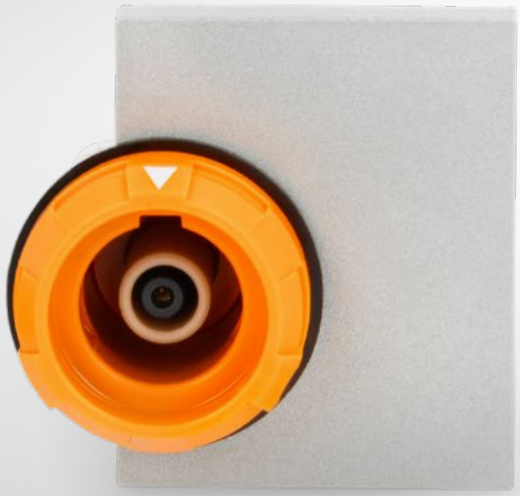
ODU MEDI-SNAP® HIGH-VOLTAGE

Assembly instructions

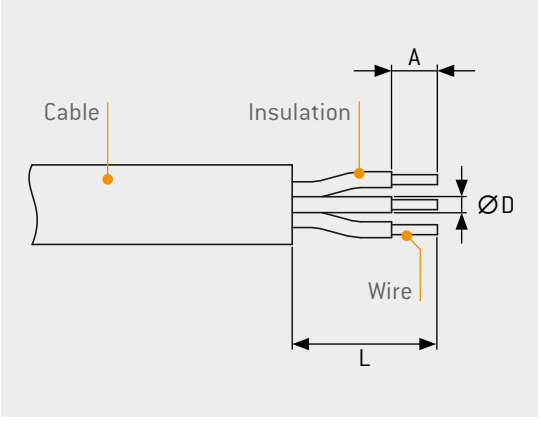


ASSEMBLY INSTRUCTIONS

NO. D000042497

General notes

Recommended stripping lengths – unshielded



Strand stripping length A in mm

Solder		Crimp	
AWG	Stripping length	AWG	Stripping length
12	4.5 + Ø D	14–18	6.7
14	3.3 + Ø D	18–20	5.0
16		20–24	4.7
18		22–26	
20		28–32	
22	2.8 + Ø D		
24			
26			
28	2.3 + Ø D		

Cable stripping length L in mm

Size	Stripping length
1	12
2	15
3.5	18

Tolerance L in mm

Length	Tolerance cable jacket L
Up to 20	± 1.0
21 to 50	± 2.0

Tolerance A in mm

Length	Tolerance strand A
Up to 5	± 0.5
6 to 10	± 1.0

Recommended tightening torques in Nm for the receptacles*

	Size		
	1	2	3.5
Hexagon nut	1.0 ± 0.2	1.0 ± 0.2	2.0 ± 0.4
Grooved nut			
Shielding sleeve	–		–

Recommended tightening torques in Nm for the plugs*

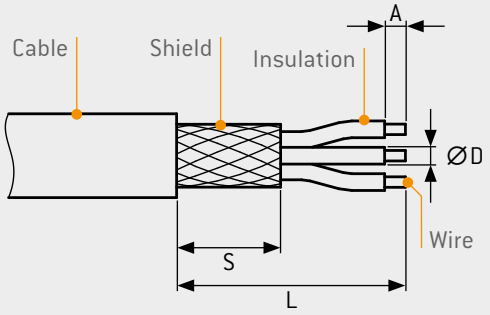
	Size		
	1	2	3.5
Back nut	0.25 ± 0.1	0.50 ± 0.1	1.50 ± 0.3

*Recommended tightening torques are depending on the cable strength.

NO. D000042497

General notes

Recommended stripping lengths – shielded feedthrough



Cable stripping length L in mm

Size	Component	Stripping length
2	Straight plug	15
2	Receptacle	10

Shield stripping length S in mm

Size	Stripping length
2	10

Tolerance S in mm

Length	Tolerance braided shield S
Up to 20	± 1.0

ATTENTION!

The same values apply to the stripping lengths of strand A and the tolerances of strand A and cable L as for unshielded cables.

Tools / Accessories

ODU spanner wrenches and crimping tools see ODU MEDI-SNAP® catalog, chapter accessories and tools.

For assembly of crimp contacts, please follow the crimp-instruction!

NO. D000042497

General notes

Reference on Assembling

ATTENTION!

Follow the assembly instructions on the production drawing, if available.

Recommended glue

For the back nut, the grooved nut or the hexagon nut and the shielding sleeve

Scotchweld (gray),
ODU Part number 890.204.000.030.025

- Area of application: plastic – plastic and plastic – metal

Loctite 243,
ODU Part number 980.204.000.030.031

- Area of application: metal – metal

Recommended cleaning agent: Isopropyl alcohol

ATTENTION!

Cracks may appear later if glues are used that have not been approved by ODU. Only use the indicated glues mentioned above.

COC note

All connectors shown here are connectors without breaking capacity [COC] according to IEC 61984:2008 (VDE 0627:2009-11).

Safety instructions

(For applications which do not run within the safety extra-low voltage (SELV))

According to IEC 60364-4-41:2005 + A1:2017 (DIN VDE 0100-410:2018-10), two independent protective measures must be combined to create appropriate safety precautions against electric shock: one basic protective measure and one fault protective measure.

ATTENTION!

For voltages > 50 V AC and > 75 V DC, an additional protective measure (fault protective measure) to the basic insulation (basic protective measure) given by our connector is required according to IEC 60364-4-41:2005 + A1:2017 (DIN VDE 0100-410:2018-10). The standard describes in more detail which protective measures are suitable and permitted.

In this case the following must be observed for our connectors:

- The live side must be the socket-insert side
- It is mandatory to glue the back nut with the recommended adhesive
- It is mandatory to glue the hexagon nut or grooved nut with the recommended adhesive

Reference to Product Finder

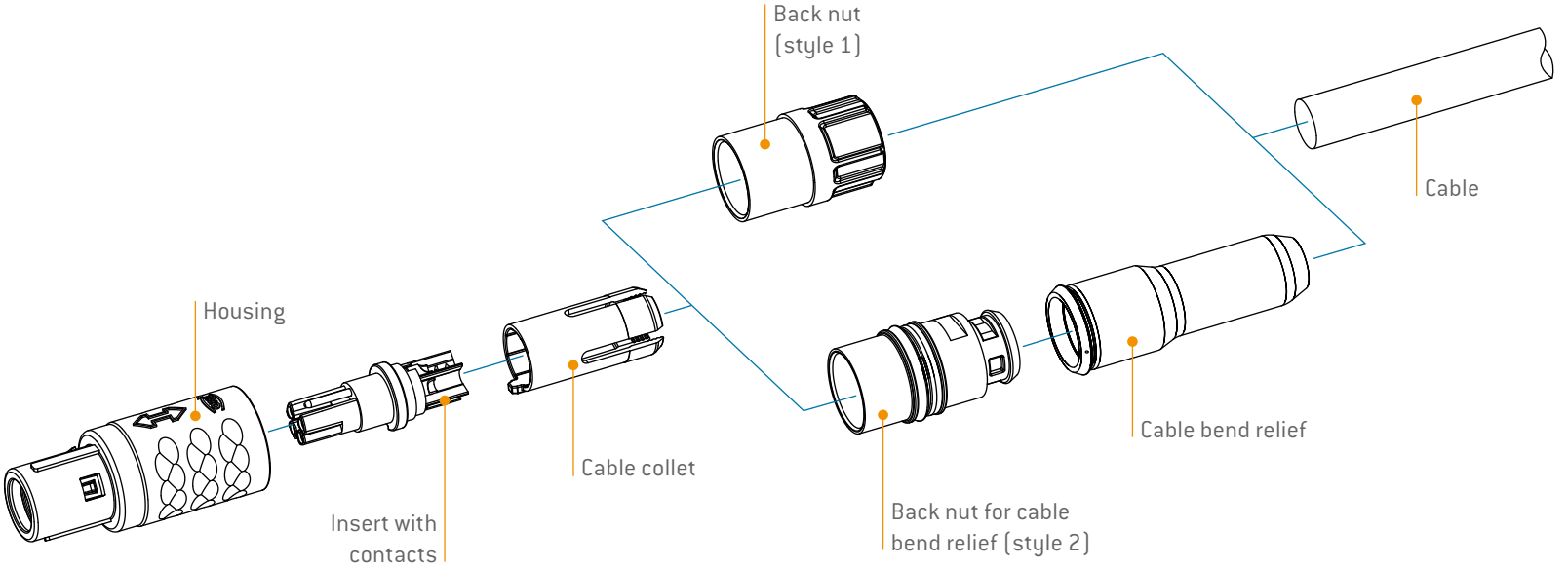
ATTENTION!

Please note that for some connectors the scope of delivery may differ from the illustration in these general installation instructions. Therefore, these installation instructions must always be used together with the drawing of the respective plug connector. Deviating information on the drawing always has priority. Click here for the Product Finder.

NO. D000842497

ODU MEDI-SNAP® High-Voltage

Straight plug, push-pull style with collet system



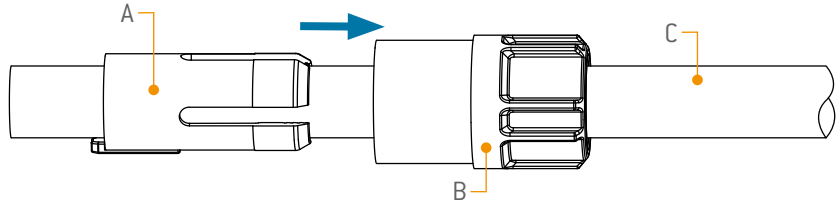
NO. D000842497

Connectors without potting

Assembly of straight plug

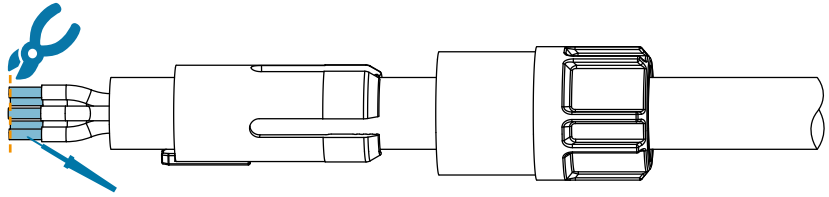
Step 1

- Slide the back nut (B) and the cable collet (A) over the cable (C).



Step 2

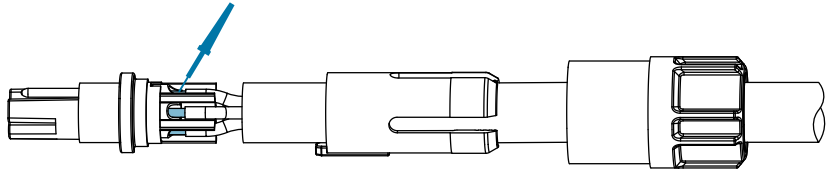
- Strip the cable and the wires according to the reference table (see page 3).
- Pre-tin the strands.



Step 3

- Solder the wires according to the contact arrangement.

If you wish to clean the soldering area, then **only use the recommended cleaning agent** (Isopropyl alcohol).



NO. D000042497

Connectors without potting

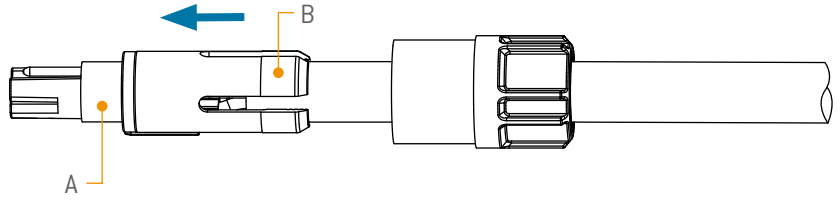
Assembly of straight plug

Step 4

▶ Slide the cable collet (B) onto the contact insert (A).

ATTENTION! **Don't damage the contacts.**

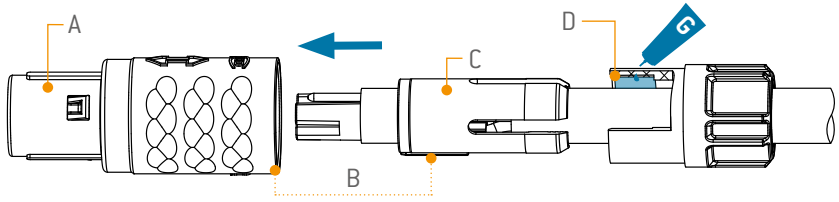
Assembly instructions for size 3.5:
Moisten the cable with drinking water before moving the cable collet. Shift the cable collet by at least 30 mm when sliding it onto the contact insert.



Step 5

▶ Insert the assembled cable (C) into the housing (A) while respecting the guidings (B).

▶ Secure the thread (D) with Scotchweld glue (890.204.000.030.025) (see page 5).

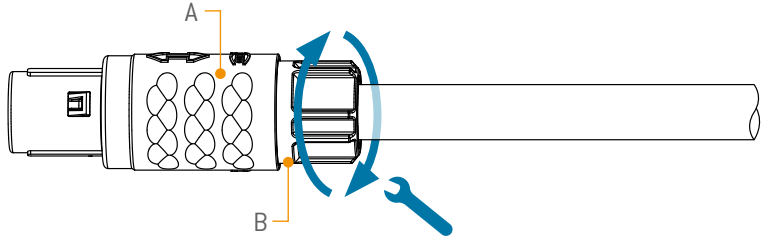


Step 6

▶ Screw and fasten the back nut (A)on the assembled straight plug (B).

ATTENTION! **Consider the tightening torque** (see page 3)

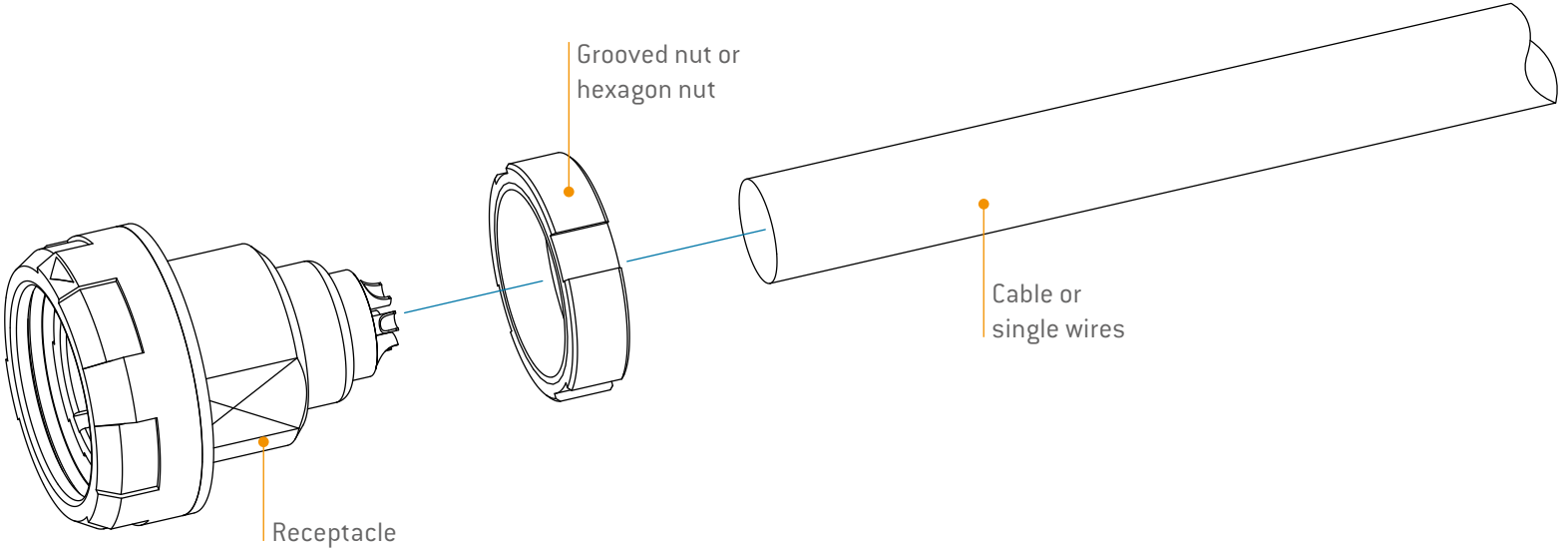
The assembly is finished.



NO. D000042497

ODU MEDI-SNAP® High-Voltage

Assembly of receptacle



NO. D000842497

Connectors without potting

Assembly of receptacle

Step 1

- **Receptacle for front wall mounting:** Slide the hexagon nut or the grooved nut (A) over the cable (B).
- **Receptacle for rear wall mounting:** Step 1 is omitted.

Step 2

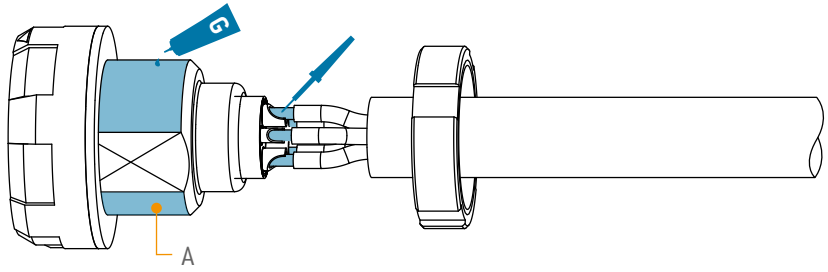
- Strip the cable and the wires (A) according to the reference table (see page 3).
- Pre-tin the strands.

Step 3

- Solder the wires according to the contact arrangement.

If you wish to clean the soldering area, then **only use the recommended cleaning agent** (Isopropyl alcohol).

- Secure the thread (A) with Scotchweld glue (890.204.000.030.025) (see page 5).



NO. D000042497

Connectors without potting

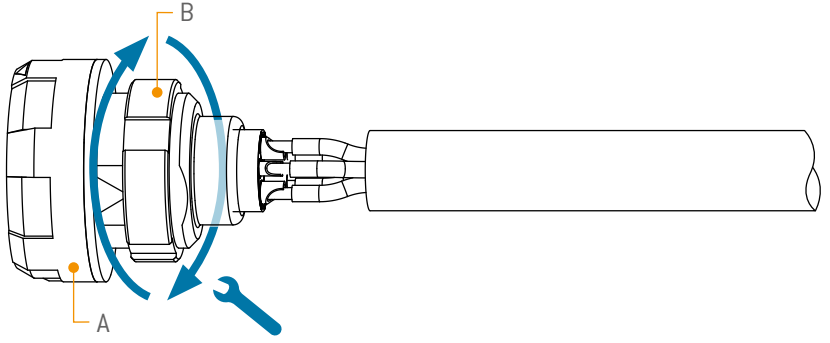
Assembly of receptacle

Step 4

- Insert the receptacle (A) into the end device and screw it tight using the hexagon nut or grooved nut (B). Consider the maximum wall thickness and the material of the panel as specified in the drawing to ensure sufficient air clearances and creepage distances from the HV contacts to the touchable parts.

ATTENTION! **Consider the tightening torque** (see page 3)

The assembly is finished.



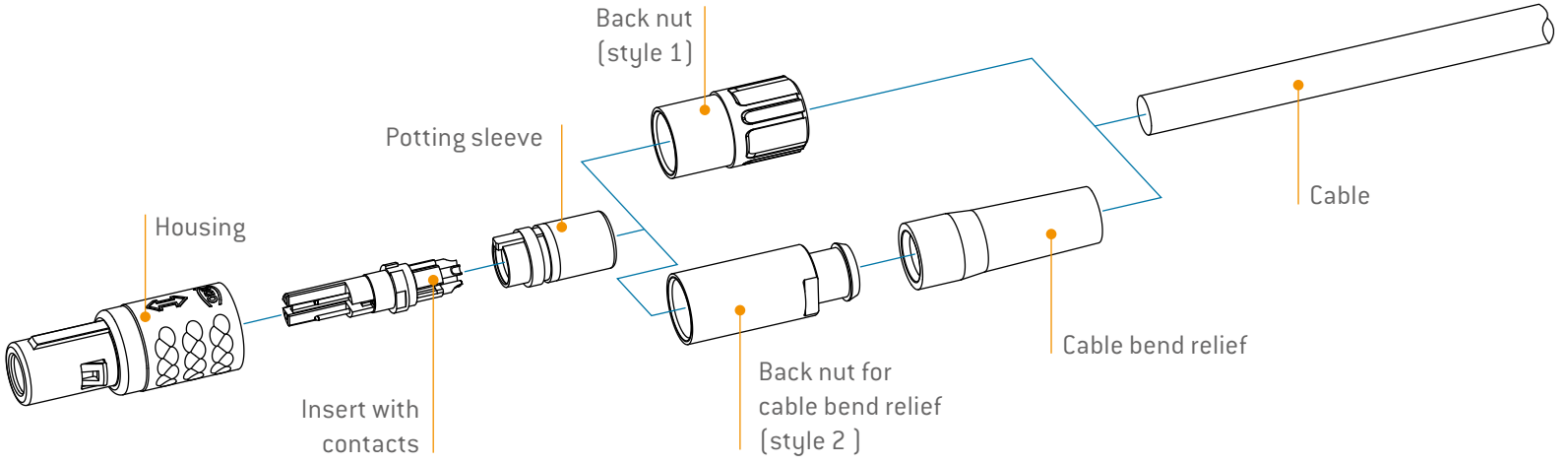
NO. D000842497

ODU MEDI-SNAP® High-Voltage

Potting system 1*: potting sleeve and back nut

▶ potting sleeve replaces cable collet

* The potting system must be determined with the aid of the production drawing. The potting systems are divided into three categories according to their specific structure



NO. D000842497

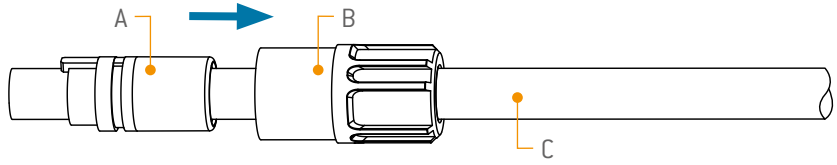
Connectors with potting

Potting system 1: potting sleeve and back nut

▶ potting sleeve replaces cable collet

Step 1

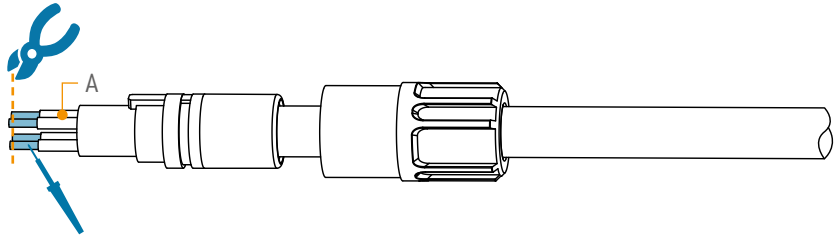
▶ Slide the back nut (B) and the potting sleeve (A) over the cable (C).



Step 2

▶ Strip the cable and the wires (A) according to the reference table (see page 3).

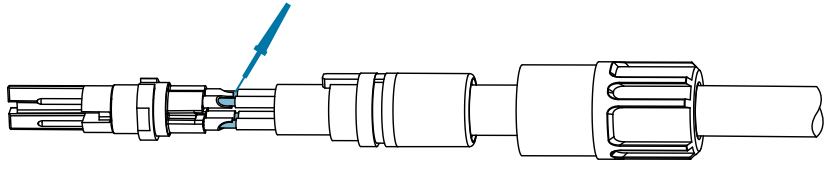
▶ Pre-tin the strands.



Step 3

▶ Solder the wires according to the contact arrangement.

If you wish to clean the soldering area, then **only use the recommended cleaning agent** (Isopropyl alcohol).



NO. D000042497

Connectors with potting

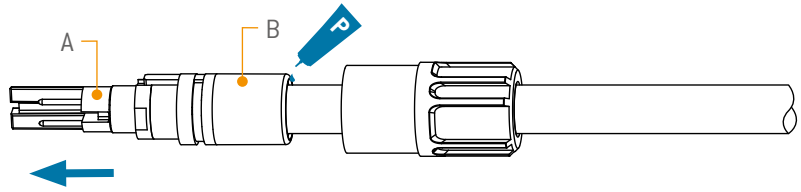
Potting system 1: potting sleeve and back nut

▶ potting sleeve replaces cable collet

Step 4

▶ Slide the potting sleeve (B) onto the contact insert (A). Pour the potting compound into the termination area.
(The potting compound must be suitable for the cable material and all functions (e.g. Isolation))

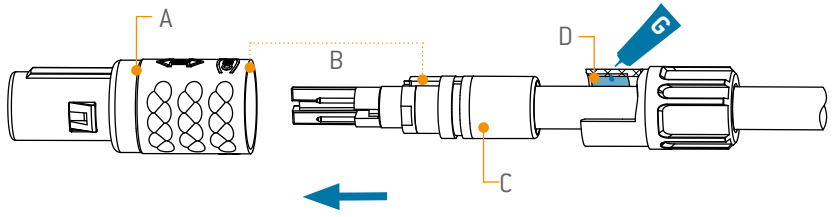
ATTENTION! **Don't damage the contacts.**



Step 5

▶ Insert the assembled cable (C) into the housing (A) while respecting the guidings (B).

▶ Secure the thread (D) with Scotchweld glue (890.204.000.030.025) (see page 5).

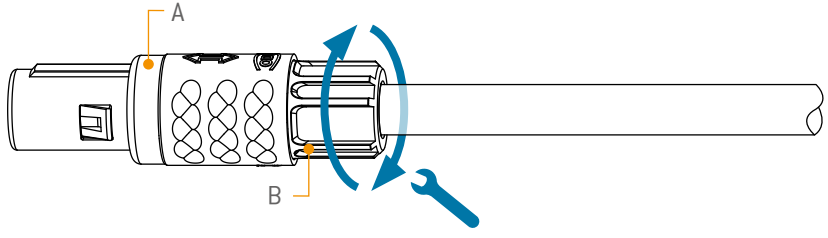


Step 6

▶ Screw and fasten the back nut (B) on the assembled straight plug (A).

ATTENTION! **Consider the tightening torque** (see page 3)

The assembly is finished.



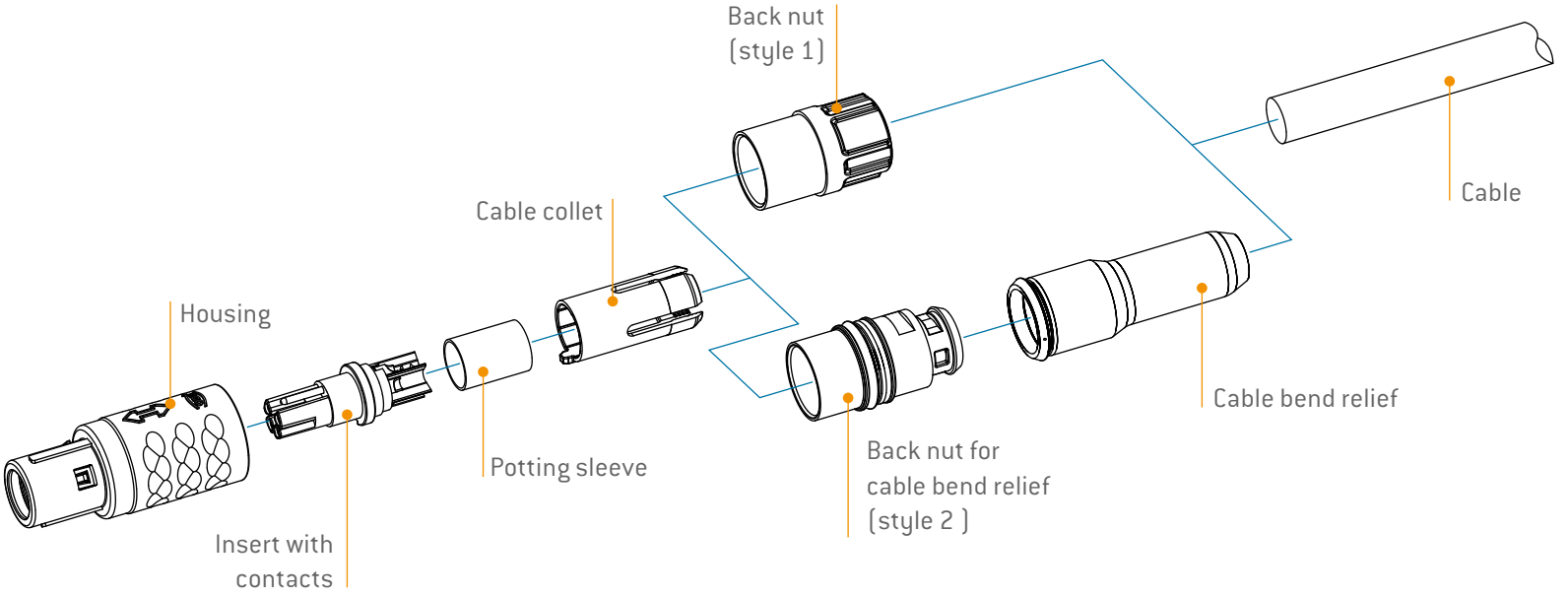
NO. D000042497

ODU MEDI-SNAP® High-Voltage

Potting system 2*: Potting sleeve, cable collet and back nut

▶ position of the potting sleeve within the cable collet

* The potting system must be determined with the aid of the production drawing. The potting systems are divided into three categories according to their specific structure



NO. D000842497

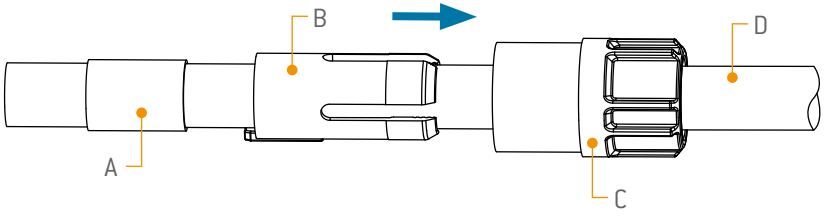
Connectors with potting

Potting system 2: Potting sleeve, cable collet and back nut

▶ position of the potting sleeve within the cable collet

Step 1

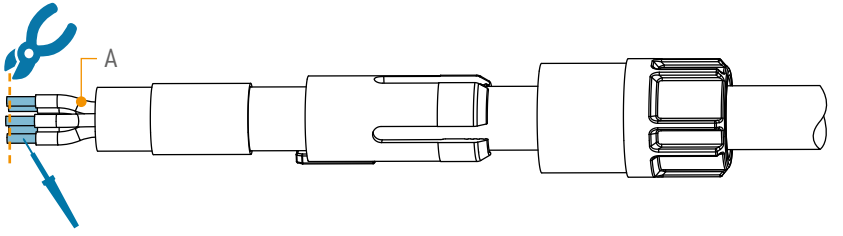
▶ Slide the back nut (C), the cable collet (B) and the potting sleeve (A) over the cable (D).



Step 2

▶ Strip the cable and the wires (A) according to the reference table (see page 3).

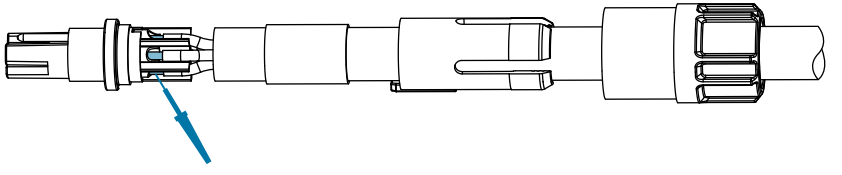
▶ Pre-tin the strands.



Step 3

▶ Solder the wires according to the contact arrangement.

If you wish to clean the soldering area, then **only use the recommended cleaning agent** (Isopropyl alcohol).



NO. D000842497

Connectors with potting

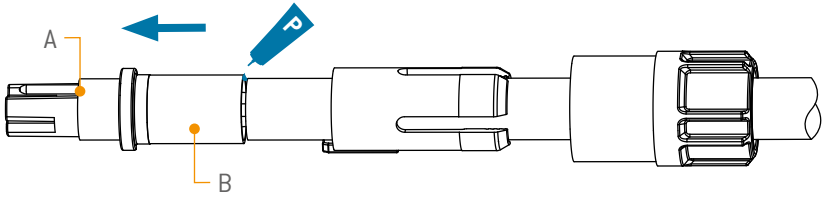
Potting system 2: Potting sleeve, cable collet and back nut

▶ position of the potting sleeve within the cable collet

Step 4

▶ Slide the potting sleeve (B) onto the contact insert (A). Pour the potting compound into the termination area. (The potting compound must be suitable for the cable material and all functions (e.g. Isolation))

ATTENTION! **Don't damage the contacts.**

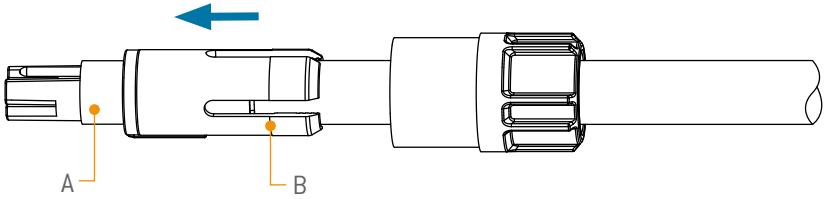


Step 5

▶ Slide the cable collet (B) onto the contact insert (A).

Assembly instructions for size 3.5:

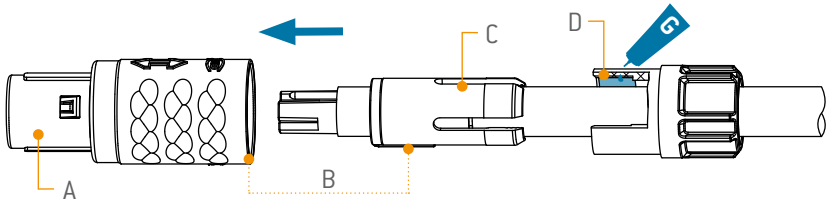
Moisten the cable with drinking water before moving the cable collet. Shift the cable collet by at least 30 mm when sliding it onto the contact insert.



Step 6

▶ Insert the assembled cable (C) into the housing (A) while respecting the guidings (B).

▶ Secure the thread (D) with Scotchweld glue (890.204.000.030.025) (see page 5).



NO. D000042497

Connectors with potting

Potting system 2: Potting sleeve, cable collet and back nut

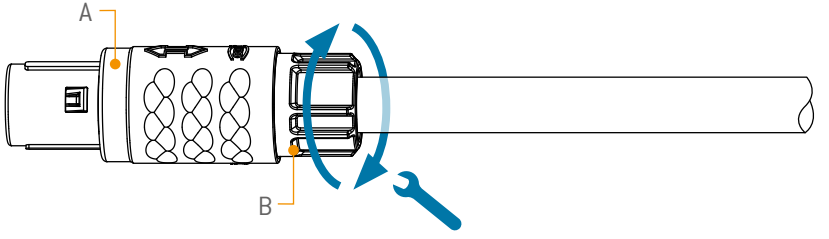
▶ position of the potting sleeve within the cable collet

Step 7

▶ Screw and fasten the back nut (B) on the assembled straight plug (A).

ATTENTION! **Consider the tightening torque** (see page 3)

The assembly is finished.

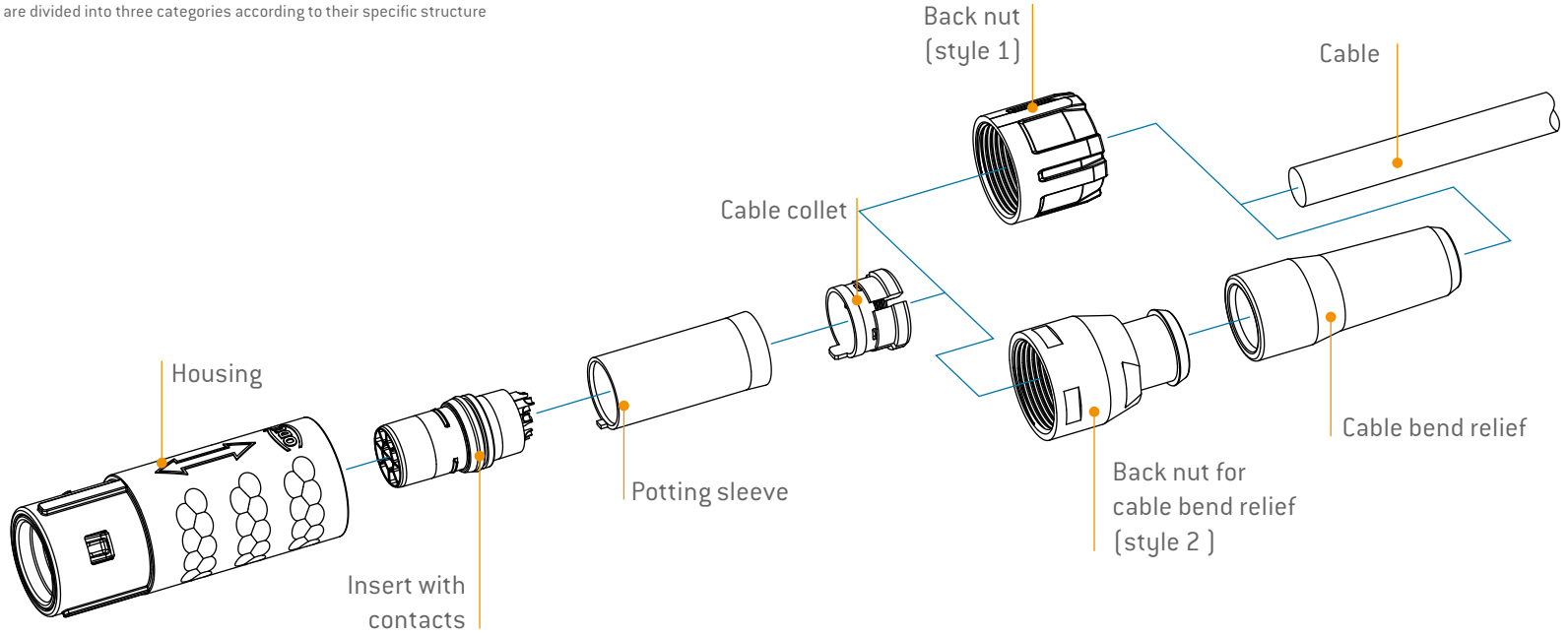


ODU MEDI-SNAP® High-Voltage

Potting system 3*: Potting sleeve, cable collet and back nut

▶ position of the potting sleeve in front of the cable collet

* The potting system must be determined with the aid of the production drawing. The potting systems are divided into three categories according to their specific structure



NO. D000842497

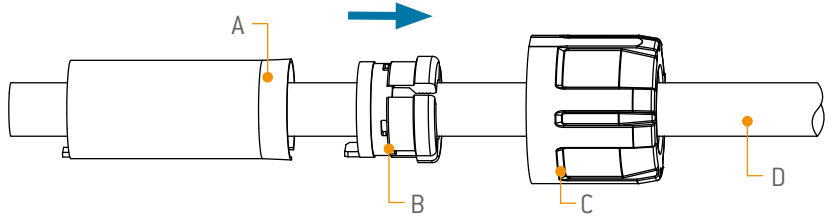
Connectors with potting

Potting system 3: Potting sleeve, cable collet and back nut

▶ position of the potting sleeve in front of the cable collet

Step 1

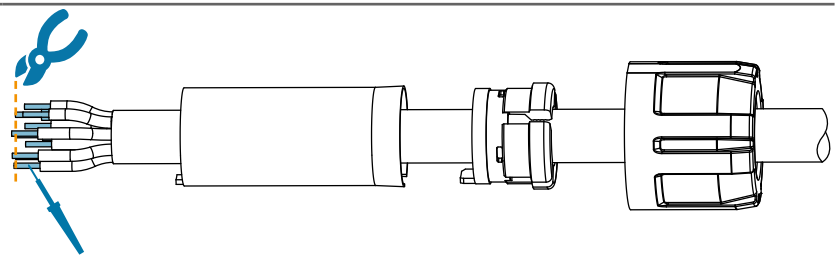
▶ Slide the back nut (C), the cable collet (B) and the potting sleeve (A) over the cable (D).



Step 2

▶ Strip the cable and the wires (A) according to the reference table (see page 3).

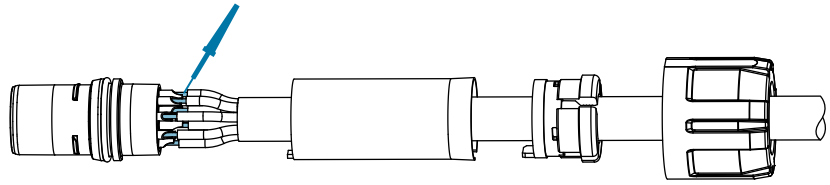
▶ Pre-tin the strands.



Step 3

▶ Solder the wires according to the contact arrangement.

If you wish to clean the soldering area, then **only use the recommended cleaning agent** (Isopropyl alcohol).



NO. D000042497

Connectors with potting

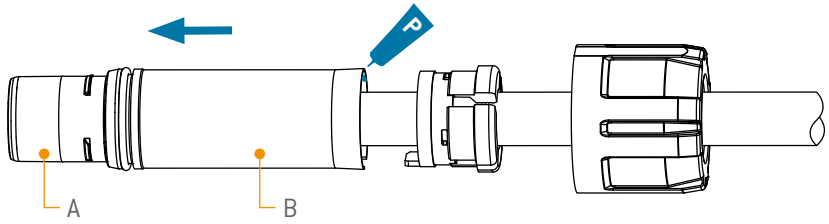
Potting system 3: Potting sleeve, cable collet and back nut

▶ position of the potting sleeve in front of the cable collet

Step 4

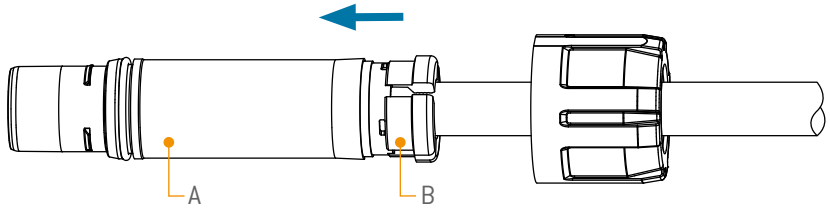
▶ Slide the potting sleeve (B) onto the contact insert (A). Pour the potting compound into the termination area. (The potting compound must be suitable for the cable material and all functions (e.g. Isolation))

ATTENTION! **Don't damage the contacts.**



Step 5

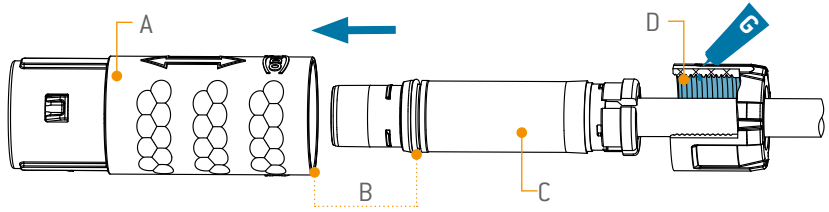
▶ Slide the cable collet (B) onto the contact insert (A).



Step 6

▶ Insert the assembled cable (C) into the housing (A) while respecting the guidings (B).

▶ Secure the thread (D) with Scotchweld glue (890.204.000.030.025) (see page 5).



NO. D000042497

Connectors with potting

Potting system 3: Potting sleeve, cable collet and back nut

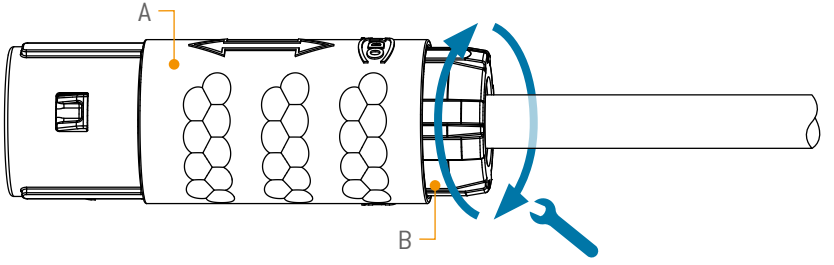
▶ position of the potting sleeve in front of the cable collet

Step 7

▶ Screw and fasten the back nut (B) on the assembled straight plug (A).

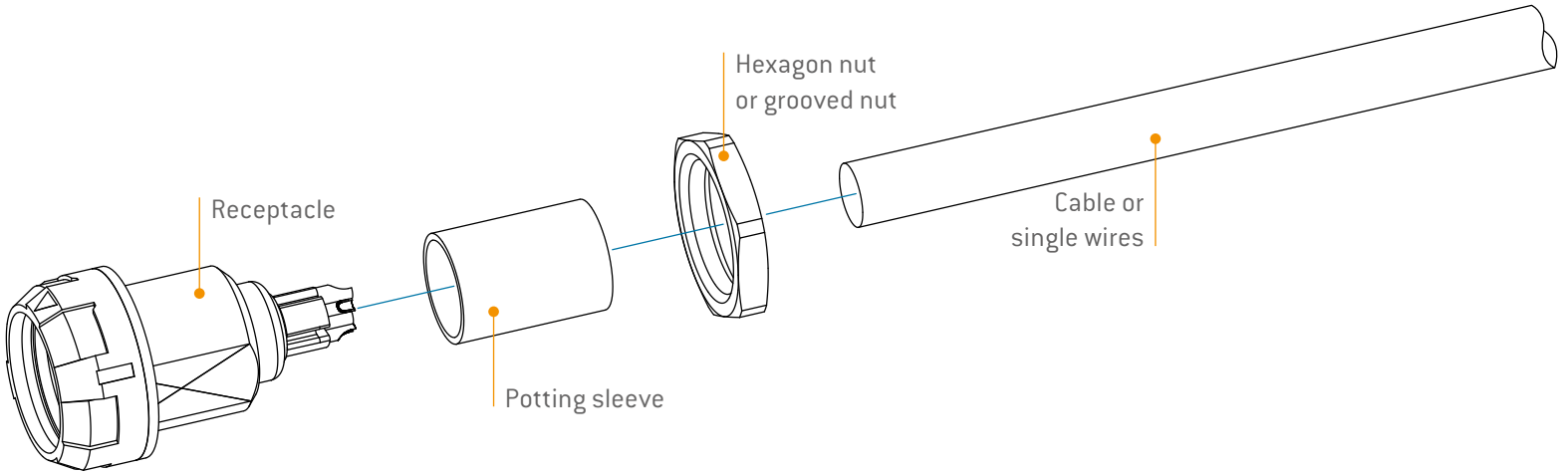
ATTENTION! **Consider the tightening torque** (see page 3)

The assembly is finished.



ODU MEDI-SNAP® High-Voltage

Assembly of receptacle with potting sleeve



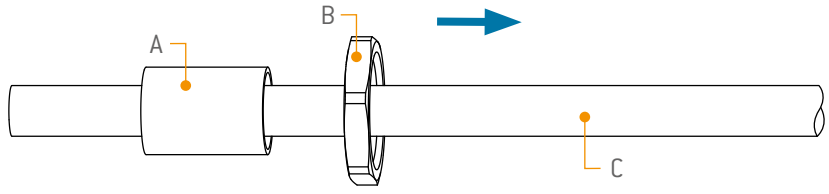
NO. D000842497

Receptacle with potting

Assembly of receptacle with potting sleeve

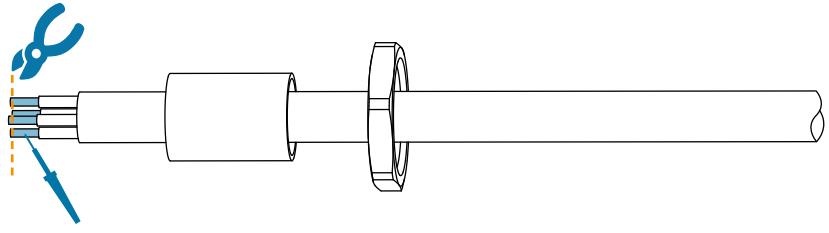
Step 1

- **Receptacle for front wall mounting:** Slide the hexagon nut or the grooved nut (B) and the potting sleeve (A) over the cable (C).
- **Receptacle for rear wall mounting:** Slide the sealing sleeve over the cable.



Step 2

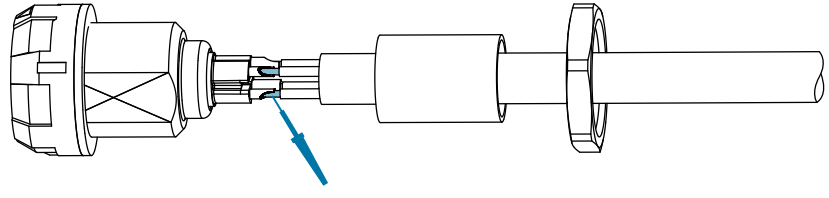
- Strip the cable and the wires according to the reference table (see page 3).
- Pre-tin the strands.



Step 3

- Solder the wires according to the contact arrangement.

If you wish to clean the soldering area, then **only use the recommended cleaning agent** (Isopropyl alcohol).



NO. D000042497

Receptacle with potting

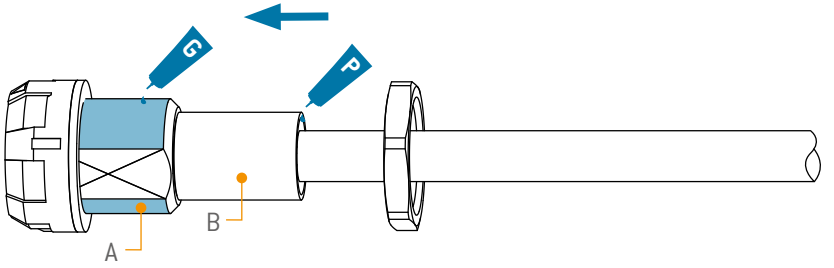
Assembly of receptacle with potting sleeve

Step 4

- Slide the potting sleeve (B) to the end position as shown in the drawing. Pour the potting compound into the termination area. (The potting compound must be suitable for the cable material and all functions (e.g. B. Isolation))

ATTENTION! **Don't damage the contacts.**

- Secure the thread (A) with Scotchweld glue (890.204.000.030.025) (see page 5).

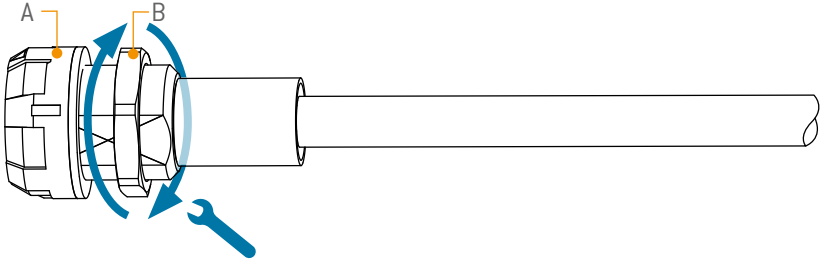


Step 5

- Insert the receptacle (A) into the end device and screw it tight using the hexagon nut or grooved nut (B). Consider the maximum wall thickness and the material of the panel as specified in the drawing to ensure sufficient air clearances and creepage distances from the HV contacts to the touchable parts.

ATTENTION! **Consider the tightening torque** (see page 3)

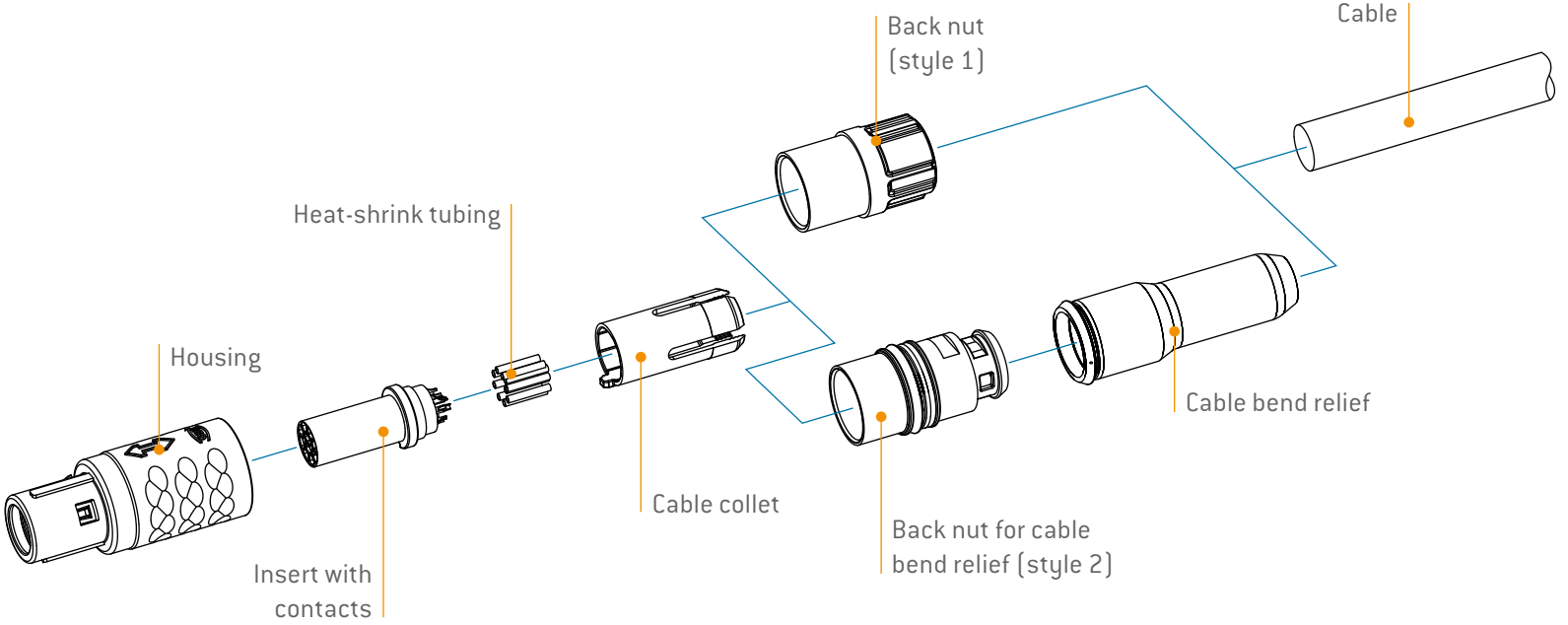
The assembly is finished.



NO. D000842497

ODU MEDI-SNAP® High-Voltage

Connectors with heat-shrink tubing



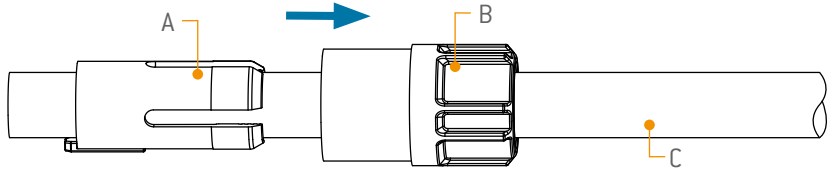
NO. D000842497

Connectors with heat-shrink tubing

Assembly of straight plug

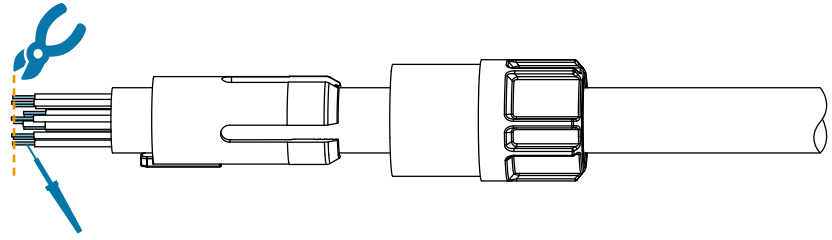
Step 1

- Slide the back nut (B) and the cable collet (A) over the cable (C).



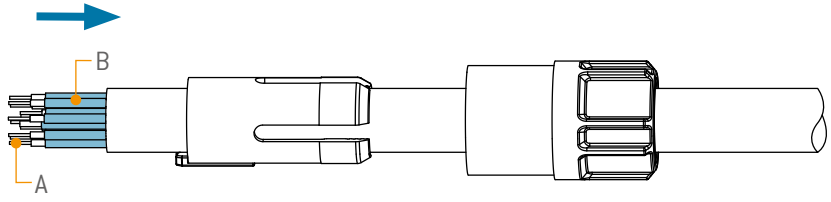
Step 2

- Strip the cable and the wires according to the reference table (see page 3).
- Pre-tin the strands.



Step 3

- Slide the heat-shrink tubing (B) over the single wires (A) as far back as possible according to the contact arrangement so that the stripped strands are not covered by the heat-shrink tubing.



NO. D000042497

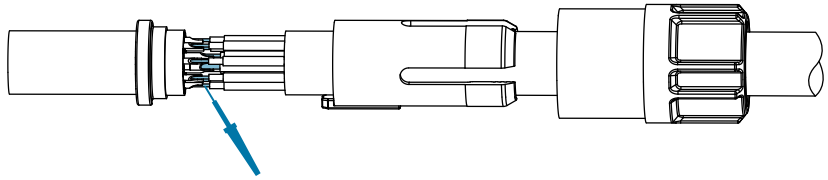
Connectors with heat-shrink tubing

Assembly of straight plug

Step 4

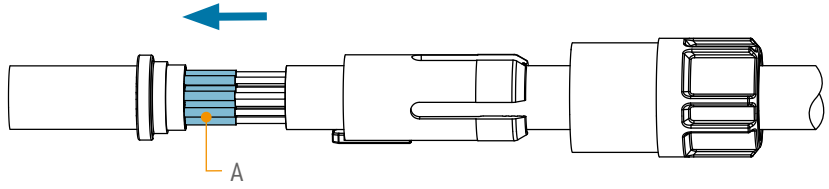
▶ Solder the wires according to the contact arrangement.

If you wish to clean the soldering area, then **only use the recommended cleaning agent** (Isopropyl alcohol).



Step 5

▶ Slide the heat-shrink tubing (A) forward to the end position as shown in the drawing to ensure sufficient air clearances and creepage distances between the contacts. Shrink the heat-shrink tubing.



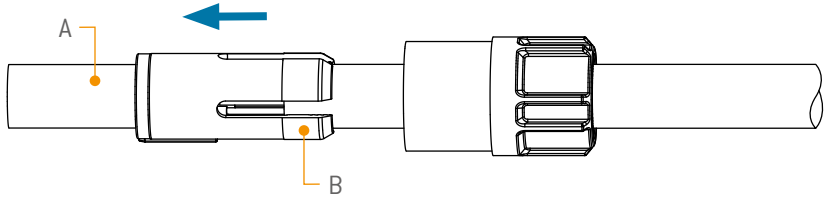
Step 6

▶ Slide the cable collet (B) onto the contact insert (A).

ATTENTION! **Don't damage the contacts.**

Assembly instructions for size 3.5:

Moisten the cable with drinking water before moving the cable collet. Shift the cable collet by at least 30 mm when sliding it onto the contact insert.



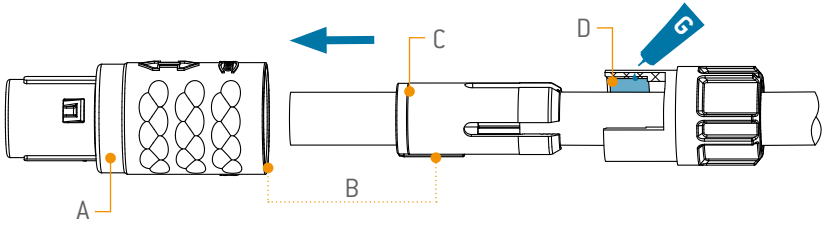
NO. D000042497

Connectors with heat-shrink tubing

Assembly of straight plug

Step 7

- Insert the assembled cable (C) into the housing (A) while respecting the guidings (B).
- Secure the thread (D) with Scotchweld glue (890.204.000.030.025) (see page 5).

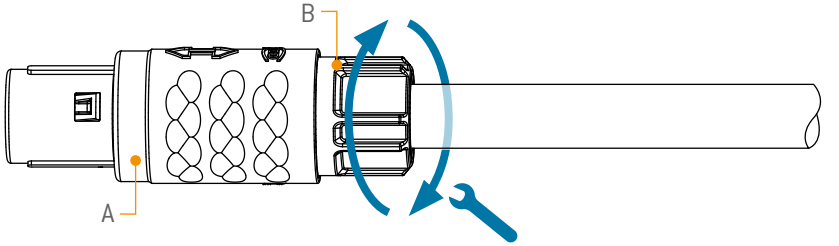


Step 8

- Screw and fasten the back nut (B) on the assembled straight plug (A).

ATTENTION! **Consider the tightening torque** (see page 3)

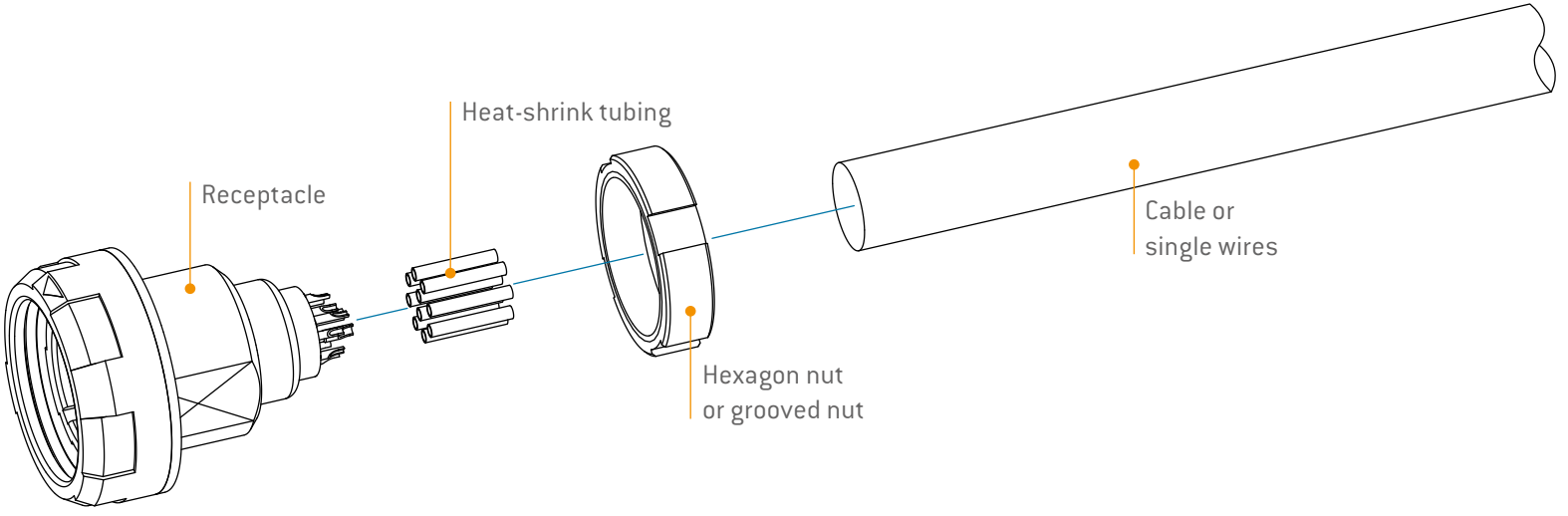
The assembly is finished.



NO. D000042497

ODU MEDI-SNAP® High-Voltage

Receptacles with heat-shrink tubing



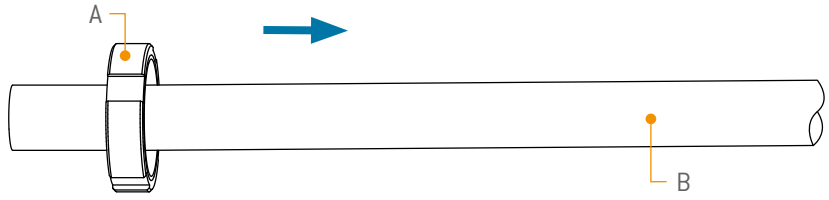
NO. D000842497

Receptacle with potting

Assembly of receptacle with heat-shrink tubing

Step 1

- **Receptacle for front wall mounting:** Slide the hexagon nut (A) or the grooved nut over the cable (B).
- **Receptacle for rear wall mounting:** Step 1 is omitted.

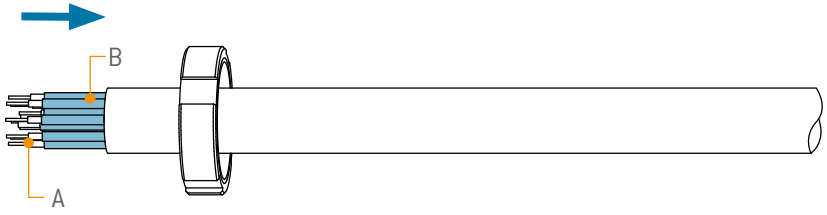


Step 2

- Strip the cable and the wires according to the reference table (see page 3).
- Pre-tin the strands.

Step 3

- Slide the heat-shrink tubing (B) over the single wires (A) as far back as possible according to the contact arrangement so that the stripped strands are not covered by the heat-shrink tubing.



NO. D000042497

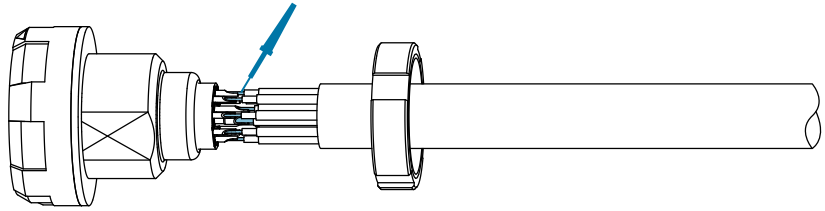
Receptacle with potting

Assembly of receptacle with heat-shrink tubing

Step 4

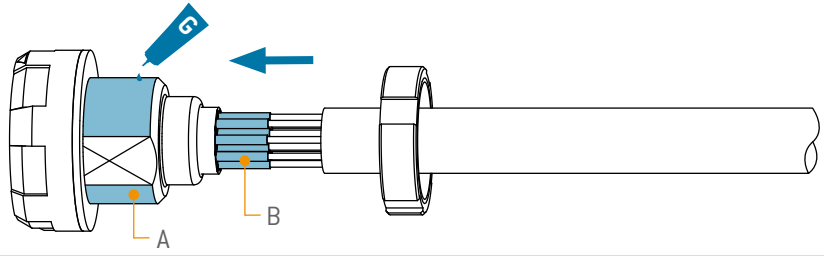
- Solder the wires according to the contact arrangement.

If you wish to clean the soldering area, then **only use the recommended cleaning agent** (Isopropyl alcohol).



Step 5

- Slide the heat-shrink tubing (B) forward to the end position as shown in the drawing to ensure sufficient air clearances and creepage distances between the contacts. Shrink the heat-shrink tubing.
- Secure the thread (A) with Scotchweld glue (890.204.000.030.025) (see page 5).

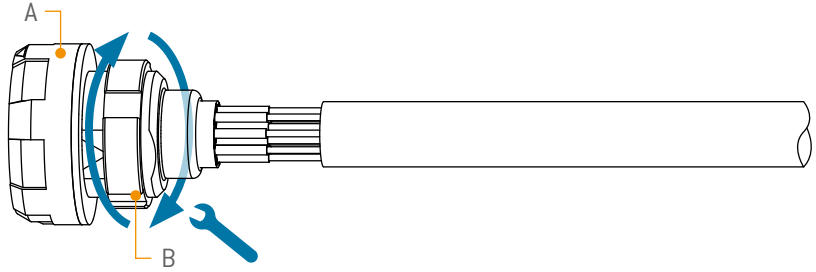


Step 6

- Insert the receptacle (A) into the end device and screw it tight using the hexagon nut or grooved nut (B). Consider the maximum wall thickness and the material of the panel as specified in the drawing to ensure sufficient air clearances and creepage distances from the HV contacts to the touchable parts.

ATTENTION! **Consider the tightening torque** (see page 3)

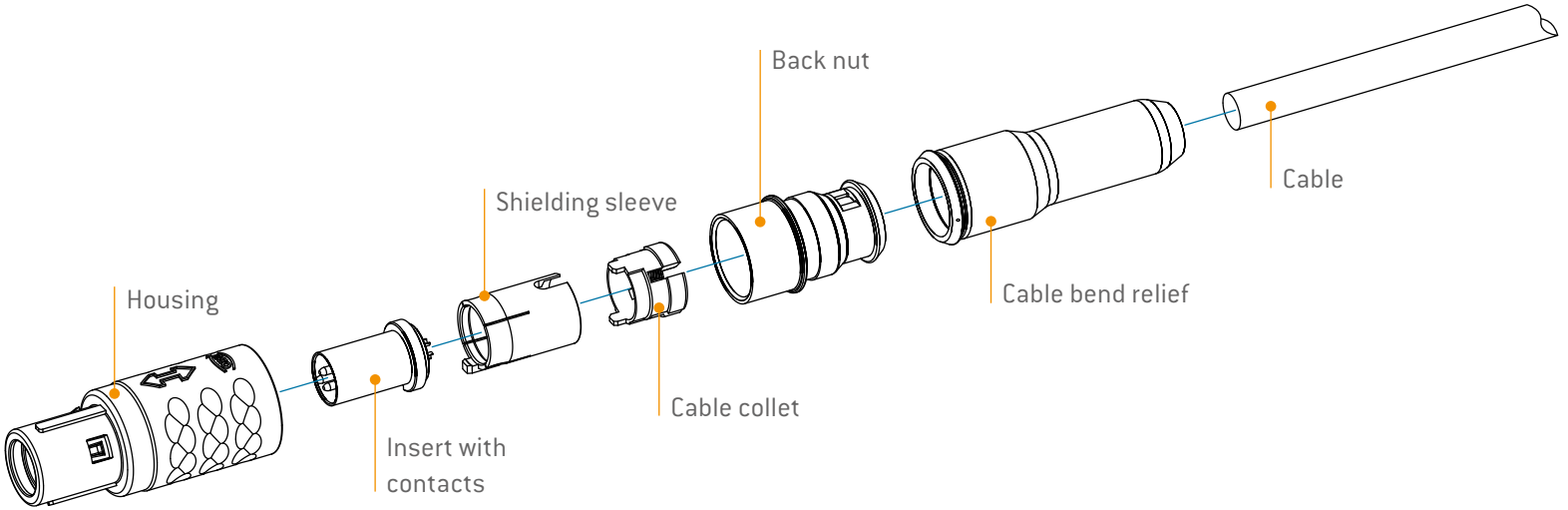
The assembly is finished.



NO. D000042497

ODU MEDI-SNAP® High-Voltage

Connectors with shielded feedthrough



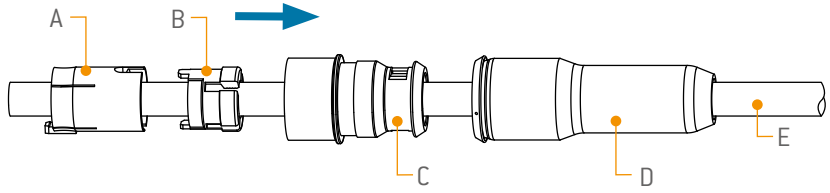
NO. D000842497

Connectors with shielded feedthrough

Assembly of straight plug

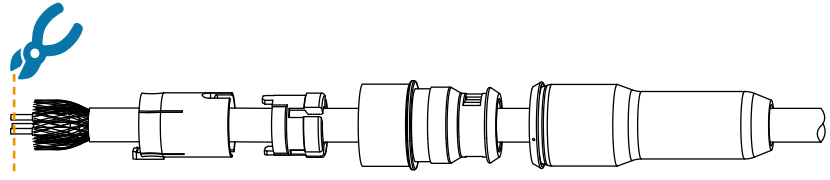
Step 1

- Slide the cable bend relief (D), the back nut (C), the cable collet (B) and the shielding sleeve (A) over the cable (E).



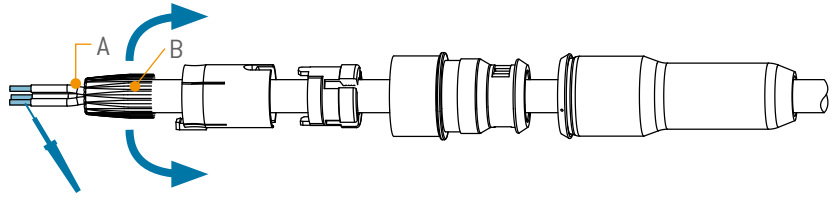
Step 2

- Strip the cable and the wires according to the reference table (see page 4).



Step 3

- Fold back the shield (B) and, if necessary, temporarily attach it to the cable jacket with adhesive tape.
- Pre-tin the strands (A).



NO. D000842497

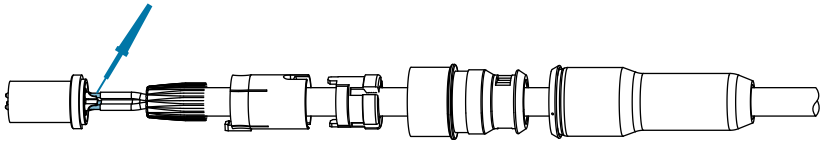
Connectors with shielded feedthrough

Assembly of straight plug

Step 4

▶ Solder the wires according to the contact arrangement.

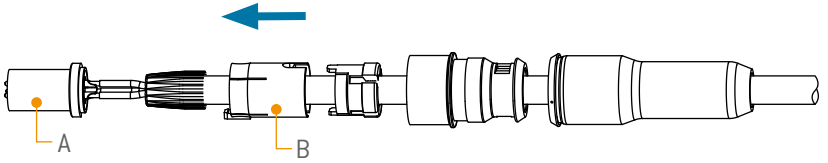
If you wish to clean the soldering area, then **only use the recommended cleaning agent** (Isopropyl alcohol).



Step 5

▶ Slide the shielding sleeve (B) onto the contact insert (A).

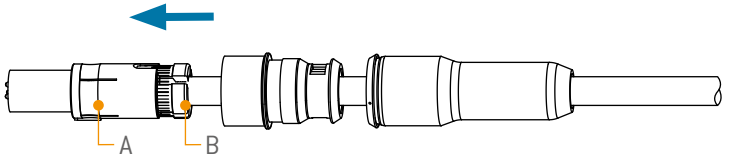
ATTENTION! **Don't damage the contacts.**



Step 6

▶ Remove the adhesive tape and slide the cable collet (B) against the shielding sleeve (A) so that the shield is clamped between the shielding sleeve and the cable collet.

▶ If necessary, shorten the protruding braided shield.



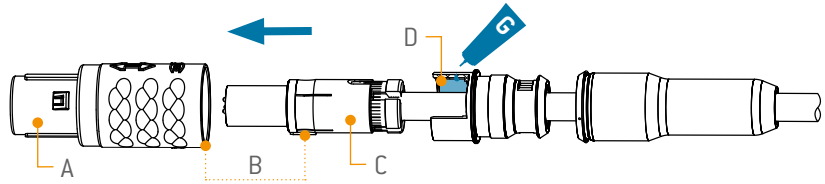
NO. D000042497

Connectors with shielded feedthrough

Assembly of straight plug

Step 7

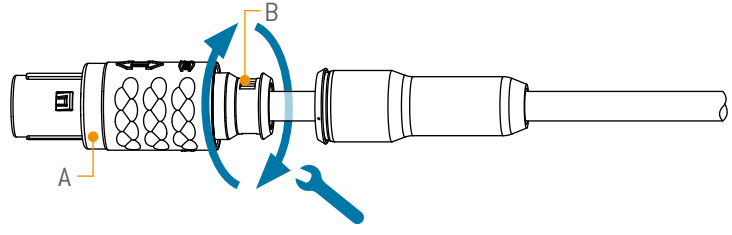
- Insert the assembled cable (C) into the housing (A) while respecting the guidings (B).
- Secure the thread (D) with Scotchweld glue (890.204.000.030.025) (see page 3).



Step 8

- Screw and fasten the back nut (B) on the assembled straight plug (A).

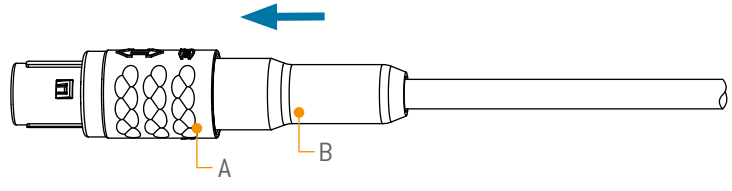
ATTENTION! **Consider the tightening torque** (see page 3)



Step 9

- Push the cable bend relief (B) onto the mounted plug (A).

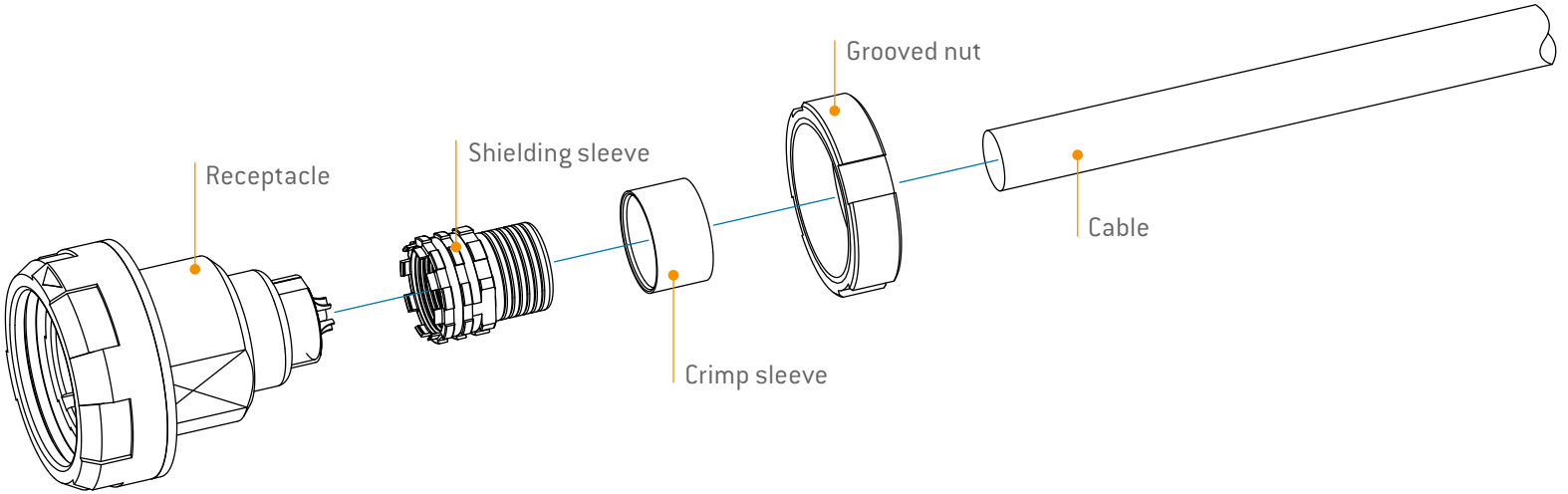
The assembly is finished.



NO. D000042497

ODU MEDI-SNAP® High-Voltage

Receptacle with shielded feedthrough



NO. D000842497

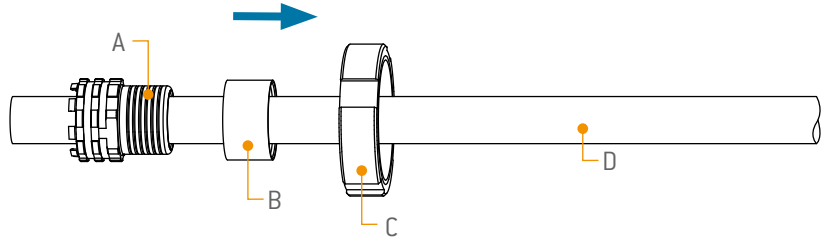
Receptacle with shielded feedthrough

Assembly of receptacle

Step 1

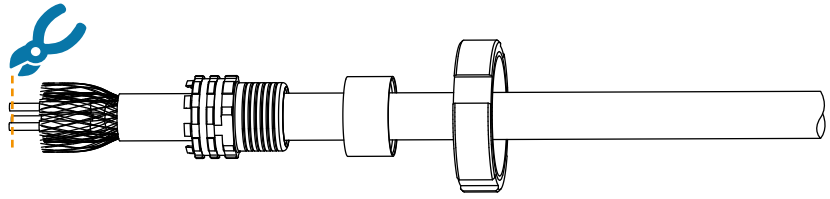
- **Receptacle for front wall mounting:** Slide the grooved nut (C), the crimp sleeve (B) and the shielding sleeve (A) over the cable (D).
- **Receptacle for rear wall mounting:** Slide the crimp sleeve (B) and the shielding sleeve (A) over the cable.

The crimp sleeve (B) is not necessary if a metal band is used to attach the shield to the shielding sleeve.



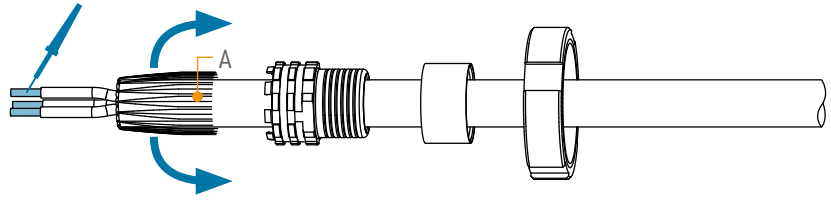
Step 2

- Strip the cable and the wires according to the reference table (see page 4).



Step 3

- Fold back the shield (A) and, if necessary, temporarily attach it to the cable jacket with adhesive tape.
- Pre-tin the strands.



NO. D000042497

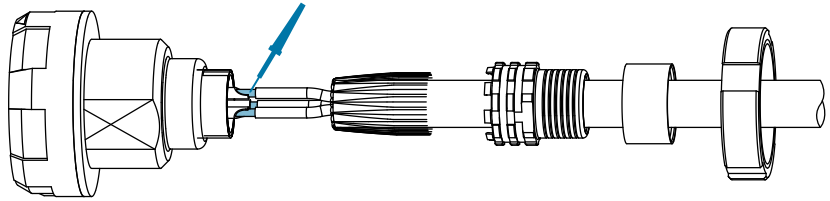
Receptacle with shielded feedthrough

Assembly of receptacle

Step 4

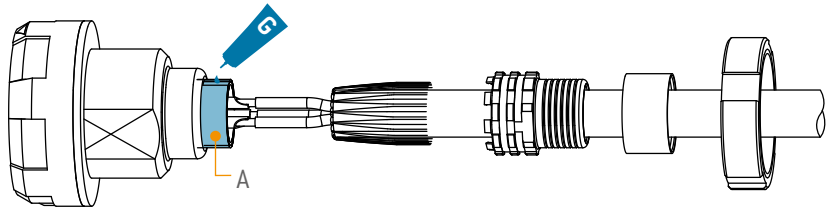
▶ Solder the wires according to the contact arrangement.

If you wish to clean the soldering area, then **only use the recommended cleaning agent** (Isopropyl alcohol).



Step 5

▶ Secure the thread (A) with Loctite 243 glue (890.204.000.030.031) (see page 5).

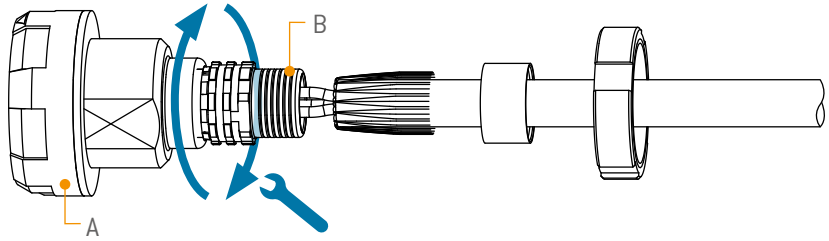


Step 6

▶ Screw the shielding sleeve (B) flush onto the receptacle (A) and tighten with the ODU spanner wrench.

ATTENTION! **Consider the tightening torque** (see page 3)

Spanner wrench for assembly of shielding sleeve size 2	
Crimping tool	798.700.001.002.000



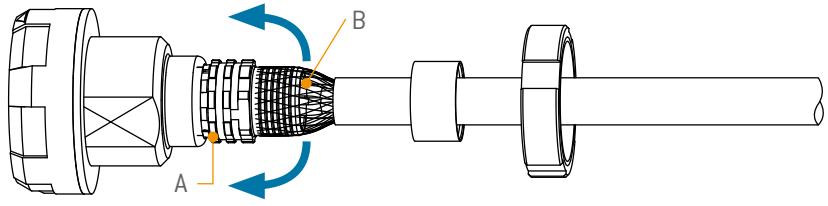
NO. D000042497

Receptacle with shielded feedthrough

Assembly of receptacle

Step 7

- Remove the adhesive tape and place the braided shield (B) on the shielding sleeve (A).
- If necessary, shorten the protruding braided shield (B).



Step 8

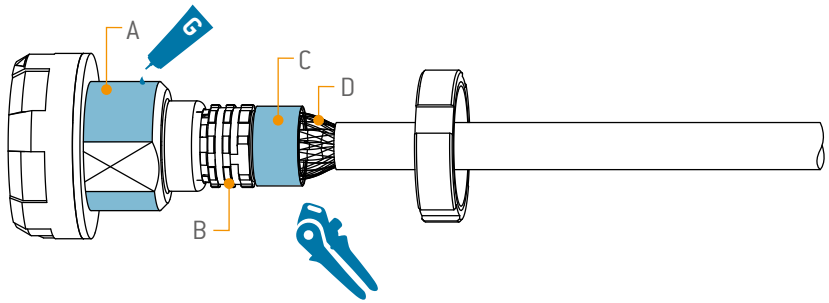
- Attach the braided shield (D) to the shielding sleeve (B) by crimping or with a metal band.
- Secure the thread (A) with Scotchweld glue (890.204.000.030.025) (see page 5).

8.1 Connect the shield (D) to the shielding sleeve (B) using the crimp sleeve (C)

Crimping tool for receptacles with shielded feedthrough size 2		
Crimping tool	Part number	080.000.026.000.000
Crimp die	Part number	080.000.026.701.000

8.2 Connect the shield (D) to the shielding sleeve (B) using a metal band (C)

Band-It bands for receptacles with shielded feedthrough size 2		
Band-It tool	Part number	080.000.058.000.000
Tie-Dex Micro Band	Part number	921.000.004.000.248



NO. D000042497

Receptacle with shielded feedthrough

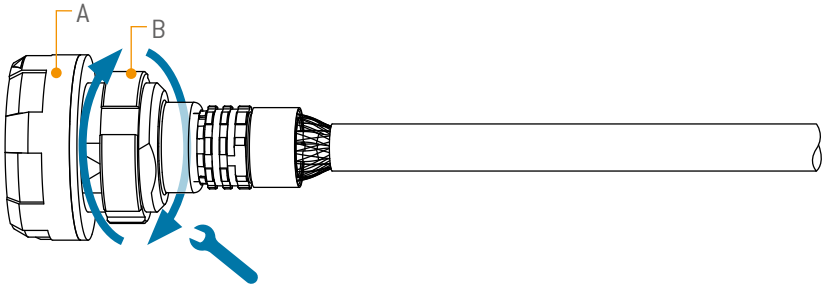
Assembly of receptacle

Step 9

- Insert the receptacle (A) into the end device and screw it tight using the hexagon nut or grooved nut (B). Consider the maximum wall thickness and the material of the panel as specified in the drawing to ensure sufficient air clearances and creepage distances from the HV contacts to the touchable parts.

ATTENTION! **Consider the tightening torque** (see page 3)

The assembly is finished.



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All dimensions are in mm.
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