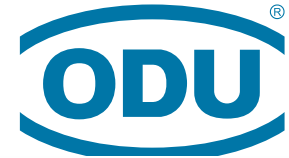


# ODU-MAC<sup>®</sup> **Blue-Line**

Universal solution – fast, modular and flexible in a small installation space.



Solutions that Fit

Ph +612 9482 1944 - Email sales@clarke.com.au - www.clarke.com.au - webshop www.cseonline.com.au



## OVERVIEW

↔ min. 10,000 mating cycles    🗝 Manual mating, automatic docking

HDMI    ⚡    📶    📄  
ODU HIGH SPEED DATA TECHNOLOGY



Available  
with **cable  
assembly!**

# THE MODULAR PRINCIPLE

## CONVINCING – ODU-MAC® BLUE-LINE

- + Manual connector solution with a variety of housing variants
- + Various locking options
- + Space saving with very high packing density
- + Easy handling: toolless assembly and removal of the modules with clip principle
- + Fast change of the crimp-clip contact (when already assembled)
- + Including cable assembly
- + Numerous data transmission modules

**10,000**  
mating cycles  
and more



For further information please visit: [www.odu-connectors.com/downloads](http://www.odu-connectors.com/downloads)

# MODULARITY – YOUR BENEFITS

- + Individual connection: wide variety of modules to choose from
- + **Tool-free clip assembly and disassembly of the modules** in the frame
- + Ready-to-use solution including cable assembly
- + **Easy disassembly of crimp clip contacts**, also pre-assembled

# MANY APPLICATIONS – ONE SOLUTION

X-Ray machines

Measuring and testing technology

Automotive testing,  
including cable assembly



# YOUR HYBRID CONNECTION

## MANUAL MATING

### + 4 TYPES OF LOCKING

First, select your locking type by choosing between **spindle, lever, transverse or push-pull locking**.

### + DIFFERENT CONNECTOR HOUSINGS

Then select the plastic or metal housing best suited to your requirements: **cable hood, cable hood XXL, cable hood wide, RAPID or PUSH-LOCK housing**.

### + RECEPTACLE SELECTION

Depending on your requirements you choose between **bulkhead mounted housing, surface mounted housing, cable-to-cable hood, PUSH-LOCK receptacles or recessed mounting (RAPID)**.

### + CABLE ASSEMBLY

Get your connector ready for use **including cable assembly**.

## AUTOMATIC DOCKING

### + 4 DOCKING FRAMES TO CHOOSE FROM

Size	Units*
1	12
2	18
3	26
4	37

\*1 Unit = 2.4 mm

**Tolerance compensation radial:**  $\pm 0.6$  mm

**Tolerance compensation axial:** min.  $\emptyset 0.1$  mm



# VARIOUS LOCKING OPTIONS

## + SPINDLE LOCKING



## + LEVER LOCKING

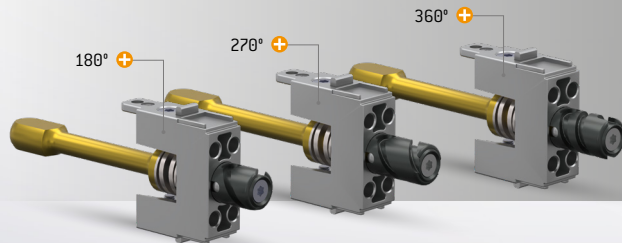
## + TRANSVERSE LOCKING



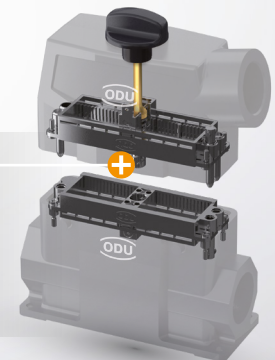
## + PUSH-PULL LOCKING (for ODU-MAC® PUSH-LOCK housing)

## SPINDLE LOCKING

Quick-action locking system with **10,000 locking cycles**. If required, the simple front replacement set (spindle exchange set) enables a simple adjustment of the spindle geometry. Module for installation in ODU-MAC® Blue-Line frames for housings.



## FUNCTIONALITY



# HOUSING SELECTION – PLASTIC

Connector housing										
ODU-MAC® PUSH-LOCK							ODU-MAC® RAPID			
Locking		Push-Pull		Transverse		Spindle				
Size / Type		Units*								
PUSH-LOCK		7								
1		12								
2		18								
3		26								
4		37								
5		54								
6		74								
Protective cover available (for connector & receptacle)										
Receptacle		 <p>In-line receptacle coming soon</p>								

\*1 Unit = 2.4 mm

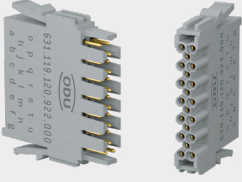
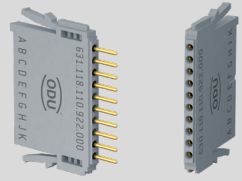
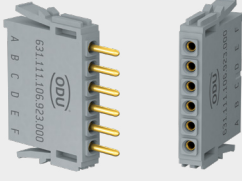

# HOUSING SELECTION – METAL

Connector housing														
Locking		Lever					Lever		Lever		Spindle			
Size / Type	Units*													
PUSH-LOCK	7													
1	12	•	•	•	•	•					•	•	•	
2	18	•	•	•	•	•					•	•	•	
3	26	•	•	•	•	•					•	•	•	
4	37	•	•	•	•	•	•	•			•	•	•	•
5	54								•	•				
6	74								•	•				
Protective cover available (for connector & receptacle)		•	•	•	•	•	•	•	only receptacle		only Gray			
Receptacle														

\*1 Unit = 2.4 mm

# MODULE OVERVIEW

All modules are available pre-assembled.

Modules	Description	Units / width	Features
	20 contacts Contact-Ø: 0.7 mm	<div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> Units 4.8 mm	Operating voltage <sup>1</sup> 200 V Rated surge voltage <sup>1</sup> 2,000 V Max. continuous current <sup>2</sup> 11 A for 0.14 mm <sup>2</sup> Pollution degree <sup>1</sup> 2 Mating cycles min. 10,000 <div style="background-color: #f4a460; padding: 2px; border-radius: 5px; display: inline-block;">+ Maximum contact density and pin protection</div>
	10 contacts Contact-Ø: 0.7 mm	<div style="border: 1px solid black; padding: 2px; display: inline-block;">1</div> Unit 2.4 mm	Operating voltage <sup>1</sup> 320 V Rated surge voltage <sup>1</sup> 2,500 V Max. continuous current <sup>2</sup> 11 A for 0.14 mm <sup>2</sup> Pollution degree <sup>1</sup> 2 Mating cycles min. 10,000 <div style="background-color: #f4a460; padding: 2px; border-radius: 5px; display: inline-block;">+ Maximum contact density</div>
	6 contacts Contact-Ø: 1.3 mm	<div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> Units 4.8 mm	Operating voltage <sup>1</sup> 400 V Rated surge voltage <sup>1</sup> 3,000 V Max. continuous current <sup>2</sup> 19.5 A for 1 mm <sup>2</sup> Pollution degree <sup>1</sup> 2 Mating cycles min. 10,000
	5 contacts Contact-Ø: 2 mm	<div style="border: 1px solid black; padding: 2px; display: inline-block;">3</div> Units 7.2 mm	Operating voltage <sup>1</sup> 630 V Rated surge voltage <sup>1</sup> 3,000 V Max. continuous current <sup>2</sup> 33 A for 2.5 mm <sup>2</sup> Pollution degree <sup>1</sup> 2 Mating cycles min. 10,000

SIGNAL

All modules available with **cable assembly!**

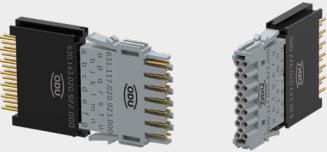
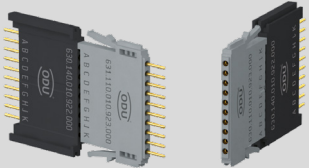
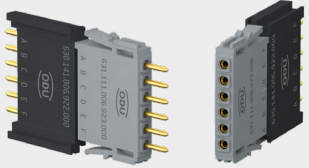
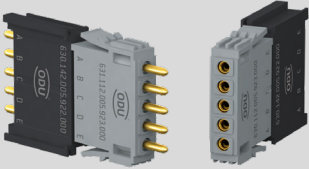


<sup>1</sup> According to IEC 60664-1:2007 (VDE 0110-1:2008-01) for pollution degree 2

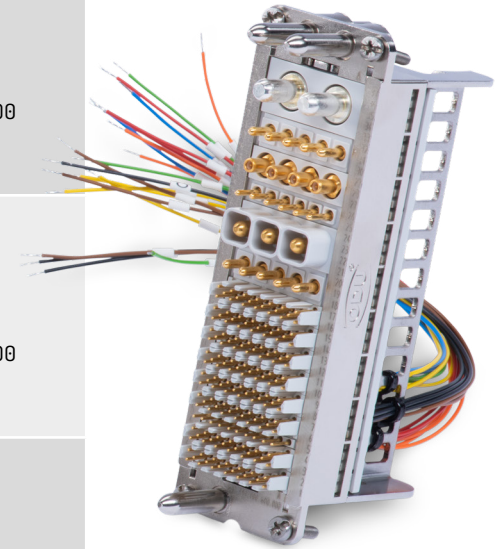
<sup>2</sup> For a definition of max. continuous current, see [ODU-MAC® Blue-Line catalog](#)

# MODULE OVERVIEW

All modules are available pre-assembled.

Modules	Description	Units / width	Features
	20 contacts Contact-Ø: 0.7 mm	<div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> <small>Units</small> 4.8 mm	Operating voltage <sup>1</sup> 200 V Rated surge voltage <sup>1</sup> 2,000 V Max. continuous current <sup>2</sup> 7 A Pollution degree <sup>1</sup> 2 Mating cycles min. 10,000 <div style="background-color: #f96; border-radius: 10px; padding: 2px; display: inline-block;">+ Maximum contact density and pin protection</div>
	10 contacts Contact-Ø: 0.7 mm	<div style="border: 1px solid black; padding: 2px; display: inline-block;">1</div> <small>Unit</small> 2.4 mm	Operating voltage <sup>1</sup> 320 V Rated surge voltage <sup>1</sup> 2,500 V Max. continuous current <sup>2</sup> 7 A Pollution degree <sup>1</sup> 2 Mating cycles min. 10,000 <div style="background-color: #f96; border-radius: 10px; padding: 2px; display: inline-block;">+ Maximum contact density</div>
	6 contacts Contact-Ø: 1.3 mm	<div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> <small>Units</small> 4.8 mm	Operating voltage <sup>1</sup> 400 V Rated surge voltage <sup>1</sup> 3,000 V Max. continuous current <sup>2</sup> 13 A Pollution degree <sup>1</sup> 2 Mating cycles min. 10,000
	5 contacts Contact-Ø: 2 mm	<div style="border: 1px solid black; padding: 2px; display: inline-block;">3</div> <small>Units</small> 7.2 mm	Operating voltage <sup>1</sup> 550 V Rated surge voltage <sup>1</sup> 3,000 V Max. continuous current <sup>2</sup> 25 A Pollution degree <sup>1</sup> 2 Mating cycles min. 10,000

SIGNAL PCB TERMINATION



<sup>1</sup> According to IEC 60664-1:2007 (VDE 0110-1:2008-01) for pollution degree 2

<sup>2</sup> For a definition of max. continuous current, see [ODU-MAC® Blue-Line catalog](#)

# MODULE OVERVIEW

All modules are available pre-assembled.

Modules	Description	Units / width	Features
	4 contacts for 50 $\Omega$ coax contacts	<div style="border: 1px solid black; padding: 2px; display: inline-block;">3 Units</div> 7.2 mm	Frequency range 0–2.8 GHz Mating cycles min. 10,000 <span style="background-color: #f4a460; border-radius: 10px; padding: 2px 5px; display: inline-block;">+ High contact density</span>
	2 contacts for 50 $\Omega$ coax contacts	<div style="border: 1px solid black; padding: 2px; display: inline-block;">5 Units</div> 12 mm	Frequency range 0–4 GHz Mating cycles min. 10,000
	2 contacts for 50 $\Omega$ coax contacts SMA termination	<div style="border: 1px solid black; padding: 2px; display: inline-block;">5 Units</div> 12 mm	Frequency range 0–12 GHz Mating cycles min. 10,000 <span style="background-color: #f4a460; border-radius: 10px; padding: 2px 5px; display: inline-block;">+ 12 GHz</span>
	2 contacts for 75 $\Omega$ coax contacts	<div style="border: 1px solid black; padding: 2px; display: inline-block;">5 Units</div> 12 mm	Frequency range 0–2.7 GHz Mating cycles min. 10,000



<sup>1</sup> According to IEC 60664-1:2007 (VDE 0110-1:2008-01) for pollution degree 2

<sup>2</sup> For a definition of max. continuous current, see [ODU-MAC® Blue-Line catalog](#)



# MODULE OVERVIEW

All modules are available pre-assembled.

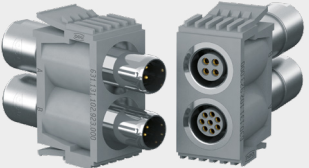

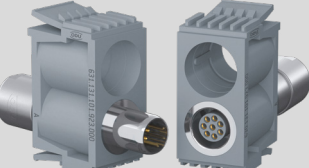

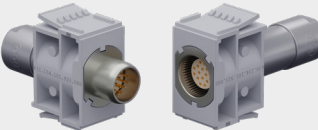

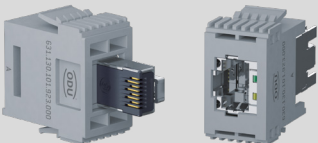

Modules	Description	Units / width	Features
	2 contacts	<div style="border: 1px solid black; padding: 2px; display: inline-block;">5 Units</div> 12 mm	Tube-Ø Mating cycles <div style="background-color: #f96; border-radius: 10px; padding: 2px 5px; display: inline-block;">+ 12 bar</div>
	2 contacts	<div style="border: 1px solid black; padding: 2px; display: inline-block;">5 Units</div> 12 mm	Tube-Ø Mating cycles <div style="background-color: #f96; border-radius: 10px; padding: 2px 5px; display: inline-block;">+ 10 bar</div>
	2 contacts	<div style="border: 1px solid black; padding: 2px; display: inline-block;">5 Units</div> 12 mm	Tube-Ø Mating cycles <div style="background-color: #f96; border-radius: 10px; padding: 2px 5px; display: inline-block;">+ 10 bar</div>
	1 contact	<div style="border: 1px solid black; padding: 2px; display: inline-block;">12 Units</div> 28.8 mm	Tube inner-Ø Mating cycles <div style="background-color: #f96; border-radius: 10px; padding: 2px 5px; display: inline-block;">+ -0.8 bar</div>



COMPRESSED AIR / FLUID / VACUUM COUPLING

# MODULE OVERVIEW

All modules are available pre-assembled.

Modules	Description	Units / width	Features
	2 to 14 contacts for 2 insert size 1	 14.4 mm	Mating cycles min. 10,000 Suitable for all common bus systems CAT 5, USB <sup>®</sup> 2.0 <sup>1</sup> , USB <sup>®</sup> 3.2 Gen 1x1 <sup>1</sup> , FireWire <sup>®1</sup> , Ethernet, SPE 1000BASE-T1 <sup>2</sup>
	2 to 14 contacts for 1 insert size 1	 14.4 mm	Mating cycles min. 10,000 Suitable for all common bus systems CAT 5, USB <sup>®</sup> 2.0 <sup>1</sup> , USB <sup>®</sup> 3.2 Gen 1x1 <sup>1</sup> , FireWire <sup>®1</sup> , Ethernet, SPE 1000BASE-T1 <sup>2</sup>
	3 to 22 contacts for 1 insert size 2	 16.8 mm	Mating cycles min. 10,000 Suitable for all common bus systems CAT 5, CAT 6 <sub>A</sub> , USB <sup>®</sup> 3.2 Gen 1x2 <sup>1</sup> , Ethernet, HDMI <sup>®1</sup> 2.0/2.1, DisplayPort <sup>®1</sup> 2.0
	1 contact RJ45 insert	 16.8 mm	Mating cycles min. 5,000 10 gigabit Ethernet <sup>1</sup> according to IEEE 802.3 an CAT 6 according to ANSI/TIA/EIA-568-C.2 CAT 6 <sub>A</sub> according to ANSI/TIA-568.2-D

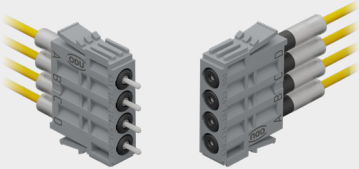
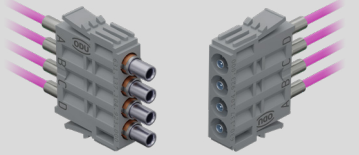




<sup>1</sup> The contact arrangement of an ODU data transmission connector differs from a standard data transmission connector due to the robust ODU specific design. However, the ODU design meets the electrical specifications of the respective standard data transmission protocol.

<sup>2</sup> Single Pair Ethernet according to IEC 63171-6:2020 (IEEE 802.3bp)

# MODULE OVERVIEW



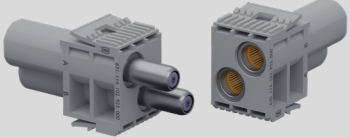

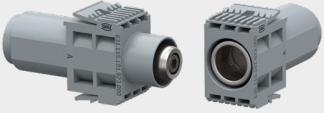



All modules are available pre-assembled.

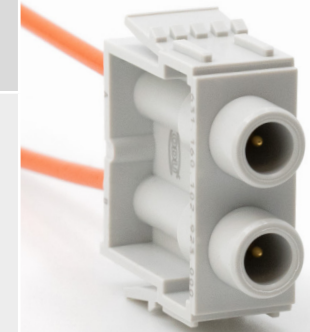
	Modules	Description	Units / width	Features	
FIBER OPTIC (ON REQUEST)		4 contacts for fiber optic only pre-assembled Physical Contact	<div style="border: 1px solid black; padding: 2px; display: inline-block;">3 Units</div> 7.2 mm	Mating cycles max. Insertion loss Single mode Multi mode	min. 1,000 0.5 dB 9 / 125 μm 50 / 125 μm
		4 contacts for fiber optic only pre-assembled Expanded Beam	<div style="border: 1px solid black; padding: 2px; display: inline-block;">3 Units</div> 7.2 mm	Mating cycles Max. Insertion loss Multi mode	min. 100,000 1.5 dB 50 / 125 μm
		5 contacts for fiber optic PDF	<div style="border: 1px solid black; padding: 2px; display: inline-block;">3 Units</div> 7.2 mm	Mating cycles Insertion loss typical	min. 10,000 1,5 dB for 670 nm
BLANK		Blank modules	<div style="border: 1px solid black; padding: 2px; display: inline-block;">1</div> 2.4 mm  <div style="border: 1px solid black; padding: 2px; display: inline-block;">3</div> 7.2 mm  <div style="border: 1px solid black; padding: 2px; display: inline-block;">5</div> 12 mm	Used to fill incomplete frames.	



# MODULE OVERVIEW

All modules are available pre-assembled.

Modules	Description	Units / width	Features
	2 contacts for turned contacts with ODU LAMTAC <sup>3</sup>  Contact-Ø: 5 mm	 12 mm	Operating voltage <sup>1</sup> 400 V Rated surge voltage <sup>1</sup> 4,000 V Max. continuous current <sup>2</sup> 108 A for 16 mm <sup>2</sup> Pollution degree <sup>1</sup> 2 Mating cycles min. 10,000
	2 contacts for turned contacts with ODU LAMTAC <sup>3</sup>  Contact-Ø: 8 mm	 21.6 mm	Operating voltage <sup>1</sup> 400 V Rated surge voltage <sup>1</sup> 3,000 V Max. continuous current <sup>2</sup> 154 A for 25 mm <sup>2</sup> Pollution degree <sup>1</sup> 2 Mating cycles min. 10,000
	1 contact for turned contacts with ODU LAMTAC <sup>3</sup>  Contact-Ø: 12 mm	 19.2 mm	Operating voltage <sup>1</sup> 2,500 V Rated surge voltage <sup>1</sup> 10,000 V Max. continuous current <sup>2</sup> 225 A for 50 mm <sup>2</sup> Pollution degree <sup>1</sup> 2 Mating cycles min. 10,000 + High-voltage
	3 contacts  Contact-Ø: 3.5 mm	 9.6 mm	Operating voltage <sup>1</sup> 2,500 V Rated surge voltage <sup>1</sup> 10,000 V Max. continuous current <sup>2</sup> 58 A for 6 mm <sup>2</sup> Pollution degree <sup>1</sup> 2 Mating cycles min. 10,000 + High-voltage



<sup>1</sup> According to IEC 60664-1:2007 (VDE 0110-1:2008-01) for pollution degree 2

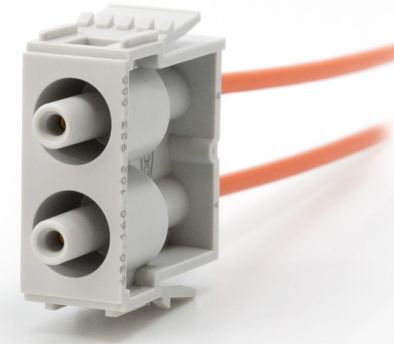
<sup>2</sup> For a definition of max. continuous current, see [ODU-MAC® Blue-Line catalog](#)

<sup>3</sup> Contact with lamella technology

# MODULE OVERVIEW

All modules are available pre-assembled.

	Modules	Description	Units / width	Features
PE		1 contact with ODU LAMTAC <sup>®3</sup>  Contact-Ø: 8 mm	 12 mm	Mating cycles      min. 10,000 Conduct cross-section      10 / 16 / 25 mm <sup>2</sup>
HIGH-VOLTAGE		2 contacts  Contact-Ø: 1.3 mm	 12 mm	Operating voltage <sup>1</sup> 4,000 V Rated surge voltage <sup>1</sup> 12,000 V Pollution degree <sup>1</sup> 2 Mating cycles      min. 10,000  
COMBINATION		2 contacts High-speed & coax	 14.4 mm	Mating cycles      min. 10,000 Coax      50 Ω/4 GHz or 75 Ω/2.2 GHz Selected inserts are suitable and qualified for data rates up to 5 Gbit/s. Suitable for CAT 5, USB <sup>®</sup> 2.0 <sup>4</sup> , USB <sup>®</sup> 3.2 Gen 1x1 <sup>4</sup> , FireWire <sup>®4</sup> , Ethernet, SPE 1000BASE-T1 <sup>5</sup>
		2 contacts High-speed & compressed air	 14.4 mm	Mating cycles      min. 10,000 Compressed air      12 bar Selected inserts are suitable and qualified for data rates up to 5 Gbit/s. Suitable for CAT 5, USB <sup>®</sup> 2.0 <sup>4</sup> , USB <sup>®</sup> 3.2 Gen 1x1 <sup>4</sup> , FireWire <sup>®4</sup> , Ethernet, SPE 1000BASE-T1 <sup>5</sup>



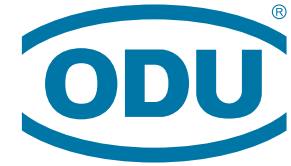
<sup>1</sup> According to IEC 60664-1:2007 (VDE 0110-1:2008-01) for pollution degree 2

<sup>2</sup> For a definition of max. continuous current, see [ODU-MAC<sup>®</sup> Blue-Line catalog](#)

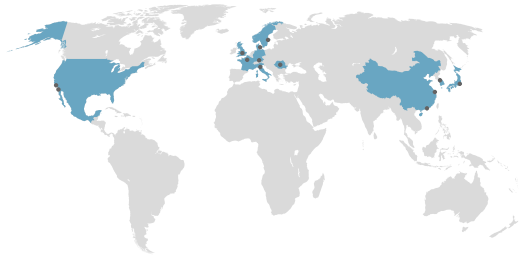
<sup>3</sup> Contact with lamella technology

<sup>4</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.

<sup>5</sup> Single Pair Ethernet according to IEC 63171-6:2020 (IEEE 802.3bp)



## ODU GROUP WORLDWIDE



### HEADQUARTERS

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 E-mail: [sales@odu.de](mailto:sales@odu.de)

### 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.

### SALES LOCATIONS

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[www.odu.com.cn](http://www.odu.com.cn)

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[www.odu.co.jp](http://www.odu.co.jp)

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