

# CONNECTOR SOLUTIONS MILITARY APPLICATIONS

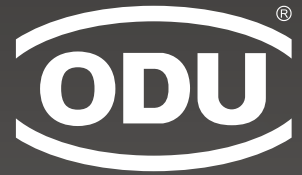
HDMI     
ODU HIGH SPEED DATA TECHNOLOGY



SMALLER - LIGHTER - FASTER



# A PERFECT ALLIANCE



## ODU GROUP OVERVIEW

- More than 80 years of experience in connector technology
- Over 2,500 employees worldwide
- Sales offices in China, Denmark, France, Germany, Hong Kong, Italy, Japan, Korea, Romania, Sweden, the UK and the US as well as 6 production and logistics sites
- All technologies under one roof: Design and development, machine tool and special machine construction, injection, stamping, turning, surface technology, assembly and cable assembly

We operate in the following markets: medical, military and security, test and measurement, industrial, and automotive

As of February 2022

## CERTIFIED QUALITY

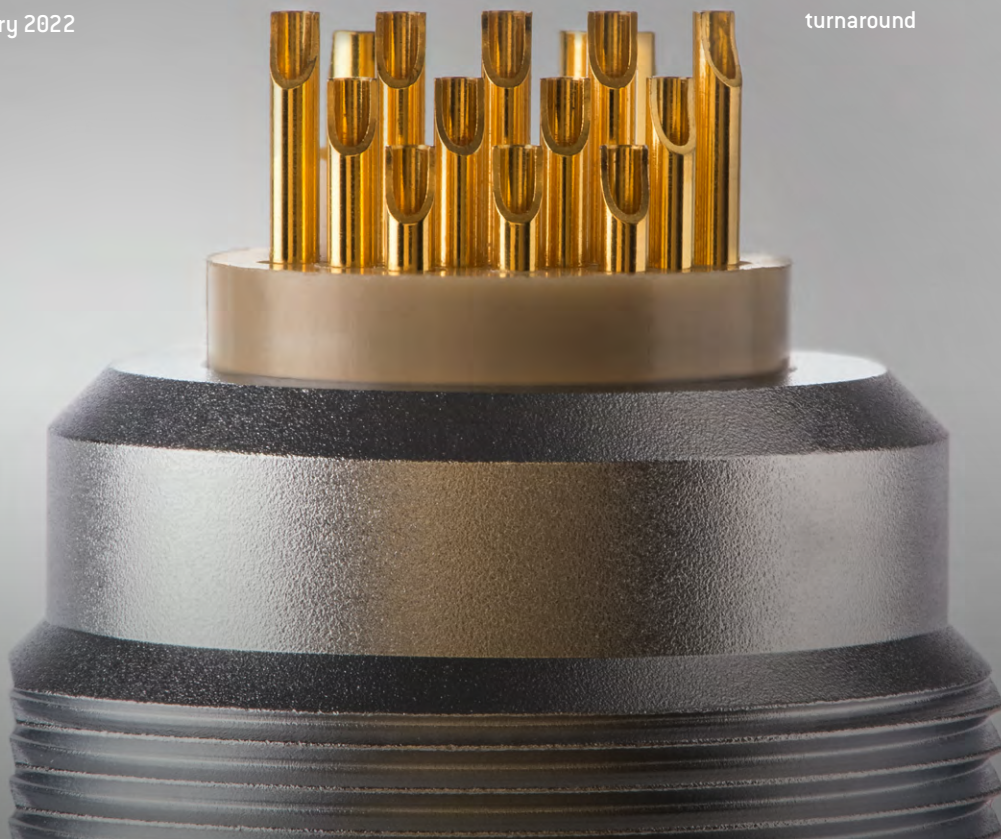
- ISO 9001
- IATF 16949
- ISO 13485
- ISO 14001
- ISO 50001
- Wide range of UL, CSA, VG and VDE licenses
- UL certified cable assembly

For a complete list of our certifications, please visit our website.

## CUSTOMER-SPECIFIC SOLUTIONS

Contacts, connectors and integrated cable assembly solutions meeting the most demanding technical market requirements – ODU's connector solutions and value-added services are characterized by their exclusive focus on meeting the customer's needs.

- Precise implementation of application-specific requirements regarding design, functionality, cost and exclusivity
- Custom connector solutions derived from standard products
- One-to-one local expertise and fair, friendly consulting
- Rapid prototyping and production turnaround





# ODU CONNECTORS APPLICABILITY

## SOLDIER COMMUNICATION SYSTEMS

- + 70 % weight and size reduction
- + Up to IP6K9K



## UNMANNED SYSTEMS: UAV/UGV/UAS

- + High vibration resistance
- + High-speed data transfer



## MILITARY VEHICLES

- + Shock and vibration resistant
- + Ergonomic shape and rapid mate/demate capable



# ODU MILITARY CONNECTORS

**FAST SAMPLE AVAILABILITY**  
Email us at: [sales@odu-usa.com](mailto:sales@odu-usa.com)



		Keying	Sizes	No. of possible mechanical keying	Diameter plug (mm)	Max. cable diameter (mm)	Max. no. of contacts	Solder	Crimp	Print
<b>ODU AMC® High-Density Break-Away</b> <ul style="list-style-type: none"><li>70 % weight and size reduction</li><li>Cable assembly solutions</li><li>Chrome plated version available</li><li>USB® 3.2 Gen 1x1<sup>1</sup> + USB® 2.0<sup>1</sup> + HDMI®<sup>1</sup> + Ethernet</li></ul> 		Pin and groove	00	4	9.8	5.0	7	•		•
			0		12.8	7.0	16			
			1		14.8	8.5	27			
<b>ODU AMC® High-Density Screw-Lock</b> <ul style="list-style-type: none"><li>High vibration resistance</li><li>High speed data transfer</li><li>High contact density: 2–16 contacts / 2 sizes</li></ul> 		Pin and groove	00	4	9.8	5.0	7	•		•
			0		12.8	7.0	16			
<b>ODU AMC® Push-Pull</b> <ul style="list-style-type: none"><li>&gt; 5,000 mating cycles</li><li>High speed data technology</li><li>Quick and easy mating and locking</li></ul> 		Pin and groove	0	4	14.0	5.5	10	•		•
			1		15.9	6.5	16			
			1.5		16.5	8.0	19			
			2		19.6	10.0	26			
			3		23.9	11.5	37			
			4.5		33.0	17.5	55			
<b>ODU AMC® Break-Away</b> <ul style="list-style-type: none"><li>&gt; 5,000 mating cycles</li><li>High speed data technology</li><li>Quick and easy demating and locking</li></ul> 		Pin and groove	0	4	11.9	5.5	10	•		•
			1		13.9	6.5	16			
			1.5		15.9	8.0	19			
			2		17.6	10.0	26			
			3		21.9	11.5	37			
<b>ODU AMC® Series T</b> <ul style="list-style-type: none"><li>Three locking types to 1 receptacle</li><li>High vibration resistance</li><li>Suitable for MIL 38999 backshells</li></ul> 		Pin and groove	9	4	18.4	7.6	10	•	•	•
					18.5					
					21					
			24.2		14.6	18				
			24.9							
		26								
<b>ODU AMC® NP</b> <ul style="list-style-type: none"><li>Current rating up to 7.5 A per contact</li><li>&gt;2,000 mating cycles</li><li>Break away function</li></ul> 		Pin and groove	6	11	12.4	6.65	7	•	•	•

<sup>1</sup>The contact arrangement of an ODU data transmission connector differs from a standard data transmission connector due to the robust ODU specific design. However, the ODU design meets the electrical specifications of the respective standard data transmission protocol.

⊕ ODU AMC® SERIES T



⊕ ODU AMC® NP



NEW!

⊕ ODU AMC® HIGH-DENSITY SCREW-LOCK



⊕ ODU AMC® HIGH-DENSITY BREAK-AWAY

⊕ ODU AMC® HIGH-DENSITY



IP Class in mated condition	IP Class in unmated condition	Shell material	RoHS compliant	Operating temperature range	Advanced plating technologies for corrosion resistance	Coax transmission	Rapid cable assembly manufacturing	USB® 3.2 Gen 1x1 <sup>1</sup>	USB® 2.0 <sup>1</sup>	HDMI® <sup>1</sup>	Ethernet CAT 5 and 10 GBit Ethernet
Up to IP6K9K	IP68	Brass	•	−51 °C (−60 °F) to +125 °C (+257 °F)	•	•	•	•	•	•	•
Up to IP6K9K	IP68	Brass	•	−51 °C (−60 °F) to +125 °C (+257 °F)	•	•	•	•	•	•	
Up to IP6K9K	IP68	Aluminum	•	−51 °C (−60 °F) to +125 °C (+257 °F)	•	•	•	•	•	•	•
Up to IP6K9K	IP68	Aluminum	•	−51 °C (−60 °F) to +125 °C (+257 °F)	•	•	•	•	•	•	•
Up to IP6K9K	IP68	Aluminum	•	−65 °C (−85 °F) to +175 °C (+347 °F)	•		Backshell version & standard cable assemblies				Ethernet CAT 5 / 1 GBit Ethernet available
IP68 20 meters for 2 hours	IP68 20 meters for 2 hours	Aluminum	•	−18 °C (−0.4 °F) to +71 °C (+159.8 °F)	•	•	•		•		



# ODU FIBER OPTIC



## ODU AMC<sup>®</sup> SERIES T Expanded Beam Performance

- + Fiber types: Singlemode and Multimode
- + Configurations: 2 to 12 fibers
- + Outstanding optical performance



The ODU AMC<sup>®</sup> Series T Expanded Beam Performance is an advanced fiber optic solution. It offers high-end transmission characteristics over many mating cycles. The excellent optical performance remains unchanged even under mechanical stress, environmental influences and harsh ambient conditions.

### MECHANICAL CHARACTERISTICS / ENVIRONMENTAL DATA

Mating cycles	2,000*
IP class in mated condition	IP6K8
Operating temperature	-40 °C to +80 °C
Vibration	MIL 810G 7.7 g
Cleaning	Every 5,000 mating cycles

\* Contact transition allows up to 25,000 mating cycles.  
Specifics of the connector series may deviate.

### OPTICAL CHARACTERISTICS

		Typical	Max.
Insertion loss	SM	< 0.5 dB	< 0.7 dB
	MM	< 0.2 dB	< 0.3 dB
Return loss	SM	> 65 dB	≥ 55 dB
	MM	> 30 dB	≥ 25 dB

### CABLE SPECIFICATION

	Singlemode	Multimode
Fiber	G.657A2	OM4
Jacket	LSZH black	LSZH black
Cable diameter	6.0 ± 0.2 (mm)	6.0 ± 0.2 (mm)
Min. bending radius (static)	60 mm	60 mm
Min. bending radius (dynamic)	120 mm	120 mm

#### REQUEST A QUOTE

Email us at: [sales@odu-usa.com](mailto:sales@odu-usa.com)

Email us at: [sales@odu.de](mailto:sales@odu.de)

# CABLE ASSEMBLY SOLUTIONS

**CUSTOM COMPONENT OVERMOLD**  
(Custom Requirement)

**OVERMOLDS WITH TPE, TPU & TPV**

**POTTING AND ENVIRONMENTAL SEALING**

**CUSTOMIZED CONNECTOR SOLUTIONS**

**FLEX LAYER ASSEMBLY**

**NON ODU CONNECTORS**

- High-speed standard connectors such as: USB® 3.2 Gen 1x2<sup>1</sup>, USB® 2.0<sup>1</sup>, HDMI®<sup>1</sup> and Ethernet CAT 5
- Wire to board connectors

<sup>1</sup>The contact arrangement of an ODU data transmission connector differs from a standard data transmission connector due to the robust ODU specific design. However, the ODU design meets the electrical specifications of the respective standard data transmission protocol.



## ODU TESTING & QUALITY

- In-process checking
- Data rate testing
- 100 % final inspection
- EMC compatible assembly
- Potting and environmental sealing
- IPC/WHMA-A-620
- Production possible in cleanroom in accordance with EN ISO 14644-1

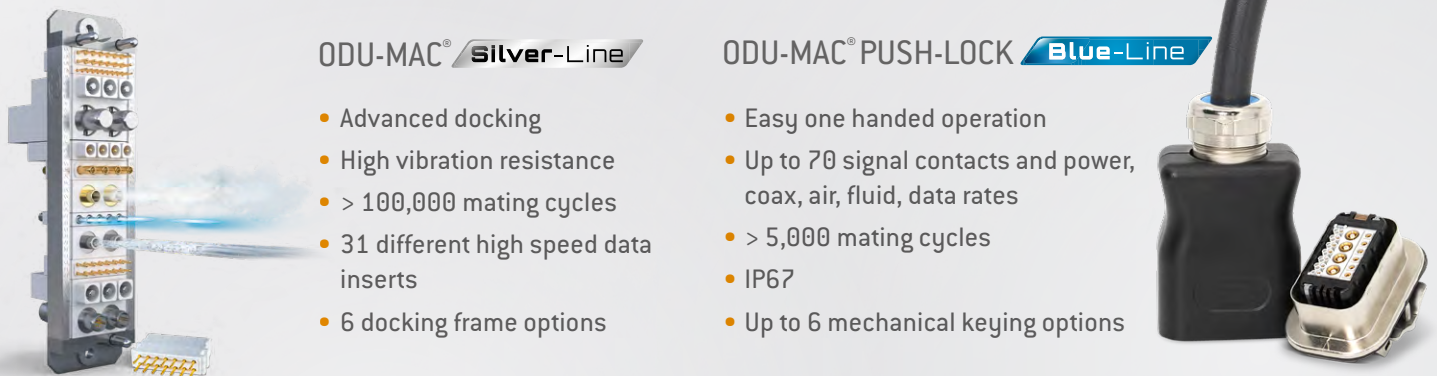
## MODULAR / RECTANGULAR TECHNOLOGY

**ODU-MAC® Silver-Line**

- Advanced docking
- High vibration resistance
- > 100,000 mating cycles
- 31 different high speed data inserts
- 6 docking frame options

**ODU-MAC® PUSH-LOCK Blue-Line**

- Easy one handed operation
- Up to 70 signal contacts and power, coax, air, fluid, data rates
- > 5,000 mating cycles
- IP67
- Up to 6 mechanical keying options

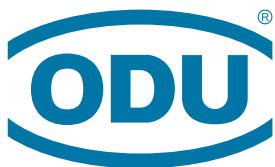


## ELECTRICAL CONTACT TECHNOLOGY

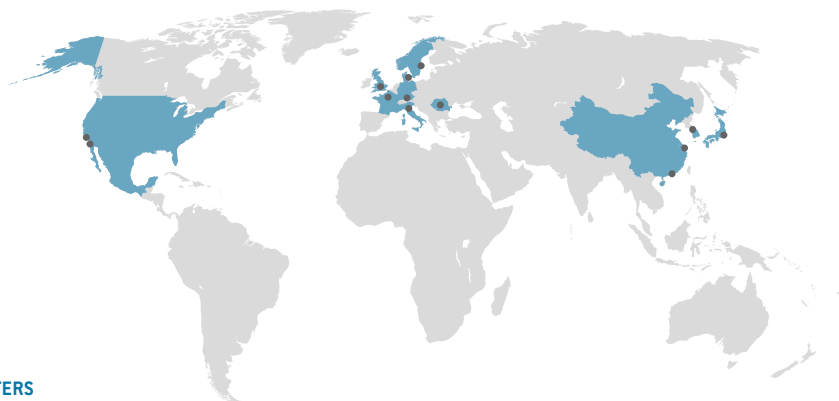
- High precision contacts
- Fully customizable
- Low contact resistance
- High current carrying capacity



**ASK OUR ENGINEERS**  
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Further information and specialized  
representatives can be found at:

[www.odu-connectors.com/contact](http://www.odu-connectors.com/contact)

### PRODUCTION AND LOGISTICS SITES

**Germany** Otto Dunkel GmbH

**China** ODU (Shanghai) Connectors Manufacturing Co., Ltd.

**Mexico** ODU Mexico Manufacturing S. de R.L. de C.V.

**Romania** ODU Romania Manufacturing SRL

**USA** ODU North American Logistics Inc.



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