

ODU AMC[®] SERIES T CONTACT INFORMATION



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General information:

AS39029 crimp contacts are standard contacts for a wide variety of military circular connector applications. For platforms such as the ODU AMC Series T, the AS39029 crimp contacts provide reliable power and signal transmission under heavy mechanical stress even in harsh environmental conditions.

The contacts are defined by the max. termination cross section

Contact #16 -> AWG 16-20

Advantages:

- long proven and reliably used components
- Interchangeable for repair and modification
- Field-assembly possible

Contact Description:

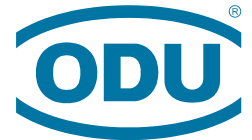


BIN (Basic Identification Number):

MIL-Contacts have a BIN (Basic Identification Number) code consisting of three color bands around the crimp barrel. There are 10 colors, which designate a number.

0 BLACK	1 BROWN	2 RED	3 ORANGE	4 YELLOW
5 GREEN	6 BLUE	7 VIOLET	8 GRAY	9 White

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Crimp Contact Identification

Standard contacts are available in different sizes and they are very popular to use in the military and aerospace industries. In addition to the standard MIL Spec. contacts, ODU also provides ODU specific contacts.

MIL Specification crimp contacts

Size	AWG	Type	Material number	ODU number	MIL-STD No.	BIN-Color		
#16	16-20	Socket	50265060	923.000.005.000.299	M39029/57-358	Orange	Green	Gray
		Pin	50267258	923.000.005.000.427	M39029/58-364	Orange	Blue	Yellow
#20	20-24	Socket	50265061	923.000.005.000.300	M39029/57-357	Orange	Green	Violet
		Pin	50267260	923.000.005.000.428	M39029/58-363	Orange	Blue	Orange
#22D	22-26	Socket	50260077	923.000.005.000.292	M39029/57-354	Orange	Green	Yellow
		Pin	50258807	923.000.005.000.429	M39029/58-360	Orange	Blue	Black

ODU specific crimp contacts

For smaller termination cross section and higher contact density without BIN Color code.

Size	AWG	Type	Material number	ODU number
#20MD	20-24	Socket	50265062	923.000.005.000.301
		Pin	50258803	185.967.000.306.000
#22MD	22-26	Socket	50265063	923.000.005.000.302
		Pin	50267272	185.A20.000.306.000
#26	26-30	Socket	50265064	923.000.005.000.303
		Pin	50267281	185.A21.000.306.000

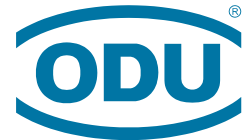
Sealing Plugs



Size	Material number	ODU number	MIL-No.	color	ØA	B	C	ØD
#16	50289878	021.315.951.937.000	MS27488-16-2	green	1.8	21.7	2.3	3.2
#20	50289883	021.315.901.937.000	MS27488-20-2	red	1.25	21.7	2.3	2.24
#20MD	50292731	021.315.949.937.000	-	orange	1.1	21.7	2.5	1.6
#22D	50289889	021.315.942.937.000	MS27488-22-2	black	1	11.7	2.4	1.5
#22MD	50292732	021.315.948.937.000	-	green	0.82	11.7	4.1	1.3
#26	50292733	021.315.941.937.000	-	red	0.7	11.7	4.2	1.1

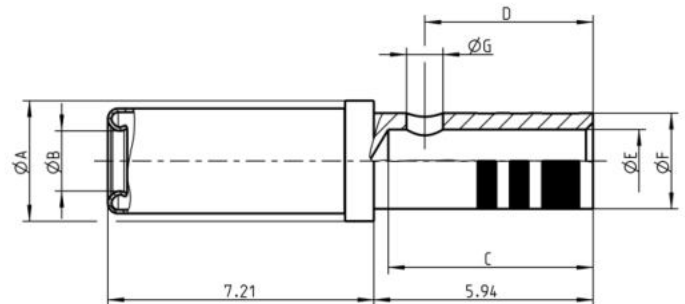
All dimensions in millimeter.

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Contact dimensions:

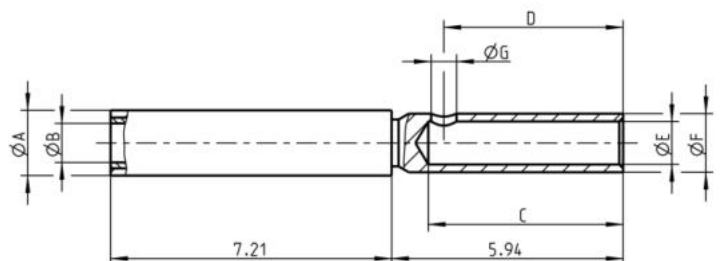


MIL standard sockets:

Contact size	ØA	ØB	C	D	ØE	ØF	ØG	stripping dim.
#16	3.26	1.63	5.55	4.56	1.7	2.59	0.99	6
#20	2.34	1.06	5.55	4.82	1.19	1.75	0.74	6
#22D	1.54	0.79	3.8	3.18	0.88	1.19	0.51	4.1

All dimensions in millimeter.

ODU specific sockets:



Contact size	ØA	ØB	C	D	ØE	ØF	ØG	stripping dim.
#20MD	1.67	0.9	5	4.4	1.1	1.5	0.65	5.5
#22MD	1.37	0.7	3.8	-	0.9	1.2	-	4.1
#26	1.17	0.5	3.2	-	0.67	1.0	-	3.7

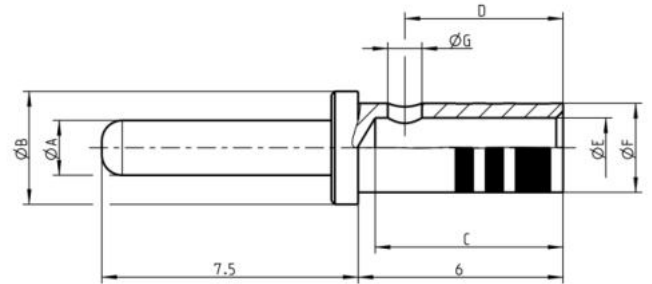
All dimensions in millimeter

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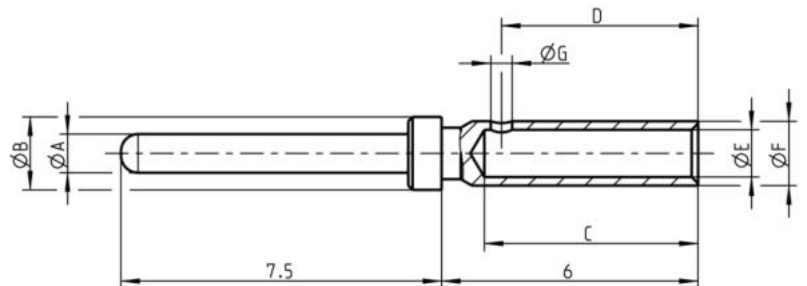
MIL standard pins:



Contact size	ØA	ØB	C	D	ØE	ØF	ØG	stripping dim.
#16	1.6	3.3	5.31	4.5	1.75	2.6	1	6
#20	1.02	2.36	5.31	4.73	1.2	1.75	0.75	6
#22D	0.76	1.55	3.58	3.2	0.9	1.2	0.5	4.1

All dimensions in millimeter.

ODU specific pins:



Contact size	ØA	ØB	C	D	ØE	ØF	ØG	stripping dim.
#20MD	0.9	1.7	5	4.6	1.1	1.5	0.5	5.5
#22MD	0.7	1.4	3.6	3.2	0.9	1.2	0.5	4.1
#26	0.5	1.2	3.2	2.9	0.67	1.0	0.4	3.7

All dimensions in millimeter.

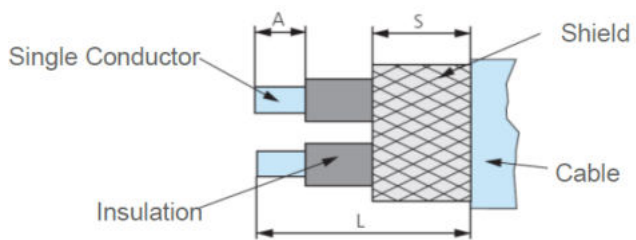
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Recommended stripping length

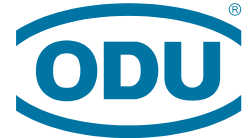
The following table provides recommended guidelines for cable preparation.



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	12	37	6	35
12	18 way	#20MD	28	5.5	12	37	5.5	35
		#22D	28	4.1	12	37	4.1	35

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Crimp tools:

The 8-point crimping tool is used to crimp turned contacts on to a conductor. The special features of the hand-crimping tool are a user-friendly display, ergonomic design and an optimum force transmission for comfortable working.

Size	Material number	ODU number	MIL-No.
#16	50295642	080.000.073.000.000	M22520/1-01
#20			
#20MD	50295641	080.000.072.000.000	M22520/7-01
#22D			
#22MD			
#26			

Positioner:

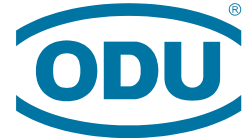
Positioners are used for exact positioning of the crimp contact during the crimping process. This makes the crimping process safe and the crimping result reproducible.

Size	Material number	ODU number	Standard tool
#16	50295644	080.000.073.101.000	M22520/1-04
#20	50295644	080.000.073.101.000	M22520/1-04
#20MD	50296576	080.000.072.102.000	-
	50295643	080.000.072.101.000	-
#22D	50296576	080.000.072.102.000	M22520/7-06
	50295643	080.000.072.101.000	M22520/7-07
#22MD	50299983	080.000.072.106.000	-
#26	50298432	080.000.072.104.000	-
	50296577	080.000.072.103.000	-

Safety notice

Crimping tools generate a very high pressing force. Incorrect handling may result in considerable risk of crushing! Working under voltage is not permitted! For questions, please contact the manufacturer!

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Insertion & Removal tools

ODU provides insertion & removal tools for all listed contacts.

Please note! The use of the correct insertion tool ensures the correct seating of the contact in the connector. Using the correct removal tool ensures that the contact can be removed without causing damage.

MIL Standard insertion & removal plastic tools

Size	Material number	ODU number	Military	color code Insertion side	color code removal side
#16	50300132	085.613.100.020.000	M81969/14-03	blue	white
#20	50300133	085.613.100.040.000	M81969/14-10	red	orange
#22D	50300134	085.613.100.060.000	M81969/14-01	green	white

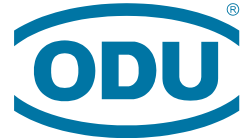
MIL Standard insertion & removal metal tweezers

Size	Type	Material number	ODU number	Military
#16	insertion	50301172	085.613.100.070.000	M81969/8-07
	removal	50301483	085.613.100.070.001	M81969/8-08
#20	insertion	50301169	085.613.100.050.000	M81969/8-05
	removal	50301171	085.613.100.050.001	M81969/8-06
#22D	insertion	50301166	085.613.100.030.000	M81969/8-01
	removal	50301167	085.613.100.030.001	M81969/8-02

ODU Specific insertion & Removal tools

Size	Material number	ODU number
#20MD	50297731	085.613.100.090.000

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Contact crimping

1. Prepare your contacts according to the contact type. The stripping lengths for each contact can be taken from the tables on page 6.
2. Choose your crimping tools according to the table on page 7.
3. Loosen the clamping screw of the crimp setting adjustment wheel.
4. Switch on the display with the “ON/OFF” button.
5. Set the dial of the crimp to the proper setting for wire gage and contact as noted on the contact information on the tool. Be sure that the proper locator is used.
6. Set the crimp dimension to the desired level with the crimp setting adjustment wheel and then fix the clamping screw.
7. #22D; #20MD; #22MD; #26 Insert the positioner into the crimping tool. To do this, turn the tool around so that the rear side is facing you. Insert the positioner with bayonet pin into the adapter ring and turn 90°. The positioner locks into place.
8. **Exception for contacts #16; #20** Place the positioner on the protruding screw, on the rear side of the crimping tool. Secure it by using an allen key whilst holding the screw on the front side with a second allen key.

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9. Optional only necessary for multiple positioners:

To adjust the positioner, lift and rotate, until the required setting is aligned with the mark.

10. Insert the contact with the prepared wire into the crimping point. Note that the crimping is done in the middle of the crimping area.
11. Press the crimping tool handle completely. After opening, remove the contact and check the results.

Contact assembly

1. Please note that a clean workplace prevents the entry of dirt and foreign materials during the assembly process.
2. Prepare all the necessary components and tools.
3. Place the wired contact with the wire first in the groove of the insertion tool.
4. Then seat the contact with the crimp barrel on the tip of the tool.
5. When inserting the contacts, start with the central cavities.
6. Insert the contacts until you feel them click into place in the retaining clip. If required, check that the contact is firmly seated by gently pulling on it. Remove the tool by sliding it back on the wire.
7. Repeat this step regarding to the contact numbers on the termination side of the insert.

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Contact Removal

1. When removing the contacts, start with the outer contacts
2. Lay the wire of the contact along the slot of the tool, squeeze the wire firmly into the tool between the thumb and forefinger about 1.5 cm from the tip and quickly pull the tool away from the connector
3. The wire should now have snapped into the groove. Slide the tool down along the wire into the rear cavity to the contact until a positive resistance is felt. At this time, the contact clip mechanism is unlocked.
4. Press the wire of the contact against the groove of the tool and pull the tool with the wired contact out of the connector.

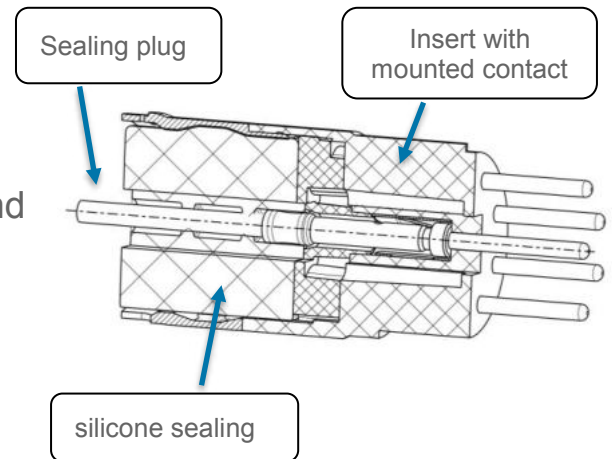
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Sealing plug

Sealing plugs are used to seal unwired contact cavities. After installing unwired contacts into unused cavities, insert knob end of sealing plug into grommet until it bottoms against the unwired contact per illustration. Install sealing plugs with standard contact insertion / extraction tools.



Sealing plug installation

1. Seal unused cavities where a wiring is not required with a contact and sealing plug combination.
2. For that insert first the unwired contact similar to the chapter contact assembly in the connector see page 10
3. Insert the Sealing plug by hand until it stops at the connection area of the contact.
4. Repeat steps 1-3 for each additional unused cavity.

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Material & Specification

Technical Information

Performance Specifications		Standard
Vibration	37,8g RMS	EIA-364-28, condition V letter J
Shock	300g	EIA-364-27, condition D
Durability	500	SAE-AS39029, 4.7.10
Operating Temperature	-65 °C - +200°C	EIA-364-32, condition A
Contact Resistance	SAE-AS39029, Table 5	EIA-364-06 @+25°C
Humidity	240h, 100mA	EIA-364-31, Method II
Salt Spray	48h	EIA-364-26, condition B

Materials and Finishes					
Contact part	Material	Standard		Surface	Standard
		EU	US		
Pin Contact ODU specific	CuZn38Pb2	CW608 (2.0371)	C35300	1.27µm Gold over Nickel	MIL-G-45204D
Pin Contact MIL Standard	CuZn35Pb2	CW601 (2.0331)	C34500	1.27µm Gold over Nickel	ASTM B488, Type II, C
Socket Contact Body	CuZn35Pb2	CW601 (2.0331)	C34500	Gold over Nickel	ASTM B488, Type II
Socket Contact Clip	BeCu	CW101 (2.1247)	C17200	1.27µm Gold over Nickel	ASTM B488, Type II, C
Sealing Plug	PPSU	-	-	-	-

Applicable documents

D00016301 → Specification

D00016302 → Accessories

D00016303 → Assembly Instruction – Series T – ODU integrated shielding platform

D00016304 → Assembly Instruction – Series T – MIL-STD Backshell Termination

All data sheets available at www.odu.de