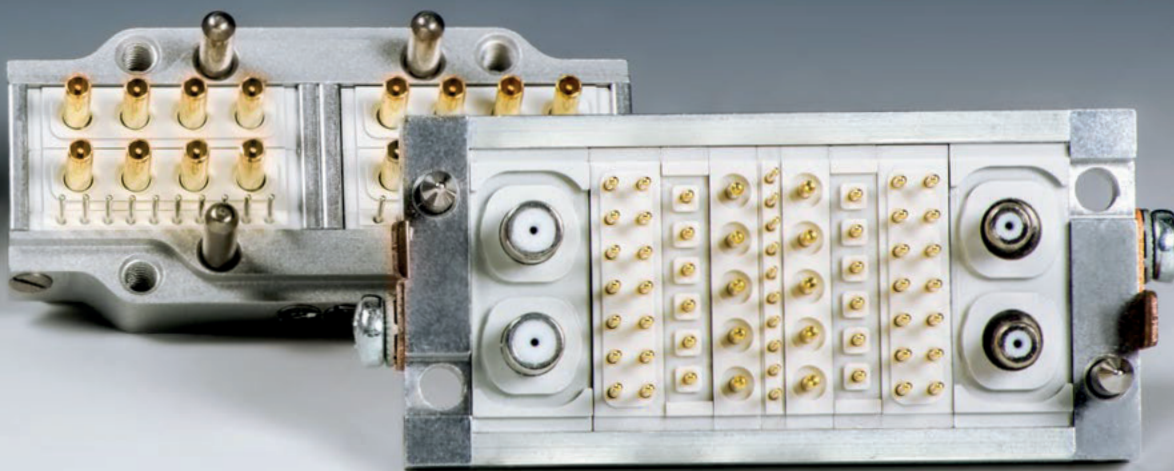




CONFIGURE THE ODU-MAC®
SIMPLY ONLINE AT WWW.ODU-MAC.COM

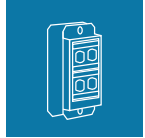
ODU-MAC®



ODU-MAC[®] – AUTOMATIC DOCKING.

System requirements and tolerances	<u>28</u>
ODU-MAC [®] S (Standard)	<u>30</u>
ODU-MAC [®] L (Large)	<u>31</u>
ODU-MAC [®] S+ (Special)	<u>32</u>
ODU-MAC [®] M+ (Mini)	<u>34</u>
ODU-MAC [®] P+ (Power)	<u>36</u>
ODU-MAC [®] T (Transverse)	<u>38</u>
ODU-MAC [®] QCH (Quick Change Head)	<u>39</u>
ODU-MAC [®] Silver-Line strain relief housing	<u>40</u>

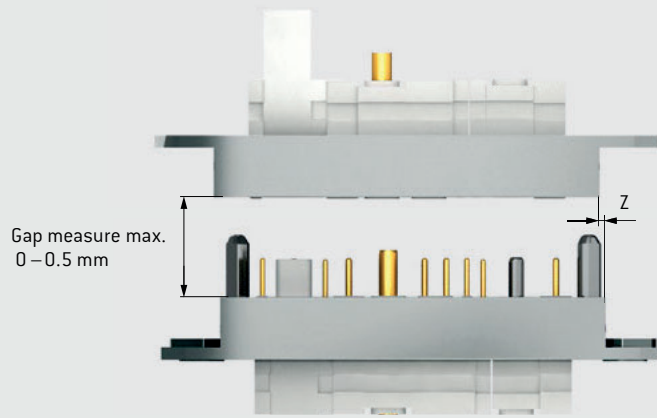
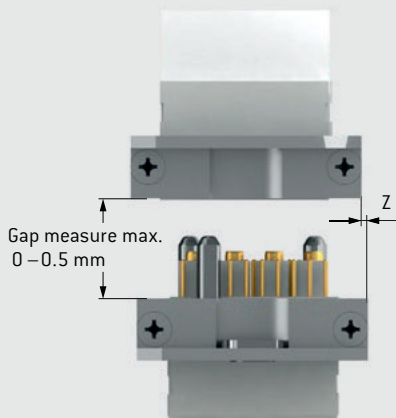
SYSTEM REQUIREMENTS AND TOLERANCES



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)

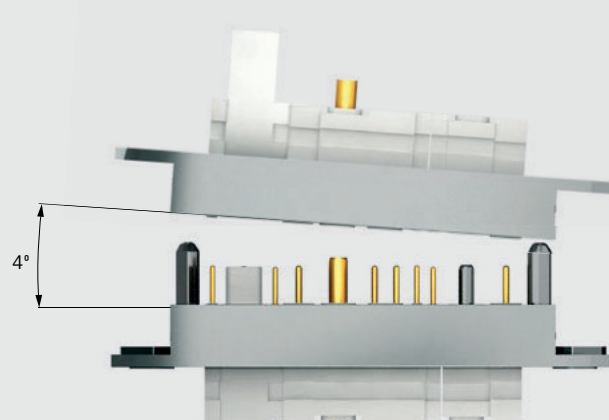
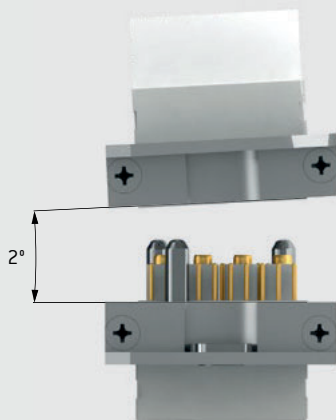


Frame	Tolerance
	Z
S	+/- 0.6 mm
L/S+	+/- 1.2 mm
M+	+/- 0.6 mm

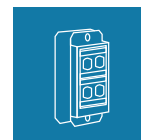
Frame	Tolerance
	Z
T	On request
P+	+/- 2.5 mm
QCH	+/- 0.6 mm

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

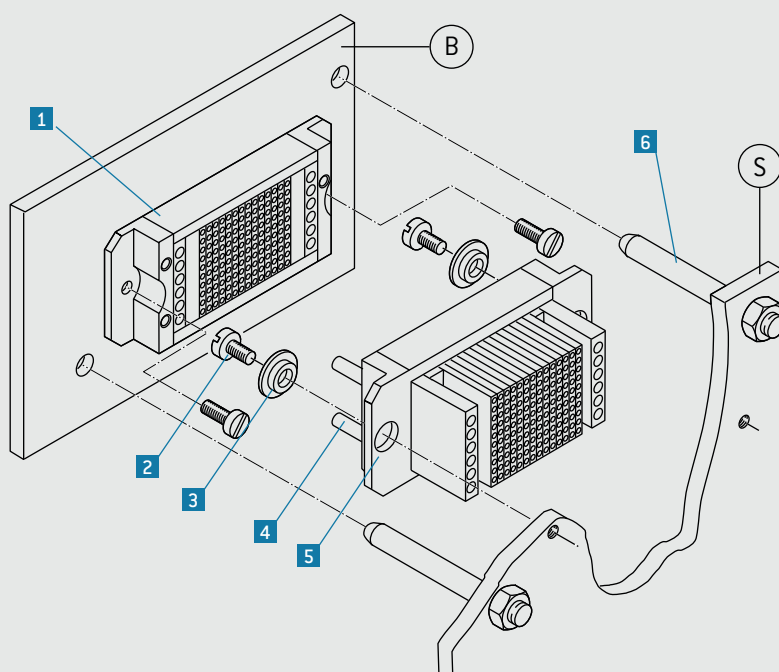
MAXIMUM PERMISSIBLE ANGLE DEVIATION WHEN MATING



OUR TEAM IS HAPPY TO ANSWER ANY ENQUIRIES YOU MAY HAVE.



EXAMPLE OF AN S FRAME SYSTEM (MECHANICAL REQUIREMENTS)



Strain relief for cables/braids must be provided by the customer. Draw your attention to our strain relief housing page [40](#).

- 1 ODU-MAC® socket piece (fixed) (screwed tight without play to wall B)
- 2 Fastening screw
- 3 Tolerance compensation in the example of an S frame:
Axial play: 0.2 mm
Radial play: ± 0.6 mm
- 4 Pins for self-centering of ODU-MAC®
- 5 ODU-MAC® pin piece (floating) (with play via centering socket; screwed tight to wall S)
- 6 Pin for guiding walls B and S (customer performance)

The values for the connected condition [pin S in B] result from the axial play of the centering sockets.

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



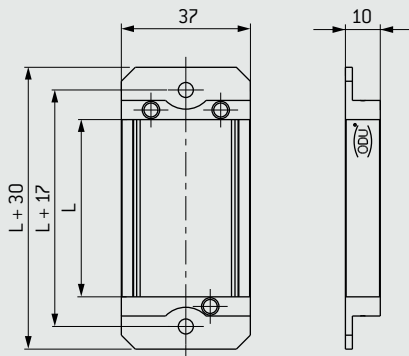
TECHNICAL DATA

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

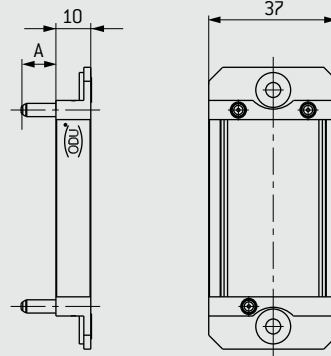


Non-magnetic version available upon request

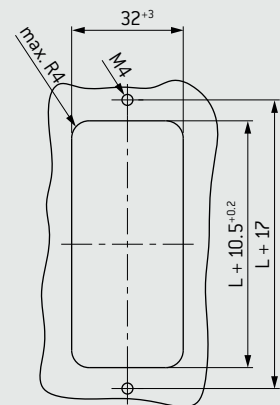
SOCKET FRAME WITH GUIDING HOLE



PIN FRAME WITH GUIDING PIN



PANEL CUT-OUT



Description	Part number	Dim. A	Note
Pin frame	611.020.0__600.000	10	
Socket frame	610.020.0__600.000		
Pin frame	611.021.0__600.000	12.5	
Socket frame	610.020.0__600.000		
Pin frame	611.025.0__600.000	21	Model with long guiding pins
Socket frame	610.020.0__600.000		
Pin frame	611.050.0__600.000	10	With labeling
Socket frame	610.050.0__600.000		

L = Number of units $\times 2.54$

__ = 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

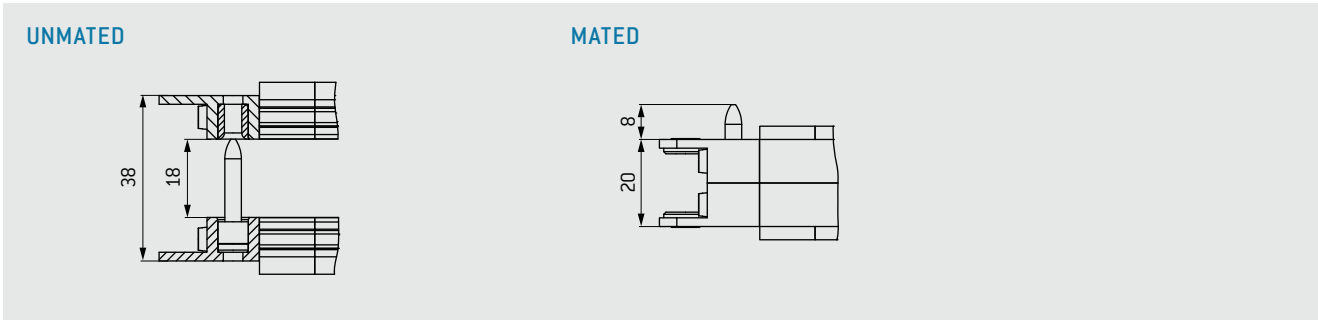
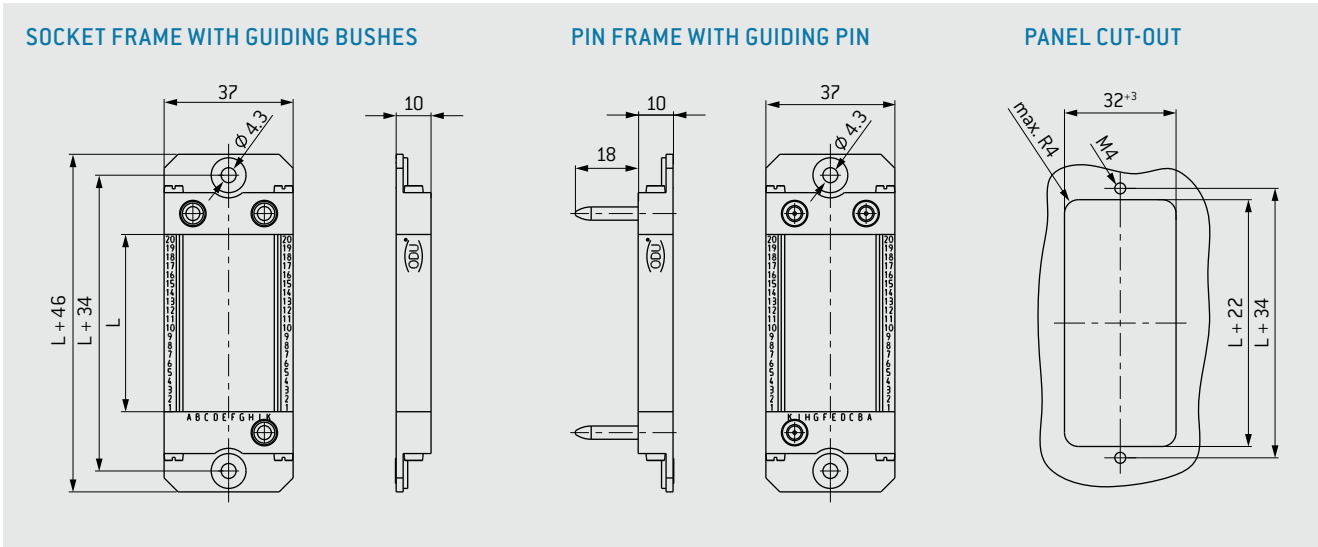


TECHNICAL DATA

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



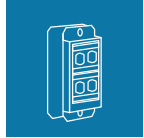
Non-magnetic version available upon request



Description	Part number
Pin frame	611.009.0__600.000
Socket frame	610.009.0__600.000

L = Number of units × 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



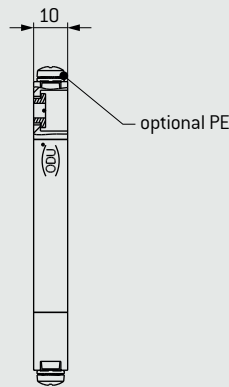
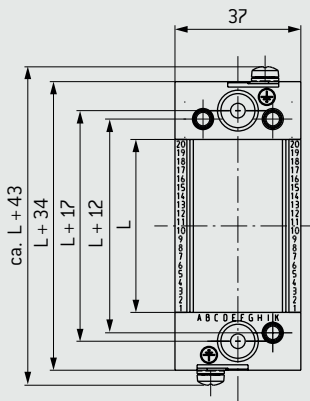
TECHNICAL DATA

- 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

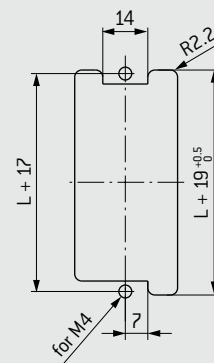


Non-magnetic version available upon request

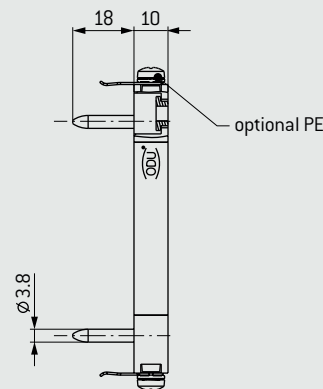
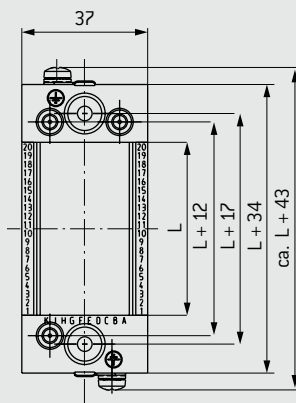
SOCKET FRAME WITH GUIDING HOLE



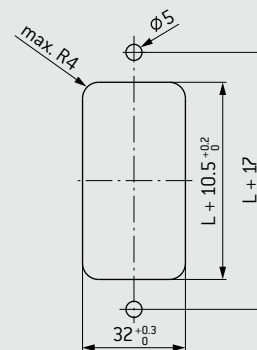
PANEL CUT-OUT



PIN FRAME WITH GUIDING PIN



PANEL CUT-OUT

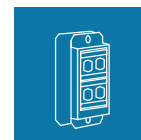


Description	Part number
Pin frame	611.750.0__600.000
Socket frame	610.750.0__600.000

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® S FRAME

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



GROUNDING KIT FOR S+ SOCKET FRAME



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

GROUNDING KIT MOUNTED



Part number	Connection threads
190.270.001.000.000	M4

Max. 6 mm² lug connection for PE transmission

GROUNDING KIT FOR S+ PIN FRAME



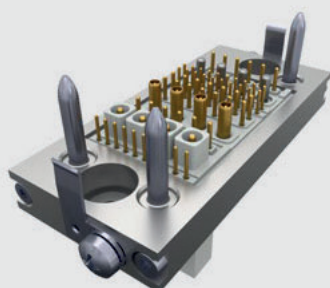
TECHNICAL DATA

- 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

GROUNDING KIT MOUNTED

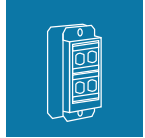


Part number	Connection threads
190.270.002.000.000	M4

Max. 6 mm² lug connection for PE transmission

CONTACT RESISTANCE COMPLIANT WITH < 0.1 Ω STANDARD

ODU-MAC® M+ (MINI)



Compact design with minimal space requirements and optional PE transmission



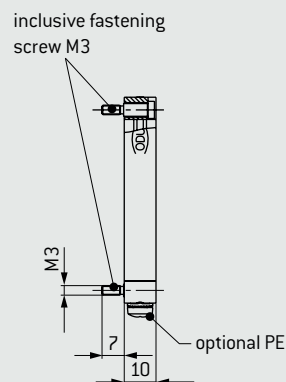
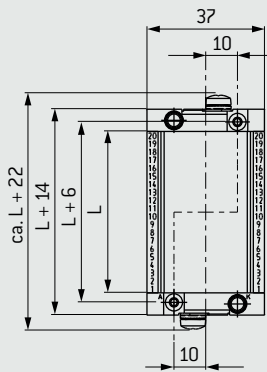
TECHNICAL DATA

- 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](#)

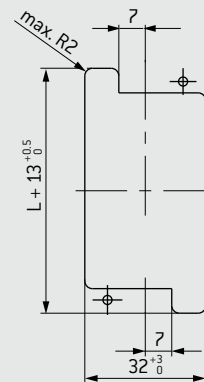


Non-magnetic version available upon request

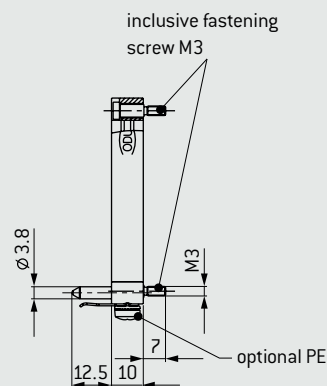
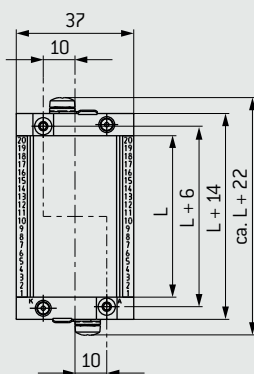
SOCKET FRAME WITH GUIDING HOLE



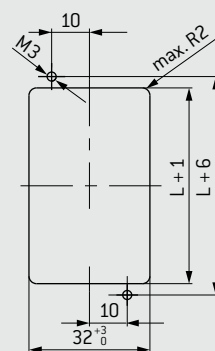
PANEL CUT-OUT



PIN FRAME WITH GUIDING PIN



PANEL CUT-OUT



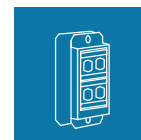
Description	Part number
Pin frame	611.716.0__600.000
Socket frame	610.716.0__600.000

L = Number of units \times 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)



GROUNDING KIT FOR M+ SOCKET FRAME



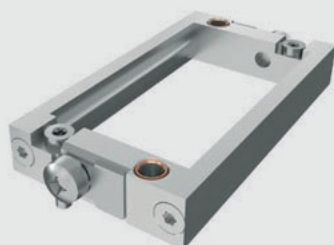
TECHNICAL DATA

- 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

GROUNDING KIT MOUNTED



Part number	Connection threads
190.270.001.000.000	M4

Max. 6 mm² lug connection for PE transmission

GROUNDING KIT FOR M+ PIN FRAME



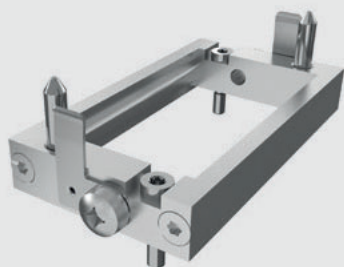
TECHNICAL DATA

- 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 on request.

GROUNDING KIT MOUNTED

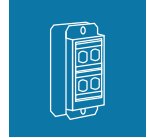


Part number	Connection threads
190.270.002.000.000	M4

Max. 6 mm² lug connection for PE transmission

CONTACT RESISTANCE COMPLIANT WITH < 0.1 Ω STANDARD

ODU-MAC® P+ (POWER)



The frame for highest requirements by a reinforced frame design,
high tolerance compensation ± 2.5 mm



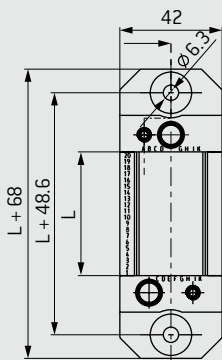
TECHNICAL DATA

- 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](#)

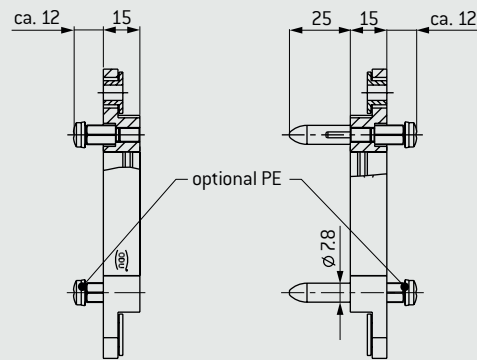


Non-magnetic version available upon request

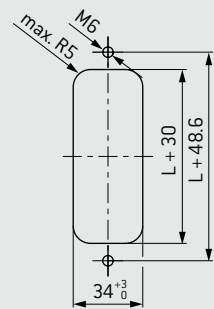
SOCKET FRAME WITH GUIDING BUSHES



PIN FRAME WITH GUIDING PIN



PANEL CUT-OUT



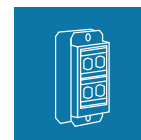
Description	Part number
Pin frame	611.730.0 __.600.000
Socket frame	610.730.0 __.600.000

L = Number of units $\times 2.54$

__ = 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

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



GROUNDING KIT FOR P+ SOCKET FRAME



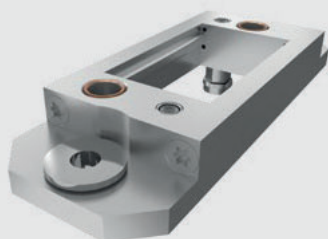
TECHNICAL DATA

- 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

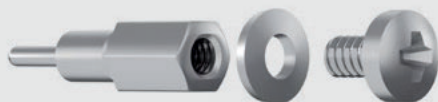
GROUNDING KIT MOUNTED



Part number	Connection threads
174.100.100.201.100	M5

Max. 10 mm² lug connection for PE transmission

GROUNDING KIT FOR P+ PIN FRAME



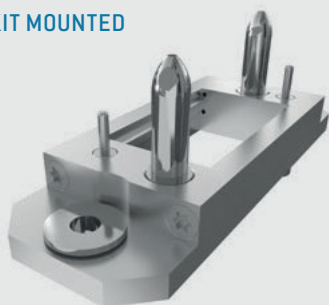
TECHNICAL DATA

- 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

GROUNDING KIT MOUNTED



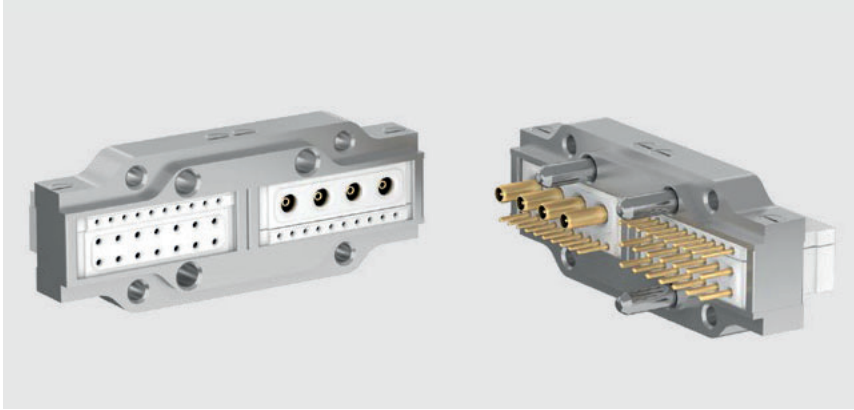
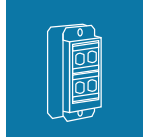
Part number	Connection threads
180.100.000.301.100	M5

Max. 10 mm² lug connection for PE transmission

CONTACT RESISTANCE COMPLIANT WITH < 0.1 Ω STANDARD

ODU-MAC® T (TRANSVERSE)

Transverse frame, for when a low installation height is required



TECHNICAL DATA

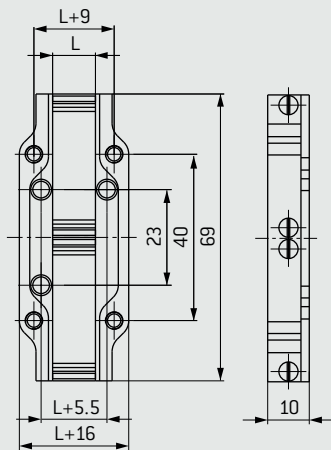
- Installation even in housing solution

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

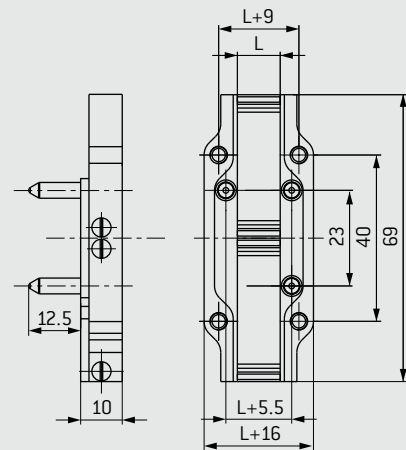


Standard non-magnetic

SOCKET FRAME WITH GUIDING HOLE

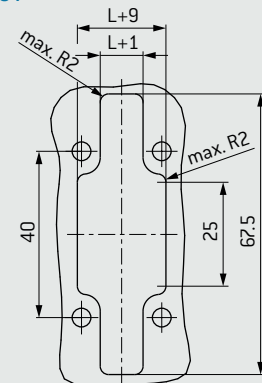


PIN FRAME WITH GUIDING PIN



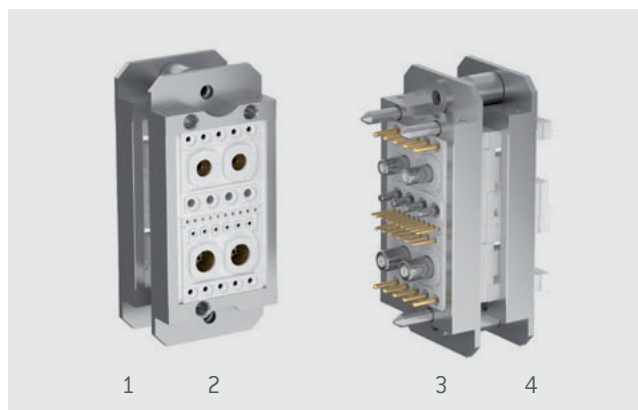
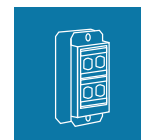
Part number Pin frame	Part number Socket frame	Dim. L mm	Units
611.055.029.303.600	610.055.029.103.600	7.62	3 × 2
611.055.029.304.600	610.055.029.104.600	10.16	4 × 2
611.055.029.305.600	610.055.029.105.600	12.7	5 × 2
611.055.029.306.600	610.055.029.106.600	15.24	6 × 2
611.055.029.307.600	610.055.029.107.600	17.78	7 × 2
611.055.029.308.600	610.055.029.108.600	20.32	8 × 2
611.055.029.309.600	610.055.029.109.600	22.86	9 × 2
611.055.029.310.600	610.055.029.110.600	25.4	10 × 2

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

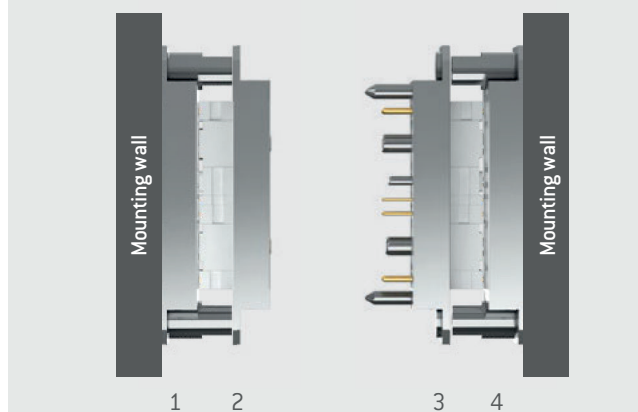
- Tolerance compensation:
Axial play: 0.2 mm
Radial play: +/- 0.6 mm
- Pin piece floating supported
- Unlimited number of mating cycles (min. 100,000 mating cycles)
- Replacement of the interchangeable parts without assembly effort

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

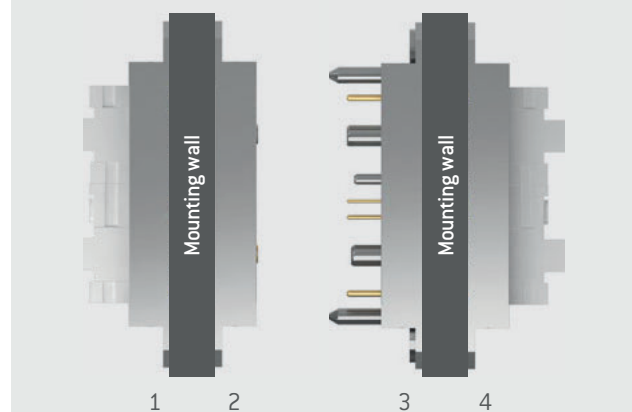


Non-magnetic version available upon request

MOUNTING WALL BACK



MOUNTING WALL CENTRAL – FOR WALL THICKNESS 10 mm



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

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.

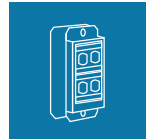
FRAMES FOR THE QUICK CHANGE HEAD SYSTEM

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.

ODU-MAC® SILVER-LINE STRAIN RELIEF HOUSING

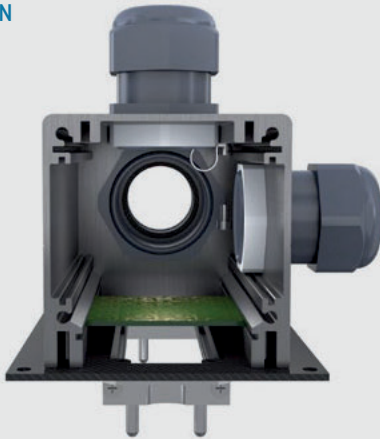


The accessories for docking solutions



Graphic shows optional cable clamp, it is not automatically in the scope of delivery included.

APPLICATION EXAMPLE



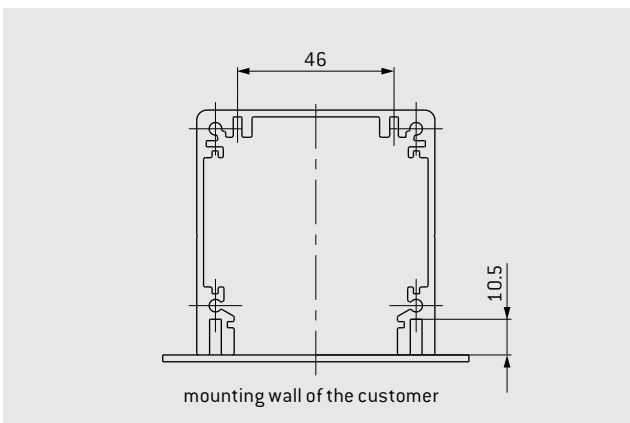
Graphic shows optional cable clamp, it is not automatically in the scope of delivery included. Additional M32 cable clamps can be placed by the customer.

TECHNICAL DATA

- Material: aluminum
- Operating temperature: -40 °C to $+125\text{ °C}$
- 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.