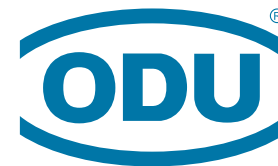


# ODU-MAC<sup>®</sup> Blue-Line

Universal solution – fast, modular and flexible



HDMI     
ODU HIGH SPEED DATA TECHNOLOGY

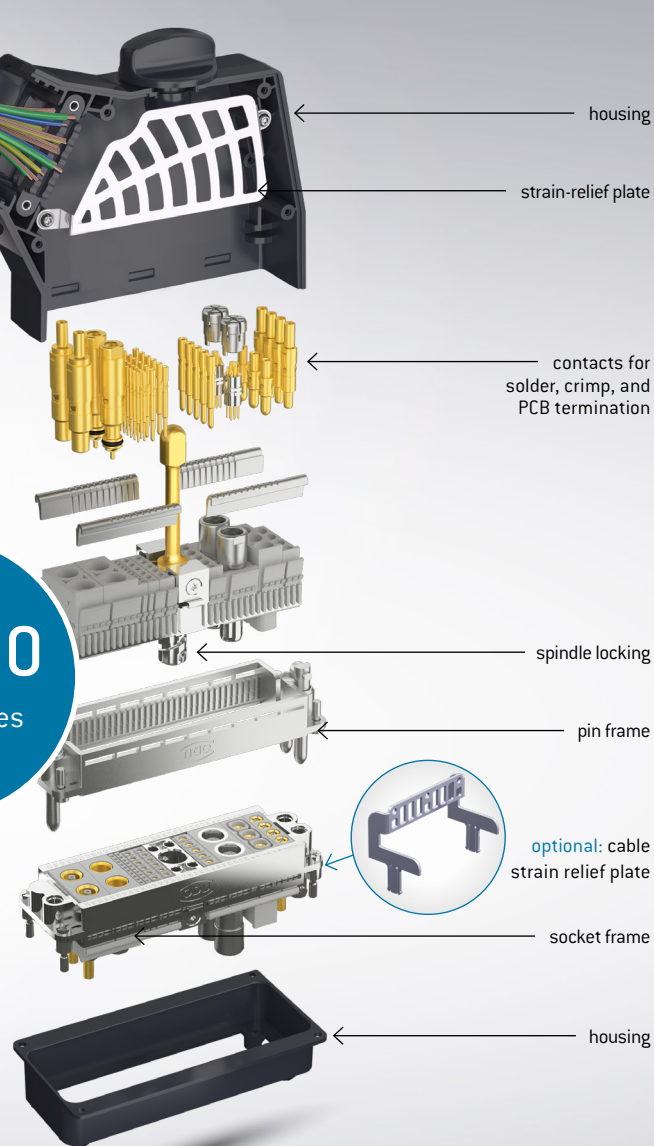


# THE MODULAR PRINCIPLE

## 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

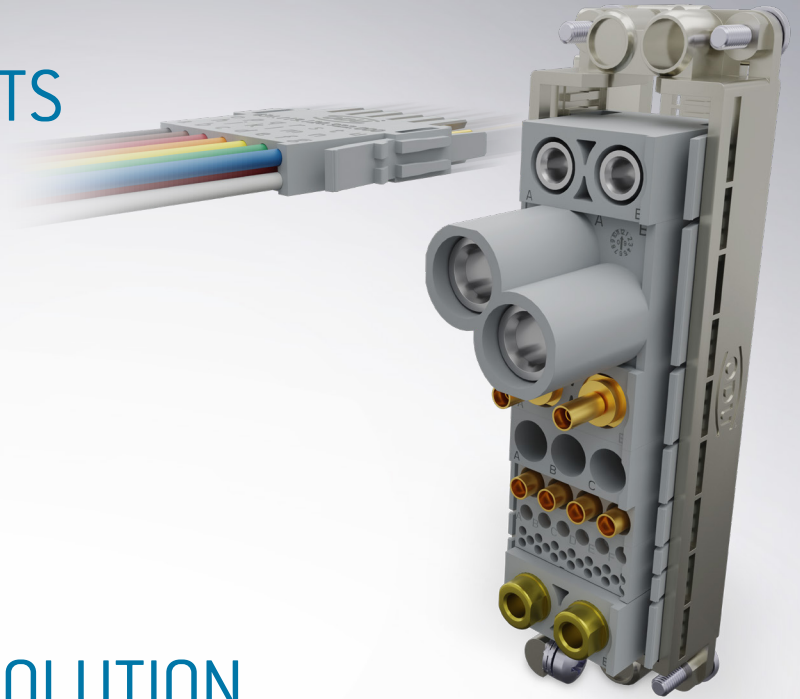


For further information please visit: [www.odu-connectors.com/downloads](http://www.odu-connectors.com/downloads)

# 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

# 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

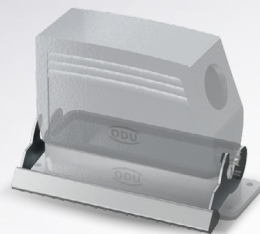
\*1 Unit = 2.4 mm

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

**Tolerance compensation axial:** min. 0.1 mm

# VARIOUS LOCKING OPTIONS

## + SPINDLE LOCKING



## + LEVER LOCKING

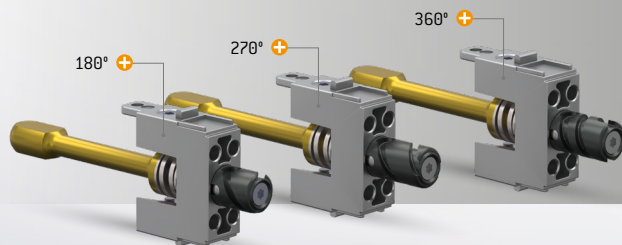
## + TRANSVERSE LOCKING



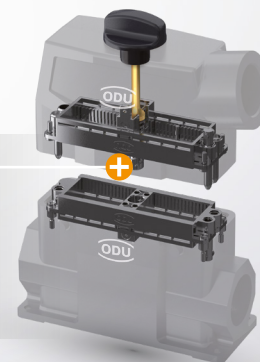
## + PUSH-PULL LOCKING (for ODU-MAC® PUSH-LOCK housing)

## 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

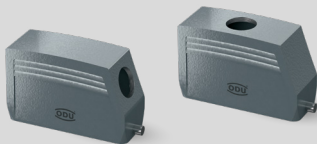








# HOUSING SELECTION – PLASTIC

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									

\*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															

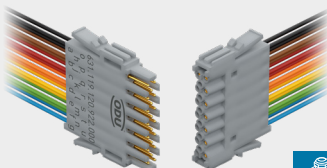


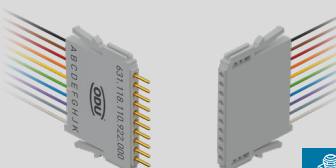


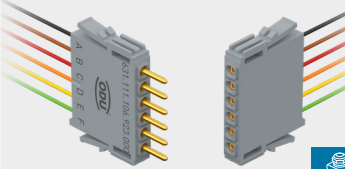


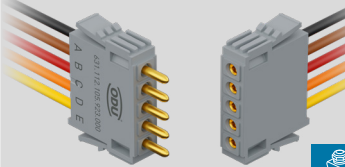

\*1 Unit = 2.4 mm

# MODULE OVERVIEW

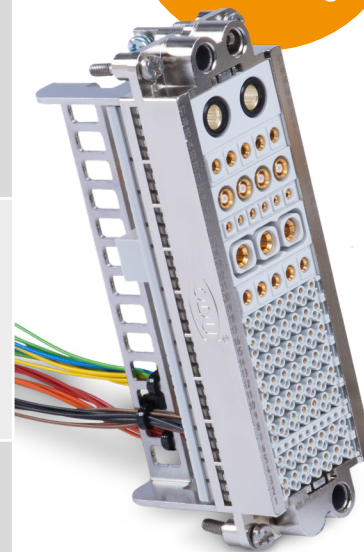
Modules marked with this symbol can be used in the PUSH-LOCK; note the space requirements.



All modules are available pre-assembled.

Modules	Description	Units / width	Features
SIGNAL	 <p>20 contacts Contact-Ø: 0.7 mm</p> 	 <p>2 Units</p> <p>4.8 mm</p>	<p>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 0.38 mm<sup>2</sup>            Pollution degree<sup>1</sup> 2            Mating cycles min. 10,000</p> <p>+ Maximum contact density and pin protection</p>
	 <p>10 contacts Contact-Ø: 0.7 mm</p> 	 <p>1 Unit</p> <p>2.4 mm</p>	<p>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 0.38 mm<sup>2</sup>            Pollution degree<sup>1</sup> 2            Mating cycles min. 10,000</p> <p>+ Maximum contact density</p>
	 <p>6 contacts Contact-Ø: 1.3 mm</p> 	 <p>2 Units</p> <p>4.8 mm</p>	<p>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</p>
	 <p>5 contacts Contact-Ø: 2 mm</p> 	 <p>3 Units</p> <p>7.2 mm</p>	<p>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</p>

All modules available with **cable assembly!**

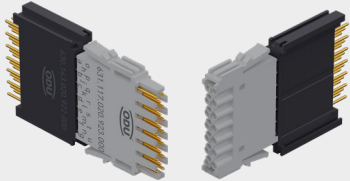

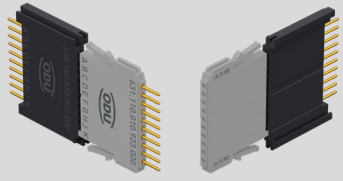

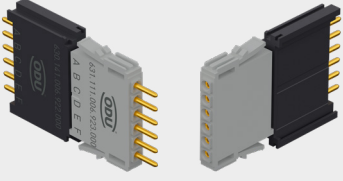

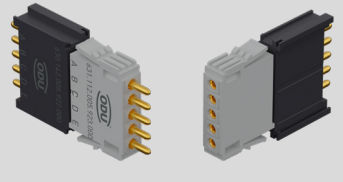



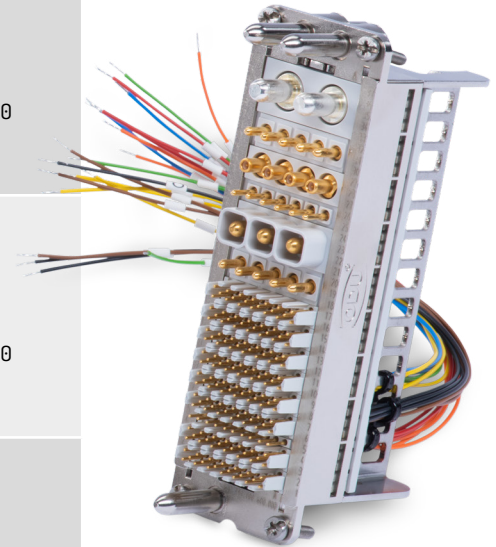
<sup>1</sup>According to IEC 60664-1:2007 [VDE 0110-1:2008-01] for pollution degree 2

<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
SIGNAL PCB TERMINATION	 <p>20 contacts Contact-Ø: 0.7 mm</p>	 Units 4.8 mm	<p>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</p> <p>+ Maximum contact density and pin protection</p>
	 <p>10 contacts Contact-Ø: 0.7 mm</p>	 Unit 2.4 mm	<p>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</p> <p>+ Maximum contact density</p>
	 <p>6 contacts Contact-Ø: 1.3 mm</p>	 Units 4.8 mm	<p>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</p>
	 <p>5 contacts Contact-Ø: 2 mm</p>	 Units 7.2 mm	<p>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</p>



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

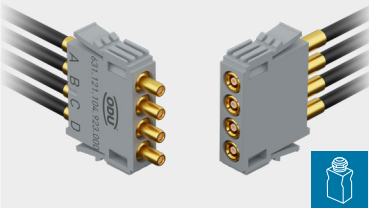
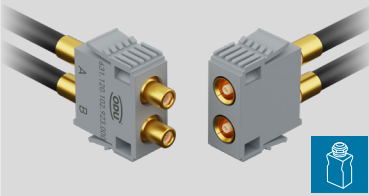
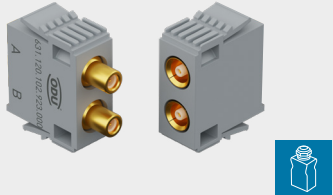
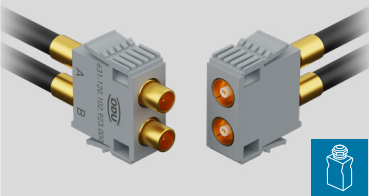
<sup>2</sup>For a definition of max. continuous current, see [ODU-MAC® Blue-Line catalog](#)

# MODULE OVERVIEW

Modules marked with this symbol can be used in the PUSH-LOCK; note the space requirements.



All modules are available pre-assembled.

Modules	Description	Units / width	Features
COAX	 4 contacts for 50 $\Omega$ coax contacts	<div>3 Units</div> 7.2 mm	Frequency range 0–2.8 GHz Mating cycles min. 10,000 <div>+ High contact density</div>
	 2 contacts for 50 $\Omega$ coax contacts	<div>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>5 Units</div> 12 mm	Frequency range 0–12 GHz Mating cycles min. 10,000 <div>+ 12 GHz</div>
	 2 contacts for 75 $\Omega$ coax contacts	<div>5 Units</div> 12 mm	Frequency range 0–2.6 GHz Mating cycles min. 10,000



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


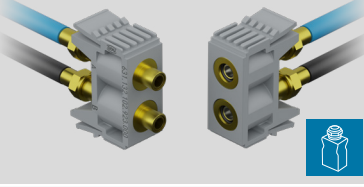
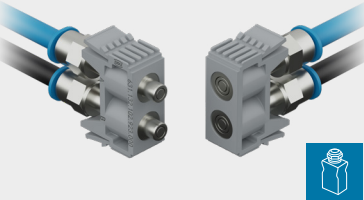
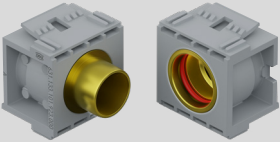
<sup>2</sup>For a definition of max. continuous current, see [ODU-MAC® Blue-Line catalog](#)

# MODULE OVERVIEW

Modules marked with this symbol can be used in the PUSH-LOCK; note the space requirements.



All modules are available pre-assembled.

Modules	Description	Units / width	Features
	2 contacts	<div>5 Units</div> <div>12 mm</div>	<div>Tube-Ø</div> <div>inner-Ø: max. 4 mm</div> <div>outer-Ø Push-in: max. 6 mm</div> <div>min. 10,000</div> <div>Mating cycles</div> <div>+ 12 bar</div>
	2 contacts	<div>5 Units</div> <div>12 mm</div>	<div>Tube-Ø</div> <div>M5 max. 4 mm</div> <div>min. 10,000</div> <div>Mating cycles</div> <div>+ 10 bar</div>
	2 contacts	<div>5 Units</div> <div>12 mm</div>	<div>Tube-Ø</div> <div>M5 inside thread</div> <div>min. 10,000</div> <div>Mating cycles</div> <div>+ 10 bar</div>
	1 contact	<div>12 Units</div> <div>28.8 mm</div>	<div>Tube inner-Ø</div> <div>16 mm</div> <div>min. 10,000</div> <div>Mating cycles</div> <div>+ -0.8 bar</div>

COMPRESSED AIR / FLUID / VACUUM COUPLING



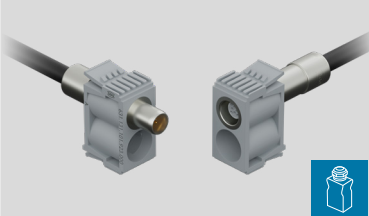



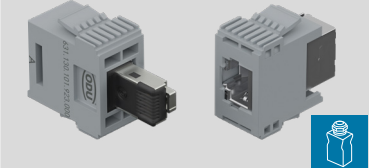




# MODULE OVERVIEW

Modules marked with this symbol can be used in the PUSH-LOCK; note the space requirements.



All modules are available pre-assembled.

Modules	Description	Units / width	Features
SHIELDED FEEDTHROUGH / HIGH-SPEED CONNECTOR	 	 14.4 mm	Mating cycles min. 10,000 Suitable for all common bus systems CAT 5, USB® 2.0, USB® 3.2 Gen 1x1, FireWire®, Ethernet, SPE 10G BASE-T1 <sup>1</sup>
	 	 14.4 mm	Mating cycles min. 10,000 Suitable for all common bus systems CAT 5, USB® 2.0, USB® 3.2 Gen 1x1, FireWire®, Ethernet, SPE 10G BASE-T1 <sup>1</sup>
	 	 16.8 mm	Mating cycles min. 10,000 Suitable for all common bus systems HDMI® up to 48 Gbit/s, DisplayPort® up to 40 Gbit/s, USB® up to 10 Gbit/s
	 	 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>Single Pair Ethernet according to IEC 63171-6:2020[IEEE 802.3ch]

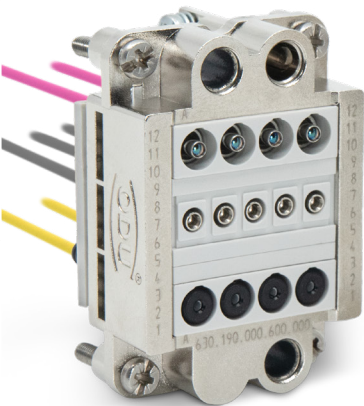
# MODULE OVERVIEW

Modules marked with this symbol can be used in the PUSH-LOCK; note the space requirements.



All modules are available pre-assembled.

Modules	Description	Units / width	Features
FIBER OPTIC (ON REQUEST)	 <p>4 contacts for fiber optic only pre-assembled Physical Contact</p>	 <p>7.2 mm</p>	<p>Mating cycles min. 1,000</p> <p>max. Insertion loss 0.5 dB</p> <p>Single mode 9 / 125 µm</p> <p>Multi mode 50 / 125 µm</p>
	 <p>4 contacts for fiber optic only pre-assembled Expanded Beam</p>	 <p>7.2 mm</p>	<p>Mating cycles min. 100,000</p> <p>Max. Insertion loss 1.5 dB</p> <p>Multi mode 50 / 125 µm</p>
	 <p>5 contacts for fiber optic POF</p>	 <p>7.2 mm</p>	<p>Mating cycles min. 10,000</p> <p>Insertion loss typical 1.5 dB for 660 nm</p>
PE	 <p>1 contact with ODU LAMTAC<sup>1</sup> Contact-Ø: 8 mm</p>	 <p>12 mm</p>	<p>Mating cycles min. 10,000</p> <p>Conduct cross-section 10 / 16 / 25 mm<sup>2</sup></p>



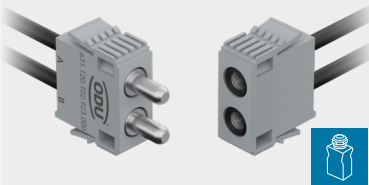





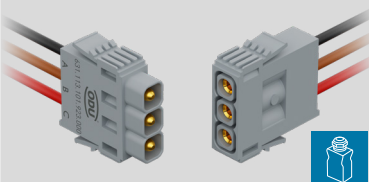

<sup>1</sup> Contact with lamella technology

# MODULE OVERVIEW

Modules marked with this symbol can be used in the PUSH-LOCK; note the space requirements.



All modules are available pre-assembled.

Modules	Description	Units / width	Features	
HIGH-CURRENT	 <p>2 contacts for turned contacts with ODU LAMTAC®<sup>3</sup></p> <p>Contact-Ø: 5 mm</p>	 <p>5 Units</p> <p>12 mm</p>	<p>Operating voltage<sup>1</sup> 400 V</p> <p>Rated surge voltage<sup>1</sup> 4,000 V</p> <p>Max. continuous current<sup>2</sup> 108 A for 16 mm<sup>2</sup></p> <p>Pollution degree<sup>1</sup> 2</p> <p>Mating cycles min. 10,000</p>	
	 <p>2 contacts for turned contacts with ODU LAMTAC®<sup>3</sup></p> <p>Contact-Ø: 8 mm</p>	 <p>9 Units</p> <p>21.6 mm</p>	<p>Operating voltage<sup>1</sup> 400 V</p> <p>Rated surge voltage<sup>1</sup> 3,000 V</p> <p>Max. continuous current<sup>2</sup> 154 A for 25 mm<sup>2</sup></p> <p>Pollution degree<sup>1</sup> 2</p> <p>Mating cycles min. 10,000</p>	
	 <p>1 contact for turned contacts with ODU LAMTAC®<sup>3</sup></p> <p>Contact-Ø: 12 mm</p>	 <p>8 Units</p> <p>19.2 mm</p>	<p>Operating voltage<sup>1</sup> 2,500 V</p> <p>Rated surge voltage<sup>1</sup> 10,000 V</p> <p>Max. continuous current<sup>2</sup> 225 A for 50 mm<sup>2</sup></p> <p>Pollution degree<sup>1</sup> 2</p> <p>Mating cycles min. 10,000</p>	<p>+ High-voltage</p>
	 <p>3 contacts</p> <p>Contact-Ø: 3.5 mm</p>	 <p>4 Units</p> <p>9.6 mm</p>	<p>Operating voltage<sup>1</sup> 2,500 V</p> <p>Rated surge voltage<sup>1</sup> 10,000 V</p> <p>Max. continuous current<sup>2</sup> 58 A for 6 mm<sup>2</sup></p> <p>Pollution degree<sup>1</sup> 2</p> <p>Mating cycles min. 10,000</p>	<p>+ High-voltage</p>



<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](#)

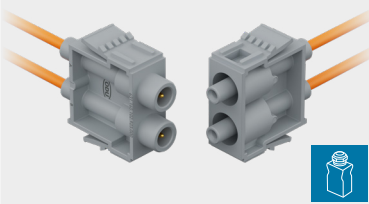

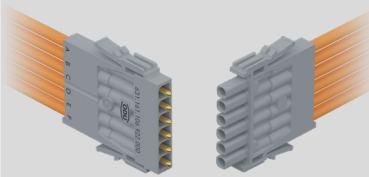

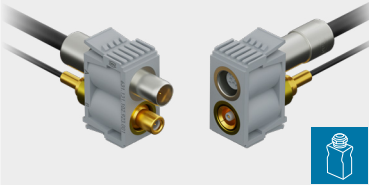

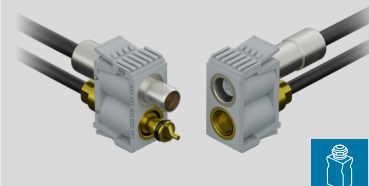

<sup>3</sup> Contact with lamella technology

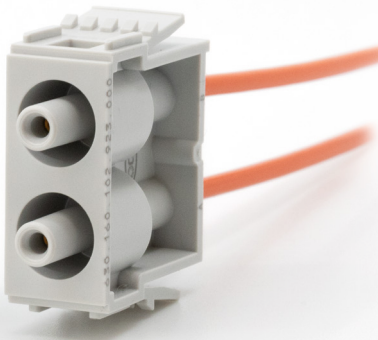
# MODULE OVERVIEW

Modules marked with this symbol can be used in the PUSH-LOCK; note the space requirements.



All modules are available pre-assembled.

Modules	Description	Units / width	Features
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
	 6 contacts Contact-Ø: 1.3 mm	 4.8 mm	Operating voltage <sup>1</sup> 1,500 V Rated surge voltage <sup>1</sup> 6,000 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® 2.0, USB® 3.2 Gen 1x1, FireWire®, Ethernet, SPE 10G BASE-T1 <sup>2</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® 2.0, USB® 3.2 Gen 1x1, FireWire®, Ethernet, SPE 10G BASE-T1 <sup>2</sup>



<sup>1</sup>According to IEC 60664-1:2020 (VDE 0110-1:2022-07) for pollution degree 2

<sup>2</sup>Single Pair Ethernet according to IEC 63171-6:2020[IEEE 802.3ch]

# MODULE OVERVIEW

Modules marked with this symbol can be used in the PUSH-LOCK; note the space requirements.



All modules are available pre-assembled.

Modules	Description	Units / width	Features
<div>THERMO-COUPLING</div> <div></div>	6 contacts  Contact-Ø: 1.0 mm	<div>2</div> <div>Units</div> 4.8 mm	Thermocouple type Mating cycles  K & T, others on request min. 5,000
<div>BLANK</div> <div></div>	Blank modules	<div>1</div> <div>2.4 mm</div> <div>3</div> <div>7.2 mm</div> <div>5</div> <div>12 mm</div>	Used to fill incomplete frames.

### 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 that are derived from the respective standard data transmission protocol.

All dimensions are in mm.  
Some figures are for illustrative purposes only. Subject to change without notice. Errors and omissions excepted. We reserve the right to change our products and their technical specifications at any time in the interest of technical improvement. This publication supersedes all prior publications.

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