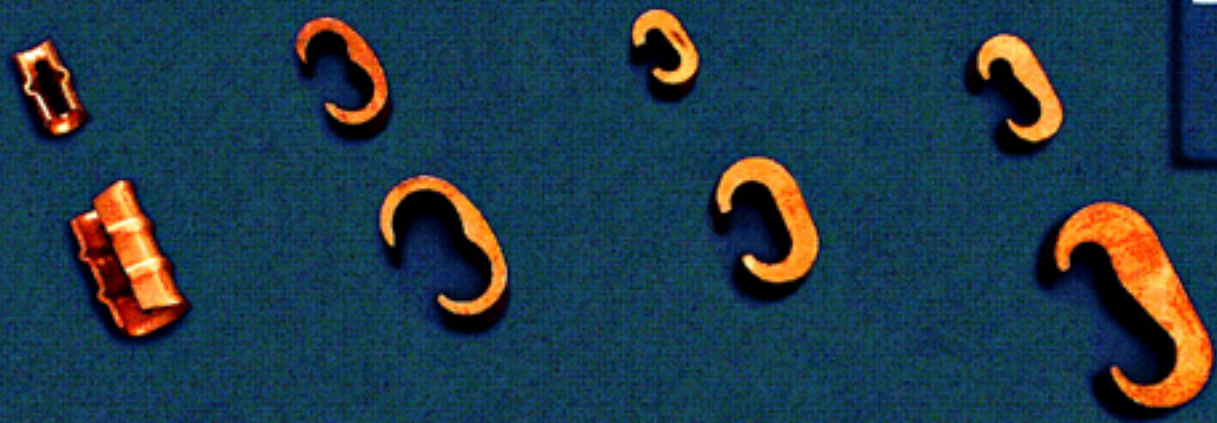


C-Tap Grounding Connectors



Pig-Tail Grounding Connectors



Figure 6 / Figure 8 Grounding Connectors



"T" and "X" Grounding Connectors



Figure 6 to Figure 8 Grounding Connectors



Figure 6 to Figure 6 Grounding Connectors

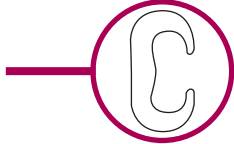


Figure 6



See Page C-55

C-Taps



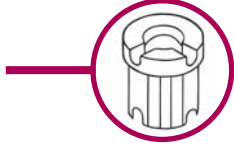
See Page C-60

I-Beam



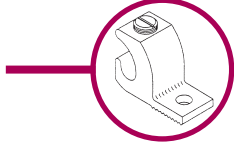
See Page C-63

Type DGC



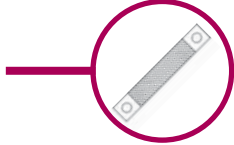
Drive-on
Ground Clamps
See Pages C-69

Type LL, CULL



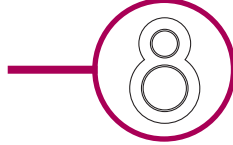
Lay-In
Lug Connectors
See Page C-74

Type FB



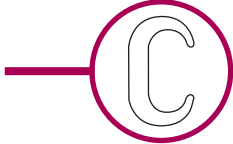
Flexible Braid
Connectors
See Page C-85

Figure 8



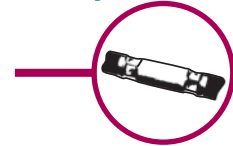
See Page C-55

C-Crimp



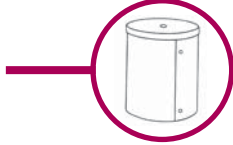
See Page C-60

Two-Way Connector



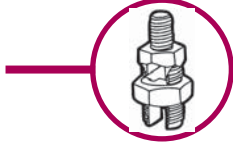
See Page C-63

Ground Electrode Boxes



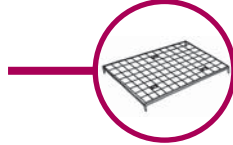
See Page C-70

Type SP



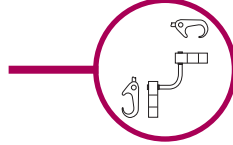
Service Post
Connectors
See Page C-75

Control Mat



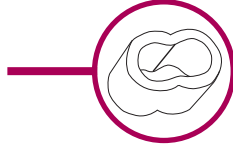
Metallic Gradient
Control Mat
See Page C-88

Figure 6-6



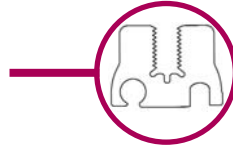
See Page C-56

Type GR



Pigtail
Connectors
See Page C-61

Bus Bar Connector



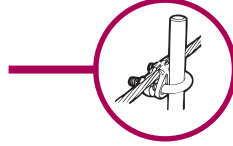
Ground Bus
Bar Connector
See Page C-65

Couplings



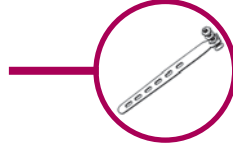
Sectional Ground Rod
Couplings
See Page C-71

Type GUV



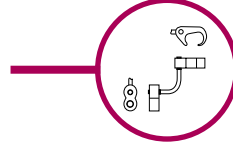
U-Bolt
Ground Clamps
See Page C-76

Type FJ



Flexible Ground
Clamp
See Page C-88

Figure 6-8



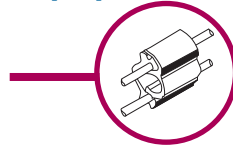
See Page C-56

Grounding Plate



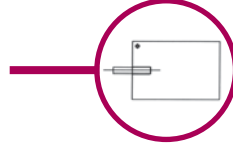
See Page C-61

Snap Tap Connector



See Page C-66

Ground Plate



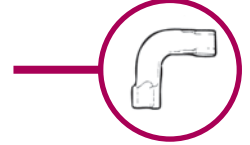
See Page C-72

Ground Clamp



Cast Bronze
Ground Clamp
See Pages C-77-C-83

Type GRD, GG



Ground Grid
Connectors
See Pages C-57-C-59

Grounding Studs



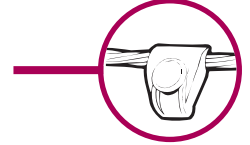
See Page C-62

Type GG, GGH, JAB, G



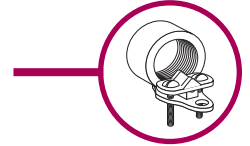
Ground Rod
Clamps
See Pages C-68-C-69

Type GTC



Tower Ground
Clamps
See Page C-73

Type CH



Conduit Hubs
See Page C-82

Compression Method Grounding Connectors save 50–75% in time and labor costs.

- Eliminates exothermic welding
- Reduces labor and labor costs
- Minimize possibility of poor connections

Thomas & Betts introduces a method of compression to replace exothermic welding and its associated disadvantages. This compression method is designed to provide quick, reliable connections for grid grounding at significantly lower installed costs because compression connectors install in less time, in any weather, and are unaffected by moisture, reducing downtime. In addition, our compression connectors for grid grounding require no special training for installation. They are made of high-conductivity wrought and cast copper, and are used for connecting and tapping cross grid, loop lines and ground rods for direct burial or concrete embedded ground grid systems. The Thomas & Betts compression system uses standard electrical connector installation tools.



Meets all applicable specifications

Thomas & Betts grid and ground rod connectors satisfy the requirements of NEC 250-50 for connecting to the Grounding Electrode System. They also meet the requirements of UL Std. 467, UL Std. 486 CSA Std. C22.2 No. 41 and CSA Std. C22.2 No. 65 being acceptable as grounding and bonding equipment suitable for direct burial. Thomas & Betts grid and ground rod connectors also satisfy the recommended practice for the selection of grounding connector joints described in IEEE 837 standard for qualifying permanent connections used in substation grounding.

The connectors conform to the following IEEE Standard 837 requirements:

- 350° C current cycling
- Freeze-thaw test
- Accelerated aging — nitric acid/salt spray
- Mechanical, tensile and electromagnetic force (EMF) criteria
- Install in any weather — cut downtime
- Enhance safety
- Easy to install — no special training



This installation method results in a long-lasting low installed cost connection. You can install it and forget it.

Before compression, typical cable connector cross section of cable and connector consists of about 75% metal and 25% air. After Thomas & Betts method compression, the cross section shows 100% metal with virtually no air spaces.

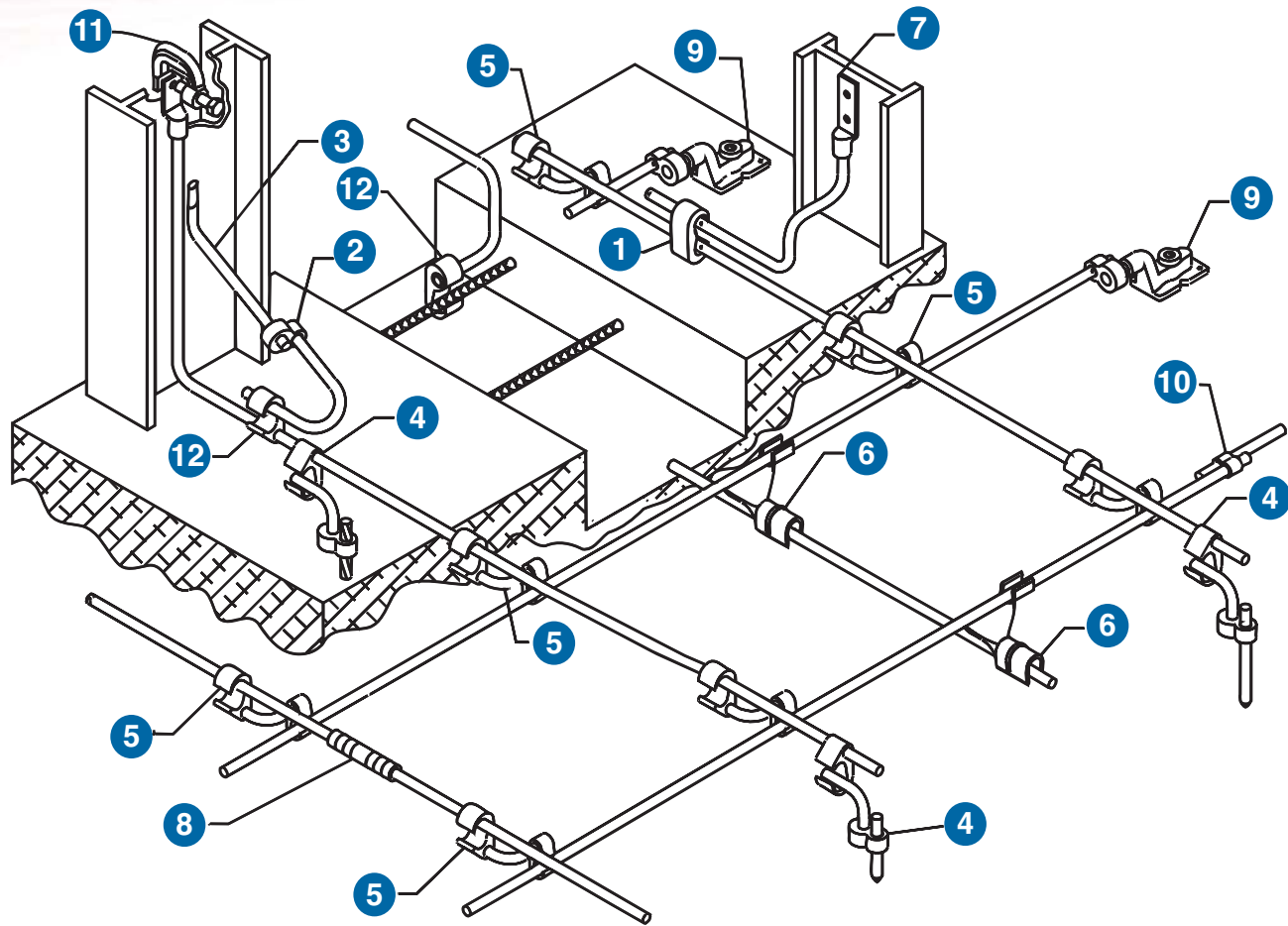
Reliable installations through compression connections

The Thomas & Betts method, utilizing compression tools with matching dies, forms the connector and conductor into a solid, homogeneous mass to provide an optimum electrical bond between connector and conductor. The dies are designed to produce a circumferential, hex-shaped compression rather than a simple indent. The circumferential compression creates a large area of high-pressure contact between cable and connector which, in turn, ensures high conductivity, low resistance and high pullout values exceeding all industry requirements.

Blackburn®

E-Z-Ground® Grounding Connectors

Blackburn® Grounding



Thomas & Betts offers its complete line of grid-ground compression connectors. Our E-Z-Ground® connectors are designed for direct burial and offer a safe, efficient alternative to exothermic welding products. Grid ground installations do not require explosive charges, and can be installed in various climate conditions. These range-taking products will reduce the number of connectors and dies needed for your installation.

Thomas & Betts E-Z-Ground® products meet all applicable standards (IEEE837, UL467, CSA 22.2). Connectors are pre-filled with oxide inhibitors and sealed.

- | | | |
|-----------------------------------|----------------------------|-----------------------|
| 1 C-Taps | 5 Figure 6-6 Connectors | 9 Grounding Plate |
| 2 Figure 8 Connector | 6 GG Connectors | 10 Pigtail Connectors |
| 3 Steel Grounding Stud TBG Series | 7 Lug | 11 I Beam Clamp |
| 4 Figure 6-8 Connectors | 8 Splice/Two-Way/Connector | 12 Figure 6 Connector |

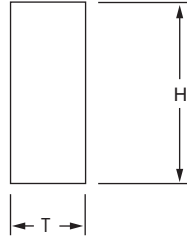
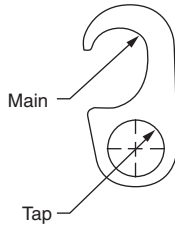
Thomas & Betts

www.tnb.com

United States
Tel: 901.252.8000
800.816.7809
Fax: 901.252.1354

Technical Services
Tel: 888.862.3289

Figure 6 Compression Ground Tap Connector



MEETS

IEEE

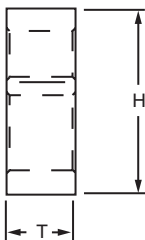
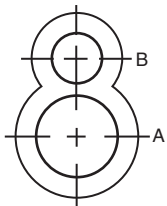
 837 REQUIREMENTS

Blackburn® Grounding

CAT. NO.	APPLICATION		CABLE TO REBAR APPLICATION		DIMENSIONS (IN.)		DIES FOR TBM 14M, 13100A OR TBM15I
	MAIN	TAP	A GROUND ROD	B CABLE RANGE	T	H	
54855	1/0 Str.–250 kcmil or ½"–¾" ROD	#4 Sol.–#2 Str.	#3 Rebar ¾ thru ½ #4 Rebar	#4 Sol.–#2 Str.	¾"	1 ½"	15G86R
54860	1/0 Str.–250 kcmil or ½"–¾" ROD	1/0 Str.–2/0 Str.	#3 Rebar ¾ thru ½ #4 Rebar	1/0 Str.–2/0 Str.	¾"	2 ½"	15G86R
54865-CK	1/0 Str.–250 kcmil or ½"–¾" ROD	3/0 Str.–250 kcmil	#3 Rebar ¾ thru ½ #4 Rebar	3/0 Str.–250 kcmil	¾"	2 ½"	15G86R
54875	#6 Sol.–#2 Str.	#6 Sol.–#2 Str.	—	—	¾"	2 ½"	15501A
54885	250 kcmil–500 kcmil or ¾"–¾" ROD	#4 Sol.–#2 Str.	#5 Rebar ¾ thru ¾ #6 Rebar	#4 Sol.–#2 Str.	¾"	1 ½"	15G126R
54890	250 kcmil–500 kcmil or ¾"–¾" ROD	1/0 Str.–2/0 Str.	#5 Rebar ¾ thru ¾ #6 Rebar	1/0 Str.–2/0 Str.	¾"	2 ½"	15G126R
54895	250 kcmil–500 kcmil or ¾"–¾" ROD	3/0 Str.–250 kcmil	#5 Rebar 5/8 thru ¾ #6 Rebar	3/0 Str.–250 kcmil	¾"	2 ½"	15G126R
54900	250 kcmil–500 kcmil or ¾"–¾" ROD	350 kcmil–500 kcmil	#5 REBAR ¾ thru ¾ #6 Rebar	350 kcmil–500 kcmil	1 ½"	2 ½"	15G121R

* Tin-plated version available of galvanized ground rods. Add suffix -TP

Figure 8 Compression Ground Rod Tap Connector



MEETS

IEEE

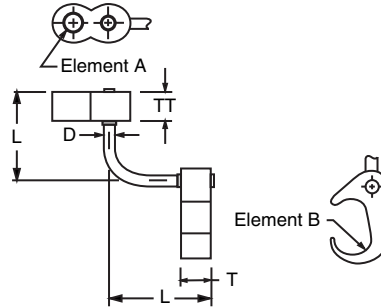
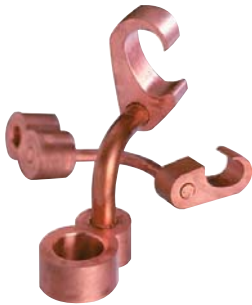
 837 REQUIREMENTS

CAT. NO.	A GROUND ROD	B CABLE RANGE	DIMENSIONS (IN.)		DIES FOR TBM14M 13100A OR TBM15I
			T	H	
GR12-202	½"	2 AWG–2/0 AWG	¾"	1 ½"	15G121R
GR58-202	⅝"	2 AWG–2/0 AWG	¾"	1 ½"	15G121R
GR34-202	¾"	2 AWG–2/0 AWG	¾"	2 ½"	15G121R
GR1-202	1"	2 AWG–2/0 AWG	¾"	2 ½"	15G121R
GR12-40250	½"	3/0 AWG–250 kcmil	¾"	1 ½"	15G121R
GR58-40250	⅝"	3/0 AWG–250 kcmil	¾"	2 ½"	15G121R
GR34-40250	¾"	3/0 AWG–250 kcmil	¾"	2 ½"	15G121R
GR1-40250	1"	3/0 AWG–250 kcmil	¾"	2 ½"	15G121R
GR58-300500	⅝"	300–500 kcmil	¾"	2 ½"	15G121R
GR34-300500	¾"	300–500 kcmil	¾"	2 ½"	15G121R
GR1-300500	1"	300–500 kcmil	¾"	2 ½"	15G121R

Tooling: p. B74–B90

Die Selector Chart: p. B92–B93

Figure 6 to 8 Compression Ground Rod to Grid Connectors

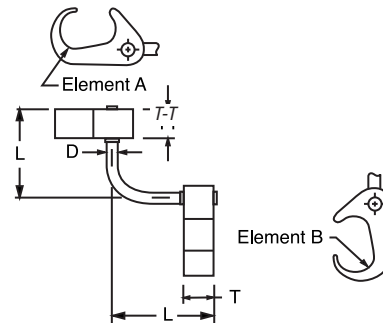
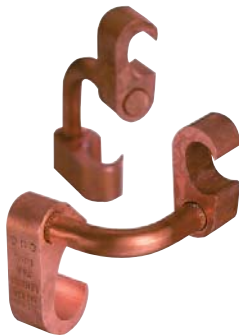


Blackburn® Grounding

CAT. NO.	A GROUND ROD	B CABLE RANGE	DIMENSIONS (IN.)		DIES FOR TBM14M, 13100A OR TBM15I	
			D	L	ELEMENT A	ELEMENT B
54855LR12*	1/2"	2 AWG-250 kcmil	5/16"	2 1/2"	15G86R	15G121R
54885LR12*	1/2"	250 kcmil-500 kcmil	5/16"	2 1/2"	15G126R	15G121R
54865LR58*	5/8"	2 AWG-250 kcmil	5/16"	2 1/2"	15G86R	15G121R
54895LR58*	5/8"	250 kcmil-500 kcmil	5/16"	2 1/2"	15G126R	15G121R
54875LR34*	3/4"	2 AWG-250 kcmil	1/2"	2 5/8"	15G86R	15G121R
54900LR34*	3/4"	250 kcmil-500 kcmil	1/2"	2 5/8"	15G121R	15G121R
54910LR100	1"	2 AWG-250 kcmil	1/2"	2 5/8"	15G86R	15G121R
54920LR100	1"	250 kcmil-500 kcmil	1/2"	2 5/8"	15G126R	15G121R

*Tin-plated version available of galvanized ground rods. Add suffix -TP.

Figure 6 to 6 Compression Ground Grid Connectors



CAT. NO.	ELEMENT A	ELEMENT B	ELEMENT B TO GROUND ROD	ELEMENT B TO REBAR	DIMENSIONS (IN.)			DIE SELECTION FOR TBM14M, 13100A OR TBM15I	
	CABLE TO CABLE				D	T	T-T	A	B
54855L	#6 Sol.-#2 Str.	#6 Sol.-#2 Str.	—	—	7/8"	3/4"	3/4"	15501A	15501A
54865L	#1 Str.-250 kcmil	#6 Sol.-#2 Str.	1/2"-5/8"	3/4"-1/2" #3-#4 Rebar	7/8"	3/4"	3/4"	15G86R	15501A
54875L	#2 Str.-250 kcmil	#2 Str.-250 kcmil	1/2"-5/8"	3/4"-1/2" #3-#4 Rebar	7/8"	3/4"	3/4"	15G86R	15G86R
54885L	250 kcmil-500 kcmil	#6 Sol.-#2 Str.	5/8"-1/2"	5/8"-3/4" #5-#6 Rebar	7/8"	3/4"	3/4"	15G126R	15501A
54895L	250 kcmil-500 kcmil	#2 Str.-250 kcmil	5/8"-1/2"	5/8"-3/4" #5-#6 Rebar	7/8"	3/4"	3/4"	15G126R	15G86R
54900L	250 kcmil-500 kcmil	250 kcmil-500 kcmil	5/8"-1/2"	5/8"-3/4" #5-#6 Rebar	7/8"	1 1/8"	1 1/8"	15G121R15	G121R

Tooling: p. B74-B90

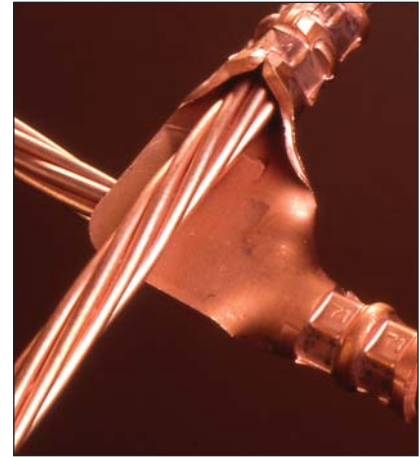
Die Selector Chart: p. B91-B93



One-piece construction for cable-to-cable, cable-to-rod, “T” and “X” connections.

Cable-to-Cable or Cable-to-Rod Connectors

- Suitable for direct burial or in concrete
- Replaces exothermic welds
- Made from high-conductivity wrought copper
- Conforms to IEEE 837 standard
- UL467



Blackburn® Grounding

CAT. NO.	CABLE TO CABLE RANGE				GROUND ROD	ROD TO CABLE		
	MAIN	DIE CODE	BRANCH	DIE CODE		DIE CODE	CABLE	DIE CODE
GG21-21	#2 or #1	45	#2 or #1	45	—	—	—	—
GG10-10	1/0	54	1/0	54	—	—	—	—
GG2030-21	2/0 or 3/0	60	#2	45	—	—	—	—
GG2030-10	2/0 or 3/0	60	1/0	54	—	—	—	—
GG2030-2030	2/0 or 3/0	60	#1	50	—	—	—	—
GG40250-21	4/0 or 250	71	#2	45	½"	71	#2 or #1	45
			#1	50	⅝"	80H	#2 or #1	50
GG40250-10	4/0 or 250	71	1/0	54	½"	71	1/0	65
					⅝"	80H		
					¾"	80H		
GG40250-2030	4/0 or 250	71	2/0 or 3/0	60	½"	71	2/0 or 3/0	60
					⅝"	80H	2/0 or 3/0	60
					¾"	80H	4/0 or 250	71
GG40250-40250	4/0 or 250	71	4/0 or 250	71	½"	71	4/0 or 250	71
					⅝"	80H	4/0 or 250	71
GG350-350	350 kcmil	80H	350	80H	—	—	—	—
GG500-40250	500 kcmil	87	4/0 or 250	71	⅝"	80H	500	87
					¾"	87H	500	87
GG500-500	500 kcmil	87	500	87	¾"	87	500	87
GG500-350	500 kcmil	87H	350	80	⅝"	87H	350	80H
					¾"			
GG500-2030	500 kcmil	87H	2/0 or 3/0	60	⅝"	87H	2/0 or 3/0	60
					¾"			

g: p. B74–B90

Die Selector Chart: p. B91–B93

Blackburn®

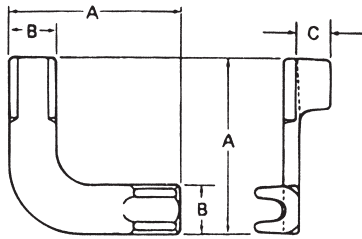
E-Z-Ground® Grounding Connectors

Blackburn® Grounding

For copper cable-to-cable ground-grid connections.

Type GRD — Cable-to-Cable Connector

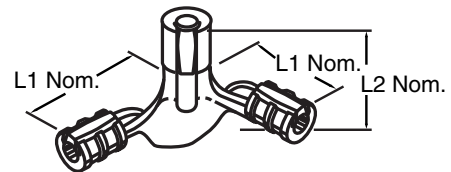
- Cast of high-conductivity bronze alloy
- Suitable for direct burial



CAT. NO.	CONDUCTOR SIZE								GROUND ROD	INSTALLATION INFORMATION			DIMENSIONS (IN.)		
	MAIN				TAP					HYD. TOOL	DIE	NO. CRIMPS	A	B	C
	MAX.	MIN.	MAX. (MM ²)	MIN. (MM ²)	MAX.	MIN.	MAX. (MM ²)	MIN. (MM ²)							
GRD2	1	2	42.4	33.6	1	2	42.4	33.6	—	TBM14M	B09CH	1	2½	1¼	1¼
GRD20	2/0	1/0	67.4	53	2/0	1/0	67.4	53	—	TBM14M	B10CH	1	3	1¼	¾
GRD420	250 kcmil	4/0	126.6	107	2/0	1/0	67.4	53	¾	TBM14M	B12CH	2	3¾	1¼	1¾
GRD40	250 kcmil	4/0	126.6	107	250 kcmil	4/0	126.6	107	¾	TBM14M	B12CH	2	3¾	1¼	1¾

For connecting perpendicular runs of stranded copper cable to ground rod

Two Cables-to-Ground Rod Connector — Heavy-Duty Cast Copper^{††}



CAT. NO.	CABLE SIZE		GROUND ROD DIA.	TBM15I DIE FOR CABLE CODE	OVERALL DIM. (IN.)		TBM15I DIE FOR GROUND ROD CODE
	MAIN	TAP			L1	L2	
53065-58GR	250 or 4/0	250 or 4/0	5/8" & 1/2"	87H	4¼	3¼	87H
53065-34GR	250 or 4/0	250 or 4/0	¾	87H	4¼	3¼	106H

Installs with Hydraulic Tools with hex crimp dies.

^{††}Does not meet IEEE837

Thomas & Betts

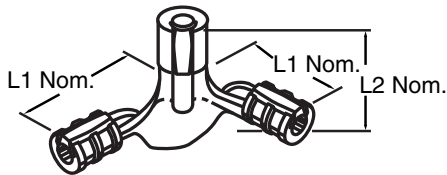
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Tel: 888.862.3289

E-Z-Ground® Grounding Connectors

Copperweld* Conductors & Rebar — for Use with Cast Copper Connectors

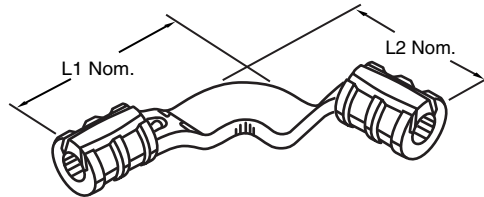
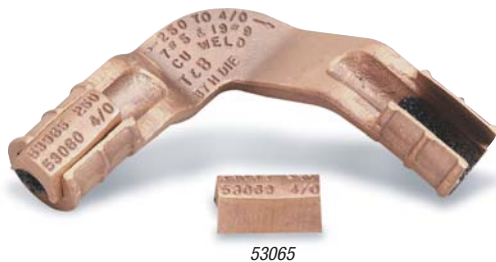


CABLE SIZE	REINFORCING ROD SIZE	COPPER WELD CONDUCTOR SIZE
2, 1 AWG	—	3 #8 or 3 #6
1/0, 2/0 AWG	#3	3/8 (7 #8) or 1/2 (7 #7)
4/0, 250 kcmil	#4	7/16 (19 #9) or (7 #5)
300–350	#5	1/2 (19 #8) or 5/8 (7 #4)
500 kcmil	#6	5/8 (19 #6)

* Reg. Trademark Copperweld Corporation
 UL Listed for use with cast copper connectors.
 Tooling: pp. B74-B90
 Die Selector Chart: pp. B91-B93

Blackburn® Grounding

Grounding Grid Connectors Heavy-Duty Cast Copper ††



CAT. NO.	ROD TO CABLE RANGE		CABLE TO CABLE RANGE		ROD TO CABLE INSTALLING DIE CODE FOR TBM14M, 13100A OR TBM15I		OVERALL DIMENSION (IN.)	
	ROD SIZE (IN.)	CABLE RANGE	MAIN	BRANCH	ROD BARREL	CABLE BARREL	L1	L2
53055	—	—	1/0–2/0 AWG	1/0–2/0 AWG	—	66	3/8	3/8
53059†	1/2–5/8	2–1 AWG	4/0–250 kcmil	2–1 AWG	87H	54H	4 1/2	4 1/8
53060†	1/2–5/8	1/0–2/0 AWG	4/0–250 kcmil	1/0–2/0 AWG	87H	87H	4 1/8	4 1/8
53065†	1/2–5/8	4/0–250 kcmil	4/0–250 kcmil	4/0–250 kcmil	87H	87H	4 1/8	4 1/8
53069†	3/4	1/0–2/0 AWG	300–350 kcmil	1/0–2/0 AWG	106H	66	4 1/2	4 1/2
53071†	3/4	4/0–250 kcmil	300–350 kcmil	4/0–250 kcmil	106H	106H	5 1/4	4 3/2
53073†	3/4	1/0–2/0 AWG	500 kcmil	1/0–2/0 AWG	125H*	66	4 3/8	4 3/8
53075†	1	4/0–250 kcmil	500 kcmil	4/0–250 kcmil	125H*	87H	6 1/8	5
53080†	1	500 kcmil	500 kcmil	500 kcmil	125H*	125H*	5 1/8	5 1/8

Cat. No. 15500 adapter as required for all 15500 Series dies, not for 15600 Series.

† Ground rods 4/0–250 wire barrels suitable for 1/2" smf 3/8" rod

500 kcmil wire barrels suitable for 1" rods

300–500 kcmil wire barrels suitable for 3/4" rods

Hydraulic tools only

†† Does not meet IEE837

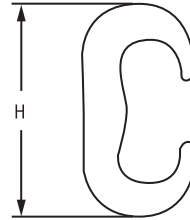
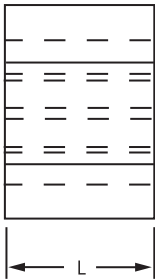
*125H die for 15-ton tool only

Blackburn®

E-Z-Ground® Grounding Connectors

C-Taps

Blackburn® Grounding



MEETS
IEEE
837 REQUIREMENTS

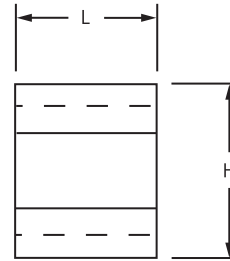
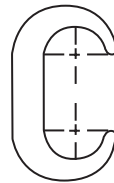
CAT. NO.	MAIN	TAP	DIMENSIONS (IN.)		DIES FOR TBM14M, 13100A OR TBM151 *	CRIMPS
			H	L		
CTP22	#6 Sol.-#2 Str.	#6 Sol.-#2 Str.**	1.16	.75	HBKC	1
CTP202	#1 Str.-2/0 Str.	#6 Sol.-#2 Str.**	1.41	.75	15501A	1
CTP2020	#1 Str.-2/0 Str.	#1 STR.-2/0 Str.	1.54	.75	15501A	1
CTP25020	3/0 Str.-250 kcmil	#6 Sol.-2/0 AWG**	1.97	.75	15G86R	1
CTP250250	3/0 Str.-250 kcmil	3/0 Str.-250 kcmil	2.06	.88	15G86R	1
CTP50020	300-500 kcmil	#6 Sol.-2/0 AWG**	2.42	.88	15G121R	2
CTP500250	300-500 kcmil	3/0 Str.-250 kcmil	2.67	.88	15G121R	2
CTP500500	300-500 kcmil	300-500 kcmil	2.91	1.10	15G121R	3

Material: High-Conductivity Copper.

*Cat. No. 15500 adapter required if using TBM151 and 155XX series dies.

**#6 AWG branch must be doubled.

Copper C-Crimps Wire Combinations^{††}



CAT. NO.	RUN	TAP	DIE INDEX	INSTALLING DIE TBM14M, 13100A, TBM151	DIMENSIONS (IN.)	
					L	H
BC48	6 Sol.-4 Str.	8 Sol.-8 Str.	BG OR ⅝	B58CS	¼	⅝
BC46-BB	6 Sol.-4 Str.	6 Sol.-6 Str.	BG OR ⅝	B58CS	¼	¾
BC44	6 Sol.-4 Str.	4 Sol.-4 Str.	BG OR ⅝	B58CS	¼	5/16
BC24	2 Sol.-2 Str.	8 Sol.-4 Str.	C	HBKC	¾	63/64
BC22	2 Sol.-2 Str.	2 Sol.-2 Str.	C	HBKC	¾	1¾
BC202	1/0 Sol.-2/0 Str.	8 Sol.-2 Str.	E or O	HO	1⅝	1⅝
BC2020-BB	1/0 Sol.-2/0 Str.	1/0 STR.-2/0 Str.	E or O	HO	1⅝	1½
BC402	3/0 Str.-4/0 Str.	6 Sol.-2 Str.	F or D3	HD	1⅝	1⅝
BC4020	3/0 Str.-4/0 Str.	1/0 Sol.-2/0 Str.	F or D3	HD	1⅝	1⅝
BC4040	3/0 Str.-4/0 Str.	3/0 Sol.-4/0 Str.	F or D3	HD	1⅝	1⅝

^{††}Does not meet IEEE837

Tooling: p. B74-B90

Die Selector Chart: p. B91-B93

Thomas & Betts

C-60

www.tnb.com

United States
Tel: 901.252.8000
800.816.7809
Fax: 901.252.1354

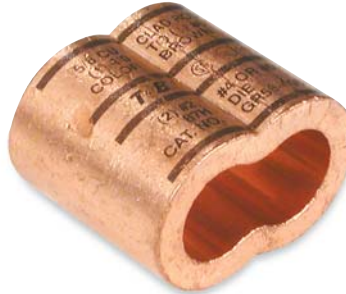
Technical Services
Tel: 888.862.3289

Hex compression intimately bonds cable directly to ground rod.

Pigtail Connectors

- Figure-8 connectors
- Conforms to IEEE 837 standard
- UL467 Listed

When connecting cable to ground rod for direct burial or in concrete, the connector shall be wrought copper with minimum conductivity of 99% I.A.C.S., such as Thomas & Betts series GR12-306. Hex compression with die code embossing shall be used.



MEETS
IEEE
837 REQUIREMENTS

CAT. NO.	CABLE RANGE	GROUND ROD	DIE CODE FOR TBM14M, 13100A OR TBM15I
GR12-306	One Cable: 3/0 to 6 AWG	1/2"	87H
	Two Cables: 2 to 6 AWG		
GR58-406	One Cable: 4/0 to 6 AWG	5/8"	87H
	Two Cables: 2 to 6 AWG		
GR34-4010	One Cable: 4/0 to 1/0 AWG	3/4"	99H

Tooling: p. B74-B90

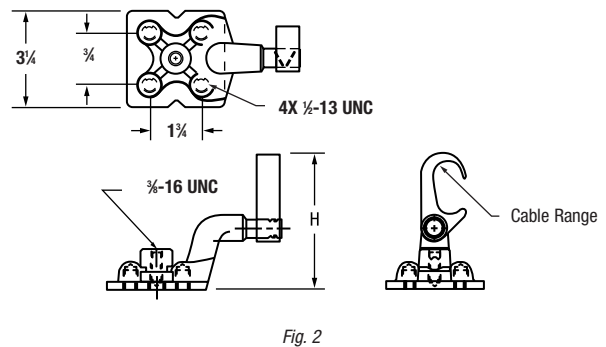
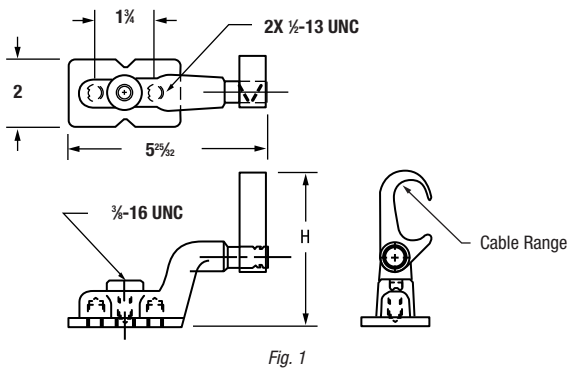
Die Selector Chart: p. B91-B93

Ground Plates



MEETS
IEEE
837 REQUIREMENTS

CAT. NO.	FIG.	CABLE RANGE	H	DIES
GP2250-2	1	2-250 kcmil	3 5/8"	15G86R
GP2250-4	2	2-250 kcmil	4 1/2"	15G86R
GP250500-2	1	250-500 kcmil	3 3/8"	15G126R
GP250500-4	2	250-500 kcmil	4 1/2"	15G126R

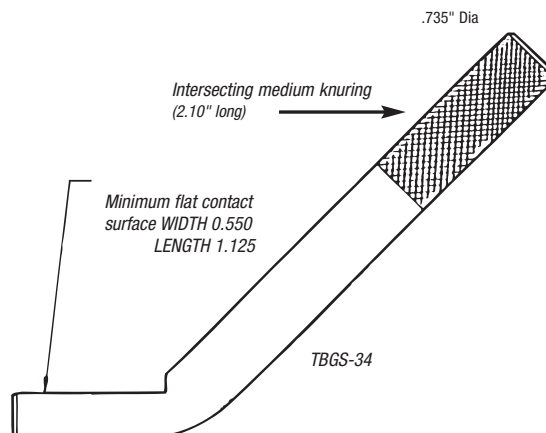
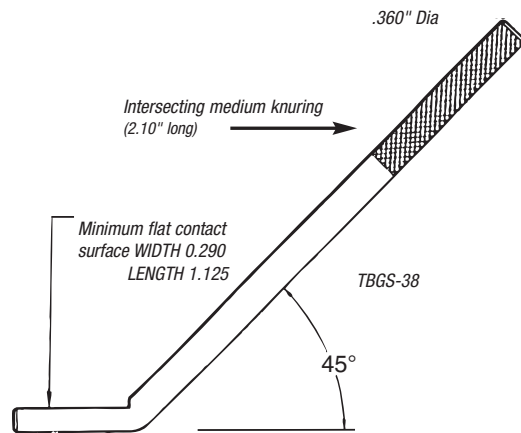
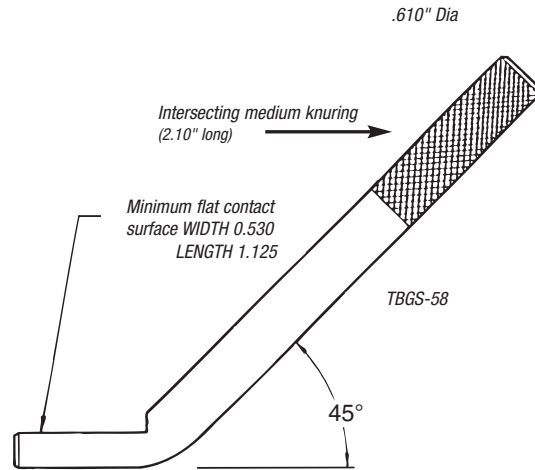
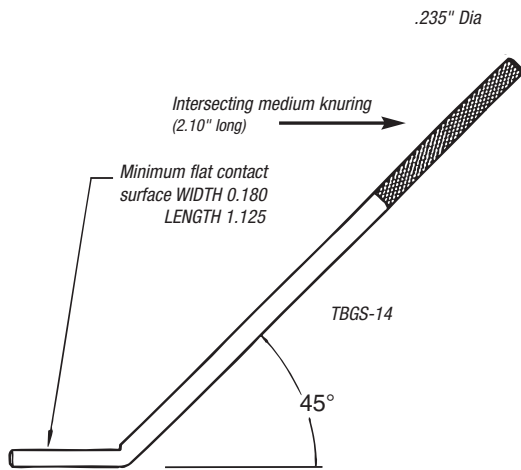


Knurling ensures excellent mechanical pull-out and electrical continuity.

Type TBGS — Structural Grounding Studs

- Easily welded to steel structures with minimal construction welding equipment
- Connect to grounding conductors with appropriate Thomas & Betts grounding connectors
- Knurled portion of stud resists pull-out and provides electrical continuity to ensure the integrity of the grounding circuit
- Constructed of high-strength steel and coated with corrosion-resistant copper cyanide

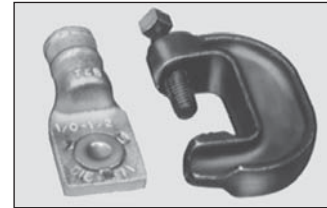
CAT. NO.	ROD SIZE
TBGS-14	¼"
TBGS-38	⅜"
TBGS-58	½"
TBGS-34	¾"



Connect ground cable to I-beam or any 1" maximum structural steel member — without welding or drilling.

I-Beam Ground Clamp

- Breakaway bolt head shears at predetermined torque to ensure tight connection
- Heavy-duty compression lug provides excellent current carrying capabilities
- Surface of steel must be cleaned in accordance with installation instruction sheet provided with product
- Connector made of high-conductivity cast copper bright dip
- Clamp made of drop-forged high-grade steel, zinc plated



Blackburn® Grounding



CAT. NO.	WIRE RANGE	TBM15I INSTALLING TOOL, DIE CODE
IBG2-10	2 thru 1/0 AWG	71
IBG20-40	2/0 thru 4/0 AWG	87
IBG350-500	350MCM thru 500 MCM	115

Hydraulic tooling with hex crimp dies.

Satisfies requirements of NEC250-81 and 250-91 for connecting to grounding electrode system.

Cast Copper Two-Way Connector — Heavy-Duty



CAT. NO.	DIE SIZE	DIE CODE
53504	8AWG	29
53505	6AWG	29
53506	4AWG	29
53507	2AWG	45
53508	1AWG	45
53509	1/0AWG	45
53510	2/0AWG	66
53511	3/0AWG	66
53512	4/0AWG	66
53513	250 kcmil	76
53515	350 kcmil	99
53518	500 kcmil	99
53523	750 kcmil	112

Use hydraulic tools with hex dies.

- Made from high-conductivity cast copper
- Electro-tin-plated finish

Blackburn®

E-Z-Ground® Grounding Connectors

Blackburn® Grounding

Provides a permanent, reliable connection.

Ground Clamp

- Crimps to cable
- Clamps to ground rod and rebar
- Uses standard Color-Keyed® hand and hydraulic tools
- Color-coded for easy installation die selection
- Made from high-conductivity wrought copper
- Furnished with stainless steel hardware, ¼" washers, bolts and nuts
- UL467 — approved for direct burial



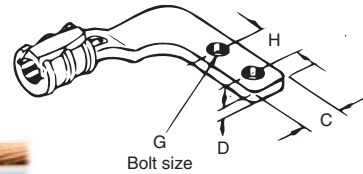
CAT. NO.	WIRE SIZE	GROUND ROD DIAMETER (IN.)	REBAR # (IN.)	BOLT SIZE (IN.)	DIE CODE
CC2C-45R	#2-#3 AWG	½ or ¾	¾	¼	33-BROWN
CC1C-45R	#1 AWG	½ or ¾	¾	¼	37-GREEN
CC10C-56R	1/0 AWG	¾ or 3¼	¾	¾	42-PINK
CC20C-56R	2/0 AWG	¾ or 3¼	¾	¾	45-BLACK
CC40C-56R	4/0 AWG	¾ or ¾	¾	¾	54-PURPLE

UL467 — Approved for direct burial.

Terminate or connect continuous runs of copper cable to flat surfaces.

Flat-Surface Ground Clamp

- Captivated "keeper bar" design extends cable range and helps hold cable prior to crimping, facilitating installation
- Saddles marked with conductor size and die code
- Conductor can be assembled to saddle with standard dies and hydraulic tools
- Made from high-conductivity cast copper



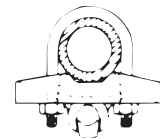
CAT. NO.	WIRE RANGE	BOLT HOLE	DIE CODE NO.*	UNIT QUAN.	STD. PKG.	WT. PER 100	HEX DIE		INCHES				
							CAT. NO.	DIE CODE NO.	L1	L2	D	C	H
53055FL	1/0-2/0 AWG	¾"	66	2	10	75	*15534	66	4½	3¾	¾	1½	1
53065FL	4/0-250 kcmil	¾"	87H	2	10	112	**15506	87H	4½	4¾	¾	1½	1

* TM14M, 13100A, TBM15I with hex crimp dies.

** TBM15I with hex crimp dies only.

Bond copper conductors to steel or aluminum fence post or top rail of round fence posts.

Grid-to-Fence Ground Clamp



- Provide quick, dependable installation at low installed cost
- Use no incendiary materials
- Body made from cast copper alloy with steel U-bolt

CAT. NO.	GROUND CABLE RANGE	DIE CODE	STEEL & ALUMINUM LINE POST RANGE (IN.)
FG2040R2	2/0-3/0-4/0	76	2
FG2040R25	2/0-3/0-4/0	76	2½
FG2040R3	2/0-3/0-4/0	76	3
FG210R2	2-1-1/0	66	2
FG210R25	2-1-1/0	66	2½
FG210F3	2-1-1/0	66	3

Install with hydraulic tooling with hex crimp dies.

Thomas & Betts

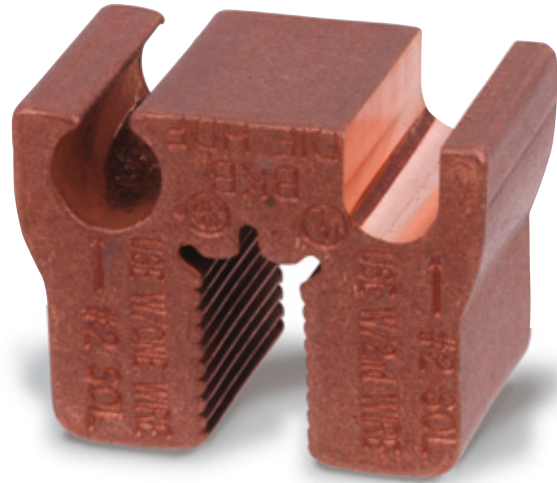
United States
Tel: 901.252.8000
800.816.7809
Fax: 901.252.1354

Technical Services
Tel: 888.862.3289

Cuts installation time in half — with results superior to conventional connectors.

E-Z-Ground® Bus Bar Connector

- Unique design
- Fast and easy installation
- Superior low-resistance, high-conductivity connections
- Installs with conventional compression tools
- Produces a permanent connection with any combination of copper from #6 to #2 solid or stranded conductor, to ¼" copper bus bar
- Made from pure wrought copper and prefilled with oxide inhibitor
- UL Listed and CSA certified
- Insulated with die HDF

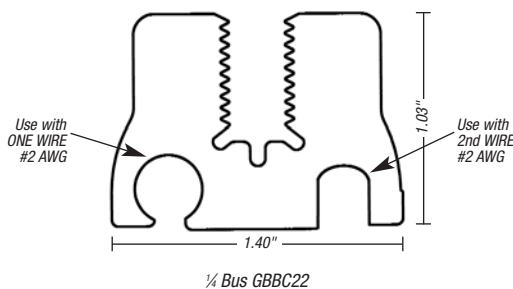


E-Z-Ground® Bus Bar Connectors install in less than 2 minutes with one easy crimp! The connector attaches directly to the bus, saving the labor-intensive process of drilling and tapping. The unique jaw interface of the E-Z-Ground® Bus Bar Connector grips the copper bus, resulting in a low-resistance, high-conductivity connection.

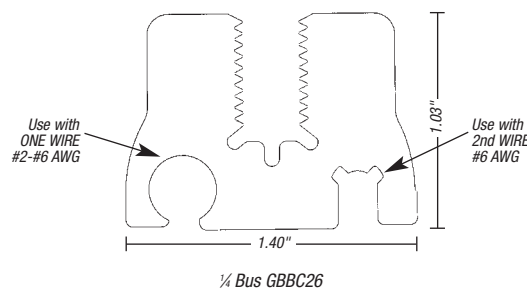
The E-Z-Ground® Bus Bar Connector can be used in OEM applications or telecom applications — cellular, PCS and others. It provides a continuous ground to the copper bus bar, making it ideal for hut and tower applications. The design enables installation in virtually any position, horizontal or vertical, and is suitable for inside and outside plant use. Installation can be completed using any T&B compression tool that accepts U-shaped die sets and is rated 12-ton or higher.

CAT. NO.	BUS BAR THICKNESS (IN.)	CONDUCTOR RANGE	STD. PKG. QTY.
GBBC22	¼	#2 AWG–#2AWG	1
GBBC26	¼	#6 AWG–#2AWG	1

Use this side of the connector when using only one wire.



Use this side of the connector only when using two wires.

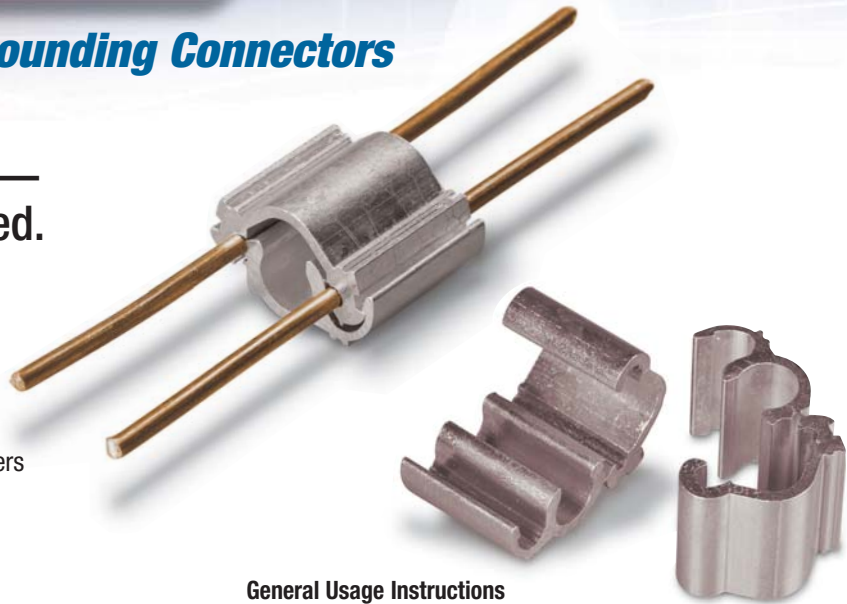


A “snap” to assemble — no special tools required.

SnapTap® Connector

- Designed for bonding and grounding applications using copper, steel strand and ground rod
- Easily installed with channel locks or pliers
- Made from high-strength aluminum alloy with tin plating
- Offers excellent electrical and mechanical characteristics
- UL467 tested — exceed performance requirements

With the SnapTap® Connector, you can achieve an electrically superior, pressure-fit connection in seconds without expensive tooling. The connector is also easy to disassemble, requiring only a flat-head screwdriver to release the connected body. A one-piece design keeps parts together, minimizing loss of components prior to assembly. Simply separate the pieces and snap them in place for installation. An audible “snap” indicates that the connection is complete and properly installed.



General Usage Instructions

Separate

No special tools required. Use ordinary parallel jaw pliers to separate the connector into two parts. Hold one side of connector with pliers and bend opposite side back and forth until parts separate (see Fig. 1).

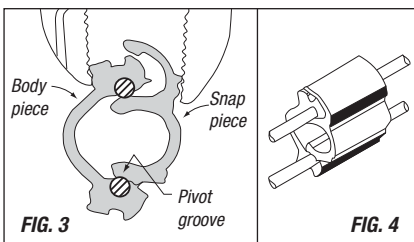
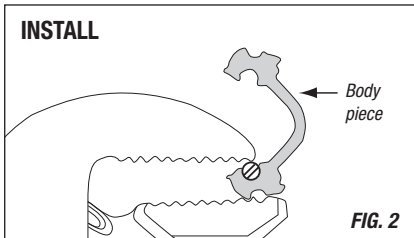
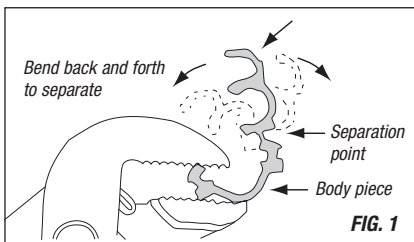
Caution: Be careful not to pinch fingers or thumb when separating parts. Keep fingers out of bend path when bending part against plier jaws.

Installation

1. Strip the insulation from each conductor. Be careful not to nick the conductor. Clean the conductor ends with a wire brush or emery cloth if necessary.
2. Place each conductor into the grooves in BODY piece. Press conductors with pliers to align and seat into grooves (see Fig. 2).
3. Hold the conductors and BODY piece until it stops. Use parallel jaw pliers and grip the SNAP and BODY pieces as shown (see Fig. 3). Apply pressure until connector “snaps” into place. Visually inspect snap to verify full insertion. The connection is now complete (see Fig. 4).

Removal

The connector can be disassembled using a flat-head screwdriver to pry the SNAP piece from BODY piece.



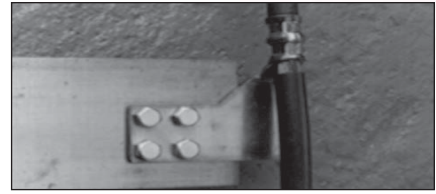
CAT. NO.	CONNECTOR DESCRIPTION		PACKAGING		STANDARD ORDER QUANTITY
	MAIN	BRANCH	INNER PACK	OUTER PACK	
JP62	#2 AWG Sol. Copper	No. 6 AWG Sol. Copper	20	200	200
JP66	#6 AWG Sol. Copper	No. 6 AWG Sol. Copper	20	200	200
JP146	1/4" Steel Strand	No. 6 AWG Sol. Copper	20	200	200
JP5166	5/16" Steel Strand	No. 6 AWG Sol. Copper	20	200	200
JP386	3/8" Steel Strand	No. 6 AWG Sol. Copper	20	200	200
JP126	1/2" Steel Strand	No. 6 AWG Sol. Copper	20	200	200
JP126G	1/2" Ground Rod	No. 6 AWG Sol. Copper	20	200	200
JP2614	1/4" Steel Strand	Two-No. 6 AWG Sol. Copper	20	200	200
JP26516	5/16" Steel Strand	Two-No. 6 AWG Sol. Copper	20	200	200
JP2638	3/8" Steel Strand	Two-No. 6 AWG Sol. Copper	20	200	200
JP2612G*	1/2" Ground Rod	Two-No. 6 AWG Sol. Copper	20	200	200

NOTE: All Toolless Connectors are UL listed. Only items with (*) are CSA listed.

A low-cost method of connecting directly to bus bar, eliminating an interface connection.

Riser Cable Flag Connectors for 600V Applications

- Made from high-conductivity wrought copper, plain finish
- All bolt holes are $\frac{3}{8}$ " on 1" centers



CAT. NO.	FIG. NO.	CABLE SIZE	COLOR KEY	DIE CODE	NO. OF CRIMPS	MATERIAL THK. (IN.)	DIMENSIONS (IN.)		
							A	B	C
GFL2-1	1	#2-#1 150/24 175/24	PINK	42	1	$\frac{3}{32}$	$3\frac{3}{8}$	4	$2\frac{5}{16}$
GFL10-20	1	1/0	BLACK	45	1	$\frac{3}{32}$	$3\frac{3}{8}$	4	$2\frac{5}{16}$
		2/0 AWG	ORANGE	50					
		225/24	BLACK	45					
		275/24	BLACK	45					
GFL40-250	1	4/0-250 kcmil 325/24 450/24 550/24	RED	71	2	$\frac{3}{32}$	$4\frac{1}{4}$	$4\frac{1}{4}$	$2\frac{1}{16}$
GFL350	1	350 kcmil 650/24 775/24	N/A	80	2	$\frac{3}{32}$	$4\frac{1}{4}$	$4\frac{1}{4}$	$2\frac{1}{8}$
GFL500 ¹	1	500 kcmil 925/24	BROWN	94	2	$\frac{3}{32}$	$5\frac{1}{4}$	$4\frac{1}{4}$	$2\frac{1}{8}$
GFL750 ^{1,2}	2	750 kcmil 1100/24 1325/24 1600/24	BLACK	106	4	$\frac{3}{32}$	$8\frac{3}{8}$	$4\frac{1}{4}$	$2\frac{1}{8}$

NOTES:

¹TBM15I only.

²Both "U" barrels must be crimped to a single, continuous out length of conductor. It is not to be used as a splice.

Tooling: pp. B76-B92

Die Selector Chart: pp. B93-B95

Installing tools: T&B Cat. No. TBM15I, TBM15BSCR, 13100A, TBM14M, and TBM14BSCR hydraulic tools only.

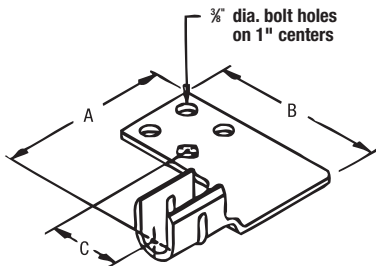


Fig. 1

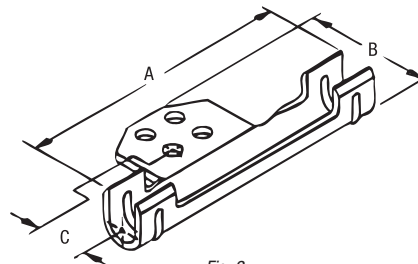


Fig. 2