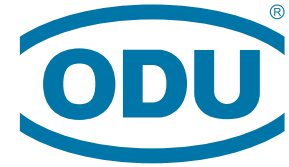


# ODU-MAC<sup>®</sup> **White-Line**



↖ min. 100,000 mating cycles  Manual mating

HDMI      
ODU HIGH SPEED DATA TECHNOLOGY



Available  
with **cable  
assembly!**

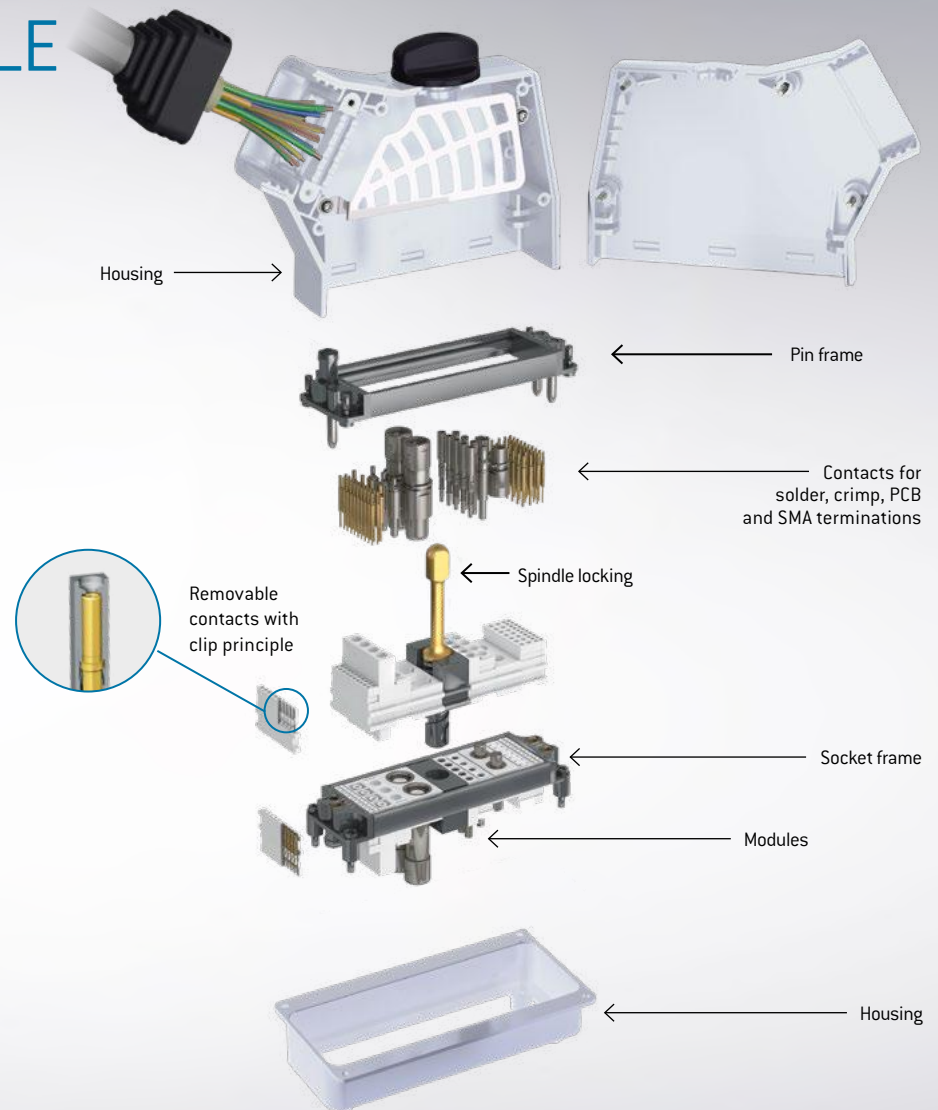
# THE MODULAR PRINCIPLE

## CONVINCING – THE ODU-MAC® WHITE-LINE SYSTEM

- + High vibration resistance
- + > 30 high-speed inserts in the field of data technology
- + Robust housing designs 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**.

# HOUSING SELECTION – PLASTIC

Connector housing							
		ODU-MAC® ZERO				ODU-MAC® RAPID	
Locking		Snap-in	Transverse	Spindle	Spindle		
Size / Type	Units*						
ZERO	9	•	–	–	–	–	–
1	12	–	•	–	–	–	–
2	18	–	•	•	•	•	•
3	26	–	•	•	•	–	–
4	37	–	•	•	•	•	•
5	54	–	–	–	–	–	–
6	74	–	–	–	–	–	–
Protective cover available (for connector & receptacle)		•	•	•	•	•	•
Receptacle							

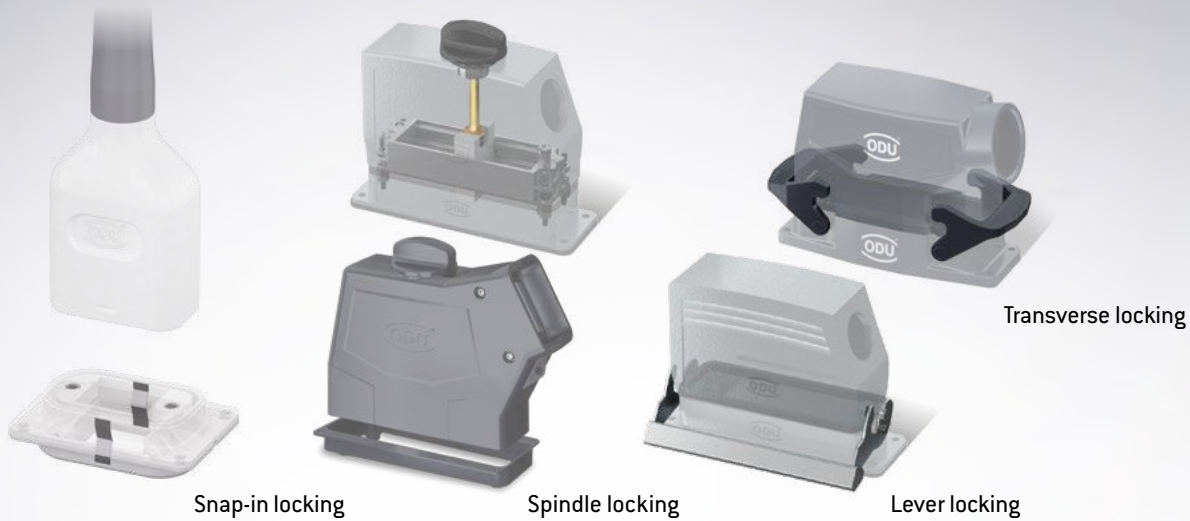
\*1 Unit = 2.54 mm

# HOUSING SELECTION – METAL

Connector housing									
Locking		Lever		Lever	Lever	Spindle			
Size / Type	Units*								
ZERO	9	–	–	–	–	–	–	–	–
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 = 2.54 mm

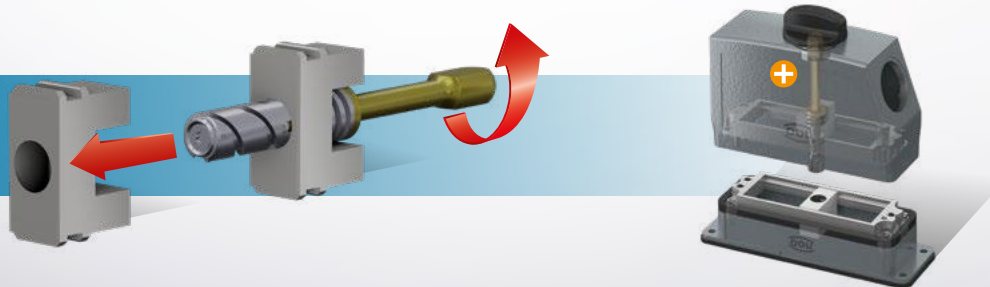
# VARIOUS LOCKING OPTIONS



## 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.

### FUNCTIONALITY







# MODULE OVERVIEW



Non-magnetic

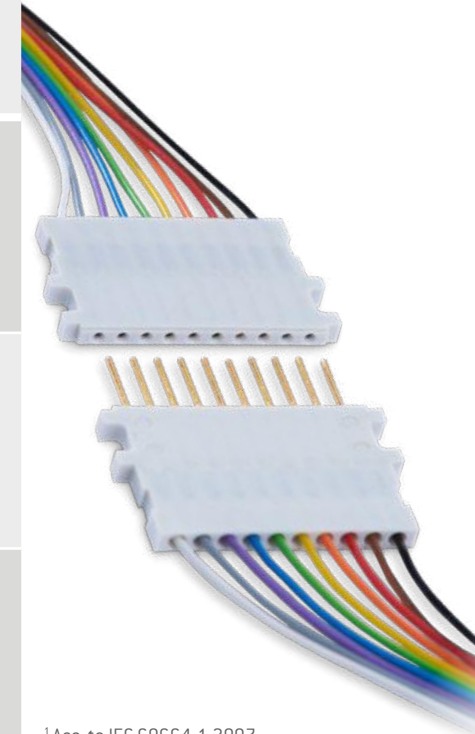


Suitable for use in the ODU-MAC® ZERO.

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

Highest contact density

Economical solution













<sup>1</sup> 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	 5.08 mm	Operating voltage <sup>1</sup> Rated impulse voltage <sup>1</sup> Max. continuous current Degree of pollution <sup>1</sup> Mating cycles	400 V 3,000 V 13.5 A for 0.5 mm <sup>2</sup> 2 minimum 100,000
		5 contacts Contact-Ø: 1.5 mm	 5.08 mm	Operating voltage <sup>1</sup> Rated impulse voltage <sup>1</sup> Max. continuous current Degree of pollution <sup>1</sup> Mating cycles	500 V 2,500 V 27 A for 1.5 mm <sup>2</sup> 2 minimum 100,000
RF-signal (coax)		4 contacts for 50 Ω RF-signal (coax) contacts	 7.62 mm	Frequency range Mating cycles 	0 to 1.3 GHz minimum 60,000
		2 contacts for 50 Ω RF-signal (coax) contacts  SMA termination	 12.7 mm	Frequency range Mating cycles 	0 to 9.0 GHz minimum 100,000

<sup>1</sup> 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 $\Omega$ RF-signal (coax) contacts	 12.7 mm	Frequency range Mating cycles	0 to 2.4 GHz minimum 100,000
		2 contacts for 50 $\Omega$ RF-signal (coax) contacts	 12.7 mm	Frequency range Mating cycles 	0 to 2.8 GHz minimum 100,000
		2 contacts for 75 $\Omega$ RF-signal (coax) contacts	 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	<div style="border: 1px solid black; padding: 5px; display: inline-block;">5 Units</div> 12.7 mm	Tube diameter Mating cycles <span style="background-color: #f96; color: white; padding: 2px 5px; border-radius: 10px;">+ 20 bar</span>	M5 or max. 4 mm min. 100,000
		2 contacts for compressed air valves	<div style="border: 1px solid black; padding: 5px; display: inline-block;">16 Units</div> 40.64 mm	Tube diameter Inner diameter tube Mating cycles <span style="background-color: #f96; color: white; padding: 2px 5px; border-radius: 10px;">+ 12 bar</span>	max. 6 mm max. 6 mm min. 100,000
		1 contact for compressed air valves	<div style="border: 1px solid black; padding: 5px; display: inline-block;">8 Units</div> 20.32 mm	Tube diameter Inner diameter tube Mating cycles <span style="background-color: #f96; color: white; padding: 2px 5px; border-radius: 10px;">+ 12 bar</span>	max. 6 mm max. 6 mm min. 100,000
		2 contacts for fluid coupling plug	<div style="border: 1px solid black; padding: 5px; display: inline-block;">5 Units</div> 12.7 mm	Tube diameter Mating cycles <span style="background-color: #f96; color: white; padding: 2px 5px; border-radius: 10px;">+ 16 bar</span>	M5 internal thread min. 100,000
		1 contact for fluid coupling plug	<div style="border: 1px solid black; padding: 5px; display: inline-block;">9 Units</div> 22.86 mm	Inner diameter tube Mating cycles <span style="background-color: #f96; color: white; padding: 2px 5px; border-radius: 10px;">+ 25 bar</span>	G1/4 min. 100,000

# MODULE OVERVIEW

Modules		Description	Units / width	Features
Shielded implementation / high-speed connector		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 <sup>1</sup> [1 Gbit / s], Ethernet [100 Mbit / s], USB <sup>®</sup> 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 <sup>1</sup> [1 Gbit / s], Ethernet [100 Mbit / s], USB <sup>®</sup> 3.2 Gen 1x1 [5 Gbit / s]  + Mating cycles with ODU TURNTAC <sup>®</sup> min. 10,000 + Mating cycles with ODU SPRINGTAC <sup>®</sup> 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 <sup>®</sup> [10 Gbit / s], HDMI <sup>®</sup> 2.0 [18 Gbit / s], DisplayPort <sup>®</sup> [40 Gbit / s], HDMI <sup>®</sup> [48 Gbit / s]  + Mating cycles with ODU TURNTAC <sup>®</sup> min. 10,000 + Mating cycles with ODU SPRINGTAC <sup>®</sup> 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.

<sup>1</sup> 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 <sup>® 2</sup>  Contact-Ø: 8 mm	 15.24 mm	Operating voltage <sup>1</sup> Rated impulse voltage <sup>1</sup> Max. continuous current  Degree of pollution <sup>1</sup> Mating cycles	500 V 3,000 V 142 A for 25 mm <sup>2</sup> 2 min. 100,000
		2 contacts with ODU LAMTAC <sup>® 3</sup>  Contact-Ø: 8 mm	 15.24 mm	Operating voltage <sup>1</sup> Rated impulse voltage <sup>1</sup> Max. continuous current  Degree of pollution <sup>1</sup> Mating cycles	500 V 3,000 V 154 A for 25 mm <sup>2</sup> 2 min. 10,000
		1 contact with ODU LAMTAC <sup>® 3</sup>  Contact-Ø: 10 mm or Contact-Ø: 12 mm	 17.78 mm for both versions	Model Operating voltage <sup>1</sup> Rated impulse voltage <sup>1</sup> Max. continuous current  Degree of pollution <sup>1</sup> Mating cycles	10 mm 12 mm 500 V 400 V 4,000 V 3,000 V 180 A 225 A for 35 mm <sup>2</sup> for 50 mm <sup>2</sup> 2 2 min. 10,000 min. 10,000

 Highest current

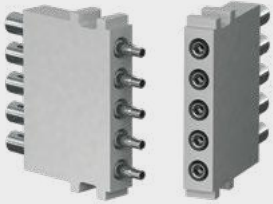
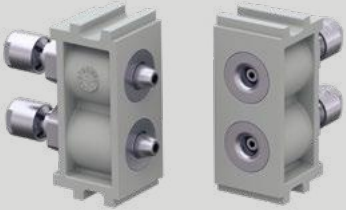

<sup>1</sup> Acc. to IEC 60664-1:2007 (VDE 0110-1:2008-01) for degree of pollution 2.

<sup>2</sup> Contact with springwire technology.

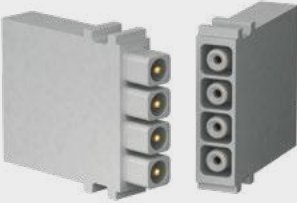

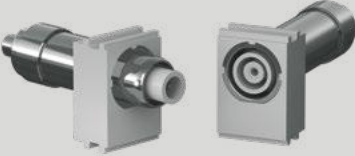

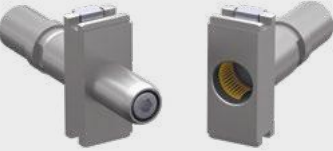

<sup>3</sup> Contact with lamella technology.



# MODULE OVERVIEW

Modules		Description	Units / width	Features
Fiber optic		5 contacts for fiber optic POF	<div style="border: 1px solid black; padding: 2px; display: inline-block;">2 Units</div> 5.08 mm	Insertion loss typical 1.5 dB for 670 nm Mating cycles minimum 40,000 <span style="background-color: #f4a460; padding: 2px; border-radius: 10px; display: inline-block;">+ High contact density</span>
		2 contacts for fiber optic POF	<div style="border: 1px solid black; padding: 2px; display: inline-block;">5 Units</div> 12.7 mm	Insertion loss typical 1.5 dB for 670 nm Mating cycles minimum 100,000
		3 contacts for fiber optic GOF	<div style="border: 1px solid black; padding: 2px; display: inline-block;">4 Units</div> 10.16 mm	Insertion loss typical 1 dB for 670 nm Mating cycles minimum 100,000








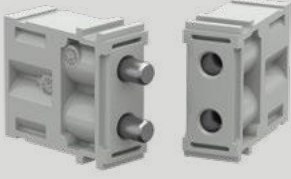

# MODULE OVERVIEW

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

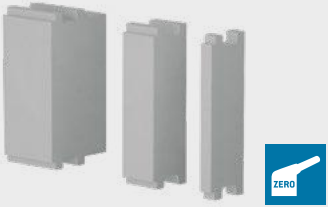


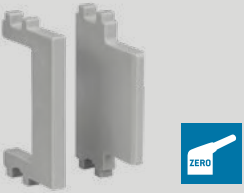
<sup>1</sup> Acc. to IEC 60664-1:2007 (VDE 0110-1:2008-01) for degree of pollution 2.

<sup>2</sup> Contact with lamella technology

# MODULE OVERVIEW

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

<sup>1</sup> Acc. to IEC 60664-1:2007  
(VDE 0110-1:2008-01) for degree of pollution 2.

Modules		Description	Units / width	Features
Blank modules/spacer modules / coding modules / pin protection modules		Blank modules	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; text-align: center;">1 Unit</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">3 Units</div> </div> <p>2.54 mm 7.62 mm</p> <div style="border: 1px solid black; padding: 5px; text-align: center; margin: 10px auto; width: 40px;">5 Units</div> <p>12.7 mm</p>	Used to fill incomplete frames. Useful to increase the maximum allowed voltage by increasing the clearance and creepage distance.
		Spacer module	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; text-align: center;">1 Unit</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">2 Units</div> </div> <p>2.54 mm 5.08 mm</p> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="border: 1px solid black; padding: 5px; text-align: center;">3 Units</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">5 Units</div> </div> <p>7.62 mm 12.7 mm</p>	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	<div style="border: 1px solid black; padding: 5px; text-align: center; margin: 10px auto; width: 40px;">1 Unit</div> <p>2.54 mm</p>	Arranged between the modules to create keyed guiding system.
		Pin protection modules	<div style="border: 1px solid black; padding: 5px; text-align: center; margin: 10px auto; width: 40px;">1 Unit</div> <p>2.54 mm</p>	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.





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All dimensions are in mm.  
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