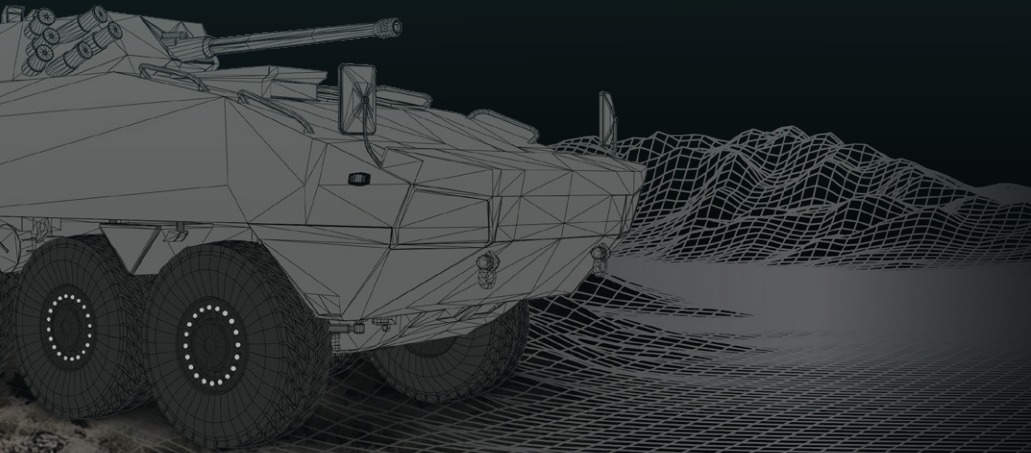
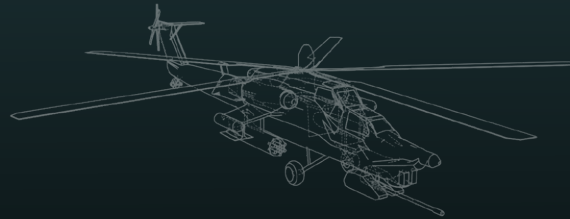
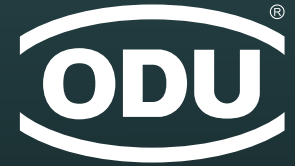


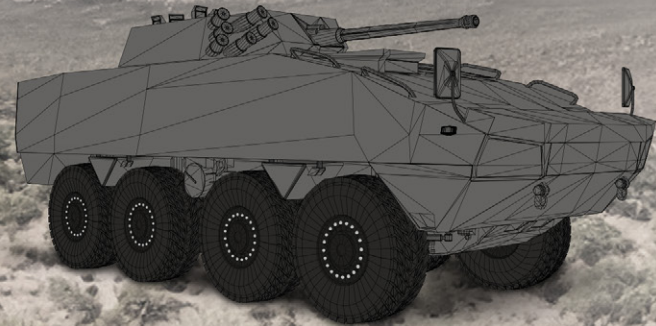
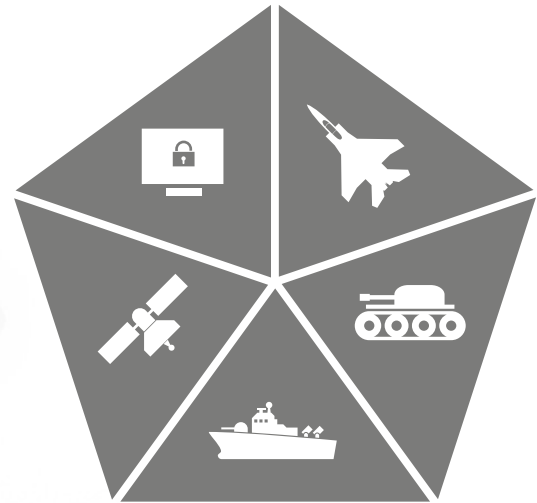
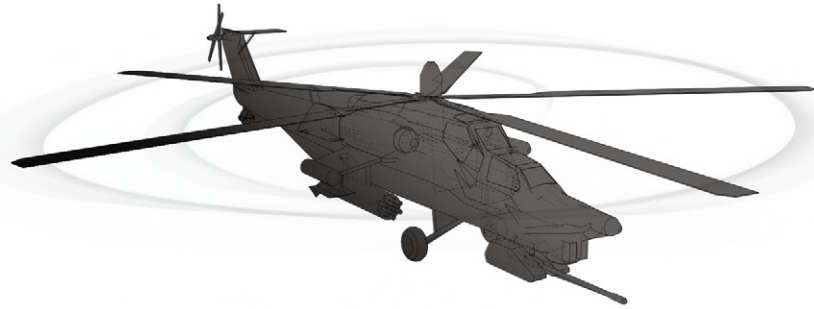
# CONNECTOR SOLUTIONS

Military Applications



# ODU CONNECTOR APPLICABILITY

## EXTREME ENVIRONMENTAL CONDITIONS



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 that are derived from the respective standard data transmission protocol.



# SOLDIER COMMUNICATION SYSTEMS

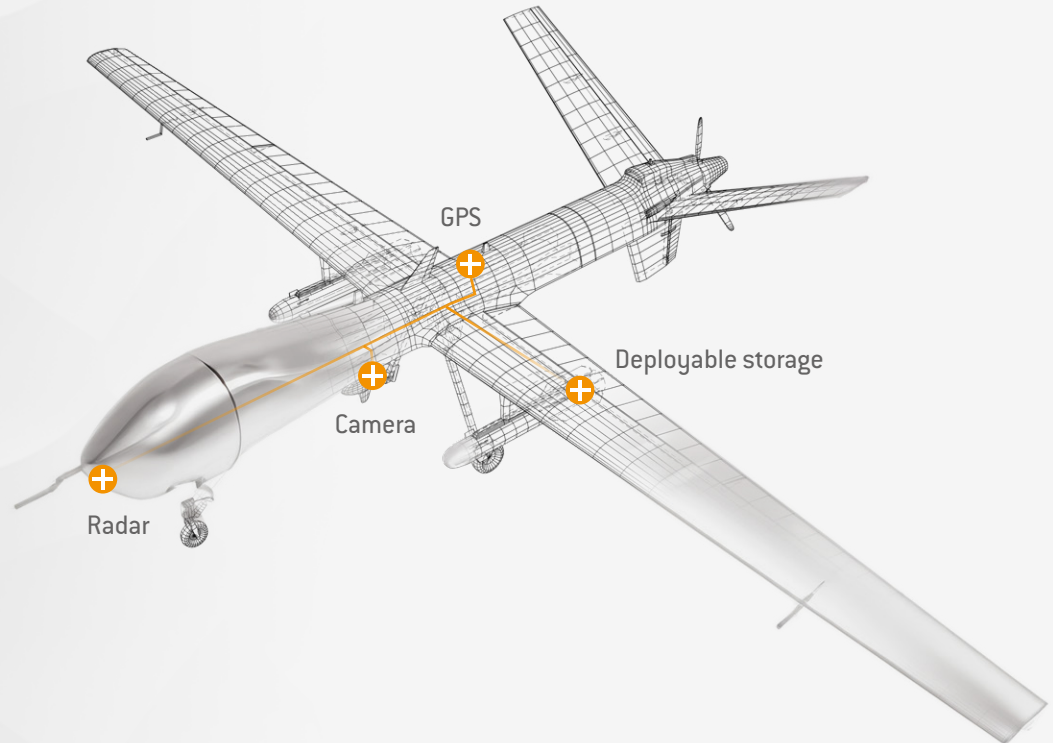
- 70 % weight and size reduction
- Up to IP6K9K
- High signal integrity 360° shielding
- NATO STANAG 4695, Nett Warrior and GOSSRA
- Environmental tested MIL-STD-810
- High-speed data transfer including:  
USB® 3.2 Gen 1x1, 10 Gbit/s Ethernet and HDMI®



# UNMANNED SYSTEMS: UAV / UGV / UAS

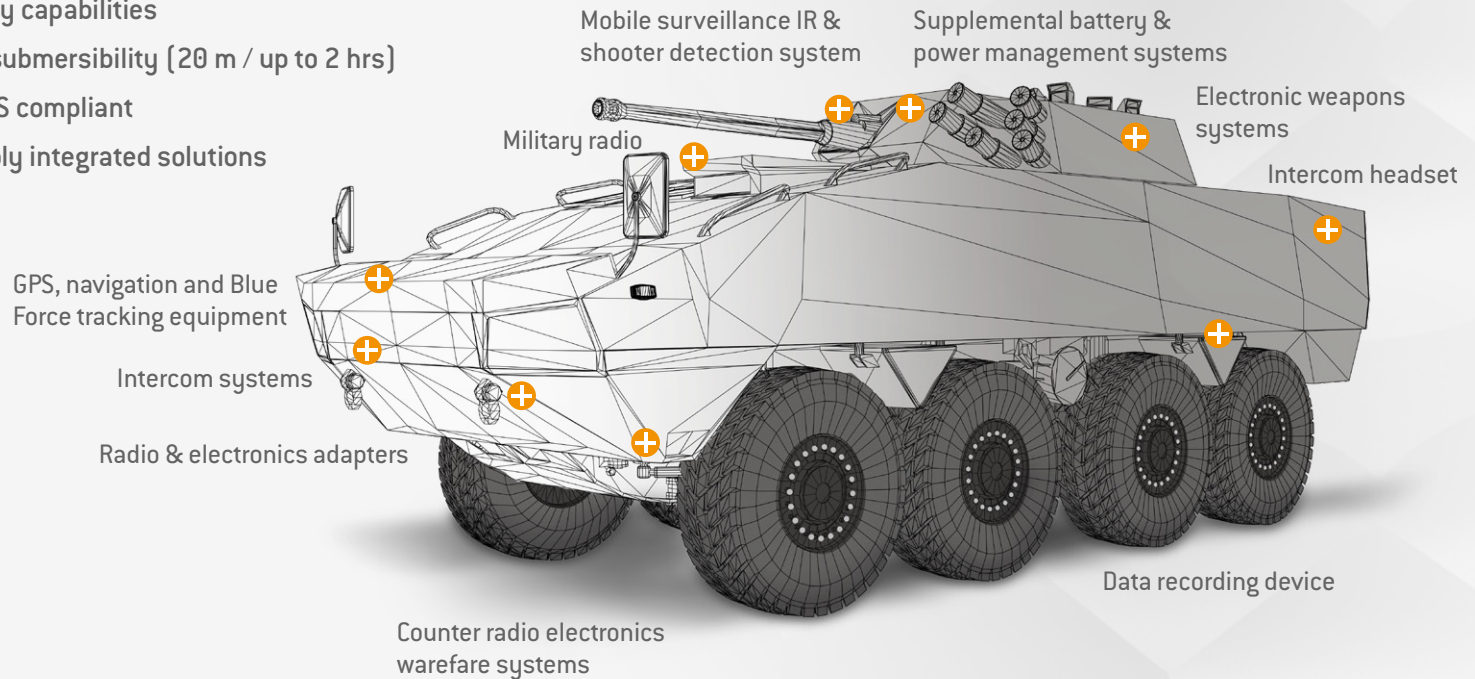
## CUSTOMIZED CONNECTIVITY

- Rugged and reliable optical connectivity solutions
- Various locking systems
- Lightweight & space saving design
- High vibration and shock resistant
- Video and signal transmission
- Interference-free fiber optic transmission



# MILITARY VEHICLES

- Miniaturized 38999 type
- Shock and vibration resistant
- Ergonomic shape and rapid mate/demate capable
- 3 on 1 locking option
- MIL-STD-1472 and MIL-STD-810
- Field assembly capabilities
- IP6K9K with submersibility (20 m / up to 2 hrs)
- REACH & RoHS compliant
- Cable assembly integrated solutions



# ODU MILITARY CONNECTORS

	Keying	Sizes	No. of possible mechanical keyings	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>• USB® 3.2 Gen 1x1 + USB® 2.0 + HDMI® + 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: 2–27 contacts / 3 sizes</li> </ul> 	Pin and groove	00	4	9.8	5.0	7			
		0		12.8	7.0	16	●	–	●
		1		15.2	8.0	27			
<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			

## Buy online

	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	USB® 2.0	HDMI®	Ethernet CAT 5 & 10 GBit Ethernet	DisplayPort®
ODU AMC® High-Density Break-Away	Up to IP6K9K	IP68	Brass	●	-51 °C (-60 °F) to +125 °C (+257 °F)	●	●	●	●	●	●	●	-
ODU AMC® High-Density Screw-Lock	Up to IP6K9K	IP68	Brass	●	-51 °C (-60 °F) to +125 °C (+257 °F)	●	●	●	●	●	●	●	-
ODU AMC® Push-Pull	Up to IP6K9K	IP68	Aluminum	●	-51 °C (-60 °F) to +125 °C (+257 °F)	●	●	●	●	●	●	●	●

# ODU MILITARY CONNECTORS

		Keying	Sizes	No. of possible mechanical keyings	Diameter plug (mm)	Max. cable diameter (mm)	Max. no. of contacts	Solder	Crimp	Print	
<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	4	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>Miniturized 38999 connector</li> <li>Three locking types to 1 receptacle</li> <li>High vibration resistance</li> <li>Suitable for MIL 38999 backshells</li> </ul> 	Pin and groove	4	9	4	18.4	7.6	20	●	●	●	
			12		18.5						21
					24.2						14.6
			24.9								
			26								
<b>ODU AMC® NP</b> <ul style="list-style-type: none"> <li>Current rating up to 5 A per contact</li> <li>&gt;2,000 mating cycles</li> <li>Break-away function</li> </ul> 	Pin and groove	11	6	11	12.4	6.65	7	●	-	●	
<b>ODU AMC® Easy-Clean</b> <ul style="list-style-type: none"> <li>Fast and easy cleaning</li> <li>Break-away function</li> <li>&gt; 5,000 mating cycles</li> <li>Contact inserts with pogo pins</li> </ul> 	Pin and groove	4	0	4	11.9	5.5	7	●	-	●	
			1		13.9	6.5	16				
			1.5		15.9	8.0	19				



	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	USB® 2.0	HDMI®	Ethernet CAT 5 & 10 GBit Ethernet	DisplayPort®
ODU AMC® Break-Away	Up to IP6K9K	IP68	Aluminum	●	-51 °C (-60 °F) to +125 °C (+257 °F)	●	●	●	●	●	●	●	●
ODU AMC® Series T	Up to IP6K9K	IP68	Aluminum	●	-65 °C (-85 °F) to +175 °C (+347 °F)	●	—	Backshell version & standard cable assemblies	—	—	●	●	●
ODU AMC® NP	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 AMC® Easy-Clean	Up to IP6K9K	IP6K8	Aluminum	●	-51 °C (-60 °F) to +125 °C (+257 °F)	●	●	●	—	—	—	—	—

# ODU FIBER OPTIC

## ODU AMC<sup>®</sup> SERIES T

### Expanded Beam Performance

- + Minimum return & insertion loss comparable to physical contact solution
- + Fiber types: singlemode and multimode
- + Configurations: up to 12 fibers
- + Outstanding optical performance



The ODU AMC® 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	5,000*
IP class in mated condition	IP6K8
Operating temperature	-40 °C [-40 °F] to +85 °C [+185 °F]
Vibration	MIL 810G 20 g

\* Contact transition allows up to 25,000 mating cycles with cleaning every 5,000 mating cycles under controlled conditions. Specifics of the connector series may deviate.

## OPTICAL CHARACTERISTICS

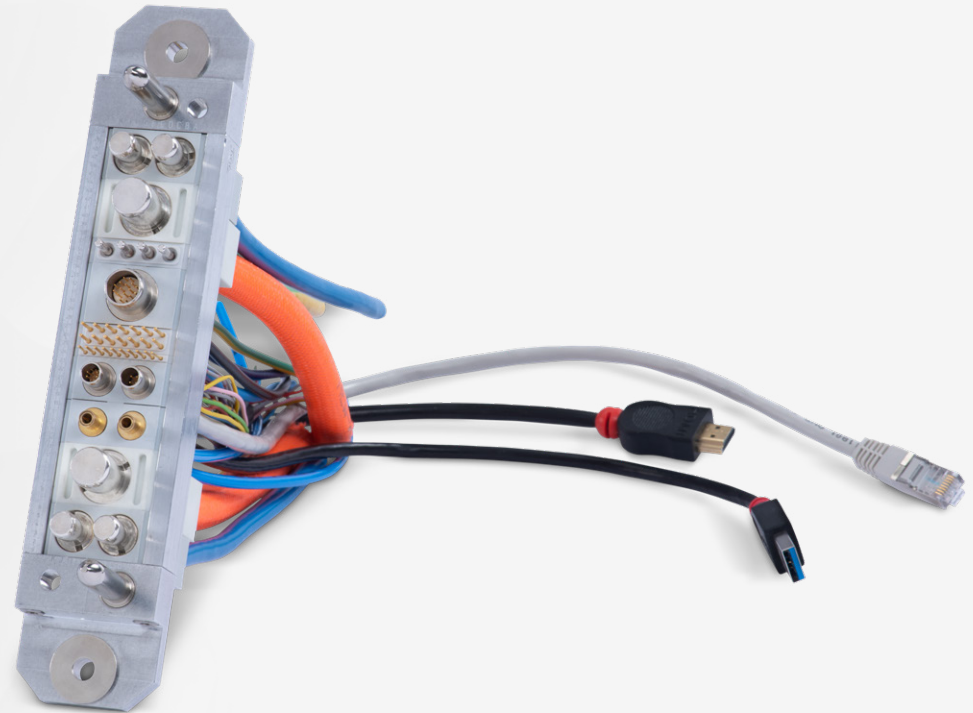
		Typical	Max.
Insertion loss	SM	< 0.35 dB	< 0.7 dB
	MM	< 0.15 dB	< 0.3 dB
		Typical	Min.
Return loss	SM	> 60 dB	≥ 55 dB
	MM	> 45 dB	≥ 35 dB

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

# MODULAR / RECTANGULAR TECHNOLOGY

## Customizable hybrid interconnectivity solution

- + Rapid turnaround for low volumes
- + Tailor-made solution for your application including cable assembly
- + Fail-safe and reliable





## ODU-MAC® **White-Line**

- High vibration resistance & manual mating
- > 100,000 mating cycles
- Self-cleaning contacts
- > 30 high-speed data inserts
- Low contact resistance
- Various locking options (e. g., snap-in, spindle, lever)
- EMC shielded housings on request



## ODU-MAC® **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

## ODU-MAC® **Silver-Line**

- Advanced docking
- High vibration resistance
- > 100,000 mating cycles
- Self-cleaning contacts
- > 30 different high speed data inserts
- 7 docking frame options
- Suitable for blind mating

# ELECTRICAL CONTACT TECHNOLOGY



## ODU LAMTAC®

## ODU SPRINGTAC®

Primary attribute	High temperature & current	High mating cycles
Contact technology	Lamella technology	Springwire technology
Contacting	19 lamella louvres with 2 contact points each (size Ø 6 mm)	44 wire springs (size Ø 6 mm)
Nominal current	115 A (size Ø 6 mm)	110 A (size Ø 6 mm)
Angular misalignment	± 1°	± 1°
Mating cycles	> 10,000	> 100,000
Temperature range standard version	-40 °C [-40 °F] to +150 °C [+302 °F]	-40 °C [-40 °F] to +125 °C [+257 °F]
Contact size*	from Ø 1.5 mm	from Ø 0.76 mm
Standard plating	Ag / Au	Ag / Au
Crimp termination	●	●
Screw termination	●	●
For busbars (through-hole design)	●	●

- Versatile contact technologies
- Outstanding reliability and durability with up to 1 million mating cycles
- Current-carrying capacity of up to 2,400 amperes and more
- Robust and universal contact systems
- Stamping technology for customer-specific high volume solutions
- High vibration and shock resistance
- Low, stable contact resistance

\* Other sizes on request

# CABLE ASSEMBLY SOLUTIONS





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