CONFIGURE THE ODU-MAC® SIMPLY ONLINE AT WWW.ODU-MAC.COM
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ODU-MAC® – AUTOMATIC DOCKING.

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SYSTEM REQUIREMENTS AND TOLERANCES

High mating cycles and perfect transfer rates – in order to ensure these for automatic docking over the long term, the docking system must be a design consideration (e.g. centering systems).

Clean and smooth docking is secured by special guiding pins that are designed for the forces which guide the connector. Please note the mechanical requirements behind the design.

MAXIMUM PERMISSIBLE OFFSET + STANDARD GAP MEASURE IN MATED CONDITION (RADIAL PLAY)

The maximum permissible gap between socket and pin pieces is 0.5 mm as a standard. Extension with long contact pins is possible.

<table>
<thead>
<tr>
<th>Frame</th>
<th>Tolerance</th>
<th>Frame</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>+/- 0.6 mm</td>
<td>T</td>
<td>On request</td>
</tr>
<tr>
<td>L/S+</td>
<td>+/- 1.2 mm</td>
<td>P+</td>
<td>+/- 2.5 mm</td>
</tr>
<tr>
<td>M+</td>
<td>+/- 0.6 mm</td>
<td>QCH</td>
<td>+/- 0.6 mm</td>
</tr>
</tbody>
</table>

MAXIMUM PERMISSIBLE ANGLE DEVIATION WHEN MATING

OUR TEAM IS HAPPY TO ANSWER ANY ENQUIRIES YOU MAY HAVE.
NOTE: AUTOMATIC DOCKING SYSTEMS

- The pin piece of the ODU-MAC® S is to be fixed with the accompanying centering sockets and has mounted floating.
- The guiding system of the ODU-MAC® requires additional guiding hardware for the system.
- The maximum permissible gap between socket and pin pieces is 0.5 mm as standard. Extension with long contact pins is possible.
- An alignment system (e.g. guide rails, etc.) is necessary to achieve high mating cycles. The max. permissible alignment error is, for example, with the ODU-MAC® S frame, less than +/- 0.6 mm radial.
- Strain relief for the cables/braids must be provided by the customer or use our strain relief housing see page 40.

FAILURE TO OBSERVE THESE SPECIFICATIONS MAY RESULT IN DAMAGE.
ODU-MAC® S (STANDARD)

Standard solutions for docking applications

TECHNICAL DATA

- Tolerance compensation:
  - Axial play: 0.2 mm
  - Radial play: ± 0.6 mm
- Pin piece floating supported
- Minimum 100,000 mating cycles

Non-magnetic version available upon request

<table>
<thead>
<tr>
<th>Description</th>
<th>Part number</th>
<th>Dim. A</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin frame</td>
<td>611.020.0___600.000</td>
<td>10</td>
<td></td>
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<tr>
<td>Socket frame</td>
<td>610.020.0___600.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pin frame</td>
<td>611.021.0___600.000</td>
<td>12.5</td>
<td></td>
</tr>
<tr>
<td>Socket frame</td>
<td>610.020.0___600.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pin frame</td>
<td>611.025.0___600.000</td>
<td>21</td>
<td>Model with long guiding pins</td>
</tr>
<tr>
<td>Socket frame</td>
<td>610.020.0___600.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pin frame</td>
<td>611.050.0___600.000</td>
<td>10</td>
<td>With labeling</td>
</tr>
<tr>
<td>Socket frame</td>
<td>610.050.0___600.000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

L = Number of units × 2.54
--- = Here please register number of desired units (03 to 60, above 61 on request)
ODU-MAC® L (LARGE)

Frame with higher tolerance compensation and reinforced guiding bushes as well as extended guiding pins

TECHNICAL DATA
- Tolerance compensation:
  Axial play: 0.4 mm
  Radial play: +/- 1.2 mm
- Double-sided floating supported
- Minimum 100,000 mating cycles

Non-magnetic version available upon request

<table>
<thead>
<tr>
<th>Description</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin frame</td>
<td>611.009.0__600.000</td>
</tr>
<tr>
<td>Socket frame</td>
<td>610.009.0__600.000</td>
</tr>
</tbody>
</table>

L = Number of units \times 2.54

__ = Here please register number of desired units
(03 to 60, above 61 on request)
ODU-MAC® S+ (SPECIAL)

The new standard for docking tasks with optional PE transmission

**TECHNICAL DATA**
- Tolerance compensation:
  - Axial play: 0.4 mm
  - Radial play: +/- 1.2 mm
- Double-sided floating supported
- Minimum 100,000 mating cycles
- Optional PE transmission see page 33

Non-magnetic version available upon request

**NOT COMPATIBLE WITH ODU-MAC® S FRAME**

**Table of Contents**
DOCKING FRAME

PE TRANSMISSION FOR ODU-MAC® S+ (SPECIAL)

TECHNICAL DATA
- Tolerance compensation:
  - Axial play: 0.4 mm
  - Radial play: +/- 1.2 mm
- Minimum 100,000 mating cycles
- Double-sided version (redundant)
- Surface: nickel-plated

Non-magnetic version available upon request

Max. 6 mm² lug connection for PE transmission

<table>
<thead>
<tr>
<th>Part number</th>
<th>Connection threads</th>
</tr>
</thead>
<tbody>
<tr>
<td>190.270.001.000.000</td>
<td>M4</td>
</tr>
</tbody>
</table>

GROUNDING KIT MOUNTED

GROUNDING KIT MOUNTED

GROUNDING KIT MOUNTED

GROUNDING KIT MOUNTED

CONTACT RESISTANCE COMPLIANT WITH < 0.1 Ω STANDARD

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ODU-MAC® M+ (MINI)

Compact design with minimal space requirements and optional PE transmission

TECHNICAL DATA
- Tolerance compensation:
  - Axial play: 0.4 mm
  - Radial play: +/- 0.6 mm
- Double-sided floating supported
- Minimum 100,000 mating cycles
- Optional PE transmission see page 35

Non-magnetic version available upon request

Table of Contents

<table>
<thead>
<tr>
<th>Description</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin frame</td>
<td>611.716.0___600.000</td>
</tr>
<tr>
<td>Socket frame</td>
<td>610.716.0___600.000</td>
</tr>
</tbody>
</table>

L = Number of units × 2.54
--- = Here please register number of desired units
   (03 to 60, above 61 on request)

NOT COMPATIBLE WITH ODU-MAC® M FRAME
PE TRANSMISSION FOR ODU-MAC® M+(MINI)

TECHNICAL DATA

- Tolerance compensation:
  - Axial play: 0.4 mm
  - Radial play: +/- 0.6 mm
- Minimum 100,000 mating cycles
- Double-sided version (redundant)
- Surface: nickel-plated

Non-magnetic version available upon request

<table>
<thead>
<tr>
<th>Part number</th>
<th>Connection threads</th>
</tr>
</thead>
<tbody>
<tr>
<td>190.270.001.000.000</td>
<td>M4</td>
</tr>
</tbody>
</table>

Max. 6 mm² lug connection for PE transmission

CONTACT RESISTANCE COMPLIANT WITH < 0.1 Ω STANDARD
DOCKING FRAME

ODU-MAC® P+ (POWER)

The frame for highest requirements by a reinforced frame design, high tolerance compensation +/- 2.5 mm

TECHNICAL DATA

- Tolerance compensation:
  - Axial play: 1 mm
  - Radial play: +/- 2.5 mm
- Double-sided floating supported
- Advisable for modules with contact diameter > 5 mm and frame length > 40 units (depending on configuration)
- Contact diameter > 8 mm: this frame has to be used
- Minimum 100,000 mating cycles
- Optional PE transmission see page 37

Non-magnetic version available upon request

SOCKET FRAME WITH GUIDING BUSHES
PIN FRAME WITH GUIDING PIN
PANEL CUT-OUT

<table>
<thead>
<tr>
<th>Description</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin frame</td>
<td>611.730.0-600.000</td>
</tr>
<tr>
<td>Socket frame</td>
<td>610.730.0-600.000</td>
</tr>
</tbody>
</table>

L = Number of units × 2.54
--- = Here please register number of desired units
(05 to 60 in steps of 5, above 61 on request)

ODU-MAC® P+ FRAME WITHOUT OPTIONAL PE TRANSMISSION BACKWARDS COMPATIBLE WITH ODU-MAC® P FRAME
DOCKING FRAME

PE TRANSMISSION FOR ODU-MAC® P+ (POWER)

TECHNICAL DATA
- Tolerance compensation:
  - Axial play: 1 mm
  - Radial play: +/- 2.5 mm
- Minimum 100,000 mating cycles
- Double-sided version (redundant)
- Surface: Ag

Non-magnetic version available upon request

<table>
<thead>
<tr>
<th>Part number</th>
<th>Connection threads</th>
</tr>
</thead>
<tbody>
<tr>
<td>174.100.100.201.100</td>
<td>M5</td>
</tr>
</tbody>
</table>

Max. 10 mm² lug connection for PE transmission

GROUNDBITING KIT MOUNTED

GROUNDBITING KIT MOUNTED

TECHNICAL DATA
- Tolerance compensation:
  - Axial play: 1 mm
  - Radial play: +/- 2.5 mm
- Minimum 100,000 mating cycles
- Double-sided version (redundant)
- Surface: Ag

Non-magnetic version available upon request

<table>
<thead>
<tr>
<th>Part number</th>
<th>Connection threads</th>
</tr>
</thead>
<tbody>
<tr>
<td>180.100.000.301.100</td>
<td>M5</td>
</tr>
</tbody>
</table>

Max. 10 mm² lug connection for PE transmission

CONTACT RESISTANCE COMPLIANT WITH < 0.1 Ω STANDARD

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ODU-MAC® T (TRANSVERSE)

Transverse frame, for when a low installation height is required

TECHNICAL DATA

- Installation even in housing solution

These models are available on request. Technical specifications have to be clarified in detail.

Standard non-magnetic

<table>
<thead>
<tr>
<th>Part number</th>
<th>Part number</th>
<th>Dim. L</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin frame</td>
<td>Socket frame</td>
<td>mm</td>
<td></td>
</tr>
<tr>
<td>611.055.029.303.600</td>
<td>610.055.029.103.600</td>
<td>7.62</td>
<td>3 x 2</td>
</tr>
<tr>
<td>611.055.029.304.600</td>
<td>610.055.029.104.600</td>
<td>10.16</td>
<td>4 x 2</td>
</tr>
<tr>
<td>611.055.029.305.600</td>
<td>610.055.029.105.600</td>
<td>12.7</td>
<td>5 x 2</td>
</tr>
<tr>
<td>611.055.029.306.600</td>
<td>610.055.029.106.600</td>
<td>15.24</td>
<td>6 x 2</td>
</tr>
<tr>
<td>611.055.029.307.600</td>
<td>610.055.029.107.600</td>
<td>17.78</td>
<td>7 x 2</td>
</tr>
<tr>
<td>611.055.029.308.600</td>
<td>610.055.029.108.600</td>
<td>20.32</td>
<td>8 x 2</td>
</tr>
<tr>
<td>611.055.029.309.600</td>
<td>610.055.029.109.600</td>
<td>22.86</td>
<td>9 x 2</td>
</tr>
<tr>
<td>611.055.029.310.600</td>
<td>610.055.029.110.600</td>
<td>25.4</td>
<td>10 x 2</td>
</tr>
</tbody>
</table>

PANEL CUT-OUT
ODU-MAC® QCH (QUICK CHANGE HEAD)
Frames for the highest mating cycle requirements (connector saver), with an extremely low maintenance downtime and expense, thanks to easily replaceable exchange components.

**TECHNICAL DATA**
- Tolerance compensation:
  - Axial play: 0.2 mm
  - Radial play: +/– 0.6 mm
- Pin piece floating supported
- Unlimited number of mating cycles (min. 100,000 mating cycles)
- Replacement of the interchange parts without assembly effort

These models are available on request. Technical specifications have to be clarified in detail.

Non-magnetic version available upon request.

**FRAMES FOR THE QUICK CHANGE HEAD SYSTEM**
The standard ODU-MAC® S docking frames can be used for the connector saver. ODU-MAC® L, S+ and P+ docking frames upon request. (M+ frame is not possible.)

**MODULES AND CONTACTS FOR THE QUICK CHANGE HEAD SYSTEM**
All modules with depths not exceeding 19 mm can be used in the connector saver system. PCB contacts are installed in pieces 2 and 3. All socket contacts (crimp and PCB termination) suitable for pieces 2 and 3 can be used in pieces 1 and 4.

The quick change head (connector saver) consists of 4 frames. Pin and socket frames are disconnected or connected when disconnecting or connecting between the second and third frame.

Pieces 1 and 2 or 3 and 4 always remain together.

In the event of damage or wear to the contacts, both replacement parts 2 and 3 are disconnected from pieces 1 and 4 and can be quickly and easily replaced with the new replacement parts without time spent on assembly. The connection is ready to use again within a matter of seconds.

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**Description** | **Part number**
--- | ---
Part 1: Base part incl. distance piece | 610.026.0__600.000
Part 2: Socket frame – interchange part | 610.020.0__600.000
Part 3: Pin frame – interchange part | 611.021.0__600.000
Part 4: Base part incl. distance piece | 610.026.0__600.000
Distance piece as a spare part | 610.026.201.304.000

**Description** | **Part number**
--- | ---
Part 1: Base part | 610.027.0__600.000
Part 2: Socket frame – interchange part | 610.020.0__600.000
Part 3: Pin frame – interchange part | 611.021.0__600.000
Part 4: Base part | 611.027.0__600.000
ODU-MAC® SILVER-LINE STRAIN RELIEF HOUSING

The accessories for docking solutions

APPLYICATION EXAMPLE

Graphic shows optional cable clamp, it is not automatically in the scope of delivery included. Additional M32 cable clamps can be placed by the customer.

TECHNICAL DATA

- Material: aluminum
- Operating temperature: −40 °C to +125 °C
- Protection class¹ can be adjusted individually
- Cable clamps, see page 186
- Locknut for cable clamp see page 186

CHARACTERISTICS

- Resistant and compact
- Protection of the termination area
- Individual strain-relief variations, cable entries as well as grounding connections
- Suitable for all ODU-MAC® docking frames
- 6 standard lengths, compatible with all ODU-MAC® docking frame varieties (further lengths available on request)
- Optional fixing of the PCBs and components in the protected interior
- ODU logo included as a standard; customer logo can also be delivered upon request

¹A higher protection class is possible for additional sealing of the housing.