

CONNECTOR ASSEMBLY INSTRUCTIONS

TS1 Series



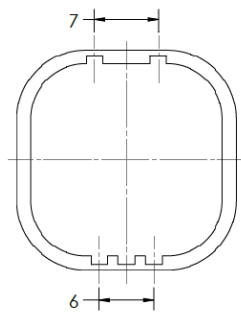
Table of Contents

1.	TSI 8.0 Busbar Receptacle Work Instruction	3
	Part 1: Keyway Description	3
	Part 2: Receptacle Install	4
	Part 3: HVIL Contact Assembly	6
2.	TSI 8.0 Busbar Receptacle Work Instruction	9
	Part 1: Keyway Description	9
	Part 2: Exploded View	10
	Part 3: Product Assembly	11
	Part 4: Electrical Performance Test	20
	Part 5: Appendix	20
3.	TSI 8.0 Right Angle Plug Work Instruction	23
	Part 1: Keyway Description	23
	Part 2: Exploded View	24
	Part 3: Product Assembly	25
	Part 4: Electrical Performance Test	35
	Part 5: Appendix	35
4.	TSI 8.0 Mating and Unmating Work Instruction	37
	Part 1: Keyway Description	37
	Part 2: Mating Operation of Connector.....	39
	Part 3: Unmating Operation of Connector.....	43
5.	TSI 12.0 Busbar Receptacle Work Instruction	45
	Part 1: Keyway Description	45
	Part 2: Receptacle Install.....	46
	Part 3: HVIL Contact Assembly	48
6.	TSI 12.0 Straight Plug Work Instruction	52
	Part 1: Keyway Description	52
	Part 2: Exploded View	53
	Part 3: Product Assembly	54
	Part 4: Electrical Performance Test	64

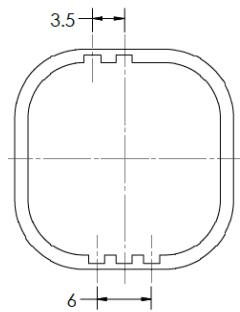
Part 5: Appendix	64
7. TSI 12.0 Right Angle Plug Work Instruction	66
Part 1: Keyway Description	66
Part 2: Exploded View	67
Part 3: Product Assembly	68
Part 4: Electrical Performance Test	79
Part 5: Appendix	80
8. TSI 12.0 Mating and Unmating Work Instruction	81
Part 1: Keyway Description	81
Part 2: Mating Operation of Connector	83
Part 3: Unmating Operation of Connector.....	87

TSI 8.0 Busbar Receptacle Work Instruction

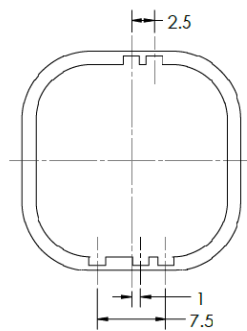
Part 1: Keyway Description



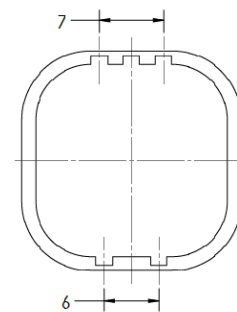
POLARIZATION: N



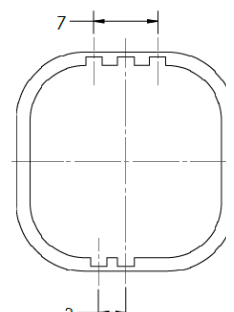
POLARIZATION: W



POLARIZATION: X

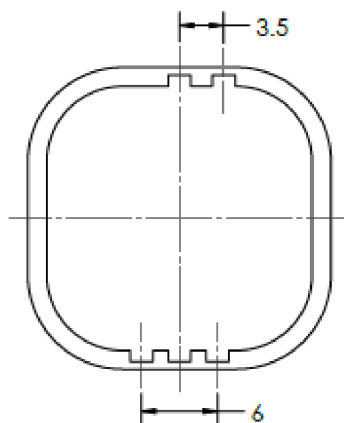


POLARIZATION: Y



POLARIZATION: Z

Keyway	Finger Proof Color
N	Black
W	Orange
X	Red
Y	Blue
Z	Green
T	Brown

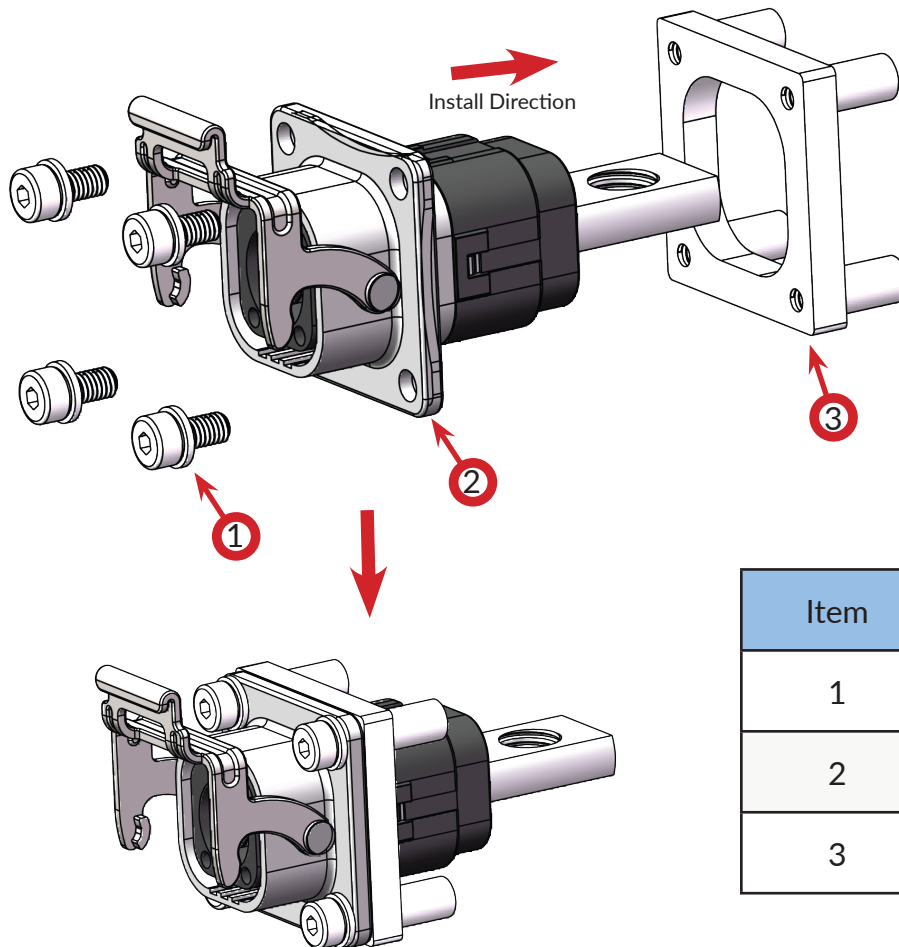


POLARIZATION: X

Special X Keyway	
Keyway	Finger Proof Color
X	Red

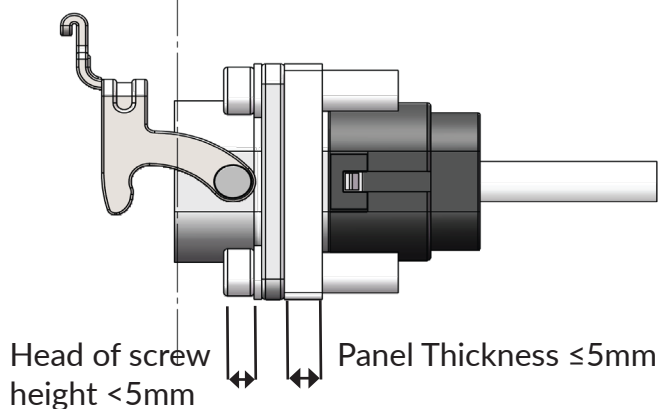
Part 2: Receptacle Install

Step 1: Tighten the Receptacle with M4 Screw into the install panel (recommended torque: 1.6 ~ 2.4 N.m).



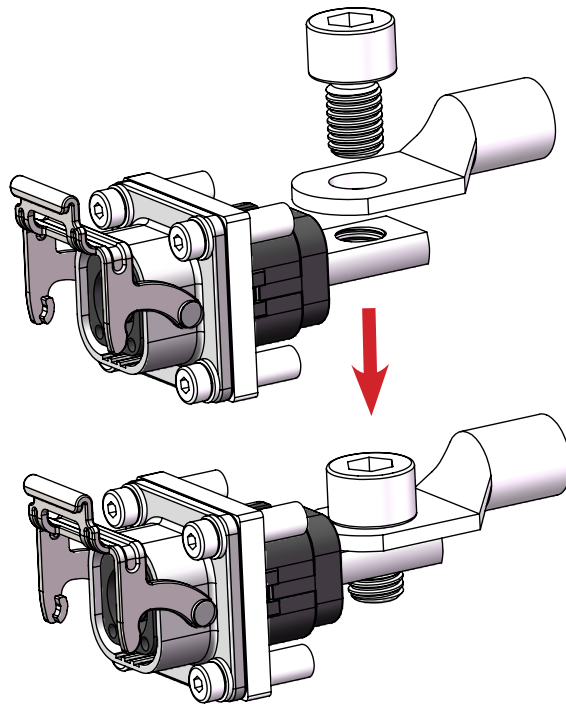
Item	Description	Quantity
1	M4 Screw	4
2	Receptacle	1
3	Install Panel	1

Recommended screw standard is GB/T 70.1-2000



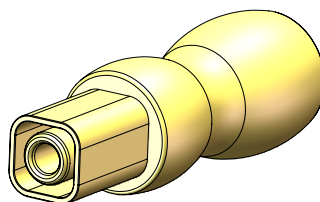
Note: The customer shall verify the recommended torque base on your application and modify it if necessary.

Step 2: Tighten the lug with M6&M8&M10 screw into the receptacle busbar terminal.



Screw Specification	Recommended Torque	Reference Standard
M6 X 1	3.6 ~ 4.4	GB/T 70.1-2000
M8 X 1.25	7.2 ~ 8.8	
M10 X 1.5	10 ~ 12	

Note: The customer shall verify the recommended torque base on your application and modify it if necessary, if the torque exceeds the recommended vaule, special tooling will be used, the tooling number is TOOL-793780-000.



Part 3: HVIL Contact Assembly

Step 1: Contact Crimping

1) As figure 1 shown, strip the outer jacket per table 1 dimension “A,” the conductor not allowed to be damaged when the cable stripped.



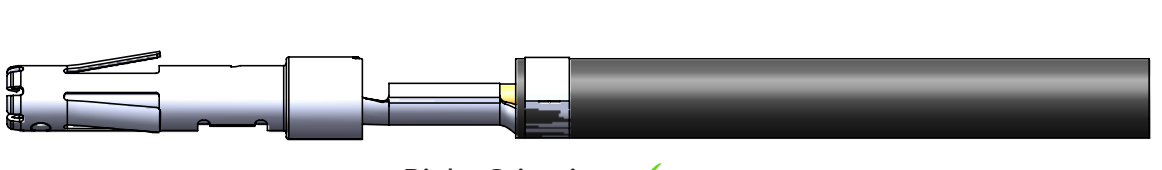
Figure 1

Table 1

Cable Size	Strip Length A (mm)	Cable Range (mm)
20AWG (0.5mm ²)	4 ± 0.3mm	ø 2.3mm max
18AWG (0.75mm ²)	4 ± 0.3mm	ø 2.6mm max

2) As figure 2 & 3 shown, if vibration frequency is medium (10~1000HZ), low (<10HZ) frequency of operating environment, the contact need to select stamping contact,if vibration frequency is high (>1000HZ) frequency of operating environment, the contact need to select machining contact, crimping parameter see table 2 and table 3;

2.1: Stamping Contact Crimping:

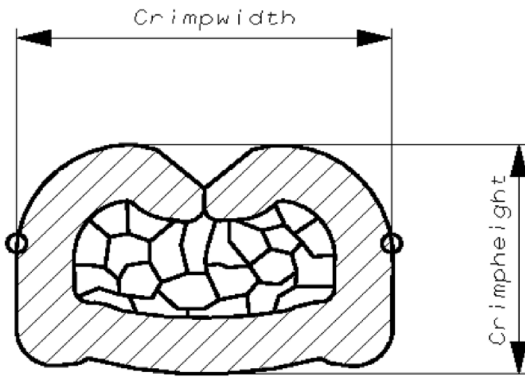


Right Crimping ✓



Wrong Crimping ✗

Figure 2



Cable Size	Pullout Force (N)	Conduct Crimp Width (mm)	Conductor crimp height (mm)	Insulation crimp (mm)
20AWG (0.5mm ²)	57.9N min	2.03 ± 0.1mm	1.27 ± 0.1mm	ø 2.54 ± 0.1mm
18AWG (0.75mm ²)	89.0N min	2.03 ± 0.1mm	1.36 ± 0.1mm	ø 2.54 ± 0.1mm

Tooling Type	Tooling P/N	
Crimp Tooling	DMC/IWISS	
Removal Tooling	TOOL-738651-020	

2.1: Machining Contact Crimping:

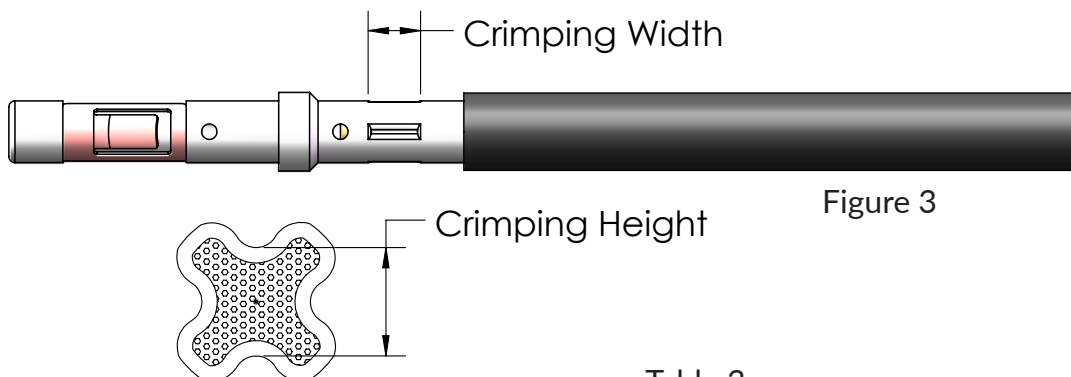


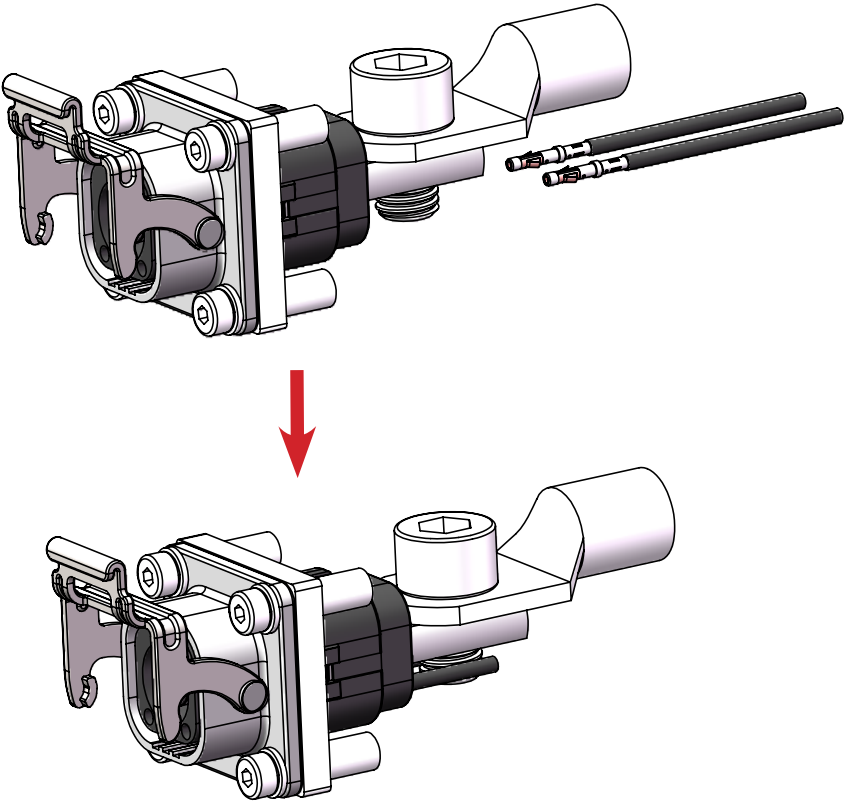
Figure 3

Table 3

Cable Size	Pullout Force (N)	Conduct Crimp Width (mm)	Conductor Crimp Height (mm)
20AWG (0.5mm ²)	57.9N min	2 ± 0.1mm	1.2 ± 0.1mm
18AWG (0.75mm ²)	89.0N min	2 ± 0.1mm	1.4 ± 0.1mm

Tooling Type	Tooling P/N	
Crimp Tooling	DMC/IWISS	
Removal Tooling	TOOL-738651-020	

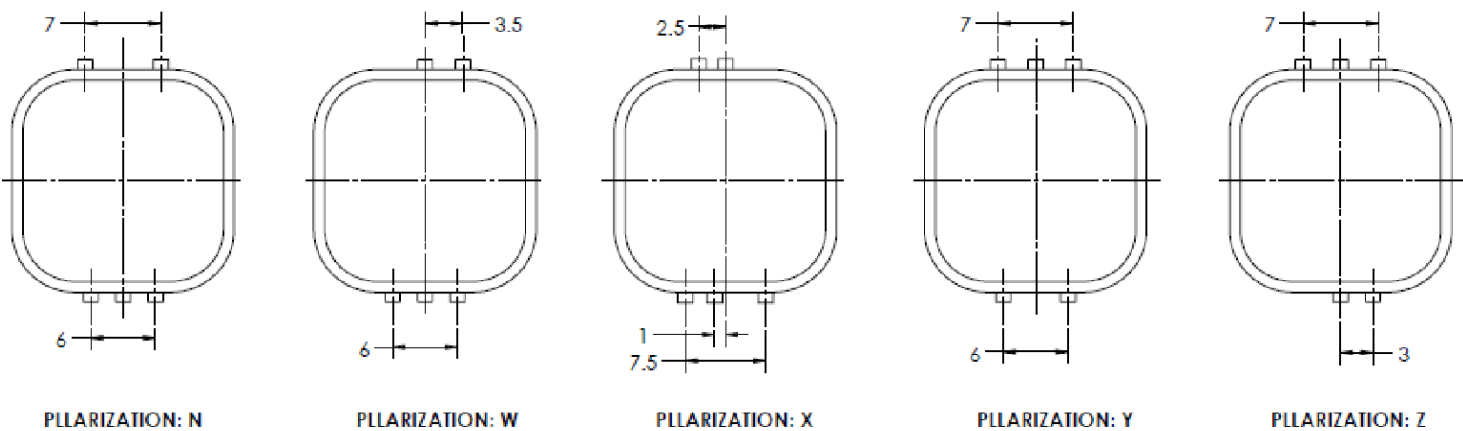
3) As figure 4 shown, assemble the contact into the receptacle:



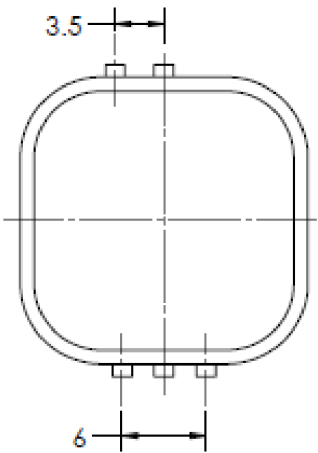
Change History			
Rev.	Description	Originator	Date
A	Initial Release	Jerry Pu	2/5/2025
B	Adjust Some Details	Jerry Pu	8/26/2025

TSI 8.0 Busbar Receptacle Work Instruction

Part 1: Keyway Description

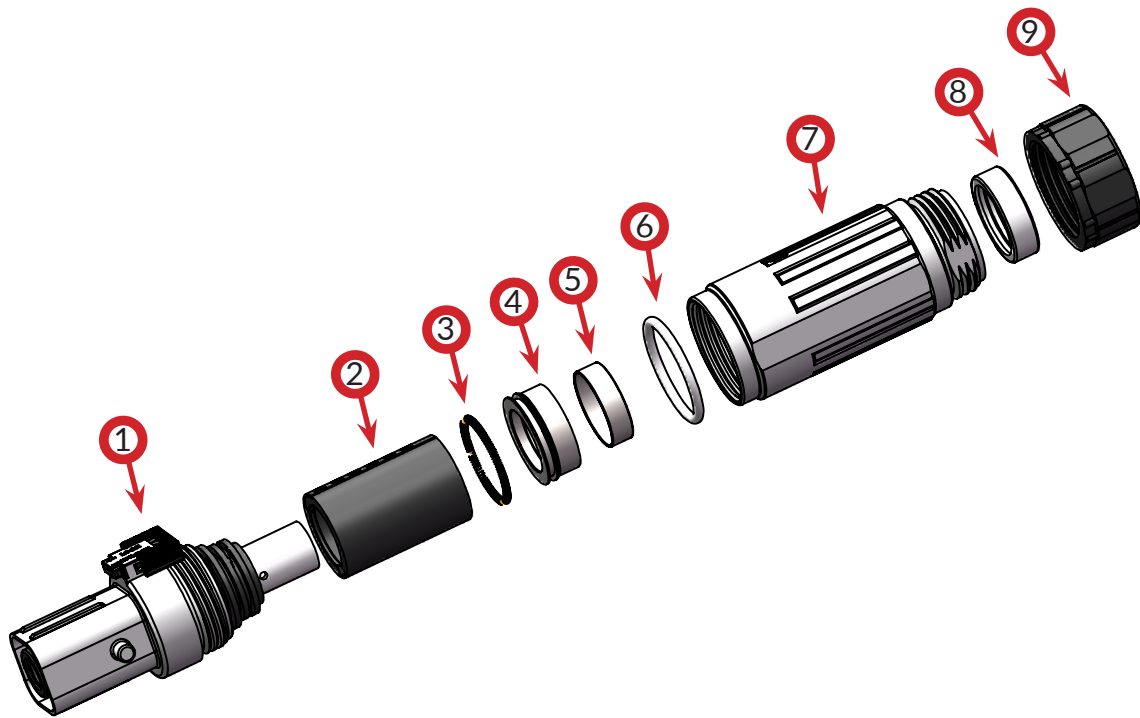


Keyway	CPA Color
N	Black
W	Orange
X	Red
Y	Blue
Z	Green



Special X Keyway	
Keyway	CPA Color
X	Red

Part 2: Exploded View



Item	Description	Quantity
1	Straight Plug Assembly Body	1
2	Contact Barrel	1
3	Shielding Spring	1
4	Outer Shielding Ring	1
5	Inner Shielding Ring	1
6	O-Ring	1
7	Adapter	1
8	Rubber Sleeve	1
9	M28 Hex Nut	1

Part 3: Product Assembly

Step 1: Assembly Prepared

Pass each part through the cable in the sequence shown in Figure 1

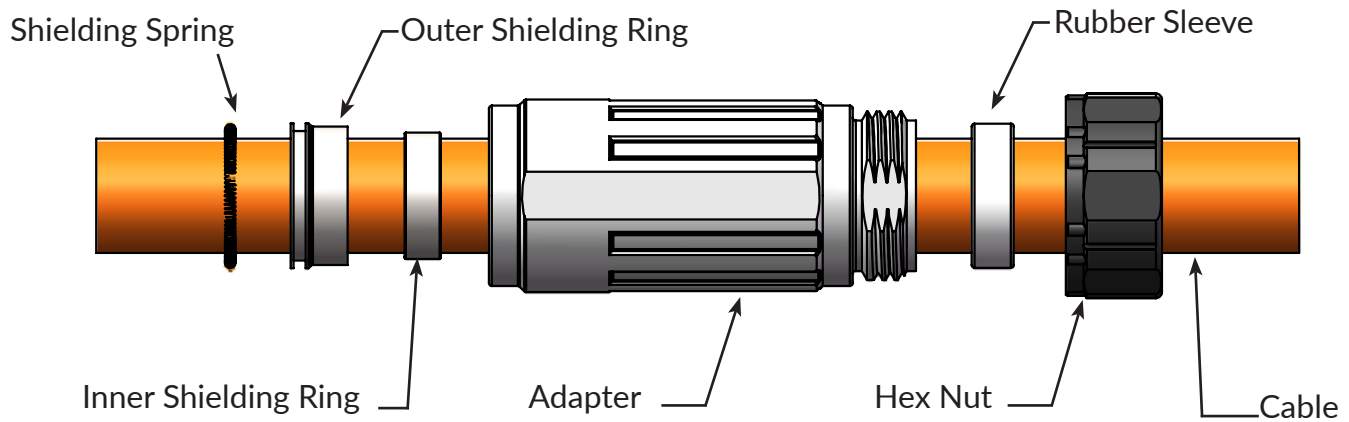


Figure 1

Note: Referenced to the appendix for the cable detail

Step 2: Contact Crimping

2.1: Contact crimping of shielding cable.

1) As figure 2 shown, strip the outer jacket per table 1 dimension "A", the shielding braid not allowed to be damaged when the cable stripped;

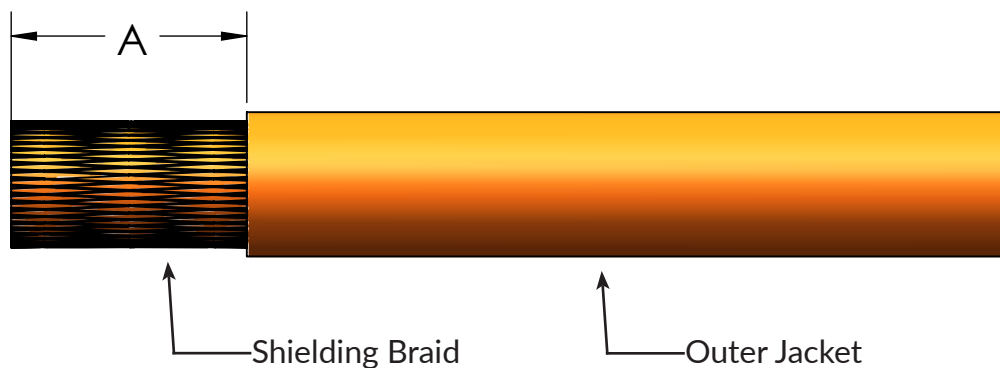


Figure 2

Table 1

Cable Size	Strip Length A
35 mm ²	29 ± 0.3 mm
50 mm ²	29 ± 0.3 mm
70 mm ²	29 ± 0.3 mm

2) As figure 3 shown, strip the shielding braid per table 2 dimension “B”

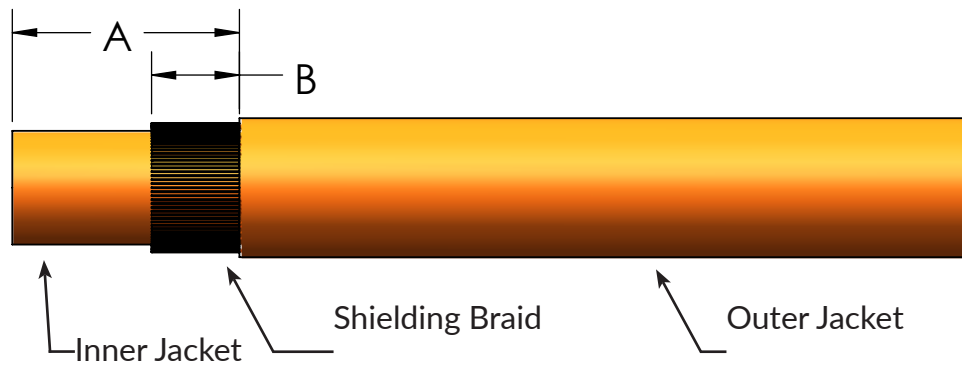


Figure 3

Table 2

Cable Size	Strip Length B
35 mm ²	12 ± 0.5 mm
50 mm ²	12 ± 0.5 mm
70 mm ²	12 ± 0.5 mm

3) As figure 4 shown, strip the inner jacket per table 3 dimesion “C,” the conductor should not be damaged during stripping:

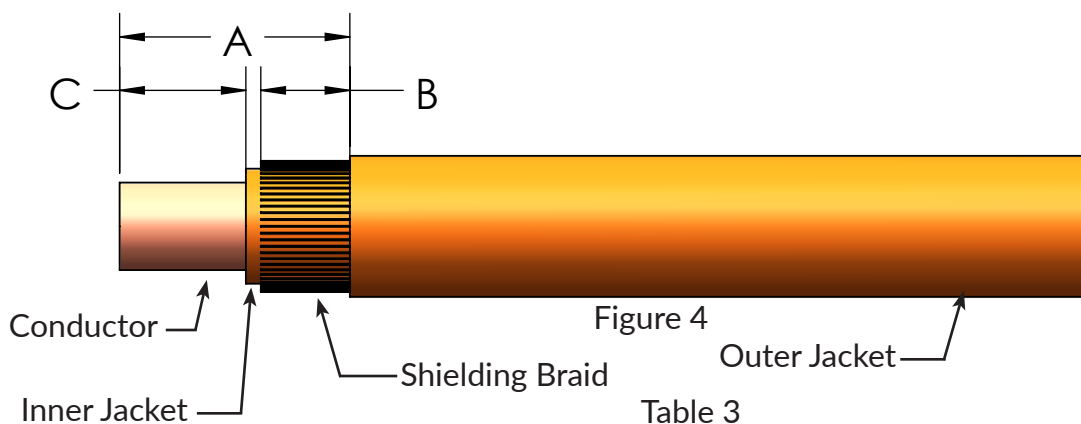


Figure 4

Table 3

Cable Size	Strip Length B
35 mm ²	12 ± 0.5 mm
50 mm ²	12 ± 0.5 mm
70 mm ²	12 ± 0.5 mm

4) As figure 5 shown, move the inner shielding ring align with the left surface of outer jacket of the cable, fold back the shielding braid to cover the outer surface of the inner shielding ring:

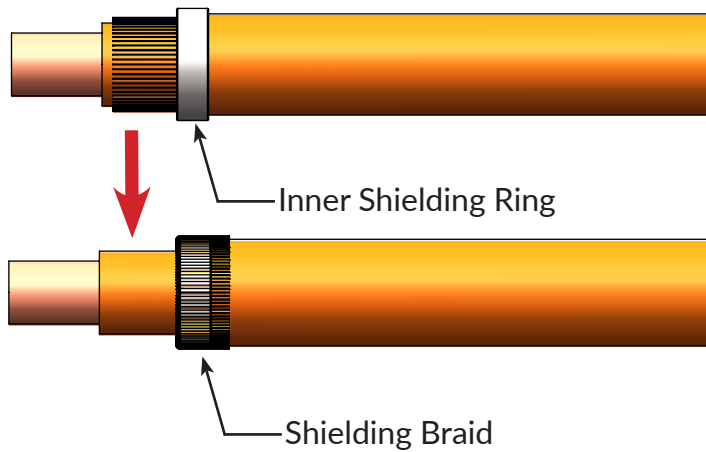


Figure 5

5) As figure 6 shown, move the outer shielding ring in right direction, until can't be moved:

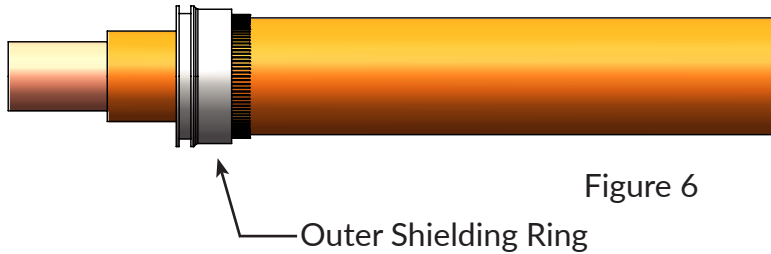


Figure 6

6) As figure 7 shown, crimping the inner shielding ring, outer shielding ring and outer jacket to use specified tooling, see tale 4 for crimping height H1, then cut the extra shielding braid, at last assemble the spring into the outer shielding ring:

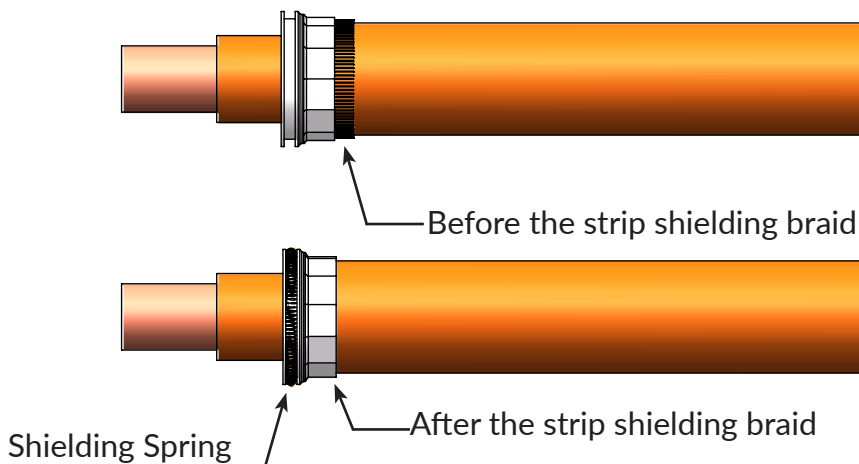


Figure 7

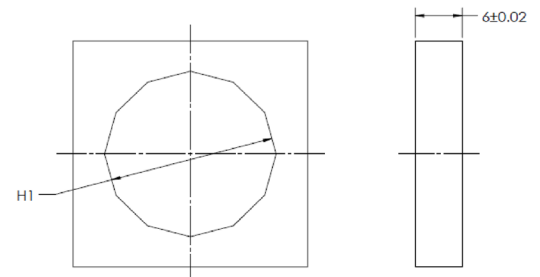


Table 4

Cable Size	Crimp Height H1	Shape	Retention Force (N)	Recommended Tooling (P/N)	Recommended cable outer diameter(mm)	Tooling Picture
35 mm ²	15.7 ± 0.2 mm	Regular dodecagon	150N min	C10-793125-035	14.0~15.0	
50 mm ²	18.2 ± 0.2 mm			C10-793125-050	16.5~17.5	
70 mm ²	21.2 ± 0.2 mm			C10-793125-070	19.0~20.0	

Note: Each wire core should be uniform and there should be no loose threads in the wire core. Adhesion may cause high voltage danger, the recommended crimp sizes are only for reference. The customer should adjust them according to cable specification and process ability and test results including temperature rise and metallographic analysis and pullout force.

7) As figure 8 shown, move the cable conductor 100% duck into the crimping cup, then crimping the contact use the specified tooling, after crimping, see the figure 8 for the dimensions, see the table 5 for the crimping high "H":

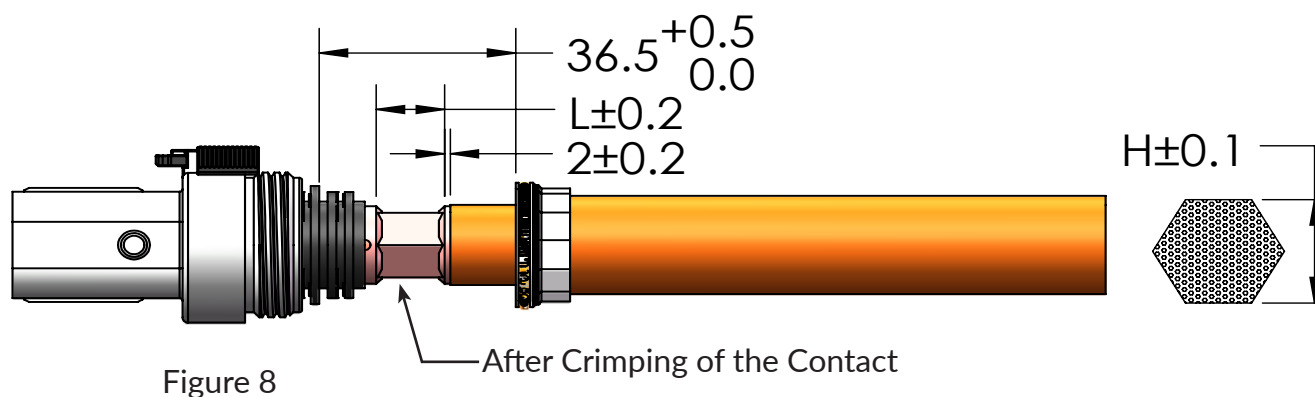
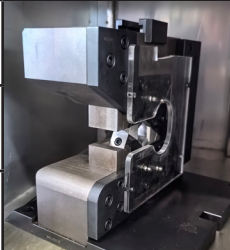


Table 5

Cable Size	Recommended Crimp Height H	Recommended Crimp Length L	Shape	Pullout force (N)	Recommended Tooling P/N	Tooling Picture
35 mm ²	8.0 ± 0.1 mm	10.0 ± 0.2 mm	Hexagon	2300N Min	C10-792958-035	
50 mm ²	9.0 ± 0.2 mm	10.0 ± 0.2 mm		2800N min	C10-792958-050	
70 mm ²	10.0 ± 0.1 mm	10.0 ± 0.2 mm		3400N min	C10-792958-070	

Note: The recommended crimp sizes are only for reference. The customer should adjust them according to cable specification and process ability and test results including temperature rise and metallographic analysis and pullout force.

2.2: Contact crimping of un-shielding cable

1) As figure 9 shown, strip the outer jacket per table 6 dimension “D”, the conductor not allowed to be damaged when the cable stripped;



Figure 9

Table 6

Cable Size	Strip Length B
35 mm ²	17 ± 1 mm
50 mm ²	17 ± 1 mm
70 mm ²	17 ± 1 mm

2) As figure 10 shown, move the cable conductor 100% duck into the crimping cup, then crimping the contact use the specified tooling, after crimping, see the figure 10 for the dimensions, see the table 7 for the crimping high “H”:

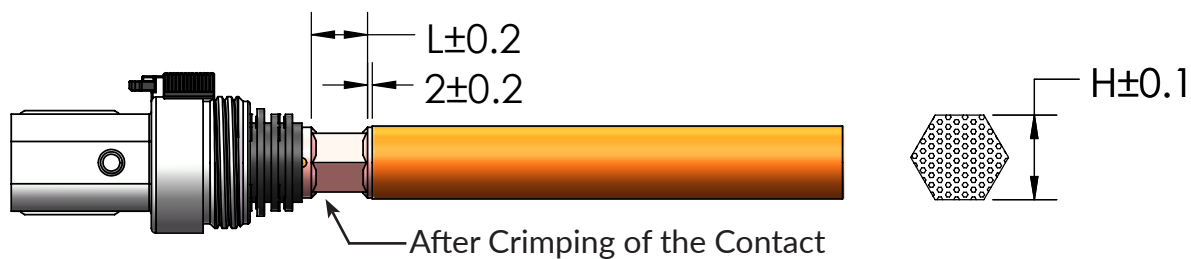


Figure 10

Table 7

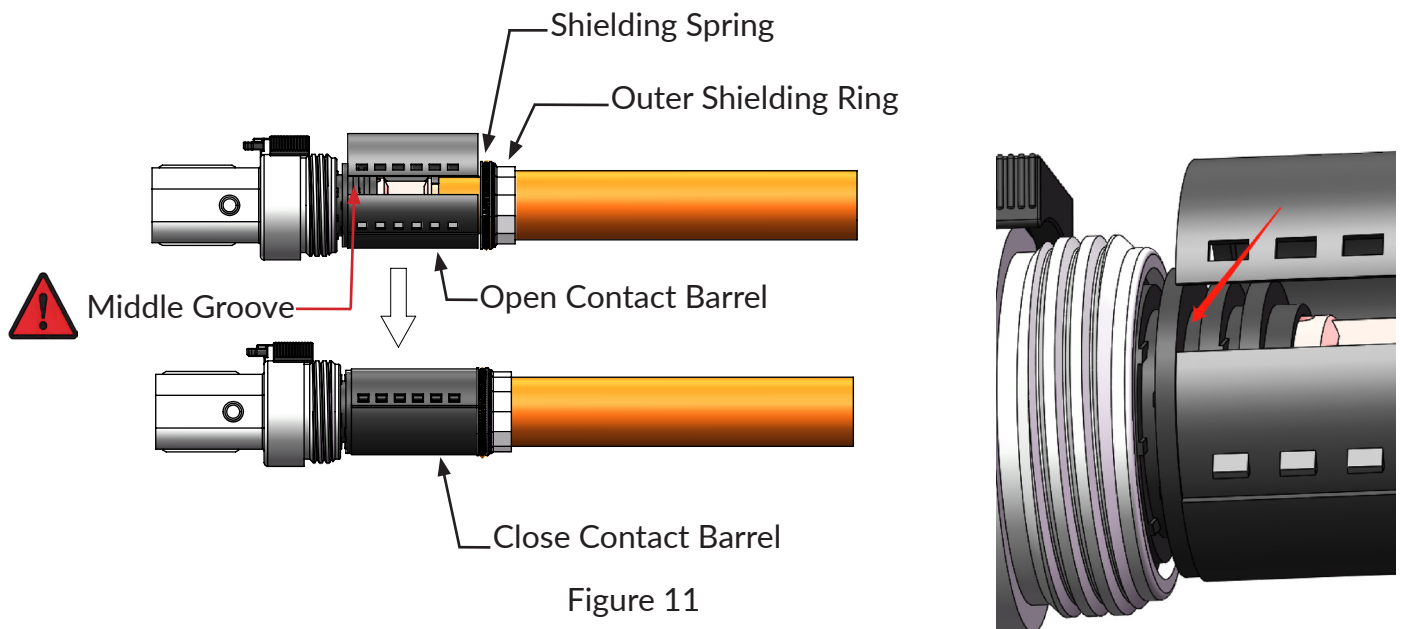
Cable Size	Recommended Crimp Height H	Recommended Crimp Length L	Shape	Pullout force (N)	Recommended Tooling P/N	Tooling Picture
35 mm ²	8.0 ± 0.1 mm	10.0 ± 0.2 mm	Hexagon	2300N Min	C10-792958-035	
50 mm ²	9.0 ± 0.1 mm	10.0 ± 0.2 mm		2800N min	C10-792958-050	
70 mm ²	10.0 ± 0.1 mm	10.0 ± 0.2 mm		3400N min	C10-792958-070	

Note: The recommended crimp sizes are only for reference. The customer should adjust them according to cable specification and process ability and test results including temperature rise and metallographic analysis and pullout force.

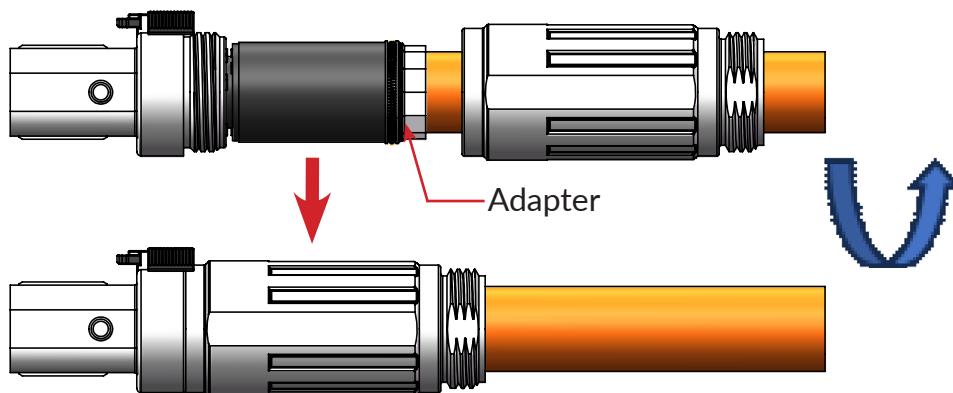
Step 3: Connector Assembly

3.1: Connector Assembly of Shielding Cable

1) As figure 11 shown, assemble the contact barrel into middle groove of the elbow insert, can't be assembled to other groove, otherwise withstanding voltage of the connector will be affected;



2) As figure 12 shown, tighten the adapter to plug shell with 31mm spanner, recommended torque is 6~8N.m;



3) As figure 13 shown, tighten the hex nut to adapter shell with 33mm spanner, recommended torque is 4~6N.m, rubber sleeve applicable range see table 8;

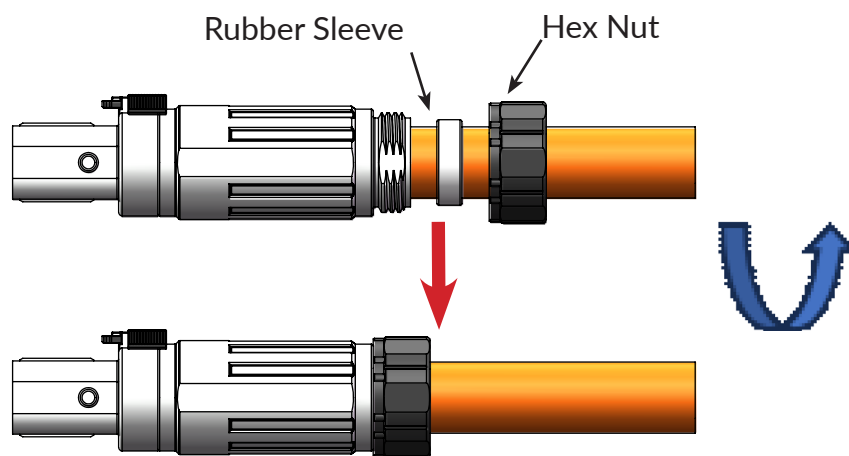


Figure 13

Table 8

Rubber sleeve P/N	Rubber sleeve applicable range
C10-792970-004	ø 10 ~ 13 mm
C10-792970-001	ø 13 ~ 16 mm
C10-792970-002	ø 16 ~ 18 mm
C10-792970-003	ø 18 ~ 20 mm

3.2: Connector assembly of un-shielding cable.

1) As figure 14 shown, assemble the contact barrel into middle groove of the elbow insert, can't be assembled to other groove, otherwise withstanding voltage of the connector will be affected;

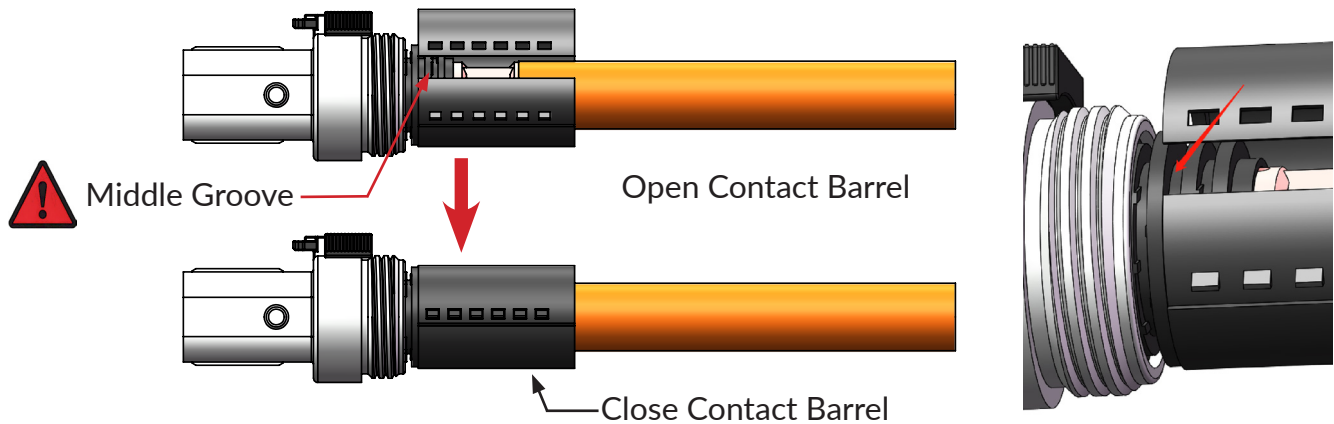


Figure 14

2) As figure 15 shown, tighten the adapter to pulg shell with 31mm spanner, recommended torque is 6~8N.m;

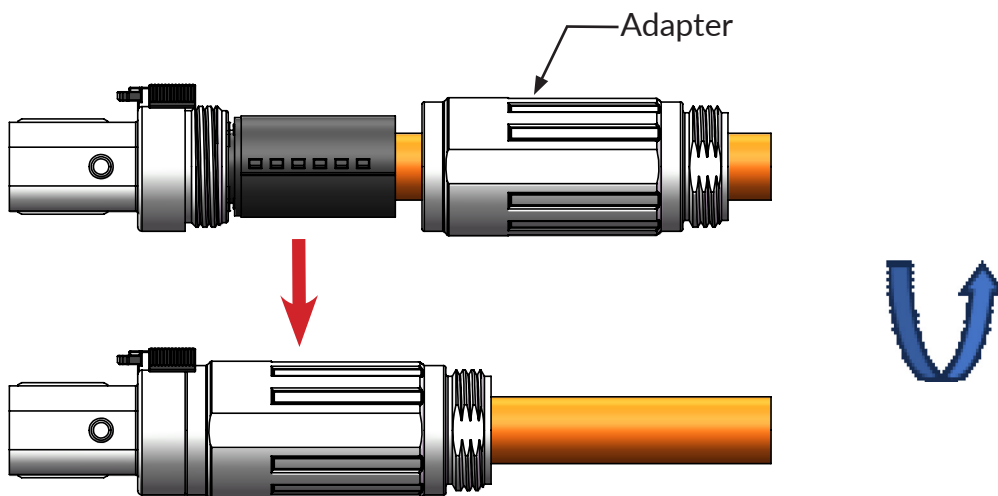


Figure 15

3) As figure 16 shown, tighten the hex nut to adapter shell with 33mm spanner, recommended torque is 4~6N.m, rubber sleeve applicable range see table 9;

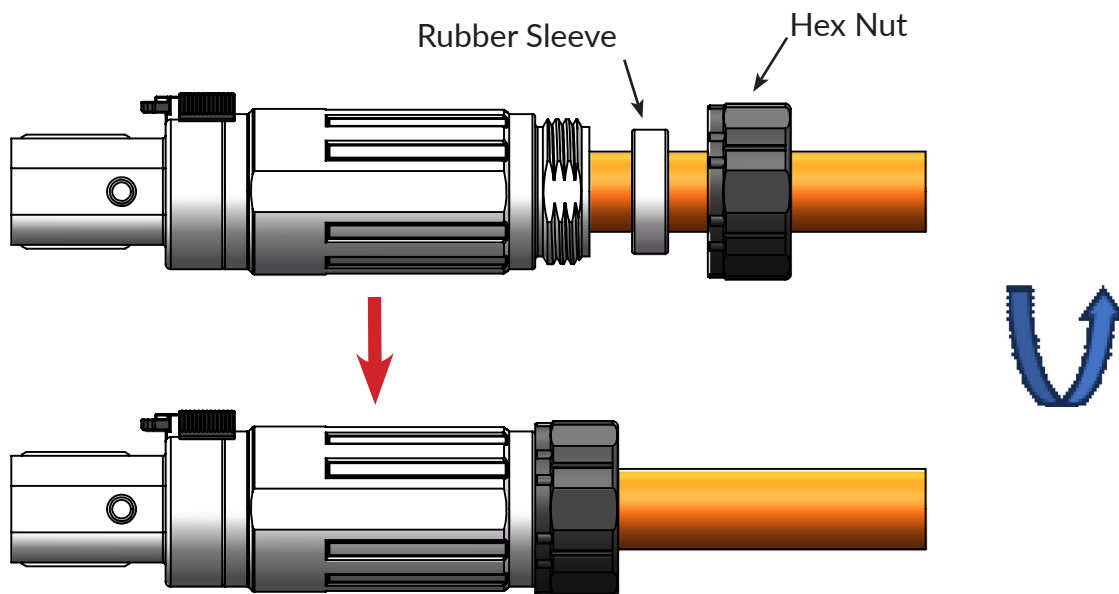


Figure 16

Table 8

Rubber sleeve P/N	Rubber sleeve applicable range
C10-792970-004	ø 10 ~ 13 mm
C10-792970-001	ø 13 ~ 16 mm
C10-792970-002	ø 16 ~ 18 mm
C10-792970-003	ø 18 ~ 20 mm

Part 4: Electrical Performance Test

1) Insulation resistance test

Positions	Test voltage(DC)	Test time(S)	Insulation resistance(MΩ)
Power contact to shell	1500V	60S	>500MΩ
Power contact to HVIL contact	1500V	60S	> 500MΩ
HVIL contact to shell	500V	60S	> 500MΩ

1) Withstanding Voltage Test

Positions	Test voltage(DC)	Test time(S)	Leakage Current (mA)
Power contact to shell	6800V	60S	<5mA
Power contact to HVIL contact	6800V	60S	<5mA
HVIL contact to shell	6800V	60S	<5mA

Part 5: Appendix

Reference specification for cable crimping

Cable type	Cable Size	Conductor (mm)	Conductor dia.(mm)	Inner jacket dia.(mm)	Outer jacket dia.(mm)	Single shielding braid dia.(mm)	Refernce pullout force(N)
Shielding Cable	35 mm ²	1070*0.21	ø 8.5 max	ø 9.8~10.5	ø 13.8~14.4	ø 0.21 max	2300 min
		276*0.41					
	50 mm ²	396*0.41	ø 10.5 max	ø 11.5~12.2	ø 15.2~15.8		2800 min
		1600*0.21					
	70 mm ²	360*0.51	ø 12.5 max	ø 14.0~15.5	ø 19.2~20.0		3400 min
		2175*0.21					

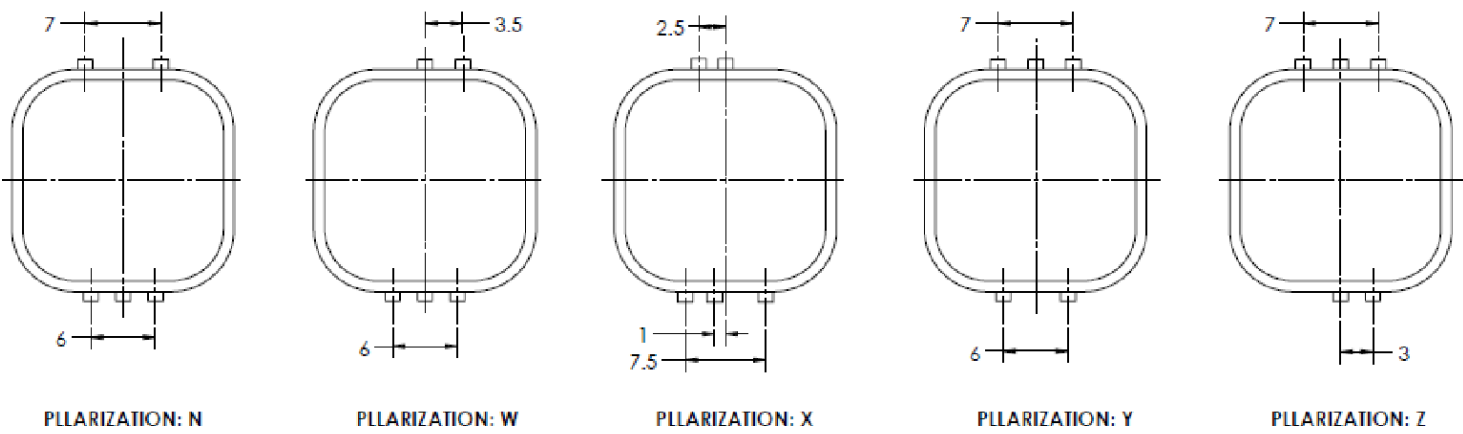
Cable Type	Cable size	Conductor (mm)	Outer jacket dia.(mm)	Refernce pullout force(N)
Un-shielding cable	35 mm ²	1235*0.19	ø 11.2~11.8	2300 min
	50 mm ²	1767*0.19	ø 13.3~13.9	2800 min
	70 mm ²	2442*0.19	ø 15.2~15.8	3400 min

Note: the cable specification referenced to LV216 and ISO6722

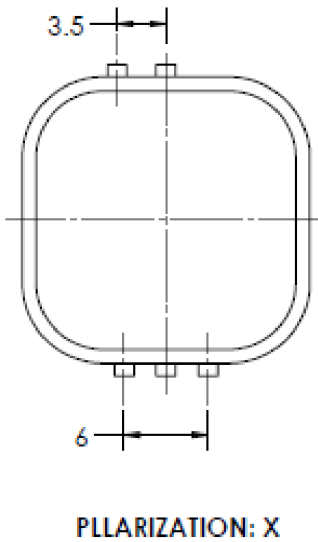
Change History			
Rev.	Description	Originator	Date
A	Initial Release	Jerry Pu	2/5/2025
B	Adjust Some Details	Jerry Pu	8/26/2025

TSI 8.0 Right Angle Plug Work Instruction

Part 1: Keyway Description

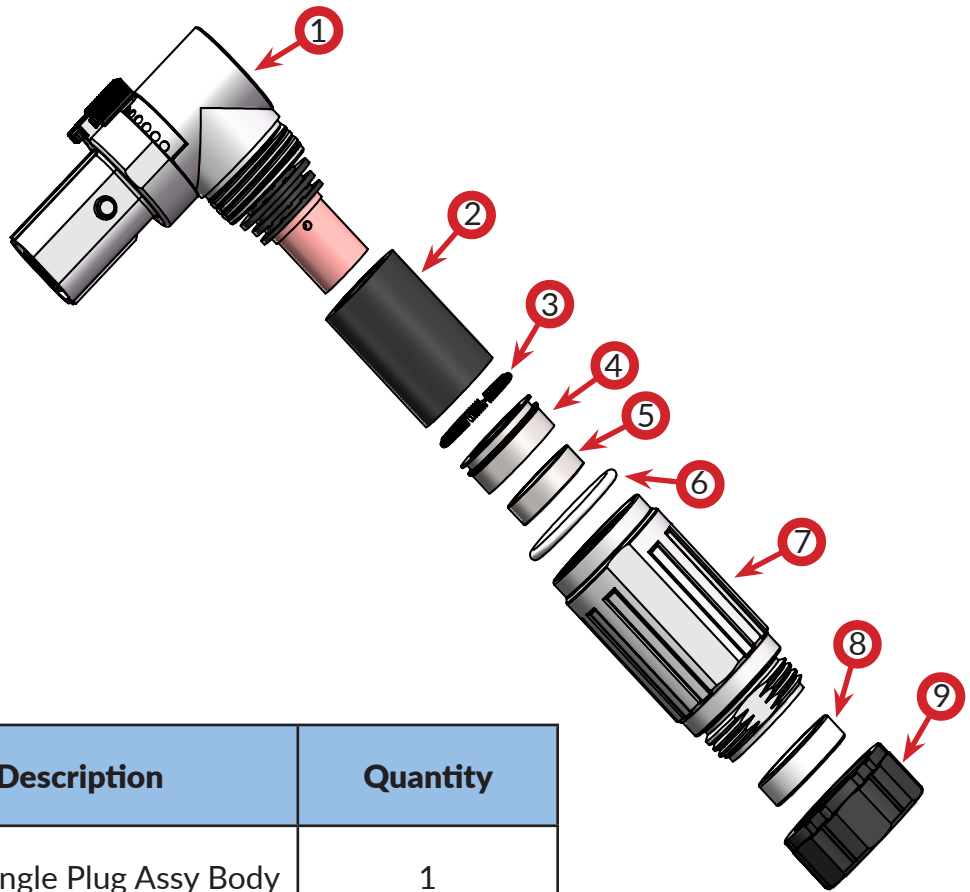


Keyway	CPA Color
N	Black
W	Orange
X	Red
Y	Blue
Z	Green



Special X Keyway	
Keyway	CPA Color
X	Red

Part 2: Exploded View



Item	Description	Quantity
1	SRight Angle Plug Assy Body	1
2	Contact Barrel	1
3	Shielding Spring	1
4	Outer Shielding Ring	1
5	Inner Shielding Ring	1
6	O-Ring	1
7	Adapter	1
8	Rubber Sleeve	1
9	M28 Hex Nut	1

Part 3: Product Assembly

Step 1: Prepare Assembly

Pass each part through the cable in the sequence shown in Figure 1.

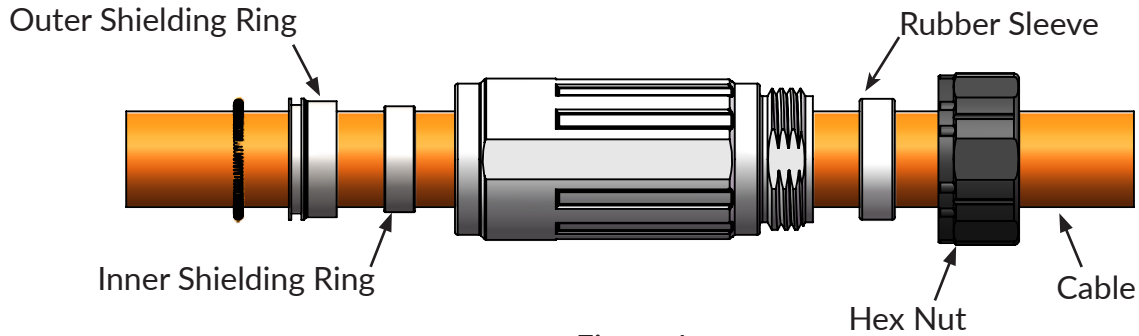


Figure 1

Note: Reference the appendix for the cable detail;

Step 2: Contact Crimping

2.1: Contact crimping of shielding cable.

1) As figure 2 shown, strip the outer jacket per table 1 dimension “A”, the shielding braid not allowed to be damaged when the cable stripped;

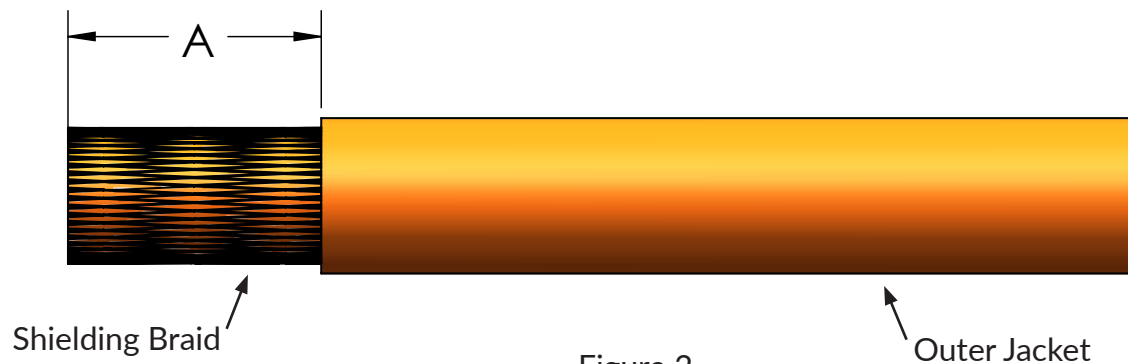


Figure 2

Table 1

Cable Size	Strip Length A
35 mm ²	29 ± 0.3 mm
50 mm ²	29 ± 0.3 mm
70 mm ²	29 ± 0.3 mm

2) As figure 3 shown, strip the shielding braid per table 2 dimension “B”

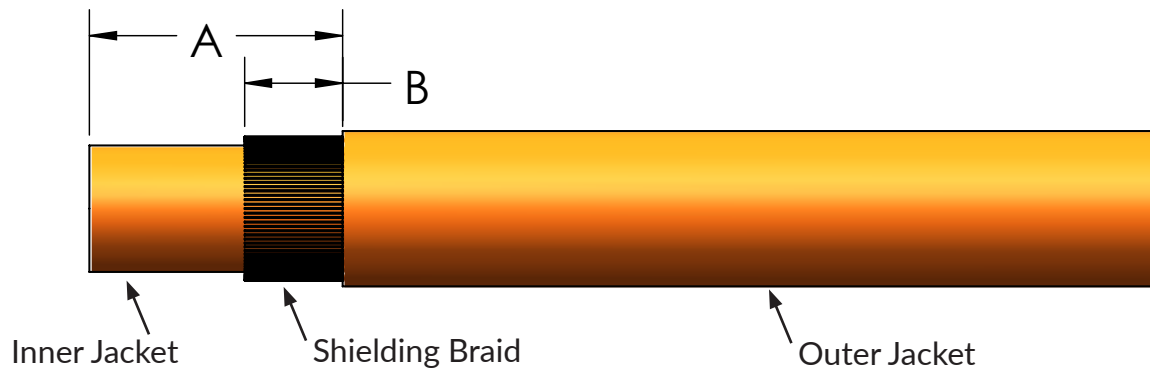


Figure 3

Table 2

Cable Size	Strip Length A
35 mm ²	12 ± 0.5 mm
50 mm ²	12 ± 0.5 mm
70 mm ²	12 ± 0.5 mm

3) As figure 4 shown, strip the inner jacket per table 3 dimension “C”, the conductor should not be damaged during stripping;

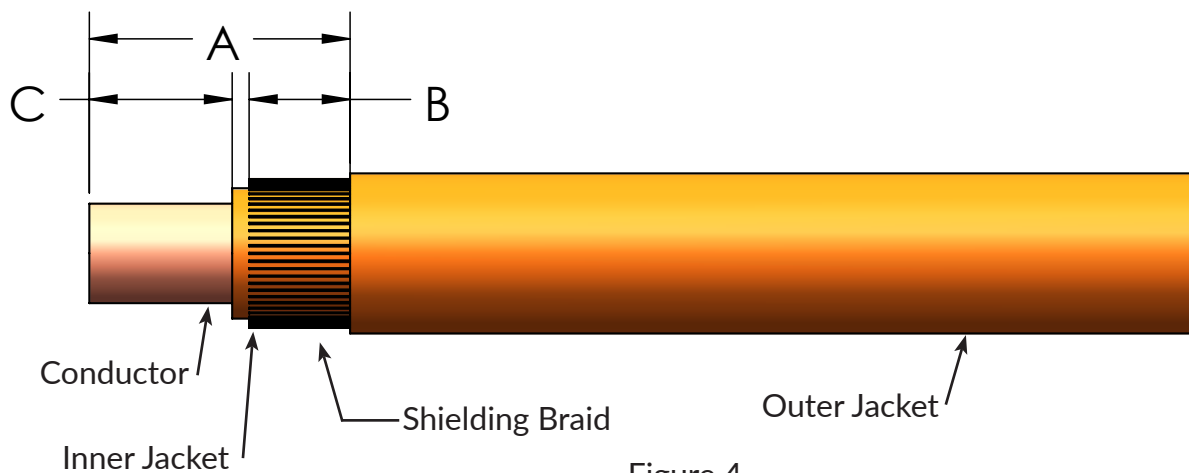


Figure 4

Table 3

Cable Size	Strip Length C
70 mm ²	17 ± 1 mm
95 mm ²	17 ± 1 mm
120 mm ²	17 ± 1 mm

4) As figure 5 shown, move the inner shielding ring align with the left surface of outer jacket of the cable, fold back the shielding braid to cover the outer surface of the inner shielding ring;

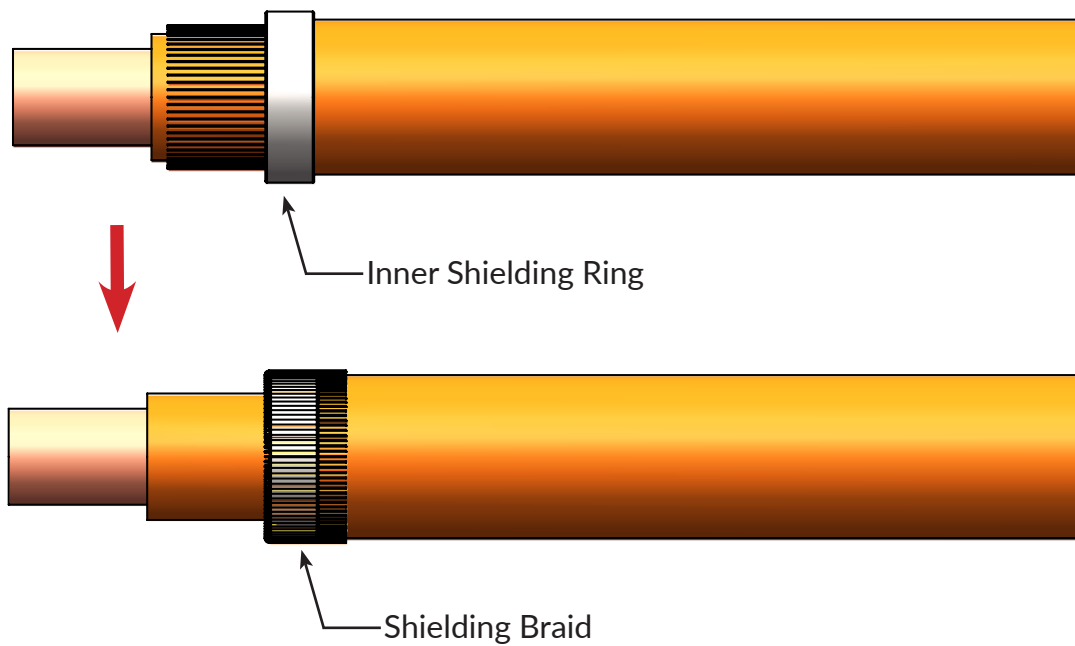


Figure 5

5) As figure 6 shown, move the outer shielding ring in right direction, until can't be moved:

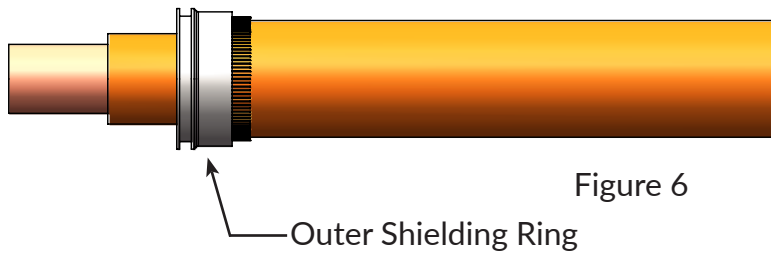


Figure 6

6) As figure 7 shown, crimping the inner shielding ring, outer shielding ring and outer jacket to use specified tooling, see tale 4 for crimping height H1, then cut the extra shielding braid, at last assemble the spring into the outer shielding ring:

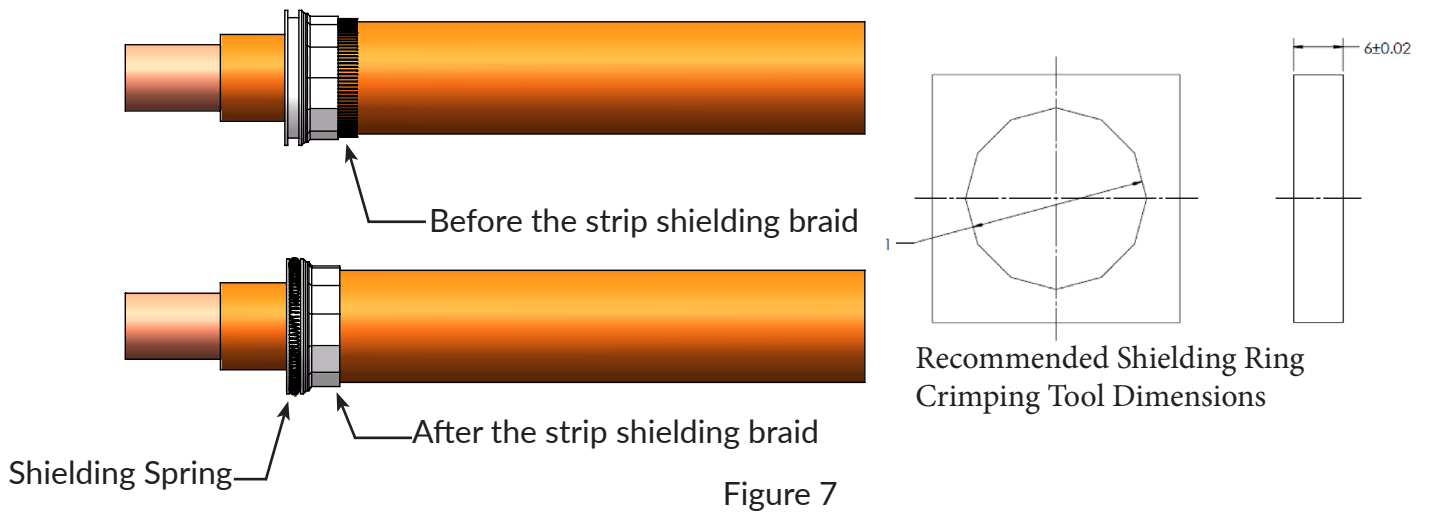


Figure 7

Table 4

Cable Size	Crimp Height H1	Shape	Retention Force (N)	Recommended Tooling (P/N)	Recommended cable outer diameter(mm)	Tooling Picture
35 mm ²	15.7 ± 0.2 mm	Regular dodecagon	150N min	C10-793125-035	14.0~15.0	
50 mm ²	18.2 ± 0.2 mm			C10-793125-050	16.5~17.5	
70 mm ²	21.2 ± 0.2 mm			C10-793125-070	19.0~20.0	

Note: Each wire core should be uniform and there should be no loose threads in the wire core. Adhesion may cause high voltage danger, the recommended crimp sizes are only for reference. The customer should adjust them according to cable specification and process ability and test results including temperature rise and metallographic analysis and pullout force.

7) As figure 8 shown, move the cable conductor 100% duck into the crimping cup, then crimping the contact use the specified tooling, after crimping, see the figure 8 for the dimensions, see the table 5 for the crimping high “H”:

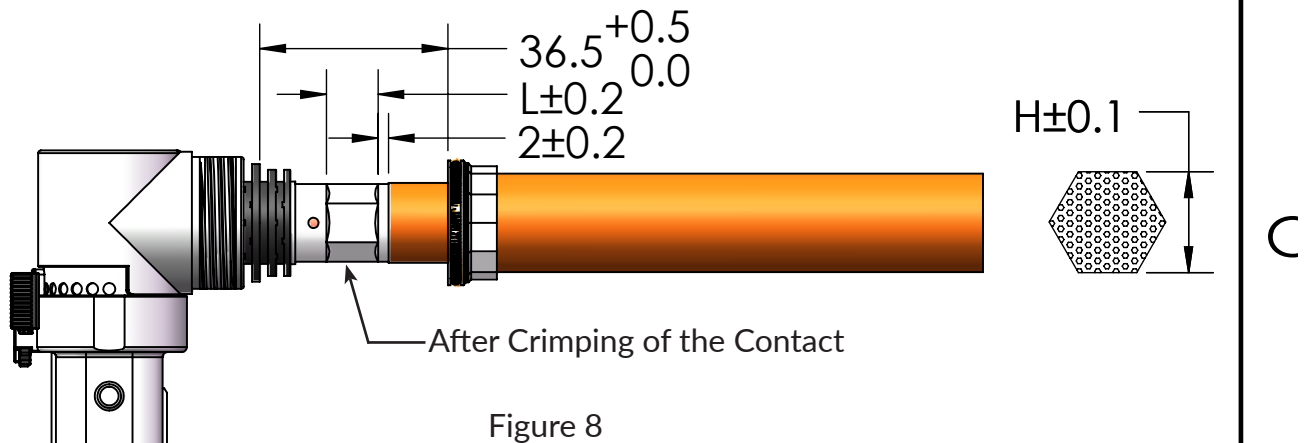


Figure 8

Table 5

Cable Size	Recommended Crimp Height H	Recommended Crimp Length L	Shape	Pullout force (N)	Recommended Tooling P/N	Tooling Picture
35 mm ²	8.0 ± 0.1 mm	10.0 ± 0.2 mm	Hexagon	2300N Min	C10-792958-035	
50 mm ²	9.0 ± 0.2 mm	10.0 ± 0.2 mm		2800N min	C10-792958-050	
70 mm ²	10.0 ± 0.1 mm	10.0 ± 0.2 mm		3400N min	C10-792958-070	

Note: The recommended crimp sizes are only for reference. The customer should adjust them according to cable specification and process ability and test results including temperature rise and metallographic analysis and pullout force.

2.2: Contact crimping of un-shielding cable

1) As figure 9 shown, strip the outer jacket per table 6 dimension “D”, the conductor not allowed to be damaged when the cable stripped;



Figure 9

Table 6

Cable Size	Strip Length B
35 mm ²	17 ± 1 mm
50 mm ²	17 ± 1 mm
70 mm ²	17 ± 1 mm

2) As figure 10 shown, move the cable conductor 100% duck into the crimping cup, then crimping the contact use the specified tooling, after crimping, see the figure 10 for the dimensions, see the table 7 for the crimping high “H”:

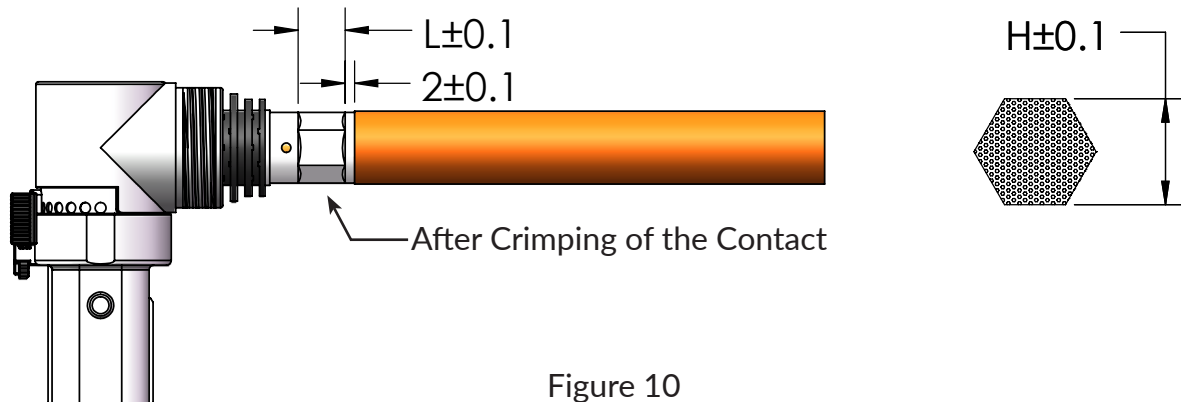


Figure 10

Table 7

Cable Size	Recommended Crimp Height H	Recommended Crimp Length L	Shape	Pullout force (N)	Recommended Tooling P/N	Tooling Picture
35 mm ²	8.0 ± 0.1 mm	10.0 ± 0.2 mm	Hexagon	2300N Min	C10-792958-035	
50 mm ²	9.0 ± 0.1 mm	10.0 ± 0.2 mm		2800N min	C10-792958-050	
70 mm ²	10.0 ± 0.1 mm	10.0 ± 0.2 mm		3400N min	C10-792958-070	

Note: The recommended crimp sizes are only for reference. The customer should adjust them according to cable specification and process ability and test results including temperature rise and metallographic analysis and pullout force.

Step 3: Connector Assembly

3.1: Connector Assembly of Shielding Cable

1) As figure 11 shown, assemble the contact barrel into middle groove of the elbow insert, can't be assembled to other groove, otherwise withstanding voltage of the connector will be affected;

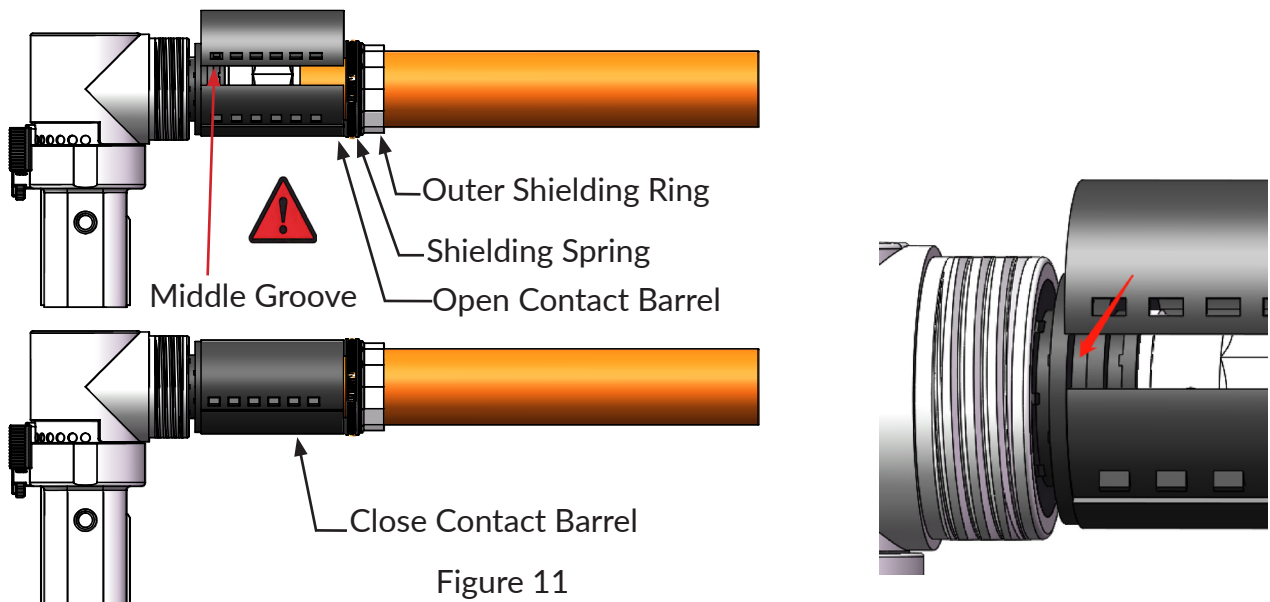


Figure 11

2) As figure 12 shown, tighten the adapter to plug shell with 31mm spanner, recommended torque is 6~8N.m;

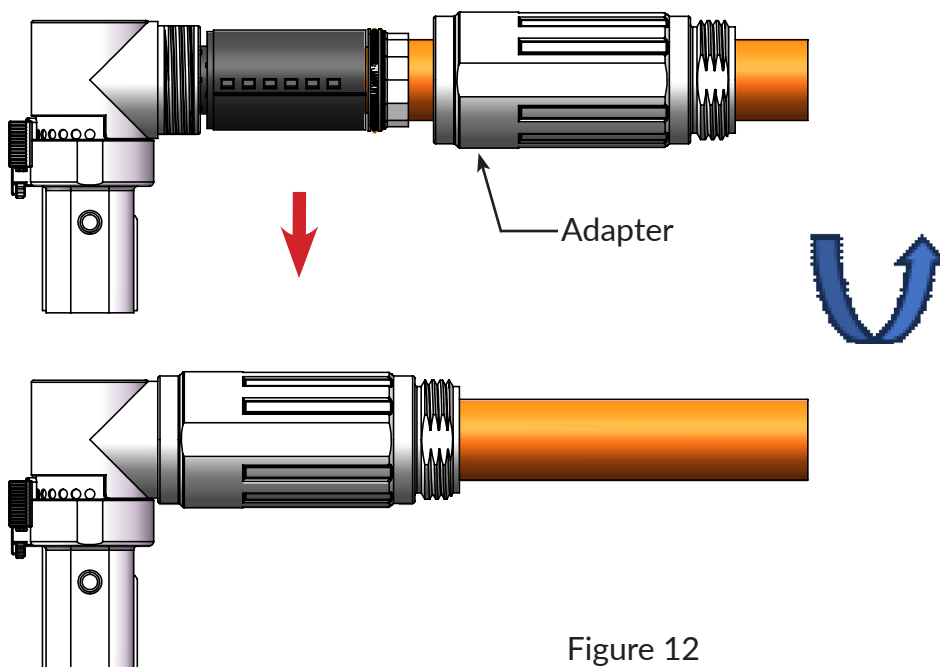


Figure 12

3) As figure 13 shown, tighten the hex nut to adapter shell with 33mm spanner, recommended torque is 4~6N.m, rubber sleeve applicable range see table 8;

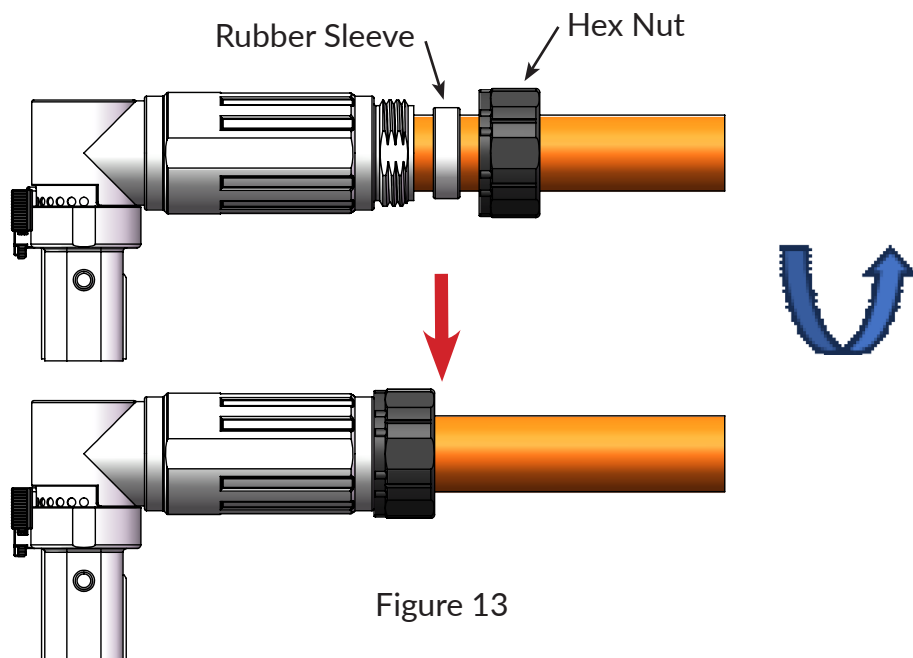


Table 8

Rubber sleeve P/N	Rubber sleeve applicable range
C10-792970-004	ø 10 ~ 13 mm
C10-792970-001	ø 13 ~ 16 mm
C10-792970-002	ø 16 ~ 18 mm
C10-792970-003	ø 18 ~ 20 mm

3.2: Connector assembly of un-shielding cable.

1) As figure 14 shown, assemble the contact barrel into middle groove of the elbow insert, can't be assembled to other groove, otherwise withstanding voltage of the connector will be affected;

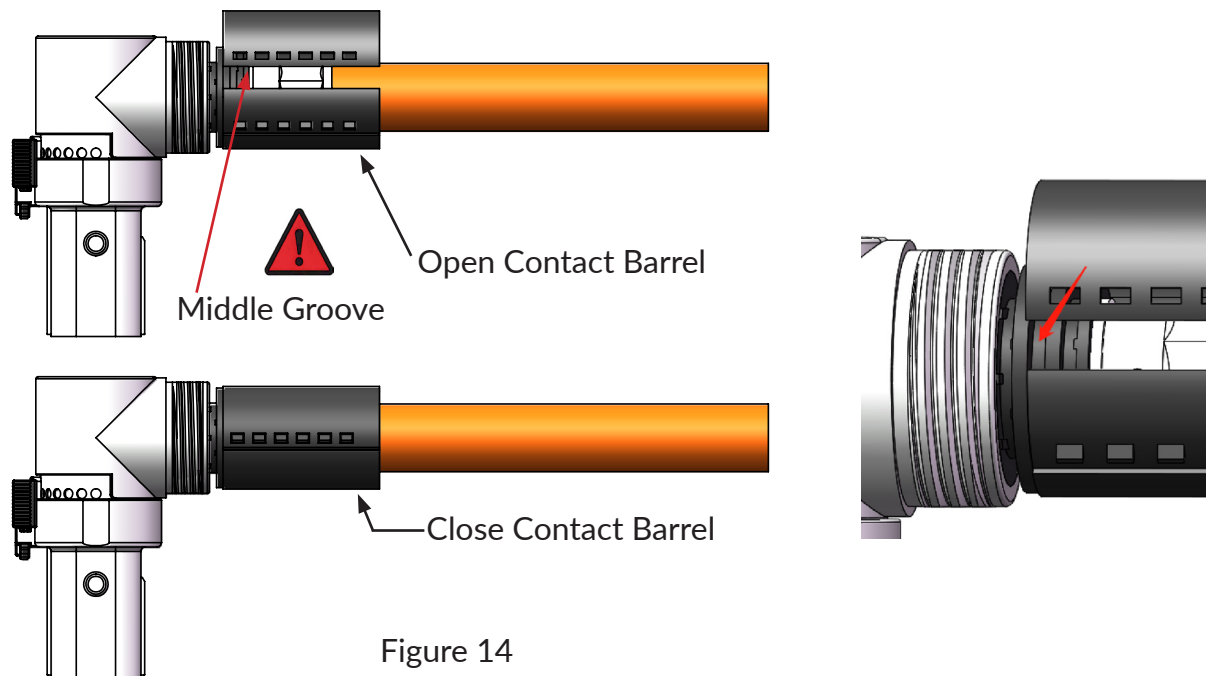


Figure 14

2) As figure 15 shown, tighten the adapter to pulg shell with 31mm spanner, recommended torque is 6~8N.m;

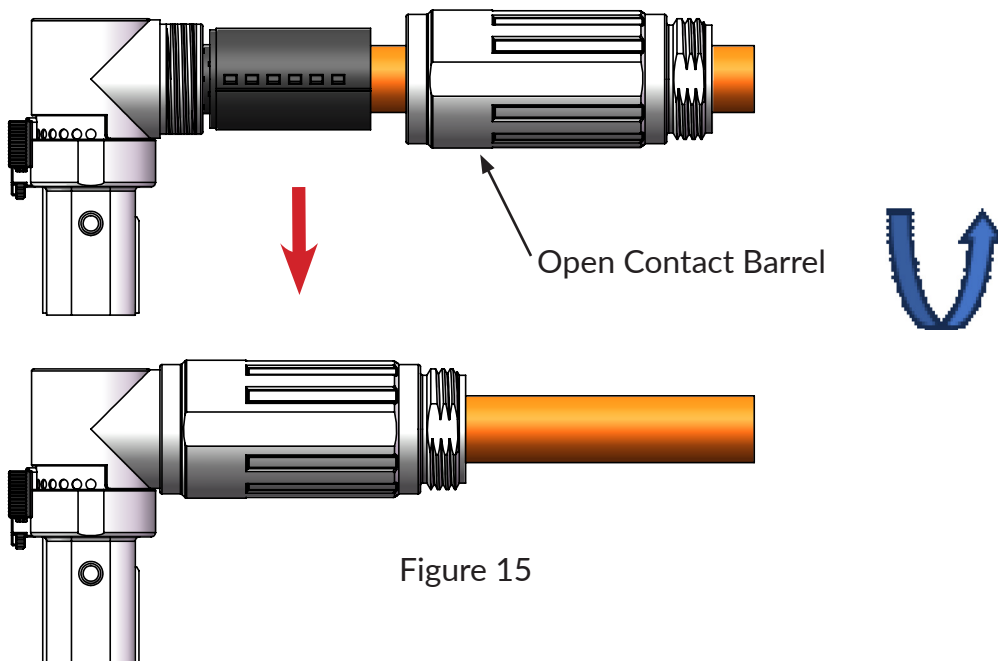


Figure 15

3) As figure 16 shown, tighten the hex nut to adapter shell with 33mm spanner, recommended torque is 4~6N.m, rubber sleeve applicable range see table 9;

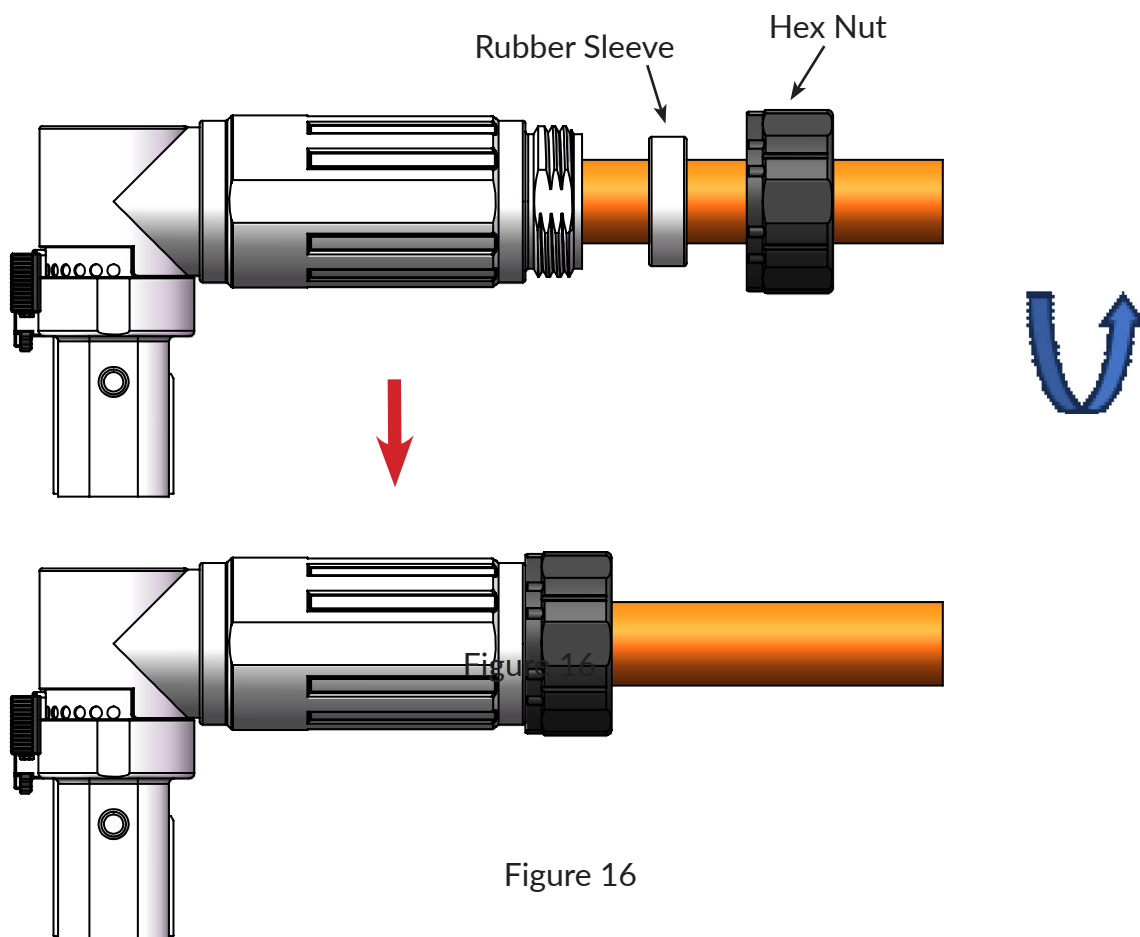


Figure 16

Table 9

Rubber sleeve P/N	Rubber sleeve applicable range
C10-792970-004	ø 10 ~ 13 mm
C10-792970-001	ø 13 ~ 16 mm
C10-792970-002	ø 16 ~ 18 mm
C10-792970-003	ø 18 ~ 20 mm

Part 4: Electrical Performance Test

1) Insulation resistance test

Positions	Test voltage(DC)	Test time(S)	Insulation resistance(MΩ)
Power contact to shell	1500V	60S	>500MΩ
Power contact to HVIL contact	1500V	60S	> 500MΩ
HVIL contact to shell	500V	60S	> 500MΩ

1) Withstanding Voltage Test

Positions	Test voltage(DC)	Test time(S)	Leakage Current (mA)
Power contact to shell	6800V	60S	<5mA
Power contact to HVIL contact	6800V	60S	<5mA
HVIL contact to shell	6800V	60S	<5mA

Part 5: Appendix

Reference specification for cable crimping

Cable type	Cable Size	Conductor (mm)	Conductor dia.(mm)	Inner jacket dia.(mm)	Outer jacket dia.(mm)	Single shielding braid dia.(mm)	Refernce pullout force(N)
Shielding Cable	35 mm ²	1070*0.21	ø 8.5 max	ø 9.8~10.5	ø 13.8~14.4	ø 0.21 max	2300 min
		276*0.41					
	50 mm ²	396*0.41	ø 10.5 max	ø 11.5~12.2	ø 15.2~15.8		2800 min
		1600*0.21					
	70 mm ²	360*0.51	ø 12.5 max	ø 14.0~15.5	ø 19.2~20.0		3400 min
		2175*0.21					

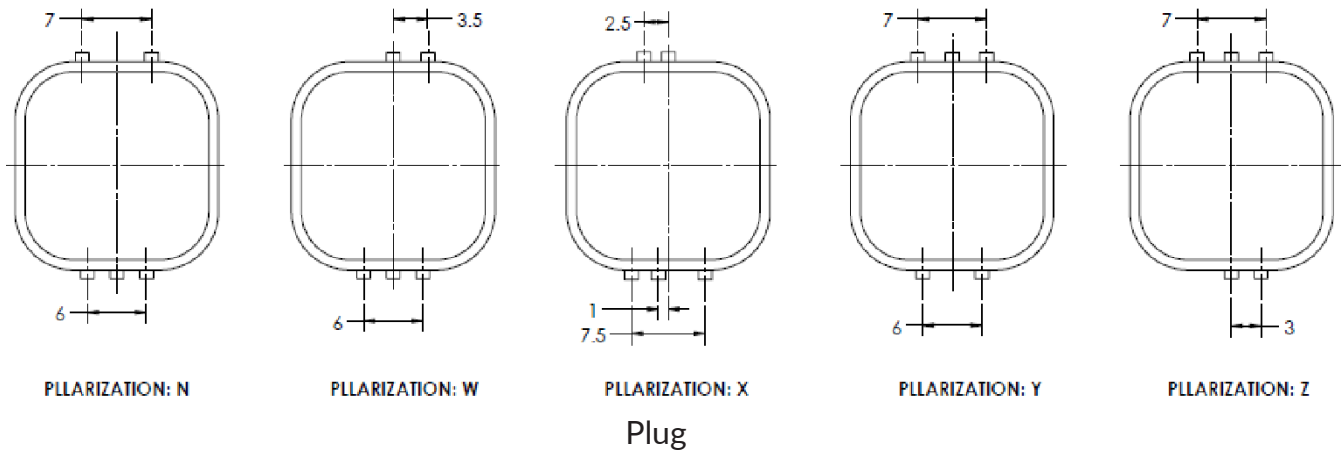
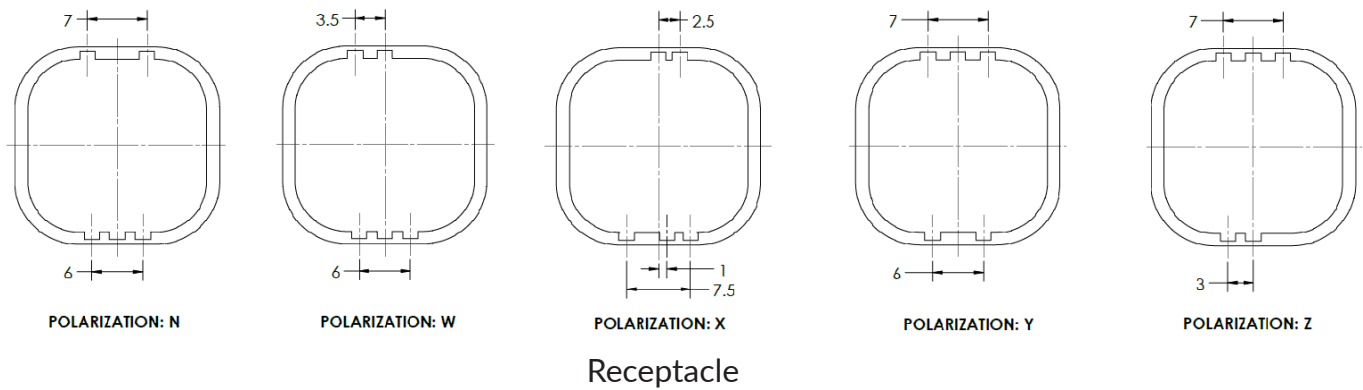
Cable Type	Cable size	Conductor (mm)	Outer jacket dia.(mm)	Refernce pullout force(N)
Un-shielding cable	35 mm ²	1235*0.19	ø 11.2~11.8	2300 min
	50 mm ²	1767*0.19	ø 13.3~13.9	2800 min
	70 mm ²	2442*0.19	ø 15.2~15.8	3400 min

Note: the cable specification referenced to LV216 and ISO6722

Change History			
Rev.	Description	Originator	Date
A	Initial Release	Jerry Pu	2/5/2025
B	Adjust Some Details	Jerry Pu	8/26/2025

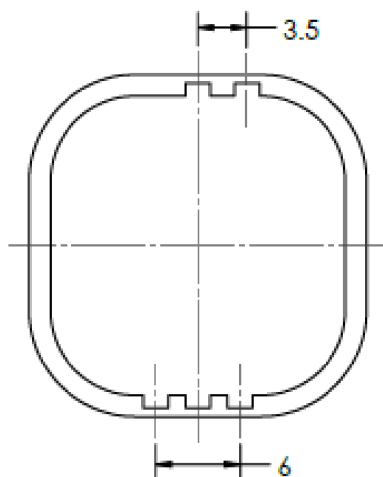
TSI 8.0 Mating and Unmating Work Instruction

Part 1: Keyway Description



Keyway	Finger Proof Color
N	Black
W	Orange
X	Red
Y	Blue
Z	Green

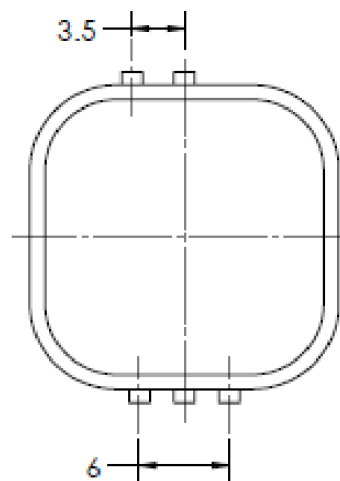
Keyway	CPA Color
N	Black
W	Orange
X	Red
Y	Blue
Z	Green



POLARIZATION: X

Receptacle

Special X Keyway



POLLARIZATION: X

Plug

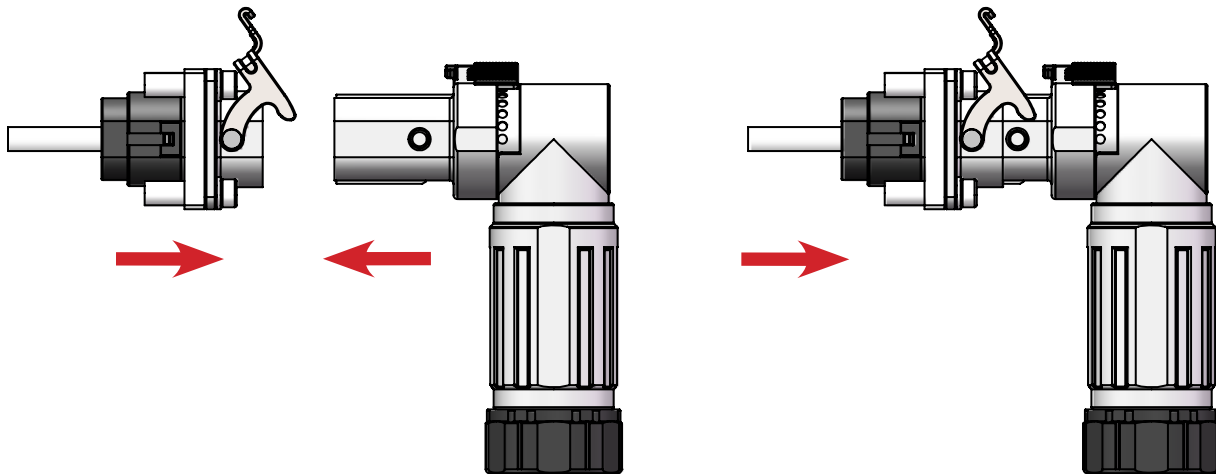
Special X Keyway

Special X Keyway	
Keyway	Finger Proof Color
X	Red

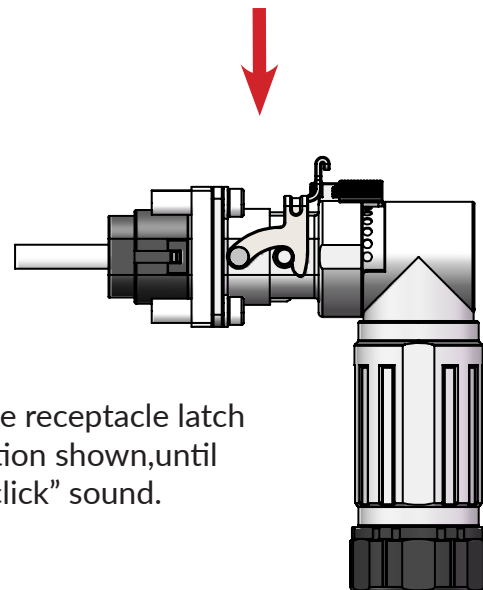
Special X Keyway	
Keyway	CPA Color
X	Red

Part 2: Mating Operation of Connector

1) Rotate the receptacle latch to mate the plug in clockwise, until heard the “click” sound;

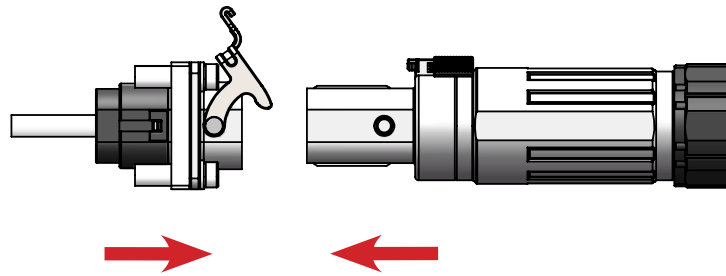


1) Align the receptacle and right angle plug keyways, then insert in the direction shown.

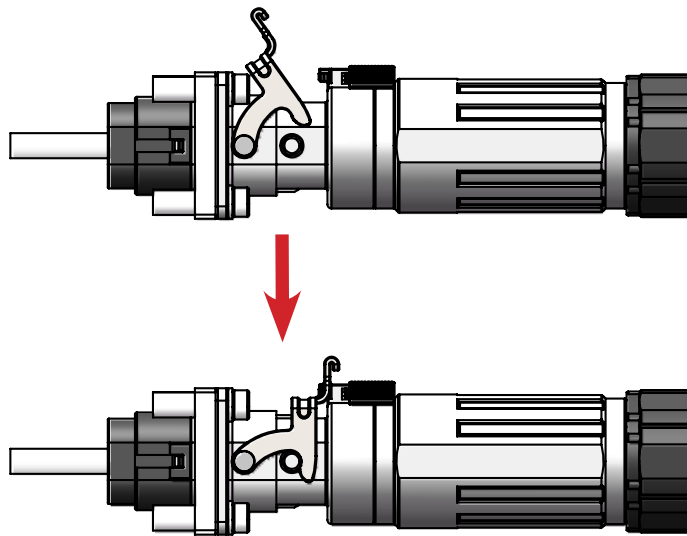


2) Rotate the receptacle latch in the direction shown, until heard the “click” sound.

Right angle plug and receptacle mating figure

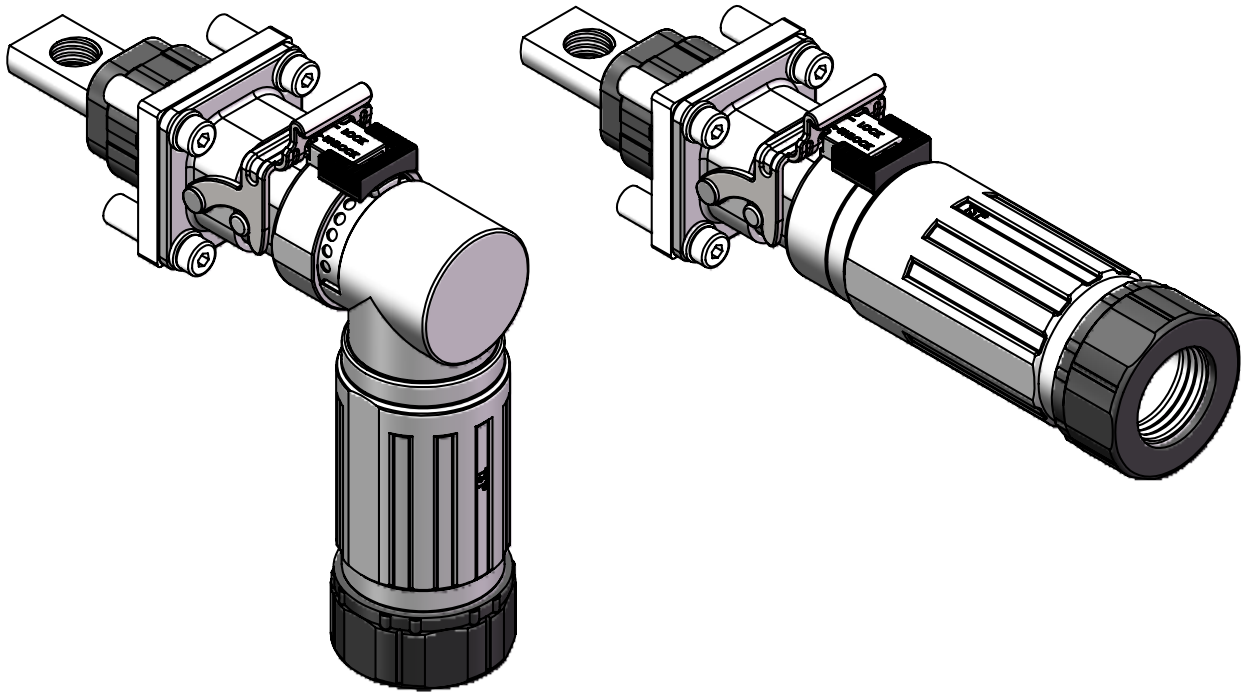


1) Align the receptacle and straight plug keyways, then insert in the direction shown.

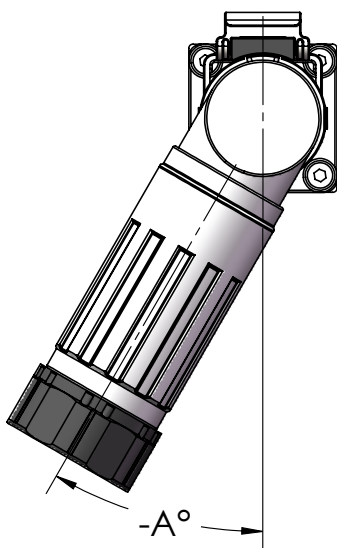


2) Rotate the receptacle latch in the direction shown, until heard the “click” sound.

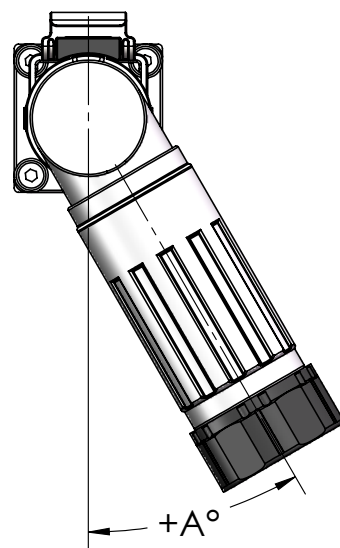
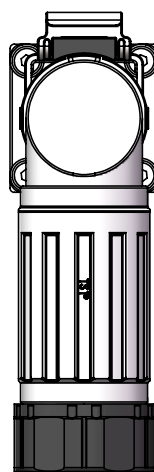
Straight plug and receptacle mating figure



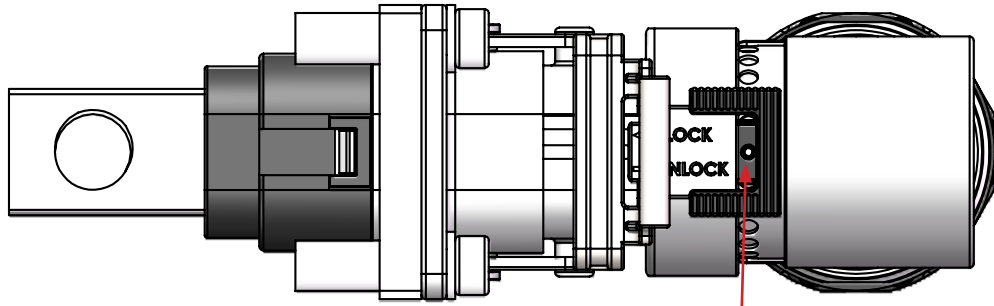
2) Only for right angle plug, rotating the elbow assembly in appropriate angle to release the stress of the cable, then tighten the screw to fix the elbow assembly to prevent rotation;



Rotation Direction: clockwise angle
range $-A^{\circ}$: $-90^{\circ} \sim 0^{\circ}$

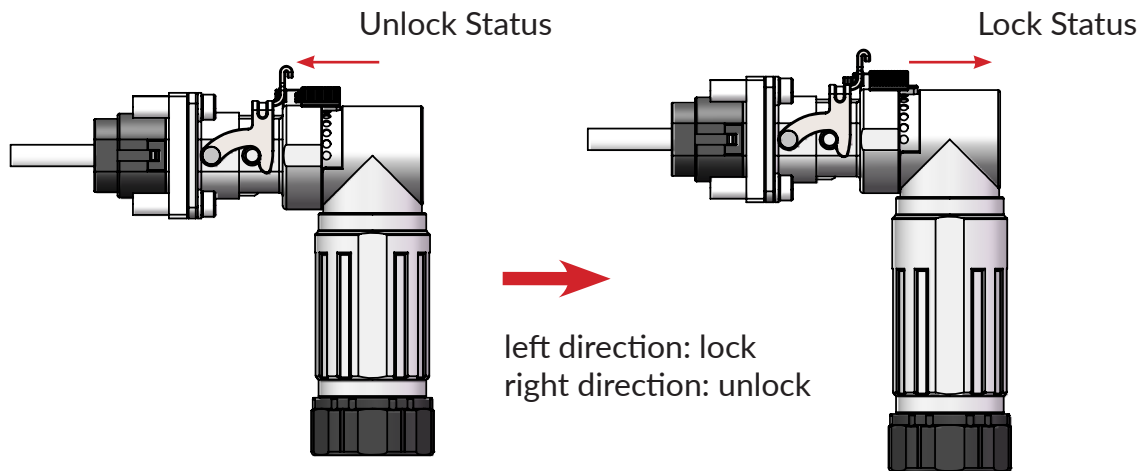


Rotation Direction: clockwise angle
range $+A^{\circ}$: $0^{\circ} \sim +90^{\circ}$

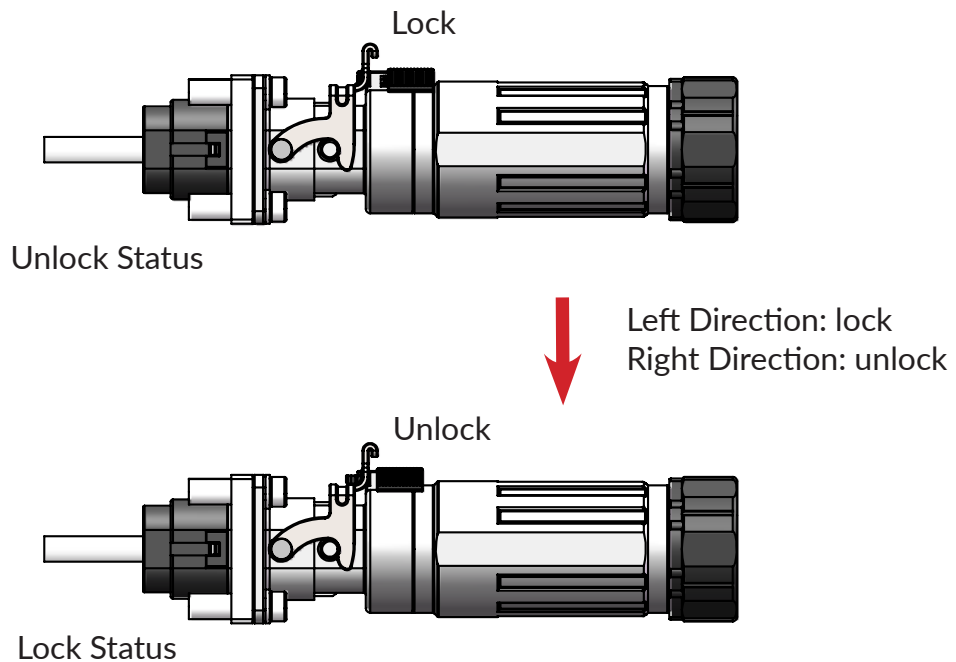


Use 0.9mm hex spanner to fix the elbow assembly recommended torque 0.4~0.6N.m

3) Move the CPA as below left direction to lock the latch;

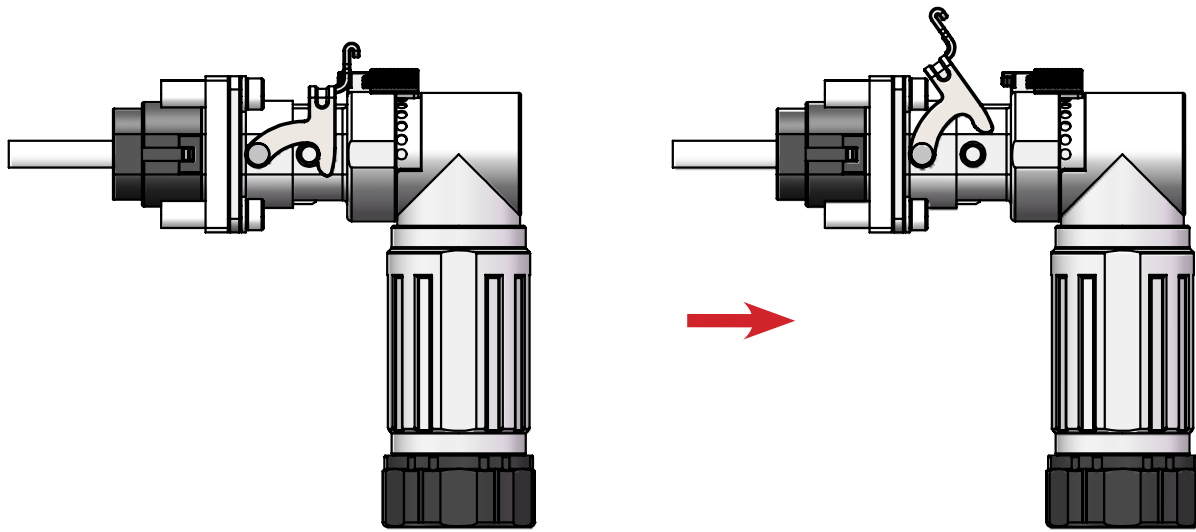


Unlock Status Lock Status

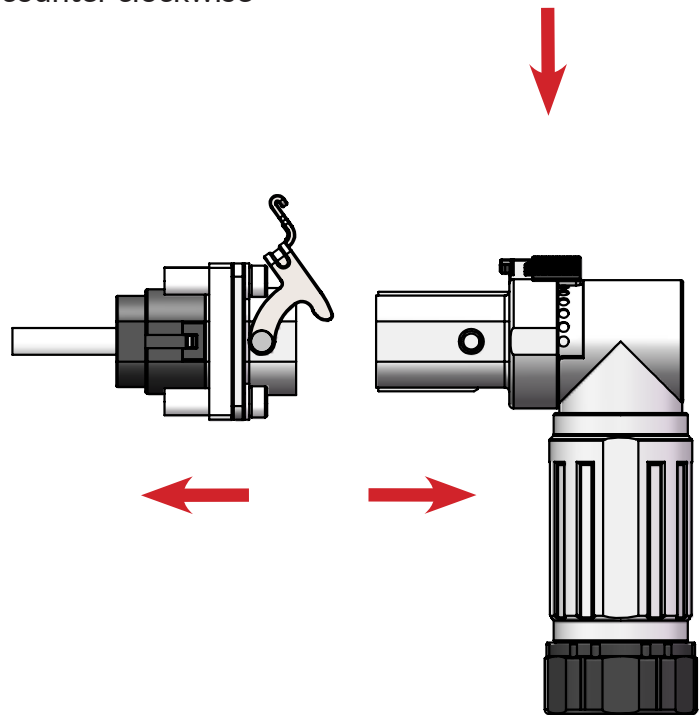


Part 3: Unmating Operation of Connector

1) Rotate the receptacle latch in anticlockwise, until the latch separate with the plug;

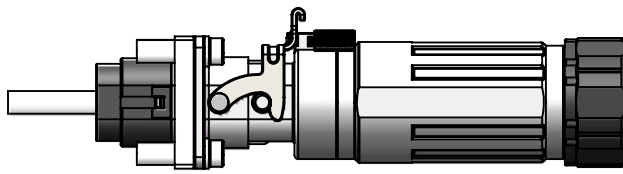


1) Rotate the receptacle latch counter clockwise

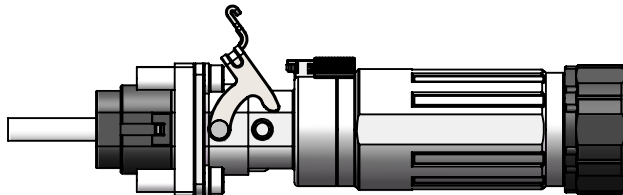


2) Separate the receptacle and plug

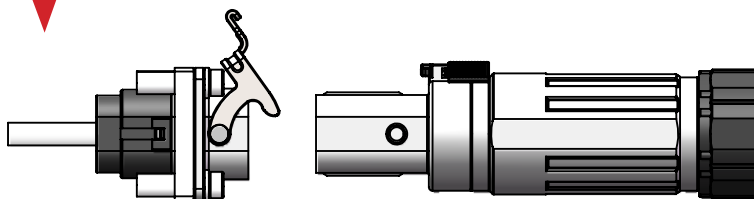
Right angle plug and receptacle unmating figure



1) Rotate the receptacle latch counter clockwise



2) Separate the receptacle and plug

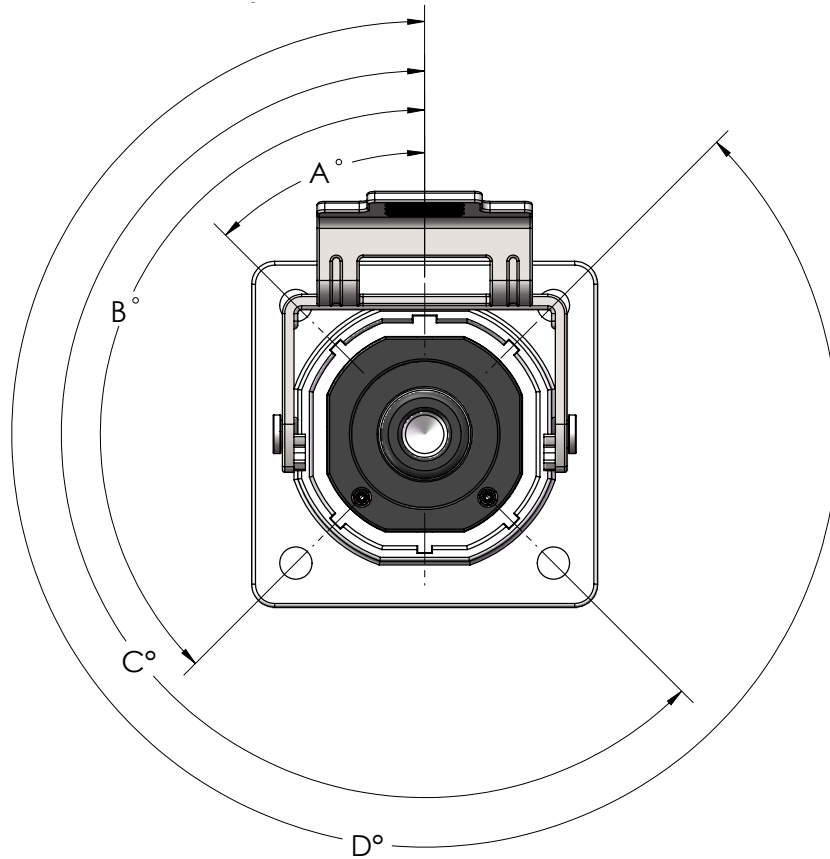


Straight plug and receptacle unmating figure

Change History			
Rev.	Description	Originator	Date
A	Initial Release	Jerry Pu	2/5/2025
B	Adjust Some Details	Jerry Pu	8/26/2025

TSI 12.0 Busbar Receptacle Work Instruction

Part 1: Keyway Description

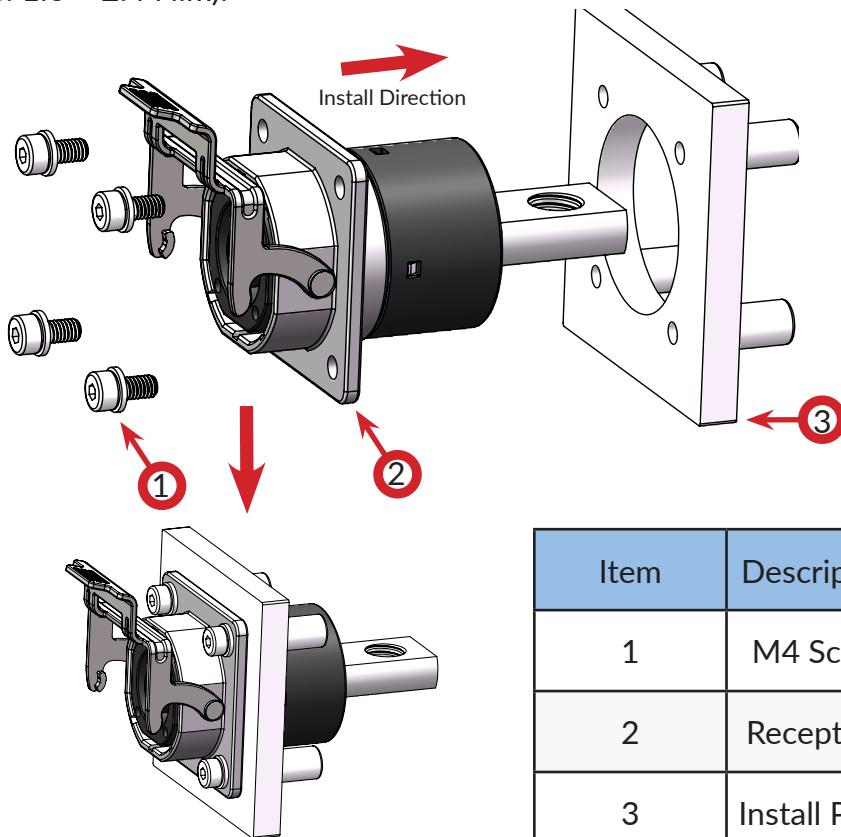


Keyway	A °	B °	C °	D °	Finger Proof Color
N	45 °	135 °	225 °	315 °	Black
W	60 °	135 °	225 °	315 °	Orange
X	60 °	150 °	240 °	330 °	Red
Y	45 °	135 °	240 °	315 °	Blue
Z	45 °	135 °	225 °	330 °	Green
T	60 °	150 °	225 °	315 °	Brown

Special X Keyway					
Keyway	A °	B °	C °	D °	Finger Proof Color
X	45 °	150 °	225 °	315 °	Red

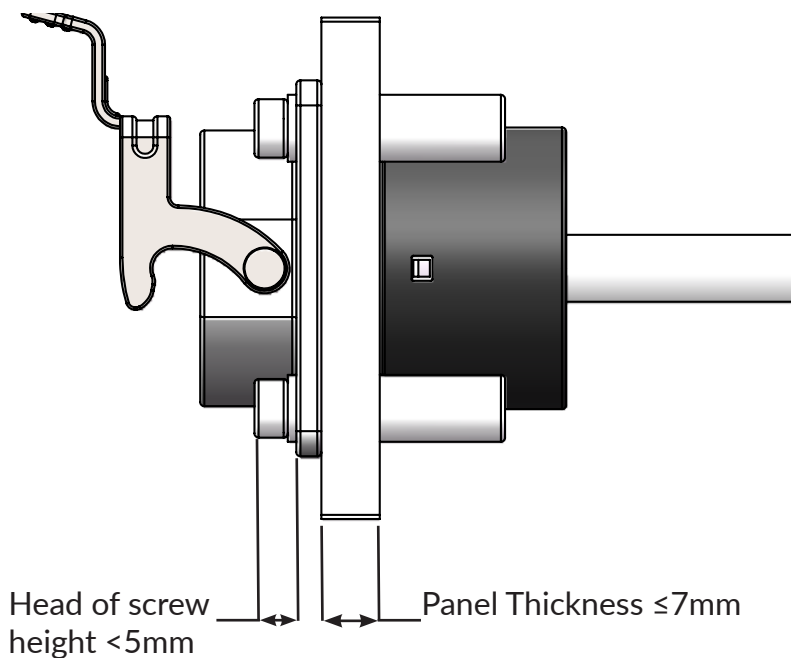
Part 2: Receptacle Install

Step 1: Tighten the Receptacle with M4 Screw into the install panel (recommended torque: 1.6 ~ 2.4 N.m).



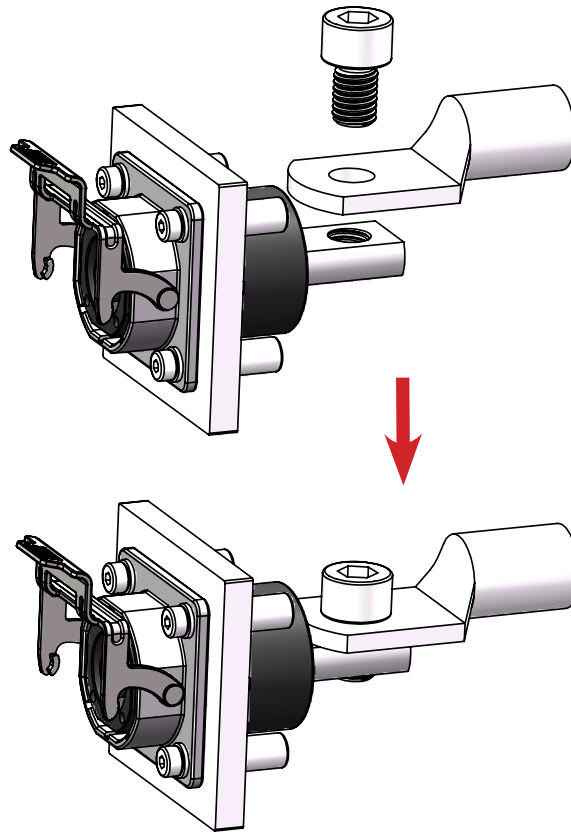
Item	Description	Quantity
1	M4 Screw	4
2	Receptacle	1
3	Install Panel	1

Recommended screw standard is GB/T 70.1-2000



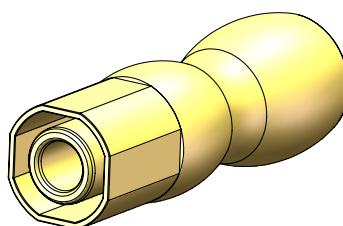
Note: The customer shall verify the recommended torque base on your application and modify it if necessary.

Step 2: Tighten the lug with M8&M10 screw into the receptacle busbar terminal.



Screw Specification	Recommended Torque	Reference Standard
M8 X 1.25	7.2 ~ 8.8	GB/T 70.1-2000
M10 X 1.5	10 ~ 12	

Note: The customer shall verify the recommended torque base on your application and modify it if necessary,if the torque exceeds the recommended vaule, special tooling will be used, the tooling number is TOOL-796663-000.



Part 3: HVIL Contact Assembly

Step 1: Contact Crimping

1) As figure 1 shown, strip the outer jacket per table 1 dimension “A,” the conductor not allowed to be damaged when the cable is stripped.



Figure 1

Table 1

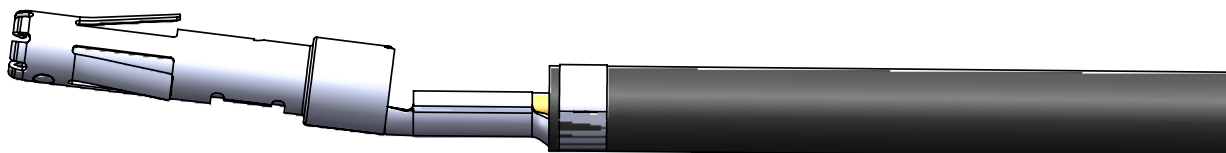
Cable Size	Strip Length A (mm)	Cable Range (mm)
20AWG (0.5mm ²)	4 ± 0.3mm	ø 2.3mm max
18AWG (0.75mm ²)	4 ± 0.3mm	ø 2.6mm max

2) As figure 2 &3 shown, if vibration frequency is medium (10~1000HZ), low (<10HZ) frequency of operating environment, the contact need to select stamping contact, if vibration frequency is high (>1000HZ) frequency of operating environment, the contact need to select machining contact, crimping parameter see table 2 and table 3;

2.1: Stamping Contact Crimping:

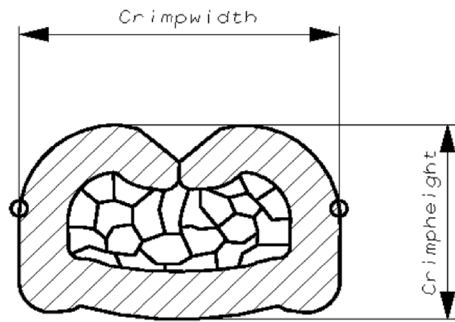


Right Crimping ✓



Wrong Crimping ✗

Figure 2



Cable Size	Pullout Force (N)	Conduct Crimp Width (mm)	Conductor Crimp Height (mm)	Insulation Crimp (mm)
20AWG (0.5mm ²)	57.9N min	2.03 ± 0.1mm	1.27 ± 0.1mm	ø 2.54 ± 0.1mm
18AWG (0.75mm ²)	89.0N min	2.03 ± 0.1mm	1.36 ± 0.1mm	ø 2.54 ± 0.1mm

Tooling Type	Tooling P/N	
Crimp Tooling	DMC/IWISS	
Removal Tooling	TOOL-738651-020	

2.1: Machining Contact Crimping:

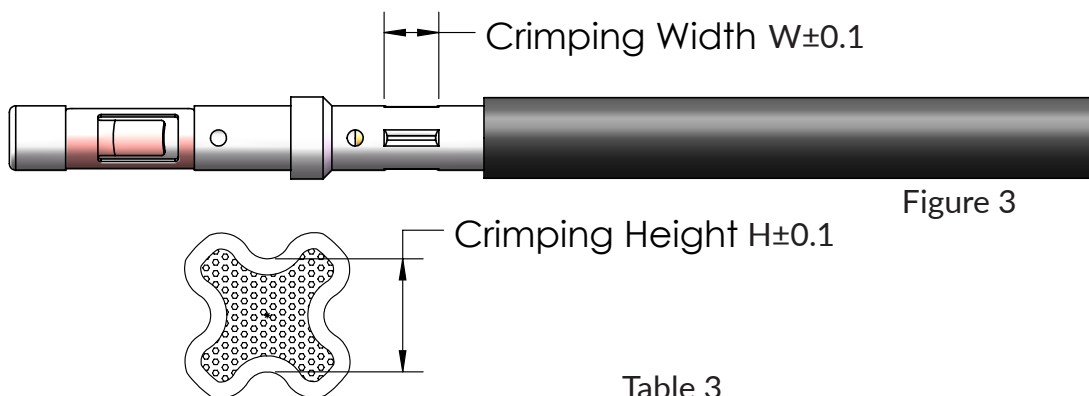


Figure 3

Table 3

Cable Size	Pullout Force (N)	Conduct Crimp Width (mm)	Conductor Crimp Height (mm)
20AWG (0.5mm ²)	57.9N min	2 ± 0.1mm	1.2 ± 0.1mm
18AWG (0.75mm ²)	89.0N min	2 ± 0.1mm	1.4 ± 0.1mm

Tooling Type	Tooling P/N	
Crimp Tooling	DMC/IWISS	
Removal Tooling	TOOL-738651-020	

3) As figure 4 shown, assemble the contact into the receptacle:

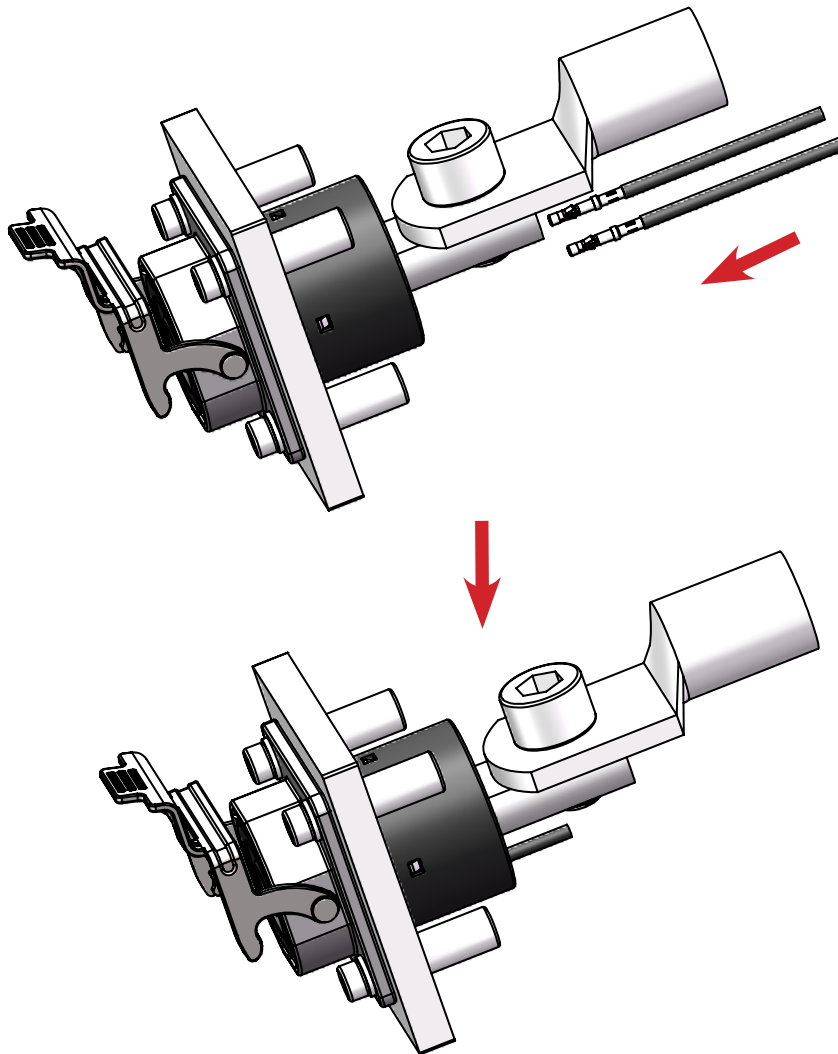
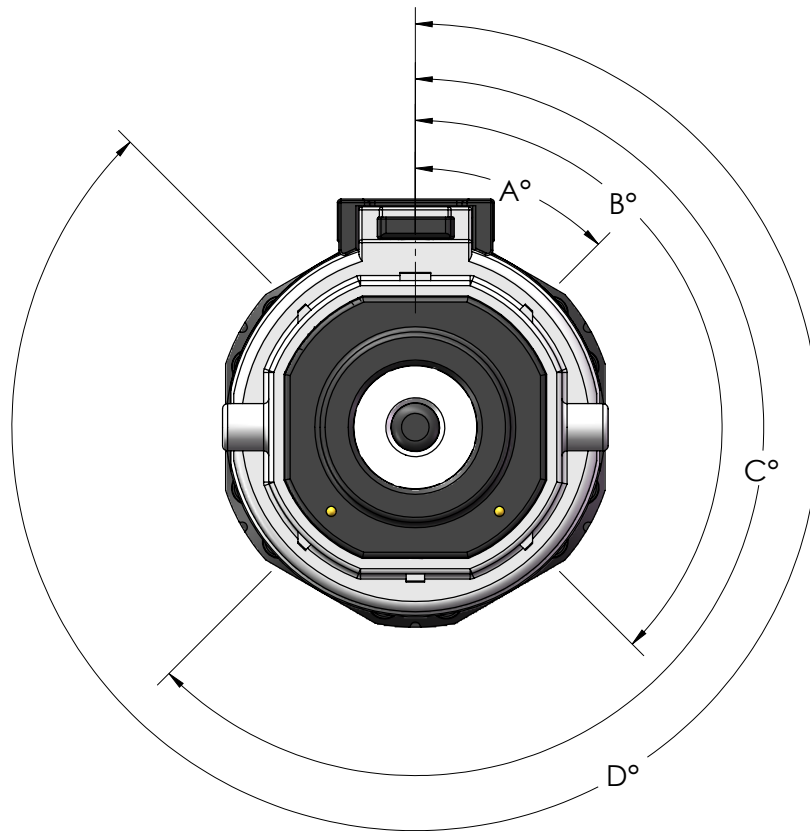


Figure 4

Change History			
Rev.	Description	Originator	Date
A	Initial Release	Jerry Pu	1/22/2025
B	Adjust Some Details	Jerry Pu	8/26/2025

TSI 12.0 Straight Plug Work Instruction

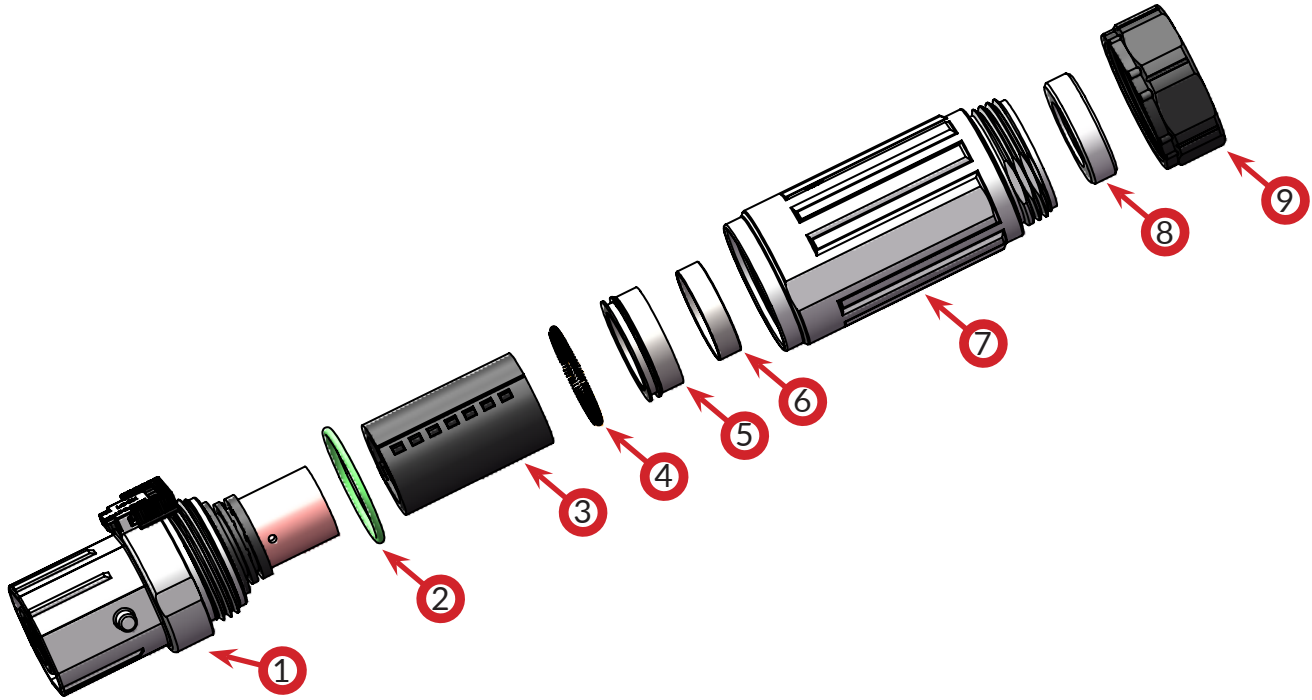
Part 1: Keyway Description



Keyway	A °	B °	C °	D °	CPA Color
N	45 °	135 °	225 °	315 °	Black
W	60 °	135 °	225 °	315 °	Orange
X	60 °	150 °	240 °	330 °	Red
Y	45 °	135 °	240 °	315 °	Blue
Z	45 °	135 °	225 °	330 °	Green
T	60 °	150 °	225 °	315 °	Brown

Special X Keyway					
Keyway	A °	B °	C °	D °	Finger Proof Color
X	45 °	150 °	225 °	315 °	Red

Part 2: Exploded View



Item	Description	Quantity
1	Straight Plug Assembly Body	1
2	O-Ring	1
3	Contact Barrel	1
4	Shielding Spring	1
5	Outer Shielding Ring	1
6	Inner Shielding Ring	1
7	Adapter	1
8	Rubber Sleeve	1
9	M28 Hex Nut	1

Part 3: Product Assembly

Step 1: Prepare Assembly

Pass each part through the cable in the sequence

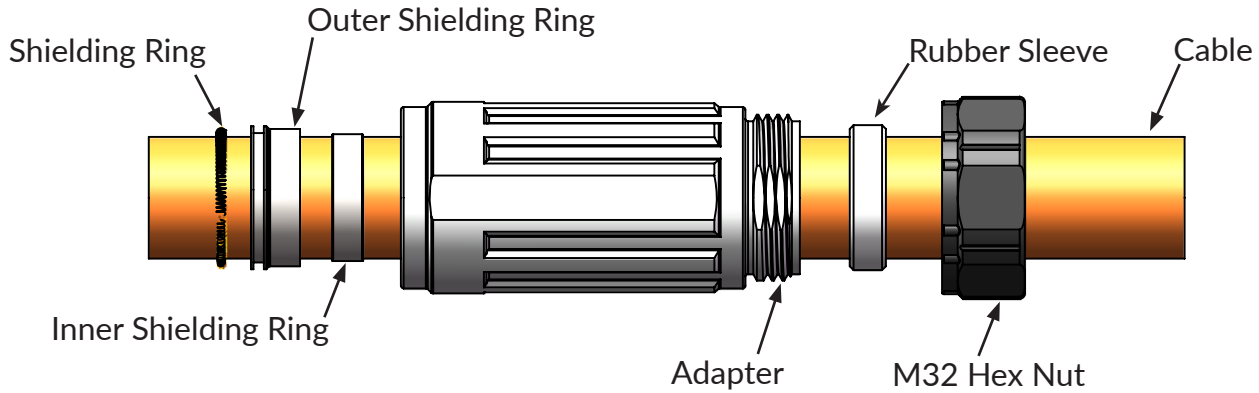


Figure 1

Note: Referenced to the appendix for the cable detail;

Step 2: Contact Crimping

2.1: Contact crimping of shielding cable.

1) As figure 2 shown, strip the outer jacket per table 1 dimension “A”, the shielding braid not allowed to be damaged when the cable stripped;

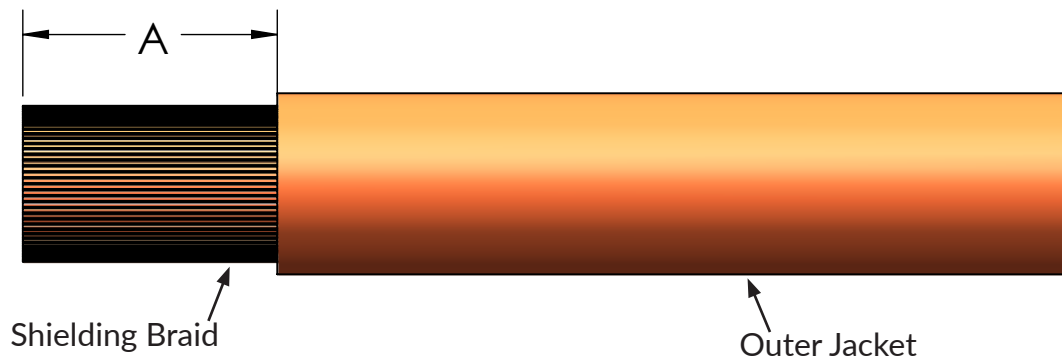


Figure 2

Table 1

Cable Size	Strip Length A
70 mm ²	33 ± 3 mm
95 mm ²	33 ± 3 mm
120 mm ²	33 ± 3 mm

2) As figure 3 shown, strip the shielding braid per table 2 dimension “B”;

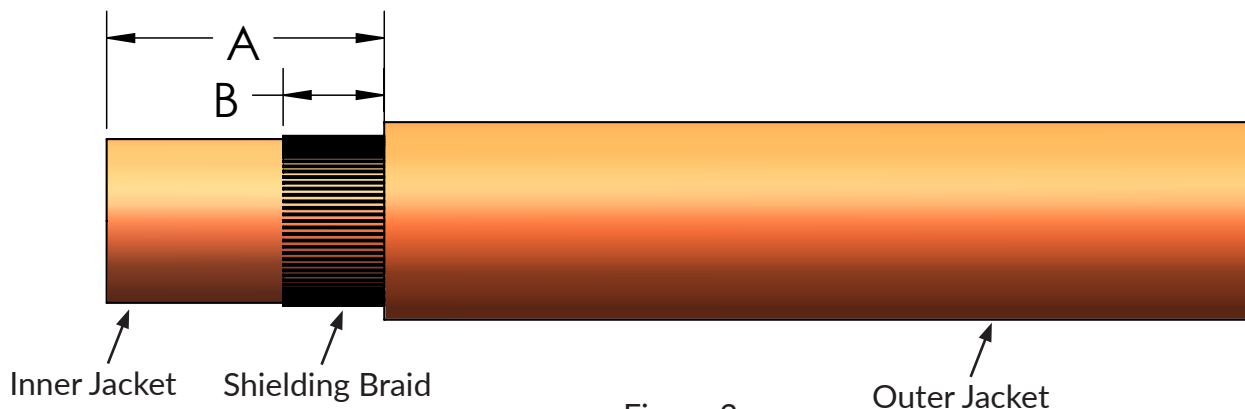


Figure 3

Table 2

Cable Size	Strip Length B
70 mm ²	33 ± 3 mm
95 mm ²	33 ± 3 mm
120 mm ²	3 ± 3 mm

3) As figure 4 shown, strip the inner jacket per table 3 dimension “C”, the conductor should not be damaged during stripping;

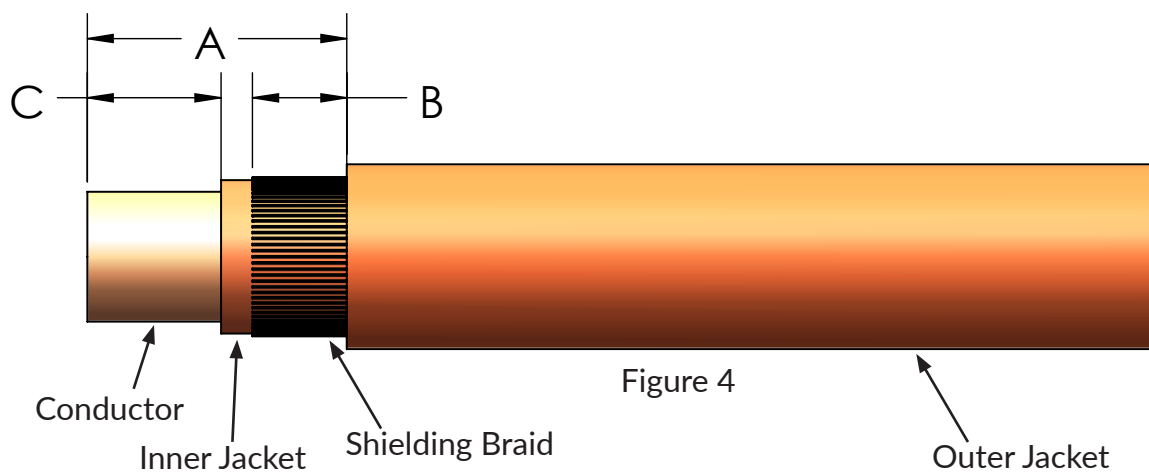


Figure 4

Table 3

Cable Size	Strip Length C
70 mm ²	17 ± 1 mm
95 mm ²	17 ± 1 mm
120 mm ²	17 ± 1 mm

4) As figure 5 shown, move the inner shielding ring align with the left surface of outer jacket of the cable, fold back the shielding braid to cover the outer surface of the inner shielding ring;

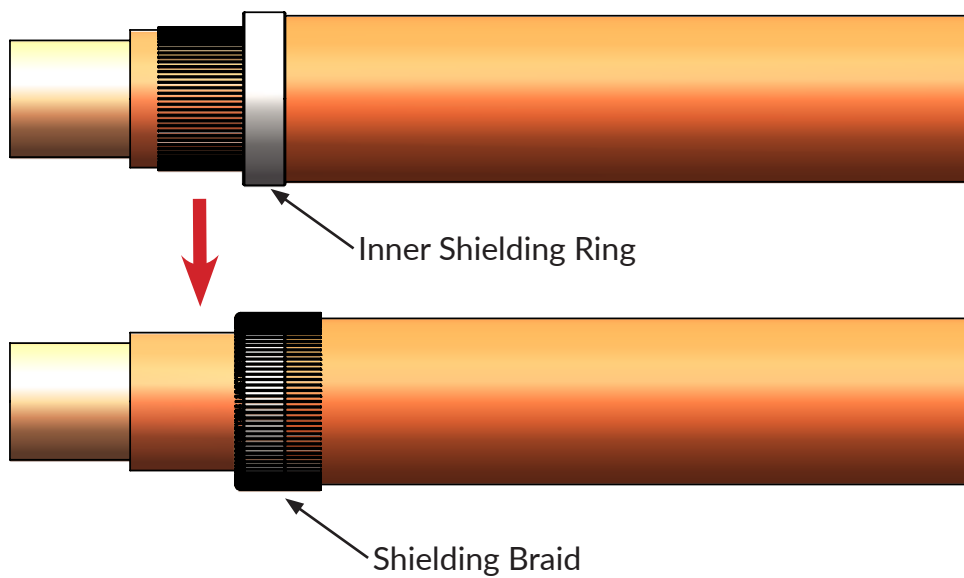


Figure 5

5) As figure 6 shown, move the outer shielding ring in right direction, until can't be moved;

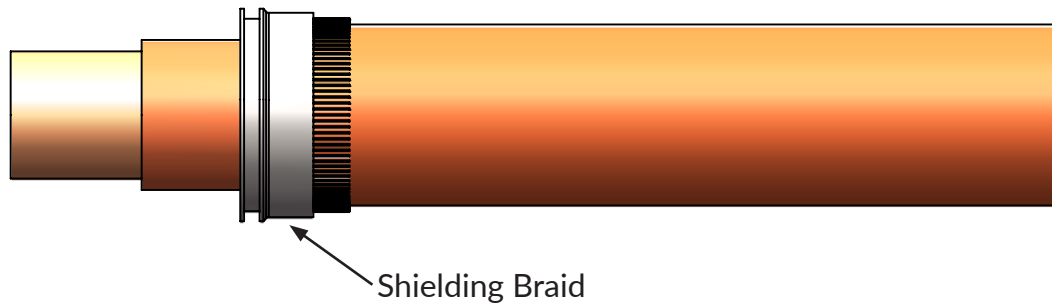
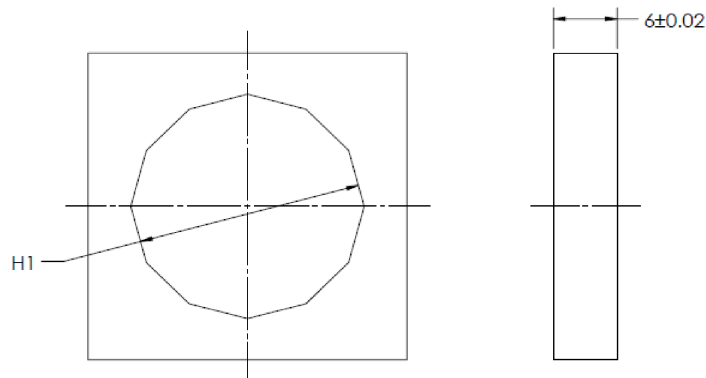
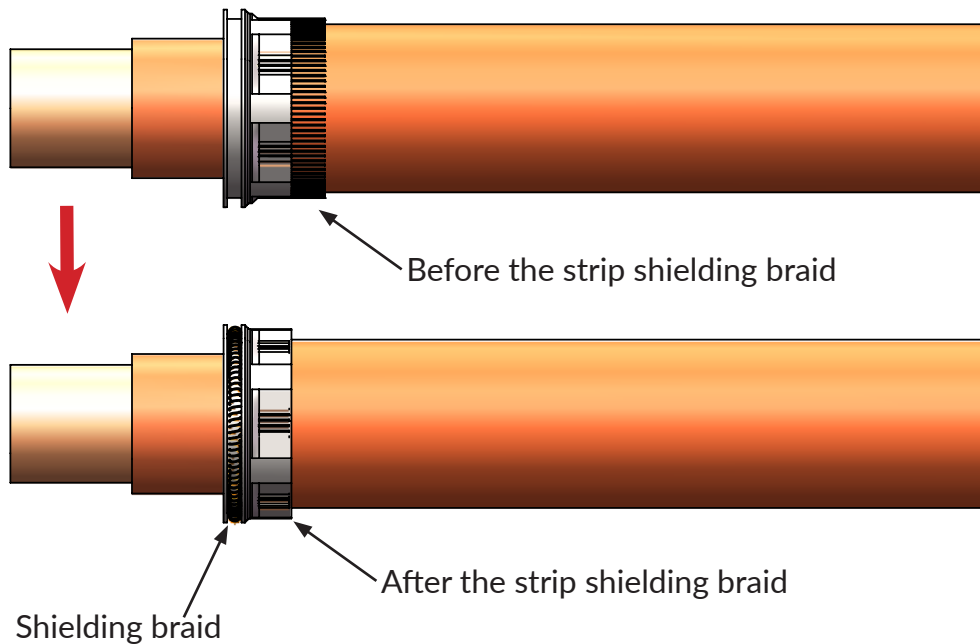


Figure 6

6) As figure 7 shown, crimping the inner shielding ring, outer shielding ring and outer jacket to use specified tooling, see tale 4 for crimping height H1, then cut the extra shielding braid, at last assemble the spring into the outer shielding ring:



RECOMMENDED SHIELDING RING CRIMPING TOOLING DIMENSIONS

Table 4

Cable Size	Crimp Height H1	Shape	Retention Force (N)	Recommended Tooling (P/N)	Recommended cable outer diameter(mm)	Tooling Picture
70 mm ²	21.2 ± 0.2 mm	Regular dodecagon	150N min	C10-793125-070	ø 19.0~20.0	
95 mm ²	23.2 ± 0.2 mm			C10-793125-095	ø 22.0~23.0	
120 mm ²	24.2 ± 0.2 mm			C10-793125-120	ø 23.0~24.0	

Note: Each wire core should be uniform and there should be no loose threads in the wire core. Adhesion may cause high voltage danger, the recommended crimp sizes are only for reference. The customer should adjust them according to cable specification and process ability and test results including temperature rise and metallographic analysis and pullout force.

7) As figure 8 shown, move the cable conductor 100% duck into the crimping cup, then crimping the contact use the specified tooling, after crimping, see the figure 8 for the dimensions, see the table 5 for the crimping high “H”:

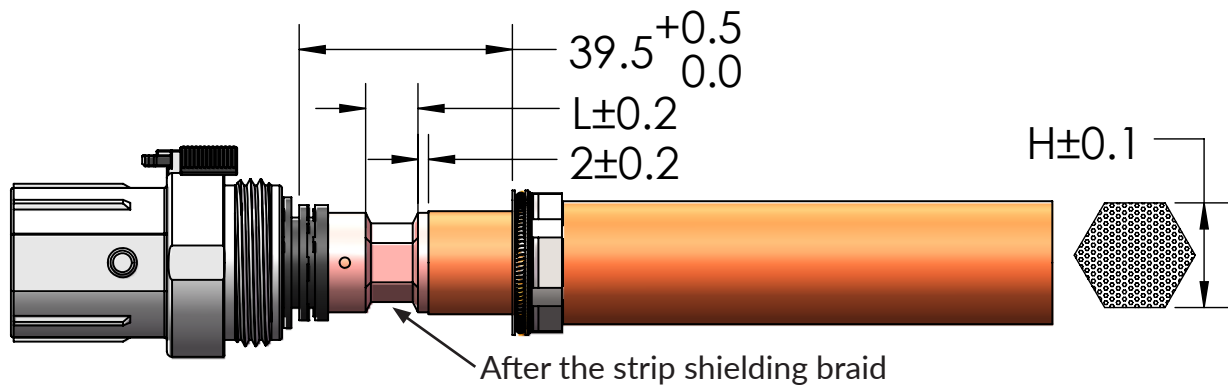


Figure 8

Table 5

Cable Size	Recommended Crimp Height H	Recommended Crimp Length L	Shape	Pullout force (N)	Recommended Tooling P/N	Tooling Picture
70 mm ²	10.0 ± 0.1 mm	10 ± 0.2 mm	Hexagon	3400N Min	C10-792958-070	
95 mm ²	11.5 ± 0.1 mm	13 ± 0.2 mm		4200N min	C10-792958-095	
120 mm ²	13.0 ± 0.1 mm	13 ± 0.2 mm		5000N min	C10-792958-120	

Note: The recommended crimp sizes are only for reference. The customer should adjust them according to cable specification and process ability and test results including temperature rise and metallographic analysis and pullout force.

2.2: Contact crimping of un-shielding cable.

1) As figure 9 shown, strip the outer jacket per table 6 dimension “D”, the conductor not allowed to be damaged when the cable stripped;

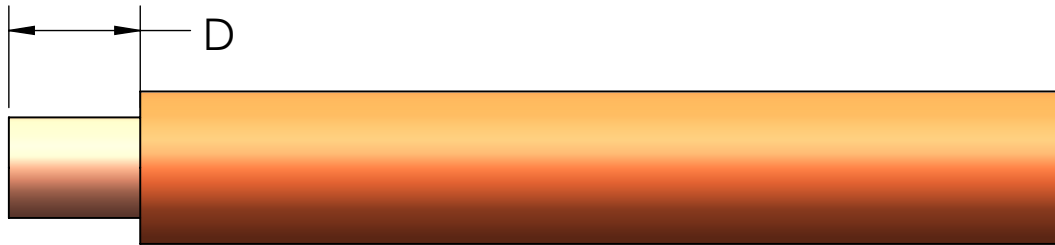


Figure 9

Table 6

Cable Size	Strip Length D
70 mm ²	17 ± 1 mm
95 mm ²	17 ± 1 mm
120 mm ²	17 ± 1 mm

2) As figure 10 shown, move the cable conductor 100% duck into the crimping cup, then crimping the contact use the specified tooling, after crimping, see the figure 10 for the dimensions, see the table 7 for the crimping high “H”:

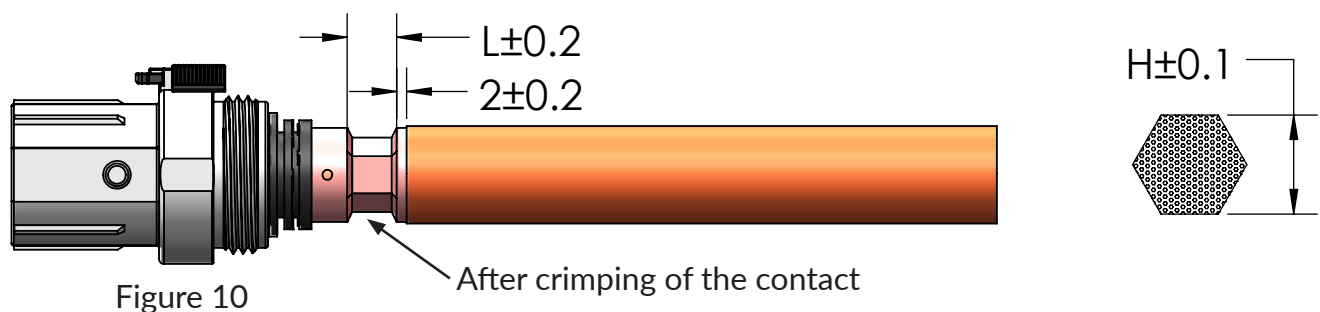


Figure 10

Table 7

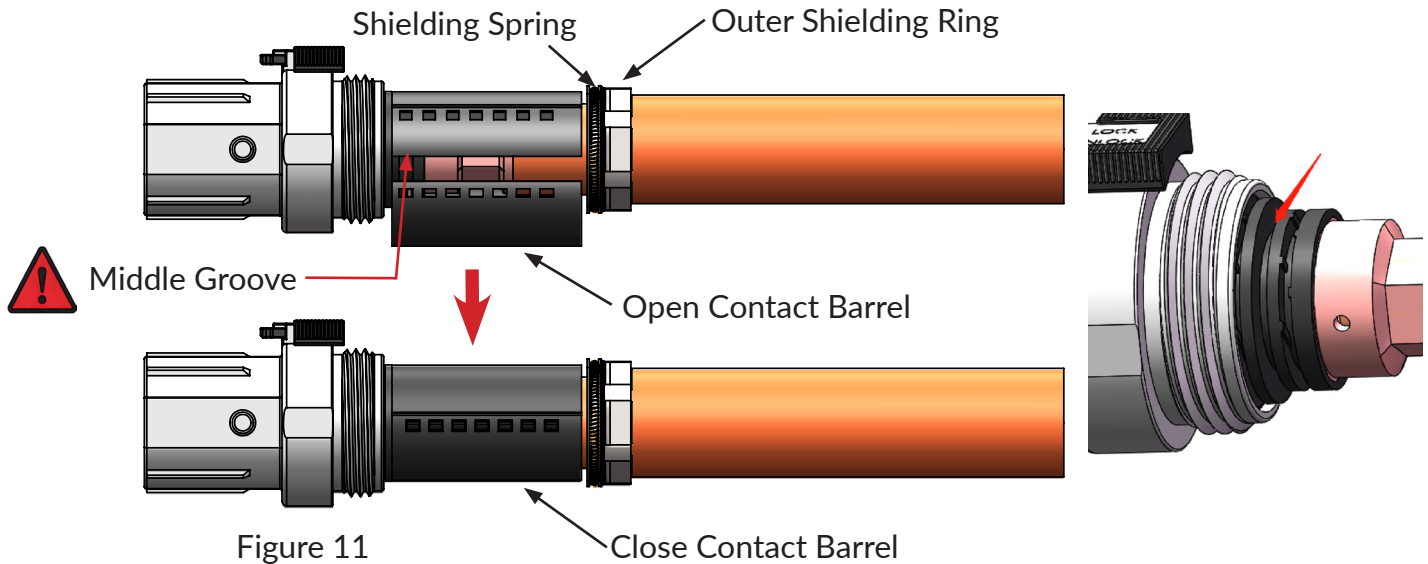
Cable Size	Recommended Crimp Height H	Recommended Crimp Length L	Shape	Pullout force (N)	Recommended Tooling P/N	Tooling Picture
70 mm ²	10.0 ± 0.1 mm	10 ± 0.2 mm	Hexagon	3400N Min	C10-792958-070	
95 mm ²	11.5 ± 0.1 mm	13 ± 0.2 mm		4200N min	C10-792958-095	
120 mm ²	13.0 ± 0.1 mm	13 ± 0.2 mm		5000N min	C10-792958-120	

Note: The recommended crimp sizes are only for reference. The customer should adjust them according to cable specification and process ability and test results including temperature rise and metallographic analysis and pullout force.

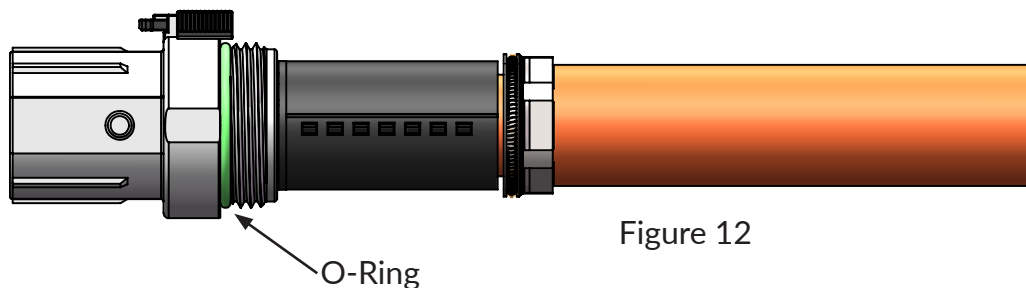
Step 3: Connector Assembly

3.1: Connector assembly of shielding cable

1) As figure 11 shown, assemble the contact barrel into middle groove of the rear insert, - can't be assembled to other groove, otherwise withstanding voltage of the connector will be affected;



2) As figure 12 shown, assemble the O-ring into the plug shell;



3) As figure 13 shown, tighten the adapter to plug shell with 36mm spanner, recommended torque is 8~10N.m;

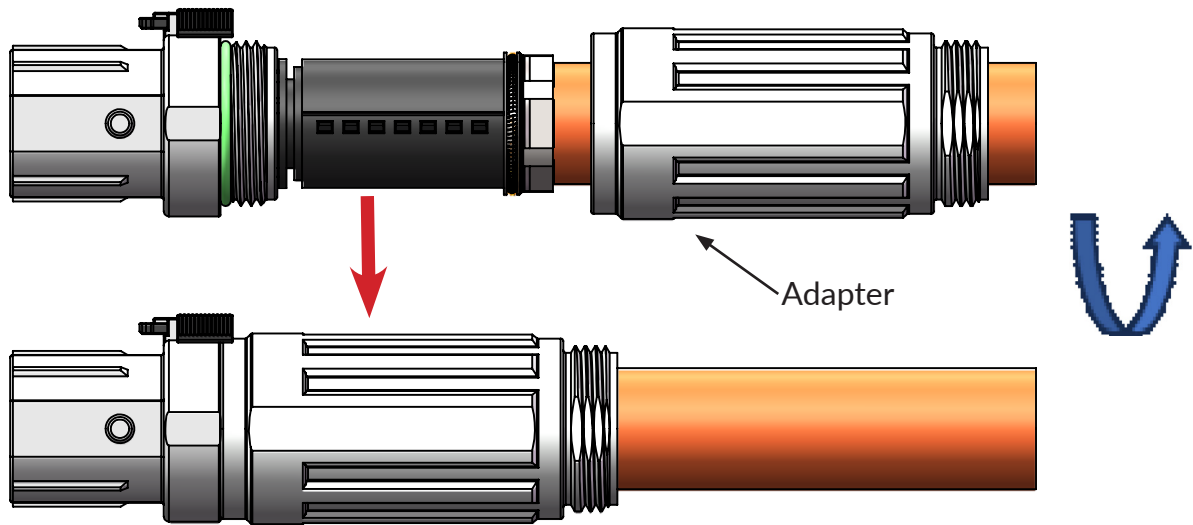


Figure 13

4) As figure 14 shown, tighten the hex nut to adapter shell with 37mm spanner, recommended torque is 6~8N.m, rubber sleeve applicable range see table 8;

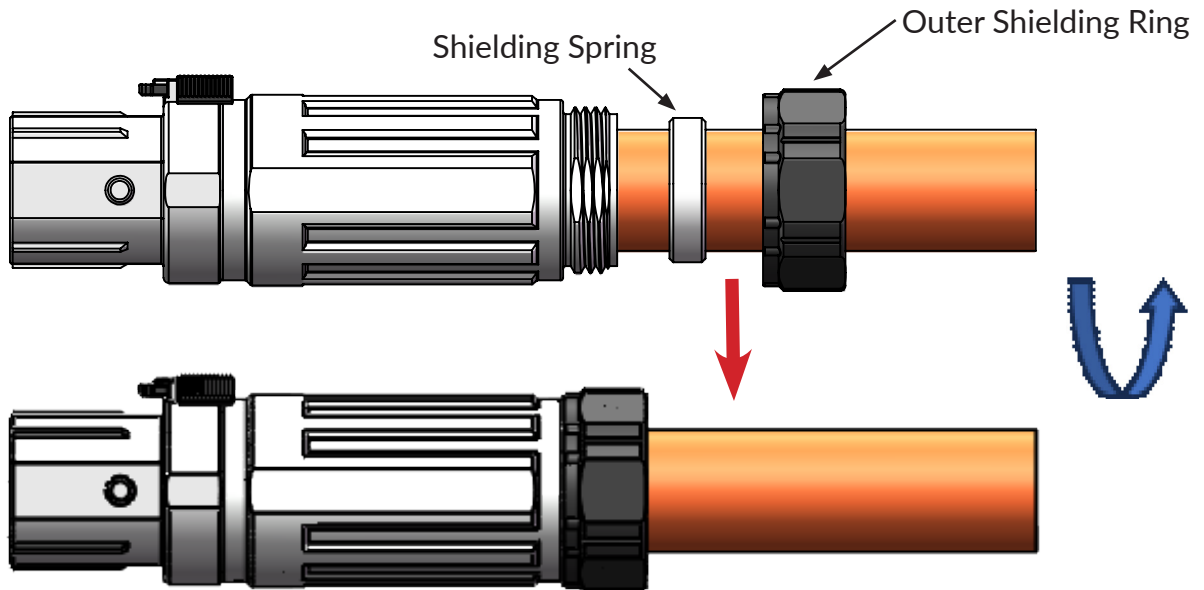


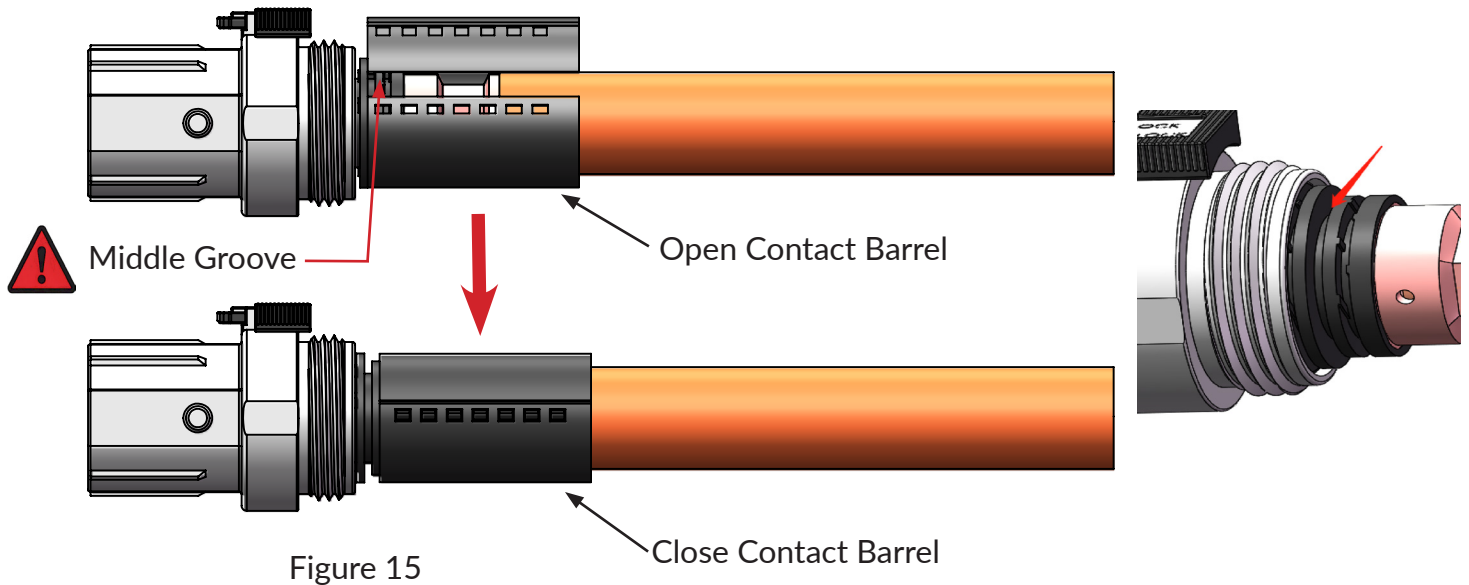
Figure 14

Table 8

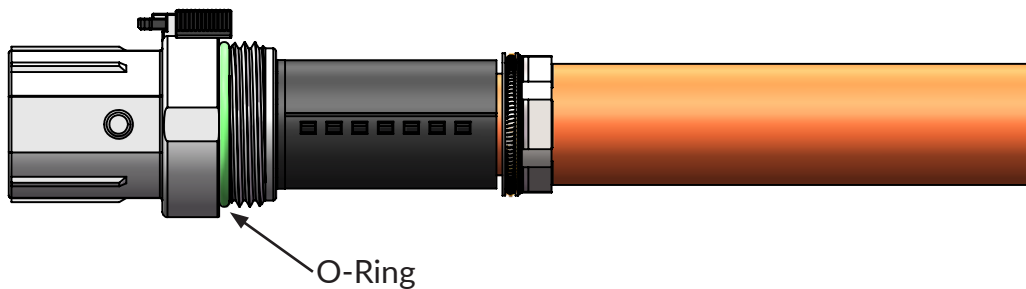
Rubber sleeve P/N	Rubber sleeve applicable range
ZH-796684-001	ø 20.5~23.5 mm
ZH-796684-002	ø 17~20.5 mm
ZH-796684-003	ø 13.5~17 mm

3.2: Connector assembly of un-shielding cable

1) As figure 15 shown, assemble the contact barrel into middle groove of the rear insert, - can't be assembled to other groove, otherwise withstanding voltage of the connector will be affected;



2) As figure 16 shown, assemble the O-ring into the plug shell;



3) As figure 17 shown, tighten the adapter to plug shell with 36mm spanner, recommended torque is 8~10N.m;

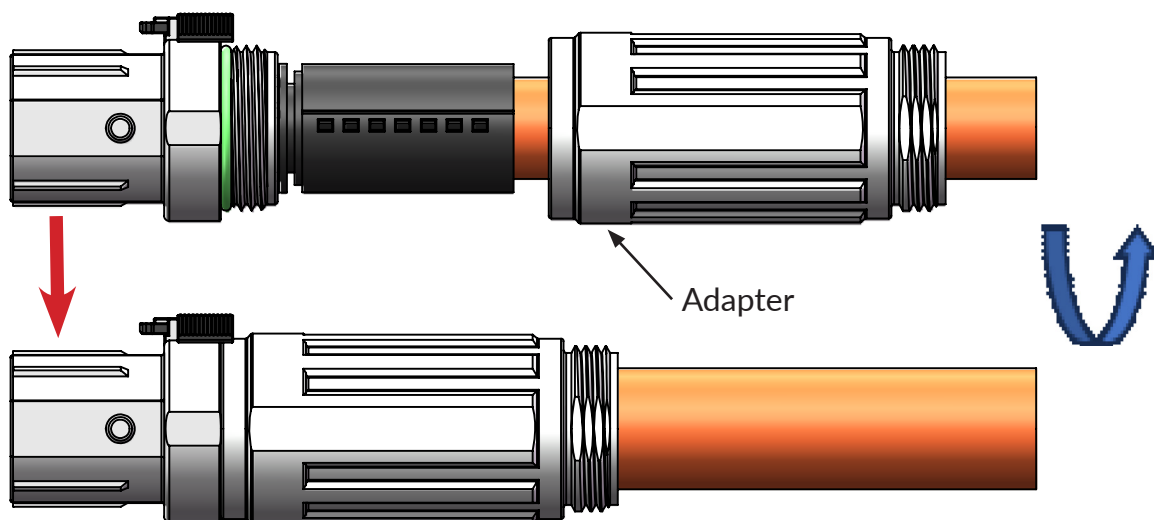


Figure 17

4) As figure 18 shown, tighten the hex nut to adapter shell with 37mm spanner, recommended torque is 6~8N.m, rubber sleeve applicable range see table 9;

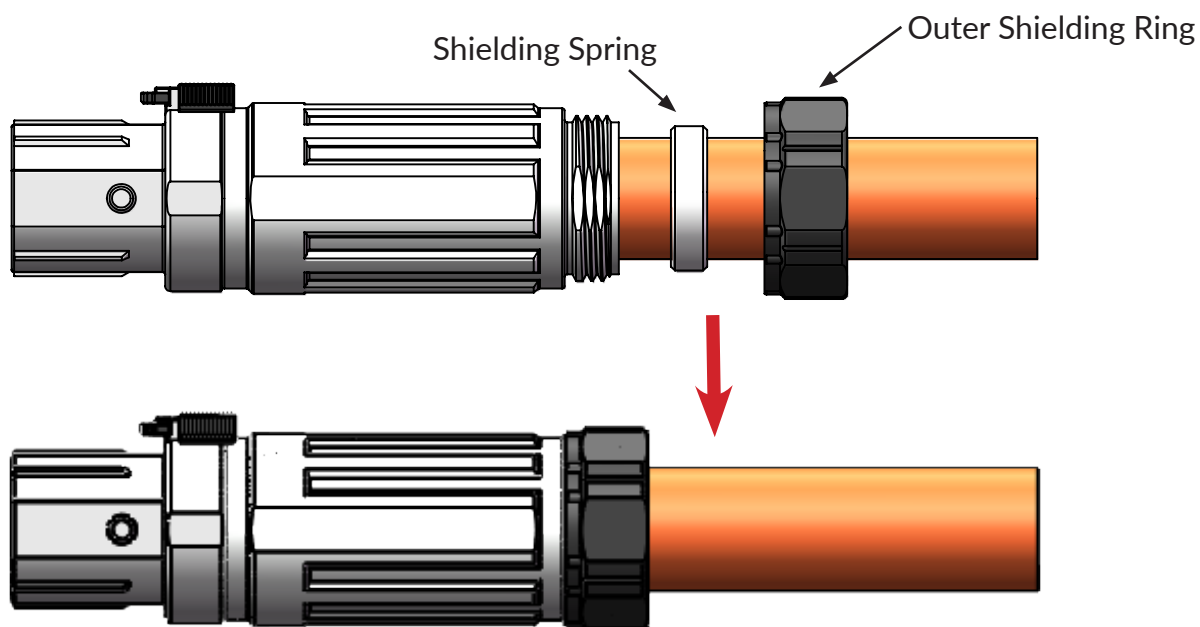


Figure 18

Table 9

Rubber sleeve P/N	Rubber sleeve applicable range
ZH-796684-001	ø 20.5~23.5 mm
ZH-796684-002	ø 17~20.5 mm
ZH-796684-003	ø 13.5~17 mm

Part 4: Electrical Performance Test

1) Insulation resistance test

Positions	Test voltage(DC)	Test time(S)	Insulation resistance(MΩ)
Power contact to shell	2000V	60S	>500MΩ
Power contact to HVIL contact	2000V	60S	> 500MΩ
HVIL contact to shell	500V	60S	> 500MΩ

1) Withstanding Voltage Test

Positions	Test voltage(DC)	Test time(S)	Leakage Current (mA)
Power contact to shell	8400V	60S	<2mA
Power contact to HVIL contact	8400V	60S	<2mA
HVIL contact to shell	1500V	60S	<2mA

Part 5: Appendix

Reference specification for cable crimping

Cable type	Cable Size	Conductor (mm)	Conductor dia.(mm)	Inner jacket dia.(mm)	Outer jacket dia.(mm)	Single shielding braid dia.(mm)	Refernce pullout force(N)
Shielding Cable	70 mm ²	2175*0.21	ø 12.5 max	ø 14.0~15.5	ø 19.0~20.0	ø 0.21 max	3400 min
		360*0.41					
	95 mm ²	475*0.41	ø 14.8 max	ø 16.2~18.0	ø 22.0~23.0		4200 min
		3000*0.21					
	120 mm ²	608*0.51	ø 16.5 max	ø 17.9~19.7	ø 23.0~24.0		5000 min
		3700*0.21					

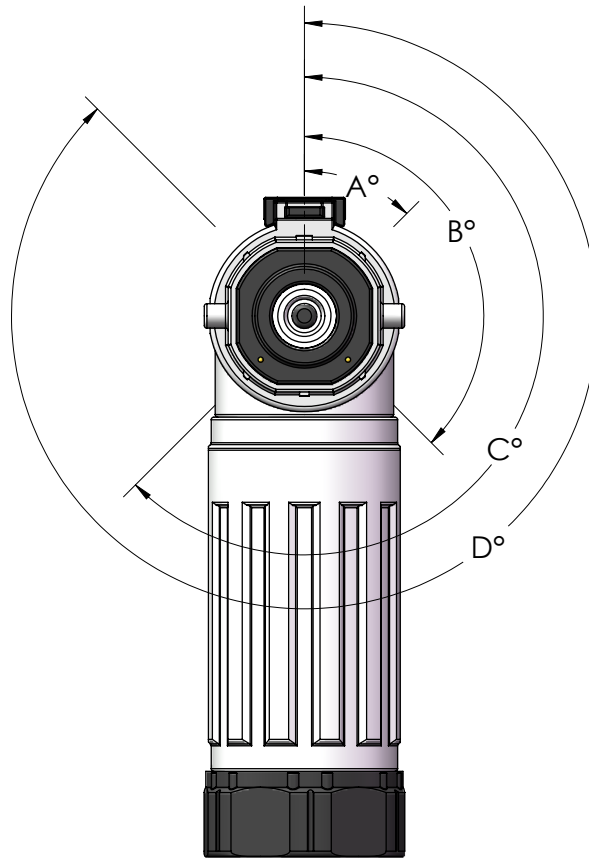
Cable Type	Cable size	Conductor (mm)	Outer jacket dia.(mm)	Refernce pullout force(N)
Un-shielding cable	70 mm ²	2442*0.19	ø 15.2~15.8	3400 min
	95 mm ²	1665*0.19	ø 17.9~18.5	4200 min
	120 mm ²	2109*0.19	ø 19.9~20.5	5000 min

Note: the cable specification referenced to LV216 and ISO6722

Change History			
Rev.	Description	Originator	Date
A	Initial Release	Jerry Pu	1/22/2025
B	Adjust Some Details	Jerry Pu	8/26/2025

TSI 12.0 Right Angle Plug Work Instruction

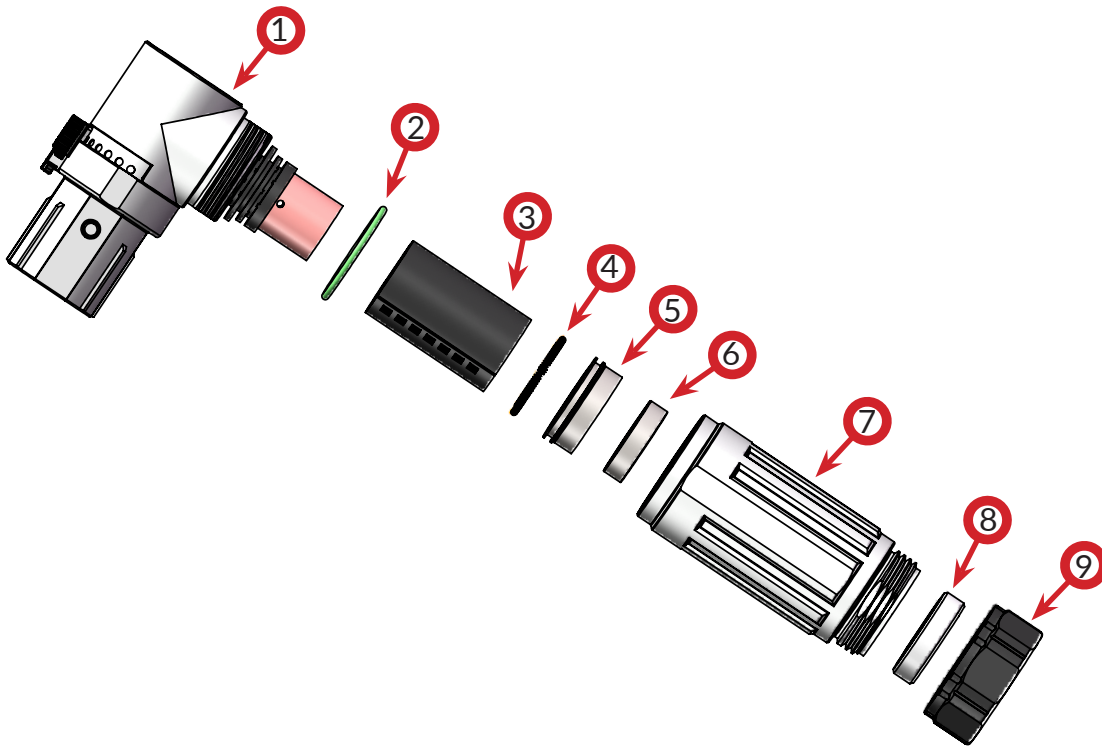
Part 1: Keyway Description



Keyway	A °	B °	C °	D °	CPA Color
N	45 °	135 °	225 °	315 °	Black
W	60 °	135 °	225 °	315 °	Orange
X	60 °	150 °	240 °	330 °	Red
Y	45 °	135 °	240 °	315 °	Blue
Z	45 °	135 °	225 °	330 °	Green
T	60 °	150 °	225 °	315 °	Brown

Special X Keyway					
Keyway	A °	B °	C °	D °	Finger Proof Color
X	45 °	150 °	225 °	315 °	Red

Part 2: Exploded View



Item	Description	Quantity
1	Right Angle Plug Assembly Body	1
2	O-Ring	1
3	Contact Barrel	1
4	Shielding Spring	1
5	Outer Shielding Ring	1
6	Inner Shielding Ring	1
7	Adapter	1
8	Rubber Sleeve	1
9	M28 Hex Nut	1

Part 3: Product Assembly

Step 1: Prepare Assembly

Pass each part through the cable in the sequence shown in Figure 1

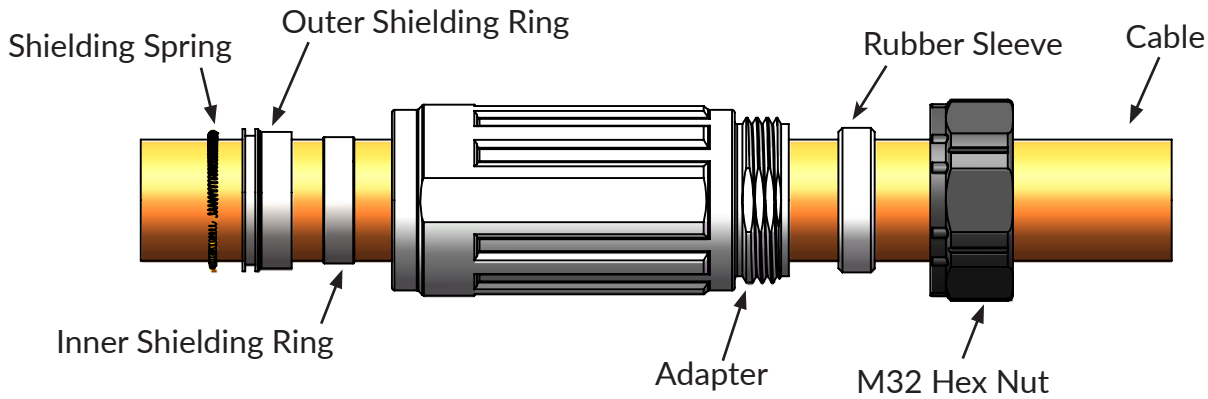


Figure 1

Note: Referenced to the appendix for the cable detail;

Step 2: Contact Crimping

2.1: Contact crimping of shielding cable.

1) As figure 2 shown, strip the outer jacket per table 1 dimension "A", the shielding braid not allowed to be damaged when the cable stripped;

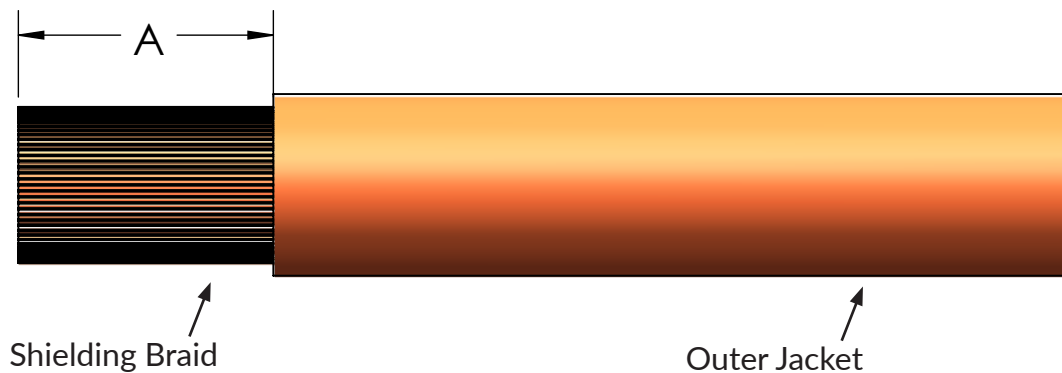


Figure 2

Table 1

Cable Size	Strip Length A
70 mm ²	33 ± 3 mm
95 mm ²	33 ± 3 mm
120 mm ²	33 ± 3 mm

2) As figure 3 shown, strip the shielding braid per table 2 dimension “B”;

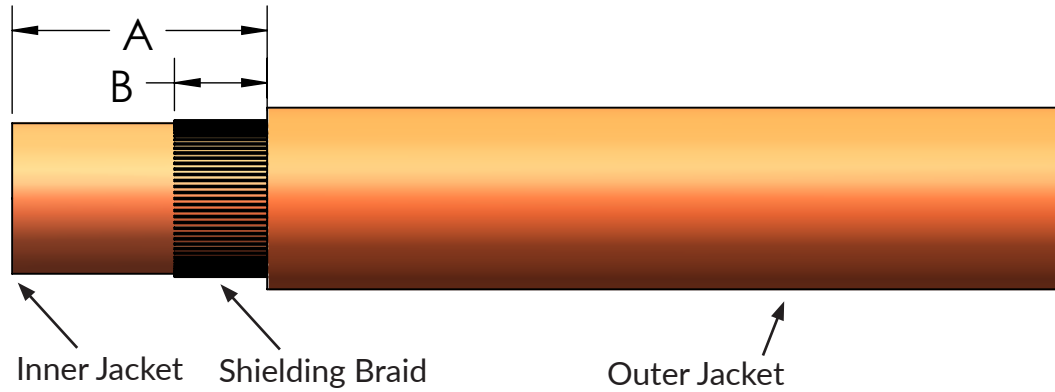


Figure 3

Table 2

Cable Size	Strip Length B
70 mm ²	12 ± 0.5 mm
95 mm ²	12 ± 0.5 mm
120 mm ²	12 ± 0.5 mm

3) As figure 4 shown, strip the inner jacket per table 3 dimension “C,” the conductor should not be damaged during stripping:

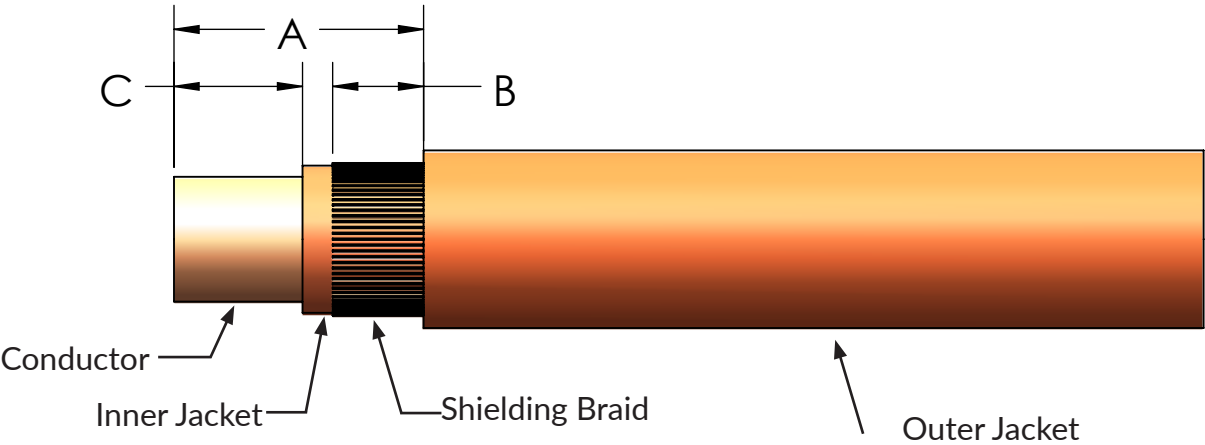


Figure 4

Table 2

Cable Size	Strip Length B
70 mm ²	17 ± 1 mm
95 mm ²	17 ± 1 mm
120 mm ²	17 ± 1 mm

4) As figure 5 shown, move the inner shielding ring align with the left surface of outer jacket of the cable, fold back the shielding braid to cover the outer surface of the inner shielding ring;

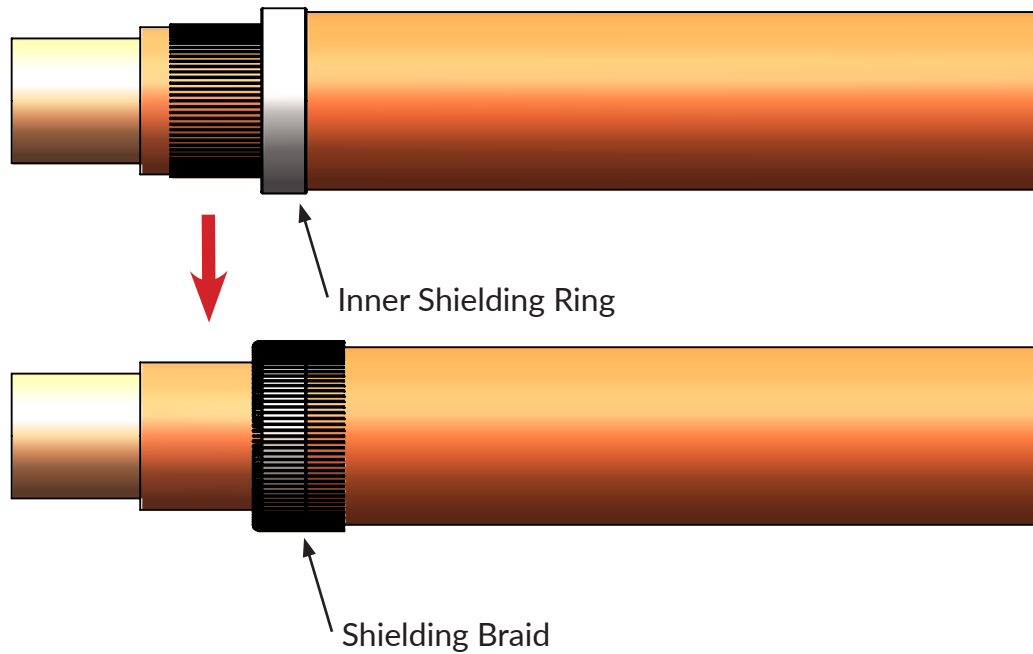


Figure 5

5) As figure 6 shown, strip the inner jacket per table 3 dimension "C", the conductor should not be damaged during stripping;

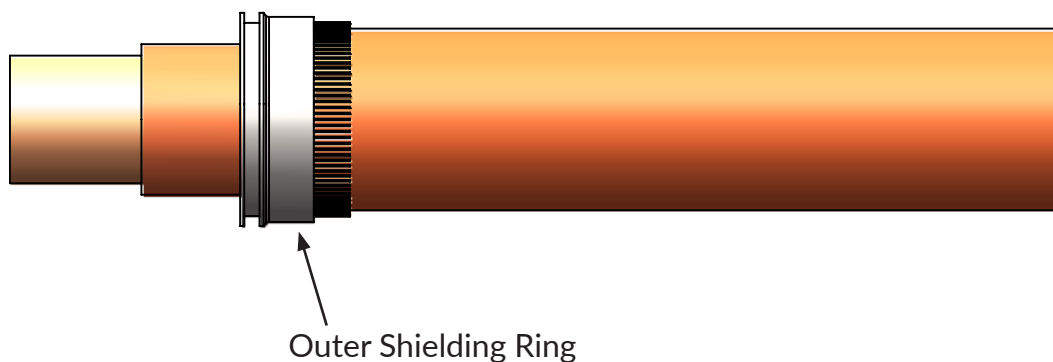
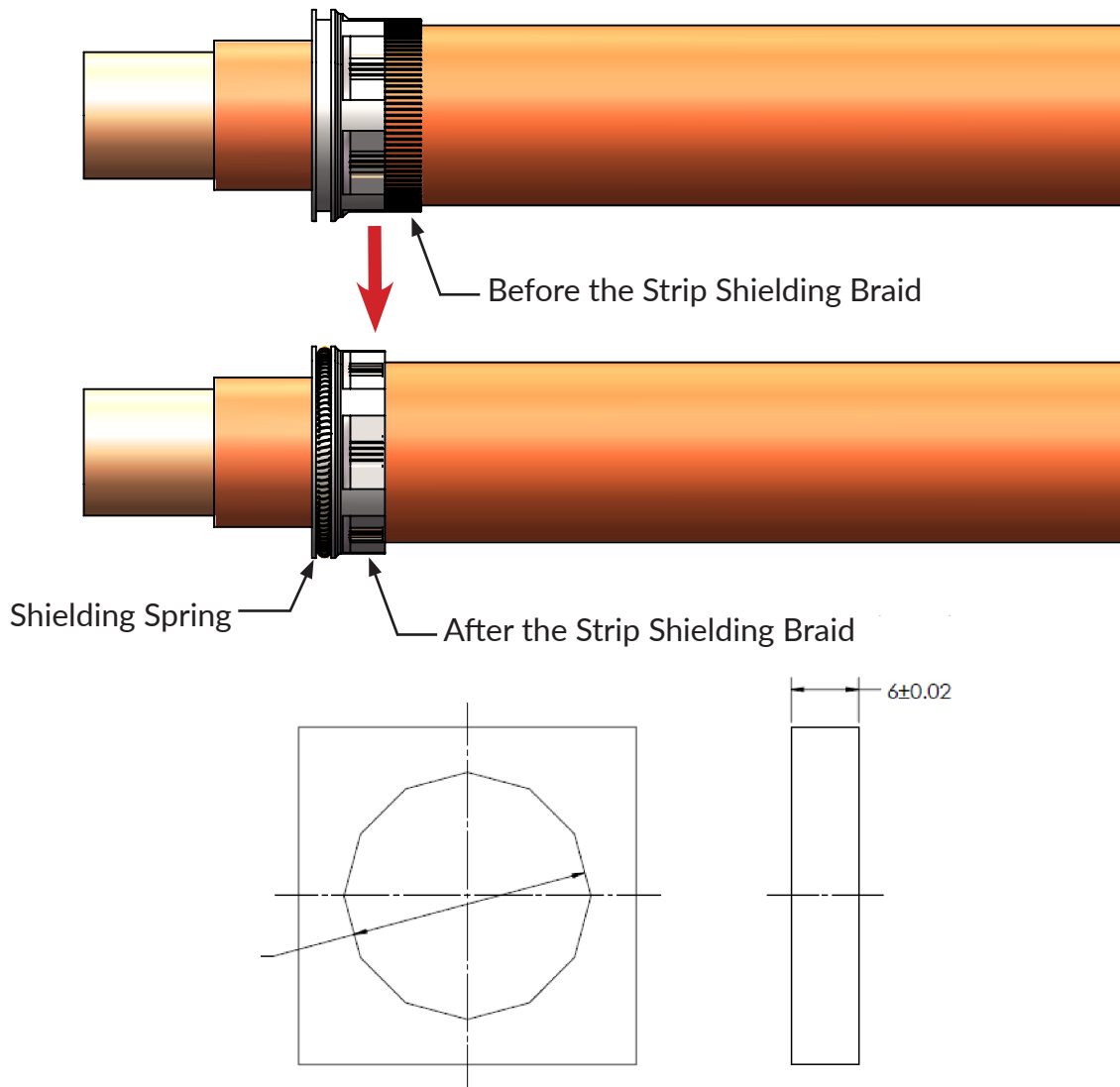


Figure 6

6) As figure 7 shown, crimping the inner shielding ring, outer shielding ring and outer jacket to use specified tooling, see tale 4 for crimping height H1, then cut the extra shielding braid, at last assemble the spring into the outer shielding ring



RECOMMENDED SHIELDING RING CRIMPING TOOLING DIMENSIONS

Figure 7

Table 4

Cable Size	Crimp Height H1	Shape	Retention Force (N)	Recommended Tooling (P/N)	Recommended cable outer diameter(mm)	Tooling Picture
70 mm ²	21.2 ± 0.2 mm	Regular dodecagon	150N min	C10-793125-070	ø 19.0~20.0	
95 mm ²	23.2 ± 0.2 mm			C10-793125-095	ø 22.0~23.0	
120 mm ²	24.2 ± 0.2 mm			C10-793125-120	ø 23.0~24.0	

Note: Each wire core should be uniform and there should be no loose threads in the wire core. Adhesion may cause high voltage danger, the recommended crimp sizes are only for reference. The customer should adjust them according to cable specification and process ability and test results including temperature rise and metallographic analysis and pullout force.

7) As figure 8 shown, move the cable conductor 100% duck into the crimping cup, then crimping the contact use the specified tooling, after crimping, see the figure 8 for the dimensions, see the table 5 for the crimping high “H”:

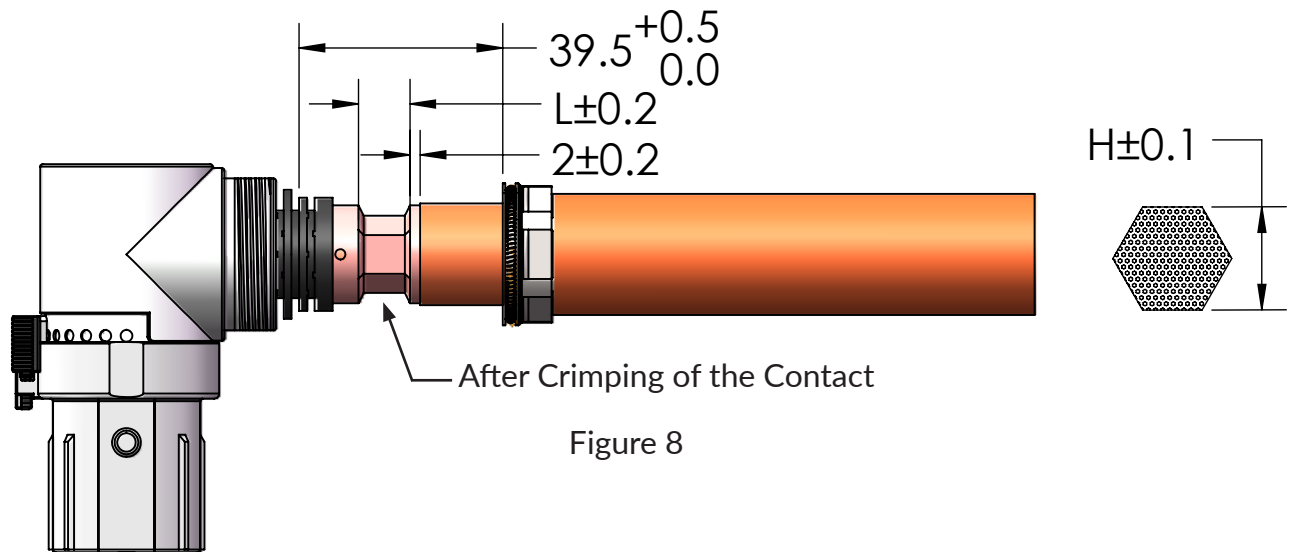


Figure 8

Table 5

Cable Size	Recommended Crimp Height H	Recommended Crimp Length L	Shape	Pullout force (N)	Recommended Tooling P/N	Tooling Picture
70 mm ²	10.0 ± 0.1 mm	10 ± 0.2 mm	Hexagon	3400N Min	C10-792958-070	
95 mm ²	11.5 ± 0.1 mm	13 ± 0.2 mm		4200N min	C10-792958-095	
120 mm ²	13.0 ± 0.1 mm	13 ± 0.2 mm		5000N min	C10-792958-120	

Note: The recommended crimp sizes are only for reference. The customer should adjust them according to cable specification and process ability and test results including temperature rise and metallographic analysis and pullout force.

2.2: Contact crimping of un-shielding cable.

1) As figure 9 shown, strip the outer jacket per table 6 dimension “D”, the conductor not allowed to be damaged when the cable stripped;

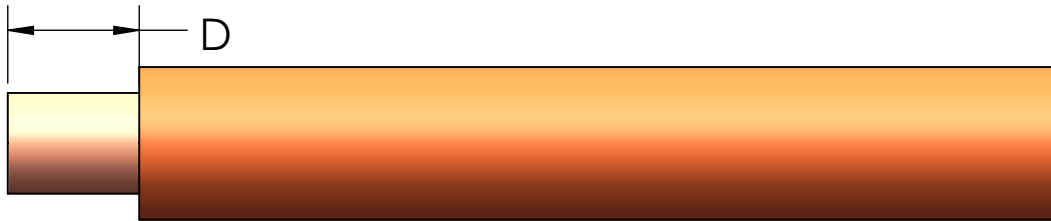


Figure 9

Table 6

Cable Size	Strip Length D
70 mm ²	17 ± 1 mm
95 mm ²	17 ± 1 mm
120 mm ²	17 ± 1 mm

2) As figure 10 shown, move the cable conductor 100% duck into the crimping cup, then crimping the contact use the specified tooling, after crimping, see the figure 10 for the dimensions, see the table 7 for the crimping high “H”:

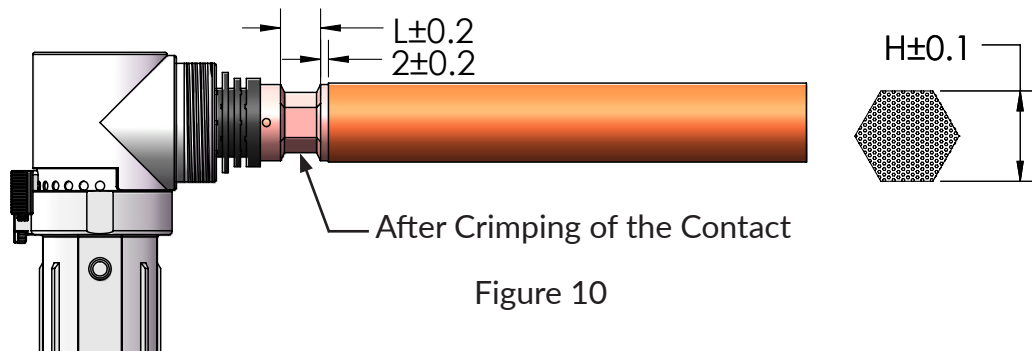


Figure 10

Table 7

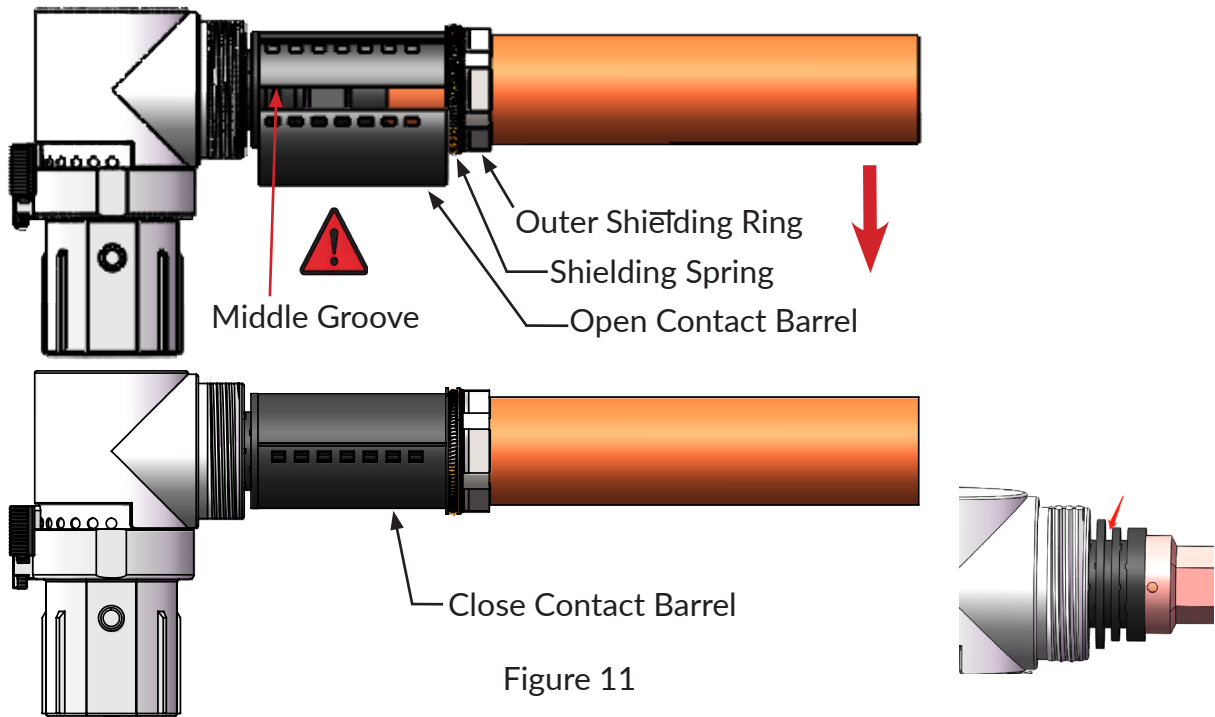
Cable Size	Recommended Crimp Height H	Recommended Crimp Length L	Shape	Pullout force (N)	Recommended Tooling P/N	Tooling Picture
70 mm ²	10.0 ± 0.1 mm	10 ± 0.2 mm	Hexagon	3400N Min	C10-792958-070	
95 mm ²	11.5 ± 0.1 mm	13 ± 0.2 mm		4200N min	C10-792958-095	
120 mm ²	13.0 ± 0.1 mm	13 ± 0.2 mm		5000N min	C10-792958-120	

Note: The recommended crimp sizes are only for reference. The customer should adjust them according to cable specification and process ability and test results including temperature rise and metallographic analysis and pullout force.

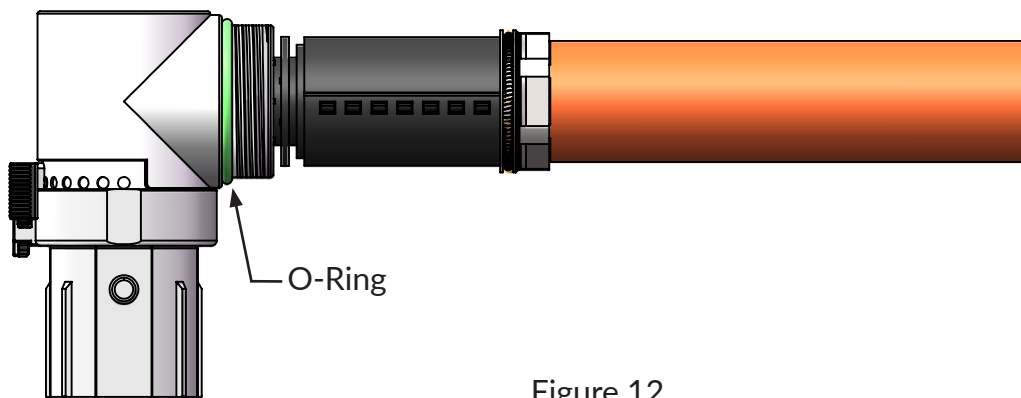
Step 3: Connector Assembly

3.1: Connector assembly of shielding cable

1) As figure 11 shown, assemble the contact barrel into middle groove of the rear insert, - can't be assembled to other groove, otherwise withstanding voltage of the connector will be affected;



2) As figure 12 shown, assemble the O-ring into the plug shell;



3) As figure 13 shown, tighten the adapter to plug shell with 36mm spanner, recommended torque is 8~10N.m;

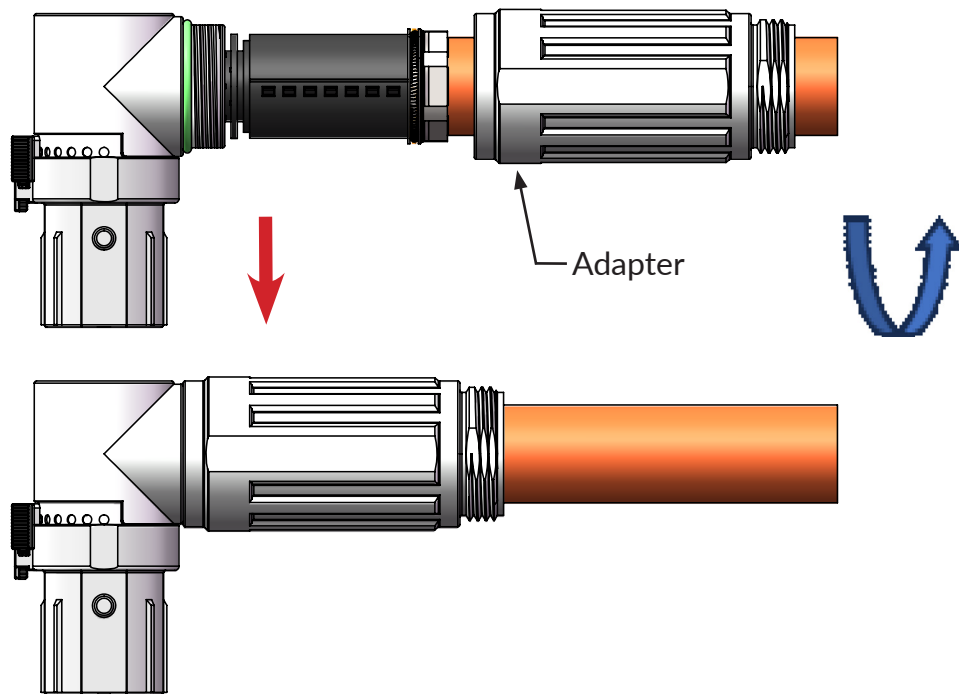


Figure 13

4) As figure 14 shown, tighten the hex nut to adapter shell with 37mm spanner, recommended torque is 6~8N.m, rubber sleeve applicable range see table 8;

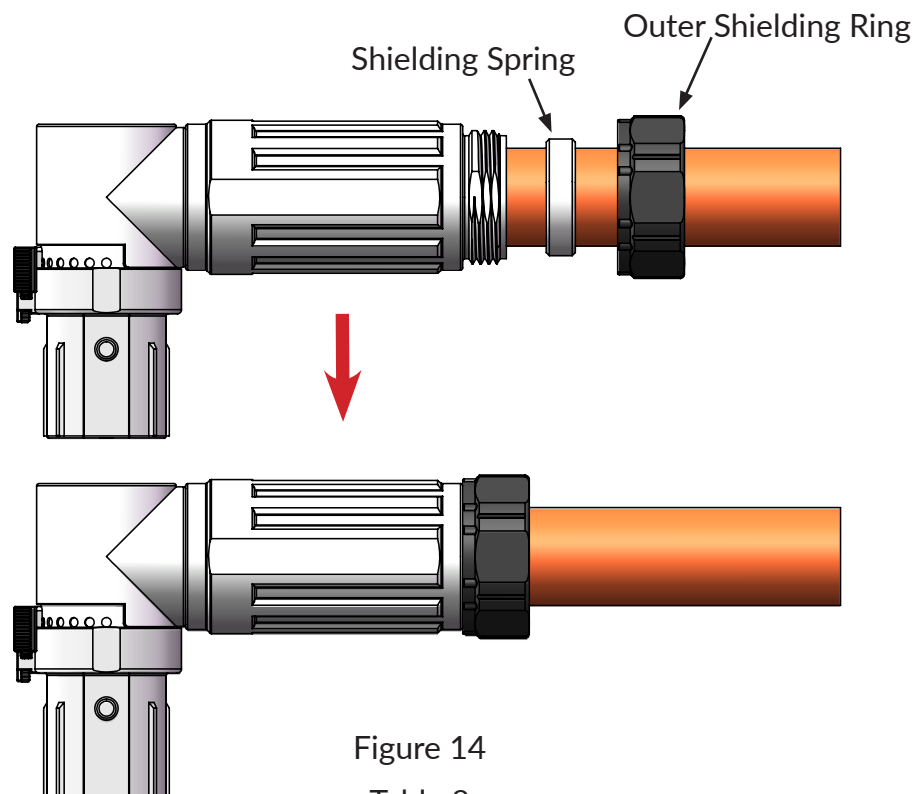


Figure 14

Table 8

Rubber sleeve P/N	Rubber sleeve applicable range
ZH-796684-001	ø 20.5~23.5 mm
ZH-796684-002	ø 17~20.5 mm
ZH-796684-003	ø 13.5~17 mm

3.2: Connector assembly of un-shielding cable

1) As figure 15 shown, assemble the contact barrel into middle groove of the rear insert, - can't be assembled to other groove, otherwise withstanding voltage of the connector will be affected;

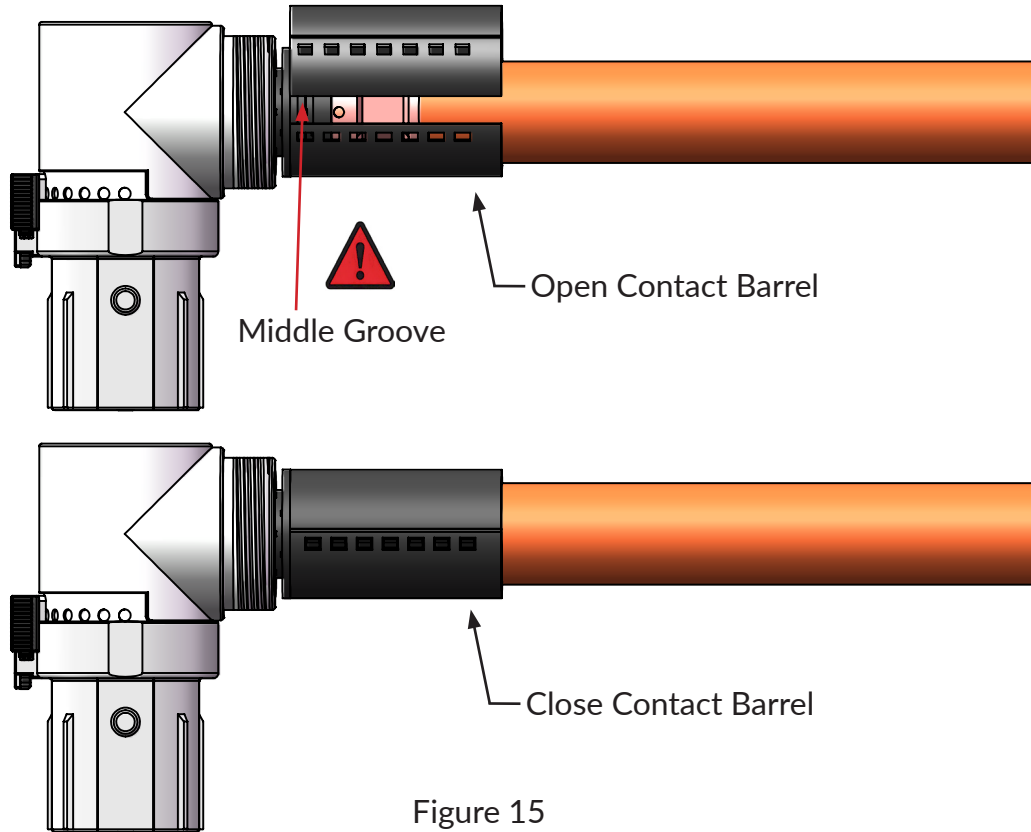


Figure 15

2) As figure 16 shown, assemble the O-ring into the plug shell;

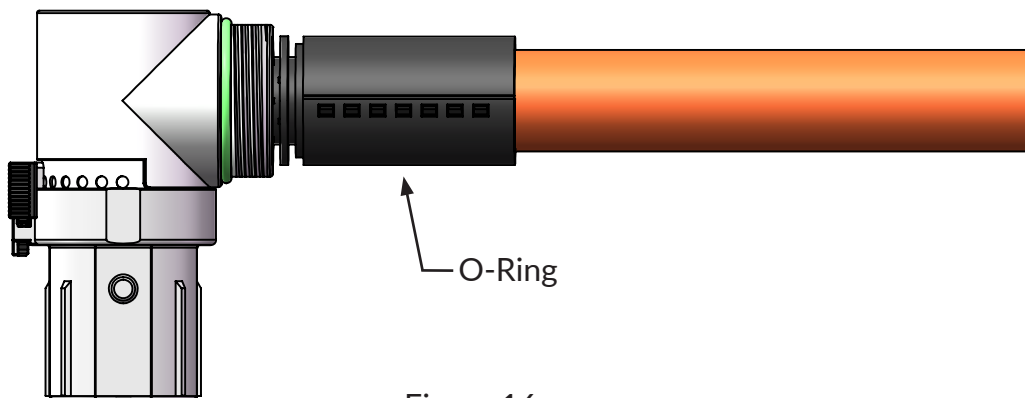


Figure 16

3) As figure 17 shown, tighten the adapter to plug shell with 36mm spanner, recommended torque is 8~10N.m;

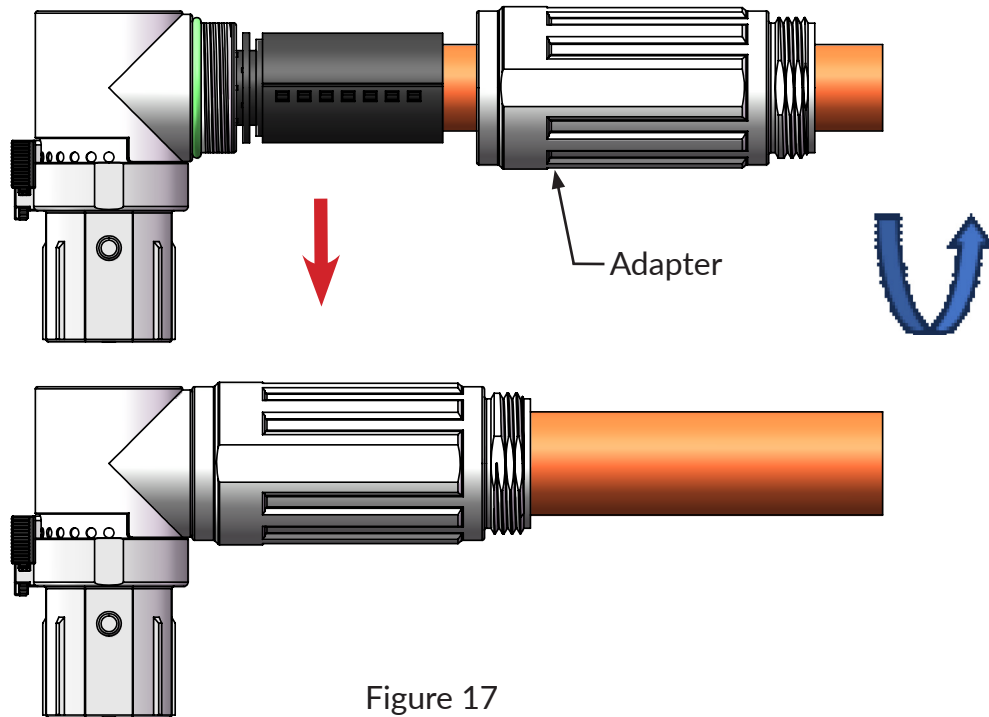


Figure 17

4) As figure 18 shown, tighten the hex nut to adapter shell with 37mm spanner, recommended torque is 6~8N.m, rubber sleeve applicable range see table 9;

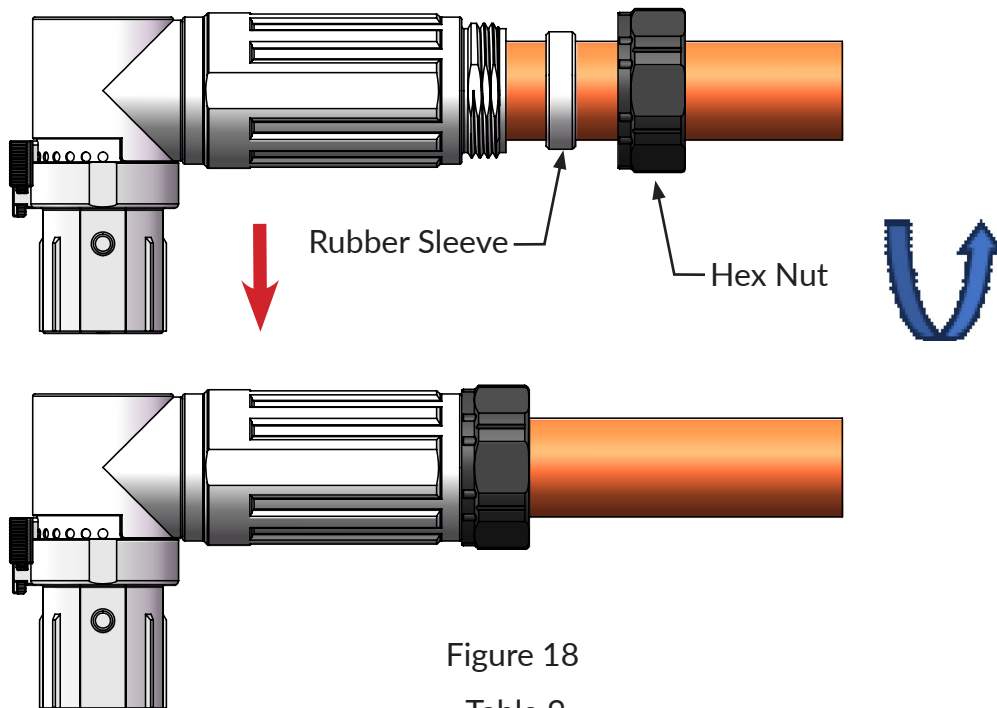
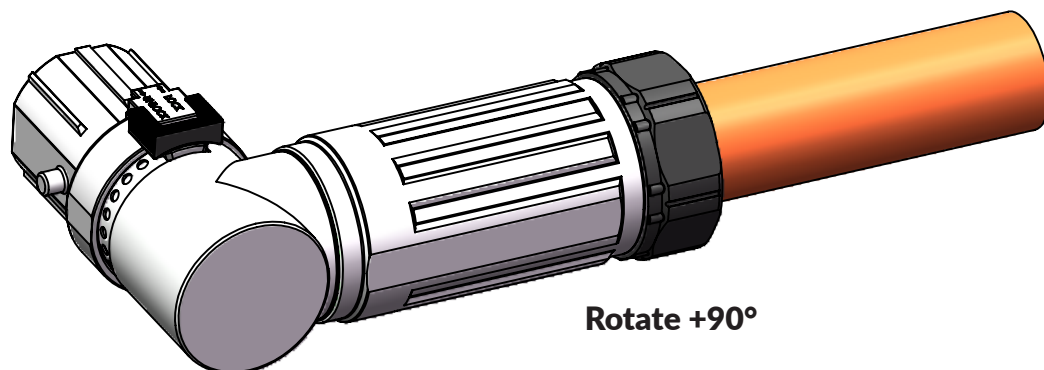
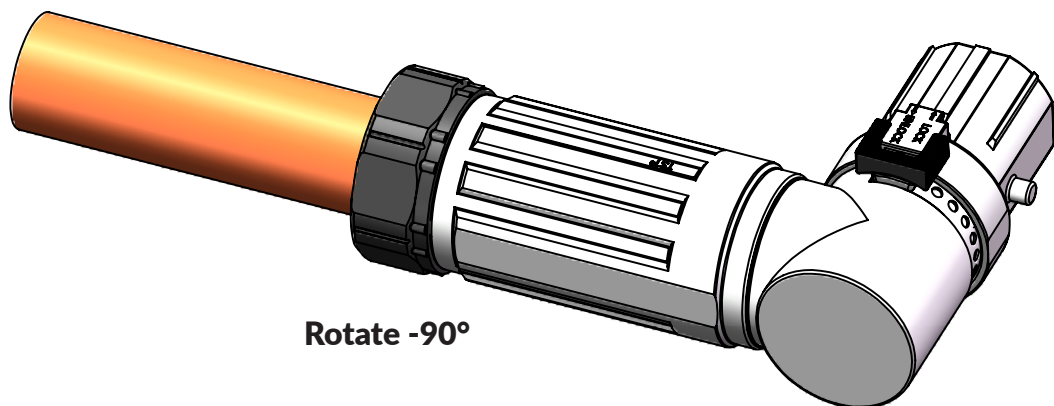


Figure 18

Table 9

Rubber sleeve P/N	Rubber sleeve applicable range
ZH-796684-001	ø 20.5~23.5 mm
ZH-796684-002	ø 17~20.5 mm
ZH-796684-003	ø 13.5~17 mm



Part 4: Electrical Performance Test

1) Insulation resistance test

Positions	Test voltage(DC)	Test time(S)	Insulation resistance(MΩ)
Power contact to shell	2000V	60S	>500MΩ
Power contact to HVIL contact	2000V	60S	> 500MΩ
HVIL contact to shell	500V	60S	> 500MΩ

1) Withstanding Voltage Test

Positions	Test voltage(DC)	Test time(S)	Leakage Current (mA)
Power contact to shell	8400V	60S	<2mA
Power contact to HVIL contact	8400V	60S	<2mA
HVIL contact to shell	1500V	60S	<2mA

Part 5: Appendix

Reference specification for cable crimping

Cable type	Cable Size	Conductor (mm)	Conductor dia.(mm)	Inner jacket dia.(mm)	Outer jacket dia.(mm)	Single shielding braid dia.(mm)	Refernce pullout force(N)
Shielding Cable	70 mm ²	2175*0.21	ø 12.5 max	ø 14.0~15.5	ø 19.0~20.0	ø 0.21 max	3400 min
		360*0.41					
	95 mm ²	475*0.41	ø 14.8 max	ø 16.2~18.0	ø 22.0~23.0		4200 min
		3000*0.21					
	120 mm ²	608*0.51	ø 16.5 max	ø 17.9~19.7	ø 23.0~24.0		5000 min
		3700*0.21					

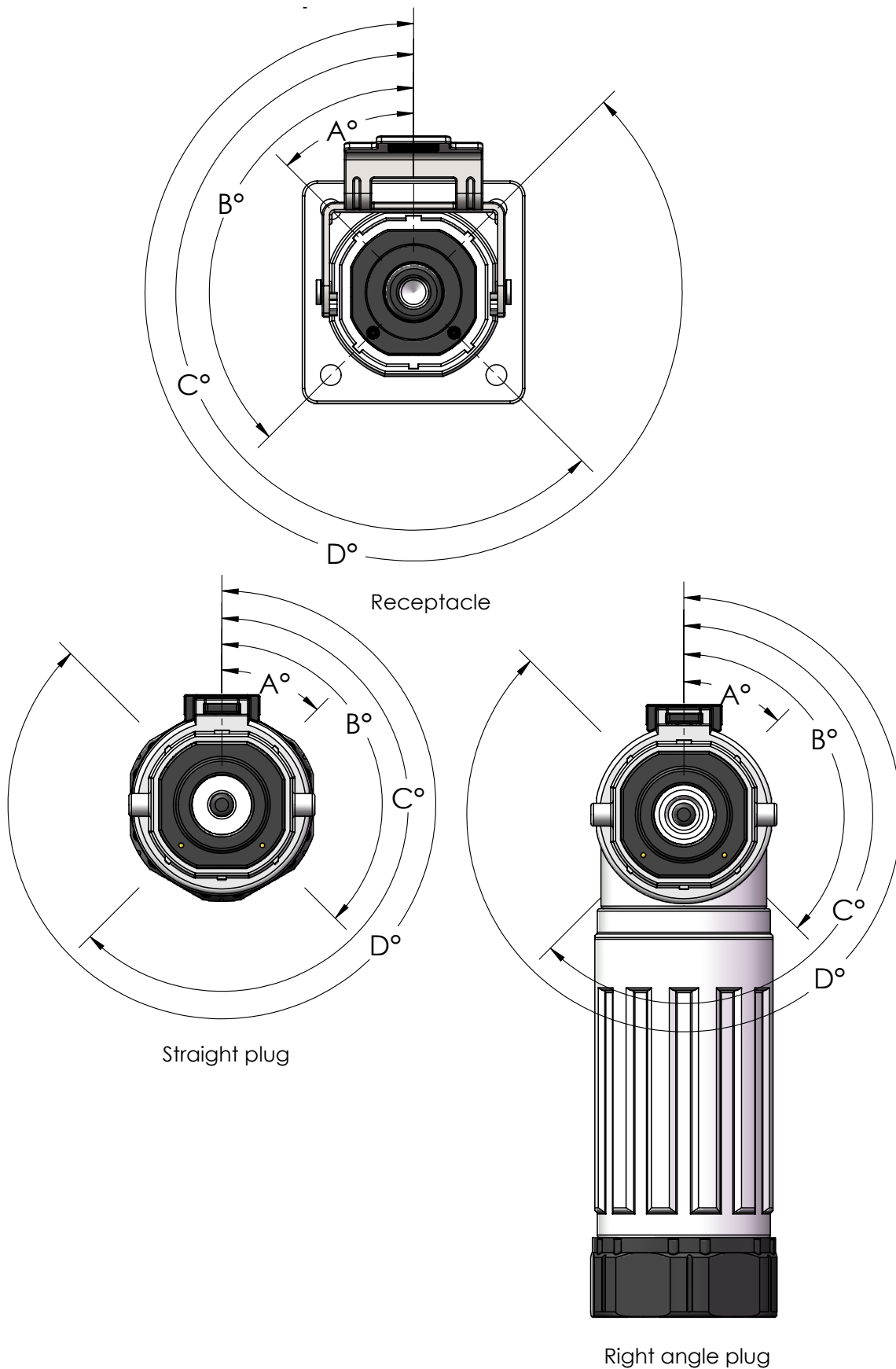
Cable Type	Cable size	Conductor (mm)	Outer jacket dia.(mm)	Refernce pullout force(N)
Un-shielding cable	70 mm ²	2442*0.19	ø 15.2~15.8	3400 min
	95 mm ²	1665*0.19	ø 17.9~18.5	4200 min
	120 mm ²	2109*0.19	ø 19.9~20.5	5000 min

Note: the cable specification referenced to LV216 and ISO6722

Change History			
Rev.	Description	Originator	Date
A	Initial Release	Jerry Pu	1/22/2025
B	Adjust Some Details	Jerry Pu	8/26/2025

TSI 12.0 Mating and Unmating Work Instruction

Part 1: Keyway Description

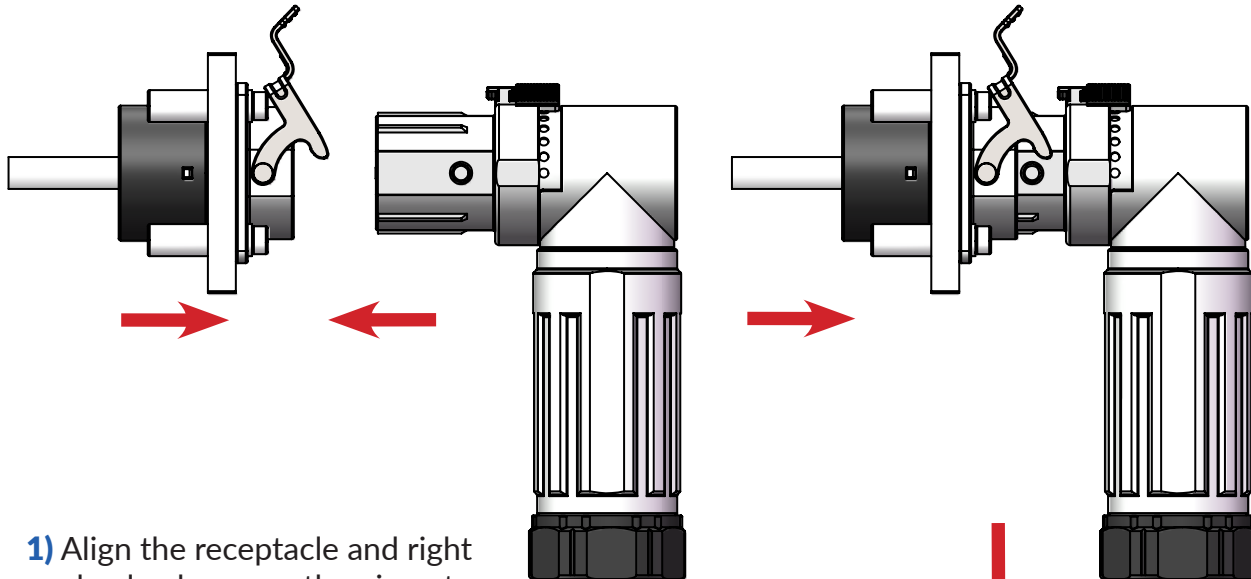


Keyway	A °	B °	C °	D °	CPA Color
N	45 °	135 °	225 °	315 °	Black
W	60 °	135 °	225 °	315 °	Orange
X	60 °	150 °	240 °	330 °	Red
Y	45 °	135 °	240 °	315 °	Blue
Z	45 °	135 °	225 °	330 °	Green
T	60 °	150 °	225 °	315 °	Brown

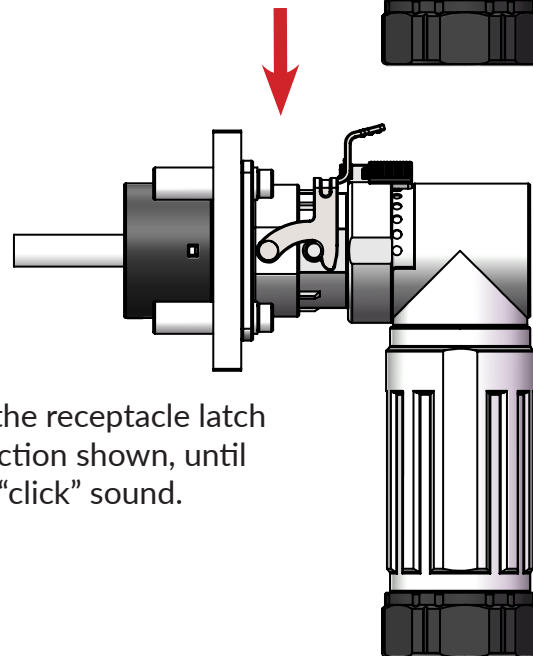
Special X Keyway					
Keyway	A °	B °	C °	D °	Finger Proof Color
X	45 °	150 °	225 °	315 °	Red

Part 2: Mating Operation of Connector

1) Rotate the Receptacle Latch to Mate the Plug In Clockwise, until you hear a “click” sound

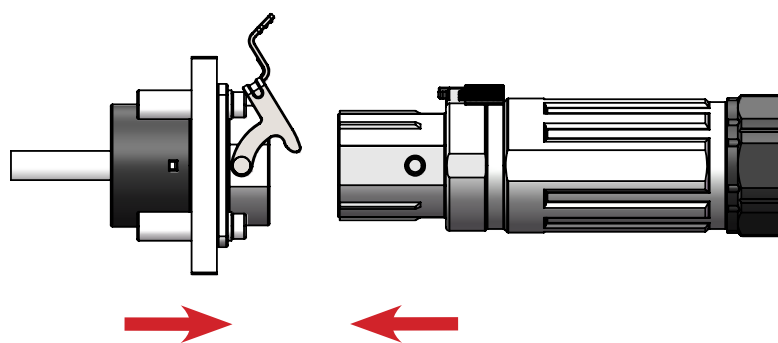


1) Align the receptacle and right angle plug keyways, then insert in the direction shown.

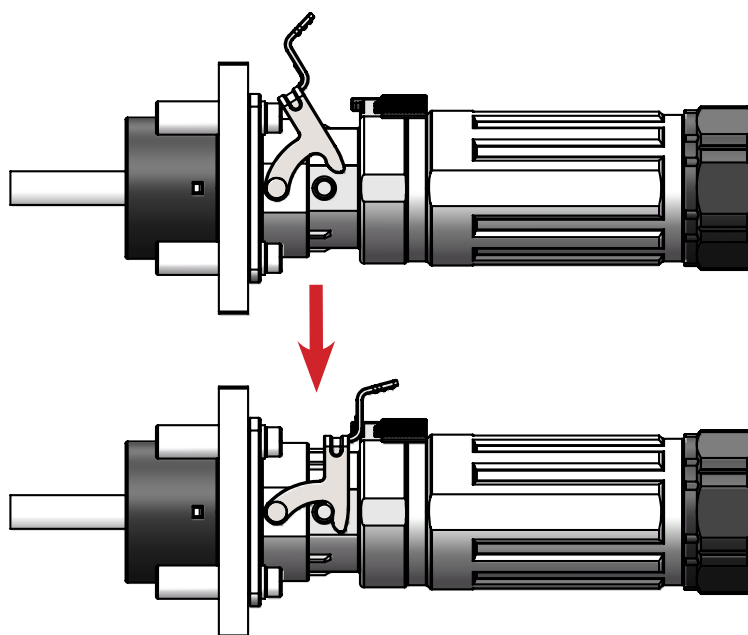


2) Rotate the receptacle latch in the direction shown, until heard the “click” sound.

Right angle plug and receptacle mating figure

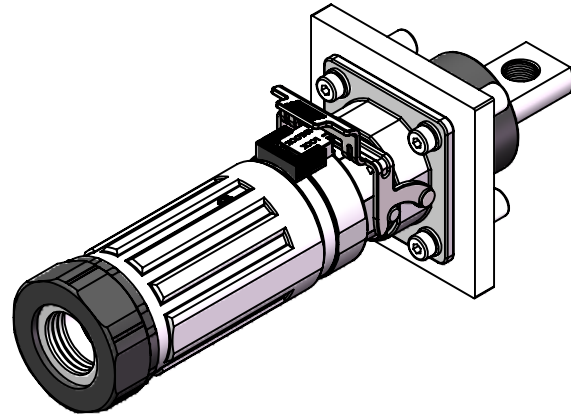
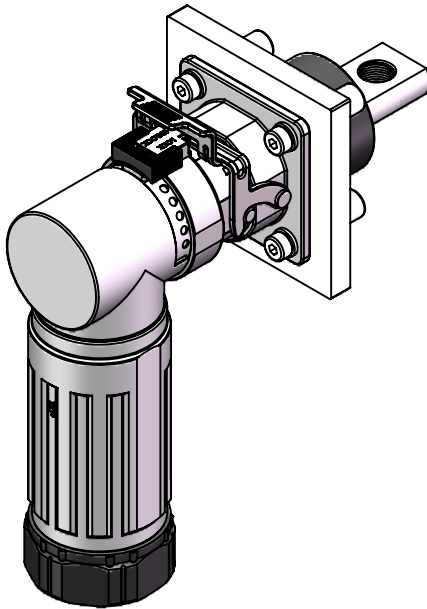


1) Align the receptacle and straight plug keyways, then insert in the direction shown.

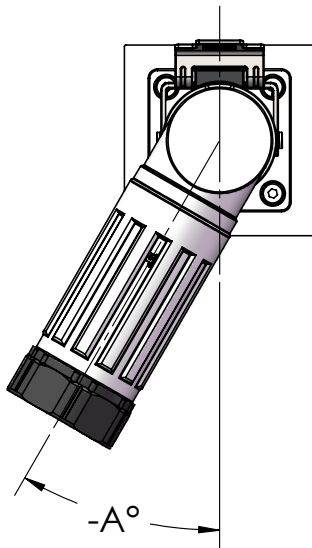


2) Rotate the receptacle latch in the direction shown, until heard the “click” sound.

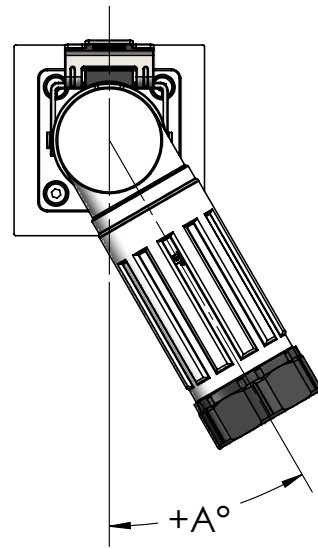
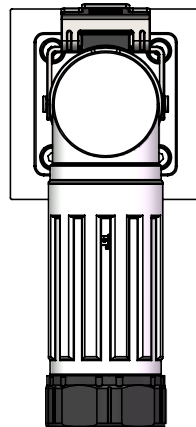
Straight plug and receptacle mating figure



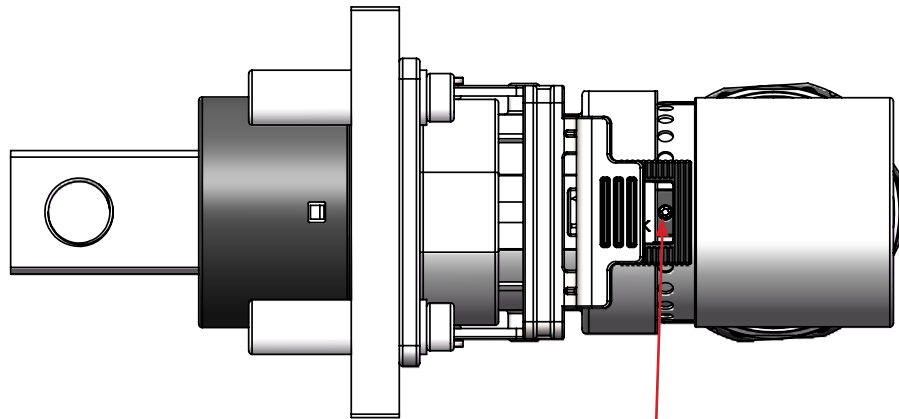
2) Only for right angle plug, rotating the elbow assembly in appropriate angle to release the stress of the cable, then tighten the screw to fix the elbow assembly to prevent rotation;



Rotation Direction: clockwise angle
range $-A^\circ$: $-90^\circ \sim 0^\circ$

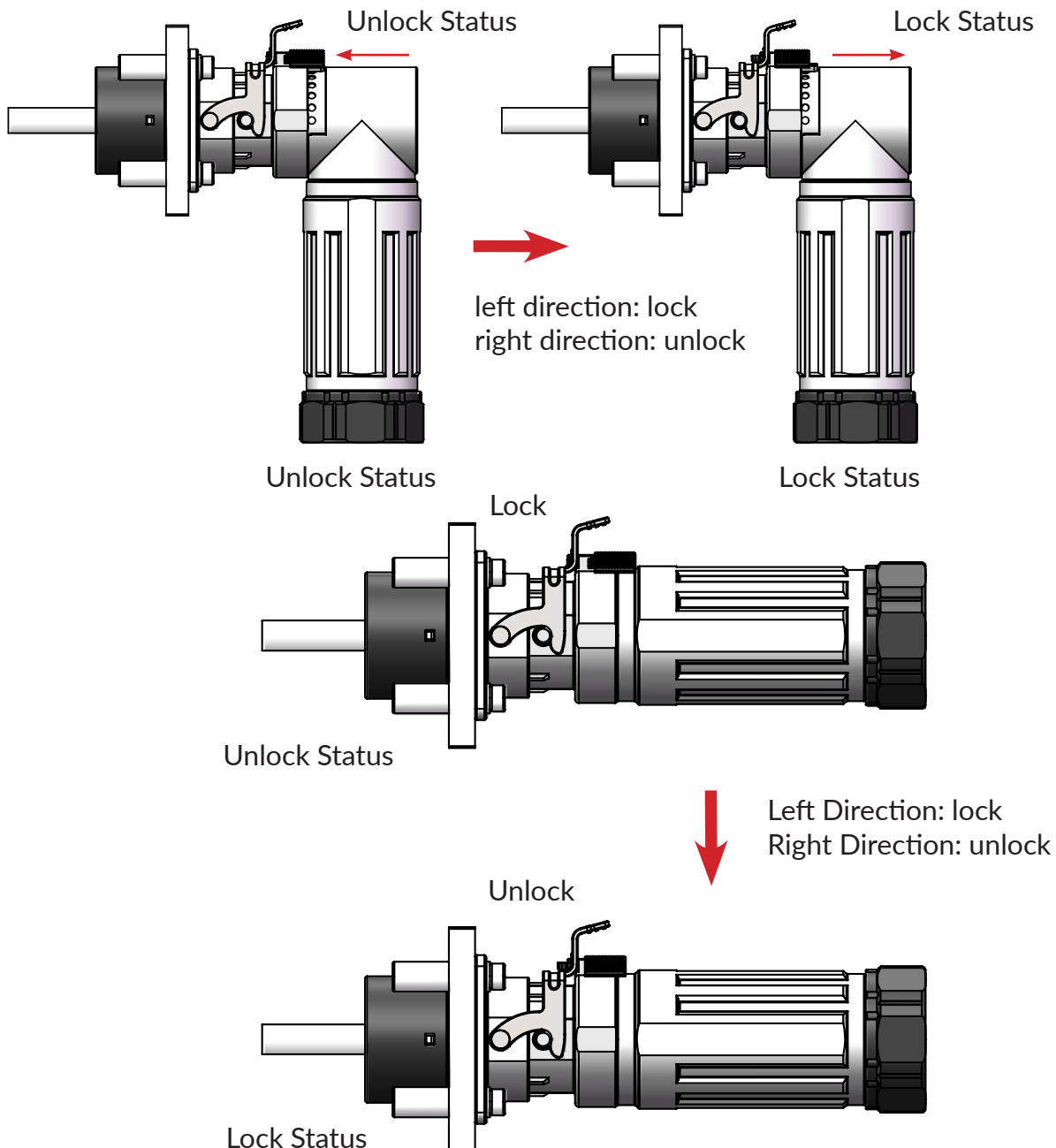


Rotation Direction: clockwise angle
range $+A^\circ$: $0^\circ \sim +90^\circ$



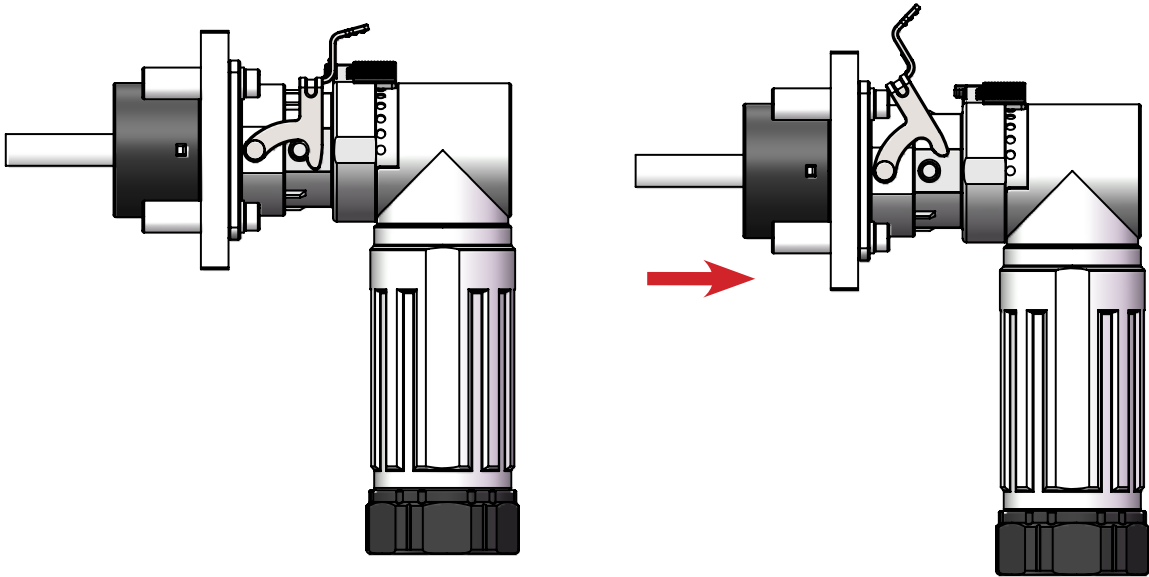
Use 0.9mm hex spanner to fix the elbow assembly recommended torque 0.4~0.6N.m

3) Move the CPA as below left direction to lock the latch;

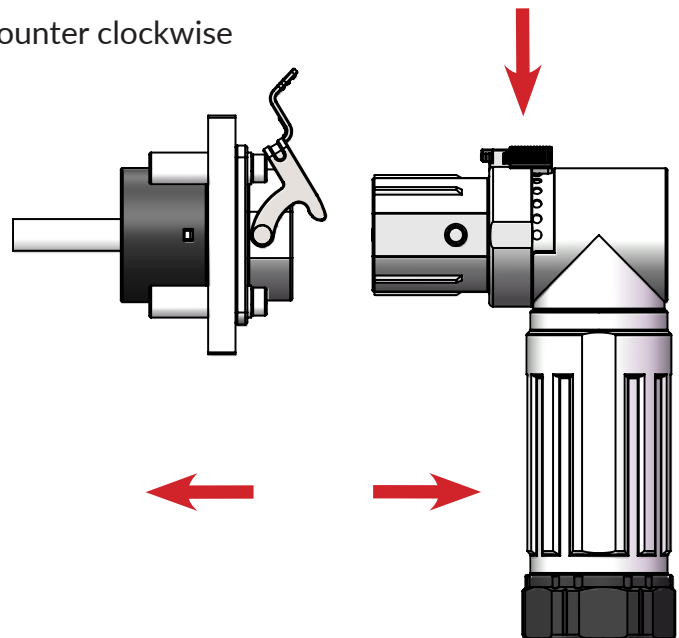


Part 3: Mating Operation of Connector

- 1) Rotate the receptacle latch in anticlockwise, until the latch separate with the plug;

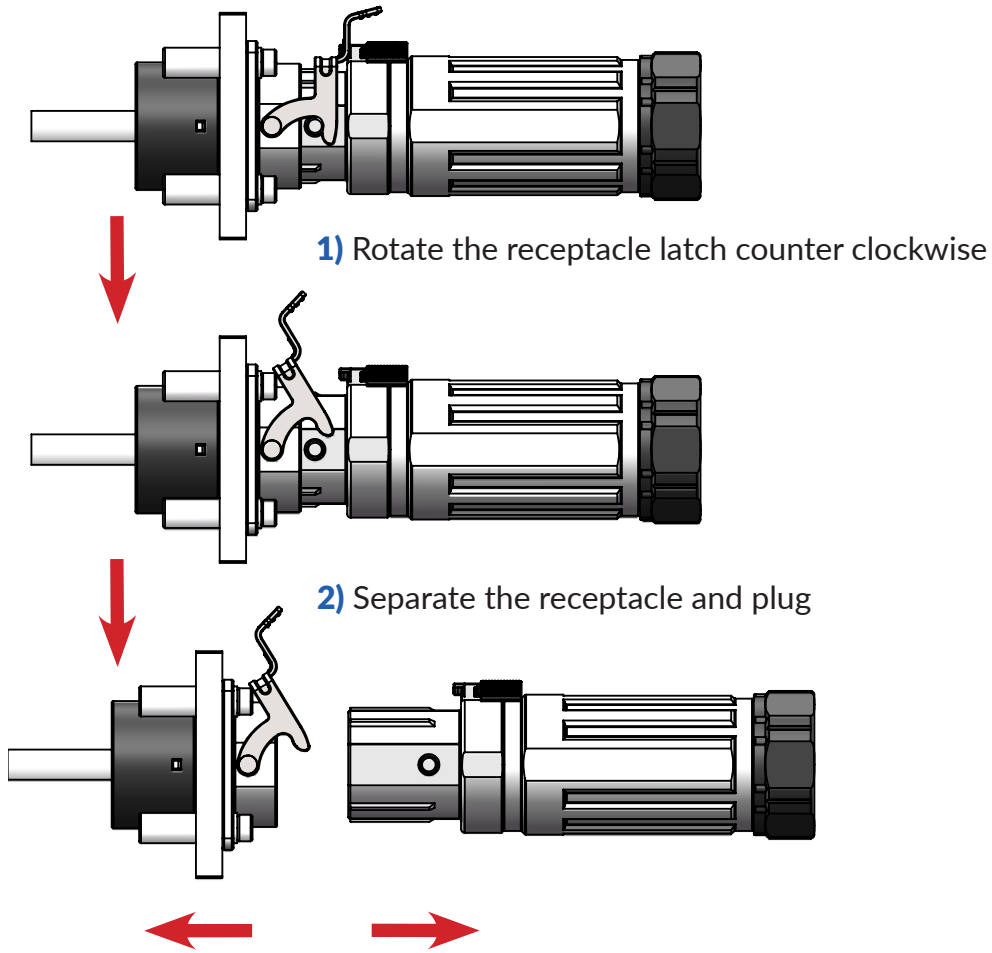


- 1) Rotate the receptacle latch counter clockwise



- 2) Separate the receptacle and plug

Right angle plug and receptacle unmating figure



Straight plug and receptacle unmatting figure

Change History			
Rev.	Description	Originator	Date
A	Initial Release	Jerry Pu	1/22/2025
B	Adjust Some Details	Jerry Pu	8/26/2025