ODU AMC® SERIES T

Connectors with ODU integrated shield-termination platform



Click here for the assembly instruction for

connectors with backshell termination acc. MIL-DTL-38999 SERIES III

Assembly instructions

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Assembly ODU AMC® Series T 05

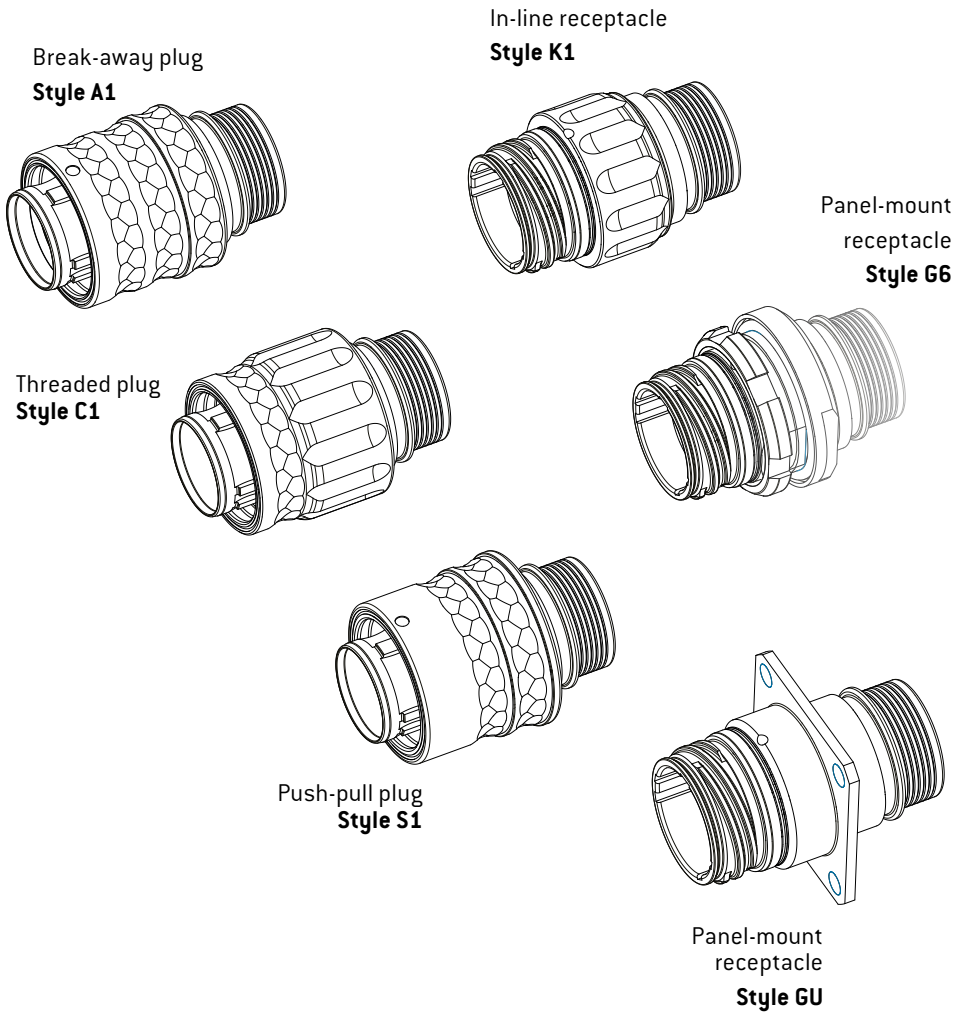
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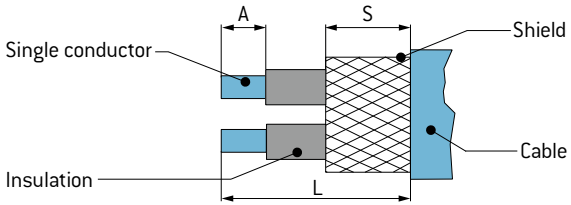


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General notes

Recommended stripping length

The following table provides recommended guidelines for cable preparation.



A = Stripping length single conductor
L = Stripping length cable jacket
S = Stripping length braided shield

Shell size	Insert arrangement	Contact	Straight cable assembly			Right angle cable assembly		
			L	A	S	L	A	S
9	8 way	#22D	22	4.1	12	32	4.1	30
9	10 way	#22D	22	4.1	12	32	4.1	30
12	5 way	#16	28	6.0	12	37	6.0	35
12	18 way	#20MD	28	5.5	12	37	5.5	35
		#22D	28	4.1	12	37	4.1	35

All dimensions in mm

Exceptions are noted on special instructions.

Recommended stripping length on cable preparation of data transmission protocols can be found in the applicable documents (see page 08).

Note for data-rate-connectors:
Before crimping, twist the strands back slightly in the original direction. If a shield is available for the separately pairs of wires (e.g. STP-Cables), warp it around the pairs as far as possible.

Stripping lengths cable jacket (L)	
Length in mm	Tolerance in mm
< 20	± 1
> 20 – 50	± 2
> 50 – 100	± 3

Stripping length braided shield (S)	
Length in mm	Tolerance in mm
< 10	± 1
> 10 – 20	± 2

Stripping lengths single conductor (A)	
Length in mm	Tolerance in mm
< 5	± 0.5
> 5 – 10	± 1
> 10 – 20	± 2

Tools / Accessories


Wire cutter


Crimping


Retention

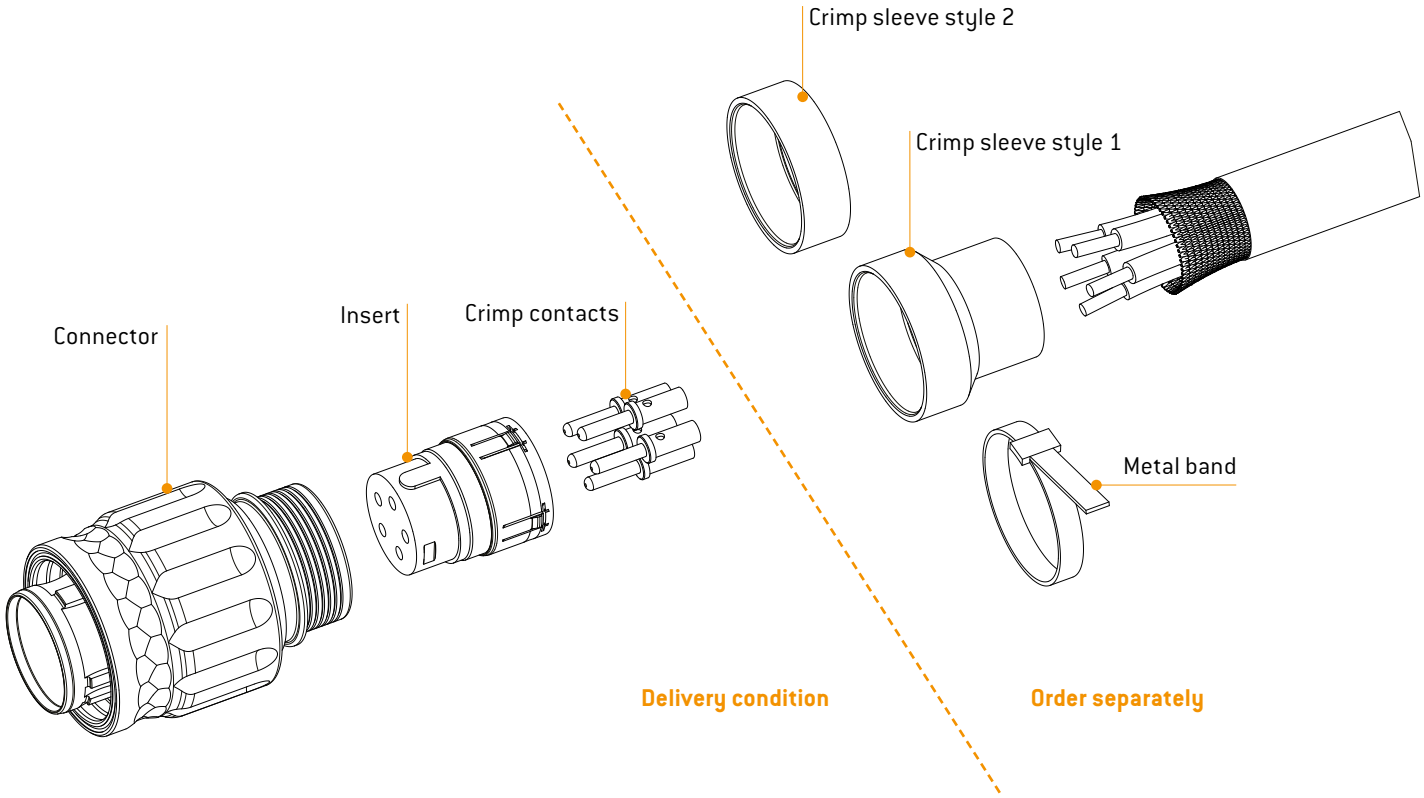

Spanner wrench


Insertion

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

Overview ODU AMC® Series T

Connectors with ODU integrated shield-termination platform

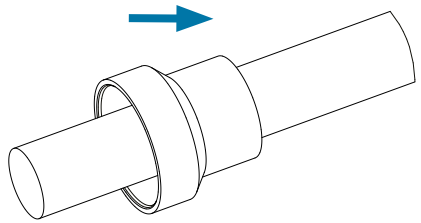


Assembly ODU AMC® Series T

Connectors with ODU integrated shield-termination platform

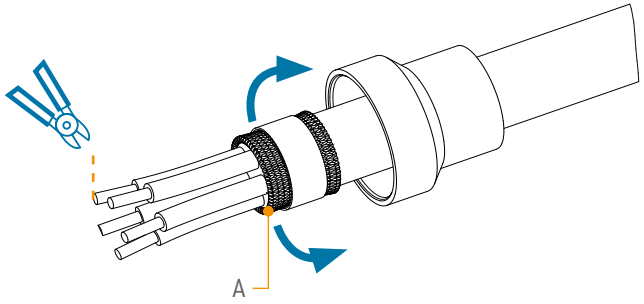
Step 1

▶ Slide crimp sleeve over the cable. The crimp sleeve is not needed if a metal band is used fo fastening the shield to the crimp area.The crimp sleeve has to be ordered separatly (see page 03).



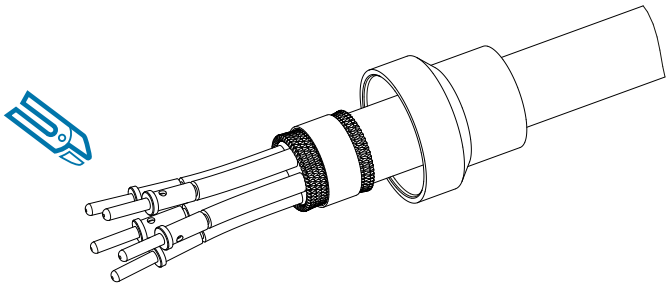
Step 2

▶ Strip cable and conductors (see page 06). Fold back the shield (A) and use fastening tape (e.g. Würth: 09920019) to fasten it temporarily to the cable jacket.
For more information on cable preparation of standard assemblies such as stripping lengths (see page 03) and following.
Further information on cable preparation of data transmission protocols can be found in the applicable documents (see page 07).



Step 3

▶ Crimp the contacts to the wires. For recommended tools and instructions please see crimp contact specification D00016300.

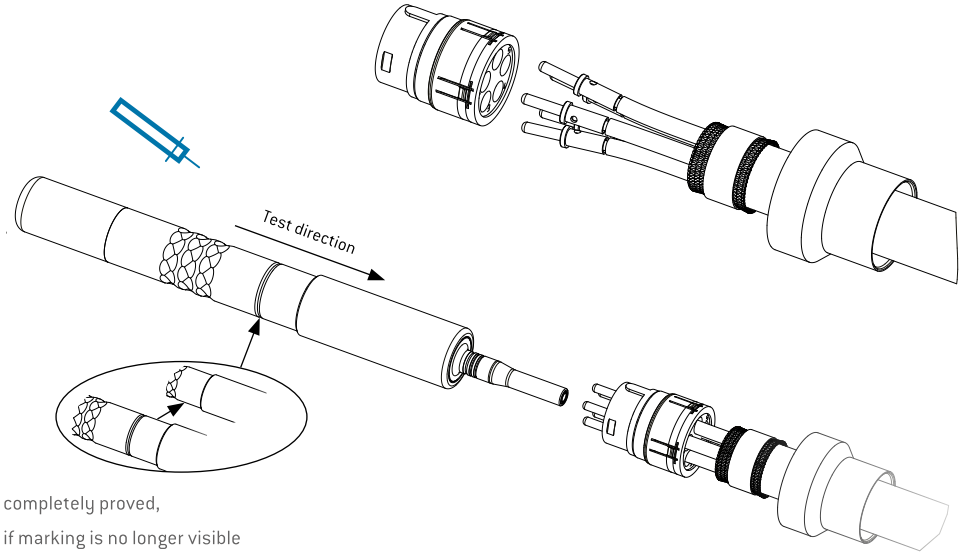


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Step 4

▶ Press the terminated contacts into the contact cavities according to the application-specific pinout instructions. Use the insertion tools if required. Information on these tools can also be found in crimp contact information D00016300.
The wiring charts for data transmission protocols are shown in the relevant applicable documents (see page 08).

The contact retention tool can be used to check if the contacts are fully engaged.
For this, the corresponding adapter (see page 10) must be pressed against the contact from the front until the black marking on the tool is no longer visible.

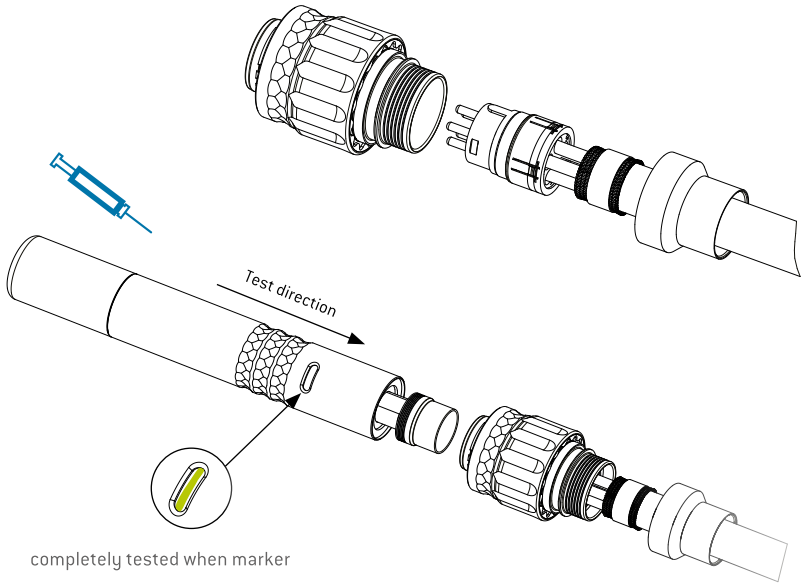


completely proved,
if marking is no longer visible

Step 5

▶ Align the exterior key of the insert with the interior keyway of the connector. Press the insert assembly into the connector housing. If inserted correctly, there should be an audible "click."

The insert retention tool can be used to check if the insert is fully engaged.
For this, the corresponding adapter (see page 10) must be pressed against the insert from the front until the green marking can be seen in the viewing area.



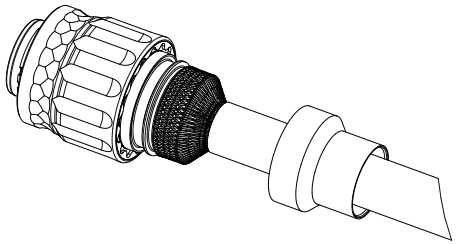
completely tested when marker
is visible in the checking frame

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Step 6

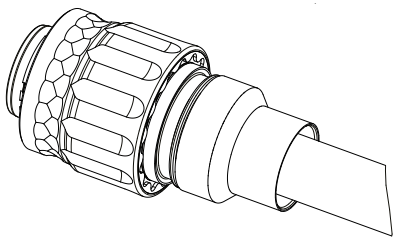
▶ Remove the fastening tape and lay the shield braid on to the shield termination platform.



Step 7

▶ Fasten the shield braid to the crimp area by means of crimping or by using a metal band. More information on (see page 09).

Optional: For additional sealing or to prepare for overmolding, the interior of the crimp sleeve may need to be potted. (ODU recommends Dow Corning SE 9187 L or WEVO-2K-casting resin PU552FL, depending on the application).



Step 8

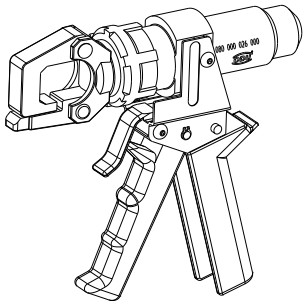
▶ Bend relief: This can be implemented by means of overmolding or by using shrink boot. More information on (see page 08) and following.

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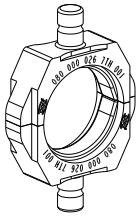
Shield termination

Crimp sleeve

Crimp tool		
Shell size	Material number	ODU number
all	50231527	080.000.026.000.000

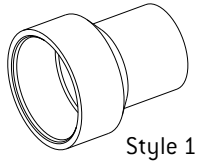


Crimp die		
Shell size	Material number	ODU number
9	50281524	080.000.026.7TE.001
12	50286858	080.000.026.7TH.001

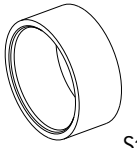


Crimp sleeve			
Shell size	Material number	ODU number	Style
9	50269982	7TE.440.101.304.000	1
	50291239	7TE.440.101.304.001	2
12	50270266	7TH.440.101.304.000	1
	50291232	7TH.440.101.304.001	2

Style 1 is needed for a 20 meter submersible cable assebly.
Style 2 is needed for a cable assembly with right-angle overmolding.



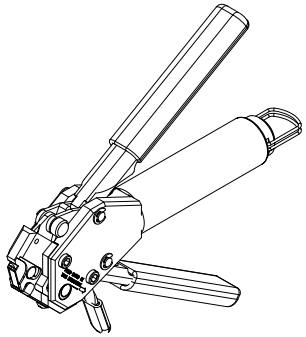
Style 1



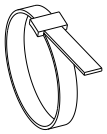
Style 2

Metal bands

Crimp tool		
Shell size	Material number	ODU number
all	50035716	080.000.058.000.000



Tie-dex micro bands		
Shell size	Material number	ODU number
all	50156242	921.000.004.000.248



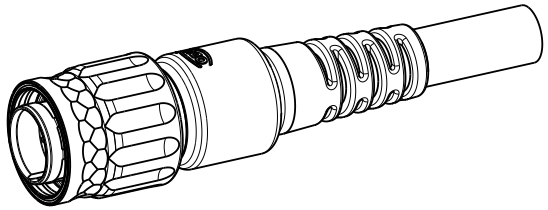
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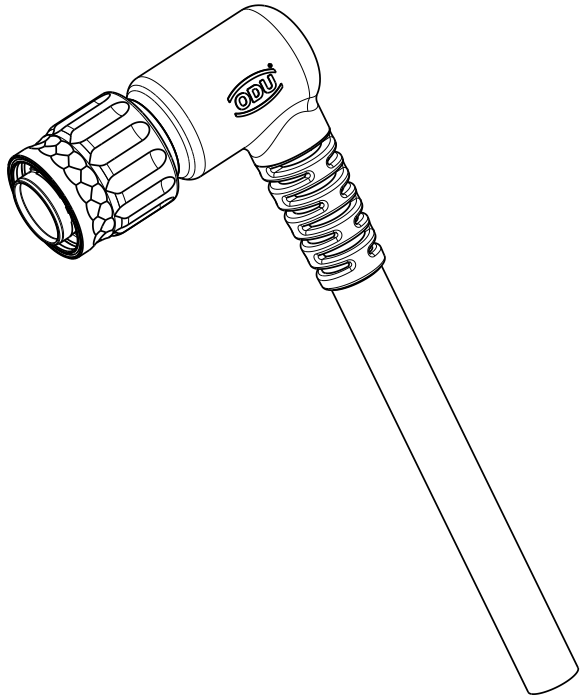
Cable interface

ODU connectors are designed for overmolding. A heatshrinkable bend relief is also possible.

ODU Overmolding

We provide complete solution with straight and right-angled overmolding on request.





Heatshrink solution

Straight heat shrink boot option				
Shell size	Material number	ODU number	Hellermann	TE Connectivity
all	50 15 70 36	921.000.010.008.084	**401-52880**	202D121-3-60

Right angle heat shrink boot option			
Shell size	Material number	ODU number	Hellermann
all	50 15 70 39	921.000.010.008.087	411-52480

ODU stock parts are the **bold numbers**.

For a better adhesion of the heatshrink boots on housing and cable, ODU recommend to work with an epoxyd-adhesion e.g. Hellermann V9500, TE Connectivity S1125.
(Take care of Hellermann / TE Connectivity work instruction)

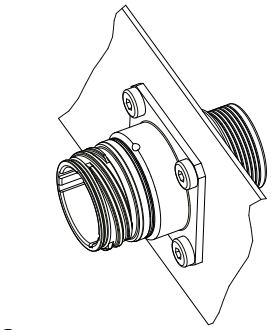
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Square flange solution

Tightening torque

Tightening torque for standard thread in Nm						
Thread Size	Strength class					
	4.6	5.6	6.8	8.8	10.9	12.9
M3	0.48	0.60	0.96	1.28	1.80	2.16

The use of a torque wrench is recommended.



Retention tools

Insert retention tool

Tie-dex micro bands		
Shell size	Material number	ODU number
09 /12	50304551	7TH.098.003.E00.000
14	50521283	7TH.098.003.H00.000

Adapter							
Shell size	Material number	ODU number	Connector type	Contact type	Color 1	Color 2	Color 3
09	50508311	7TH.098.003.E00.000	Plug	Socket	Black	Green	Red
			Plug	Pin	Black	Green	Yellow
			Receptacle	Socket	Black	Blue	Red
			Receptacle	Pin	Black	Blue	Yellow
12	50508323	7TH.098.003.H00.000	Plug	Socket	Red	Green	Red
			Plug	Pin	Red	Green	Yellow
			Receptacle	Socket	Red	Blue	Red
			Receptacle	Pin	Red	Blue	Yellow
14	50522310	7TM.098.003.K00.000	Plug	Socket	Yellow	Green	Red
			Plug	Pin	Yellow	Green	Yellow
			Receptacle	Socket	Yellow	Blue	Red
			Receptacle	Pin	Yellow	Blue	Yellow

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Contact retention tool

Contact Retention Tool		
Contact size	Material number	ODU number
#12	50512863	7TH.098.004.000.001
#16		
#20	50503460	7TH.098.004.000.000
#20MD		
#22D		
#22MD		
#26		
#28		

Adapter						
Contact size	Material number	ODU number	Type	Color 1	Color 2	Color 3
#16	50515705	7TH.098.004.K02.000	Pin	Yellow	Red	Green
			Socket	Black	Red	Green
#20 / #20MD	50515702	7TH.098.004.K07.000	Pin	Yellow	Yellow	Yellow
			Socket	Black	Yellow	Yellow
#22D / #22MD	50515703	7TH.098.004.K09.000	Pin	Yellow	Blue	Black
			Socket	Black	Blue	Black
#26	50515706	7TH.098.004.K11.000	Pin	Yellow	Green	Blue
			Socket	Black	Green	Blue

Applicable documents

In order to ensure the best possible data transmission, assembly steps 2 and 3 are explained in more detail and the wiring charts are given in separate documents.

Shell size	Number of contacts	Data transmission protocols	Applicable document
SS09	08	Ethernet	D00028949
SS12	22	DisplayPort 2.0	D00028948

carbon neutral
print production
natureOffice.com | DE-077-860878

Printed on certified
recycled paper.

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