TELEREX

ODU

ODU THREADED
CONNECTOR TECHNOLOGY

HDMI

ODU HIGH SPEED DATA TECHNOLOGY

www.odu-connectors.com

ODU AMC® CONNECTORS
FOR MILITARY AND SECURITY APPLICATIONS

TECHNOLOGY FOR HARSH ENVIRONMENTS

- Miniaturization and reduced weight
- Reliable functionality under extreme operating and environmental conditions
- Easy handling
- Reliable data transmission
- Customized, field-configurable system solutions

MORE THAN A CONNECTION

Contacts, connectors and cable assembly system 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 requirements.

- Precise implementation of application-specific requirements regarding design, functionality, cost and exclusivity
- Modified connector solutions derived from standard products
- One-to-one local expertise and fair, friendly consulting
- Short product development and production paths

ODU PRODUCT FINDER

Use the intelligent part number search to get information about the ODU product portfolio.

In the detailed product presentation you will find information on suitable assembly tools and accessories.

Data transmission protocols

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.

ADVANCED CONNECTOR SOLUTIONS
ODU THREADED CONNECTOR TECHNOLOGY

THREADED CONNECTORS

ODU offers a wide variety of robust technologies for applications in harsh environments. ODU's Threaded Connector technologies are especially designed for applications requiring an additional degree of security, or where environmental conditions including temperature, pressure or vibration would be problematic for other interconnect products.

KEY FEATURES AND CUSTOMER BENEFITS

- Lightweight, small and easy handling
- Wide temperatures range
- Various standard inserts available
- Individual contact configuration on request
- Reliable data transmission and excellent shielding performance
- System solution – cable assembly and overmolding

- Leakage rate: 1 x 10-8 mbar x l / s (Helium)
- Stainless steel
- Hydrostatic pressure: up to 500 bar
- High corrosion resistant
- IP68 mated
- > 1000 mating cycles

ODU THREADED CONNECTOR
TECHNOLOGY AT A GLANCE

Tested according
MIL STANDARDS

HIGH
VIBRATION
resistant

RACHET
MECHANISM
half turn locking

EMI
SHIELDED

WATERTIGHT

RUGGED
solid construction

Triple start
THREADED

More
MATE CYCLES
than MIL spec. connectors

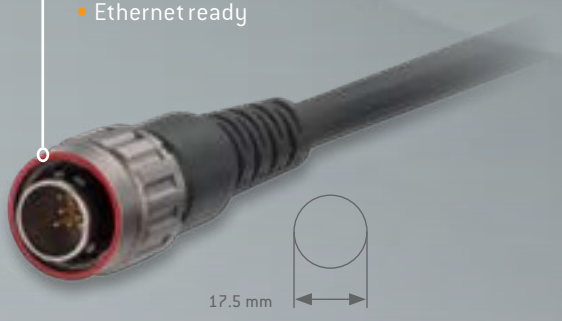
FULL MATE
indicator

COMPACT
design

MECHANICAL KEYING
with matched color code

2 SHELL SIZES

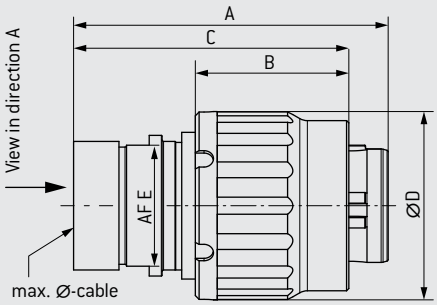
SIZE 1.5
- From 8–19 contacts
- Small size
- Ethernet ready



SIZE 3
- From 4–26 contacts
- High power
- Combo inserts available

2 MECHANICAL (COLOR) CODINGS

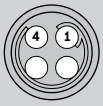
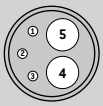
PLUG – SOLDER CUP



Size	A	B	C	ØD	AF E	Max. Ø-cable
1.5	34.1	15.7	31.1	17.5	11.0	8.5
3	41.6	20.3	36.4	24.9	16.0	12.8

Available codings: Brown and Red

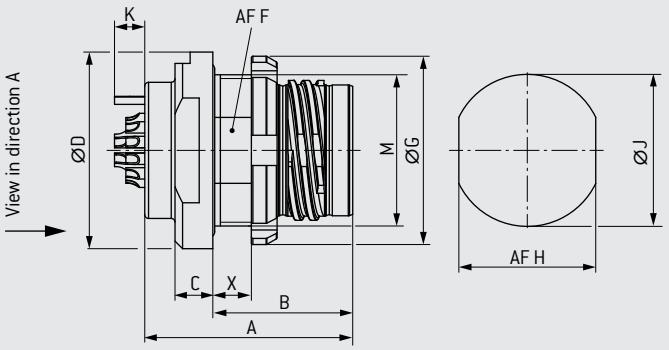
CONTACT CONFIGURATIONS

Size	Part number	Layout viewed from direction A	Number of solder contacts		Max. current (A) single contact load	DWV Voltage[1] (VAC)	Max. wire size solder cup	Suitable for
1.5	Coding 1 (Brown) 756.271.081.210.120 Coding 2 (Red): 756.271.081.210.220		10 x pin		5	1200	10 x AWG 22	Signal
	Coding 1 (Brown) 756.271.081.219.120 Coding 2 (Red) 756.271.081.219.220		19 x pin		2	1000	19 x AWG 26	Signal
	Coding 1 (Brown) 756.271.081.208.120 Coding 2 (Red) 756.271.081.208.220		8 x pin		5	1200	8 x AWG 22	CAT 5 Gigabit Ethernet
3	Coding 1 (Brown) 756.271.082.204.120 Coding 2 (Red) 756.271.082.204.220		4 x socket		20	1650	4 x AWG 14	Power
	Coding 1 (Brown) 756.271.082.205.120 Coding 2 (Red) 756.271.082.205.220		5	2 x socket	30	1350	2 x AWG 12	Power
				3 x pin	5	1350	3 x AWG 22	Signal
	Coding 1 (Brown) 756.271.082.218.120 Coding 2 (Red) 756.271.082.218.220		18 x pin		7	1200	18 x AWG 20	Signal
	Coding 1 (Brown) 756.271.082.226.120 Coding 2 (Red) 756.271.082.226.220		26 x pin		5	1000	26 x AWG 22	Signal

Notes: Consult factory for availability. For various applications, the safety requirement regarding the operating voltage is even more severe. This must be evaluated during the time of equipment engineering.

[1] Consult factory for additional information and options.

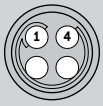
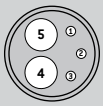
RECEPTACLE STYLE 8 – SOLDER CUP



Size	A	B	C	ØD	AF F	ØG	AF H	ØJ	K	M	X max.
1.5	20.5	14.0	4.0	18.9	13.0	17.9	13.1	14.1	3.5	M14x0.75	4.0
3	27.5	18.5	5.0	26.0	18.0	24.9	18.1	20.1	4.0	M20x1.00	5.1

Available codings: Brown and Red

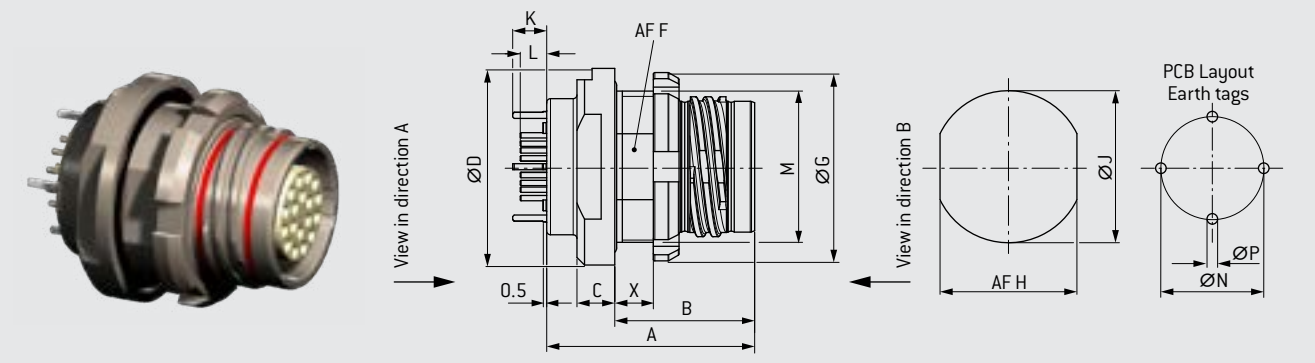
CONTACT CONFIGURATIONS

Size	Part number	Layout viewed from direction A	Number of solder contacts		Max. current (A) single contact load	DWV Voltage[1] (VAC)	Max. wire size Solder cup	Suitable for
1.5	Coding 1 (Brown) 756.271.081.110.111 Coding 2 (Red) 756.271.081.110.211		10 x socket		5	1200	10 x AWG 22	Signal
	Coding 1 (Brown) 756.271.081.119.111 Coding 2 (Red): 756.271.081.119.211		19 x socket		2	1000	19 x AWG 26	Signal
	Coding 1 (Brown) 756.271.081.108.111 Coding 2 (Red): 756.271.081.108.211		8 x socket		5	1200	8 x AWG 22	CAT 5 Gigabit Ethernet
3	Coding 1 (Brown) 756.271.082.104.111 Coding 2 (Red): 756.271.082.104.211		4 x pin		20	1650	4 x AWG 14	Power
	Coding 1 (Brown) 756.271.082.105.111 Coding 2 (Red) 756.271.082.105.211		5	2 x pin	30	1350	2 x AWG 12	Power
				3 x socket	5	1350	3 x AWG 22	Signal
	Coding 1 (Brown) 756.271.082.118.111 Coding 2 (Red) 756.271.082.118.211		18 x socket		7	1200	18 x AWG 20	Signal
	Coding 1 (Brown) 756.271.082.126.111 Coding 2 (Red) 756.271.082.126.211		26 x socket		5	1000	26 x AWG 22	Signal

Notes: Consult factory for availability. For various applications, the safety requirement regarding the operating voltage is even more severe. This must be evaluated during the time of equipment engineering.

[1] Consult factory for additional information and options.

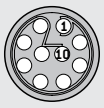
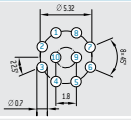
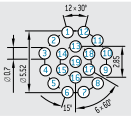
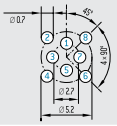
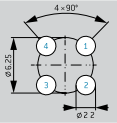
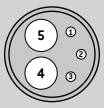
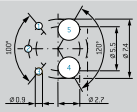
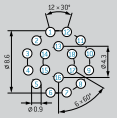
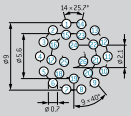
RECEPTACLE STYLE 8 – PCB



Size	A	B	C	ØD	AF F	ØG	AF H	ØJ	K	L	M	ØN	ØP	X max.
1.5	20.5	14.0	4.0	18.9	13.0	17.9	13.1	14.1	3.5	2.2	M14 x 0.75	9.7	1.2	4.0
3	27.5	18.5	5.0	26.0	18.0	24.9	18.1	20.1	4.5	4.2	M20 x 1.00	13.6	1.4	5.1

Available codings: Brown and Red

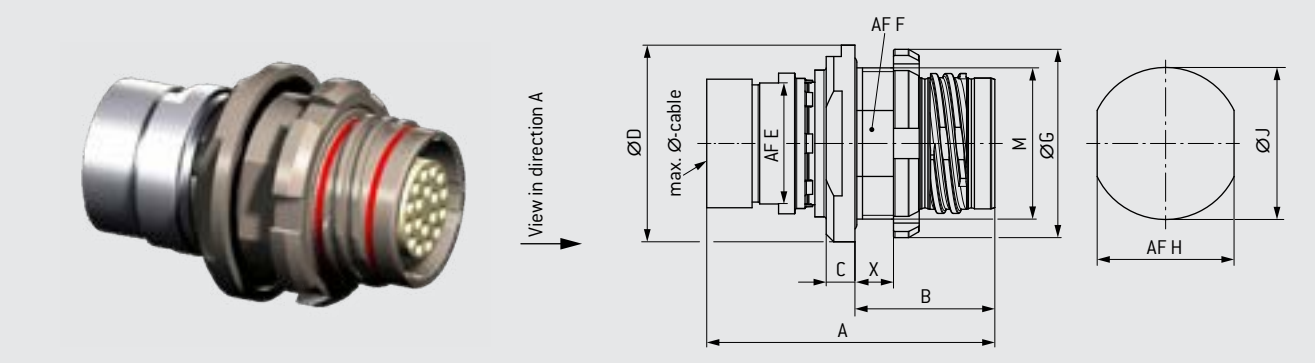
CONTACT CONFIGURATIONS

Size	Part number	Layout viewed from direction A	Number of PCB contacts		Max. current (A) single contact load	DWV Voltage[1] (VAC)	Suitable for	PCB Layout only Contacts Viewed from direction B
1.5	Coding 1 (Brown) 756.271.081.110.131 Coding 2 (Red) 756.271.081.110.231		10 x socket		5	1200	Signal	
	Coding 1 (Brown) 756.271.081.119.131 Coding 2 (Red) 756.271.081.119.231		19 x socket		2	1000	Signal	
	Coding 1 (Brown) 756.271.081.108.131 Coding 2 (Red) 756.271.081.108.231		8 x socket		5	1200	CAT 5 Gigabit Ethernet	
3	Coding 1 (Brown) 756.271.082.104.131 Coding 2 (Red) 756.271.082.104.231		4x pin		20	1650	Power	
	Coding 1 (Brown) 756.271.082.105.131 Coding 2 (Red) 756.271.082.105.231		5	2 x pin	30	1350	Power	
				3 x socket	5	1350	Signal	
	Coding 1 (Brown) 756.271.082.118.131 Coding 2 (Red) 756.271.082.118.231		18 x socket		7	1200	Signal	
	Coding 1 (Brown) 756.271.082.126.131 Coding 2 (Red) 756.271.082.126.231		26 x socket		5	1000	Signal	

Notes: Consult factory for availability. For various applications, the safety requirement regarding the operating voltage is even more severe. This must be evaluated during the time of equipment engineering.

[1] Consult factory for additional information and options.

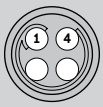
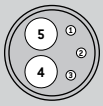
RECEPTACLE STYLE 6 – SOLDER CUP



Size	A	B	C	ØD	AF E	AF F	ØG	AF H	ØJ	M	X max.	Max. Ø-cable
1.5	30.3	13.0	4.0	18.9	11.0	13.0	17.9	13.1	14.1	M14 x 0.75	3.0	8.5
3	38.1	18.5	5.3	26.0	16.0	18.0	24.9	18.1	20.1	20 x 1.00	5.1	12.5

Available codings: Brown and Red

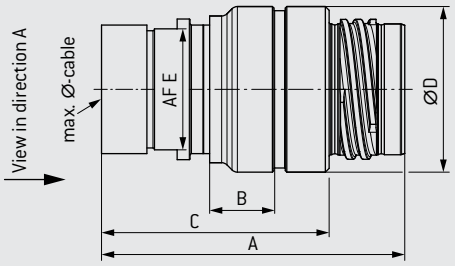
CONTACT CONFIGURATIONS

Size	Part number	Layout viewed from direction A	Number of solder contacts		Max. current (A) single contact load	DWV Voltage[1] (VAC)	Max. wire size solder cup	Suitable for
1.5	Coding 1 (Brown) 756.271.081.310.110 Coding 2 (Red) 756.271.081.310.210		10 x socket		5	1200	10 x AWG 22	Signal
	Coding 1 (Brown) 756.271.081.319.110 Coding 2 (Red) 756.271.081.319.210		19 x socket		2	1000	19 x AWG 26	Signal
	Coding 1 (Brown) 756.271.081.308.110 Coding 2 (Red) 756.271.081.308.210		8 x socket		5	1200	8 x AWG 22	CAT 5 Gigabit Ethernet
3	Coding 1 (Brown) 756.271.082.304.110 Coding 2 (Red) 756.271.082.304.210		4 x pin		20	1650	4 x AWG 14	Power
	Coding 1 (Brown) 756.271.082.305.110 Coding 2 (Red) 756.271.082.305.210		5	2 x pin	30	1350	2 x AWG 12	Power
				3 x socket	5	1350	3 x AWG 22	Signal
	Coding 1 (Brown) 756.271.082.318.110 Coding 2 (Red) 756.271.082.318.210		18 x socket		7	1200	18 x AWG 20	Signal
	Coding 1 (Brown) 756.271.082.326.110 Coding 2 (Red) 756.271.082.326.210		26 x socket		5	1000	26 x AWG 22	Signal

Notes: Consult factory for availability. For various applications, the safety requirement regarding the operating voltage is even more severe. This must be evaluated during the time of equipment engineering.

[1] Consult factory for additional information and options.

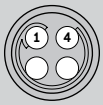
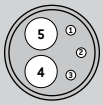
IN-LINE RECEPTACLE – SOLDER CUP



Size	A	B	C	ØD	AF E	Max. Ø-cable
1.5	32.3	12.0	25.3	15.6	11.0	8.5
3	40.1	15.8	30.1	21.9	16.0	12.8

Available codings: Brown and Red

CONTACT CONFIGURATIONS

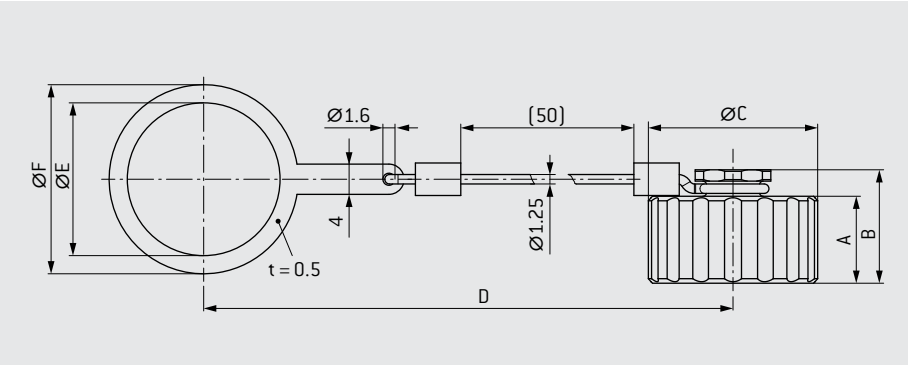
Size	Part number	Layout viewed from direction A	Number of Solder contacts		Max. current (A) Single contact load	DWV Voltage[1] (VAC)	Max. wire size solder cup	Suitable for
1.5	Coding 1 (Brown) 756.271.081.410.110 Coding 2 (Red) 756.271.081.410.210		10 x socket		5	1200	10 x AWG 22	Signal
	Coding 1 (Brown) 756.271.081.419.110 Coding 2 (Red) 756.271.081.419.210		19 x socket		2	1000	19 x AWG 26	Signal
	Coding 1 (Brown) 756.271.081.408.110 Coding 2 (Red) 756.271.081.408.210		8 x socket		5	1200	8 x AWG 22	CAT 5 Gigabit Ethernet
3	Coding 1 (Brown) 756.271.082.404.110 Coding 2 (Red) 756.271.082.404.210		4 x pin		20	1650	4 x AWG 14	Power
	Coding 1 (Brown) 756.271.082.405.110 Coding 2 (Red) 756.271.082.405.210		5	2 x pin	30	1350	2 x AWG 12	Power
				3 x socket	5	1350	3 x AWG 22	Signal
	Coding 1 (Brown) 756.271.082.418.110 Coding 2 (Red) 756.271.082.418.210		18 x socket		7	1200	18 x AWG 20	Signal
	Coding 1 (Brown) 756.271.082.426.110 Coding 2 (Red) 756.271.082.426.210		26 x socket		5	1000	26 x AWG 22	Signal

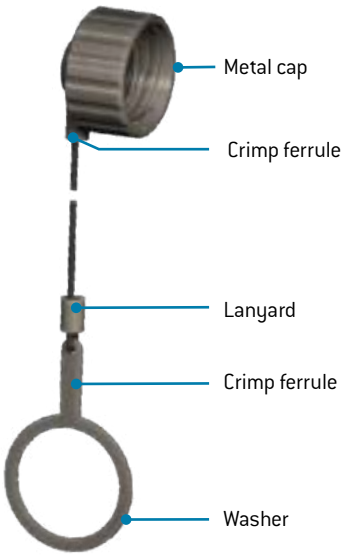
Notes: Consult factory for availability. For various applications, the safety requirement regarding the operating voltage is even more severe. This must be evaluated during the time of equipment engineering.

[1] Consult factory for additional information and options.

PROTECTIVE CAPS

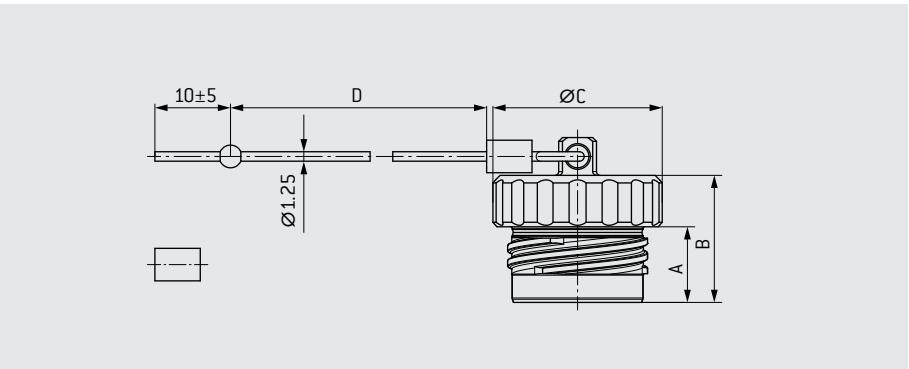
FOR THREADED CONNECTOR RECEPTACLES

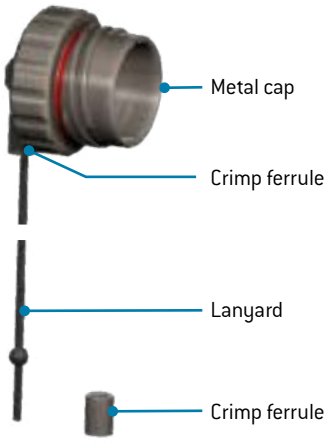




Size	Part number	A	B	ØC	D	ØE	ØF
1.5	756.271.081.500.000	8.5	12.0	16.0	90	14.1	18
3	756.271.082.500.000	11.5	15.0	22.5	100	20.2	25

FOR THREADED CONNECTOR PLUGS





Size	Part number	A	B	ØC	D
1.5	756.271.081.600.000	13.0	18.0	16.0	200
3	756.271.081.600.000	16.8	21.8	22.5	200

MATERIALS AND SURFACES

Part	Material and surfaces
Cap	Aluminum / Anthracite Tin-nickel over nickel
Lanyard	Aramid / Black
Crimp ferrule	Brass, copper / Zinc-nickel, Black
Washer	Aluminum / Anthracite Tin-nickel over nickel

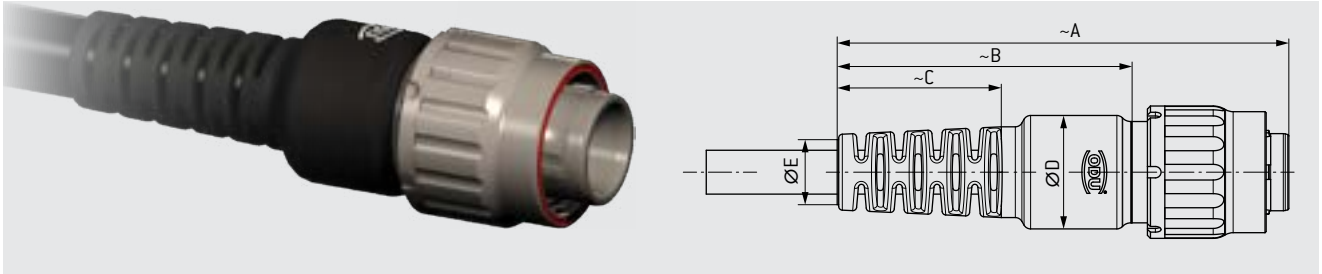
ENVIRONMENTAL CHARACTERISTICS

Type	Performance
Tightness	IP68 (1 m / 120 min)
Operating temperature	–51 °C up to +125 °C

CABLE ASSEMBLY CAPABILITIES

ODU also offers a comprehensive assembly service.
From connector, cable and cable overmolding to watertight potting – we supply your complete system from one source.

OVERMOLDING



Size	A	B	C	ØD	ØE	Max. Ø-Cable
1.5	60	39	21.5	15.0	10.0	8.5
3	82	54	29.0	21.9	13.0	< 11.0
					17.5	11.0 – 12.8

The ODU Threaded Connectors are designed for overmolding. A straight overmolding is available.
If you need special overmoldings, please consult the factory for additional information about customized solutions (e.g. 90 degree).
A heatshrinkable bend relief is also possible.

PERFORMANCE ATTRIBUTES

ENVIRONMENTAL

Type	Performance	Standard
Waterproofness	IP68 (1m / 120 min)	MIL-STD-810G w / Change 1:2014 Method 512.6
Sand and dust	Blowing sand and dust, settling dust	MIL-STD-810G w / Change 1:2014 Method 510.6
Operating temperature	–51 °C up to +125 °C	MIL-STD-810G w / Change 1:2014 Method 501.6
Humidity cyclic	85 % up to 95 % 28 °C up to 71 °C	EIA-363-31E:2017 Method V
Corrosion resistance	96 h salt mist, 5 % salt solution, 35 °C	MIL-STD-810G w / Change 1:2014 Method 509.6
Fungus	European and American fungus	MIL-STD-810G w / Change 1:2014 Method 508.7
Solar radiation (sunshine)	Temperature after categories A1	MIL-STD-810G w / Change 1:2014 Method 505.6
Contamination by fluids	Several substances [1]	MIL-STD-810G w / Change 1:2014 Method 504.2

[1] Substances listed at ODU datasheet 009.410.281.001.000

MECHANICAL

Type	Performance	Standard
Mechanical durability	2,000 mating cycles	IEC 60512-9-1:2010 EIA-364-09D:2018
Vibration, sine	30.0 g	MIL-STD-202H:2015 method 204, Test condition G
Vibration, random	37.8 g	EIA-364-28F:2011 Condition V, Letter J
Mechanical shock	300 g	EIA-364-27F:2011 Condition D

ELECTRICAL

Type	Performance	Standard
Contact resistance (Fig 1)	Contact-Ø / resistance Ø 0.5 mm <5 mOhm Ø 0.7 mm <4 mOhm Ø 0.9 mm <4 mOhm Ø 2.0 mm <3 mOhm Ø 2.5 mm <1 mOhm	IEC-60512-2-1:2002
Shell resistance [1]	< 10 mOhm	IEC-60512-2-1:2002
Insulation resistance	> 2000 MOhm	IEC-60512-3-1:2002

Fig 1

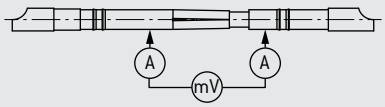
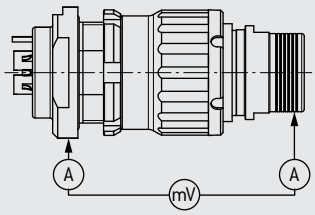


Fig 2



MATERIAL AND SURFACE TREATMENTS

	Material	STANDARD EU	STANDARD US	Surface	Standard	Flammability
Housing / nut	Aluminum AlMgSiSn1Bi	EN-AW 6023	–	Antracite Tin-nickei over nickel	–	–
Backshell			–	Nickel	SAE-AMS2404J:2018	–
EMI -locking ring	Copper alloy	–	–	Gold over nickel	–	–
Crimp sleeve	CuZn38Pb1.5	CW608N (2.0371)	C35300	Nickel	–	–
Grounding ring	CuZn39Pb3	CW614N (2.0401)	C38500	Sn over electroless Ni	–	–
Potting sleeve	PC	–	–	–	–	–
Insulator	PEEK	–	–	–	–	UL94 (V0)
Pin contact	CuZn39Pb3	CW614N (2.0401)	C38500	1.27 µm Gold over nickel	MIL-DTL-45204D:2007	–
Socket contact	CuZn39Pb3	CW614N (2.0401)	C38500			–
Socket contacts (Power socket contact 5 way size 3)	CuZn39Pb3 (contact body)	CW614N (2.0401)	C38500			–
	CuBe2 (lamella)	CW102C (2.1248)	C17300			–
Wave spring	Stainless steel	EN 10270-3 (1.4568)	S17700	–	–	–
Ratchet ring	PEEK	–	–	–	–	UL94 (V0)
O-rings	FVMQ (floursilikon)	–	–	–	–	–
Potting	potting compound	–	–	–	–	UL94 (V0)
Overmoulding material	TPU	–	–	–	–	UL94 (HB)
Shrink boots	Polyester-elastomer	–	–	–	–	acc. to VG95343

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INGRESS PROTECTION

ODU has the expertise to develop and manufacture interconnect products that satisfy stringent ingress protection requirements. Our knowledge of materials, sealing methods and techniques, supported by FEM simulation, allow our products to go places others cannot.


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OIL INDUSTRY

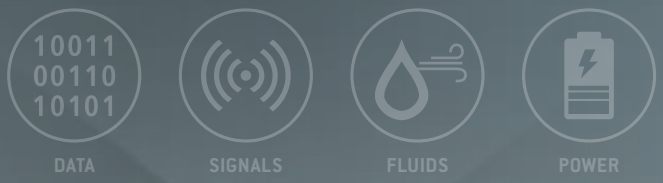
HIGH-SPEED DATA TECHNOLOGY

The volume of data and the electro mechanical requirements of data transmission connectors are growing exponentially. High-speed data transfer and high-frequency transmission in one connector ensure optimal signal integrity throughout the entire product life cycle.


RAILWAY TECHNOLOGY


MILITARY TECHNOLOGY

HYBRID CAPABILITIES

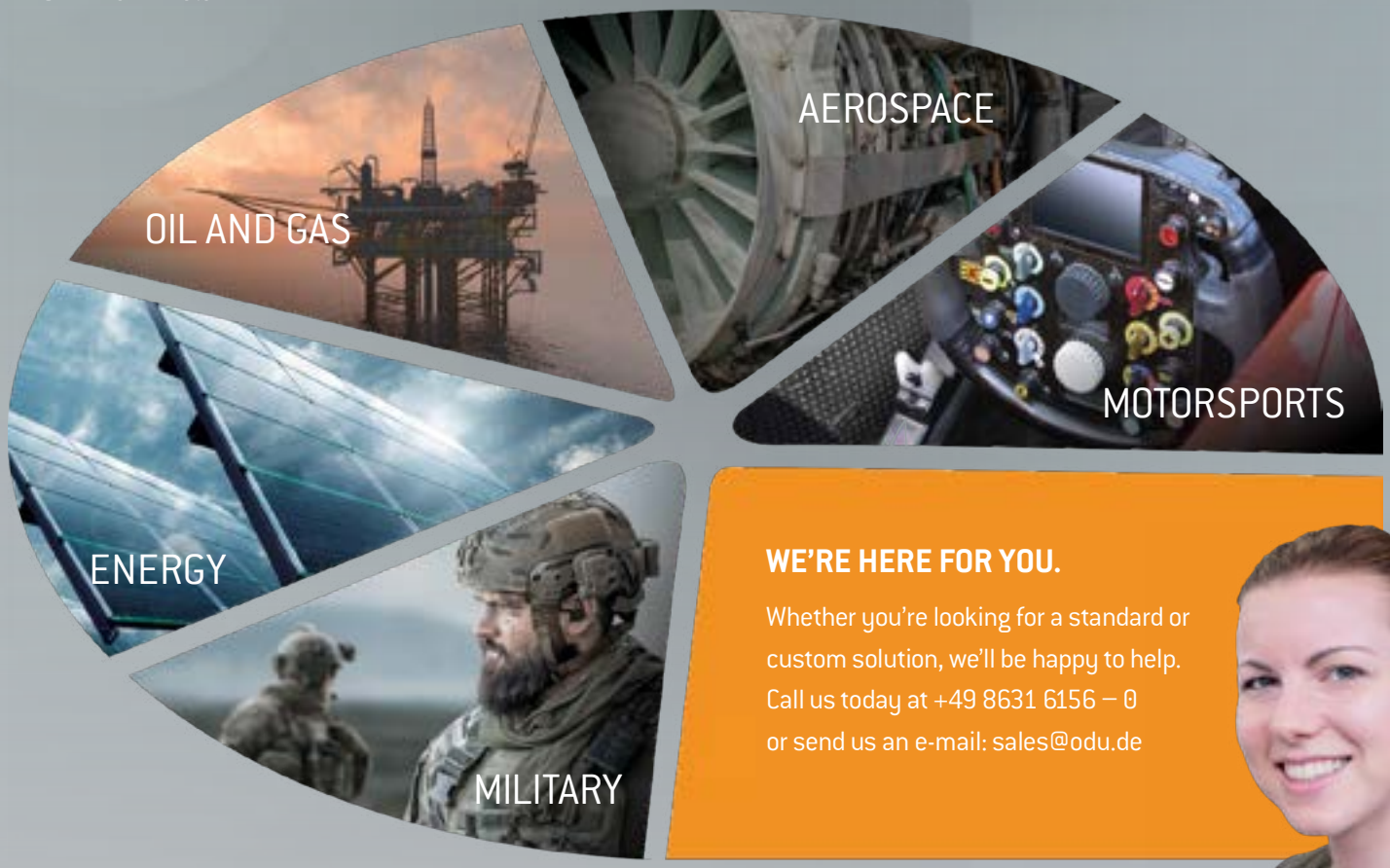


HYBRID CONNECTORS
VERSATILE AND EASY TO USE

ODU provides a wide range of custom connector solutions with multiple pin-counts and contact combinations. ODU's customer-orientated connector systems ensure a reliable transmission of power, signal, data and media for a large variety of demanding applications. ODU provides all relevant areas of expertise and key technologies including design and development, machine tool and special machine construction, injection, stamping, turning, surface technology, assembly and cable assembly.

The trends that are ODU:

- Combined transmission of various media in one interface: electrical (signals, power, data) physical (liquids, gases)
- Low total cost of ownership
- Optimized use of space
- Ease of installation
- High mating cycles
- Small form factor



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