A new performance class.
Up to 2,500 V, 12 bar, 10 Gbit/s, > 10,000 mating cycles and 12.0 GHz
YOUR CUSTOMIZED CONNECTION

The ODU-MAC® Blue-Line is a convenient, hybrid manual-connector solution comprising a stable frame, various modules and a housing. Its modular design enables it to combine many individual connectors in one ODU-MAC® Blue-Line. The proven ODU spindle locking in the new standard plastic housing provides the ODU-MAC® Blue-Line with a truly unique selling point on the market.

MANUAL MATING

Configuration can be customized and includes Cable Assembly, offering many options which leave nothing to be desired.

4 TYPES OF LOCKING

First, select your locking type by choosing between spindle, lever or Push-Pull locking.

DIFFERENT CONNECTOR HOUSINGS

According to the locking principle you choose, you then select the plastic or metal housing best suited to your requirements: cable hood, cable hood XXL, cable hood wide, RAPID housing or PUSH-LOCK housing.

RECEPTACLE SELECTION

Depending on your requirements for the receptacle and connector housing, you then choose between bulk-head mounted housing, surface mounted housing, cable-to-cable hood or PUSH-LOCK receptacles.

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.

AUTOMATIC DOCKING

There are 4 different frame sizes to choose from for automatic docking.

4 DOCKING FRAMES

<table>
<thead>
<tr>
<th>Size</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>3</td>
<td>26</td>
</tr>
<tr>
<td>4</td>
<td>37</td>
</tr>
</tbody>
</table>

Tolerance compensation radial: von +/- 0.6 mm
Tolerance compensation axial: min. 0.1 mm

THE PRINCIPLE OF MODULAR DESIGN

This overview provide you an insight into the modularity of ODU-MAC®. For more detailed information, please visit our website or consult our ODU-MAC® Blue-Line catalog.

CONVINCING – THE ODU-MAC® BLUE-LINE

- High-quality, manual connector solution with a variety of housing variants
- Various locking options (spindle, lever and Push-Pull locking)
- Highest packing density
- Easy handling: the simplest clip assembly and removal of the module without tools
- Simplest removal of the crimp-clip contact (when already assembled)
- Separate PCB termination module for an effective contact
- Numerous data transmission modules
- Including Cable Assembly

OUTSTANDING – FOR EVERY NEED

Take a closer look at the following pages to discover the variety of transmission methods we offer, such as USB® 2.0¹, USB® 3.2 Gen 1x¹, FireWire®, CAT 6A and Ethernet¹.

¹ These ODU specific connectors can transmit common data transmission protocols such as USB® 2.0, USB® 3.2 Gen 1x, FireWire®, CAT 6A and Ethernet, but they are not USB®, FireWire®, CAT- and Ethernet-standard connectors.

Simply scan the QR code to download the catalog.
**ODU-MAC® PUSH-LOCK**

Maximum packing density in the smallest installation space

The compact, sealed ODU-MAC® PUSH-LOCK housing with Push-Pull locking is based on the ODU-MAC® Blue-Line. 7 units can be custom-fitted with hybrid connector configurations offering International Protection class IP67. The ergonomic one-handed operation, modular design, and user friendliness of the PUSH-LOCK housing are what set it apart. A total of 6 optional coding functions and the tried-and-tested push-pull locking principle ensure mating is reliable and secure. This modular rectangular connector benefits from the decades of experience obtained through ODU push-pull circular connectors.

---

### MODULE OVERVIEW

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

<table>
<thead>
<tr>
<th>Modules</th>
<th>Description</th>
<th>Units/width</th>
<th>Features</th>
</tr>
</thead>
</table>
| **Signal** | 20 contacts | Operating voltage\(^1\): 250 V  
Rated surge voltage\(^1\): 2,000 V  
Max. continuous current\(^2\): 11 A for 0.38 mm\(^2\)  
Pollution degree\(^1\): 2  
Mating cycles: min. 10,000 | 2  
2.4 mm  
4.8 mm | Maximum packing density and pin protection |
| | 10 contacts | Operating voltage\(^1\): 320 V  
Rated surge voltage\(^1\): 2,500 V  
Max. continuous current\(^2\): 11 A for 0.38 mm\(^2\)  
Pollution degree\(^1\): 2  
Mating cycles: min. 10,000 | 1  
2.4 mm  
4.8 mm | Maximum packing density |
| | 6 contacts | Operating voltage\(^1\): 400 V  
Rated surge voltage\(^1\): 2,500 V  
Max. continuous current\(^2\): 19.5 A for 1 mm\(^2\)  
Pollution degree\(^1\): 2  
Mating cycles: min. 10,000 | 2  
4.8 mm  
7.2 mm | Maximum packing density |
| | 5 contacts | Operating voltage\(^1\): 630 V  
Rated surge voltage\(^1\): 3,000 V  
Max. continuous current\(^2\): 33 A for 2.5 mm\(^2\)  
Pollution degree\(^1\): 2  
Mating cycles: min. 10,000 | 3  
7.2 mm  
10.8 mm | Maximum packing density |
| **PCB termination modules** | 20 contacts | Operating voltage\(^1\): 250 V  
Rated surge voltage\(^1\): 2,000 V  
Max. continuous current\(^2\): 7 A  
Pollution degree\(^1\): 2  
Mating cycles: min. 10,000 | 2  
4.8 mm  
7.2 mm | Maximum packing density and pin protection |
| | 10 contacts | Operating voltage\(^1\): 320 V  
Rated surge voltage\(^1\): 2,500 V  
Max. continuous current\(^2\): 7 A  
Pollution degree\(^1\): 2  
Mating cycles: min. 10,000 | 1  
2.4 mm  
4.8 mm | Maximum packing density |

---

1. According to IEC 60664-1:2007 (VDE 0110-1:2008) for pollution degree 2
### Modules Description Units/width Features

<table>
<thead>
<tr>
<th>Modules</th>
<th>Description</th>
<th>Units/width</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coax</strong></td>
<td>6 contacts for 50 Ω coax contacts</td>
<td>7.2 mm</td>
<td>Frequency range 0–2.8 GHz Matting cycles min. 10,000</td>
</tr>
<tr>
<td><strong>SMA termination</strong></td>
<td>2 contacts for 50 Ω coax contacts</td>
<td>12 mm</td>
<td>Frequency range 0–1.2 GHz Matting cycles min. 10,000</td>
</tr>
<tr>
<td><strong>Compressed air and fluid coupling</strong></td>
<td>2 contacts for 75 Ω coax contacts</td>
<td>12 mm</td>
<td>Frequency range 0–2.7 GHz Matting cycles min. 10,000</td>
</tr>
<tr>
<td><strong>PCB termination modules</strong></td>
<td>6 contacts</td>
<td>4.8 mm</td>
<td>Operative voltage 1 400 V Rated surge voltage 1 2,500 V Max. continuous current 1 13 A Pollution degree 1 2 Matting cycles min. 10,000</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>3 contacts</td>
<td>7.2 mm</td>
<td>Operative voltage 1 2,500 V Rated surge voltage 1 10,000 V Max. continuous current 1 50 A for 6 mm² Pollution degree 1 2 Matting cycles min. 10,000</td>
</tr>
<tr>
<td><strong>High current</strong></td>
<td>2 contacts for turned contacts with ODU LAMTAC®3</td>
<td>12 mm</td>
<td>Operative voltage 1 400 V Rated surge voltage 1 4,000 V Max. continuous current 1 10 A for 16 mm² Pollution degree 1 2 Matting cycles min. 10,000</td>
</tr>
<tr>
<td><strong>High current</strong></td>
<td>2 contacts for turned contacts with ODU LAMTAC®3</td>
<td>12 mm</td>
<td>Operative voltage 1 2,500 V Rated surge voltage 1 225 A for 50 mm² Max. continuous current 1 2 Matting cycles min. 10,000</td>
</tr>
<tr>
<td><strong>High current</strong></td>
<td>1 contact for turned contacts with ODU LAMTAC®3</td>
<td>19.2 mm</td>
<td>Operative voltage 1 2,500 V Rated surge voltage 1 10,000 V Max. continuous current 1 225 A for 50 mm² Pollution degree 1 2 Matting cycles min. 10,000</td>
</tr>
</tbody>
</table>

---

1 According to IEC 60664-1:2007 (VDE 0110-1:2008) for pollution degree 2
2 For a definition of max. continuous current, see ODU-MAC® Blue-Line catalog page 172 at www.odu-connectors.com/downloads/catalogues/
3 Contact with lamella technology
### MODULE OVERVIEW

<table>
<thead>
<tr>
<th>Modules</th>
<th>Description</th>
<th>Units/width</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compressed air and fluid coupling</td>
<td>2 contacts</td>
<td>5 mm&lt;br&gt;12 mm</td>
<td>Mating cycles min. 5,000&lt;br&gt;Single mode (SM)&lt;br&gt;Mating cycles min. 10,000&lt;br&gt;Multi mode (MM)&lt;br&gt;Insertion loss typical 1.5 dB for 670 nm</td>
</tr>
<tr>
<td>2 contacts</td>
<td>&lt;br&gt;Fiber optic (on request)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 contacts</td>
<td>6 mm&lt;br&gt;14.4 mm</td>
<td>Mating cycles min. 10,000&lt;br&gt;Suitable for all common bus systems&lt;br&gt;CAT 5, USB 2.0, USB 3.2 Gen 1x1, FireWire®&lt;sup&gt;1&lt;/sup&gt;, Ethernet&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>1 contact</td>
<td>BLANS insert</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 contacts&lt;br&gt;High-speed &amp; coax</td>
<td>6 mm&lt;br&gt;14.4 mm</td>
<td>Mating cycles min. 10,000&lt;br&gt;Coax 50 Ω/4 GHz or 75 Ω/2.2 GHz&lt;br&gt;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®&lt;sup&gt;1&lt;/sup&gt;, Ethernet&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Combination module</td>
<td>2 contacts&lt;br&gt;High-speed &amp; compressed air</td>
<td>6 mm&lt;br&gt;14.4 mm</td>
<td>Mating cycles min. 10,000&lt;br&gt;Compressed air 12 bar&lt;br&gt;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®&lt;sup&gt;1&lt;/sup&gt;, Ethernet&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

---

**PROVEN ODU-MAC® VARIETY OF MODULES**

- Tool-free clip assembly and disassembly of the modules in the frame
- Easy disassembly of crimp clip contacts, also pre-assembled
- Complete solution including Cable Assembly

---

<sup>1</sup> These ODU specific connectors can transmit common data transmission protocols such as USB® 2.0, USB® 3.2 Gen 1x1, FireWire®<sup>1</sup>, CAT 5, CAT 6, and Ethernet, but they are not USB®, Firewire®, CAT- and Ethernet-standard connectors.
PCB TERMINATION MODULES

Easy-to-use termination technology for signal modules via PCB contacting

LONG SERVICE LIFE – ECONOMICAL – EASY TO USE

Economical solution
No cables due to the direct PCB termination

Convenient exchange
Quick-change system possible for parts subject to wear

Long service life
PCB termination modules are manufactured from temperature-resistant PA (solder temperature 260 °C, 30 seconds)

Additional grounding
Thanks to grounding pin and socket, available on request

THE BENEFITS OF THE PCB TERMINATION ASSEMBLY

The PCB termination modules are permanently mounted on the board and are connected via an interface to the module that is plugged into the frame. If a module needs to be replaced, then only the module installed in the frame must be replaced. Module that is mounted on the PCB is not affected by this. An effective installation or quick-change function, as the case may be, is thereby achieved.

1 After clipping a new contact in three times, the module must be renewed.

THE ODU-MAC® BLUE-LINE – FOR THE MOST VARIED APPLICATIONS

MAIN APPLICATION AREAS FOR THE ODU-MAC® BLUE-LINE

- Test and measurement
- Medical
- Industrial
- Special machine construction

ODU-MAC® BLUE-LINE FOR X-RAY MACHINES

The modular ODU-MAC connector acts as an interface between a mobile X-ray machine and a monitor cart. It transmits high current, data, and signals.

ODU-MAC® BLUE-LINE FOR AUTOMOTIVE TESTING

The ODU-MAC® Blue-Line in a housing with spindle locking provides a reliable interface between the test device and the measured-data receiver.

ODU-MAC® BLUE-LINE FOR MEASURING AND TESTING TECHNOLOGY

ODU-MAC® Blue-Line customized power and signal transmission solution for a HIL testing system.

We offer complete solutions including Cable Assembly

Simply scan the QR code to download the catalog.
ODU GROUP WORLDWIDE

ODU USA
ODU-USA, Inc.
300 Camarillo Ranch Road, Suite A, Camarillo, CA 93012, United States of America
Phone: +1 805 484-0540, Fax: +1 805 484-7458, E-mail: sales@odu-usa.com

HEADQUARTERS
ODU GmbH & Co. KG
Pregelstraße 11
84453 Mühldorf a. Inn, Germany
Phone: +49 8631 6 156-0
Fax: +49 8631 6 156-49
E-mail: sales@odu.de
www.odu.de

PRODUCTION AND LOGISTICS SITES
Germany: Otto Dunkel GmbH

China: ODU [Shanghai] Connectors Manufacturing Co., Ltd

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

Romania: ODU Romania Manufacturing S.R.L.

USA: ODU North American Logistics

SALES LOCATIONS

ODU [Shanghai] International Trading Co., Ltd.
Phone: +86 21 58347828-0
E-mail: sales@odu.com.cn
www.odu.com.cn

ODU Denmark ApS
Phone: +45 2233 5335
E-mail: sales@odu-denmark.dk
www.odu-denmark.dk

ODU France SARL
Phone: +33 1 3935-4690
E-mail: sales@odu.fr
www.odu.fr

ODU Italia S.R.L.
Phone: +39 331 8708847
E-mail: sales@odu-italia.it
www.odu-italia.it

ODU Japan K.K.
Phone: +81 3 6441 3210
E-mail: sales@odu.co.jp
www.odu.co.jp

ODU Korea Inc.
Phone: +82 2 6964 7181
E-mail: sales@odu-korea.kr
www.odu-korea.kr

ODU Romania Manufacturing S.R.L.
Phone: +40 269 704638
E-mail: sales@odu-romania.ro
www.odu-romania.ro

ODU Scandinavia AB
Phone: +46 1 76 18262
E-mail: sales@odu.se
www.odu.se

ODU-UK Ltd.
Phone: +44 330 002 0640
E-mail: sales@odu-uk.co.uk
www.odu-uk.co.uk

Further information and specialized representatives can be found at:
www.odu-usa.com/contact

www.odu-usa.com

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. This publication is also available as a PDF file that can be downloaded from www.odu-usa.com

Simply scan the QR code to download the entire publication.