ODU-MAC® White-Line

min. 100,000 mating cycles

Manual mating

HDMI

ODU HIGH SPEED DATA TECHNOLOGY

Available with **cable assembly!**

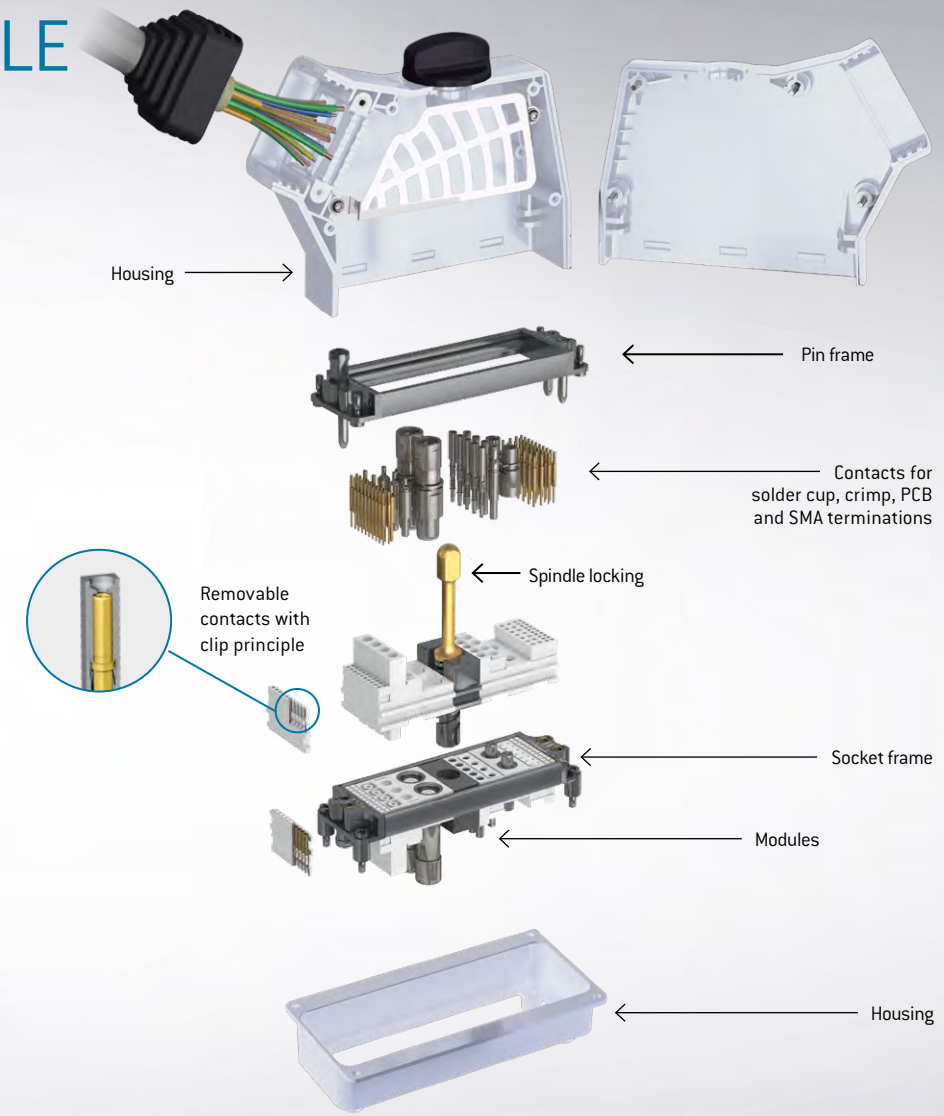
www.odu-connectors.com

THE MODULAR PRINCIPLE

CONVINCING – THE ODU-MAC® WHITE-LINE SYSTEM

- High vibration resistance
- > 30 high-speed inserts in the field of data technology
- Robust housing desgins for demanding environments
- Constantly low contact resistance
- Numerous locking options (e.g. snap-in, spindle, lever)
- White housing variants available
- Non-magnetic version possible
- Including cable assembly

>100,000
mating cycles
and more



YOUR HYBRID CONNECTION

MANUAL MATING

4 TYPES OF LOCKING

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

VERSATILE HOUSING SOLUTIONS

Then select the plastic or metal housing best suited to your requirements: **cable hood, cable hood XXL, cable hood wide, RAPID or ZERO housing (with 90°, 45° or 0° exit)**.

RECEPTACLE SELECTION

Depending on your requirements you choose between **bulkhead mounted housing, surface mounted housing, cable-to-cable hood, ZERO receptacle / in-line receptacle.**

CABLE ASSEMBLY

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

Configure your connector online
www.odu-mac.com

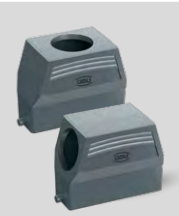
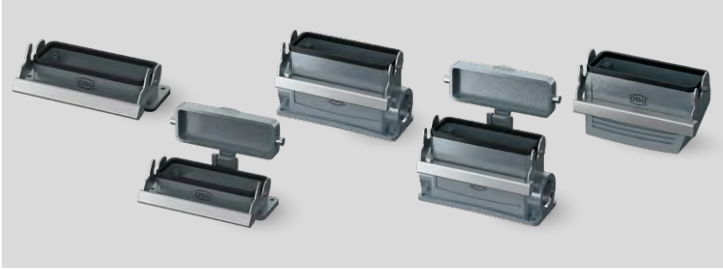
HOUSING SELECTION – PLASTIC

ODU-MAC® SPINDLE LOCKING

Connector housing		 ODU-MAC® ZERO			 ODU-MAC® RAPID
Locking		Snap-in	Transverse	Spindle	Spindle
Size / Type	Units*				
ZERO	9	•	–	–	–
1	10	–	•	–	–
2	16	–	•	•	•
3	24	–	•	•	–
4	34	–	•	•	•
Protective cover available (for connector & receptacle)		•	•	•	•
Receptacle					

*1 Unit = 2.54 mm

HOUSING SELECTION – METAL

Connector housing								
Locking		Lever	Lever	Lever	Spindle			
Size / Type	Units*							
1	10	•	–	–	•	•	•	–
2	16	•	–	–	•	•	•	–
3	24	•	–	–	•	•	•	–
4	34	•	•	–	•	•	•	•
5	2 x 24	–	–	•	–	–	–	–
6	2 x 34	–	–	•	–	–	–	–
Protective cover available (for connector & receptacle)		•	•	only receptacle	only Gray			
Receptacle								

*1 Unit = 2.54 mm

VARIOUS LOCKING OPTIONS

Snap-in locking

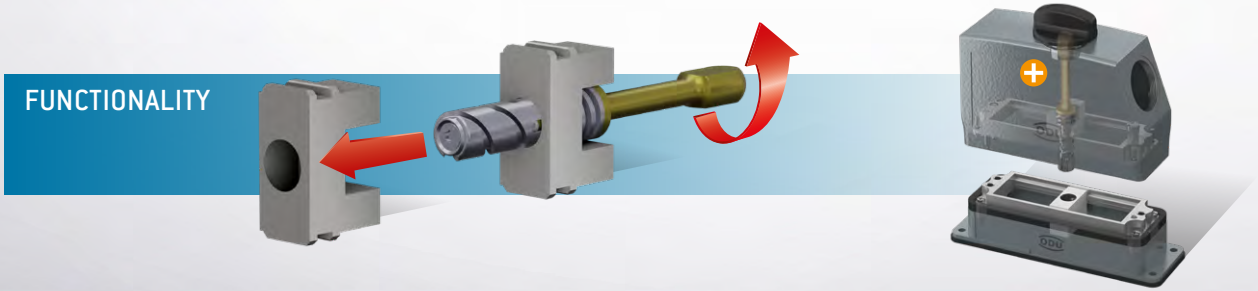
Spindle locking

Transverse locking

Lever locking

SPINDLE LOCKING

Quick-action locking system with up to 30,000 locking cycles. Simple front replacement set (spindle exchange set) enables further mating cycles of the complete system. Module for installation in ODU-MAC® frames for housings.

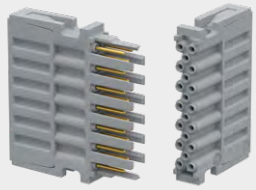
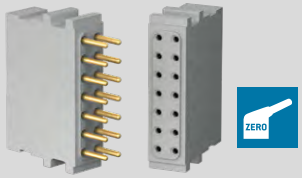
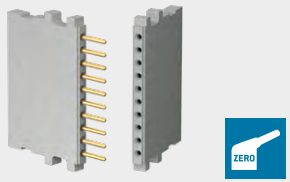
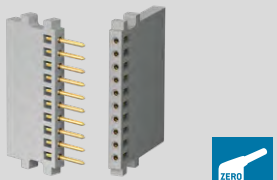


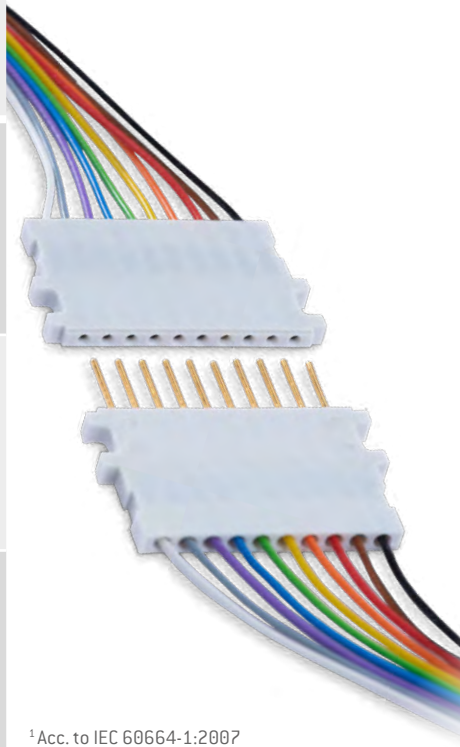

ODU

MODULE OVERVIEW

Non-magnetic

Suitable for use in the ODU-MAC® ZERO.

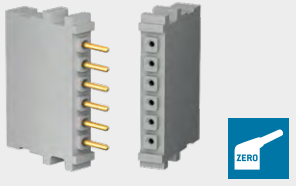
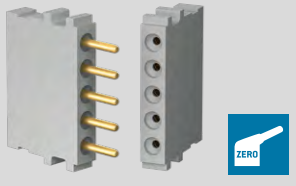
	Modules	Description	Units / width	Features
Signal		20 contacts Contact-Ø: 0.76 mm	2 Unit 5.08 mm	Operating voltage[1] 250 V Rated impulse voltage[1] 1,500 V Max. continuous current 11 A for 0.38 mm² Degree of pollution[1] 2 Mating cycles minimum 100,000 Highest contact density
		14 contacts Contact-Ø: 1.02 mm	3 Units 7.62 mm	Operating voltage[1] 320 V Rated impulse voltage[1] 2,500 V Max. continuous current 13.5 A for 0.5 mm² Degree of pollution[1] 2 Mating cycles minimum 100,000
		10 contacts Contact-Ø: 0.76 mm	1 Unit 2.54 mm	Operating voltage[1] 250 V Rated impulse voltage[1] 1,500 V Max. continuous current 11 A for 0.38 mm² Degree of pollution[1] 2 Mating cycles minimum 100,000
		10 contacts for stamped contacts Contact-Ø: 0.7 mm	1 Unit 2.54 mm	Operating voltage[1] 32 V Rated impulse voltage[1] 1,500 V Max. continuous current 6 A for 0.38 mm² Degree of pollution[1] 2 Mating cycles minimum 5,000 Economical solution



[1] Acc. to IEC 60664-1:2007 (VDE 0110-1:2008-01) for degree of pollution 2.

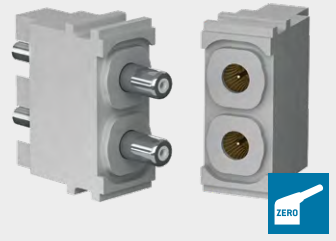
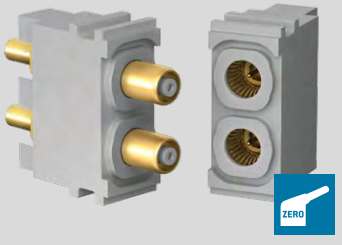
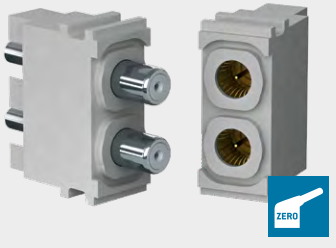
MODULE OVERVIEW

All modules are available pre-assembled, including cable assembly on request.

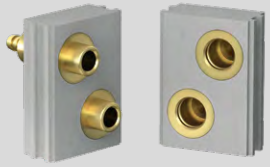
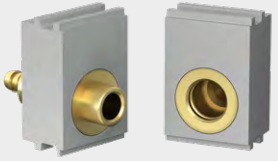
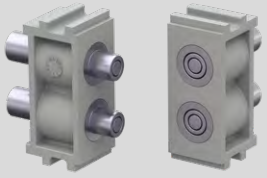
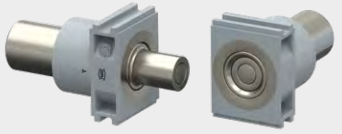
	Modules	Description	Units / width	Features
Signal		6 contacts Contact-Ø: 1.02 mm	2 Units 5.08 mm	Operating voltage[1] 400 V Rated impulse voltage[1] 3,000 V Max. continuous current 13.5 A for 0.5 mm² Degree of pollution[1] 2 Mating cycles minimum 100,000
		5 contacts Contact-Ø: 1.5 mm	2 Units 5.08 mm	Operating voltage[1] 500 V Rated impulse voltage[1] 2,500 V Max. continuous current 27 A for 1.5 mm² Degree of pollution[1] 2 Mating cycles minimum 100,000
RF-signal (coax)		4 contacts for 50 Ω RF-signal (coax) contacts	3 Units 7.62 mm	Frequency range 0 to 1.3 GHz Mating cycles minimum 60,000 High contact density
		2 contacts for 50 Ω RF-signal (coax) contacts SMA termination	5 Units 12.7 mm	Frequency range 0 to 9.0 GHz Mating cycles minimum 100,000 9.0 GHz

[1] Acc. to IEC 60664-1:2007 (VDE 0110-1:2008-01) for degree of pollution 2.

MODULE OVERVIEW

Modules		Description	Units / width	Features	
RF-signal (coax)		2 contacts for 50 Ω RF-signal (coax) contacts	5 Units 12.7 mm	Frequency range Mating cycles	0 to 2.4 GHz minimum 100,000
		2 contacts for 50 Ω RF-signal (coax) contacts	5 Units 12.7 mm	Frequency range Mating cycles High voltage	0 to 2.8 GHz minimum 100,000
		2 contacts for 75 Ω RF-signal (coax) contacts	5 Units 12.7 mm	Frequency range Mating cycles	0 to 3.0 GHz minimum 100,000

MODULE OVERVIEW

Modules		Description	Units / width	Features	
Compressed air and fluid modules		2 contacts for compressed air valves	5 Units 12.7 mm	Tube diameter Mating cycles 20 bar	M5 or max. 4 mm min. 100,000
		2 contacts for compressed air valves	16 Units 40.64 mm	Tube diameter Inner diameter tube Mating cycles 12 bar	max. 6 mm max. 6 mm min. 100,000
		1 contact for compressed air valves	8 Units 20.32 mm	Tube diameter Inner diameter tube Mating cycles 12 bar	max. 6 mm max. 6 mm min. 100,000
		2 contacts for fluid coupling plug	5 Units 12.7 mm	Tube diameter Mating cycles 16 bar	M5 internal thread min. 100,000
		1 contact for fluid coupling plug	9 Units 22.86 mm	Inner diameter tube Mating cycles 25 bar	G1/4 min. 100,000

MODULE OVERVIEW

Shielded implementation / high-speed connector

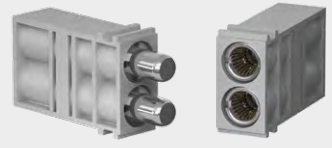
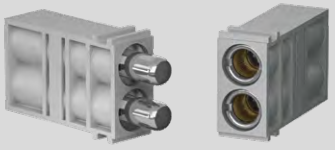
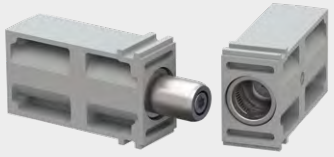
Modules	Description	Units / width	Features
	2 to 10 contacts for inserts size 0	5 Units 12.7 mm	Mating cycles min. 10,000 Suitable for all common bus systems SPE[1] (1 Gbit / s), Ethernet (100 Mbit / s), USB® 3.2 Gen 1x1 (5 Gbit / s)
	2 to 14 contacts for inserts size 1	6 Units 15.24 mm	Suitable for all common bus systems SPE[1] (1 Gbit / s), Ethernet (100 Mbit / s), USB® 3.2 Gen 1x1 (5 Gbit / s) + Mating cycles with ODU TURNTAC® min. 10,000 + Mating cycles with ODU SPRINGTAC® min. 60,000
	4 to 16 contacts for inserts size 2	7 Units 17.78 mm	Suitable for all common bus systems Ethernet (10 Gbit / s), USB® (10 Gbit / s), HDMI® 2.0 (18 Gbit / s), DisplayPort® (40 Gbit / s), HDMI® (48 Gbit / s) + Mating cycles with ODU TURNTAC® min. 10,000 + Mating cycles with ODU SPRINGTAC® min. 60,000
	10 to 30 contacts for inserts size 3	8 Units 20.32 mm	Mating cycles min. 10,000 Suitable for all common bus systems Ethernet

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.

[1] Single Pair Ethernet according to IEC 63171-6:2020(IEEE 802.3bp)

MODULE OVERVIEW

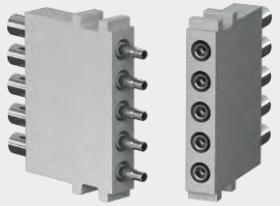
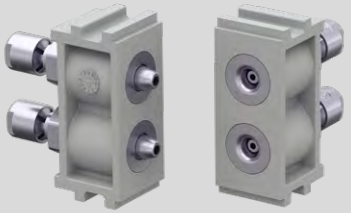
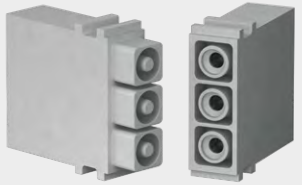
Modules		Description	Units / width	Features		
High-current		2 contacts with ODU SPRINGTAC® [2] Contact-Ø: 8 mm	6 Units 15.24 mm	Operating voltage[1] Rated impulse voltage[1] Max. continuous current Degree of pollution[1] Mating cycles	500 V 3,000 V 142 A for 25 mm² 2 min. 100,000	
		2 contacts with ODU LAMTAC® [3] Contact-Ø: 8 mm	6 Units 15.24 mm	Operating voltage[1] Rated impulse voltage[1] Max. continuous current Degree of pollution[1] Mating cycles	500 V 3,000 V 154 A for 25 mm² 2 min. 10,000	
		1 contact with ODU LAMTAC® [3] Contact-Ø: 10 mm or Contact-Ø: 12 mm	7 Units 17.78 mm for both versions	Model Operating voltage[1] Rated impulse voltage[1] Max. continuous current Degree of pollution[1] Mating cycles ⊕ Highest current	10 mm 500 V 4,000 V 180 A for 35 mm² 2 min. 10.000	12 mm 400 V 3,000 V 225 A for 50 mm² 2 min. 10,000

[1] Acc. to IEC 60664-1:2007 (VDE 0110-1:2008-01) for degree of pollution 2.

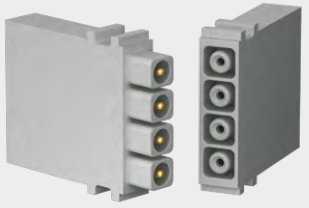
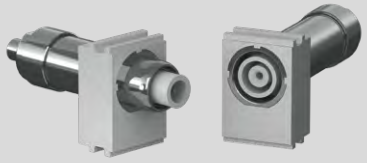
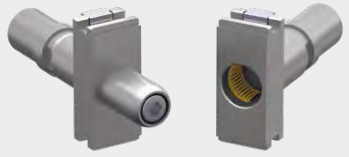
[2] Contact with springwire technology.

[3] Contact with lamella technology.

MODULE OVERVIEW

	Modules	Description	Units / width	Features
Fiber optic		5 contacts for fiber optic POF	2 Units 5.08 mm	Insertion loss typical 1.5 dB for 670 nm Mating cycles minimum 40,000 High contact density
		2 contacts for fiber optic POF	5 Units 12.7 mm	Insertion loss typical 1.5 dB for 670 nm Mating cycles minimum 100,000
		3 contacts for fiber optic GOF	4 Units 10.16 mm	Insertion loss typical 1 dB for 670 nm Mating cycles minimum 100,000

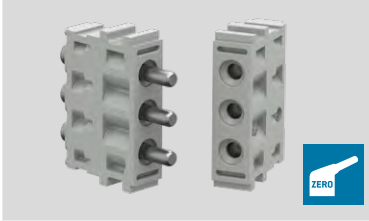
MODULE OVERVIEW

	Modules	Description	Units / width	Features
High-voltage		4 contacts Contact-Ø: 1.5 mm	3 Units 7.62 mm	Operating voltage[1] 2,500 V Rated impulse voltage[1] 10,000 V Max. continuous current 27 A for 1.5 mm² Degree of pollution[1] 2 Mating cycles minimum 100,000 High contact density, high-voltage
		1 contact Contact-Ø: 2 mm	8 Units 20.32 mm	Operating voltage[1] 6,300 V Rated impulse voltage[1] 20,000 V Degree of pollution[1] 2 Mating cycles minimum 10,000 High-voltage
PE		1 contact with ODU LAMTAC®[2] Contact-Ø: 10 mm	5 Units 12.7 mm	Mating cycles minimum 10,000 Conductor cross-section 10 / 16 / 25 mm²

[1] Acc. to IEC 60664-1:2007 (VDE 0110-1:2008-01) for degree of pollution 2.

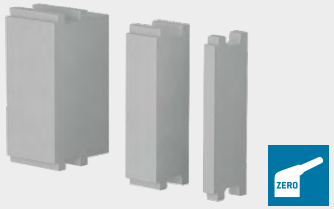
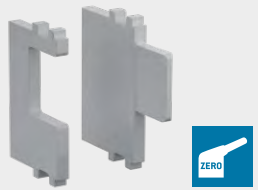
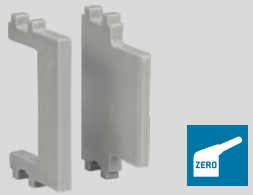
[2] Contact with lamella technology

MODULE OVERVIEW

Modules	Description	Units / width	Features
Power			
	4 contacts Contact-Ø: 2.41 mm	3 Units 7.62 mm	Operating voltage[1] 500 V Rated impulse voltage[1] 3,000 V Max. continuous current 41 A for AWG 12 Degree of pollution[1] 2 Mating cycles minimum 100,000
	3 contacts Contact-Ø: 3 mm	3 Units 7.62 mm	Operating voltage[1] 500 V Rated impulse voltage[1] 3,000 V Max. continuous current 58 A for 6 mm² Degree of pollution[1] 2 Mating cycles minimum 100,000
	3 contacts Contact-Ø: 3 mm	4 Units 10.16 mm	Operating voltage[1] 2,500 V Rated impulse voltage[1] 10,000 V Max. continuous current 58 A for 6 mm² Degree of pollution[1] 2 Mating cycles minimum 100,000 High-voltage
	2 contacts Contact-Ø: 5 mm	5 Units 12.7 mm	Operating voltage[1] 1,000 V Rated impulse voltage[1] 4,000 V Max. continuous current 119 A for 16 mm² Degree of pollution[1] 2 Mating cycles minimum 100,000

[1] Acc. to IEC 60664-1:2007 (VDE 0110-1:2008-01) for degree of pollution 2.

Blank modules/spacer modules / coding modules / pin protection modules

Modules	Description	Units / width	Features
	Blank modules	1 Unit 2.54 mm 3 Units 7.62 mm 5 Units 12.7 mm	Used to fill incomplete frames. Useful to increase the maximum allowed voltage by increasing the clearance and creepage distance.
	Spacer module	1 Unit 2.54 mm 2 Units 5.08 mm 3 Units 7.62 mm 5 Units 12.7 mm	Not equipped with retaining clips. The populated pin modules on mating connectors can still be inserted into these spacers without interference. For information on the individual spacer modules please look at the corresponding modules.
	Coding modules	1 Unit 2.54 mm	Arranged between the modules to create keyed guiding system.
	Pin protection modules	1 Unit 2.54 mm	Used to protect the pins in conjunction with small pin diameters. Useful to increase the maximum allowed voltage by increasing the clearance and creepage distance.

Printed on certified recycled paper.

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.

ODU-MAC® WHITE-LINE / OV / 0125 / EN

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