

Load pickup clamps for 15 kV systems, 300 A maximum

Application information

The load pickup/jumper clamp set is used to establish a circuit between energized and nonenergized sections of the line. The load pickup clamp is intended for use in conjunction with a companion jumper clamp by means of a suitable length of properly sized flexible jumper cable. **It is not a load breaking device.**

Design features

- **Arc resistant** – integral, completely enclosed quick-make contacts minimize arcing between conductor and clamp.
- **Fast, positive loadmake** – heavy-duty closing spring insures positive connection up to 300 A.
- **Easy inspection** – a unique transparent, yellow tinted polycarbonate handle permits easy inspection of the contact and affords high dielectric, impact strength and durability.
- **Secure connection** – the knurled, floating washer-type upper contact offers greater contact area and a secure connection to the conductor when the clamp is tightened during installation.

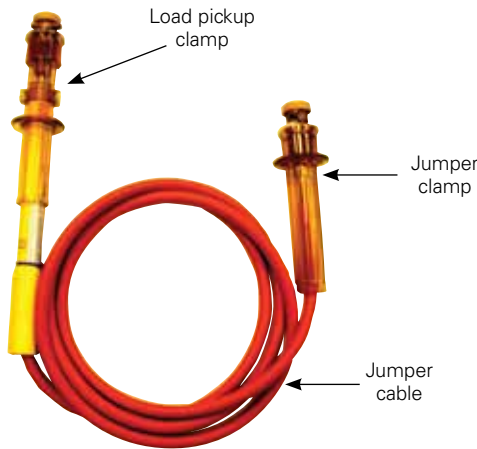


Figure 1. Load pickup clamp jumper assembly.

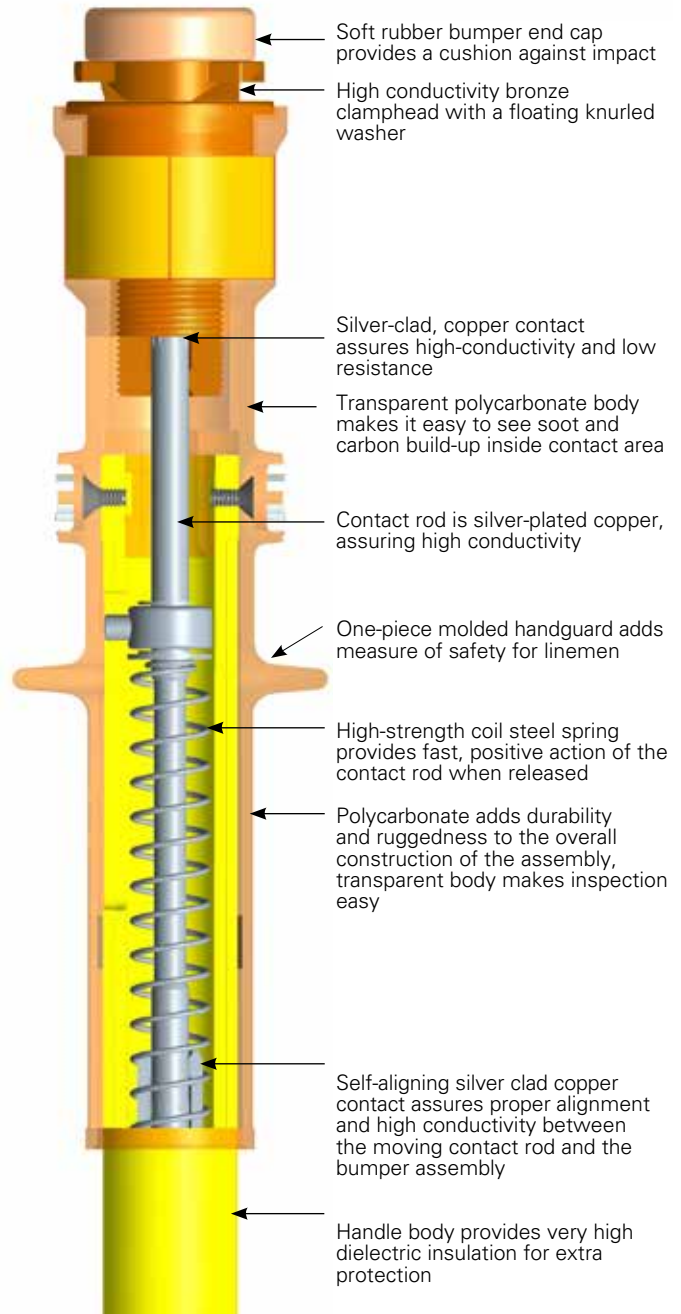


Figure 2. Load pickup clamp (cutaway view).

Table 1. Ratings

Max. Current Rating* (A)	Max. Phase-to-Phase Voltage	Max. Phase-to-Ground Voltage	Conductor Range Minimum	Conductor Range Maximum	Jumper Cable**
300 A	15 kV	8.3 kV	# 6 Sol.	800 KCMIL Str. or 795 KCMIL 26/7 ACSR	#2, 1/0 or 2/0

* Rating limited to the rating of cable installed.

** Use of cable not shown in table is not recommended.

Table 2. Load Pick-Up Clamp Jumper Assembly (Part Number Construction Information)

Digits	1	2	3	4	5	6	7	8	9	10	
	L	P	1	5	1	0	1	2	F	T	
Digits 1 and 2		Digits 3 and 4 Voltage		Digits 5 and 6 Cable Size		Digit 7 - 10 Cable Length					
LP	Load Pickup Jumper	15	15 kV	02	#2 Cable	08FT	8 feet	10FT	10 feet	12FT	12 feet
				10	1/0 Cable	14FT	14 feet	15FT	15 feet	16FT	16 feet
				20	2/0 Cable	20FT	20 feet				

The knurled, floating washer-type contact cuts through oxide and into conductor for enhanced conductivity. It does not damage the conductor.



Figure 3. Clamp shown in open position.

Jumper clamps for 15 kV, 25 kV, 35 kV systems, 400 A maximum

Application information

A jumper clamp provides a temporary connection between lines of like potential when necessary to bypass construction, maintenance or equipment repair areas. It is used in two ways – in pairs joined by appropriately sized cable to provide temporary jumpering or in conjunction with a load pickup clamp to jumper between energized and nonenergized circuits.

Design features

- **Maximum flexibility** – the contoured contact surface of the bronze head accepts a wide range of conductors.
- **Improved conductivity** – the knurled, floating washertype, contact of the head provides a greater contact surface area and prevents damage to the conductor when the clamp is tightened during installation.
- **Rugged design** – the transparent, polycarbonate handle provides impact strength and durability.
- **Cable protection** – the handle fully encloses the cable and protects connection and the screw threads. A smooth inner lining minimizes cable damage from abrasion and sharp bends.
- **Easier installation** – install quickly and easily on the line with one hand by hooking the open contact head over the conductor and rotating the handle to tighten the clamp.
- **Easier operation** – ribs formed in the handle afford a better gripping surface when tightening connections.



Figure 4. Jumper clamp set assembly.

Table 3. Jumper Clamp Set Assemblies; Complete Set

Digits	1	2	3	4	5	6	7	8	9	10	
	J	C	1	5	1	0	1	2	F	T	
Digits 1 and 2		Digits 3 and 4 Voltage		Digits 5 and 6 Cable Size		Digit 7 - 10 Cable Length					
JC	Jumper Clamp Assembly	15	15 kV	02	#2 Cable	08FT	8 feet	10FT	10 feet	12FT	12 feet
		25	25 kV	10	1/0 Cable	14FT	14 feet	15FT	15 feet	16FT	16 feet
		35	35 kV	20	2/0 Cable	20FT	20 feet				
				40	4/0 Cable						

Note: Jumper Clamp Sets include clamps, ferrules and cable.

Jumper components

To facilitate maintenance, Eaton's Cooper Power Systems provides high-quality replacement parts. The following components will simplify maintenance and help to prolong equipment life.

Table 4. Jumper Cable and Ferrule Assembly

Digits	1	2	3	4	5	6	7	8	9
	J	1	5	1	0	1	2	F	T

Digits 2 and 3 Voltage	
15	15 kV
25*	25 kV
35*	35 kV

* Use only with Jumper Clamp Assemblies

Digit 1	
J	Jumper Cable & Ferrule Assembly

Digits 4 and 5 Cable Size	
02	#2 Cable (15 kV Only)
10	1/0 Cable (15, 25 and 35 kV)
20	2/0 Cable (15 and 25 kV Only)
40*	4/0 Cable (15 kV Only)

* Use only with Jumper Clamp Assemblies

Digit 6 - 9 Cable Length	
08FT	8 feet
10FT	10 feet
12FT	12 feet
14FT	14 feet
15FT	15 feet
16FT	16 feet
20FT	20 feet



Figure 5. Jumper cable and ferrule assembly.



Figure 6. Ferrule installed on cable.

Table 5. Copper Jumper Cable – EPR†

kV	Size AWG	No. of Strands	Lay up of Strands	Approx. O.D. (Inches)	Approx. Current Rating (Amperes)*	Catalog Number
15	#2	259	7 x 37	0.780	200	3806-002
	1/0	259	7 x 37	0.865	250	3806-010
	2/0	259	7 x 37	0.910	300	3806-020
	4/0	437	19 x 23	1.052	400	3806-040
25	1/0	413	7 x 59	1.113	260	3806-110
	2/0	266	7 x 38	1.116	300	3806-120
35	1/0	413	7 x 59	1.267	260	3806-210

† Specify length when ordering.

* Based on copper temperature of 85 °C and ambient of 40 °C.

Table 6. Ferrules, Copper Compression Type

Cable Size	To Install on Cable with WH Tools		To install on Cable with Burndy® Y35 Tool*		
	Die No.	No. of Indents	Die Index No.	No. of Indents	Catalog Number**
#2	9/16	3	164	3	30365-1
1/0	9/16	3	164	3	30365-2
2/0	5/8-1	3	165	3	30365-3
4/0	840	3	168	3	30365-4

* Instructions are stamped on ferrule.

** Includes nut and washer as shown in Figure 6.

Table 7. Jumper Clamp (clamp only)

Handle Length	Line Range		For Jumper Cable Sizes	Max. Current Rating*(Amperes)	Catalog Number
	Minimum.	Maximum.			
11 1/8"	#6 Sol.	795 KCMIL ACSR or 800 KCMIL Str.	#2, 1/0, 2/0, 4/0	400	132284

Note: Catalog #132282 has been replaced with #132284.

*Rating applies to clamp only. In application, cable size and insulation rating must also be considered.

C-Type grounding clamps

Eaton's Cooper Power Systems offers a wide variety of grounding clamps in various styles and sizes for different applications. Because of the diversity of products, users are assured of being able to select the exact clamp for the application. Grounding sets can be supplied assembled to your specifications. Consult your Eaton's Cooper Power Systems representative or the factory.

Design Features

Three general design considerations offer maximum application versatility:

- **Aluminum or bronze construction** – for the best conductivity regardless of conductor material
- **A variety of sizes to fit any job**
- **Sized for the job** – small clamps, ASTM rating 4, ultimate 47,000 A for 15 cycles; medium clamps, ASTM rating 5, ultimate 60,000 A for 15 cycles; large clamps, ASTM rating 6, ultimate 70,000 A for 15 cycles.
- **Resists burring and stripping** – brass eye screws have Acme threads.
- **Superior strain relief** – via stainless steel cable clamps.
- **Economical maintenance** – replaceable serrated jaw inserts save time and money.
- **Better conductivity and corrosion resistance** – brass jaw seats are plated when used in aluminum clamps.
- **Mounting flexibility** – threaded ferrule holes available for 1/2"-13 or 5/8"-11 threaded ferrules.
- **Identification ease** – wire range and catalog number are clearly marked on each clamp.



Figure 7.
Cat. #133015-2AL (Aluminum), Sty. 15C
Cat. #13303-2BRZ (Bronze), Sty. 16C
Cat. #133035-8AL (Aluminum), Sty. 17C
Cat. #133035-8BRZ (Bronze), Sty. 18C



Figure 10.
Cat. #3620-2 (Aluminum), Sty. 21C
Cat. #3620-3 (Bronze), Sty. 22C



Figure 8.
Cat. #133034-2AL (Aluminum), Sty. 11C
Cat. #133034-2BRZ (Bronze), Sty. 12C
Cat. #133034-8AL (Aluminum), Sty. 13C
Cat. #133034-8BRZ (Bronze), Sty. 14C



Figure 11.
Cat. #3688-2 (Aluminum), Sty. 20C



Figure 9.
Cat. #3668-1 (Bronze), Sty. 1C
Cat. #3668-100 (Bronze), Sty. 2C
Cat. #3654-100 (Aluminum), Sty. 4C
Cat. #3654-101 (Aluminum), Sty. 5C



Figure 12.
Cat. #3669-100 (Bronze), Sty. 7C
Cat. #3655-1 (Aluminum), Sty. 8C
Cat. #3655-100 (Aluminum), Sty. 9C

Note: Please refer to Table 8 for grounding clamp styles.

Flat face grounding clamps

Eaton's Cooper Power Systems heavy-duty flat face ground clamps attach to flat metal surfaces such as busbars, towers, metal poles or other conductive structures.

Design features:

- **Aluminum or bronze construction** – for the best conductivity regardless of conductor material.
- **A variety of sizes fit any job**
- **Jaws with either smooth or serrated surfaces**
- **Sized for the job** – small clamps, ASTM rating 4, ultimate 47,000 A for 15 cycles; medium clamps, ASTM rating 5, ultimate 60,000 A for 15 cycles; large clamps, ASTM rating 6, ultimate 70,000 A for 15 cycles.
- **Resists burring and stripping** – brass eye screws have Acme threads, a superior thread design.
- **Superior strain relief** – via stainless steel cable clamps.
- **Better conductivity and corrosion resistance** – brass jaw seats are plated when used in aluminum clamps.
- **Mounting flexibility** – threaded ferrule holes available for 1/2"-13 or 5/8"-11 threaded ferrules.
- **Identification ease** – wire range and catalog number are clearly marked on each clamp.



Figure 13.
Cat. #133036-8AL (Aluminum), Sty. 4F
Cat. #133036-8BRZ (Bronze), Sty. 5F



Figure 16.
Cat. #3659 (Aluminum), Sty. 1F
Cat. #3673-100 (Bronze), Sty. 3F

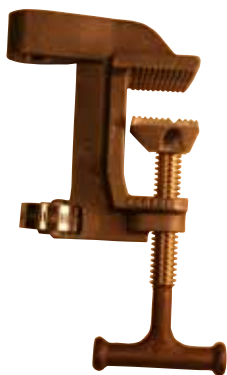


Figure 14.
Cat. #133042-8AL (Aluminum), Sty. 6F
Cat. #133042-8BRZ (Bronze), Sty. 7F



Figure 17.
Cat. #3672-100 (Bronze), Sty. 2F

Miscellaneous clamps

Eaton's Cooper Power Systems also offers special locking clamp pliers. More information on the locking clamp pliers can be found on page 12.



Figure 15.
Cat. #133045CPS (Steel), Sty. 1LP

Note: Please refer to Table 8 for grounding clamp styles.

Grounding clamps

Table 8. Grounding Clamp Styles

Clamp Style	Material	Clamp Range	Cable Range	ASTM Rating 15 Cycle Withstand	Eye Screw Thread	Ferrule Thread Type	Figure	Catalog Number
1C	Bronze	#8 Sol. to 1" dia.	#2 to 4/0	4 (34 kA)	Fine	1/2" Thru Hole	9	3668-1
2C	Bronze	#8 Sol. to 1" dia.	#2 to 4/0	4 (34 kA)	Fine	1/2-13	9	3668-100
4C	Aluminum	#8 Sol. to 1" dia.	#2 to 4/0	4 (34 kA)	Fine	1/2-13	9	3654-100
5C	Aluminum	#8 Sol. to 1" dia.	#2 to 4/0	4 (34 kA)	Acme	1/2-13	9	3654-101
7C	Bronze	#8 Sol. to 2" dia.	#2 to 4/0	4 (34 kA)	Fine	1/2-13	12	3669-100
8C	Aluminum	#8 Sol. to 2" dia.	#2 to 4/0	4 (34 kA)	Fine	1/2" Thru Hole	12	3655-1
9C	Aluminum	#8 Sol. to 2" dia.	#2 to 4/0	4 (34 kA)	Fine	1/2-13	12	3655-100
21C	Bronze	#8 Sol. to 1-3/8" dia.	#2 to 4/0	4 (34 kA)	Fine	1/2-13	10	3620-2
22C	Bronze	#8 Sol. to 1" dia.	#2 to 4/0	4 (34 kA)	Fine	1/2-13	10	3620-3
15C	Aluminum	#8 Sol. to 1" dia.	#2 to 250 MCM	5 (43 kA)	Acme	1/2-13	7	133035-2AL
16C	Bronze	#8 Sol. to 1" dia.	#2 to 250 MCM	5 (43 kA)	Acme	1/2-13	7	133035-2BRZ
17C	Aluminum	#8 Sol. to 1" dia.	#2 to 250 MCM	5 (43 kA)	Acme	5/8-11	7	133035-8AL
18C	Bronze	#8 Sol. to 1" dia.	#2 to 250 MCM	5 (43 kA)	Acme	5/8-11	7	133035-8BRZ
20C	Aluminum	#6 Sol. to 5" dia.	#2 to 4/0	5 (43 kA)	Acme	1/2-13	11	3688-2
11C	Aluminum	#8 Sol. to 2" dia.	#2 to 250 MCM	6 (54 kA)	Acme	1/2-13	8	133034-2AL
12C	Bronze	#8 Sol. to 2" dia.	#2 to 250 MCM	6 (54 kA)	Acme	1/2-13	8	133034-2BRZ
13C	Aluminum	#8 Sol. to 2" dia.	#2 to 250 MCM	6 (54 kA)	Acme	5/8-11	8	133034-8AL
14C	Bronze	#8 Sol. to 2" dia.	#2 to 250 MCM	6 (54 kA)	Acme	5/8-11	8	133034-8BRZ
1F	Aluminum	#8 Sol. to 1-1/2" dia.	# 2 to 4/0	4 (34 kA)	Fine	1/2-13	16	3659
2F	Bronze	#8 Sol. to 1-1/2" dia.	# 2 to 4/0	4 (34 kA)	Fine	1/2-13	17	3672-100
3F	Aluminum	#8 Sol. to 1-1/2" dia.	# 2 to 4/0	4 (34 kA)	Fine	1/2-13	16	3673-100
4F	Aluminum	#8 Sol. to 2" dia.	# 2 to 250 MCM	4 (34 kA)	Acme	5/8-11	13	133036-8AL
5F	Bronze	#8 Sol. to 2" dia.	# 2 to 250 MCM	4 (34 kA)	Acme	5/8-11	13	133036-8BRZ
6F	Aluminum	#8 Sol. to 2" dia.	# 2 to 250 MCM	4 (34 kA)	Acme	5/8-11	14	133042-8AL
7F	Bronze	#8 Sol. to 2" dia.	# 2 to 250 MCM	4 (34 kA)	Acme	5/8-11	14	133042-8BRZ
1LP	Steel	.25" to 1.25" dia.	1/0 to 2/0	N/A	N/A	Bolted	15	133045CPS

* Electrical ratings are RMS, symmetrical.

Table 9. Grounding Clamp and Cable Assemblies Ordering Information

Digits	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	G	S	1	0	Y	0	6	F	T	5	8	P	1	8	C	1	8	C

Digits 1 and 2	
GS	Grounding Clamp and Cable Assy.

Digits 3 and 4 Voltage	
02	#2 Cable
10	1/0 Cable
20	2/0 Cable
40	4/0 Cable

Digit 5 Cable Color	
Y	Yellow
B	Black
C	Clear

Digit 10-12 Ferrule Type	
58P	5/8-11 UNC Thread, plain
12P	1/2-13 UNC Thread, plain
12S	1/2-13 UNC Thread, shrouded
PSP	Plain Stud, No Shroud
PSS	Plain Stud, Shrouded

Digit 6 - 9 Cable Length	
04FT	4 feet
05FT	5 feet
06FT	6 feet
08FT	8 feet
10FT	10 feet
12FT	12 feet
15FT	15 feet
20FT	20 feet
40FT	40 feet

Digit 13 - 18 Clamp Style	
From Table 8 determine the clamp to be used for each end of the cable assembly. Fill in digit 13-18 using the Clamp Style numbers shown in the first column of the table. If the clamp style has only one number and one letter, i.e. 2C, add a 0 in front of the number: 02C.	



Figure 18. Typical grounding clamp and cable assembly.