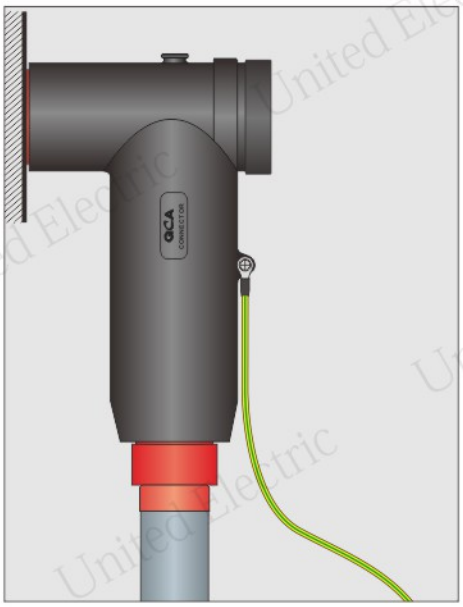
United Electric

Installation Instruction

CJB30-1250M

36kV 1250A Screened T connector
for 6.35/11(12)kV 3-core XLPE cable,
aluminum conductor, copper tape screened,
unarmored, with mechanical cable lug
01-9418-007-0525



Generals

- *Check and ensure the cable against any damage, water or moisture corrosion.*
- *The cable must be fixed right under the bushing without any distortion.*
- *Carefully read and follow the steps in the installation instruction. We are not responsible for any fault from incorrect installation.*
- *Do not nick the connector body during all the procedure of operation.*

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CJB30-1250M is a 36kV 1250A compact screened separable T connector made of silicone rubber, designed to connect with the type C interface bushing in accordance with EN50181, M16 bolted type.

The instruction is suitable for the installation of CJB30-1250M over 6.35/11(12)kV 3-core XLPE insulated, aluminum conductor, copper tape screened, unarmored cable, with mechanical cable lug.

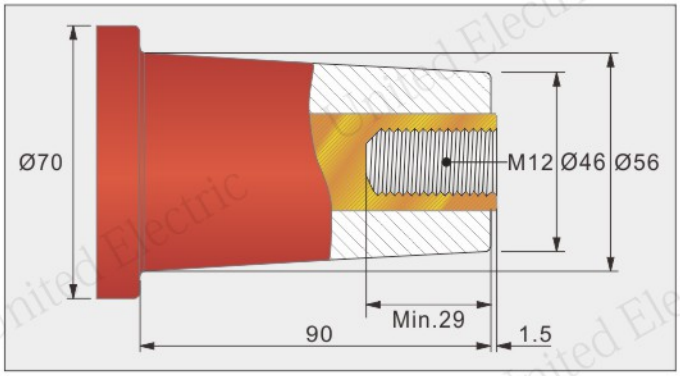
The installation should be made by the person who has been trained and get the qualified certificate. Carefully read and follow the steps in the installation instruction before installing the product.

Take care of the silicone rubber components during the installation, do not nick the components.

Check the kits according to the kit contents, make sure the kits comply with the cable at site.

Bushing profile:

- *The connector should only be used on bushing with dimensions as shown in follow drawing.*
- *The bushing size meet the requirements of standard CENELEC EN50181, EN50180.*



1. Check the cable and installation site.

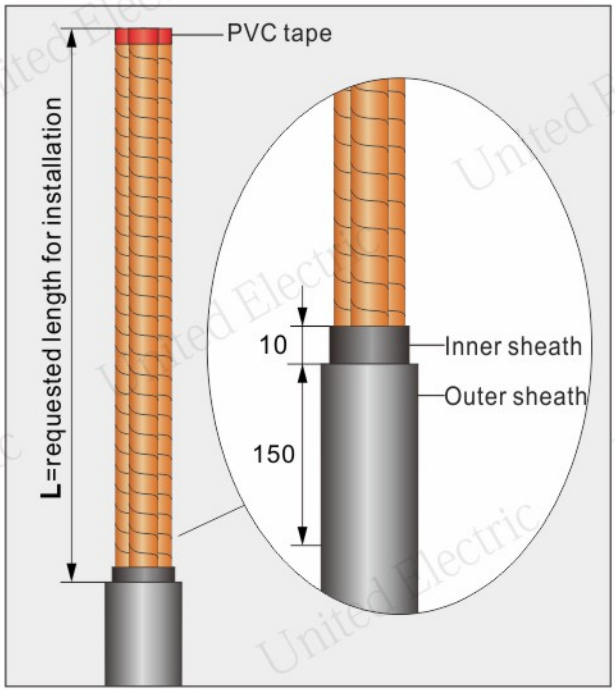
- The installation site should be clean, the relative humidity should not exceed 75%, the ambient temperature should be higher than 5℃.
- Check the outer diameter of cable insulation and inner diameter of stress cone according to table 1.
- Check the cable at site which should be qualified.

Table 1

Screened separable T connector	Stress cone size and suitable diameter range over XLPE insulation (mm)	Cable size (sq.mm)	Mechanical cable lug type and size
CJB30-1250M, 11kV, 3*500, MCL	7D#, Ø31-37mm	6.35/11(12)kV 3×500sq.mm AL conductor	UE-MCL 400-630-48

1. Cable preparation:

- Remove the cable outer sheath to the requested length for installation.
- Remove the cable inner sheath (if any) and filler material to 10mm.
- Wrap the end of screen copper tape with PVC tape.
- Clean and degrease the end of the cable sheath for about 150 mm as shown in figure 1.



2. Connect earth braid over copper tape screen

- Separate the cores. Wrap the other copper braid around each core and fix it to the copper tape by roll spring. Tighten the roll spring with a twisting action.

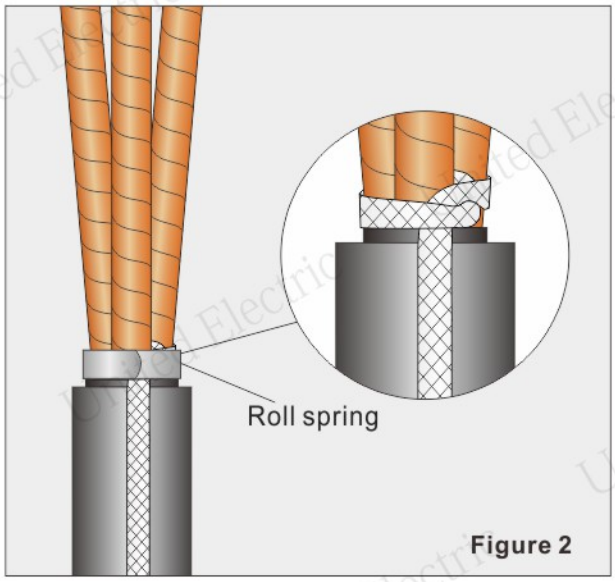


Figure 2

3. Wrap filler mastic and red sealing mastic

- Cover the sharp edges of roll spring and fill up the gaps between the down end of the cores by filler mastic (white).
- Cover the filler mastic by PVC tape.
- Lift up the copper braid and half-overlapping wrap one layer of red sealing mastic over the cable outer sheath as a bedding, starting wrapping the sealing mastic at 20mm to the edge of PVC tape.
- Lay down the copper braid and keep wrapping one layer of red sealing mastic.

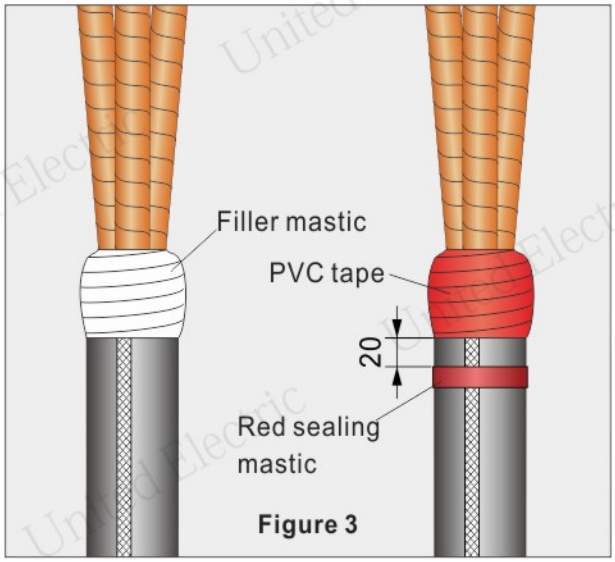


Figure 3

4. Install cold shrink breakout

- Slide 3-core breakout onto cable as far as it will go. Large neck-end should fully extend over previously-wrapped filler mastic and PVC tape.
- Remove large neck-end core. Grasping loose core ribbon end, pull and unwind counter clock-wise around cable.
- Remove each finger core. Grasping loose core ribbon end, pull and unwind counter clock-wise around each cable core.

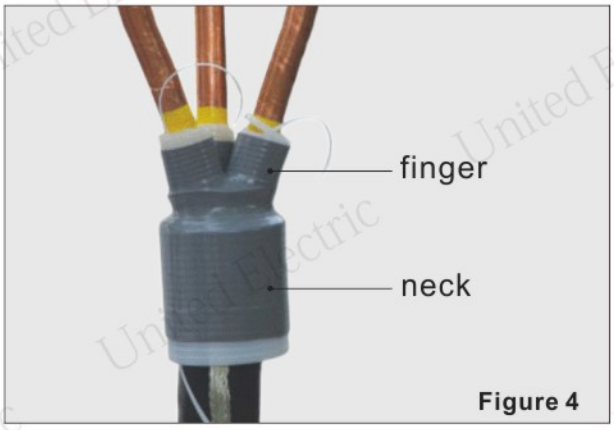


Figure 4

5. Install cold shrink tube

- Position the cold shrink tube with the loose white core ribbon directed toward the cut end of cable core.
- Align the base of the tube (not the plastic core) with the edge of breakout boot finger.
- Grasping loose core ribbon end, pull and unwind counter clock-wise around the core end. The tube should cover the end of breakout boot finger about 20mm.
- If the length of shrunk tube is not enough, continue shrinking the other tube over the cable core with cover the end of the shrunk tube about 20mm.


Figure 5

6. Cores preparation

- Screw the M16/M12 stud into the connected bushing, hang the cable lug over the stud, mark a reference line onto the cold shrink tube which is level with the top end of lug barrel hole.
- Cut the cable cores at the reference line.

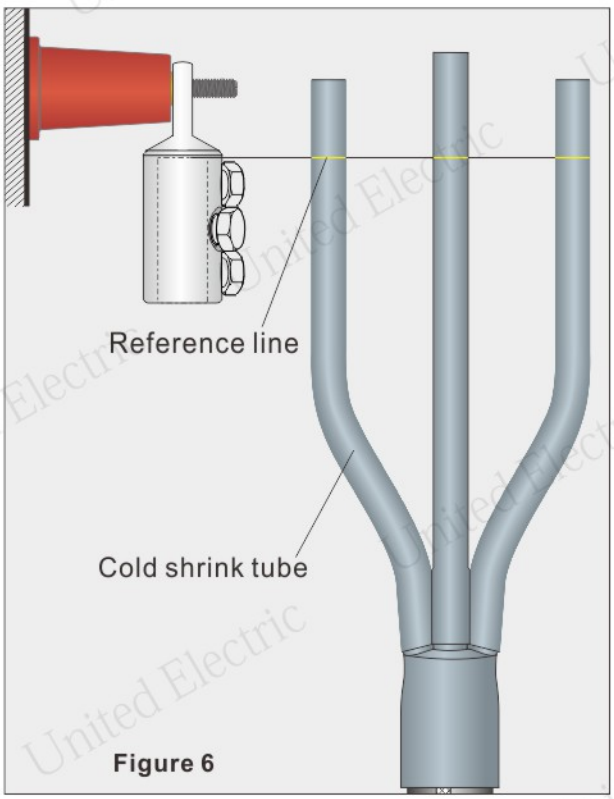


Figure 6

- Remove the cold shrink tube, copper tape and insulation screen as shown in figure 7, and keep the insulation for 90mm, conductor for 91mm. Chamfer the end of cable insulation to 2×45°. **Note: Do not nick the cable insulation.**
- Clean the cable conductor surface. Wrap the cut end of conductor with PVC tape.
- The end of insulation screen should be smooth transition, without any turnup and sharp-angle.
- The cable insulation surface should be smooth and free from all traces of conductive material. Polish the cable insulation surface by abrasive strap if there are any irregularities or imperfections.

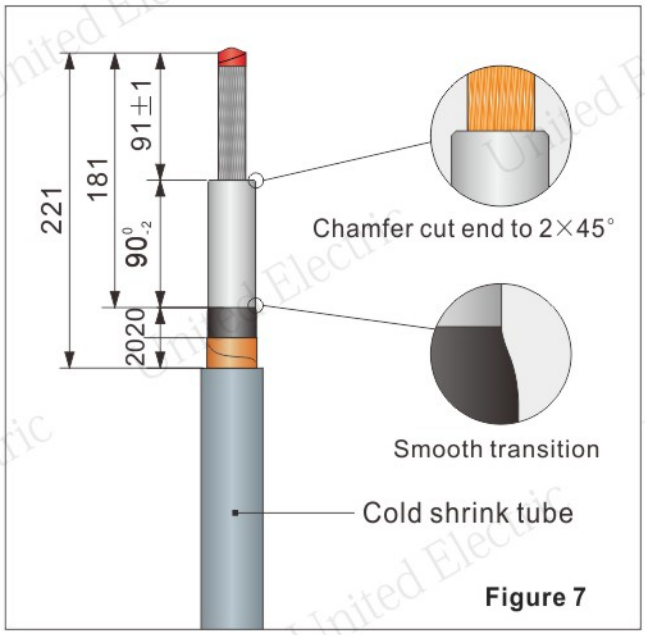


Figure 7

7. Wrap semi-conductive tape

- Measure 18mm form the cut end of insulation screen, half-overlapping wrap the semi-conductive tape around the insulation screen with 150% stretch of its original length, and to make a step with width of 20-25mm and outer diameter ØD= outer diameter of insulation Ød + 8mm.
- Continue wrapping semi-conductive tape down over the cold shrink tube with cover the tube for about 15mm.

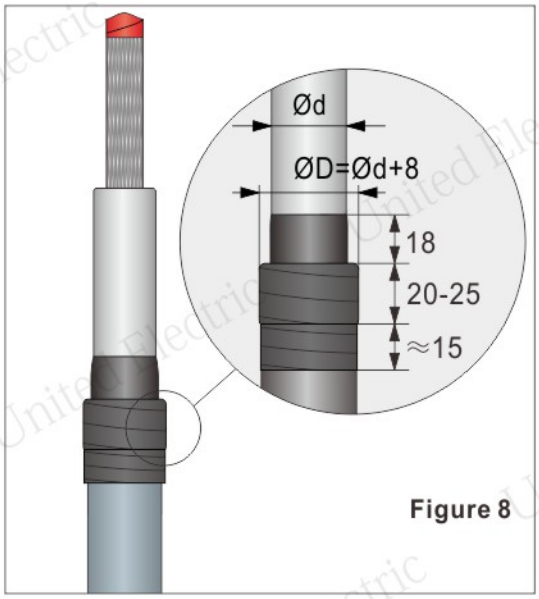


Figure 8

8. Clean and lubricate stress cone and core insulation

- Clean the outer surface of core insulation from the cut end downwards with cleaning tissue, do not reuse the cleaning tissue just applied.
- After the solvent volatilization, coat silicone grease onto the outer surface of core insulation and the inner surface of stress cone.
- Coat silicone grease onto the inner surface of the stress cone where mark with the broken line as shown in fig.9.

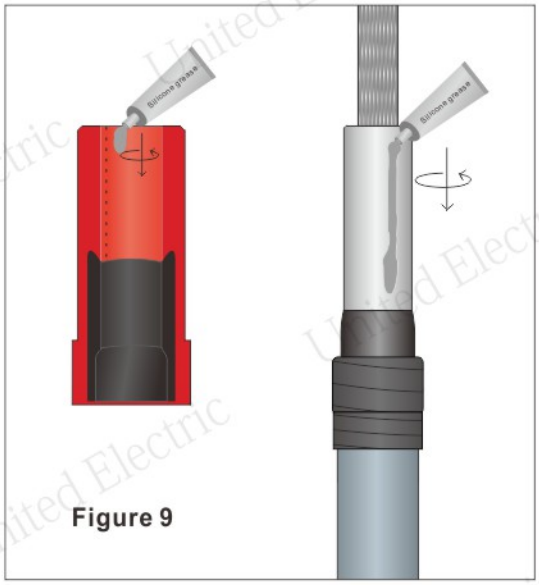


Figure 9

9. Install stress cone

- Push the stress cone onto the cable core with rotation until the flange of stress cone contact firmly with the semi-conductive tape step.
- Wrap several layers of PVC tape next to the underside of the stress cone as a marker for checking the position of the stress cone. The stress cone must stay in place after finish the installation of T connector body.

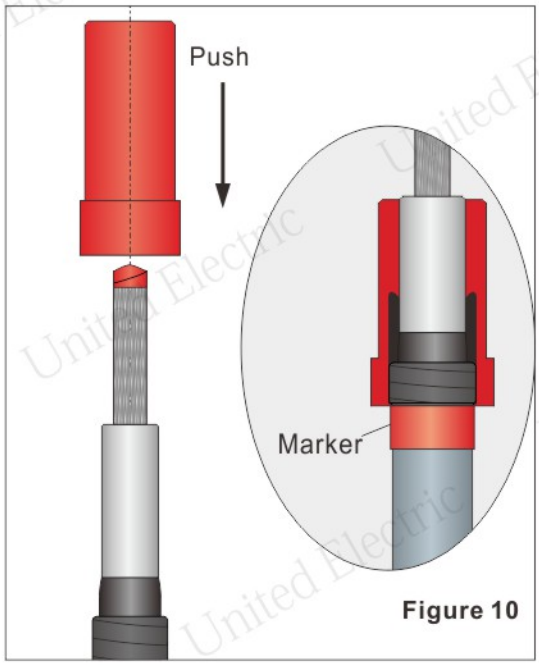


Figure 10

10. Install cable lug

- Remove the PVC tape previous applied from the conductor.
- Put on the proper cable lug over conductor, barrel of lug butts against insulation. Please notice the direction of the lug palm, the palm must be parallel with the copper plane in the bushing, which can guarantee good conduction contact.
  Attention !!!
  The load current may occur due to the bad contact between the lug and the copper plane in bushing, it will result in heating and temperature growing up, and damage the cable and equipment.
- Install the mechanical lug according to the installation instruction packed with lug.
- Smooth sharp edges of protruding bolts.

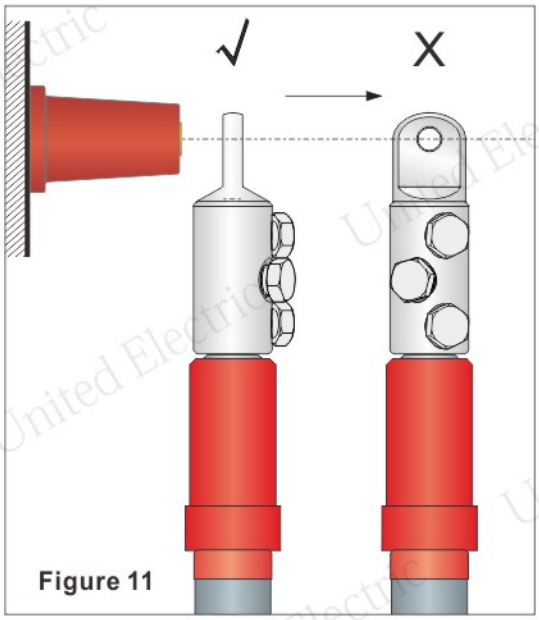


Figure 11

11. Clean and lubricate stress cone and T connector

- Clean the outer surface of stress cone and inner surface of T connector.
- Coat evenly a thin layer of silicone grease onto the upper part of the stress cone and the inner surface of the bottom end of T connector.

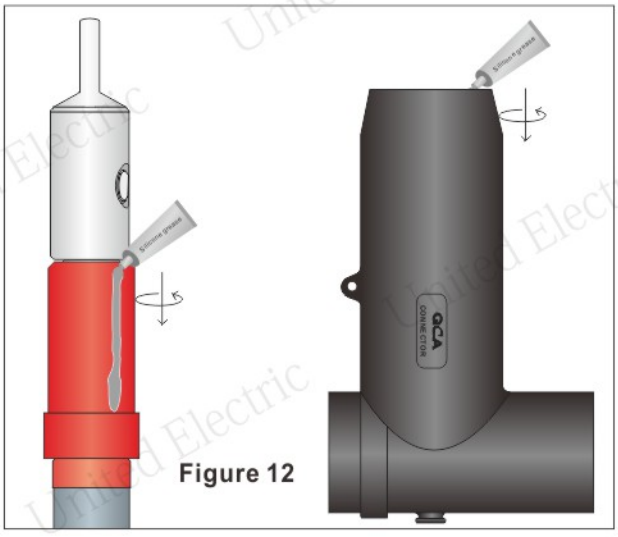


Figure 12

12. Push T connector onto stress cone

- Align the T connector with stress cone and cable lug, push the T connector with no interrupted onto the stress cone.
- Be noticed that the stress cone and PVC marker should not have any moving. The down end of the stress cone will expose for 30-40mm. (Figure 12)

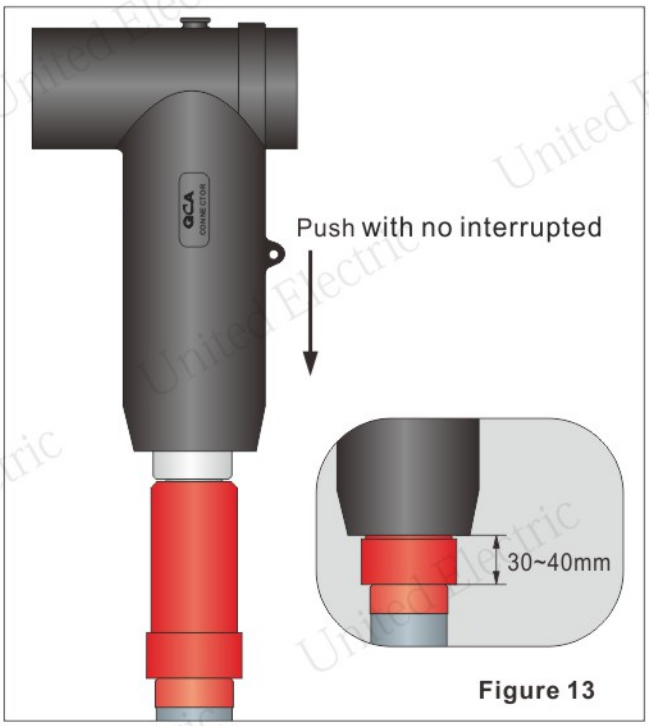


Figure 13

13. Clean and lubricate bushing and T connector

- Screw and tighten another M12/M16 thread stud into the connecting bushing with M16 ahead.
- Clean the outer surface of the connected bushing.
- Coat evenly a thin layer of silicone grease onto the connected bushing, and the inner surface of the front end of T connector.

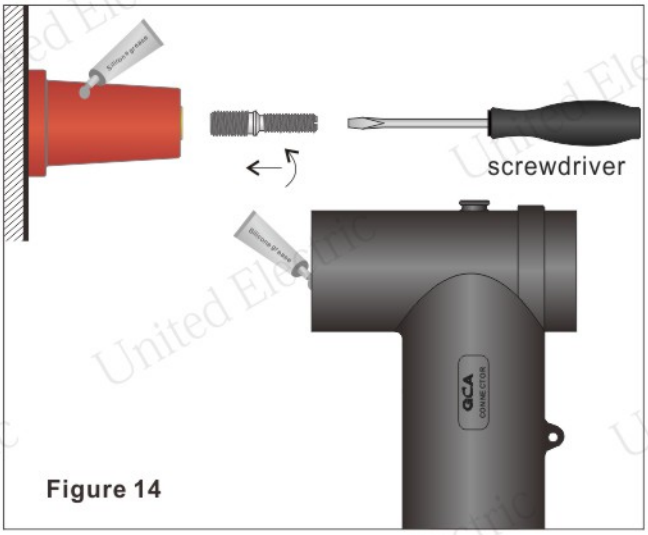


Figure 14

14. Push T connector onto bushing

- Align the eye of the cable lug with the threaded stud and push the screened connector T connector onto the bushing.

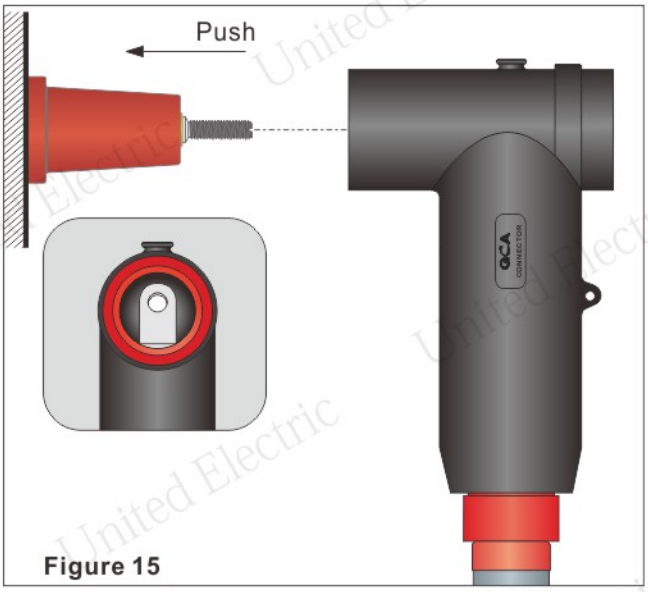


Figure 15

15. Install flat washer, spring washer and nut

- Place the flat washer, spring washer onto the thread stud, screw the M12 nut onto the threaded stud and tighten it by a socket wrench with 30-40N.m of torque.

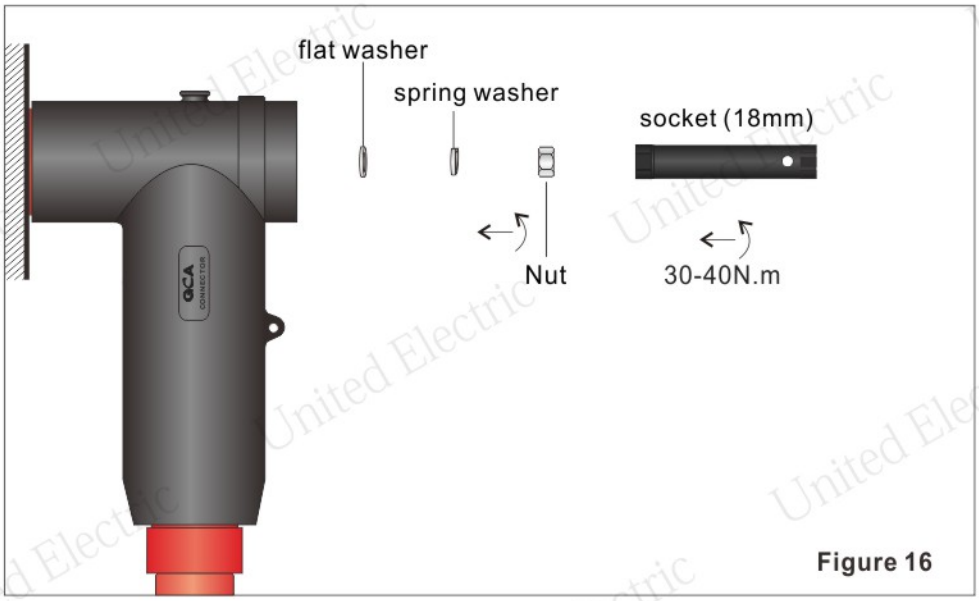
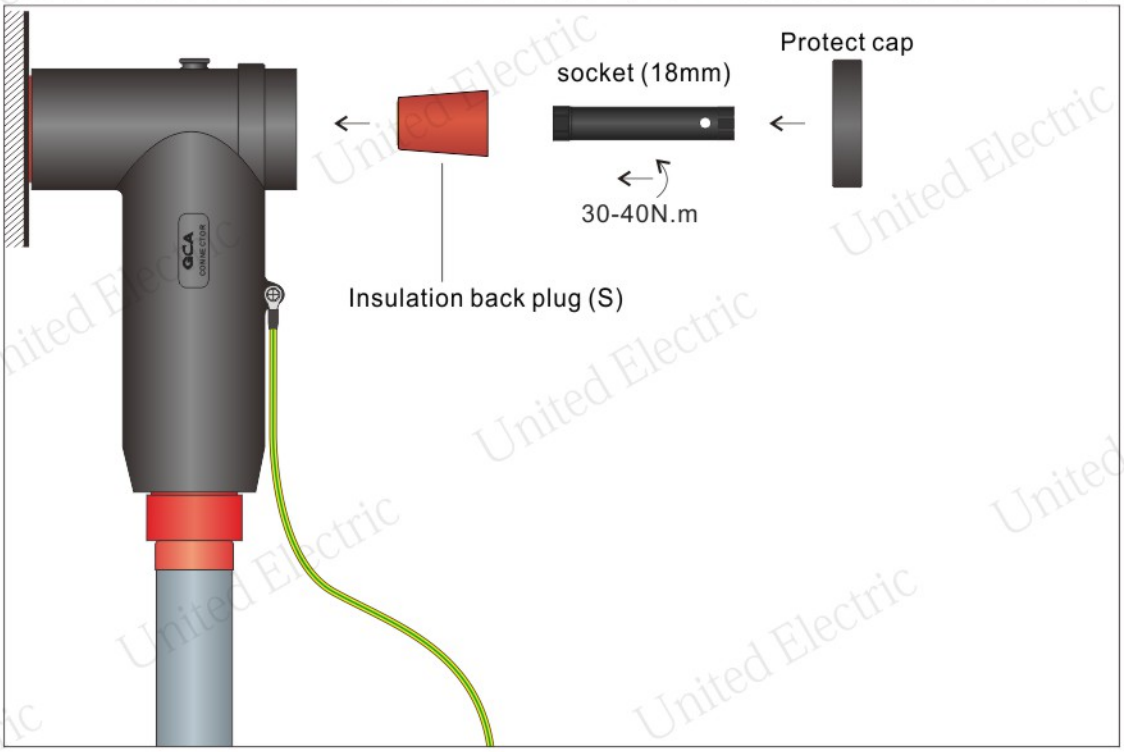


Figure 16

16. Fix T connector and grounding earth

- Clean and coat a thin layer of silicone grease onto the inner surface of back end of T connector and outer surface of insulation back plug (S).
- Screw the insulation plug into the back end of T connector by hand first, and then fix it by the socket wrench with the torque 30-40Nm.
- Cover the insulation plug with protect cap.
- Connect the screened earth wires to the T connector body.
- Connect the earth braid and earth wires to the earth point, mark the phases. Installation complete.



Packing list for Screened Plug-On Connector for 11kV 3*500sq.mm XLPE insulated, AL conductor cable, copper tape screened, unarmored 3 Phase / set

02-9418-007-0525

No.	Name	Size	Quantity	Remarks
1	Screened T Connector body	CJB30-1250M	3 PC	
2	Stress cone	7D#	3 PC	
3	M16/M12 stud	M16/M12×65	3 PC	
4	Mechanical cable lug	UE-MCL 400-630-48	3 PC	
5	Nut	M12	3 PC	
6	Washer	Ø12	3 PC	
7	Spring washer	Ø12	3 PC	
8	Insulation back plug(S)		3 PC	
9	Protect cap(S)		3 PC	
10	Screen earthing wire for connector body	2.5mm^2×1m	3 set	with two connected lugs (M6 and M10 lug hole)
11	Hexagon socket wrench	M12	1 PC	
12	Semi-conductive tape	5m/roll	1 roll	
13	Cleaning tissue	2pc/bag	6 bag	
14	Silicone grease	40g/pc	1 PC	
15	PVC phase color tape		1 set	Yellow, green, red color
16	Abrasive strap, JB-5, 240#	0.5m/pc	1 PC	
17	Abrasive strap, JB-5, 400#	0.5m/pc	1 PC	
18	Plastic glove		1 pair	
19	Tape measure		1 PC	
20	Qualified certificate		1 PC	
21	Sealing mastic	4pc/bag	1 bag	
22	Filler mastic	4pc/bag	3 bag	
23	Copper braid	35mm^2×1m	1 PC	
24	Roll spring		1 PC	
25	Cold shrink 3-core breakout		0 PC	Not include the kits
26	Cold shrink tube (core protection)		0 PC	Not include the kits
27	Installation instruction		1 PC	