0	CC6C14T	CC6A14U	CC6C14U
–	3/0	95	4/0	CC6C15T	CC6A15U	CC6C15U
95	4/0	120	250	CC6C16T	CC6A16U	CC6C16U
120	250	–	300	CC6C17T	CC6A17U	CC6C17U
–	300	–	350	CC6C18T	CC6A18U	CC6C18U
–	350	185	400	CC6C19T	CC6A19U	CC6C19U
185	400	–	450	CC6C20T	CC6A20U	CC6C20U
–	450	240	500[a]	CC6C21T	CC6A21U	CC6C21U
240	500	300	600	CC6C22T	CC6A22U	CC6C22U
300	600	–	700	CC6C23T	CC6A23U	CC6C23U
–	650[b]	–	750[c]	CC6C24T	CC6A24U	CC6C24U
–	750[d]	–	900	CC6C25T	CC6A25U	CC6C25U
–	900	500	1000	CC6C26T	CC6A26U	CC6C26U
500	1000	–		CC6C27T	CC6A27U	CC6C27U

a. Also accepts 550 kcmil compact conductor.

b. Also accepts 700 kcmil compressed conductor.

c. Also accepts 800 kcmil compact conductor.

d. Also accepts 700 kcmil concentric conductor.

Table 8. Replacement Parts

Description	Catalog Number
T-body without Test Point	DT635
T-body with Test Point	DT635T
Cap Only	DIPCAP
Aluminum Insulating Plug with Cap, No Stud	DIP635A
Copper Insulating Plug with Cap, No Stud	DIP635C
Aluminum Insulating Plug with Cap and Aluminum Stud	DIP635AS
Copper Insulating Plug with Cap and Copper Stud	DIP635CS
Aluminum Connecting Plug with Stud	DCP635AS
Copper Connecting Plug with Stud	DCP635CS
5/8 in. - 11 UNC 2A Aluminum Threaded Stud	STUD635-A
5/8 in. - 11 UNC 2A Copper Threaded Stud	STUD635-C
5/16” Hex Shaft with 3/8” Socket Drive Tool	HD635

Accessories

See Catalog CA650006EN for further information on Replacement Parts and Accessories.

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