

ODU AMC[®]



A PERFECT ALLIANCE.

ODU Advanced Military Connector



ODU AMC® – Advanced Military Connector



Applications

- Defence and security
- PTT and PRR systems
- Ruggedized computers and hand-helds
- Nightvision
- Power supply
- Dismounted soldier
- Unmanned systems
- Land vehicles
- Software defined radios.

Features

- Low weight
- Compact design
- Easy to handle
- Watertight
- Easy-Clean
- Robust
- Tested in accordance to MIL
- Blind mateable.

All shown connectors are according to DIN EN 61984:2009 connectors without breaking capacity (COC).

All dimensions in mm.
Most of the pictures are illustrations.
All data and specifications subject to change without notice.

UL-file E110586

Issue 2016-06

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Product Description ODU AMC®



Only the Best Solution Keeps You Running

Since its founding in 1942, ODU has developed and manufactured reliable connector systems for the military and defence sectors. These high-quality, innovative products are produced for the global market. ODU connectors are involved in many different sectors of the defence and military market, e.g. soldier communication systems, various "Soldier of the future" programmes, night vision systems, radio systems, radar systems, sonar systems for nuclear and non-nuclear submarines, weapon systems, portable navigation systems, launcher/rockets, aviation, battleships, armoured vehicles, etc.

ODU has all necessary technologies under one roof, so we can respond to our customers requests flexibly and quickly. Design and development, tool manufacture, molding, stamping, turning, plating, assembly as well as cable assembly are all housed in our facility in Germany.

ODU connectors are certified to:
 ISO 9001, ISO 13485 : 2003 + AC : 2007, ISO/TS 16949,
 ISO 14001:2009 and furthermore VDE, UL, CSA, VG, MIL.



ODU AMC® – a Connection You Can Count On

ODU is involved in soldier modernisation programs – worldwide. In this field connectors must meet a number of rigorous conditions including ease-of-use and reliability under the most extreme conditions. ODU connectors meet and often exceed these by providing a reliable connection under the harshest of conditions. If you are looking for an innovative, robust, secure and reliable connector solution in the military/defence area – ODU is your partner!

To meet all requirements of the future ODU developed the military connector **ODU AMC** – **A**dvanced **M**ilitary **C**onnector.



Group voice and data radio
 – Excellent shielding
 – High-speed up to 10 GBit

Navigation module
 – Easy-Clean version

Soldier control unit
 – Cable to cable connection

Right-angled connector

Personal computer
 – Small
 – Light
 – Colour coding possible

Vehicle adaption

Features ODU AMC® Series

Product Description



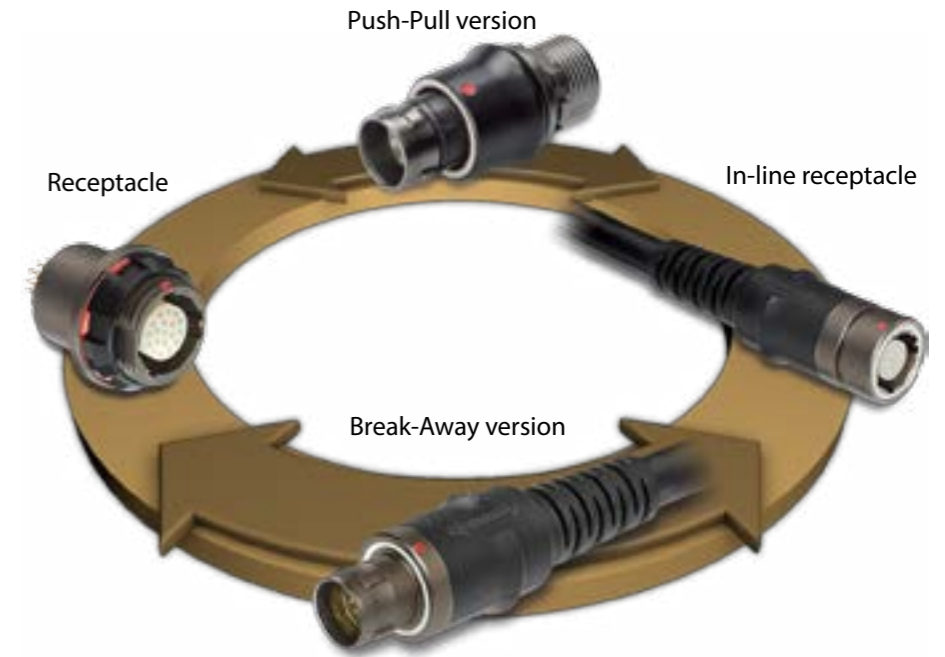
- Push-Pull locking or Break-Away function
- Lightweight, small and easy handling
- Operating temperatures range from -51° C to +125° C
- Optimized mechanical and colour keying
- Lifetime of ≥ 5,000 mating cycles
- Easy handling and blind mateable
- Multiple contact configurations: signals, low/high voltage transmission, coax/triax

- Easy-Clean version available (see page 35)
- System solution inclusive cable assembly and overmolding: everything from one source
- Excellent shielding features (360°)
- Version for hot-plugging available
- Watertight protection class IP 68 and IP 69 K
- Excellent data transmission up to 10 GBit

ODU AMC® – Your Flexible Solution

Product Description

ODU AMC offers flexibility for all system engineers. Push-Pull and Break-Away versions are interoperable with the same receptacle and in-line receptacle. Cables could be changed later on without touching the receptacle (housing). The soldier has an option.



System Solution

ODU provides all necessary cable assemblies and overmolding tools.



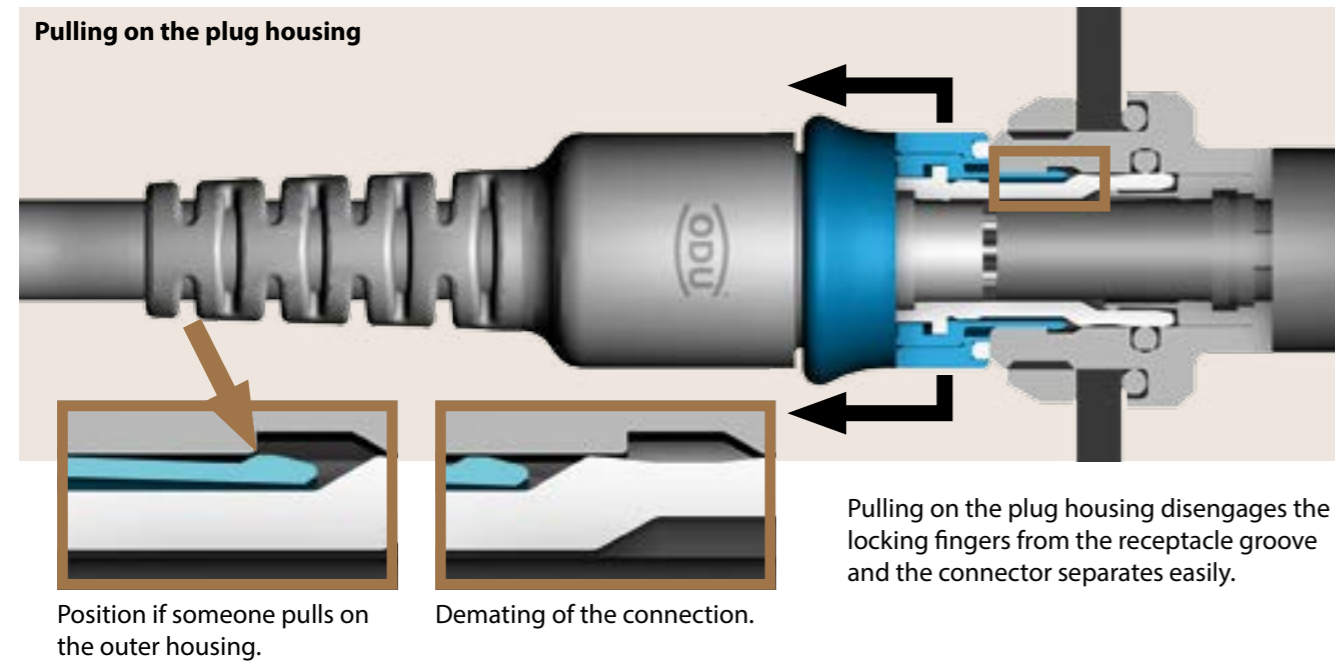
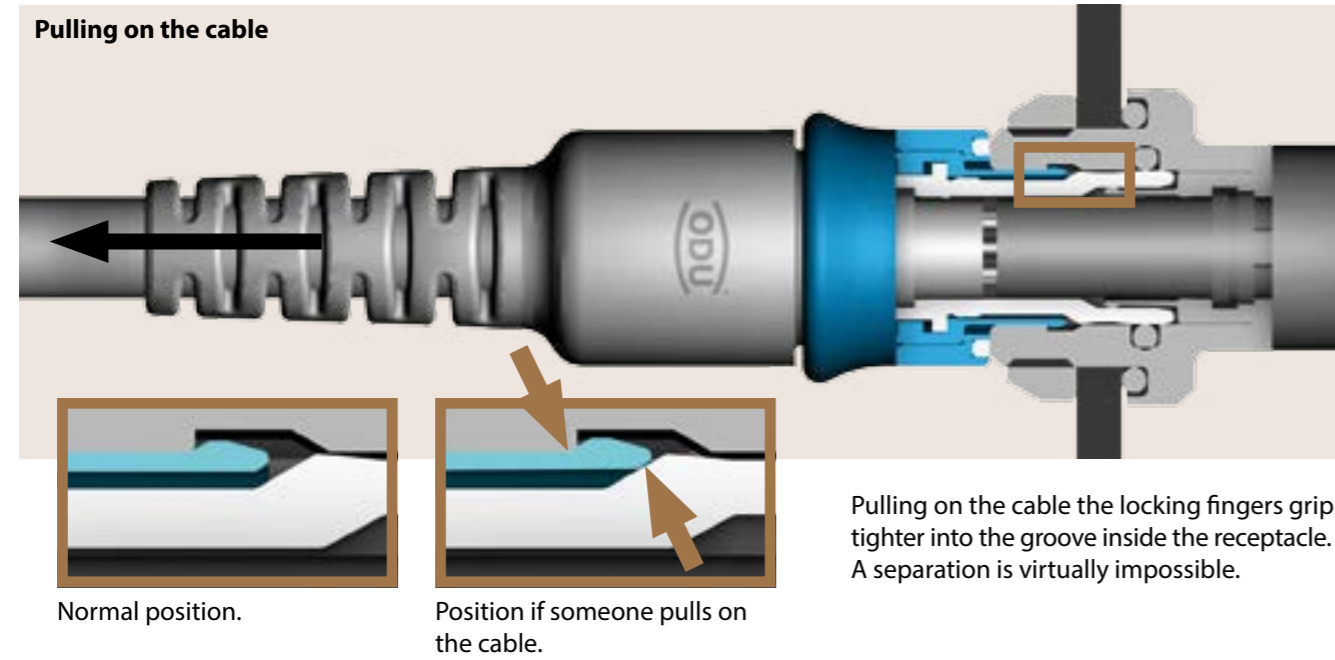
ODU AMC® – Standard Version either Push-Pull or Break-Away Function



Standard Version

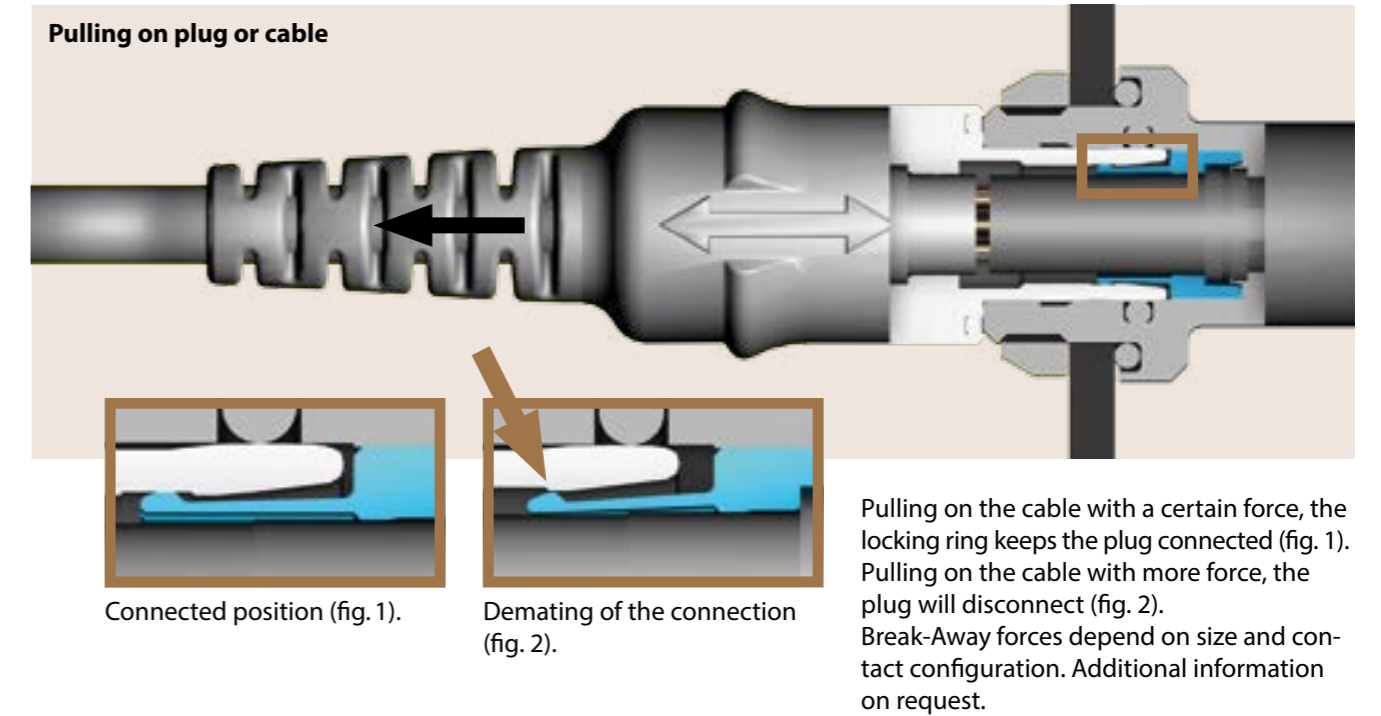


Push-Pull Locking Principle



- The advantages of Push-Pull connectors**
- Quick and easy mating and demating
 - Quick and easy separating
 - Easy blind mating in difficult-to-reach places
 - Less panel space required
 - Definite and secure locking condition

Break-Away Function



- The advantages of Break-Away function**
- Disconnect in a hurry
 - Quick and easy mating and demating

Push-Pull Plug

Size

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
S	1	Y	R	-										0	-	0	0	0	0

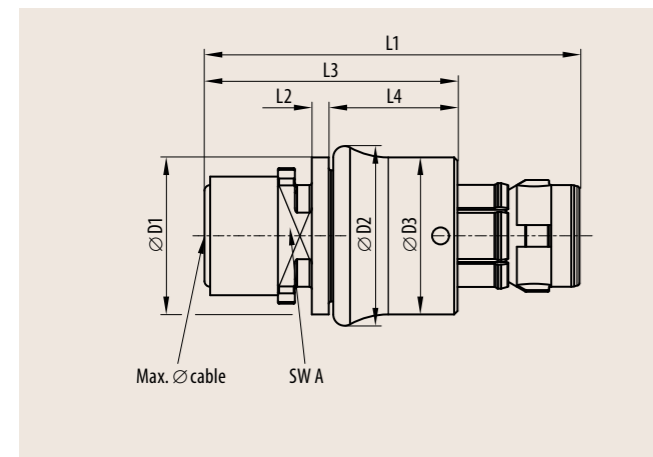
Size	Size	Dimensions in mm									
		L1	L2	L3	L4	D1	D2	D3	SW A	Max. ∅ cable ¹⁾	
0	0	31.4	1.5	21.4	10.4	11.9	14.0	12.0	7	5.5	
1	1	33.2	1.5	22.4	11.4	13.9	15.9	13.9	8	6.5	
A	1.5	32.7	1.5	22.7	11.7	14.5	16.5	14.5	10	8.0	
2	2	35.2	1.5	23.2	12.2	17.6	19.6	17.6	12	10.0	
3	3	38.3	1.5	23.2	12.2	21.9	23.9	22.0	14	11.5	
E	4.5 ²⁾	52.6	2.2	34.1	18.1	29.8	33.0	30.0	21	17.5	

¹⁾ Based on cable with one braided shield.

²⁾ Size 4,5 = E; delivered with Band-It Band



- Technical data see [page 58](#)
 - Contact configuration see [page 22 – 33](#)
 - Cable assembly information see ODU instruction 010.645.001.000.002 (available at www.odu.de/amc/assembly).



Break-Away Plug

Size

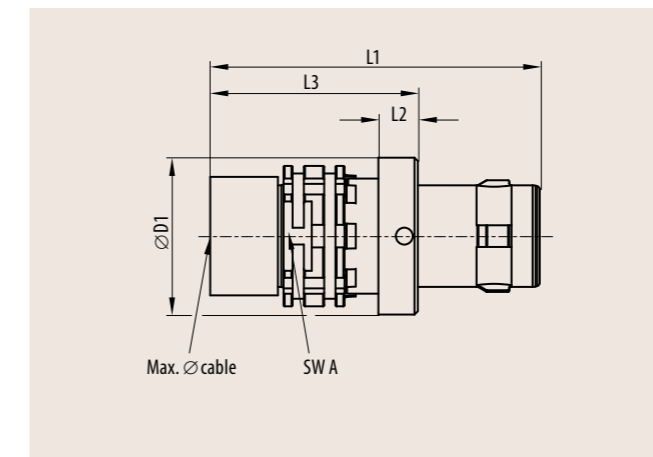
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
A	1	Y	R	-										0	-	0	0	0	0

Size	Size	Dimensions in mm									
		L1	L2	L3	D1	SW A	Max. ∅ cable ¹⁾				
0	0	25.0	3.0	15.0	11.9	9	5.5				
1	1	29.2	3.5	18.4	13.9	11	6.5				
A	1.5	28.5	3.5	18.5	15.9	12	8.0				
2	2	31.0	4.0	19.0	17.6	14	10.0				
3	3	37.5	4.0	22.4	21.9	18	11.5				

¹⁾ Based on cable with one braided shield.



- Technical data see [page 58](#)
 - Contact configuration see [page 22 – 31](#)
 - Cable assembly information see ODU instruction 010.645.001.000.004 (available at www.odu.de/amc/assembly).



In-Line Receptacle

Size

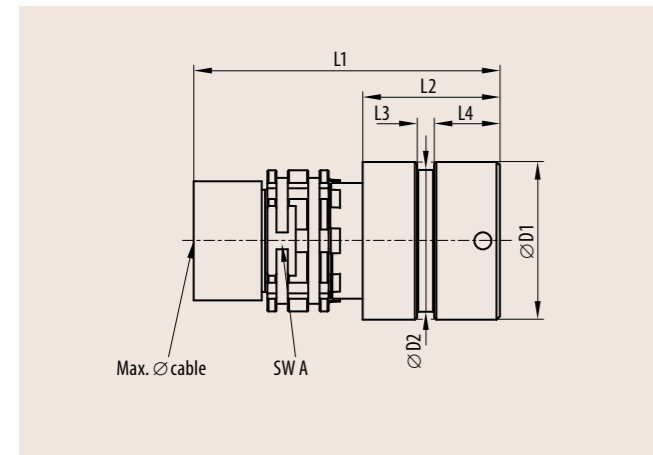
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
K	1	Y	R	-									0	-	0	0	0	0

Size	Size	Dimensions in mm								
		L1	L2	L3	L4	D1	D2	SW A	Max. \varnothing cable ¹⁾	
0	0	25.0	13.0	1.5	5.8	11.9	10.5	9	5.5	
1	1	27.0	12.1	1.5	5.8	13.9	12.5	11	6.5	
A	1.5	27.0	12.0	1.5	5.8	15.9	14.5	12	8.0	
2	2	30.0	15.0	1.5	5.8	17.6	16.2	14	10.0	
3	3	38.0	19.5	1.5	5.8	21.9	20.8	18	11.5	

¹⁾ Based on cable with one braided shield.



– Technical data see [page 58](#)
 – Contact configuration see [page 22 – 31](#)
 – Cable assembly information see ODU instruction 010.645.001.000.003 (available at www.odu.de/amc/assembly).



Receptacle

Connector Type

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
			Y	R	-									0	-	0	0	0	L

Connector type	Type
G	K

For installation from rear of panel – low profile inside the device

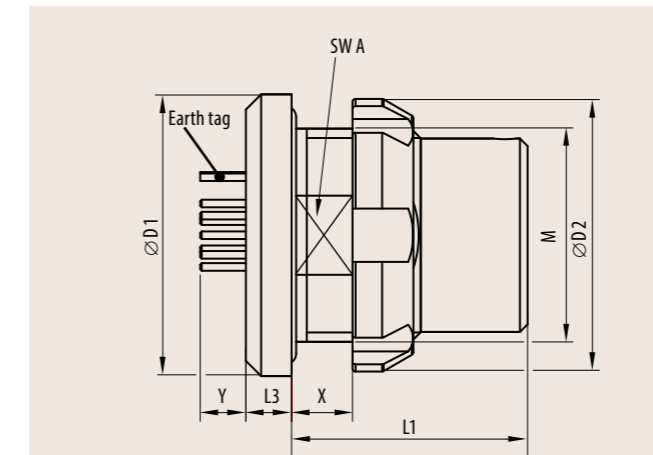
Size

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
			Y	R	-									0	-	0	0	0	L

Size	Size	Dimensions in mm									Panel cut out	
		L1	L3	Y	X max.	D1	D2	SW A	M	SW	\varnothing	
0	0	13.0	2.5	page 23	5	15.5	15.0	10	11×0.75	10.1	11.1	
1	1	15.5	3.0	page 25	4	18.5	17.9	13	14×1	13.1	14.1	
1.5	A	14.2	3.0	page 27	4	18.9	17.9	13	14×1	13.1	14.1	
2	2	17.5	3.0	page 29	4	20.8	21.9	15	16×1	15.1	16.1	



– Technical data see [page 58](#)
 – Contact configuration and PCB layout see [page 22 – 29](#)
 – IP68, also in unmated condition.



Size	Nutdriver for slotted nut	
	Number	Torque in Nm
0	700.098.001.000.000	1.0
1	701.098.002.000.000	3.0
1.5 (A)	701.098.002.000.000	3.0
2	702.098.001.000.000	4.0

Receptacle

Connector Type

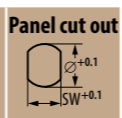
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
			Y				R	-							0	-	0	0	0	L

Size

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
			Y				R	-							0	-	0	0	0	L

Connector type	Type	
G	8	For installation from rear of panel – low profile outside the device

Size	Size	Dimensions in mm											Panel cut out	
		L1	L2 max.	L3	L4	X max.	D1	D2	D3	SW A	M	SW	∅	
0	0	6.5	15.5	3.0	11.5	3.0	15.5	15.0	10.0	10	11×0.75	10.1	11.1	
1	1	8.0	19.0	4.0	14.5	3.5	18.5	17.9	12.0	13	14×1	13.1	14.1	
1.5	A	7.0	17.7	2.5	12.5	3.0	18.9	17.9	14.0	13	14×1	13.1	14.1	
2	2	8.0	21.5	4.0	15.0	3.0	20.8	21.9	14.5	15	16×1	15.1	16.1	
3	3	11.0	22.5	4.0	15.5	5.5	26.0	25.0	18.0	18	20×1	18.1	20.1	
4.5	E	13.0	19.0	5.0	13.0	6.5	39.0	37.5	27.0	27	30×1.5	27.1	30.1	



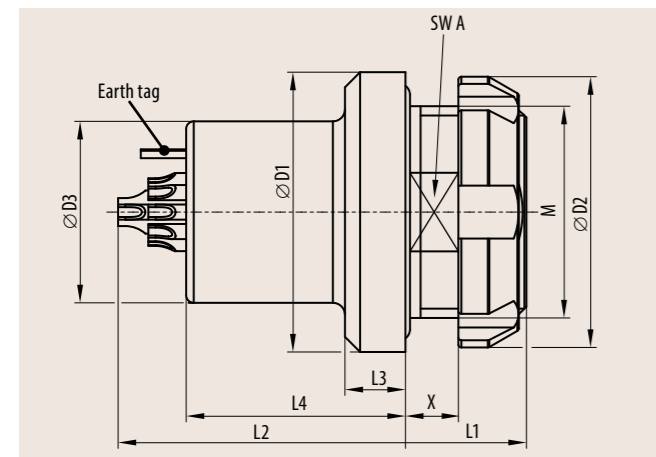
Standard Version

Standard Version

ODU AMC® Standard Version
Details for the Part Number Key



- Technical data see [page 58](#)
- Contact configuration and PCB layout [see page 22 – 33](#)
- IP 68, also in unmated condition.



Size	Nutdriver for slotted nut	
	part number	Torque in Nm
0	700.098.001.000.000	1.0
1	701.098.002.000.000	3.0
1.5 (A)	701.098.002.000.000	3.0
2	702.098.001.000.000	4.0
3	703.098.001.000.000	5.5
4.5 (E)	745.645.098.001.000	10.0



Keying
Housing Material
Contact Inserts

Keying Possibilities

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
 Y R - 0 - 0 0 0

	Keying	Plug front view	Colour keying	
Standard	A			Light brown
	B			Red
	C			Blue
	D			Green

Housing Material

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
 Y R - P 0 - 0 0 0

	Housing material	
	R	Aluminium EN-6023 Ruthenium over electroless Ni

Standard Version

Standard Version

Contact Configurations Size 0

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19										
0 Y R - 0 - 0 0 0										
Size	Insulator	Number of contacts ³⁾	Contact diameter mm	Nominal current load per contact ²⁾ A	Test voltage acc. SAE 13441 Contact to contact kV	Rated voltage ¹⁾ kV	Termination		View on the termination side	
							Solder	Print	Male contact side	Female contact side
0	P 0 3	3	0.9	10	1.200	0.400	•	•		
0	P 0 4	4	0.7	7	0.900	0.300	•	•		
0	P 0 7	7	0.5	5	0.900	0.300	•	•		
0	P 0 9	9	0.5	5	0.600	0.200	•	•		
0	P 1 0	10	0.5	5	0.600	0.200	•	•		
High-speed inserts:										
0	P 0 4	4	0.7	7	0.900	0.300	•	•		
0	P U 4	4	0.7	7	0.900	0.300	•	•		

¹⁾ Maximal operating voltage at sea level up to 2,000m acc. to SAE 13441. More information see [page 67](#).

²⁾ Max. current for solder termination / derating factor see [page 66](#).

³⁾ Other contact configurations on request.

⁴⁾ Acc. IEC 11801 : 2010. Additional information on request.

⁵⁾ Acc. USB spec. rev. 2.0:2000. Additional information on request.

PCB Layout for Print Contacts Size 0

Contact type

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19					
0 Y R - 0 - 0 0 0					
Termination	Contact type ¹⁾	Contact type ¹⁾	Available connector type		
			W	G8	GK
Solder	Socket	X	S1	A1	
Print	Socket	U	G8	GK	

¹⁾ Other termination or reverse gender on request.

Contact diameter / Termination cross section

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19				
0 Y R - 0 - 0 0 0				
Contact diameter	Termination cross section	Termination cross section		Termination diameter
		AWG	mm ²	
0.5	C D	26	0.15	
0.7	F G	22	0.38	
0.9	J G	22	0.38	

Print contacts

0.5	C 0			0.5
0.7	F 0			0.5
0.9	J 0			0.7

²⁾ Other cross sections on request.

		Fig. 1 G8	Fig. 2 GK
		Pin X (mm)	Pin Y (mm)
3 pos.		3.5	3.5
Standard and high-speed 4 pos.		3.5	3.5
7 pos.		3.5	3.3
9 pos.		3.5	3.1
10 pos.		3.5	3.1

Fig. 1: Length earth tag and pin G8

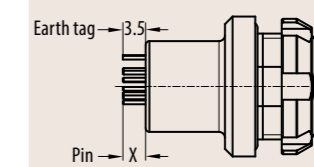
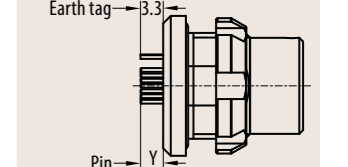


Fig. 2: Length earth tag and pin GK



Contact Configurations Size 1.5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
		A	Y			R	-								0	-	0	0	0
		↑						↑	↑	↑									
Size	Insulator	Number of contacts ³⁾		Contact diameter	Nominal current load per contact ²⁾	Test voltage acc. SAE 13441	Rated voltage ¹⁾	Termination		View on the termination side									
				mm	A	Contact to contact kV	kV	Solder	Print	Male contact side	Female contact side								
A	P	1	0	0.7	7	1.200	0.400	●	●										
A	P	1	9	0.5	5	1.000	0.333	●	●										
High-speed insert																			
A	P	D	8	0.7	7	1.200	0.400	●	●										

¹⁾ Maximal operating voltage at sea level up to 2,000m acc. to SAE 13441. More information see [page 67](#).
²⁾ Max. current for solder termination / derating factor see [page 66](#).
³⁾ Other contact configurations on request.
⁴⁾ Acc. IEC 11801 : 2010. Additional information on request.

PCB Layout for Print Contacts Size 1.5

Contact type

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
		A	Y			R	-								0	-	0	0	0
										↑									
Termination	Contact type ¹⁾	Contact type ¹⁾		Available connector type															
Solder	Socket	W		G8	GK	K1													
	Pin	X		S1	A1														
Print	Socket	U		G8	GK														

¹⁾ Other termination or reverse gender on request.

Contact diameter / Termination cross section

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
		A	Y			R	-								0	-	0	0	0
										↑	↑								
Contact diameter		Contact diameter		Termination cross section		Termination diameter													
	mm		mm	AWG	mm ²		mm												
	0.5	C	D	26	0.15														
	0.7	F	G	22	0.38														

Print contacts

	0.5	C	0			0.5
	0.7	F	0			0.5

²⁾ Other cross sections on request.

			Fig. 1	Fig. 2
			Pin X (mm)	Pin Y (mm)
10 pos.			3.2	3.0
19 pos.			3.2	3.0
High-speed 8 pos.			3.2	3.0

Fig. 1: Length earth tag and pin G8

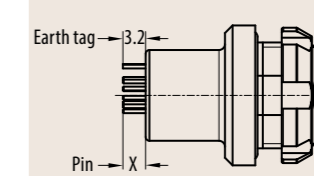
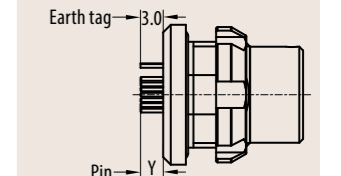


Fig. 2: Length earth tag and pin GK



Contact Configurations Size 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	2	Y				R	-							0	-	0	0	0

Size	Insulator	Number of contacts ³⁾	Contact diameter mm	Nominal current load per contact ²⁾ A	Test voltage acc. SAE 13441 Contact to contact kV	Rated voltage ¹⁾ kV	Termination		View on the termination side	
							Solder	Print	Male contact side	Female contact side
2	P	0 6	1.3	14	1.500	0.500	●	●		
2	P	1 9	0.7	7	1.000	0.333	●	●		
2	P	2 6	0.5	5	0.900	0.300	●	●		

High-speed inserts:

2		P	0 4	1.3	14	2.400	0.800	●	●		
2		P	D 8	0.9	10	1.500	0.500	●	●		

¹⁾ Maximal operating voltage at sea level up to 2,000m acc. to SAE 13441. More information see [page 67](#).

²⁾ Max. current for solder termination / derating factor see [page 66](#).

³⁾ Other contact configurations on request.

⁴⁾ Acc. IEC 11801 : 2010. Additional information on request.

PCB Layout for Print Contacts Size 2

Contact type

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	2	Y				R	-							0	-	0	0	0

Termination	Contact type ¹⁾	Contact type ¹⁾	Available connector type		
			G8	GK	K1
Solder	Socket	W	G8	GK	K1
	Pin	X	S1	A1	
Print	Socket	U	G8	GK	

¹⁾ Other termination or reverse gender on request.

Contact diameter / Termination cross section

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	2	Y				R	-							0	-	0	0	0

Solder contacts²⁾

Contact diameter mm	Contact diameter Term. cross section	Termination cross section		Termination diameter
		AWG	mm ²	
0.5	C D	26	0.15	
0.7	F G	22	0.38	
0.9	J G	22	0.38	
1.3	P H	20	0.50	

Print contacts

0.5	C 0			0.5
0.7	F 0			0.5
0.9	J 0			0.7
1.3	P 0			0.7

²⁾ Other cross sections on request.

		Fig. 1 G8	Fig. 2 GK
		Pin X (mm)	Pin Y (mm)
6 pos.		4.5	3.0
19 pos.		5.5	3.0
26 pos.		5.5	3.0
High-speed 4 pos.		4.5	3.0
High-speed 8 pos.		5.0	3.5

Fig. 1: Length earth tag and pin G8

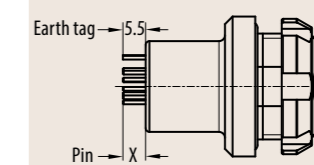
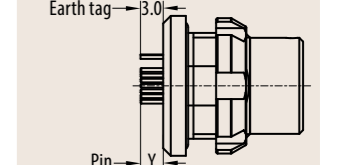










Fig. 2: Length earth tag and pin GK



**Contact Configurations
Size 3**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
		3	Y		R	-								0	-	0	0	0
	Size		Insulator	Number of contacts ³⁾	Contact diameter	Nominal current load per contact ²⁾	Test voltage acc. SAE 13441	Rated voltage ¹⁾	Termination	View on the termination side								
					mm	A	Contact to contact kV	kV	Solder	Print	Male contact side	Female contact side						
	3		P 0	4	2.0	22	1.650	0.550	●	●								
	3		P 1	8	0.9	10	1.350	0.450	●	●								
	3		P 2	6	0.7	7	1.000	0.333	●	●								
	3		P 3	7	0.5	5	0.900	0.300	●	●								

¹ Maximal operating voltage at sea level up to 2,000 m acc. to SAE 13441. More information see page 67.
² Max. current for solder termination / derating factor see page 66.
³ Other contact configurations on request.

Standard Version

**PCB Layout for Print Contacts
Size 3**

Contact type

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
		3	Y		R	-	P							0	-	0	0	0
	Termination	Contact type ¹⁾		Contact type ¹⁾		Available connector type												
	Solder	Socket		W	G8	K1												
		Pin		X	S1	A1												
	Print	Socket		U	G8													

¹ Other termination or reverse gender on request.

Contact diameter / Termination cross section

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
		3	Y		R	-								0	-	0	0	0
		Solder contacts ²⁾		Contact diameter		Term. cross section		Termination cross section		Termination diameter								
		mm		C	D	AWG	mm ²											
		0.5		F	G	26	0.15											
		0.7		J	G	22	0.38											
		0.9		T	S	22	0.38											
		2.0				12	2.5											

Print contacts

	0.5	C	0				0.5
	0.7	F	0				0.5
	0.9	J	0				0.7
	2.0	T	0				0.7

² Other cross sections on request.

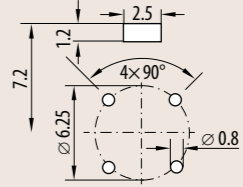
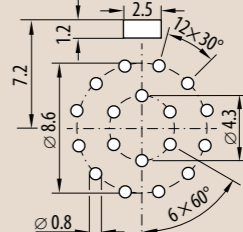
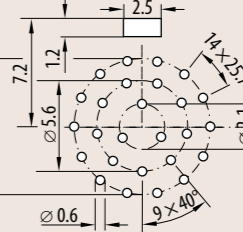
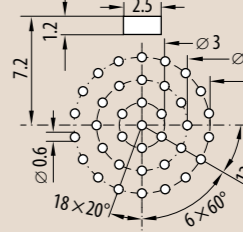
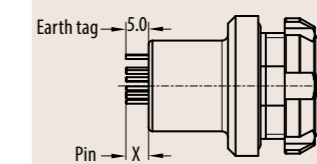


			Fig. 1 G8
			Pin X (mm)
4 pos.			5.0
18 pos.			4.5
26 pos.			4.5
37 pos.			4.5

Fig. 1: Length earth tag and pin G8



Standard Version

Contact Configurations Size 4.5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
		E	Y			R	-								0	-	0	0	0
Size			Insulator					Number of contacts ³⁾		Contact diameter	Nominal current load per contact ²⁾	Test voltage acc. SAE 13441	Rated voltage ¹⁾	Termination		View on the termination side			
E			P					5 5		mm	A	Contact to contact kV	kV	Solder	Print	Male contact side	Female contact side		
E			P					5 5		0.7	7	1.000	0.333	●	●				

¹⁾ Maximal operating voltage at sea level up to 2,000m acc. to SAE 13441. More information see [page 67](#).

²⁾ Max. current for solder termination / derating factor see [page 66](#).

³⁾ Other contact configurations on request.

Standard Version

PCB Layout for Print Contacts Size 4.5

Contact type

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
		E	Y			R	-			P					0	-	0	0	0
Termination		Contact type ¹⁾		Contact type ¹⁾		Available connector type													
Solder		Socket		W		G8													
		Pin		X		S1													
Print		Socket		U		G8													

¹⁾ Other termination or reverse gender on request.

Contact diameter / Termination cross section

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
		E	Y			R	-								0	-	0	0	0
Solder contacts ²⁾		Contact diameter	Contact diameter	Contact diameter		Term. cross section		Termination cross section		Termination diameter									
		mm		mm	F	G	AWG	mm ²	mm										
		0.7					22	0.38											
Print contacts		0.7			F	0													
																		0.5	

²⁾ Other cross sections on request.

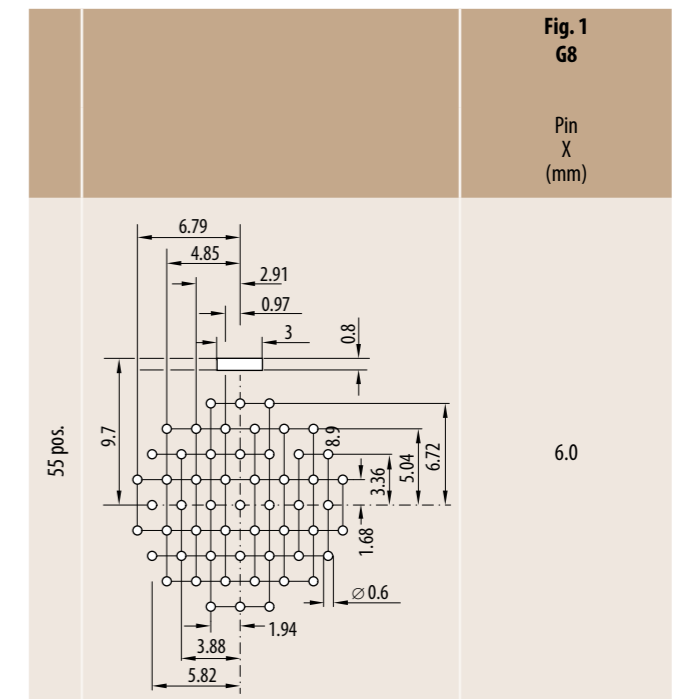
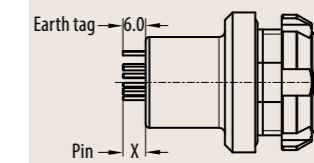


Fig. 1: Length earth tag and pin G8



Standard Version

ODU AMC® Easy-Clean



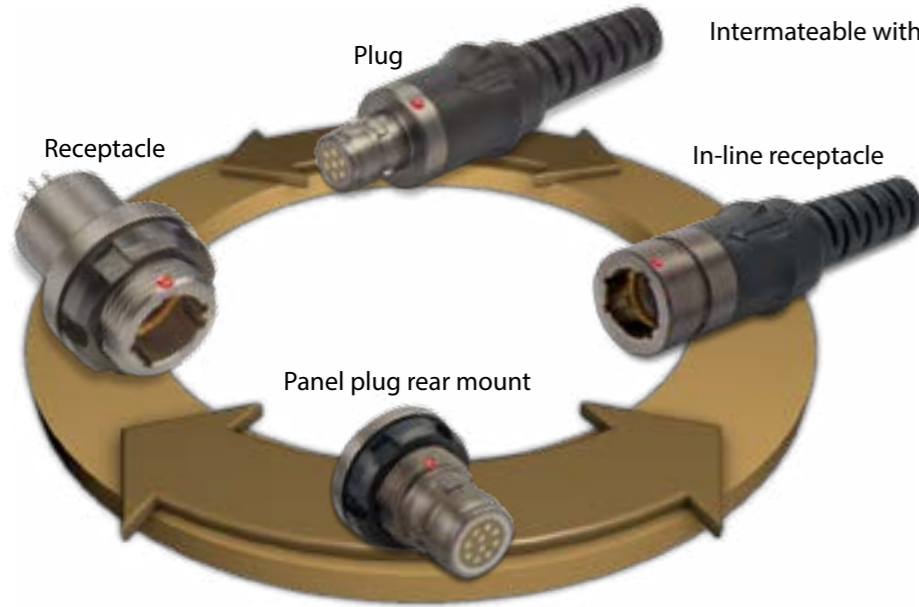
ODU AMC® – Easy-Clean Version



Easy-Clean version – fast and easy cleaning of the connection in the field.

- Size 0 7 positions
- Size 1 10/16 positions
- Size 1.5 19 positions

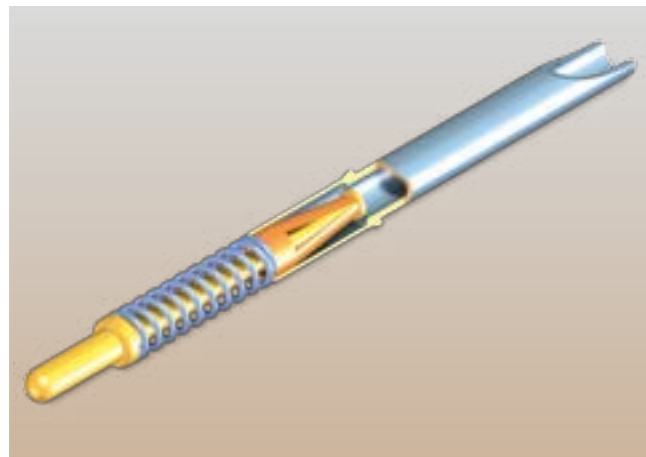
All solder and print termination.



Intermateable with receptacle and in-line receptacle.



Cable to cable connection available.



The contacts within the Easy-Clean version are patented spring loaded contacts made by a leading swiss manufacturer.

Break-Away Plug

Size

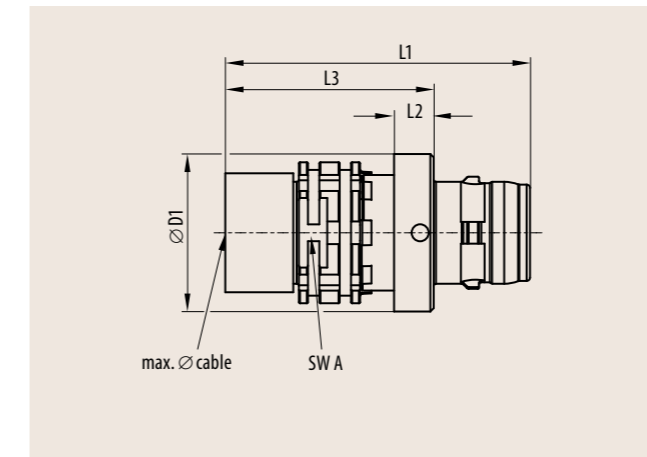
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
A	1	Y	R	-										0	-	R	0	0	0

Size	Size	Dimensions in mm					
		L1	L2	L3	D1	SW A	Max. ∅ cable ¹⁾
0	0	23.5	3.0	15.0	11.9	9	5.5
1	1	26.9	3.5	18.4	13.9	11	6.5
1.5	A	27.5	3.5	18.5	15.9	12	8.0

¹⁾ Based on cable with one braided shield.



- Technical data see [page 60](#)
- Contact configuration see [page 46 – 51](#)
- Cable assembly information see ODU instruction 010.645.001.000.004 (available at www.odu.de/amc/assembly).



In-Line Receptacle

Size

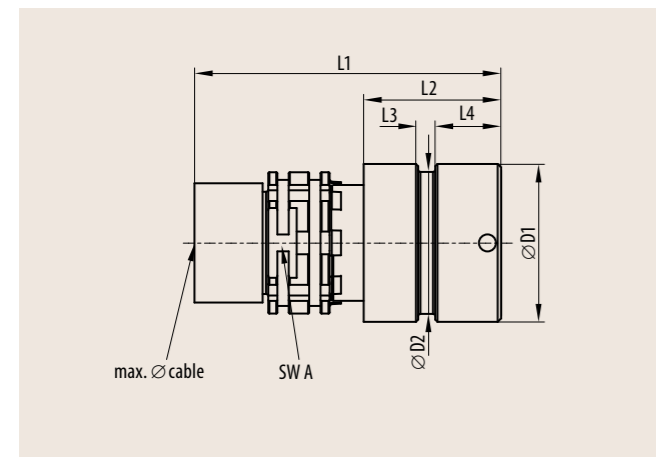
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
K	1	Y	R	-										0	-	R	0	0	0

Size	Size	Dimensions in mm							
		L1	L2	L3	L4	D1	D2	SW A	Max. ∅ cable ¹⁾
0	0	25.0	13.0	1.5	5.8	11.9	10.5	9	5.5
1	1	27.0	12.1	1.5	5.8	13.9	12.5	11	6.5
1.5	A	27.0	12.0	1.5	5.8	15.9	14.5	12	8.0

¹⁾ Based on cable with one braided shield.



– Technical data see [page 60](#)
 – Contact configuration see [page 46 – 51](#)
 – Cable assembly information see ODU instruction 010.645.001.000.003 (available at www.odu.de/amc/assembly).



Receptacle

Connector type / style

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
			Y	R	-										0	-	R	0	0	L

Connector type	Style	
G	K	For installation from rear of panel – low profile inside the device

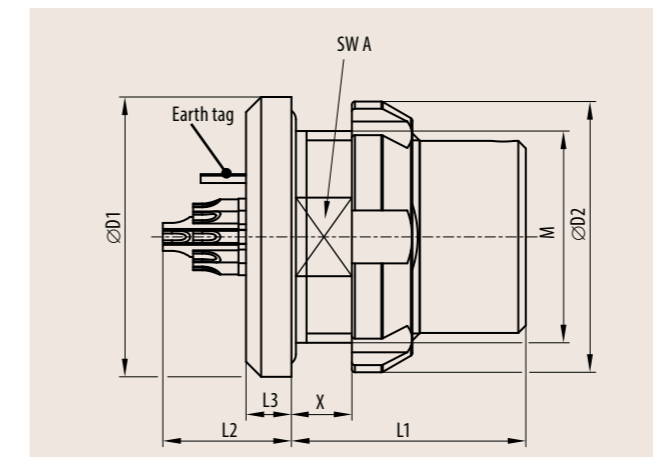
Size

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
			Y	R	-										0	-	R	0	0	L

Size	Size	Dimensions in mm								Panel cut out	
		L1	L2 max.	L3	X max.	D1	D2	SW A	M	SW	∅
0	0	15.5	7.3	2.5	7.0	15.5	15.0	10	11×0.75	10.1	11.1
1	1	15.5	7.4	3.0	4.0	18.5	17.9	13	14×1	13.1	14.1
1.5	A	16.5	8.2	3.0	5.5	18.9	17.9	13	14×0.75	13.1	14.1



– Technical data see [page 60](#)
 – Contact configuration and PCB layout see [page 46 – 51](#)
 – IP 68, also in unmated condition.



Size	Nutdriver for slotted nut	
	part number	Torque in Nm
0	700.098.001.000.000	1.0
1	701.098.002.000.000	3.0
1.5 (A)	701.098.002.000.000	3.0

Receptacle

Connector type / style

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
			Y				R	-							0	-	R	0	0	L

Size

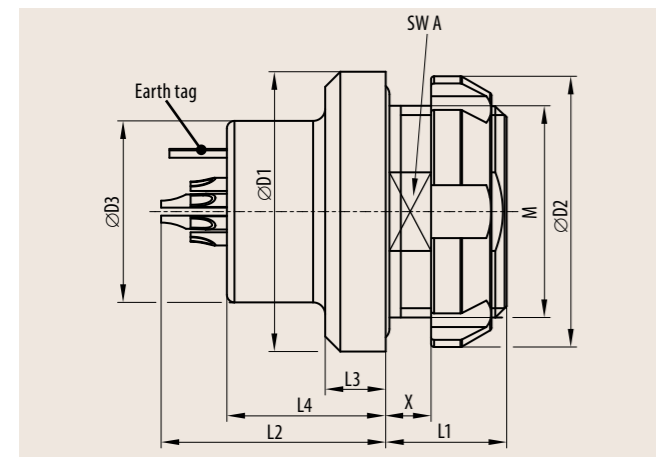
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
			Y				R	-							0	-	R	0	0	L

Connector type	Style	
G	8	For installation from rear of panel – low profile outside the device

Size	Size	Dimensions in mm										Panel cut out	
		L1	L2 max.	L3	L4	X max.	D1	D2	D3	SW A	M	SW	∅
0	0	6.5	16.3	3.0	11.5	3.0	15.5	15.0	10.0	10	11×0.75	10.1	11.1
1	1	8.0	14.9	4.0	10.5	3.5	18.5	17.9	12.0	13	14×1	13.1	14.1
1.5	A	7.0	17.7	2.5	12.5	3.0	18.9	17.9	14.0	13	14×0.75	13.1	14.1



– Technical data see [page 60](#)
 – Contact configuration and PCB layout see [page 46 – 51](#)
 – IP68, also in unmated condition.



Size	Nutdriver for slotted nut part number	Torque in Nm
0	700.098.001.000.000	1.0
1	701.098.002.000.000	3.0
1.5 (A)	701.098.002.000.000	3.0

Panel Plug Rear Mount

Connector type / style

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
			Y				R	-							0	-	R	0	0	L

Size

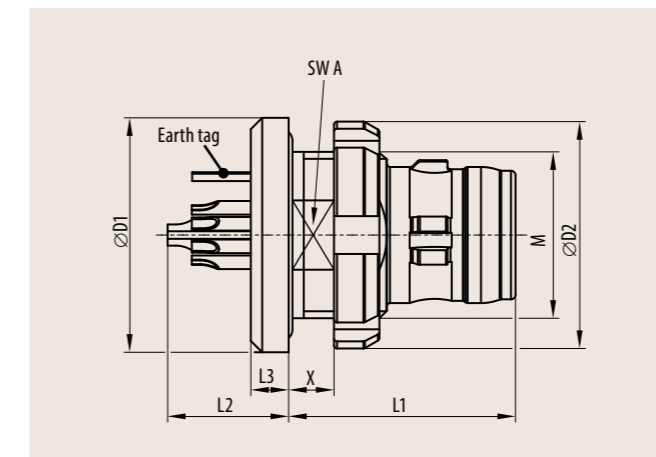
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
			Y				R	-							0	-	R	0	0	L

Connector type	Style	
G	W	Docking plug

Size	Size	Dimensions in mm										Panel cut out	
		L1	L2	L3	X max.	D1	D2	SW A	M	SW	∅		
0	0	15.0	6.4	2.5	3.0	13.2	12.8	9.2	10×0.5	9.3	10.1		
1	1	15.0	8.0	2.5	3.5	15.5	15.0	10.0	11×0.75	10.1	11.1		
1.5	A	16.5	9.7	4.0	3.5	17.5	17.9	13.0	14×0.75	13.1	14.1		



– Technical data see [page 60](#)
 – Contact configuration and PCB layout see [page 46 – 51](#)
 – IP68, also in unmated condition.



Size	Nutdriver for slotted nut part number	Torque in Nm
0	700.098.005.000.000	0.8
1	700.098.001.000.000	1.0
1.5 (A)	701.098.002.000.000	3.0

ODU AMC® Easy-Clean Details for the Part Number Key



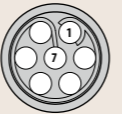
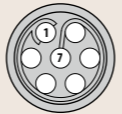
Easy-Clean

Easy-Clean



Keying
Housing Material
Contact Inserts

**Contact Configurations
Size 0**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
		0	Y			R	-							0	-	R	0	0
Size			Insulator					Number of contacts ³⁾		Contact diameter	Nominal current load per contact ²⁾	Test voltage acc. SAE 13441	Rated voltage ¹⁾	Termination		View on the termination side		
mm			A					kV		mm	A	Contact to contact kV	kV	Solder	Print	Pogo-pin contact side	Flat contact side	
0			P 0 7					0.6		2	0.600	0.200	●	●				

¹ Maximal operating voltage at sea level up to 2,000m acc. to SAE 13441. More information see [page 67](#).

² Derating factor see [page 67](#).

³ Other contact configurations on request.

**PCB Layout for Print Contacts
Size 0**

Contact type

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19						
		0	Y			R	-	P						0	-	R	0	0						
Termination	Contact type		Contact type		Available connector type																			
Solder	Flat contact		W		A1			GW																
	Spring load contact		X		G8			GK			K1													
Print	Flat contact		U		GW																			
	Spring load contact		V		G8			GK																

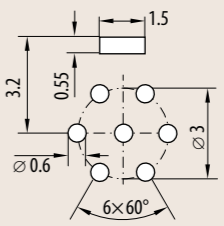
			Fig. 1 G8	Fig. 2 GK	Fig. 3 GW
			Pin X (mm)	Pin X (mm)	Pin X (mm)
7 pos.			4.3	4.3	3.0

Fig. 1: Length earth tag and pin G8

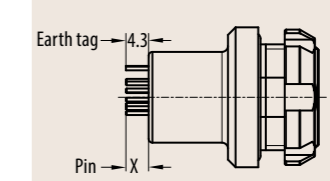


Fig. 2: Length earth tag and pin GK

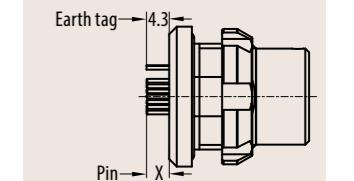
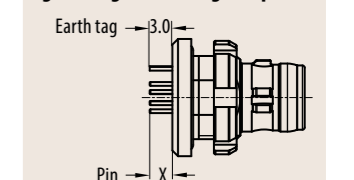


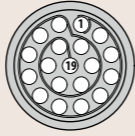
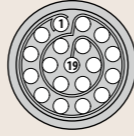
Fig. 3: Length earth tag and pin GW



Contact diameter / termination cross section

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
		0	Y			R	-	P						0	-	R	0	0
Solder contacts			Contact diameter		Contact diameter		Termination cross section		Termination cross section		Termination diameter							
			mm		Term. cross section		AWG		mm ²		mm							
			0.6		D D		26		0.15									
Print contacts			0.6		D 0						0.5							

**Contact Configurations
Size 1.5**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
		A	Y			R	-								0	-	R	0	0
		↑		↑		↑		↑											
		Size		Insulator		Number of contacts ³⁾		Contact diameter	Nominal current load per contact ²⁾	Test voltage acc. SAE 13441	Rated voltage ¹⁾	Termination		View on the termination side					
		mm		A		Contact to contact kV		kV	Solder	Print	Pogo-pin contact side		Flat contact side						
		A		P 1 9		0.6		2	0.600	0.200	●	●							

¹ Maximal operating voltage at sea level up to 2,000m acc. to SAE 13441. More information see [page 67](#).

² Derating factor see [page 66](#).

³ Other contact configurations on request.

**PCB Layout for Print Contacts
Size 1.5**

Contact type

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
		A	Y			R	-	P							0	-	R	0	0
		↑		↑		↑		↑		↑									
		Termination		Contact type		Contact type		Available connector type											
		Solder		Flat contact		W		A1		GW									
				Spring load contact		X		G8		GK		K1							
		Print		Flat contact		U		GW											
				Spring load contact		V		G8		GK									

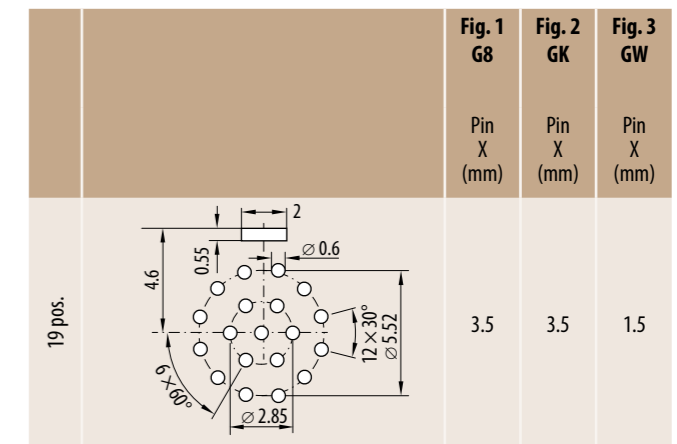


Fig. 1: Length earth tag and pin G8

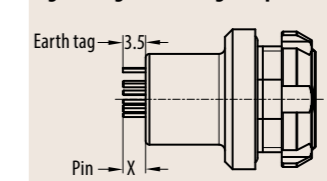


Fig. 2: Length earth tag and pin GK

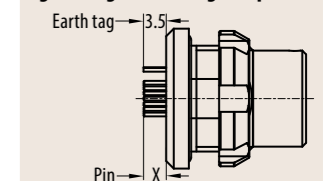
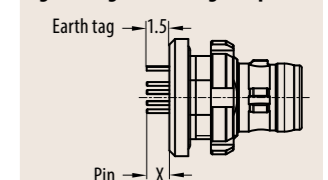


Fig. 3: Length earth tag and pin GW



Contact diameter / termination cross section

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
		A	Y			R	-	P							0	-	R	0	0
		↑		↑		↑		↑		↑									
		Solder contacts		Contact diameter		Termination cross section		Termination cross section		Termination diameter									
		mm		mm		AWG		mm ²		mm									
		0.6		D D		26		0.15											
		Print contacts		Contact diameter		Termination cross section		Termination cross section		Termination diameter									
		mm		mm		AWG		mm ²		mm									
		0.6		D 0						0.5									

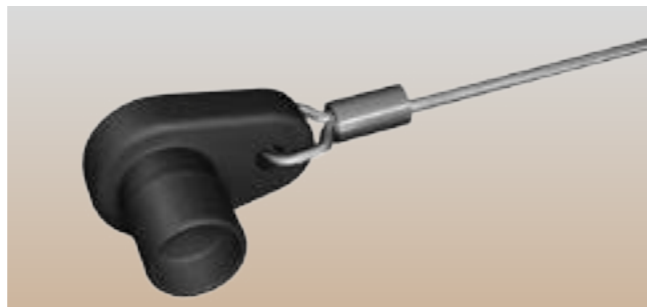
Accessories



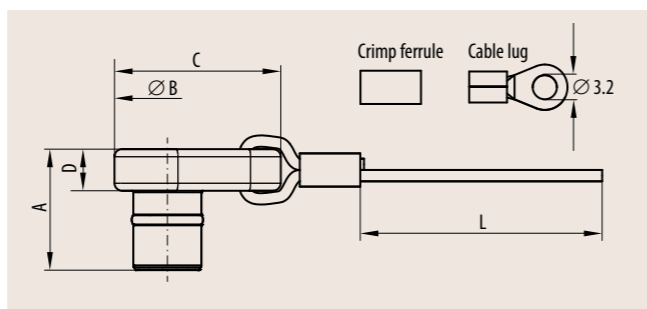
**Protective Caps
for Standard and Easy-Clean Version**

For receptacles G8

Size	Part number	Dimensions in mm				
		A	B	C	D	L
0	700.645.097.002.945	15.5	12.0	20.0	5.5	200
1	701.645.097.002.945	16.0	14.0	22.0	5.5	200
1.5	715.645.097.002.945	15.3	15.0	23.0	5.5	200
2	702.645.097.002.945	17.5	17.0	25.0	5.5	200
3	703.645.097.002.945	20.5	20.0	28.0	5.5	200
4.5	745.645.097.002.945	24.0	30.0	40.0	5.5	200



Crimp ferrule and lug are included.

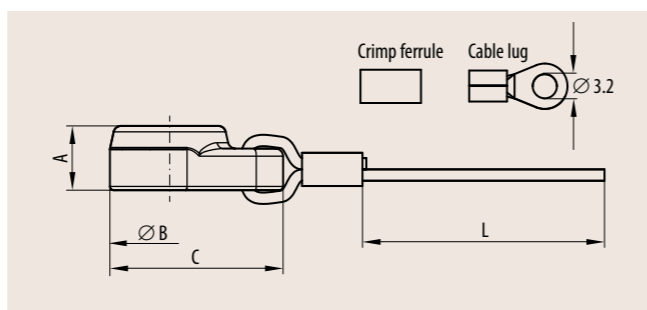


For receptacles GK

Size	Part number	Dimensions in mm			
		A	B	C	L
0	700.645.097.003.945	8.0	14.0	21.0	200
1	701.645.097.003.945	8.5	16.0	23.0	200
1.5	701.645.097.003.945	8.5	16.0	23.0	200
2	715.645.097.003.945	11.5	19.5	25.8	200
3	702.645.097.003.945	12.0	20.6	29.3	200

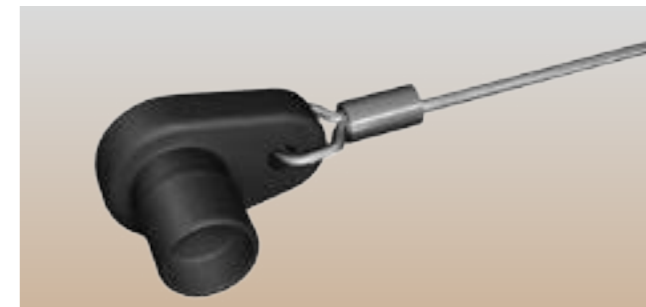


Crimp ferrule and lug are included.

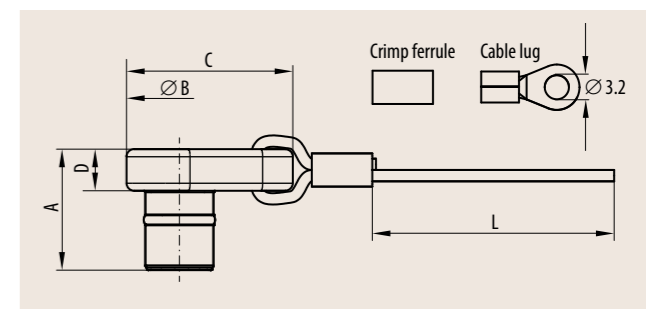


For in-line receptacles

Size	Part number	Dimensions in mm				
		A	B	C	D	L
0	700.645.097.002.945	15.5	12.0	20.0	5.5	200
1	701.645.097.002.945	16.0	14.0	22.0	5.5	200
3	703.645.097.002.945	20.5	20.0	28.0	5.5	200

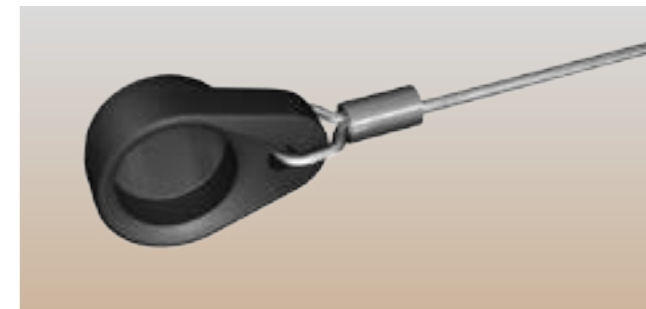


Crimp ferrule and lug are included.

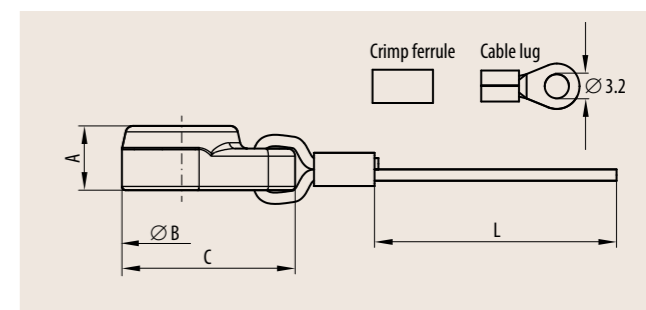


For in-line receptacles

Size	Part number	Dimensions in mm			
		A	B	C	L
1.5	715.645.097.003.945	11.5	19.5	25.8	200
2	702.645.097.003.945	12.0	20.6	29.3	200



Crimp ferrule and lug are included.

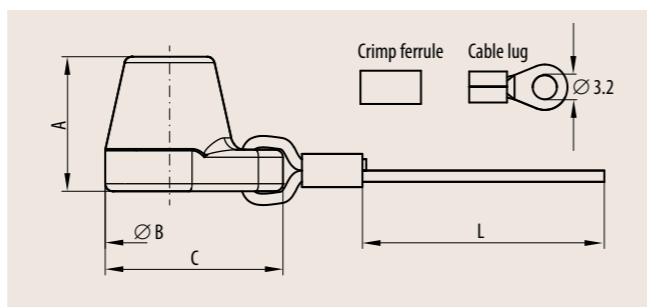


For plugs – Push-Pull plug and Break-Away plug S1 and A1

Size	Part number	Dimensions in mm			
		A	B	C	L
0	700.645.097.001.945	16.5	15.0	21.5	200
1	701.645.097.001.945	17.8	17.0	23.5	200
1.5	715.645.097.001.945	17.0	18.0	24.0	200
2	702.645.097.001.945	19.5	21.0	28.0	200
3	703.645.097.001.945	22.6	25.0	32.5	200
4.5	745.645.097.001.945	27.5	33.5	42.0	200



Crimp ferrule and lug are included.



Environmental and electrical characteristics

Type	Performance	Standard
Tightness	IP 67	IEC 60529
Operating temperature	-51° C to +125° C	IEC 60512-6-11 i+j
Shielding effectiveness	> 55 dB	VG 95214-11

Material

Part	Material	Flammability
Cap	Conductive silicone	UL94 (V1)
Lanyard	Aramid	UL94 (V0)
Crimp ferrule, lug	Brass, copper	
Shrinktube	FPO (RNF-100)	ASTM D 876 (30 sec)

Assembly information including tools see ODU instruction 010.645.001.000.005 (available at odu.de/amc/assembly).

Technical Information



Technical Data ODU AMC® – Standard

Environmental and testing

Type	Performance	Standard
Tightness	IP 68 / 1 m IP 69 K	IEC 60529 / MIL-STD-810F 512.4/5 DIN 40050-9
Sand and dust	Blowing sand and dust, settling dust	MIL-STD-810F 510.4/5 Procedure I / II DIN 40050-9 / IP6kx
Operating temperature	-51°C up to +125°C ¹⁾	IEC 60512-6-11 i+j
Thermal shock	-65°C up to +150°C	EIA 364-32-E IEC 60068-2-14
Humidity cyclic	85 % up to 95 %, 28 up to 71°C	MIL-STD-1344A Method 1002.2 Type III IEC 60068-2-38
Low pressure (rapid decompression)	59.1 kPa to 18.8 kPa	AECTP 300, 312 Procedure III (STANAG 4370)
Low pressure	57.2 kPa -55°C	MIL-STD-810F 500.4/5 IEC 60068-2-40
Icing	Rime ice 6 mm	MIL-STD-810F 521.2/3
Corrosion resistance	96 h salt mist, 5 % salt solution, 35°C	EIA-364-26B STANAG 4370, AECTP 300-309 MIL-STD-810F 509.4/5
Mould growth	European fungus	IEC 60068-2-10
Solar radiation		60068-2-5
Chemical endurance	Several substances ²⁾	ISO 16750-5

¹⁾ Including temperature rise due to contact load

²⁾ Substances listed at ODU datasheet 009.410.021.000.000

Fig. 1

Measurement points

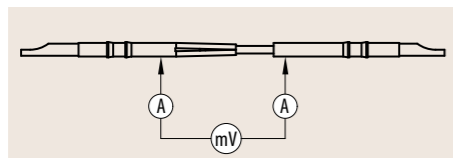
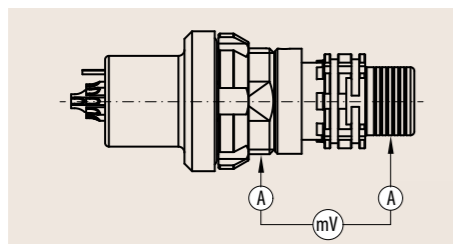


Fig. 2

Measurement points



Mechanical data

Type	Performance	Standard
Mechanical endurance	5,000 mating cycles	IEC 60512-5-9-a EIA-364-09
Vibration		MIL-STD 1344 Method 2005 EIA-364-28
Shock	100 g amplitude, half sine pulse of 3 ms, no discontinuity > 1 us	MIL-STD 1344 Method 2004 EIA-364-27

Electrical data

Type	Performance	Standard
Contact resistance (fig. 1) over 5,000 mating cycles	Contact diameter / resistance ∅ 0.5 mm < 5 mOhm ∅ 0.7 mm < 4 mOhm ∅ 0.9 mm < 4 mOhm ∅ 1.3 mm < 3 mOhm ∅ 2.0 mm < 3 mOhm	IEC 60512-2-1
Shell resistance (fig. 2)	< 5 mOhm	IEC 60512-2-1
Insulation resistance	> 100 MOhm	IEC 60512-3-1
Shielding effectiveness ³⁾	> 65 dB	VG 95214-11

³⁾ A11Y, GK1Y connector pair



Material and surface treatments

	Material	Standard		Surface	Standard	Flammability
		EU	US			
Housing (conductive parts)	Aluminium AlMgSiSn1Bi	EN-AW 6023		Ruthenium over electroless nickel		
Housing / nut (non conductive parts)	Aluminium AlMgSiSn1Bi	EN-AW 6023		Black anodized		
Backshell (Push-Pull plug)	Aluminium AlMgSiSn1Bi	EN-AW 6023		Ruthenium over electroless nickel		
Backshell (Break-Away plug and in-line receptacle)	Aluminium AlMgSiSn1Bi	EN-AW 6023		Electroless nickel	SAE-AMS2404	
EMI-locking ring	CuBe2	CW102C (2.1248)		Electrodeposited nickel		
Crimp sleeve	CuZn38Pb1.5	CW608N (2.0371)	C35300	Electrodeposited nickel		
Colour ring	PSU					UL94 (V0)
Insulator	PEEK					UL94 (V0)
Pin contact	Copper alloy	CW614N (2.0401)	C38500	1.25 µm gold over electrodeposited nickel	MIL-G-45204D	
Socket contact	Copper alloy	CW614N (2.0401)	C38500	1.25 µm gold over electrodeposited nickel	MIL-G-45204D	
O-rings	FVMQ (floursilikon)					
Potting	potting compound					UL94 (V0)
Overmolding material	TPU					UL94 (HB)
Shrink boots	Polyester-elastomeer					acc to. VG95343

Technical Data ODU AMC® – Easy-Clean

Environmental and testing

Type	Performance	Standard
Tightness	IP 68 / 1 m IP 69 K	IEC 60529 / MIL-STD-810F 512.4/5 DIN 40050-9
Sand and dust	Blowing sand and dust, settling dust	MIL-STD-810F 510.4/5 Procedure I / II DIN 40050-9 / IP 6kx
Operating temperature	-51° C up to +125° C	IEC 60512-6-11 i+j
Thermal shock	-65° C up to +150° C	EIA 364-32-E IEC 60068-2-14
Humidity cyclic	85% up to 95 % 28 up to 71° C	MIL-STD-1344A Method 1002.2 Type III IEC 60068-2-38
Low pressure (rapid decompression)	59.1 kPa to 18.8 kPa	AECTP 300, 312 Procedure III (STANAG 4370)
Low pressure	57.2 kPa -55° C	MIL-STD-810F 500.4/5 IEC 60068-2-40
Icing	Rime ice 6 mm	MIL-STD-810F 521.2/3
Corrosion resistance	96 h salt mist, 5 % salt solution, 35° C	EIA-364-26B, STANAG 4370, AECTP 300-309, MIL-STD-810F 509.4/5
Mould growth	European fungus	IEC 60068-2-10
Solar radiation		60068-2-5
Chemical endurance	Several substances ¹⁾	ISO 16750-5

¹⁾ Substances listed at ODU datasheet 009.410.021.000.000

Mechanical data

Type	Performance	Standard
Mechanical endurance	5,000 mating cycles ²⁾	IEC 60512-5-9-a EIA-364-09
Vibration		MIL-STD 1344 Method 2005 EIA-364-28
Shock	100 g amplitude, half sine pulse of 3 ms, no discontinuity > 1 us	MIL-STD 1344 Method 2004 EIA-364-27

Electrical data

Type	Performance	Standard
Contact resistance (fig. 1) over 5,000 mating cycles ²⁾	Contact diameter / resistance ∅ 0.6 mm pogo pin < 20 mOhm	IEC 60512-2-1
Shell resistance (fig. 2)	< 10 mOhm	IEC 60512-2-1
Insulation resistance	> 100 MOhm	IEC 60512-3-1

²⁾ 5,000 mating cycles, dependent on the specific application.

Fig. 1
Measurement points

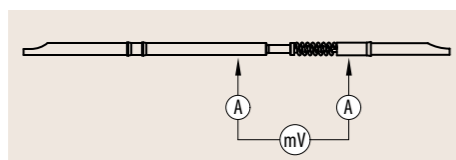
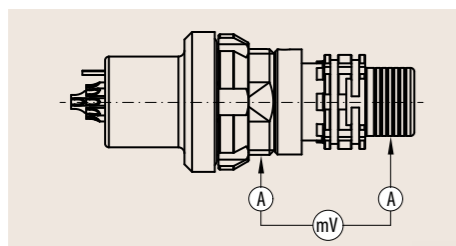


Fig. 2
Measurement points



Material and surface treatments

	Material	Standard		Surface	Standard	Flammability
		EU	US			
Housing (conductive parts)	Aluminium AlMgSiSn1Bi	EN-AW 6023		Ruthenium over electroless nickel		
Nut	Aluminium AlMgSiSn1Bi	EN-AW 6023		Black anodized		
Backshell	Aluminium AlMgSiSn1Bi	EN-AW 6023		Electroless nickel	SAE-AMS2404	
EMI-locking ring	Stainless steel	CW102C (2.1248)		Electrodeposited gold		
Crimp sleeve	CuZn38Pb1.5	CW608N (2.0371)	C35300	Electrodeposited nickel		
Colour ring	PSU					UL94 (V0)
Insulator	PEEK / PBT / PCT					UL94 (V0)
Pin contact (pogo-pin)	Copper alloy, CuBe, steel,			1.25 µm gold over electrodeposited nickel (on piston)	MIL-G-45204D	
Socket contact	Copper alloy	CW614N (2.0401)	C38500	1.25 µm gold over electrodeposited nickel	MIL-G-45204D	
O-rings	FVMQ (floursilikon)					
Potting	potting compound					UL94 (V0)
Overmolding material	TPU					UL94 (HB)
Shrink boots	Polyester-elastomeer					Acc. to VG95343

Insulation Groups / Nominal Voltage / Test Voltage

Insulation groups in acc. with DIN VDE 0110 T1/2.79

Groups of connectors based on ambient and operating conditions.

Example: A connector used in a shop environment falls into group B. (Laboratory environment would fall into Group A).

Insulation group A0:

For low power equipment in climate-controlled and dry rooms with only minimal heat rise when subjected to short circuit conditions.

Insulation group A:

For equipment operated in climate-controlled and dry rooms.

Insulation group B:

For equipment operated in living quarters, offices, and other commercial environments. Also for clean machine shops, laboratories, test stands, and medical environments.

Insulation group C:

Equipment primarily operated in industrial, commercial, and agricultural establishments. Non climate-controlled warehouses, workshops, boiler rooms and manufacturing floors.

Insulation group D:

Equipment operated on vehicles subjected to dirt, brake dust, and splash water or snow. Unprotected by housing.

Determination of nominal voltage from test voltage in accordance with VDE 0627

The following explains how to derive the nominal voltage from the test voltage (for practical purposes nominal voltage, rated voltage and reference voltage are the same.) The **operating voltage** must be less than the **nominal voltage**.

Example:

The selected connector has a test voltage of 1,000 VAC and will be operated in a clean mechanical shop environment (insulation group B). According to the table 3 below, the connector has a nominal voltage of 150 VDC (the example shows both printed in bold).

Notice: According to MIL-STD-1344, Method 3001 higher test voltages are acceptable (see next page).

Table 3 from DIN VDE 0627

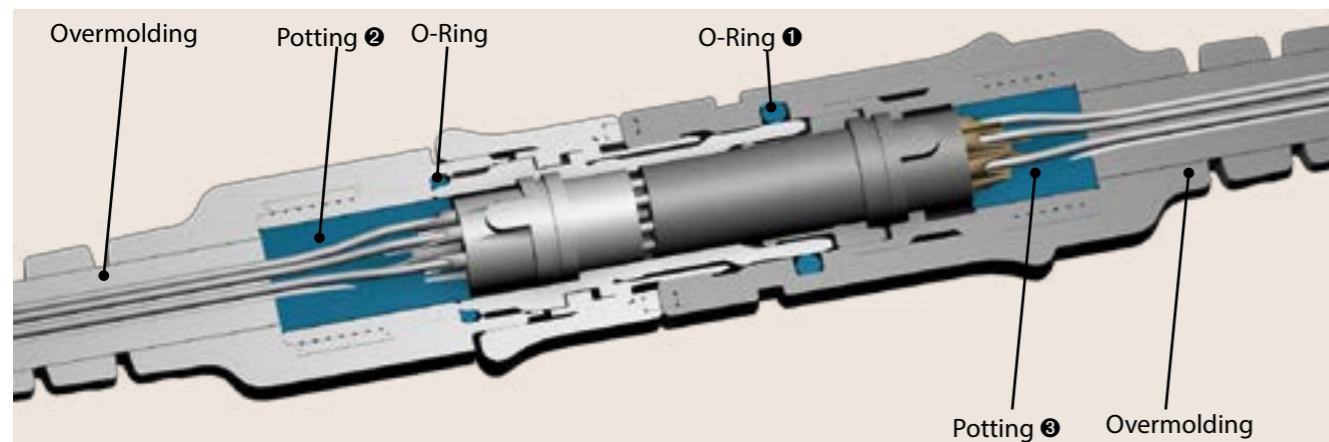
Reference voltage / nominal voltage		Test voltage in Volt (AC 50 Hz)				
in Volt (DC)	in Volt (AC)	Insulation group				
		A0	A	B	C	D
15	12	375	500	750	875	1,250
36	30	500	500	750	1,000	1,500
75	60	500	625	875	1,000	1,500
150	125	625	750	1,000	1,250	1,750
300	250	750	875	1,250	1,750	2,250
450	380	875	1,000	1,750	2,250	3,000
600	500	1,000	1,250	2,000	2,750	3,500
800	660	1,250	1,750	2,500	3,500	4,000
900	750	1,500	1,750	2,750	3,500	4,500
1,200	1,000	1,750	2,250	3,500	4,500	5,500

International Protection (IP) Classes in Accordance with DIN EN 60 529 (or IEC 529 / VDE 0470 T1, respectively)

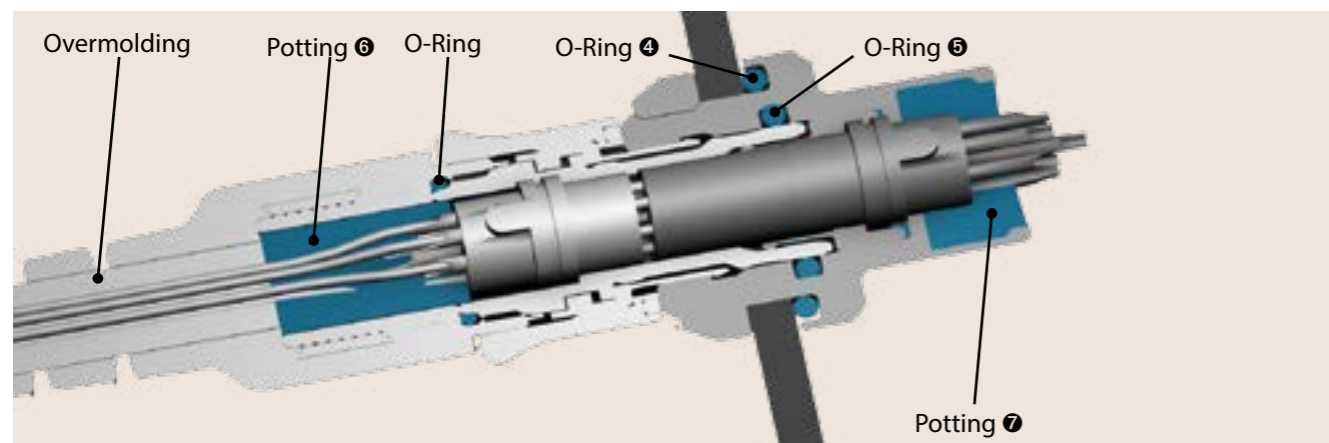
Code letters (International Protection)		First code number (Protection against solid foreign bodies)		Second code number (Protection against water)	
IP		6		5	
Code number	Extent of protection		Code number	Extent of protection	
0	No protection		No protection against contact, no protection against solid foreign bodies	0	No protection against water
1	Protection against large foreign bodies		Protection against large-surface contact with the back of the hand, protection against foreign bodies $\varnothing \geq 50$ mm	1	Protection against dripping water
2	Protection against medium-sized foreign bodies		Protection against contact with the fingers, protection against foreign bodies $\varnothing \geq 12$ mm	2	Protection against dripping water when tilted
3	Protection against small foreign bodies		Protection against contact with tools, wires, or the like with $\varnothing \geq 2.5$ mm, protection against foreign bodies $\varnothing \geq 2.5$ mm	3	Protected against spraying water
4	Protection against granular foreign bodies		The same as 3, except $\varnothing \geq 1$ mm	4	Protection against splashing water
5	Protection against dust deposits		Protection against contact, protection against harmful dust deposit in the interior	5	Protection against water jet
6	Protection against dust ingress		Protection against foreign bodies $\varnothing \geq 1$ mm, protection against dust ingress	6	Protection against powerful water jet
				7	Protection against immersion
				8	Protection against pressurized water
				9	Protection against high pressure

Watertightness of the Series AMC®

Plug and in-line receptacle connection (case 1)



Plug and receptacle connection (case 2)



In mated condition the contacts are protected (in cases 1 and 2).

In unmated condition the contacts can be protected using a protective cover (see page 54 – 55). The cover must be removed before mating the plug with the receptacle.

Protection against water through following seals

Termination area	Mated		Unmated	
	Yes	Position	No	Position
Cable – Cable (Case 1)	Yes	1 2 3	No	
Device – Cable (Case 2)	Yes	4 5 6 7	Yes	4 7

Conversions AWG – Cross Section (AWG = American Wire Gauge)

The AWG system describes the cross section of a wire using a gauge number for every 26 % increase in conductor cross section. With larger wire diameters, the AWG gauge numbers decrease; as the wire sizes increase, the AWG gauge numbers decrease. **This is only valid for solid conductors.**

Most wires are made with **stranded conductors**. Compared to solid conductors stranded wires offer higher durability, higher flexibility and better performance under bending and vibration.

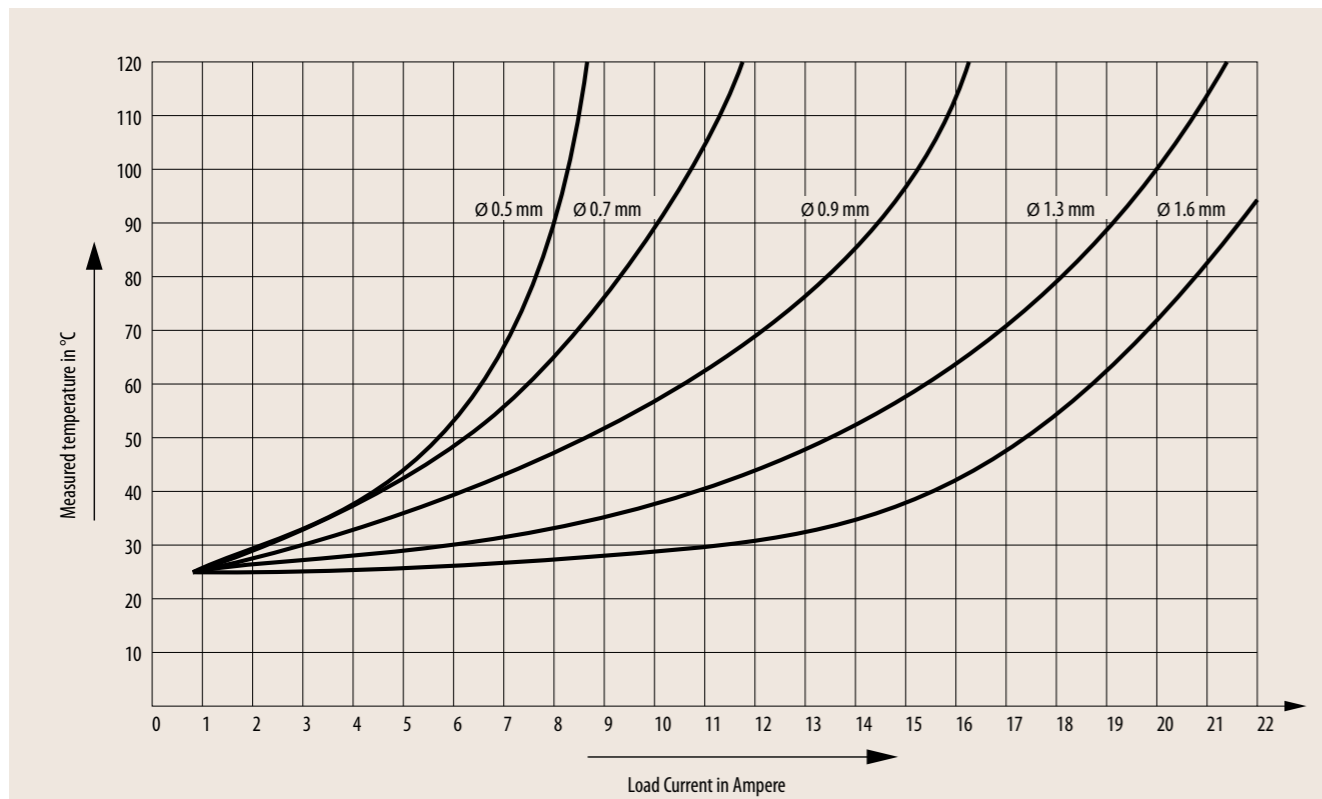
Stranded wires are made from wires with smaller gauge sizes (higher AWG gauge number). The AWG gauge number of the stranded wire is equal to that of a solid conductor of the same size wire. The cross section of the stranded conductor is the sum of cross sections of the single conductors. For example, a AWG-20 stranded wire of 7 AWG-28 conductors has a cross section of 0.563 mm²; an AWG-20 stranded wire with 19 AWG-32 conductors has a cross section of 0.616 mm².

Conversion table AWG/mm²

AWG	Circular wire		Cross section mm ²	Weight kg/km	Max. resistance Ω/km
	Diameter Inch	Diameter mm			
10 (1)	0.1020	2.5900	5.2700	47.000	3.45
10 (37/26)	1.1090	2.7500	4.5300	43.600	4.13
12 (1)	0.0808	2.0500	3.3100	29.500	5.45
12 (19/25)	0.0895	2.2500	3.0800	28.600	6.14
12 (37/28)	0.0858	2.1800	2.9700	26.300	6.36
14 (1)	0.0641	1.6300	2.0800	18.500	8.79
14 (19/27)	0.0670	1.7000	1.9400	18.000	9.94
14 (37/30)	0.0673	1.7100	1.8700	17.400	10.50
16 (1)	0.0508	1.2900	1.3100	11.600	13.94
16 (19/29)	0.0551	1.4000	1.2300	11.000	15.70
18 (1)	0.0403	1.0200	0.8200	7.320	22.18
18 (19/30)	0.0480	1.2200	0.9600	8.840	20.40
20 (1)	0.0320	0.8130	0.5200	4.610	35.10
20 (7/28)	0.0366	0.9300	0.5600	5.150	34.10
20 (19/32)	0.0384	0.9800	0.6200	5.450	32.00
22 (1)	0.0252	0.6400	0.3240	2.890	57.70
22 (7/30)	0.0288	0.7310	0.3540	3.240	54.80
22 (19/34)	0.0307	0.7800	0.3820	3.410	51.80
24 (1)	0.0197	0.5000	0.1960	1.830	91.20
24 (7/32)	0.0230	0.5850	0.2270	2.080	86.00
24 (19/36)	0.0252	0.6400	0.2400	2.160	83.30
26 (1)	0.01570	0.4000	0.1220	1.140	147.00
26 (7/34)	0.0189	0.4800	0.1400	1.290	140.00
26 (19/38)	0.0192	0.4870	0.1500	1.400	131.00
28 (1)	0.0126	0.3200	0.0800	0.716	231.00
28 (7/36)	0.0150	0.3810	0.0890	0.813	224.00
28 (19/40)	0.0151	0.3850	0.0950	0.931	207.00
30 (1)	0.0098	0.2500	0.0506	0.451	374.00
30 (7/38)	0.0115	0.2930	0.0550	0.519	354.00
30 (19/42)	0.0123	0.3120	0.0720	0.622	310.00
32 (1)	0.0080	0.2030	0.0320	0.289	561.00
32 (7/40)	0.0094	0.2400	0.0350	0.340	597.10
32 (19/44)	0.0100	0.2540	0.0440	0.356	492.00
34 (1)	0.0063	0.1600	0.0201	0.179	951.00
34 (7/42)	0.0083	0.2110	0.0266	0.113	1,491.00
36 (1)	0.0050	0.1270	0.0127	0.072	1,519.00
36 (7/44)	0.0064	0.1630	0.0161	0.130	1,322.00
38 (1)	0.0040	0.1000	0.0078	0.072	2,402.00
40 (1)	0.0031	0.0800	0.0050	0.043	3,878.60
42 (1)	0.0028	0.0700	0.0038	0.028	5,964.00
44 (1)	0.0021	0.0540	0.0023	0.018	8,660.00

Current Load – Contacts

Nominal single contact current load for pin / slotted socket (nominal diameter 0.5 mm – 1.6 mm)



Upper maximum temperature for contacts: +125°C.

Test contact was terminated to largest possible conductor.

Connectors or cables with more than one contact or conductor generate a higher heat than a single contact. Therefore, a **derating factor** must be applied.

For connectors the derating factor is applied according to DIN IEC 60512-3 / VDE 0276-1000. The derating factor is used starting with 5 loaded wires.

Derating factor

Number of loaded wires	Derating factor
5	0.75
7	0.65
10	0.55
14	0.50
19	0.45
24	0.40

Operating Voltage acc. to SAE AS 13441-Method 3001.1

The values acc. to SAE AS 13441-method 3001.1 comply with MIL-Std. 1344 – method 3001. The chart values results are acc. to IEC 60512-2. The inserts have been tested in mated condition and the test voltage was applied to the pin insert.

75% of the measured break-down voltage is the basic for the further calculation. 1/3 of this value is the corresponding operating voltage.

All tests were performed at standard environment conditions (room temperature) and can be applied up to an altitude of 2,000 m. For any deviations one has to consider the reduction factor acc. to the relevant standards.

Test voltage: Break-down voltage × 0.75
Operating voltage: Break-down voltage × 0.75 × 0.33

Caution

Electrical appliances: for various applications the safety requirements regarding the operating voltage is even more severe! The relevant datas in such cases for the operating voltage are the creepage and clearance distances. For any advise how to chose the proper connector please consult us and indicate the safty standard which your product has to meet.

Suitable safety precautions must be taken in order to ensure that personnel do not come into contact with live conductors during installation and operation. All entries were reviewed with maximum care before this catalogue was printed.

ODU reserves the right to make changes in accordance with the current state of the art without advance notice, and without being obligated to provide replacement deliveries or to continue production of older designs.

Overview – All Push-Pull Connector Series from ODU

Push-Pull series	Coding	Sizes	No. of mechanical coding	Diameter plug (mm)	Max. cable Ø (mm)	Max. no. of contacts	Solder	Crimp	Print	IP Protection Class A ¹⁾	IP Protection Class B ²⁾
ODU MINI-SNAP L	Pin and groove	00	4	6.5	3.5	04				IP 50	up to IP 68
		0	6	9.5	5.6	10					
		1	7	12.0	7.7	16	•	•	•		
		2	8	15.0	9.9	26					
		3	7	18.0	11.9	30					
ODU MINI-SNAP K	Pin and groove	0		11.0	5.0	10				IP 68	up to IP 68
		1	4	13.0	7.0	16					
		2		16.0	9.0	26	•	•	•		
		3	1	19.0	10.5	30					
		4	1	25.0	14.0	40					
ODU MINI-SNAP B	Pin and groove	0	6	9.4	5.0	10				IP 68	up to IP 68
		1	8	12.0	7.0	16	•	•	•		
		2	8	15.0	9.0	26					
		3	10	18.0	10.5	30					
ODU MINI-SNAP S	Insulator	0		9.4	5.0	04				up to IP 68	up to IP 68
		1	1	12.0	7.0	05	•	•			
		2		15.0	9.0	10					
ODU MINI-SNAP F	Half shell	0	2	9.4	5.0	09				up to IP 68	up to IP 68
		1	2	12.0	7.5	12					
		1.5	2	13.0	7.5	19	•	•	•		
		2	2	15.0	9.5	19					
ODU AMC	Pin and groove	0		14.0	5.5	10				up to IP 69K	IP 68
		1		15.9	6.5	16					
		1.5	4	16.5	8.0	19	•				
		2		19.6	10.0	26					
		3		23.9	11.5	37					
ODU MINI-SNAP PC	Half shell	1		12.5	6.0	14				up to IP 67	IP 50
		2	3	15.7	9.0	19	•	•	•		
		3		18.7	10.5	27					
ODU MEDI-SNAP	Pin and groove	1	6	13.7	6.5	14				up to IP 64	IP 50
		2	1	18.5	9.2	19	•	•	•		

¹ IP Protection Class in mated condition.
² IP Protection Class in unmated condition to the end device.

Quality Management and Certifications

ODU has had a powerful quality management system in place for years. ODU has been successfully certified to DIN EN ISO 9001 since 1994. In addition, the automotive sector of the company group is certified to ISO/TS 16949.

The certification process was carried out by the internationally active BVQI (Bureau Veritas Quality International) company.

ODU is also certified according to the medical standard ISO 13485 : 2003 + AC : 2007.

Additional to this ODU is certificated to DIN EN ISO 14001 : 2009 as well as to different certifications: VDE, UL, UL wiring harness, CSA, VG.

ODU-USA is registered with the DDTC and able to complete ITAR restricted manufacturing projects



Your Partner in Many Application Areas

ODU stands for quality, flexibility and reliability. This is why customers working in many application areas rely on ODU products in markets such as the following:

- Medical
- Industrial
- Measuring and testing
- Military and security
- Energy
- eMobility.



The Complete ODU Product Range

Single contacts (round or flat)			
High current connectors			
Circular connectors with Push-Pull locking			
Modular rectangular connectors			
PCB connectors			
Robust connectors			
Disposable Systems			
Application specific solutions			
AMC – Advanced Military Connector			
Cable assembly			

Everything from one Source

Each connection needs its individual cable. Make no compromises when it comes to the quality of the complete connection system. ODU gives you the complete system solution from one source, with no intermediary suppliers.

Cable assembly is a very complex subject. It requires equal measures of expertise in the areas of connectors, cables and assembly. ODU meets all these requirements in full.

Our competent assembly team tests the complete system according your specifications. Our assembly service promises you the same quality found in our connectors – without compromises.

ODU offers you all from one source

- 100% final inspections
- Production in clean room acc. to EN ISO14644-1 possible
- Automatic processes (cutting, stripping, attaching)

- Extrusion possible with a hot-melt and high pressure/temperature process
- Ultrasound welding
- EMC-compatible assembly
- Application specific labeling
- Widest range of potting possibilities for sealed systems
- Extruded cable crossovers.

Advantages for the customer

- Modern manufacturing facilities in Mühldorf (Germany), Shanghai (China) and Sibiu (Romania)
- Reliability thanks to our company-wide quality strategy
- Products with durability and functional reliability
- Production according to UL (file: E333666) possible
- Inspections, such as crimp force monitoring, during production.

Assembly instruction you will find on our website: www.odu.de/amc/assembly

Standard solutions



Application specific solutions



Application Specific Connectors



Innovative, dynamic markets call for innovative connectors.

As an expert for special applications and requirements, we develop forward-looking, appropriate connectors attuned to your needs!

In spite of the global trend toward standardized connectors, there are always applications that call for an application specific solution. We accept this challenge and

develop innovative products for our customers based on our many years of extensive know-how, our creativity and, not least, our high level of vertical integration. Technology access and technology mastery, combined with intensive cooperation with the user, form the basis for achieving success together.

Design-to-cost is joined by design-for-application for the customer's benefit.



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Company:
Name:
Department:
Street:
City:
Phone: Date

ODU AMC® Summary of Technical Requirements

1) Connector application _____
 2) Environment _____
 3) Connector type Plug Receptacle In-line receptacle
 4) Special version _____
 5) Style _____
 6) Size 0 1 1.5 (A) 2 3 4.5 (E)
 7) Series Y Standard Y Easy-Clean
 8) Coding _____
 9) Number of positions _____
 10) Termination Solder PCB
 11) Cross section of wire _____ mm² _____ AWG
 Cable diameter _____ mm
 12) Operating temperature _____ °C max _____ °C min
 13) Electrical specs:
 Operating voltage _____ V AC _____ V DC
 Operating current _____ A (constant) _____ A (short-term) _____ sec.
 14) Chemical resistance against _____
 15) Other requirements _____
 → Required quantity _____
 → Production quantity _____

The Part Number Key

No.	Description	Coding	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	Type	S = Push-Pull plug G = Receptacle K = In-line receptacle A = Break-Away plug																			
2	Style	1, 8, K, W																			
3	Size	0, 1, A, 2, 3, E																			
4	Series	Y = ODU AMC																			
5	Keying (colour and mechanical)	A - D																			
6	Material / surface of housing	R = Ruthenium																			
8	Material insulator																				
9	Contact configuration (2 positions)																				
10																					
11	Contact type / surface																				
12	Contact diameter																				
13	Termination cross section																				
14		0																			
16	Locking principle	0 = Standard Version, see page 11 R = Easy-Clean Version, see page 35																			
17	Cover / nut	0 = Standard																			
18		0																			
19	Receptacle earth tag – GK and G8	L																			

Please open

Example plug

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
S	1	1	Y	A	R	-	P	0	8	X	F	G	0	-	0	0	0	0

- 1 = Plug
- 2 = Style 1
- 3 = Size 1
- 4 = Series Y = ODU AMC
- 5 = Coding A = light brown
- 6 = Ruthenium over Aluminium

- 8 = Peek insulator
- 9, 10 = 8 positions
- 11 = Solder pin
- 12 = Contact diameter 0.7 mm
- 13 = Cross section AWG 22/0.38 mm²
- 14 = free (0)

- 16 = Locking Push-Pull
- 17 = free (0)
- 18 = free (0)
- 19 = free (0)

Example receptacle

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
G	8	1	Y	A	R	-	P	0	8	W	F	G	0	-	0	0	0	L

- 1 = Receptacle
- 2 = Style 8
- 3 = Size 1
- 4 = Series Y = ODU AMC
- 5 = Coding A = light brown
- 6 = Ruthenium over Aluminium

- 8 = Peek insulator
- 9, 10 = 8 positions
- 11 = Solder pin
- 12 = Contact diameter 0.7 mm
- 13 = Cross section AWG 22/0.38 mm²
- 14 = free (0)

- 16 = Locking Push-Pull / Break-Away
- 17 = free (0)
- 18 = free (0)
- 19 = Earth tag



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www.odu.de/sales**