600/900 A deadbreak connectors

Eaton designs its Cooper Power series 600/900 A deadbreak connector systems to fill the demand for a deadfront underground installation in 600/900 A main and lateral feeders. They provide a completely shielded, deadfront, fully submersible cable connection for high-voltage apparatus – such as transformers, switchgear, large motors, etc., and can also be used to make splices, junctions, taps and deadends for main underground, distribution feeders. They provide the same high degree of operating flexibility and reliability as our 200 A products. All components fit together easily and assembly variations are available.

These connector systems are designed for installation on various types of cables. The entire system can be applied to concentric neutral cable, and with our CS & SA Series Shield Adapter Kits to almost any other type of cable.

All of our deadbreak connectors meet the electrical, mechanical and dimensional requirements of IEEE Std 386™ standard and are designed to be fully interchangeable with those currently available from other major manufacturers.

900 A rating

Eaton achieves a 900 A continuous rating with its Cooper Power series BOL-T™, BT-TAP™ and T-OP™ II systems when used with a coppertop compression connector and all copper mating components including apparatus bushing or junction. (See note 1 on page 23 for details when selecting a system.)

BOL-T connector system

Eaton designs its Cooper Power series BOL-T Deadbreak Connector System for use on applications where the terminations would not be operated after installation, would not need a 200 A interface for grounding or arrester provisions, and would not require direct conductor testing or the use of a hotstick. It is a bolted design that is interchangeable with other manufacturers' bolted 600/900 A systems and requires no special tools for installation.

BT-TAP connector system

Eaton's Cooper Power series BT-TAP deadbreak connector system includes a 200 A loadbreak tap instead of the standard insulated plug. The other components of BT-TAP are the same as BOL-T, making it an ideal option to retrofit existing BOL-T (or other bolted systems that use unthreaded compression connectors) systems with a 200 A loadbreak tap for testing, grounding, or overvoltage protection.

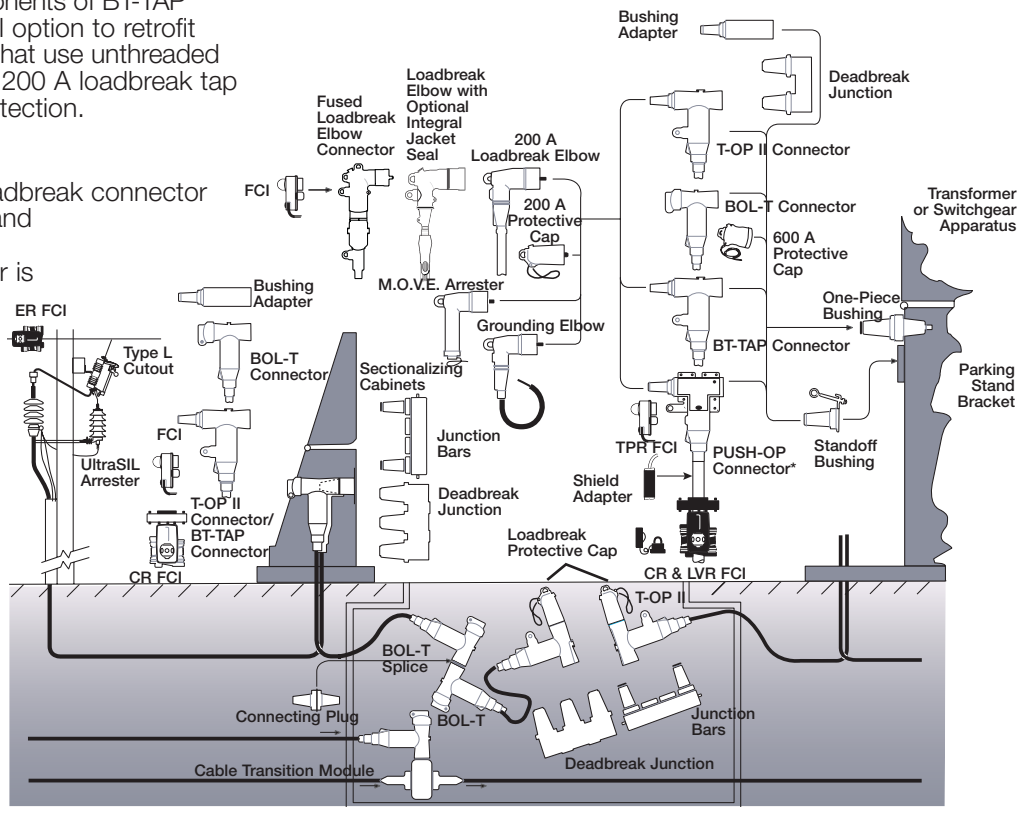
T-OP II connector system

Eaton's Cooper Power series T-OP II deadbreak connector system also has a 200 A loadbreak tap and has all the advantages of the BT-TAP system. In addition, the T-OP II connector is single-person hotstick operable, making it ideal for terminations that may require moving or sectionalizing to achieve a visible open or visible ground. The T-OP II connector design offers added reliability (900 A rated all copper alloy current path and copper top connector) and has several assembly/operating advantages.

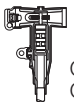
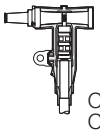
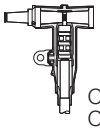
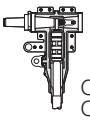
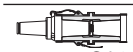
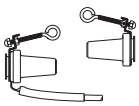
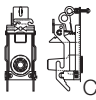
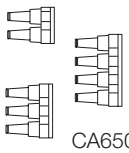
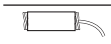
PUSH-OP connector system

Eaton's Cooper Power series PUSH-OP™ deadbreak connector system is essentially a T-OP II termination with a non-bolted design for use on any deadfront apparatus where the terminations may be operated frequently. The PUSH-OP connector's 600 A deadbreak probe and finger contact design eliminates cross-threading and normal thread wear during repeated sectionalizing operations. It is the only available system that allows operators to move the terminator while it is fully grounded. The PUSH-OP system provides stainless steel bracketry and a mechanical lever for the fastest and easiest one-person hotstick operation possible. The PUSH-OP system requires special apparatus bushings, which makes it suitable for new installations only.

Note: 600 A Separable Splice kits can be found in the splice section starting on page 36.



PUSH-OP requires modified bushing and tank hardware.

Catalog Section	Description	kV Class	Base Part Number	Notes
 CA650003EN CA650008EN	BOL-T Connector Kit	15/25 kV	**BT625** CR5 CC4 (see CR5 & CC4 Tables pg. 24)	1, 2, 3, 4, 13, 14
		35 kV	**BT635** CR6 CC4 (see CR6 & CC4 Tables pg. 24)	1, 2, 3, 4, 13, 14
 CA650002EN CA650001EN CA650009EN	BT-TAP Connector Kit	15 kV	**BTP615** CR5 CC4 (see CR5 & CC4 Tables pg. 24)	1, 2, 3, 4, 6, 13, 14
		25 kV	**BTP625** CR5 CC4 (see CR5 & CC4 Tables pg. 24)	1, 2, 3, 4, 6, 13, 14
		35 kV	**BTP635** CR6 CC4 (see CR6 & CC4 Tables pg. 24)	1, 2, 4, 6, 13, 14
 CA650017EN CA650059EN CA650055EN	T-OP II Connector Kit	15 kV	**TP615** CR5 CC4 (see CR5 & CC4 Tables pg. 24)	2, 5, 6, 13, 14
		25 kV	**TP625** CR5 CC4 (see CR5 & CC4 Tables pg. 24)	2, 5, 6, 13, 14
		35 kV	**TP635** CR6 CC4 (see CR6 & CC4 Tables pg. 24)	2, 5, 6, 13, 14
 CA650019EN CA650018EN CA650052EN	PUSH-OP Connector Kit	15 kV	**POP615** CR5 CC4 (see CR5 & CC4 Tables pg. 24)	2, 5, 6, 13, 14
		25 kV	**POP625** CR5 CC4 (see CR5 & CC4 Tables pg. 24)	2, 5, 6, 13, 14
		35 kV	**POP635** CR6 CC4 (see CR6 & CC4 Tables pg. 24)	2, 5, 6, 13, 14
 CA650041EN CA650042EN CA650054EN	Bushing Adapter with LRTP (STUD-T Included)	15 kV	**DBA615**	6
		25 kV	**DBA625**	6
		35 kV	**DBA635**	6
 CA650019EN CA650103EN CA650056EN	PUSH-OP Bushing Adapter	15 kV	**PDBA615**	6
		25 kV	**PDBA625**	6
		35 kV	**PDBA635**	6
 CA650066EN CA650057EN	Standoff Bushings	15/25 kV	**ISB625A** (Aluminum) **ISB625C** (Copper)	7 7, 8
		35 kV	**ISB635A** (Aluminum) **ISB635C** (Copper)	7, 8 7
 CA650043EN CA650064EN CA650049EN	PUSH-OP Standoff Bushings	15/25 kV	**PISB625** **PISB625HP** (with hitch pin)	
		35 kV	**PISB635** **PISB635HP** (with hitch pin)	
 CA650060EN CA650058EN	Standard Protective Cap (with Permanent Stud)	15/25 kV	**DPC625**	9
		35 kV	**DPC635**	9
 CA650060EN CA650058EN	Protective Cap for T-OP II and	15/25 kV	**DPC625UT**	9
		35 kV	**DPC635UT**	9
 CA650096EN CA650053EN	Deadbreak Junctions	15/25 kV	**DJ625A_** (Aluminum) **DJ625C_** (Copper)	10, 11 10, 11
		35 kV	**DJ635A_** (Aluminum) **DJ635C_** (Copper)	10, 11 10, 11
	SA Series Cold Shrinkable Metallic Shield Adapter Kit	15/25/35 kV	**SA** CJ3 (see CJ3 Table pg. 24)	12, 13, 14
	CS Series Cold Shrinkable Metallic Cable Seal Kit	15/25/35 kV	**CS** CJ4 (see CJ4 Table pg. 24)	13, 14

1. Determine whether all aluminum components or all copper components are required:
   BOL-T Kit with **600 A Rating** - Insert "**A**" in digit **10** (digit **9** for **35 kV**) for **Aluminum**.
   BT-TAP Kit with **600 A Rating** - Insert "**A**" in digit **11** (digit **10** for **35 kV**) for **Aluminum**.
   BOL-T Kit with **900 A Rating** - Insert "**C**" in digit **10** (digit **9** for **35 kV**) for **Copper** (includes coppertop compression connector).
   BT-TAP Kit with **900 A Rating** - Insert "**C**" in digit **11** (digit **10** for **35 kV**) for **Copper** (includes coppertop compression connector).
2. To specify an **ALL copper connector**, add **50** to the conductor code from Table CC4 (page 24). **Example**: CC6C11T **becomes** CC6C61T.
3. To specify a **stud**:
   BOL-T Kit - insert a "**1**" in digit **11** to **include** stud, or a "**2**" in digit **11** for kit **without** stud.
   BT-TAP Kit - insert "**S**" in digit **12** to include **standard length** stud or "**L**" in digit **12** to **include extended** length stud.
4. To specify T-Body **with** test point (**optional**):
   BOL-T Kit - insert a "**T**" in digit **12**.
   BT-TAP Kit (**15 & 25 kV**) - insert a "**T**" in digit **13**.
   BT-TAP Kit (**35 kV**) - insert a "**T**" in digit **11**.
5. For T-OP II and PUSH-OP kits only, to specify a T-body with **test point**, add "**T**" after the conductor code.
6. To specify a **BOL-T, BT-TAP or T-OP II** kit with a **loadbreak protective cap**, insert a "**C**" after the test point/non-test point option. **Bushing Adapters** - insert a "**C**" as the last character of the part number. **Note: 25 kV** kits include a **POSI-BREAK protective Cap**.
7. To specify stud in kit, add "**SA**" for **aluminum stud** (only available with aluminum interface); add "**SC**" for **copper stud**; add "**ST**" for **T-OP II stud**; or add "**SU**" for **U-OP stud** as the last characters in the part number.
8. To specify a **grounded standoff bushing**, replace the "I" with a "**G**" as the first character in the part number.
9. For **individually packaged** product in a corrugated cardboard box, insert an "**X**" as the last character in the part number.
10. It is required to specify the number of interfaces by inserting a "**2**", "**3**", or "**4**" directly after the base part number.
11. To add a **stainless steel bracket**, insert a "**B**"; or to add **U-straps**, insert a "**U**" as the last character in the part number.
12. For use with tape shield, drain wire, linear corrugated, and Unishield® cable.
13. To add a **CS Series Sealing kit** or a **SA Series Adapter kit** to the 600 A connector kit, add a "**SA _**" or "**CS _**" at end of catalog number. Refer to Table CJ3 or CJ4 on page 24.
14. Each **SA Series Kit** includes: (1) Cold Shrinkable Sleeve (1) Tinned Copper Ground Strap with attached elbow drain wire (1) Constant Force Spring (1) Semi-Conductive Tape (3) Mastic Sealing Strips (1) Installation Instructions.
    Each CS Series Sealing Kit includes: (1) Cold shrinkable sleeve, (3) Mastic sealing strips, and (1) Installation Instructions.

Use for Base Number

BT625
BTP615
BTP625
TP615
TP625
POP615
POP625
CA625

TABLE CR5
Cable Diameter (Insulation) Range

Cable Diameter Range		
Inches	mm	CABLE RANGE CODE
0.610-0.970	15.5-24.6	AB
0.750-1.080	19.1-27.4	CC
0.970-1.310	24.6-33.3	DD
1.090-1.470	27.7-37.3	EE
1.260-1.640	32.0-41.7	FF
1.360-1.710	34.5-43.4	GG
1.500-1.850	38.1-47.0	HH
1.700-1.970	43.2-50.0	JJ

Use for Base Number

SA

TABLE CJ3
Cable Jacket (Outside Diameter) Range

Cable Jacket OD (Inches)	JACKET CODE
0.590-1.050	1
0.830-1.640	2
1.270-2.170	3
1.600-2.600	4

Use for Base Number

CS

TABLE CJ4
Jacketed Concentric Neutral Cable

Minimum Seal Diameter (Inches)	Maximum Installed Diameter(Inches)	CODE
.950	1.94	1
1.28	2.67	2
1.60	3.50	3

Use for Base Number

BT625
BT635
BTP615
BTP625
BTP635
TP615
TP625
TP635
POP615
POP625
POP635
CC6A _ U
CC6C _ T
CC6C _ U
CDT_____

TABLE CC4
Conductor Size and Type

Concentric or Compressed		Compact or Solid		CONDUCTOR CODE
AWG or kcmil	mm^2	AWG or kcmil	mm^2	
No Connector				00
#2	35	1	_	11
#1	–	1/0	50	12
1/0	50	2/0	70	13
2/0	70	3/0	–	14
3/0	–	4/0	95	15
4/0	95	250	120	16
250	120	300	–	17
300	–	350	–	18
350	–	400	185	19
400	185	450	–	20
450	–	500[a]	240	21
500	240	600	300	22
600	300	700	–	23
650[b]	–	750[c]	–	24
750[d]	–	900	–	25
900	–	1000	500	26
1000	500	–	–	27
1250	630			28

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.

Use for Base Number

BT635
BTP635
TP635
POP635
CA635

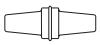
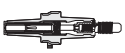
TABLE CR6
Cable Diameter (Insulation) Range

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

Shear Bolt Connector

Cable Conductor Size				Shear Bolt Connector	
AWG or kcmil			mm2 Standard Sized	Conductor Code	Catalog Number
Compact	Compressed	Concentric			
1/0	1/0	1/0	50	S1	CDT630SB150
2/0	2/0	2/0	70		
3/0	3/0	3/0	-		
4/0	4/0	4/0	95		
250	250	250	120		
350	-	-	150		
-	350	350	185	S3	CDT630SB300
500	500	500	240		
600	600	600	300		
700	-	-	-		
-	700	700	-	S4	CDT630SB400
750	750	750	-		
800	800	-	400		
900	-	-	-		
-	-	800	-	S6	CDT1250SB630
-	900	900	-		
1000	1000	1000	500		
-	1100	1100	-		
-	1200	1200	-		
-	1250	1250	630		
-	1300	1300	-	S8	CDT1250SB800
-	1400	1400	-		
-	1500	1500	800		

Not available with T-OP II or PUSH OP.

Catalog Section	Description	kV Class	Base Part Number	Notes
 CA650007EN CA650006EN	T-Body	15/25 kV	**DT625**	1, 2
		35 kV	**DT635**	1, 2
 CA650007EN CA650006EN	Cap for Insulating Plug	15/25/35 kV	**DIPCAP**	
 CA650007EN CA650006EN	Insulating Plug w/o Stud (cap included)	15/25 kV	**DIP625A** (Aluminum) **DIP625C** (Copper)	3, 7
		35 kV	**DIP635A** (Aluminum) **DIP635C** (Copper)	3, 7
 CA650007EN CA650006EN	Connecting Plug w/o Stud	15/25 kV	**DCP625A** (Aluminum) **DCP625C** (Copper)	3, 7
		35 kV	**DCP635A** (Aluminum) **DCP635C** (Copper)	3, 7
 CA650007EN CA650006EN	BOL-T Stud	15/25 kV	**STUD-A** (Aluminum) **STUD-C** (Copper)	
		35 kV	**STUD635-A** (Aluminum) **STUD635-C** (Copper)	
CA650007EN CA650006EN	T-OP II Stud	15/25/35 kV	**STUD-T**	4
 CA650007EN CA650006EN	$^{11}/_{16}$ in. Unthreaded Aluminum Compression Connector	15/25/35 kV	**CC6A CC4 U** (see CC4 Table pg. 24)	
 CA650007EN CA650006EN	$^{15}/_{16}$ in. Threaded Coppertop Compression Connector	15/25/35 kV	**CC6C CC4 T** (see CC4 Table pg. 24)	6
 CA650007EN CA650006EN	$^{11}/_{16}$ in. Unthreaded Coppertop Compression Connector	15/25/35 kV	**CC6C CC4 U** (see CC4 Table pg. 24)	6
 CA650007EN CA650006EN	Cable Adapter	15/25 kV 35 kV	**CA625 CR5** (see CR5 Table pg. 24) **CA635 CR6** (see CR6 Table pg. 24)	
CA650007EN CA650006EN	T-OP II Installation and Torque Tool	15/25 kV 35 kV	**TQHD625 (15/25 kV-T-OP II Only) TQHD635 (35 kV T-OP II Only)**	8
 CA650007EN CA650006EN	T-OP II Combination Operating, Test, and Torque Tool (For single person hotstick operation)	15 kV	**OTTQ615**	9
		25 kV	**OTTQ625**	9
		35 kV	**OTTQ635**	9
 CA650007EN CA650006EN	T-WRENCH for BT-TAP/T-OP II	15/25/35 kV	**TWRENCH**	10
	$^{5}/_{16}$" Hex Shaft with 3/8" Socket Drive Tool	15/25 kV	**HD625**	11
		35 kV	**HD635**	11
	Bushing Extender	15/25 kV	**DBE625**	2
		35 kV	**DBE635**	2
 CA650041EN CA650042EN CA650054EN	Loadbreak Reducing Tap Plug for T-OP II (Stud-T included)	15 kV	**LRTP615**	
		25 kV	**LRTP625**	
		35 kV	**LRTP635**	
	BOL-T Loadbreak Reducing Tap Plug for BT-TAP	15 kV	**BLRTP615**	12, 13
		25 kV	**BLRTP625**	12, 13
		35 kV	**BLRTP635**	

1. To specify a **test point** insert a "**T**" in the sixth digit.
2. To add stud to kit, add a "**SA**" for an **aluminum stud**, or a "**SC**" for a **copper stud** as the last characters in the part number.
3. To add **STUD** to kit, add a "**S**" after the base part number. Material of stud supplied will match with material of the plug conductor ordered.
4. Copper alloy stud for use with T-OP II connectors only.
5. To specify an **all copper connector**, add **50** to the conductor code from Table CC4 (page 24). Example: CC6C11T becomes CC6C61T.
6. Stud comes loose in kit, add a "**P**" as the last character for permanent **factory installation**.
7. TQHD6_ allows for installation of T-OP II connector to 600 A bushing.
8. OTTQ6_ allows for installation and single hotstick operation of T-OP II connector.
9. TWRENCH allows for installation of loadbreak reducing tap plug for BT-TAP or T-OP II connector.
10. HD6_ allows for installation of BLRTP6_ _ reducing tap plug and connecting plug in 600 A separable splices.
11. Specify "A" for 600 A rating or "C" for 900 A rating in digit 9.
12. To add standard length stud to kit, add "**S**" to end of part number. To add an extended length stud to kit add "**L**" to end of part number.