



High Voltage Couplers • Up to 35 Kva



From our original 8-pitch housing to the industries best no thread connectors; we have a high voltage (HV) connector that will fit your needs. All TJB HV couplers feature a durable aluminum housing with a solid polyester insulator plate and your choice of EP rubber or 100% virgin molded PTFE insulating tubes. Our unique cable entrance allows TJB couplers to meet IP 67 standards for dust and water exclusion even when the cable is out of round or under sized. With contacts tested to 800A DC and able to accommodate conductor sizes as small as #10 and as large as 500MCM with a cable diameter of 3.75" means no matter what your use case is, our HV couplers will fit your needs.



WHY PAY MORE FOR PTFE?

PTFE has many properties that make the lifetime ownership costs lower than rubber in most situations:

- **NONSTICK** means coupler cleaning requires little more than a damp cloth.
- **INERT** there are very few chemicals that can react with or damage PTFE, so acidic mine environments do not decrease coupler life.
- **HYDROPHOBIC** PTFE does not absorb water like rubber so dielectric strength is not compromised in damp environments.
- **RIGIDITY** the stiffness of PTFE requires less cable training to maintain contact alignment during installation.
- **NO TRACKING** tracking is caused by the slow breakdown of an insulator due to high voltage exposure; while you may see a black path form on PTFE insulators, from arcing on dirt, the black path is NON-conductive and simple cleaning will bring the insulator back to 100% usability.



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CHOOSING A THREAD PITCH

NO-THREAD. Since TJB introduced the first no-thread couplers they have grown in popularity and are the most frequently ordered closure type. The no-thread connectors have become so popular because they solve almost all the issues associated with other closure types. No-thread couplers use a pin and slot design that goes from open to closed in as little as 90 degrees. Detents at the end of the slot provide a positive indication of coupler closure and also prevent decoupling due to vibration. Unlike conventional threads the TJB no-thread design is self-cleaning, avoiding the prolonged downtime and damaged parts resulting from jammed threads. Kits to convert TJB and NON-TJB couplers to no-thread are available and take only a few minutes to install.



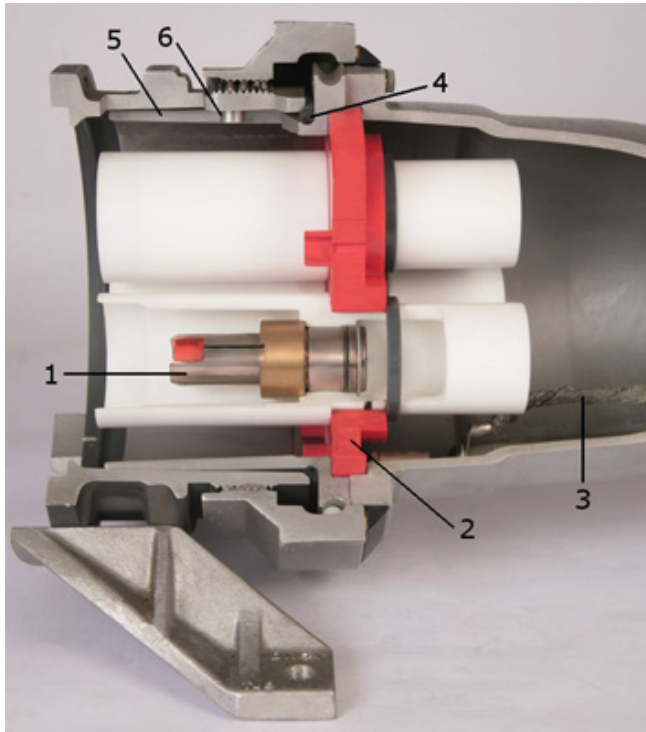
4-PITCH. 4-Pitch is the best option when a threaded coupler is required, with a blunt start and a double thread design, TJB 4-pitch couplers virtually eliminate the possibility of cross threading and thread roll over while also decreasing the number of turns required to mate the couplers. All TJB HV couplers come with a ball bearing mounted floating nut. The ball bearings reduce the intrinsic drag and provide a longer wear life in frequently coupled connectors. The floating nut also allows for the plug to be inserted into the socket before the threads are engaged enabling faster connections and decreasing the likelihood of insulator damage.



8-PITCH. 8-Pitch is only recommended to legacy operations where conversion to 4-pitch or no-thread is not an option. While not an ideal connection type TJB has taken several steps to reduce the problems that can occur with 8-pitch couplers. The plug nuts on 8-pitch couplers are fitted with a stainless steel thread to prevent galling, and as with the 4-pitch a blunt start thread provides cross threading protection and creates a more durable first thread.



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STANDARD FEATURES

THAT SET US APART FROM THE COMPETITION

- TJB phase and ground contacts are made of solid copper and silver plated to resist corrosion. Male contacts have split noses and contain a silicone button that expands when heated, ensuring high contact pressure under heavy loads without increasing the force required to connect and disconnect the couplers.
- Solid polyester insulating plate allows for a double O-ring seal to eliminate water seepage and increase the stability of the ground and ground check contacts.
- Aluminum housing is grounded internally with a tinned copper braid to guarantee high conductivity and provide greater flexibility reducing installation effort.
- A beveled edge on the plug cover and socket body mate to create a dust and water tight seal independent of the threads, precluding leakage as the threads age and wear.
- Overlapping metal housings allow for coupler engagement by hand with no special tools and no risk of damage. It also allows couplers to be more compact and provides shielding to the user during coupling and uncoupling.
- A pin on the female housing aligns with a slot on the male housing preventing out of phase connections and providing rotational alignment.

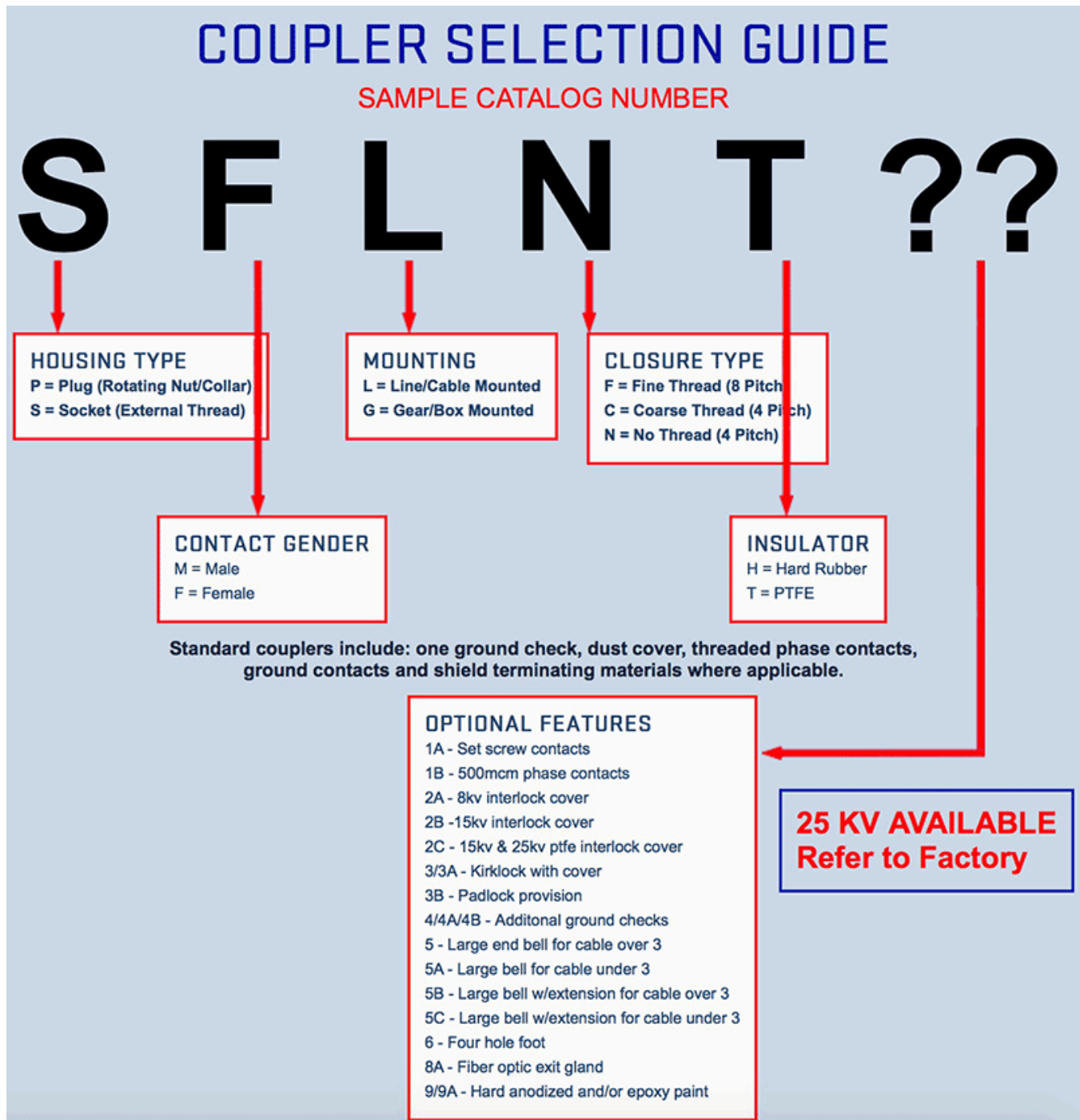
TJB CABLE ENTRANCE

A cone shaped rubber molding is placed over the opening of the end-bell with an end casting acting as a bead lock to maintain the seal. The point of the cone is molded or trimmed to fit the specified cable size. The elasticity of the material is enough to prevent water and dust intrusion but an additional hose clamp is provided to increase the seal pressure. The advantage of this method is that it allows for a tight seal on out of spec, out of round, and even flat cable. Stress relief is provided by two solid aluminum clamps sized for your cable and bolted to the end casting. The clamps deliver evenly distributed pressure on the circumference of the cable and flared ends on the cable side of the clamp remove the possibility of





High Voltage Couplers Coupler Selection Guide





High Voltage Drawings

PDF drawing files shown below are "hyperlinked" to download from the SMS Connectors website at www.smsconnectors.com.

PLEASE NOTE: BEST RESULTS ARE OBTAINED BY DOWNLOADING THIS CATALOG PDF FILE.

Should you experience the following hyperlinks ineffective from within a web browser, right click with your mouse (Control + mouse click on Mac) to prompt the dialog prompt to save this file to you computer.

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PML-NT.pdf	SFG-CH2B.pdf	SFG-CH4.pdf
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SFG-NH2B.pdf	SFG-NH4.pdf	SFG-NH.pdf
SFG-NT2B.pdf	SFG-NT2C.pdf	SFG-NT4.pdf
SFG-NT.pdf	SFL-CH4.pdf	SFL-CH.pdf
SFL-CT5.pdf	SFL-CT.pdf	SFL-FH5.pdf
SFL-FH.pdf	SFL-FT.pdf	SFL-NH1A.pdf
SFL-NH4.pdf	SFL-NH.pdf	SFL-NT4.pdf
SFL-NT5.pdf	SFL-NT.pdf	



High Voltage Parts

CONTACTS

B100Y-COMP	Male Phase and Ground, includes two #173 and one #228
B100Y-6-COMP	Threaded Male Phase Contact. Includes one #173 and one #228
B100Y-6-8-COMP	Threaded Male Phase Contact Assembly for 500 MCM
B100Y-6-9-COMP	Male Phase with Set Screws
B100Y-9-COMP	Male Ground Contact with Set Screws
101-COMP	Contact - Female Phase - Copper includes two #173 and one #228
101-8-COMP	Female Phase Contact Assembly for 500 MCM
101-6-COMP	Contact-Female Phase-Threaded Copper includes one #173 and one #228
101-6-9-COMP	Female Phase with Set Screws
102	Spacer-Male Non-Threaded Phase Contact
129	Contact - Male Interlock Ground
130	Contact - Female Interlock Ground
135	Ground Check Solder Pot
137	Contact - Female Interlock Ground Check
140	Contact - Male Interlock Ground Check
143-COMP	Contact - Male Ground - Copper includes two #173 retaining rings and one #228 O-ring
143-9-COMP	Female Ground Contact Set Screws
144	Spacer - Female Non Threaded Phase Contact
173	1-1/4" Retaining Ring
173S	Stainless Steel 1-1/4" Retaining Ring
228	Contact Compound Seal
240-COMP	Male Contact Nut Phase
241-COMP	Female Contact Nut Phase

CLAMPS

120A - (Specify Size)	Cable Clamp (to 3" Cable Diameter); Specify size
121A - (Specify Size)	Cable Clamp (3.01" to 4.25" cable diameter) specify size

COVERS

113A-COMP	Socket Dust Cover - 8P includes #169 O-ring
113D-COMP	Socket Dust Cover - 4P includes #169 O-ring
113DI-COMP	Socket Cover - 4P-Interlock includes #169 O-ring
113I-COMP	Socket Cover - 8P Interlock includes #169 O-ring
215-COMP	No-Thread Socket Dust Cover includes #169 O-ring
116A-COMP	Plug Dust Cover 8P
116C-COMP	Plug Dust Cover - includes three #185-R pins
116D-COMP	Plug Dust Cover - 4P-Q

MISC.

123	Cable Seal (to 3" cable diameter)
126P	Neoprene Gasket - Plug Switchgear Flange
126S	Neoprene Gasket - Socket Switchgear Flange
131	Waterseal Gasket
138A	Cable Seal, C2 type (to 4.25" jacket diameter)
151	Extruded Dust Seal
184-SET	Nylon Balls Set
206	Neoprene Gasket for BCE
227	Insulator Compound Seal
244-3	Contact Wrench - FOR THREADED CONTACTS
200B	Degreasing Solvent - includes 2 oz. Solvent wiping cloth and Abrasive Paper
200C	Silicone Lube
216-B15	Stress Relief Tape - 3/4 x 15' roll
219-B2	Kit: Materials for 3/c "Stress Relief" tape type termination, cable size through 4/0 8KV includes stress control, HV insulating and PVC tape



High Voltage Parts

ASSEMBLIES

109B/COMP	Socket Body - 8P includes one #131 waterseal gasket
109C/COMP	Socket Body - No-Thread-includes 3 #185-R pins and 1 #131 water-seal gasket
109D/COMP	Socket Body - 4P includes one #131 waterseal gasket
110	Socket Foot, 1 piece type
110AR	Socket Foot, Right
110AL	Socket Foot, Left
111C1-COMP	End Bell (to 3" Cable Diameter)
111C2-COMP	End Bell (to 4.25" Cable Diameter)
112A	End Casting-C1 Type (to 3" Cable Diameter)
112AS/COMP	End Casting - Split C1 Type (to 3" Cable Diameter)
114A-COMP	Plug Body includes #169 O-ring
118-COMP	Plug Switchgear Flange includes one #131 waterseal gasket
122-COMP	Socket Switchgear Flange
128P-COMP	Interlock Plate - 8KV plug includes 1 #130 and 1 #137 (For couplers with MALE phase contacts)
128S-COMP	Interlock Plate - 8KV socket incl. 1 #129 and 1 #140 (For couplers with FEMALE phase contacts)
128-9-COMP	Interlock Plate - Polyester includes plate only (order contacts separately)
132-AL/COMP	Threaded Ring - ALUMINUM THREADS, includes dust seal #151
132-SS/COMP	Threaded Ring - 8P with stainless insert includes dust seal #151
132-OSS/COMP	Threaded Ring with stainless insert non-TJB
132D/COMP	Threaded Ring - 4P includes dust seal #151
139A	End Casting, C2 type (to 4.25" jacket diameter)
139AS/COMP	End Casting, Split C2 type (to 4.25" jacket diameter)
139B	End Casting, C2 type (to 3.00" jacket diameter)
139BS/COMP	End Casting, C2 type (to 3.00" jacket diameter)
152	BCE Flange (to 3" cable diameter)
153	BCE Flange (to 4.25" cable diameter)
193P-COMP	Interlock Plate - 15KV plug includes 1 #130 and 1 #137 (For couplers with MALE phase contacts)
193S-COMP	Interlock Plate - 15KV socket incl. 1 #129 & 1 #140 (For couplers with FEMALE phase contacts)
211F	Housing Adaptor with Foot Lugs
217THD/COMP	No-Thread Ring includes #151 dust seal

REVERSERS

CCCR-FS1T	Female coupler reverser 8P TFE
CCCR-FS2T	Female coupler reverser NT TFE
CCCR-FS3T	Female coupler reverser 4P TFE
CCCR-MP1T	Male coupler reverser 8P TFE
CCCR-MP2T	Male coupler reverser NT TFE
CCCR-MP3T	Male coupler reverser 4P TFE

CONVERSION KITS

CTP	4-P Plug conversion kit
CTS	4-P Socket conversion kit
CTS110LR	4-P Socket conversion kit with feet
FTP	8-P Plug conversion kit with aluminum ring
FTPSTAF	8-P Plug and Socket conversion kit with feet and aluminum ring
FTS110LR	8-P Socket conversion kit with feet
NTPSTF	NT Plug and Socket conversion kit with feet
NTP	No-Thread Conversion Kit for Plug
NTS	No-Thread Conversion Kit for Socket
NTPST	No-Thread Conversion Kit for Plug and Socket TJB

INSULATORS

200-104BHS	Female Hard Tube Insulator Assembly
200-105BHS	Male Hard Tube Insulator Assembly



High Voltage Parts

300-104S	Female Teflon Insulator Assembly
300-105S	Male Teflon Insulator Assembly
522/COMP	Male Ground Check Assembly for Solid Insulator
523/COMP	Female Ground Check Assembly for Solid Insulator
520	Insulator O-ring

HARDWARE

167	3/8-16 x 3" Hex Head Machine Screw
168	3/8-16 Hex Lock Nut
169	O-ring
170	1/8" x 1/2" Roll Pin
171D	2-1/2' attaching cable for Cover
172	5/16-18 x 7/8" Hex Head Capscrew
173	1-1/4" Retaining Ring
173S	Stainless Steel 1-1/4" Retaining Ring
174A	1/4-20 x 1-3/4" Hex Head Capscrew
177	1/4-20 Hex Brass Jam Nut
178	7/16" Retaining Ring
179A	Solderless Terminal #10-12
179B	Solderless Terminal #8
180	3" Ground Check Insulating Tube
181	1/4"-20 x 5/8" Hex Head Capscrew
182	1/4"-20 x 1" Hex Head Capscrew
183	1/4"-20 x 1-1/4" Hex Head Capscrew
185J	Autolign Pin
185-R	No-Thread Pin - Rolling Type (each)
186A	Plug 132, 132D or 217THD
187	SS Seal Clamp (to 3.00" jacket)
187A	SS Seal Clamp (3" to 4.25" jacket)
190A	5/16" Lockwasher
190-COMP	5/16-18 x 5/8" Ground Screw and Lockwasher
191	Ground Strap with Terminal (Includes 190 & 190A)
199	#2 x 3/16 Drive Screw
202	1/4" Lockwasher
204	1/4"-20 x 1 Flat Head Machine Screw
207P	1/4"-20 x 1/2 Button Head Socket Capscrew
517	7/16 Ground Check Retaining Ring
519	Ground Check O-Ring
520	Insulator O-Ring-Solid Insulator
560	1/4"-20 Slim Hex Steel Lock Nut
561	1/4"-20 x 1-1/4 Button Head Socket Capscrew
562	1/4"-20 x 2 Fillister Head Socket Capscrew
574	Retaining Ring-PTFE Tube

COMPOUND KIT

74-8	Epoxy compound for filling phase tubes only
75-12	Re-enterable compound for filling phase tubes only
77-0	For filling entire end bell cavity

REPLACEMENT THREADED NUT, PLUG BODY AND O-RING ASSEMBLY

91	8 pitch stainless steel thread
091A	8 pitch aluminum thread
091-2	No-Thread
091-3	4 pitch thread



High Voltage Parts

INTERLOCK COVERS: ASSEMBLY COMPLETE WITH CONTACTS

For Model: Catalog Number

8 PITCH THREAD 8KV

SFL, SFG	#092
SML, SMG	#093
PFL, PFG	#094
PML, PMG	#095

NO THREAD 8KV

SFL, SFG	#092-2
SML, SMG	#093-2
PFL, PFG	#094-2
PML, PMG	#095-2

4 PITCH THREAD 8KV

SFL, SFG	#092-3
SML, SMG	#093-3
PFL, PFG	#094-3
PML, PMG	#095-3

8 PITCH THREAD 15KV

SFL, SFG	#096
SML, SMG	#097
PFL, PFG	#098
PML, PMG	#099

NO THREAD 15KV

SFL, SFG	#096-2
SML, SMG	#097-2
PFL, PFG	#098-2
PML, PMG	#099-2

4 PITCH THREAD 15KV

SFL, SFG	#096-3
SML, SMG	#097-3
PFL, PFG	#098-3
PML, PMG	#099-3

15KV WITH PTFE CUPS

SFL, SFG - 8 PITCH	#396
SFL, SFG - NO THREAD	#396-2
SFL, SFG - 4 PITCH	#396-3

BCE FLANGE MOUNT CLAMPS

BCE-150	FOR CABLE UP TO 1.5" IN DIAMETER
BCE-175	FOR CABLE 1.51-1.75" IN DIAMETER
BCE-200	FOR CABLE 1.76-2.00" IN DIAMETER
BCE-225	FOR CABLE 2.01-2.25" IN DIAMETER
BCE-250	FOR CABLE 2.26-2.50" IN DIAMETER
BCE-275	FOR CABLE 2.51-2.75" IN DIAMETER
BCE-300	FOR CABLE 2.76-3.00" IN DIAMETER
BCE-325	FOR CABLE 3.01-3.25" IN DIAMETER
BCE-350	FOR CABLE 3.26-3.50" IN DIAMETER
BCE-375	FOR CABLE 3.51-3.75" IN DIAMETER
265	BCE FLANGE ADAPTER PLATE WITH 8-5/8" BOLT CIRCLE



Coupler Options



1A • SET SCREW CONTACTS

Set screw contacts remove the need to solder the cable into the contacts. The cable is secured using two preinstalled bronze Allen head set screws. These contacts are often used for on-site cable installations and they maintain all the standard features and carry the same amp rating as the solder contacts.



1B • 500MCM PHASE CONTACTS

To maintain a proper wall thickness 530MCM contacts require a larger cable end contact than our standard contact. TJB 530MCM contacts fit the standard insulators and have no limitations regarding compatibility. The larger contacts are made with the same silver plated solid copper construction and are fixed in the insulators in the same manner as the standard contacts.



2A • 8KV INTERLOCK COVER

Also called a shorting cover an interlock cover connects the ground and ground check when the cover is in place and allows other outputs on the circuit to be energized without tripping the ground check monitor. Use suffix 2B for 15KV covers.



2B • 15KV INTERLOCK COVER

Also called a shorting cover an interlock cover connects the ground and ground check when the cover is in place and allows other outputs on the circuit to be energized without tripping the ground check monitor. The 15KV cover has a built in rubber insulator to fully enclose the phases in insulating material.



2C • 15KV & 25KV PTFE INTERLOCK COVER

Also called a shorting cover an interlock cover connects the ground and ground check when the cover is in place and allows other outputs on the circuit to be energized without tripping the ground check monitor. The PTFE interlock covers are similar to our rubber 15KV covers but with all the advantages of PTFE, including being an easy to clean hydrophobic material, is not reactive in acidic environments, and does not track when exposed to high electrical stress. Specify 15 or 25KV when ordering cover separately.



3/3A • KIRKLOCK WITH COVER

A Kirklock is a brand of lock that is used as a mechanical interlock to prevent couplers from being opened or covers from being removed when the power is on. All Kirklock equipped couplers come with a dust cover (suffix 3) or an optional weatherproof cover (suffix 3A). Locks can be keyed alike or differently and serial numbers are tracked so future orders can be matched or differentiated.



3B • PADLOCK PROVISION

The padlock provision enables the user to use a standard padlock (not included) to either lock the cover in place or to lock two couplers together. Padlock devices can be used as a self-managed interlock system or for security.



Coupler Options



4/4A/4B • ADDITIONAL GROUND CHECKS

Additional ground checks provide for redundancy in the ground check system. TJB high voltage couplers come standard with one ground but can accommodate two (suffix 4), three (suffix 4A), or four (suffix 4B) total ground checks. In all configurations every ground check makes contact after the phase and ground contacts and breaks contact before the phase and ground contacts, ensuring that there is never an improper signal path.



5 • LARGE END BELL FOR CABLE OVER 3"

Cable over 3" diameter requires the use of our large end bell and cable entrance. Our large end bell is approximately 2" taller than our standard bell and has a larger cable opening resulting in a larger interior volume.

5A • LARGE BELL FOR CABLE UNDER 3"

Our standard will fit cable up to 3" in diameter, but if you need more room we also offer our large end bell with clamps to fit cable sizes smaller than 3".



5B • LARGE BELL W/EXTENSION FOR CABLE OVER 3"

When you have large cable and you want a lot of interior bell space we can provide an additional 4.75" extension with our large end bell. The extension is made of solid aluminum to match the sturdiness of the rest of the coupler housing and attaches with six 1/4-20 bolts to ensure a sturdy water tight fit.

5C • LARGE BELL W/EXTENSION FOR CABLE UNDER 3"

Occasionally when adding multiple extra features to the coupler there is a desire for as much space as possible even with a smaller cable size. For those cases we offer our large bell with a 4.75" extension and clamps that can be sized for even the smallest cables. The extension is made of solid aluminum to match the sturdiness of the rest of the coupler housing and attaches with 6 1/4-20 bolts to ensure a sturdy water tight fit.



6 • FOUR HOLE FOOT

Our standard feet mount the coupler with 2 bolts and are designed to reduce weight and facilitate easier coupler movement, when extra mounting security is preferred we also offer a single piece four hole foot and as the name implies mounts the coupler using 4 bolts. The larger foot attached to the coupler using the same bolts as the standard feet and can be added after the initial sale with no modifications.



8A • FIBER OPTIC EXIT GLAND

For cable with an included fiber optic line that needs to connect to a panel mounted connector or another connector outside of the coupler we can supply an exit gland in the end bell. The exit gland is a compression fitting with a rubber gasket sized to your specific fiber optic cable. We also include a plug sized for the exit gland to maintain a water tight seal even if the fiber optic cable is not in use.

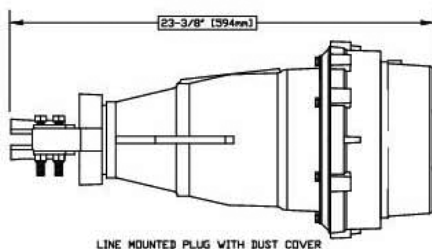


9/9A • HARD ANODIZED AND/OR EPOXY PAINT

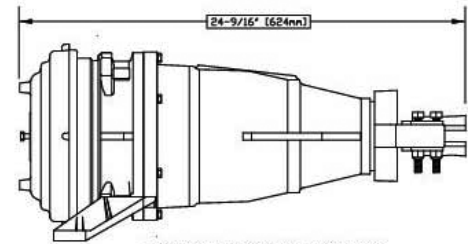
Our heavy duty aluminum housings are built to withstand almost all exposure conditions, but there are instances where even more protection is called for. In port operations where couplers are often submerged in or exposed to heavy amounts of salt water it is worthwhile to protect the coupler housing with either a hard anodized (suffix 9), or epoxy paint (suffix 9A) coating to extend the service life of the external parts.

TJB **Coupler Dimensions**

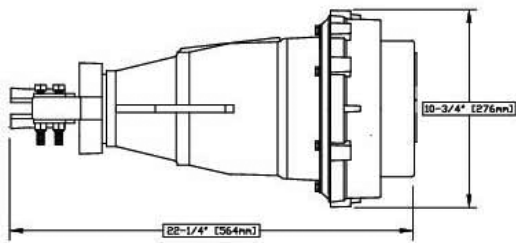
TJB HIGH VOLTAGE LINE MOUNTED NO-THREAD COUPLER DIMENSIONS



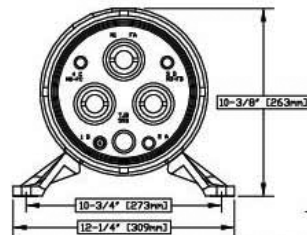
LINE MOUNTED PLUG WITH DUST COVER



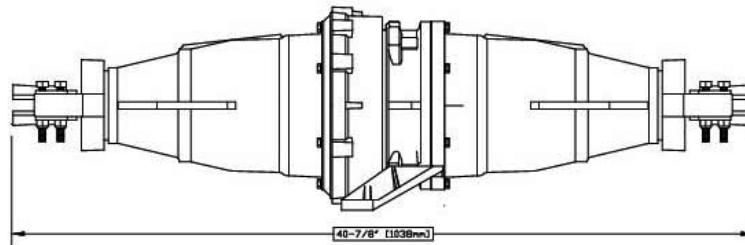
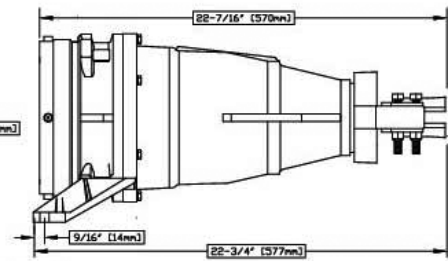
LINE MOUNTED SOCKET WITH DUST COVER



LINE MOUNTED PLUG



LINE MOUNTED SOCKET

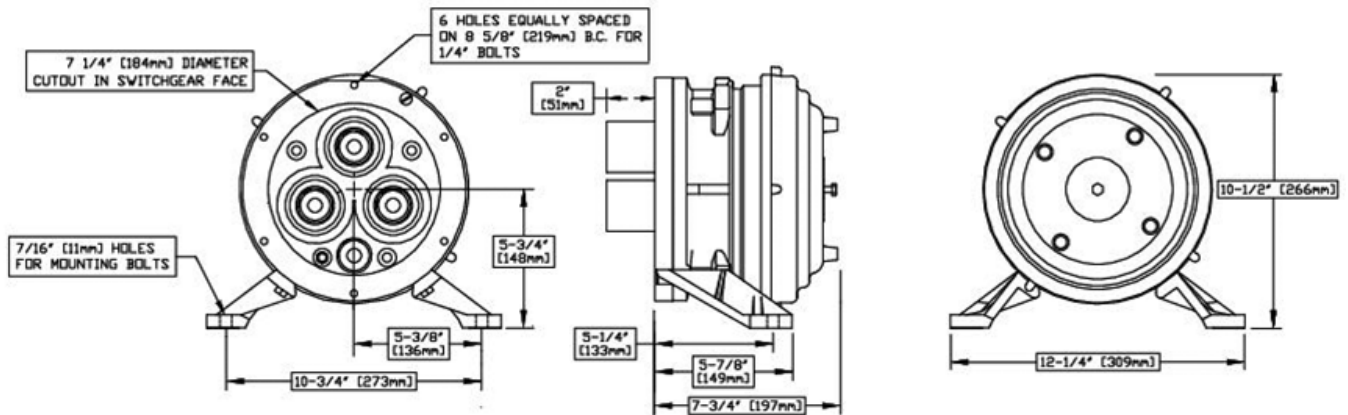


CONNECTED LINE MOUNTED PLUG AND SOCKET



Coupler Dimensions

TJB SOCKET SWITCHGEAR MOUNTED COUPLER DIMENSIONS



TJB PLUG SWITCHGEAR MOUNTED COUPLER DIMENSIONS

