








# ODU MAC










## Modules



## Overview ODU MAC Modules

Modules	Positions	Unit/Width	Current Information acc. VDE	Page
	10 Positions with turned Contacts	1 Unit (=2,54 mm)	Reference voltage: 250 V Rated surge voltage: 1.500 V Degree of pollution: 2  Mating cycles min. 100.000	14-15
	10 Positions with stamped Contacts	1 Unit (=2,54 mm)	Reference voltage: 32 V Rated surge voltage: 1.500 V Degree of pollution: 2  Mating cycles min. 5.000	16-17
	6 Positions	2 Units (=5,08 mm)	Reference voltage: 200 V Rated surge voltage: 2.500 V Degree of pollution: 2  Mating cycles min. 100.000	18-19
	14 Positions	3 Units (=7,62 mm)	Reference voltage: 160 V Rated surge voltage: 2.500 V Degree of pollution: 2  Mating cycles min. 100.000	20-21
	5 Positions	2 Units (=5,08 mm)	Reference voltage: 250 V Rated surge voltage: 2.500 V Degree of pollution: 2  Mating cycles min. 100.000	22-23
	4 Positions	3 Units (=7,62 mm)	Reference voltage: 320 V Rated surge voltage: 2.500 V Degree of pollution: 2  Mating cycles min. 100.000	24-25
	3 Positions	3 Units (=7,62 mm)	Reference voltage: 250 V Rated surge voltage: 2.500 V Degree of pollution: 2  Mating cycles min. 100.000	26-27



## Overview ODU MAC Modules

Modules	Positions	Unit/Width	Current Information acc. VDE	Page
	3 Positions	5 Units (=12,7 mm)	Reference voltage: 250 V Rated surge voltage: 2.500 V Degree of pollution: 2  Mating cycles min. 100.000	28-29
	2 Positions	5 Units (=12,7 mm)	Reference voltage: 250 V Rated surge voltage: 2.500 V Degree of pollution: 2  Mating cycles min. 100.000	30-31
	4 Positions High-Voltage Contacts	3 Units (=7,62 mm)	Reference voltage: 2.500 V Rated surge voltage: 10.000 V Degree of pollution: 2  Mating cycles min. 100.000	32-33
	3 Positions Power Module	4 Units (=10,16 mm)	Reference voltage: 2.500 V Rated surge voltage: 10.000 V Degree of pollution: 2  Mating cycles min. 100.000	34-35
	2 Positions High Current	6 Units (=15,24 mm)	Reference voltage: 500 V Rated surge voltage: 4.000 V Degree of pollution: 2  Mating cycles min. 5.000	36-37
	4 Positions 50 $\Omega$ Coax Contacts, non magnetic	3 Units (=7,62 mm)	Frequency range: 0 - 1,2 GHz  Mating cycles min. 60.000	38-39
	2 Positions 50 $\Omega$ Coax Contacts	5 Units (=12,7 mm)	Frequency range: 0 - 2,5 GHz  Mating cycles min. 100.000	40-41

## Overview ODU MAC Modules

Modules	Positions	Unit/Width	Current Information acc. VDE	Page
	2 Positions 50 Ω Coax Contacts SMA-Termination	5 Units (=12,7 mm)	Frequency range: 0 - 9 GHz Mating cycles min. 100.000	42-43
	2 Positions 50 Ω Coax Contacts, non magnetic; High voltage	5 Units (=12,7 mm)	Frequency range: 0 - 0,25 GHz Mating cycles min. 100.000	44-45
	2 Positions 75 Ω Coax Contacts	5 Units (=12,7 mm)	Frequency range: 0 - 2 GHz Mating cycles min. 100.000	46-47
	Module for 2 Compressed air valves	5 Units (=12,7 mm)	Tube Ø max. 4 mm Mating cycles min. 5.000	48-49
	Module for 1 or 2 Compressed air valves	8 Units (=20,32 mm) 16 Unit (=40,64 mm)	Tube Ø max. 6 mm Mating cycles min. 5.000	50-51
	2 Positions Fiber Optic Contacts for POF-Fiber	5 Units (=12,7 mm)	Insertion loss typical: 1,5 dB at 670 nm Mating cycles: > 100.000	52-53
	5 Positions Fiber Optic Contacts for POF-Fiber	2 Units (=5,08 mm)	Insertion loss typical: 1,5 dB at 670 nm Mating cycles: > 40.000	54-55

## Overview ODU MAC Modules

Modules	Positions	Unit/Width	Current Information acc. VDE	Page
	Multiposition, shielded implementation  Inserts Size 0	5 Units (=12,7 mm)	Mating cycles min. 5.000	56-57
	Multiposition, shielded implementation  Inserts Size 1	6 Units (=15,24 mm)	Mating cycles min. 5.000	58-60

## Module 10 Positions for turned contacts

### Technical information:

#### Voltage Information acc. VDE <sup>1)</sup>

Reference voltage:	250 V	40 V
Rated surge voltage:	1500 V	1500 V
Degree of pollution:	2	3

<sup>1)</sup> see page 96

<sup>2)</sup> see page 99

#### Voltage Information acc. MIL <sup>2)</sup>

Reference voltage:	500 V
Test voltage:	1500 V

Crimping instructions see page 82

Total mating force (Average):	14,7 N/Module
Total demating force (Average):	11,7 N/Module
Contact diameter:	0,76 mm
Contact finish:	0,75 µm Au over 1,25 µm Ni

#### Materials:

Insulation Body:	Glass-filled thermoplastic (Polyester), UL-94 V0 rated
Contact body:	Cu Alloy
Contact spring:	Cu Be
Operating temperature:	-40 °C up to +125°C

Mating cycles: min. 100.000

On request: Contacts and insulation body up to 250 °C

Current load only for single contacts.

For multiple contacts derate acc. to VDE 0298.

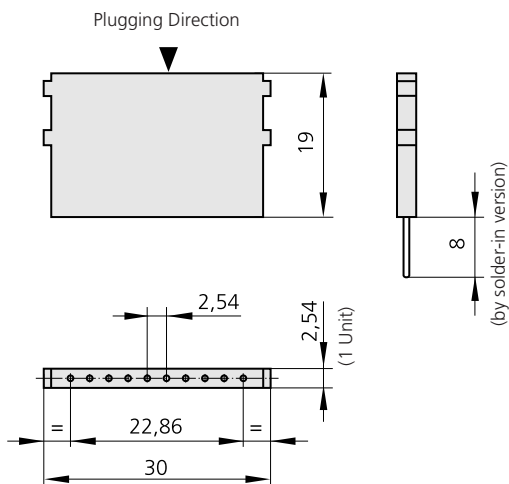
	Part Number.	Wire cross section mm <sup>2</sup>	Termination AWG	max. Current (A)	Contact Resistance (mΩ) average
Insulation body	611 122 110 923 000				
Spacer	611 122 111 923 000				
Pin contact*	180 361 000 307 000	0,38	AWG 22	5,0	3,8
Grd. pin contact*	180 381 000 307 000	0,38	AWG 22	5,0	3,8
Socket contact*	170 361 700 207 000	0,38	AWG 22	5,0	3,8
Pin contact	180 540 000 307 000	0,08/0,25	AWG 24/28	1,5	3,8
Grd. pin contact	180 570 000 307 000	0,08/0,25	AWG 24/28	1,5	3,8
Socket contact	170 540 700 207 000	0,08/0,25	AWG 24/28	1,5	3,8
Pin contact	180 850 000 307 000		PCB	5,0	3,8
Grd. pin contact	180 851 000 307 000		Solder Pin	5,0	3,8
Socket contact	170 850 700 207 000		Ø 0,76	5,0	3,8
Dummy contact	021 341 123 323 000				

\* Non magnetic on request!

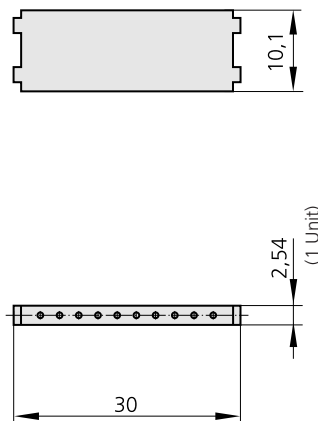
## Module 10 Positions for turned contacts



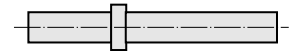
Module, 10 Positions



Spacer (Blank)



Dummy Contact



## Accessories

### Removal tool I

Removal of the assembled contact (incl. Cable).



Part-No. 087 170 361 000 000

### Removal tool II

Removal of the not assembled contact (without cable - must be cut off)



Part-No. 087 611 001 001 000

## Module 10 Positions for stamped contacts

### Technical information:

#### Voltage Information acc. VDE <sup>1)</sup>

Reference voltage:	32 V	10 V
Rated surge voltage:	1500 V	1500 V
Degree of pollution:	2	3

<sup>1)</sup> see page 96

<sup>2)</sup> see page 99

#### Voltage Information acc. MIL <sup>2)</sup>

Reference voltage:	450 V
Test voltage:	1350 V

Crimping instructions see page 82

Total mating force (Average):	5,0 N/Module
Total demating force (Average):	4,8 N/Module
Contact diameter:	0,7 mm
Kontaktveredelung im Anschlußbereich:	3 µm Sn
Kontaktveredelung im Kontaktbereich:	0,75 µm Au

#### Materials:

Insulation Body:	Glass-filled thermoplastic (Polyester), UL-94 V0 rated
Kontakt:	Cu Sn 6
Operating temperature:	-40 °C up to +125°C
Mating cycles:	min. 5.000

#### Notice

The 10 positions modules with turned and stamped contacts are not mating compatible.

Current load only for single contacts.

For multiple contacts derate acc. to VDE 0298.

### Contacts not removeable

\* Packaging for Crimp version (a Band)

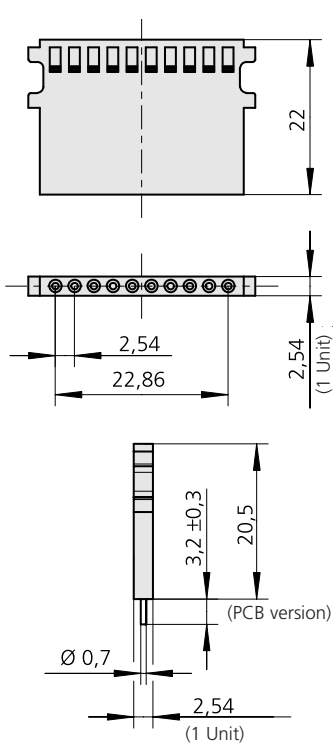
.51 =	500 St.
.52 =	900 St.
.54 =	5.000 St.
.55 =	10.000 St.
.50 =	20.000 St.

	Part Number.	Wire cross section mm <sup>2</sup>	Termination AWG	max. Current (A)	Contact Resistance (mΩ) average
Insulation body socket (Crimp)	610 158 110 923 000				
Insulation body pin (Crimp)	611 158 110 923 000				
Insulation body socket (Print)	610 158 010 923 000				
Spacer	611 122 111 923 000				
Pin contact	186 080 103 535 1..*	0,15/0,08	26/28	3,5	3,8
Socket contact	176 082 103 535 1..*	0,15/0,08	26/28	3,5	3,8
Pin contact	186 080 103 535 2..*	0,38/0,25	22/24	4,5	3,8
Socket contact	176 082 103 535 2..*	0,38/0,25	22/24	4,5	3,8

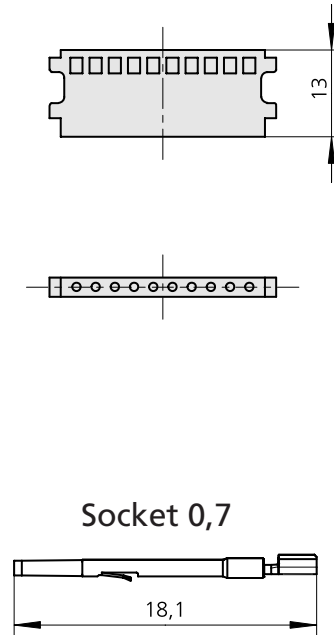
## Module 10 Positions for stamped contacts



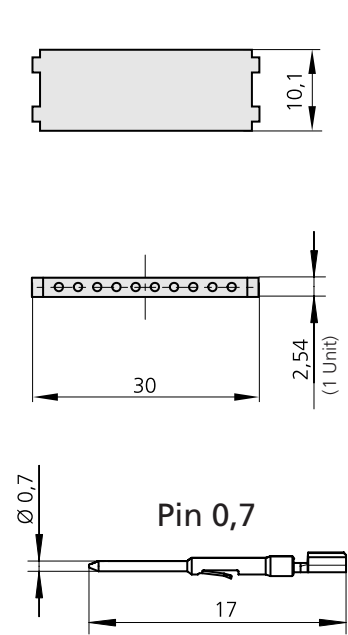
Module, 10 Positions  
Socket (Crimp termination)



Module, 10 Positions  
Pin (Crimp termination)



Spacer (Blank)



## Module 6 Positions

### Technical information:

#### Voltage Information acc. VDE <sup>1)</sup>

Reference voltage:	200 V	63 V
Rated surge voltage:	2500 V	2500 V
Degree of pollution:	2	3

<sup>1)</sup> see page 96

<sup>2)</sup> see page 99

#### Voltage Information acc. MIL <sup>2)</sup>

Reference voltage:	850 V
Test voltage:	2550 V

Crimping instructions see page 82

Total mating force (Average):	7,9 N /Module
Total demating force (Average):	7,1 N /Module
Contact diameter:	1,02 mm
Contact finish:	0,75 µm Au over 1,25 µNi

#### Materials:

Insulation body:	Glass-filled thermoplastic (Polyester), UL-94 V0 rated
Contact body:	Cu-Alloy
Contact spring:	Cu Be

Operating temperature: -40°C up to +125°C

Mating cycles: min. 100.000

On request: Contacts and insulation body up to 250 °C

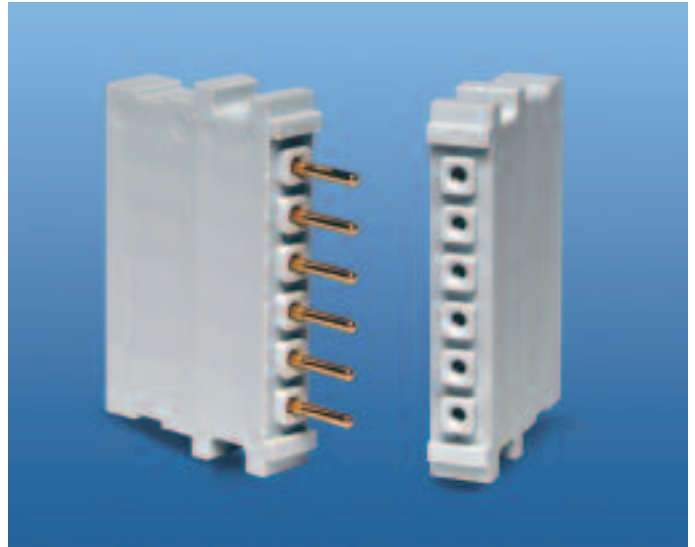
Current load only for single contacts.

For multiple contacts derate acc. to VDE 0298.

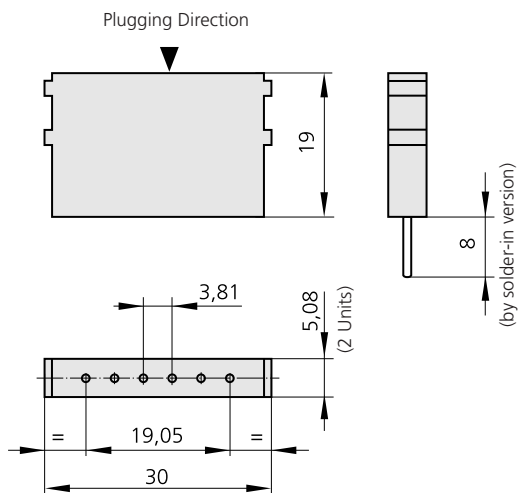
	Part Number.	Wire cross section mm <sup>2</sup>	Termination AWG	max. Current (A)	Contact Resistance (mΩ) average
Insulation body	611 123 106 923 000				
Spacer	611 123 111 923 000				
Pin contact*	180 362 000 307 000	0,50/0,38	AWG 20/22	6,0	2,1
Grd. pin contact*	180 382 000 307 000	0,50/0,38	AWG 20/22	6,0	2,1
Socket contact*	170 362 700 207 000	0,50/0,38	AWG 20/22	6,0	2,1
Pin contact	180 544 000 307 000	0,25/0,08	AWG 24/28	2,0	2,1
Grd. pin contact	180 574 000 307 000	0,25/0,08	AWG 24/28	2,0	2,1
Socket contact	170 544 700 207 000	0,25/0,08	AWG 24/28	2,0	2,1
Pin contact	180 818 000 307 000		PCB	6,0	2,1
Grd. pin contact	180 819 000 307 000		Solder Pin	6,0	2,1
Socket contact	170 818 700 207 000		Ø 0,76	6,0	2,1
Dummy contact	021 341 124 923 000				

\* Non magnetic on request!

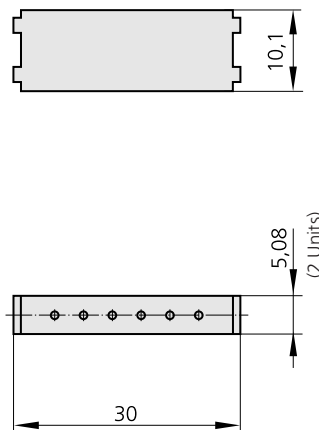
## Module 6 Positions



### Module, 6 Positions



### Spacer (Blank)



### Dummy Contact



## Accessories

### Removal tool I

Removal of the assembled contact (incl. Cable).



Part-No. 087 170 362 000 000

### Removal tool II

Removal of the not assembled contact (without cable - must be cut off)



Part-No. 087 611 001 001 000

## Module 14 Positions

### Technical information:

#### Voltage Information acc. VDE <sup>1)</sup>

Reference voltage:	160 V	32 V
Rated surge voltage:	2500 V	2500 V
Degree of pollution:	2	3

<sup>1)</sup> see page 96

<sup>2)</sup> see page 99

#### Voltage Information acc. MIL <sup>2)</sup>

Reference voltage:	950 V
Test voltage:	2850 V

Crimping instructions see page 82

Total mating force (Average):	17,2 N /Module
Total demating force (Average):	15,4 N /Module
Contact diameter:	1,02 mm
Contact finish:	0,75 µm Au over 1,25 µm Ni

#### Materials:

Insulation body:	Glass-filled thermoplastic (Polyester), UL-94 V0 rated
Contact body:	Cu-Alloy
Contact spring:	Cu Be
Operating temperature:	-40°C up to +125°C

Mating cycles: min. 100.000

On request: Contacts and insulation body up to 250 °C

Current load only for single contacts.

For multiple contacts derate acc. to VDE 0298.

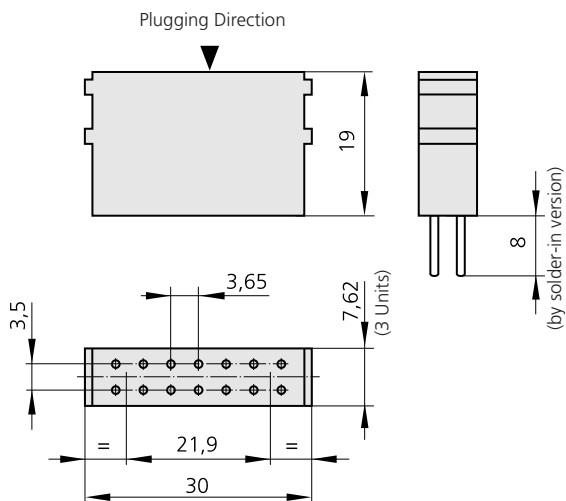
	Part Number.	Wire cross section mm <sup>2</sup>	Termination AWG	max. Current (A)	Contact Resistance (mΩ) average
Insulation body	611 130 114 923 000				
Spacer	611 130 111 923 000				
Pin contact*	180 362 000 307 000	0,50/0,38	AWG 20/22	6,0	2,1
Grd. pin contact*	180 382 000 307 000	0,50/0,38	AWG 20/22	6,0	2,1
Socket contact*	170 362 700 207 000	0,50/0,38	AWG 20/22	6,0	2,1
Pin contact	180 544 000 307 000	0,25/0,08	AWG 24/28	2,0	2,1
Grd. pin contact	180 574 000 307 000	0,25/0,08	AWG 24/28	2,0	2,1
Socket contact	170 544 700 207 000	0,25/0,08	AWG 24/28	2,0	2,1
Pin contact	180 818 000 307 000		PCB	6,0	2,1
Grd. pin contact	180 819 000 307 000		Solder Pin	6,0	2,1
Socket contact	170 818 700 207 000		Ø 1,02	6,0	2,1
Dummy contact	021 341 124 923 000				

\* Non magnetic on request!

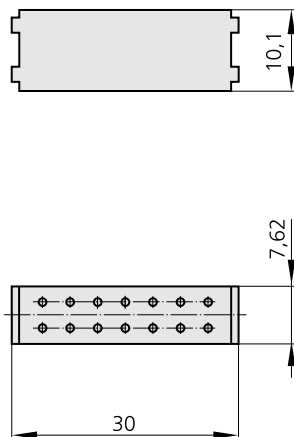
## Module 14 Positions



Module, 14 Positions



Spacer (Blank)



Dummy Contact



## Accessories

### Removal tool I

Removal of the assembled contact (incl. Cable).



Part-No. 087 170 362 000 000

### Removal tool II

Removal of the not assembled contact (without cable - must be cut off)



Part-No. 087 611 001 001 000

## Module 5 Positions

### Technical information:

#### Voltage Information acc. VDE <sup>1)</sup>

Reference voltage:	250 V	40 V
Rated surge voltage:	2500 V	2500 V
Degree of pollution:	2	3

<sup>1)</sup> see page 96

<sup>2)</sup> see page 99

#### Voltage Information acc. MIL <sup>2)</sup>

Reference voltage:	750 V
Test voltage:	2250 V

Crimping instructions see page 82

Total mating force (Average): 12,2 N/Module

Total demating force (Average): 10,7 N/Module

Contact diameter: 1,5 mm

#### Contact finish:

Contact body: 0,75 µm Au over 1,25 µm Ni

Contact spring: 6 µm Ag

#### Materials:

Insulation body: Glass-filled thermoplastic (Polyester), UL-94 V0 rated

Contact body: Cu-Alloy

Contact spring: Cu Sn

Operating temperature: -40°C up to +125°C

Mating cycles: min. 100.000

On request: Contacts and insulation body up to 250 °C

Current load only for single contacts.

For multiple contacts derate acc. to VDE 0298.

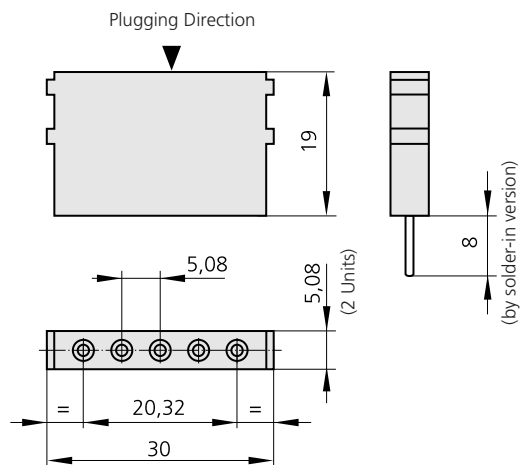
	Part Number.	Wire cross section mm <sup>2</sup>	Termination AWG	max. Current (A)	Contact Resistance (mΩ) average
Insulation body 5polig	611 124 105 923 000				
Spacer	611 124 111 923 000				
Pin contact*	180 363 000 307 000	1,50	AWG 14	18,0	0,95
Grd. pin contact*	180 383 000 307 000	1,50	AWG 14	18,0	0,95
Socket contact*	170 363 700 201 000	1,50	AWG 14	18,0	0,95
Pin contact	180 543 000 307 000		AWG 16	15,0	0,95
Grd. pin contact	180 573 000 307 000		AWG 16	15,0	0,95
Socket contact	170 543 700 201 000		AWG 16	15,0	0,95
Pin contact	180 545 000 307 000	1,00	AWG 18	13,0	0,95
Grd. pin contact	180 575 000 307 000	1,00	AWG 18	13,0	0,95
Socket contact	170 545 700 201 000	1,00	AWG 18	13,0	0,95
Pin contact	180 541 000 307 000	0,50/0,38	AWG 20/22	7,5	0,95
Grd. pin contact	180 571 000 307 000	0,50/0,38	AWG 20/22	7,5	0,95
Socket contact	170 541 700 201 000	0,50/0,38	AWG 20/22	7,5	0,95
Pin contact	180 857 000 307 000	0,25/0,08	AWG 24/28	2,0	0,95
Grd. pin contact	180 856 000 307 000	0,25/0,08	AWG 24/28	2,0	0,95
Socket contact	170 857 700 201 000	0,25/0,08	AWG 24/28	2,0	0,95
Pin contact	180 539 000 307 000		PCB	18,0	0,95
Grd. pin contact	180 569 000 307 000		Solder Pin	18,0	0,95
Socket contact	170 539 700 201 000		Ø 1,5	18,0	0,95
Dummy contact	021 341 125 923 000				

\* Non magnetic on request!

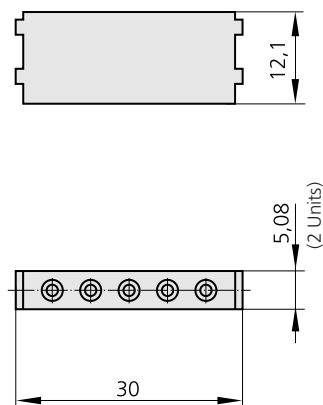
## Module 5 Positions



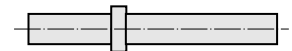
Module, 5 Positions



Spacer (Blank)



Dummy Contact



## Accessories

### Removal tool I

Removal of the assembled contact (incl. Cable).



Straight: Part-No. 087 170 138 000 000 (like Pic.)  
 Right-angle: Part-No. 087 170 363 000 000

### Removal tool II

Removal of the not assembled contact (without cable - must be cut off)



Part-No. 087 611 001 001 000

## Module 4 Positions

### Technical information:

#### Voltage Information acc. VDE <sup>1)</sup>

Reference voltage:	320 V	160 V
Rated surge voltage:	2500 V	2500 V
Degree of pollution:	2	3

<sup>1)</sup> see page 96

<sup>2)</sup> see page 99

#### Voltage Information acc. MIL <sup>2)</sup>

Reference voltage:	1100 V
Test voltage:	3300 V

Crimping instructions see page 82

Total mating force (Average):	19,6 N/Module
Total demating force (Average):	15,5 N/Module
Contact diameter:	2,41 mm
Contact finish:	6 µm Ag

#### Materials:

Insulation body:	Glass-filled thermoplastic (Polyester), UL-94 V0 rated
Contact body:	Cu-Alloy
Contact spring:	Cu Sn
Operating temperature:	-40°C up to +125°C

Mating cycles:	min. 100.000
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Current load only for single contacts.

For multiple contacts derate acc. to VDE 0298.

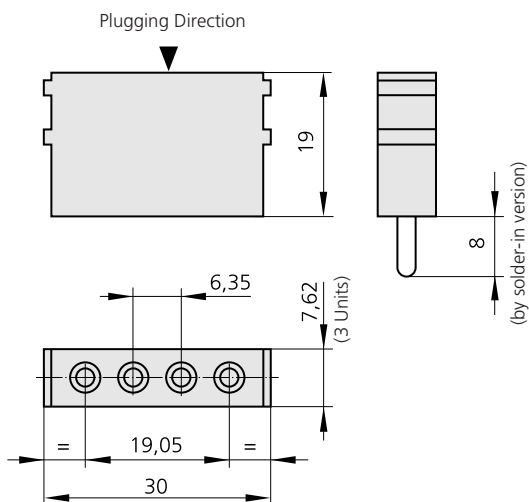
	Part Number.	Wire cross section mm <sup>2</sup>	Termination AWG	max. Current (A)	Contact Resistance (mΩ) average
Insulation body 4polig	611 126 104 923 000				
Spacer	611 126 111 923 000				
Pin contact	180 365 000 301 000		AWG 12	23,0	0,4
Grd. pin contact	180 385 000 301 000		AWG 12	23,0	0,4
Socket contact	170 365 100 201 000		AWG 12	23,0	0,4
Pin contact*	180 910 000 301 000	2,50		23,0	0,4
Grd. pin contact*	180 911 000 301 000	2,50		23,0	0,4
Socket contact*	170 910 100 201 000	2,50		23,0	0,4
Pin contact	182 607 000 301 000	1,50	AWG 14	18,0	0,4
Grd. pin contact	182 604 000 301 000	1,50	AWG 14	18,0	0,4
Socket contact	172 604 100 201 000	1,50	AWG 14	18,0	0,4
Pin contact	182 606 000 301 000	1,00	AWG 18	13,0	0,4
Grd. pin contact	182 603 000 301 000	1,00	AWG 18	13,0	0,4
Socket contact	172 603 100 201 000	1,00	AWG 18	13,0	0,4
Pin contact	182 608 000 301 000	0,50/0,38	AWG 20/22	7,5	0,5
Grd. pin contact	182 605 000 301 000	0,50/0,38	AWG 20/22	7,5	0,5
Socket contact	172 605 100 201 000	0,50/0,38	AWG 20/22	7,5	0,5
Pin contact	180 820 000 301 000		PCB	23,0	0,6
Grd. pin contact	180 821 000 301 000		Solder Pin	23,0	0,6
Socket contact	170 820 100 201 000		Ø 2,4	23,0	0,6
Dummy contact	021 341 127 923 000				

\* Non magnetic on request!

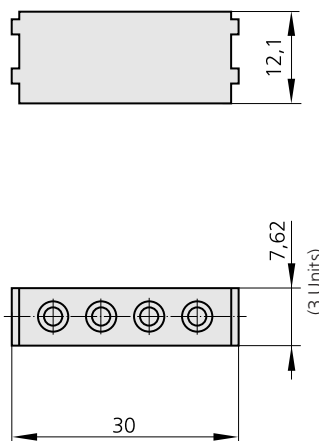
## Module 4 Positions



Module, 4 Positions



Spacer (Blank)



Dummy Contact



## Accessories

### Removal tool I

Removal of the assembled contact (incl. Cable).



Straight: Part-No. 087 170 139 000 000  
 Right-angle: Part-No. 087 170 365 000 000 (like Pic.)

### Removal tool II

Removal of the not assembled contact (without cable - must be cut off)



Part-No. 087 611 001 001 000

## Module 3 Positions

### Technical information:

#### Voltage Information acc. VDE <sup>1)</sup>

Reference voltage:	250 V	100 V
Rated surge voltage:	2500 V	2500 V
Degree of pollution:	2	3

<sup>1)</sup> see page 96

<sup>2)</sup> see page 99

#### Voltage Information acc. MIL <sup>2)</sup>

Reference voltage:	1200 V
Test voltage:	3600 V

Crimping instructions see page 82

Total mating force (Average):	23,1 N/Module
Total demating force (Average):	19,6 N/Module
Contact diameter:	3,0 mm
Contact finish:	6 µm Ag

#### Materials:

Insulation body:	Glass-filled thermoplastic (Polyester), UL-94 V0 rated
Contact body:	Cu-Alloy
Contact spring:	Cu Sn
Operating temperature:	-40°C up to +125°C

Mating cycles:	min. 100.000
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Current load only for single contacts.

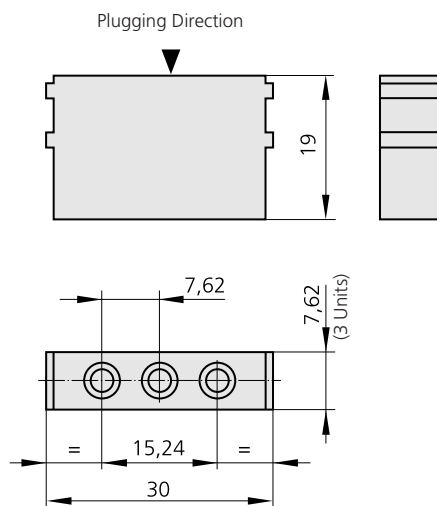
For multiple contacts derate acc. to VDE 0298.

	Part Number.	Wire cross section mm <sup>2</sup>	Termination AWG	max. Current (A)	Contact Resistance (mΩ) average
Insulation body 3polig	611 127 103 923 000				
Spacer	611 127 111 923 000				
Pin contact	182 980 000 301 000	6,00		40	0,3
Grd. pin contact	182 981 000 301 000	6,00		40	0,3
Socket contact	172 978 100 201 000	6,00		40	0,3
Pin contact	180 366 000 301 000	4,00		30	0,3
Grd. pin contact	180 386 000 301 000	4,00		30	0,3
Socket contact	172 366 100 201 000	4,00		30	0,3
Pin contact	180 546 000 301 000	2,50		26	0,3
Grd. pin contact	180 576 000 301 000	2,50		26	0,3
Socket contact	170 546 100 201 000	2,50		26	0,3
Pin contact	182 582 000 301 000	1,50	AWG 14	18	0,3
Grd. pin contact	182 583 000 301 000	1,50	AWG 14	18	0,3
Socket contact	172 582 100 201 000	1,50	AWG 14	18	0,3
Pin contact	182 584 000 301 000	1,00	AWG 18	13	0,3
Grd. pin contact	182 585 000 301 000	1,00	AWG 18	13	0,3
Socket contact	172 584 100 201 000	1,00	AWG 18	13	0,3
Pin contact	182 586 000 301 000	0,50/0,38	AWG 20/22	7.5	0,4
Grd. pin contact	182 587 000 301 000	0,50/0,38	AWG 20/22	7.5	0,4
Socket contact	172 586 100 201 000	0,50/0,38	AWG 20/22	7.5	0,4
Dummy contact	021 341 128 923 000				

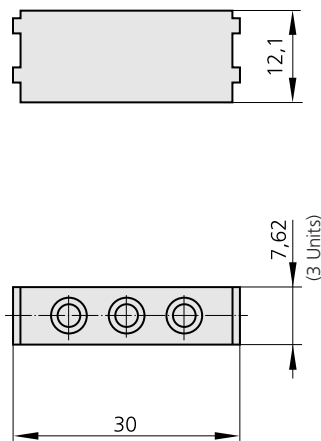
## Module 3 Positions



Module, 3 Positions



Spacer (Blank)



Dummy Contact



## Accessories

### Removal tool I

Removal of the assembled contact (incl. Cable).



### Removal tool II

Removal of the not assembled contact (without cable - must be cut off)



Straight: Part-No. 087 170 136 000 000  
 Right-angle: Part-No. 087 170 366 000 000 (like Pic.)

Part-No. 087 611 001 001 000

## Module 3 Positions

### Technical information:

#### Voltage Information acc. VDE <sup>1)</sup>

Reference voltage:	250 V	160 V
Rated surge voltage:	2500 V	2500 V
Degree of pollution:	2	3

<sup>1)</sup> see page 96

<sup>2)</sup> see page 99

#### Voltage Information acc. MIL <sup>2)</sup>

Reference voltage:	1250 V
Test voltage:	3750 V

Crimping instructions see page 82

Total mating force (Average):	27,3 N/Module
Total demating force (Average):	32,9 N/Module
Contact diameter:	4,0 mm
Contact finish:	6 µm Ag

#### Materials:

Insulation body:	Glass-filled thermoplastic (Polyester), UL-94 V0 rated
Contact body:	Cu-Alloy
Contact spring:	Cu Sn
Operating temperature:	-40°C up to +125°C

Mating cycles:	min. 100.000
----------------	--------------

Current load only for single contacts.

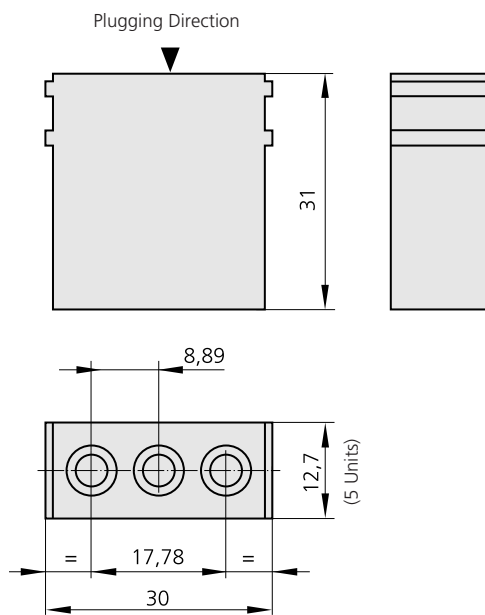
For multiple contacts derate acc. to VDE 0298.

	Part Number.	Wire cross section mm <sup>2</sup>	max. Current (A)	Contact Resistance (mΩ) average
Insulation body 3polig	611 128 103 923 000			
Spacer	611 128 111 923 000			
Pin contact	180 367 000 301 000	6,00	40	0,28
Grd. pin contact	180 387 000 301 000	6,00	40	0,28
Socket contact	170 367 100 201 000	6,00	40	0,28
Dummy contact	021 341 129 923 000			

## Module 3 Positions



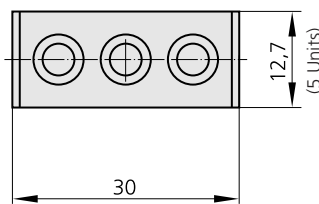
Module, 3 Positions



Spacer (Blank)



Dummy Contact



## Accessories

### Removal tool I

Removal of the assembled contact (incl. Cable).



Part-No. 087 170 367 000 000

### Removal tool II

Removal of the not assembled contact (without cable - must be cut off)



Part-No. 087 611 001 001 000

## Module 2 Positions

### Technical information:

#### Voltage Information acc. VDE <sup>1)</sup>

Reference voltage:	250 V	160 V
Rated surge voltage:	2500 V	2500 V
Degree of pollution:	2	3

<sup>1)</sup> see page 96

<sup>2)</sup> see page 99

#### Voltage Information acc. MIL <sup>2)</sup>

Reference voltage:	1250 V
Test voltage:	3750 V

Crimping instructions see page 82

Total mating force (Average):	25,2 N/Module
Total demating force (Average):	23,9 N/Module
Contact diameter:	5,0 mm
Contact finish:	6 µm Ag

#### Materials:

Insulation body:	Glass-filled thermoplastic (Polyester), UL-94 V0 rated
Contact body:	Cu-Alloy
Contact spring:	Cu Sn
Operating temperature:	-40°C up to +125°C

Mating cycles:	min. 100.000
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Current load only for single contacts.

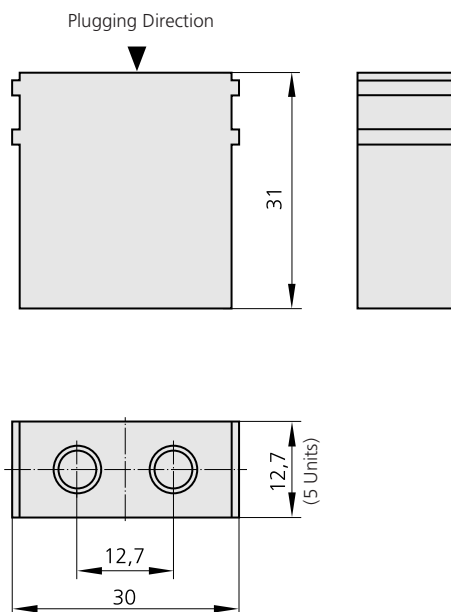
For multiple contacts derate acc. to VDE 0298.

	Part Number.	Wire cross section mm <sup>2</sup>	max. Current (A)	Contact Resistance (mΩ) average
Insulation body 2polig	611 129 102 923 000			
Spacer	611 129 111 923 000			
Pin contact	182 891 000 301 000	16,00	90	0,21
Grd. pin contact	182 892 000 301 000	16,00	90	0,21
Socket contact	172 891 100 201 000	16,00	90	0,21
Pin contact	180 490 000 301 000	10,00	60	0,21
Grd. pin contact	180 491 000 301 000	10,00	60	0,21
Socket contact	170 490 100 201 000	10,00	60	0,21
Pin contact	180 369 000 301 000	4,00	34	0,21
Grd. pin contact	180 389 000 301 000	4,00	34	0,21
Socket contact	170 369 100 201 000	4,00	34	0,21
Dummy contact	021 341 130 923 000			

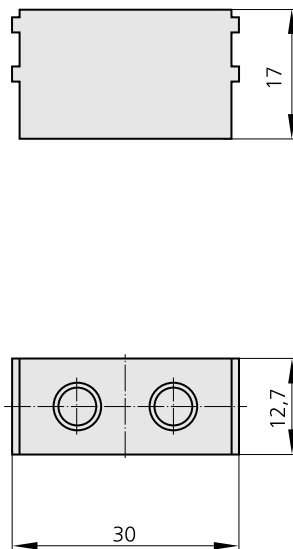
## Module 2 Positions



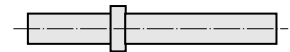
Module, 2 Positions



Spacer (Blank)



Dummy Contact



## Accessories

### Removal tool I

Removal of the assembled contact (incl. Cable).



Part-No. 087 170 391 000 000

## Module 4 Positions for high voltage contacts

### Technical information:

#### Voltage Information acc. VDE <sup>1)</sup>

Reference voltage:	2500 V	1000 V
Rated surge voltage:	10000 V	8000 V
Degree of pollution:	2	3

<sup>1)</sup> see page 96

<sup>2)</sup> see page 99

#### Voltage Information acc. MIL <sup>2)</sup>

Reference voltage:	2500 V
Test voltage:	7500 V

Crimping instructions see page 82

Total mating force (Average):	12,2 N/Module
Total demating force (Average):	10,7 N/Module
Contact diameter:	1,5 mm
Contact finish:	0,75 µm Au over 1,25 µm Ni

#### Materials:

Insulation body:	Glass-filled thermoplastic (Polyester), UL-94 V0 rated
Contact body:	Cu-Alloy
Contact spring:	Cu Sn
Operating temperature:	-40°C up to +125°C

Mating cycles:	min. 100.000
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Current load only for single contacts.

For multiple contacts derate acc. to VDE 0298.

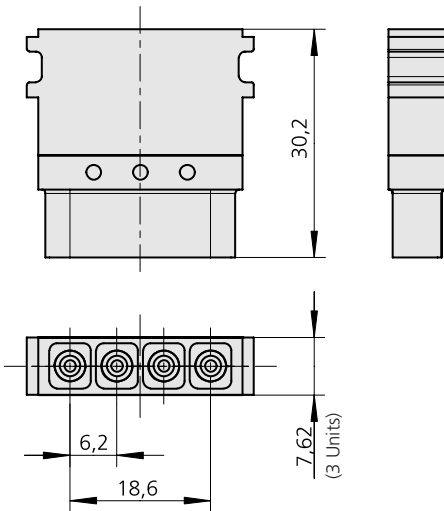
	Part Number.	Wire cross section mm <sup>2</sup>	Termination AWG	max. Current (A)	Contact Resistance (mΩ) average
Insulation body Socket	610 159 104 923 000				
Insulation body Pin	611 159 104 923 000				
Spacer	611 126 111 923 000				
Pin contact*	180 363 000 307 000	1,50	AWG 14	18,0	0,95
Grd. pin contact*	180 383 000 307 000	1,50	AWG 14	18,0	0,95
Socket contact*	170 363 700 201 000	1,50	AWG 14	18,0	0,95
Pin contact	180 543 000 307 000		AWG 16	15,0	0,95
Grd. pin contact	180 573 000 307 000		AWG 16	15,0	0,95
Socket contact	170 543 700 201 000		AWG 16	15,0	0,95
Pin contact	180 545 000 307 000	1,00	AWG 18	13,0	0,95
Grd. pin contact	180 575 000 307 000	1,00	AWG 18	13,0	0,95
Socket contact	170 545 700 201 000	1,00	AWG 18	13,0	0,95
Pin contact	180 541 000 307 000	0,50/0,38	AWG 20/22	7,5	0,95
Grd. pin contact	180 571 000 307 000	0,50/0,38	AWG 20/22	7,5	0,95
Socket contact	170 541 700 201 000	0,50/0,38	AWG 20/22	7,5	0,95
Pin contact	180 857 000 307 000	0,25/0,08	AWG 24/28	2,0	0,95
Grd. pin contact	180 856 000 307 000	0,25/0,08	AWG 24/28	2,0	0,95
Socket contact	170 857 700 201 000	0,25/0,08	AWG 24/28	2,0	0,95
Pin contact	180 539 000 307 000		PCB	18,0	0,95
Grd. pin contact	180 569 000 307 000		Solder Pin	18,0	0,95
Socket contact	170 539 700 201 000		Ø 1,5	18,0	0,95
Dummy contact	021 341 125 923 000				

\* Non magnetic on request!

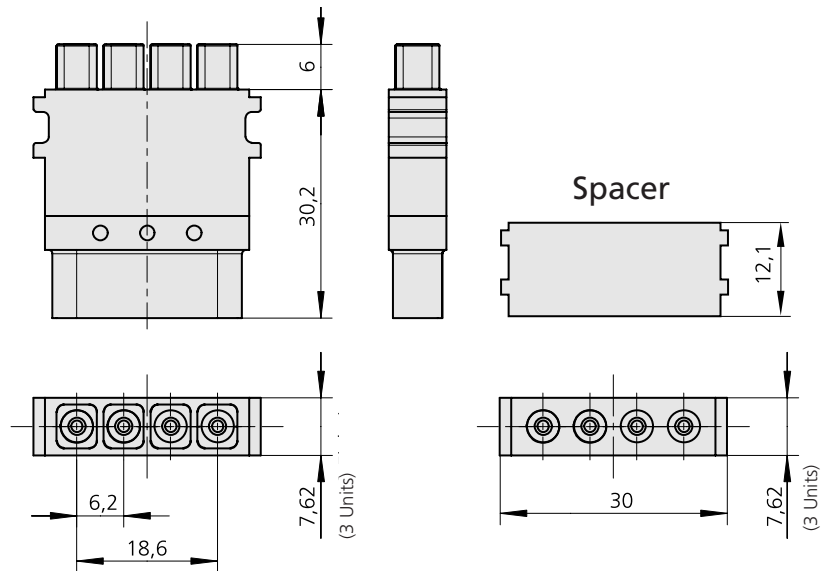
## Module 4 Positions for high voltage contacts



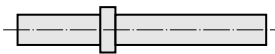
Module Socket, 4 Positions



Module Pin, 4 Positions



Dummy contact



### Accessories

#### Removal tool I

Removal of the assembled contact (incl. Cable).



Part-No. 087 170 137 000 000

#### Removal tool II

Removal of the not assembled contact (without cable - must be cut off)



Part-No. 087 611 001 001 000

## Module 3 Positions

### Technical information:

#### Voltage Information acc. VDE <sup>1)</sup>

Reference voltage:	2500 V	1000 V
Rated surge voltage:	10000 V	8000 V
Degree of pollution:	2	3

<sup>1)</sup> see page 96

<sup>2)</sup> see page 99

#### Voltage Information acc. MIL <sup>2)</sup>

Reference voltage:	2500 V
Test voltage:	7500 V

Crimping instructions see page 82

Total mating force (Average):	23,1 N/Module
Total demating force (Average):	19,6 N/Module
Contact diameter:	3,0 mm
Contact finish:	6 µm Ag

#### Materials:

Insulation body:	Glass-filled thermoplastic (Polyester), UL-94 V0 rated
Contact body:	Cu-Alloy
Contact spring:	Cu Sn
Operating temperature:	-40°C up to +125°C

Mating cycles:	min. 100.000
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Current load only for single contacts.

For multiple contacts derate acc. to VDE 0298.

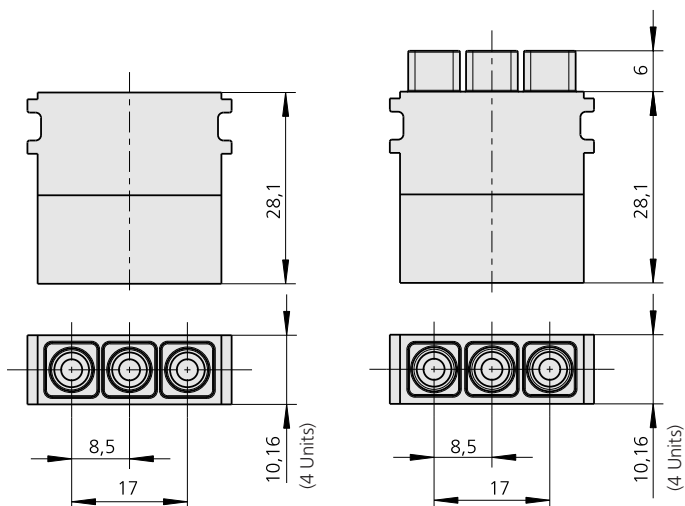
	Part Number.	Wire cross section mm <sup>2</sup>	Termination AWG	max. Current (A)	Contact Resistance (mΩ) average
Insulation body Buchse	610 162 103 923 000				
Insulation body Stift	611 162 103 923 000				
Pin contact	182 980 000 301 000	6,00		40	0,30
Grd. pin contact	182 981 000 301 000	6,00		40	0,30
Socket contact	172 978 100 201 000	6,00		40	0,30
Pin contact	180 366 000 301 000	4,00		30	0,30
Grd. pin contact	180 386 000 301 000	4,00		30	0,30
Socket contact	172 366 100 201 000	4,00		30	0,30
Pin contact	180 546 000 301 000	2,50		26	0,30
Grd. pin contact	180 576 000 301 000	2,50		26	0,30
Socket contact	170 546 100 201 000	2,50		26	0,30
Pin contact	182 582 000 301 000	1,50	AWG 14	18	1,00
Grd. pin contact	182 583 000 301 000	1,50	AWG 14	18	1,00
Socket contact	172 582 100 201 000	1,50	AWG 14	18	1,00
Pin contact	182 584 000 301 000	1,00	AWG 18	13	1,00
Grd. pin contact	182 585 000 301 000	1,00	AWG 18	13	1,00
Socket contact	172 584 100 201 000	1,00	AWG 18	13	1,00
Pin contact	182 586 000 301 000	0,50/0,38	AWG 20/22	7.5	1,00
Grd. pin contact	182 587 000 301 000	0,50/0,38	AWG 20/22	7.5	1,00
Socket contact	172 586 100 201 000	0,50/0,38	AWG 20/22	7.5	1,00
Dummy contact	021 341 128 923 000				

## Module 3 Positions



Module  
Socket, 3 Positions

Module  
Pin, 3 Positions



## Accessories

### Removal tool I

Removal of the assembled contact  
(incl. Cable).



Part-No. 087 170 136 000 000

### Removal tool II

Removal of the not assembled contact  
(without cable - must be cut off)



Part-No. 087 611 001 001 000

## Module 2 Positions for high current contacts (Lamella)

### Technical information:

#### Voltage Information acc. VDE <sup>1)</sup>

Reference voltage:	500 V	250 V
Rated surge voltage:	4000 V	4000 V
Degree of pollution:	2	3

<sup>1)</sup> see page 96

<sup>2)</sup> see page 99

#### Voltage Information acc. MIL <sup>2)</sup>

Reference voltage:	900 V
Test voltage:	2700 V

Crimping instructions see page 82

Total mating force (Average):	80,0 N/Module
Total demating force (Average):	80,0 N/Module
Contact diameter:	8,0 mm
Contact finish:	6 µm Ag

#### Materials:

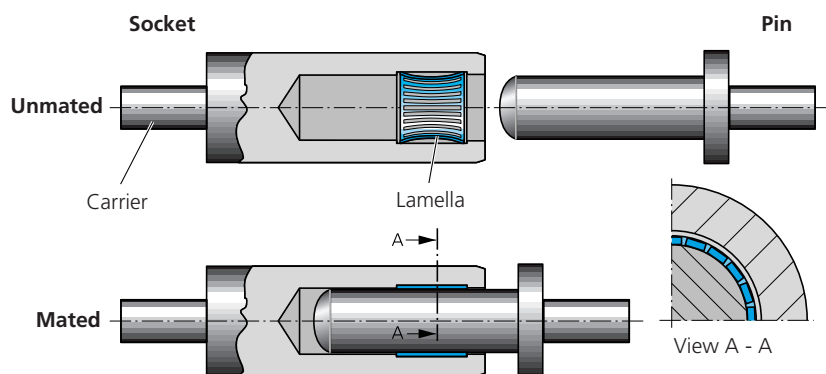
Insulation body:	Glass-filled thermoplastic (Polyester), UL-94-HB rated
Contact body:	Cu-Alloy
Contact spring:	Cu Be
Operating temperature:	-40°C up to +125°C

Mating cycles: min. 5.000

Current load only for single contacts.

For multiple contacts derate acc. to VDE 0298.

The **ODU Lamella Contact** have less contact points than the Springwire-Contact. One or two stamped lamellas will be mounted into the Carrier. Mating cycles min. 5.000.



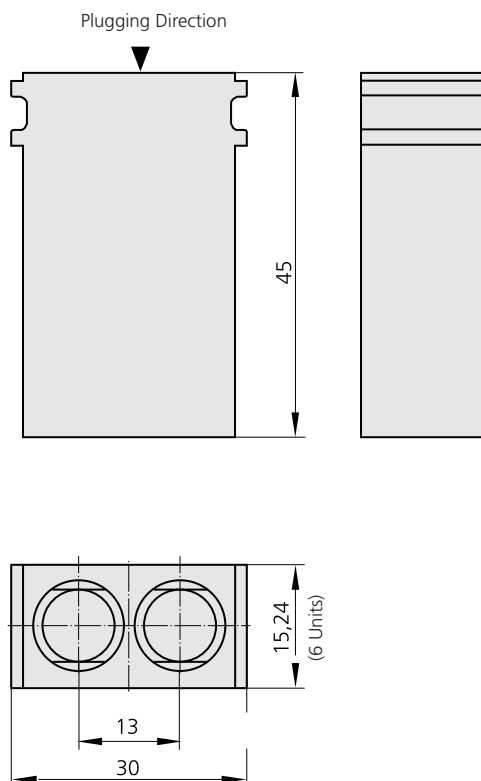
	Part Number.	Wire cross section mm <sup>2</sup>	max. Current (A)	Contact Resistance (mΩ) average
Insulation Body	611 161 102 923 000			
Pin contact	181 874 100 200 000	25,00	100	0,3
Socket contact	178 874 100 201 000	25,00	100	0,3
Pin contact	181 875 100 200 000	16,00		0,3
Socket contact	178 875 100 201 000	16,00		0,3

\* Non magnetic on request!

## Module 2 Positions for high current contacts (Lamella)



### Module 2 Positions



### Accessories

#### Removal tool

Removal of the not assembled contact.



Part-No. 087 611 002 001 000

## Module 4 Positions for 50 Ω Coax Contacts -non magnetic-

### Technical information:

Frequency range: 0-1,2 GHz  
**Voltage Information acc. MIL 2)**  
 Reference voltage: 350 V  
 Test voltage: 1050 V  
 Insulation resistance: >100 G Ω  
 Total mating force (Average): 17,8 N/Module  
 Total demating force (Average): 15,3 N/Module

2) see page 99

Crimping instructions see page 82

### Materials:

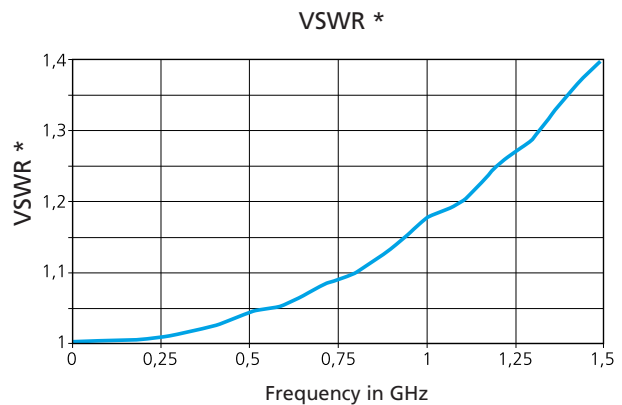
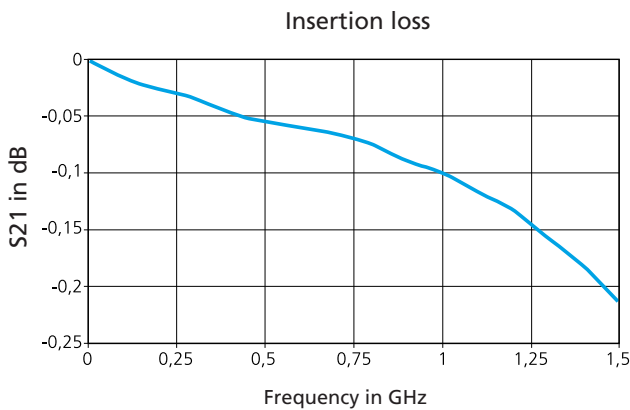
Insulation body: Glass-filled thermoplastic (Polyester), UL-94 V0 rated  
 Contact body: Cu-Alloy  
 Contact Spring-center contact: Cu Sn  
 Contact Spring-outer contact: CU Be

### Contact finish:

Pin, center contact: }  
 Pin, outer contact: }  
 Socket, center contact: } 0,8 μm Au over 2 μm white bronze  
 Socket, outer contact: }

Operating temperature: -40°C up to +125°C  
 Mating cycles: min. 60.000

## High frequency characteristics of the 50 Ω Coaxial Contacts

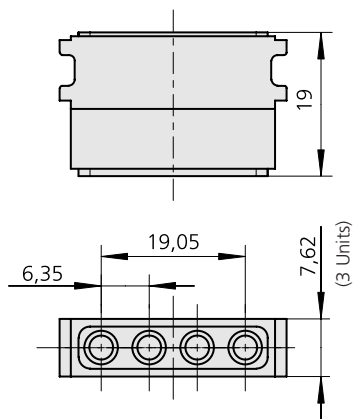


	Part Number.	Cable-Impedance (Ω)	Cable	Crimp tool for EMI Sleeve
Insulation Body	611 149 104 923 000			
Spacer	611 126 111 923 000			
Pin Contact straight	122 120 001 257 000	50	RG 178 / RG 196	082 000 039 101 000
Pin Contact straight	122 120 003 257 000	50	RG174/RG188/RG316 (75 Ω: RG179, RG187)	082 000 039 102 000
Pin Contact straight	122 120 011 257 000	50	G02232 (H&S)	082 000 039 103 000
Socket Contact straight	122 120 002 257 000	50	RG 178, RG 196	082 000 039 101 000
Socket Contact straight	122 120 004 257 000	50	RG174/RG188/RG316 (75 Ω: RG179, RG187)	082 000 039 102 000
Socket Contact straight	122 120 012 257 000	50	G 02232 (H&S)	082 000 039 103 000
Crimp tool for EMI Sleeve	080 000 039 000 000			

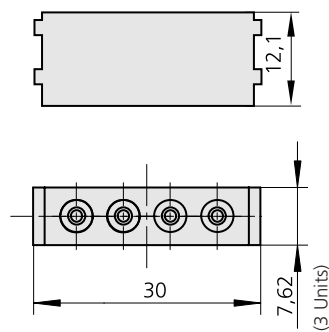
## Module 4 Positions for 50 Ω Coax Contacts -non magnetic-



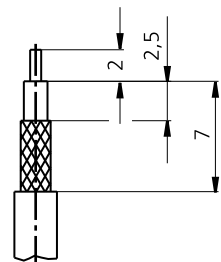
Module, 4 Positions



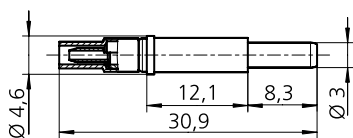
Spacer



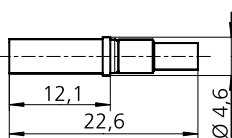
Strip off length



Pin



Socket



### Accessories

#### Removal tool I

Removal of the assembled contact  
(incl. Cable).



Part-No. 087 170 365 000 000

#### Removal tool II

Removal of the not assembled contact  
(without cable - must be cut off)



Part-No. 087 611 001 001 000

## Module 2 Positions for 50 Ω Coax-Contacts

### Technical information:

Frequency range: 0-2,5 GHz

**Voltage Information acc. MIL 2)**

Reference voltage: 400 V  
 Test voltage: 1200 V

2) see page 99

Insulation resistance: >100 G Ω  
 Total mating force (Average): 12,0 N/Module  
 Total demating force (Average): 10,8 N/Module

Crimping instructions see page 82

**Materials:**

Insulation body: Glass-filled thermoplastic (Polyester), UL-94 V0 rated  
 Contact body: Cu-Alloy  
 Contact spring: Cu Sn

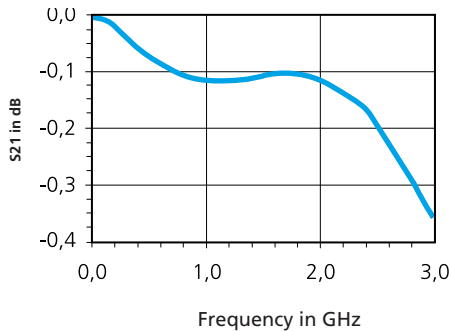
**Contact finish:**

Pin, center contact: 0,75 μm Au over 1,25 μm Ni  
 Pin, outer contact: 6 μm Ni  
 Socket, center contact: Springs 0,75 μm Au over 1,25 μm Ni  
 Socket, outer contact: Springs 0,75 μm Au over 1,25 μm Ni  
 Operating temperature: -40°C up to +125°C

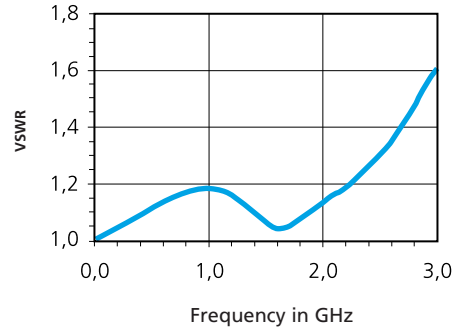
Mating cycles: min. 100.000

### High frequency characteristics of the 50 Ω Coaxial Contacts

Insertion loss



VSWR \*



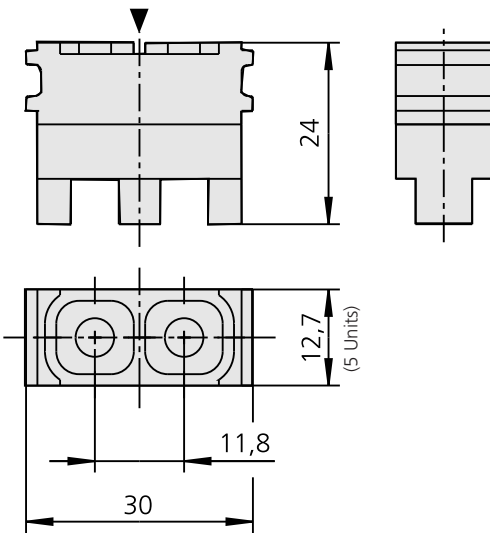
	Part Number.	Cable Impedance (Ω)	Cable	Crimp Dies Part Number
Insulation body	611 152 102 923 000			
Spacer	611 129 111 923 000			
Dummy contact	021 341 177 300 000			
Pin Contact straight	122 346 001 207 000	50	RG 178 / RG 196	082 000 039 101 000
Pin Contact straight	122 346 003 207 000	50	RG 174 / RG 188 / RG 316	082 000 039 102 000
Pin Contact straight	122 346 005 207 000	50	RG 122 (2YCY 0.4/2.5-75 Ω)	082 000 039 104 000
Pin Contact straight	122 346 007 207 000	50	RG 58	082 000 039 106 000
Pin Contact straight	122 346 009 207 000	50	RG 223	082 000 039 106 000
Pin Contact straight	122 346 011 207 000	50	G02232 ( H&S)	082 000 039 103 000
Socket Contact straight	122 346 002 207 000	50	RG 178 / RG 196	082 000 039 101 000
Socket Contact straight	122 346 004 207 000	50	RG 174 / RG 188 / RG 316	082 000 039 102 000
Socket Contact straight	122 346 006 207 000	50	RG 122 (2YCY 0.4/2.5-75 Ω)	082 000 039 104 000
Socket Contact straight	122 346 008 207 000	50	RG 58	082 000 039 106 000
Socket Contact straight	122 346 010 207 000	50	RG 223	082 000 039 106 000
Socket Contact straight	122 346 012 257 000	50	G02232 (H&S)	082 000 039 103 000
Crimp tool for EMI Sleeve	080 000 039 000 000			

## Module 2 Positions for 50 Ω Coax-Contacts

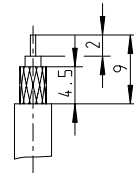


### Module, Pin and Socket, 2 Positions

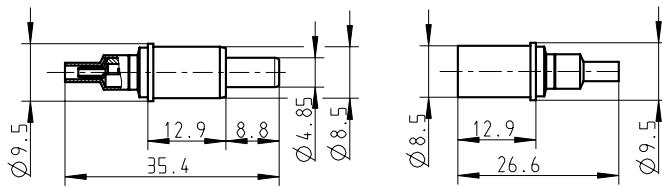
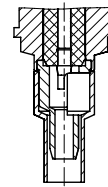
Plugging Direction



### Strip off length



### Cable termination



Center contact soldered  
Outer contact soldered or crimped

### Accessories

Removal tool I



Part-No. 087 170 391 000 000

## Module 2 Positions for 50 Ω Coax-Contacts -SMA Termination

### Technical information:

Frequency range: 0-9 GHz

**Voltage Information acc. MIL 2)**

Reference voltage: 350 V  
Test voltage: 1050 V

2) see page 99

Insulation resistance: >100 G Ω  
Total mating force (Average): 9 N/Module  
Total demating force (Average): 7,5 N/Module

**Materials:**

Insulation body: Glass-filled thermoplastic (Polyester), UL-94 V0 rated  
Contact body: Cu-Alloy  
Contact spring: Cu Sn

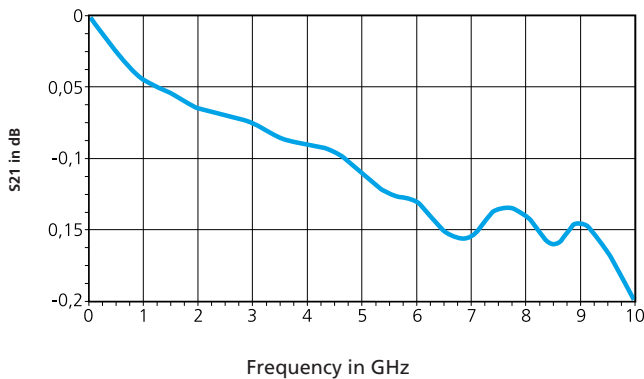
**Contact finish:**

Pin, center contact: 0,75 μm Au over 1,25 μm Ni  
Pin, outer contact: 6 μm Ni  
Socket, center contact: Springs 0,75 μm Au over 1,25 μm Ni  
Socket, outer contact: Springs 0,75 μm Au over 1,25 μm Ni  
Operating temperature: -40°C up to +125°C

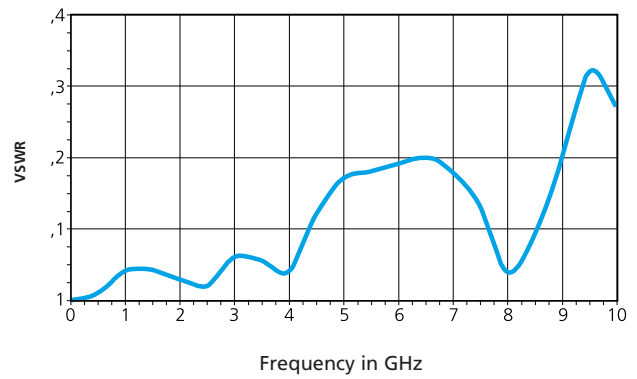
Mating cycles: min. 100.000

### High frequency characteristics of the 50 Ω Coaxial Contacts

Insertion loss



VSWR \*

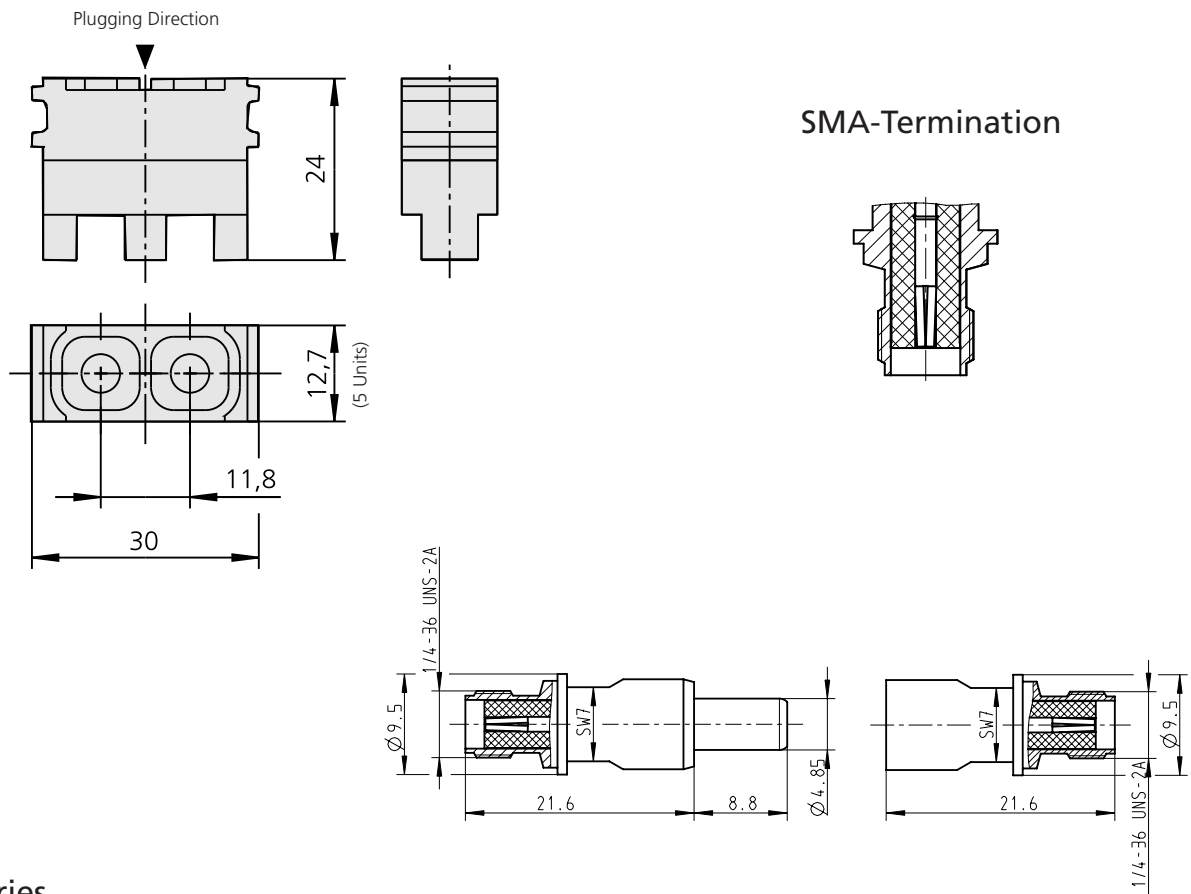


	Termination style	Termination style	Cable impedance (Ω)	
Insulation body	611 152 102 923 000			
Spacer	611 129 111 923 000			
Dummy contact	021 341 177 300 000			
Pin Contact straight	122 349 001 207 000	SMA	50	
Socket Contact straight	122 349 002 207 000	SMA	50	

## Module 2 Positions for 50 Ω Coax-Contacts -SMA Termination



### Module, Pin and Socket, 2 Positions



### Accessories

Removal tool I



Part-No. 087 122 349 000 000

## Module 2 Positions for 50 Ω Coax-Contacts -high voltage, non magnetic-

### Technical information:

Frequency range: 0 - 0,25 GHz

#### Voltage Information acc. MIL <sup>2)</sup>

Reference voltage: 850 V  
Test voltage: 2600 V

<sup>2)</sup> see page 99

Insulation resistance: >100 G Ω  
Total mating force (average): 12,0 N/Module  
Total demating force (average): 10,8 N/Module

Crimping instructions see page 82

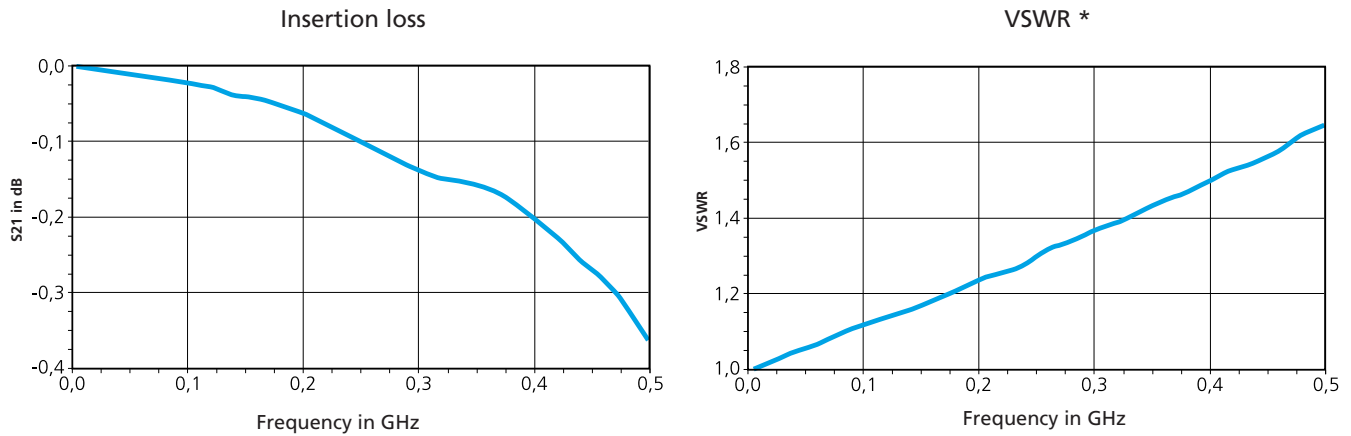
#### Materials:

Insulation body: Glass-filled thermoplastic (Polyester), UL-94 V0 rated  
Contact: Cu-Alloy  
Surface: 2 μm white bronze + 0,8 μm Au

Operating temperature: -40°C up to +125°C

Mating cycles: min. 100.000

### High frequency characteristics of the 50 Ω Coaxial Contacts



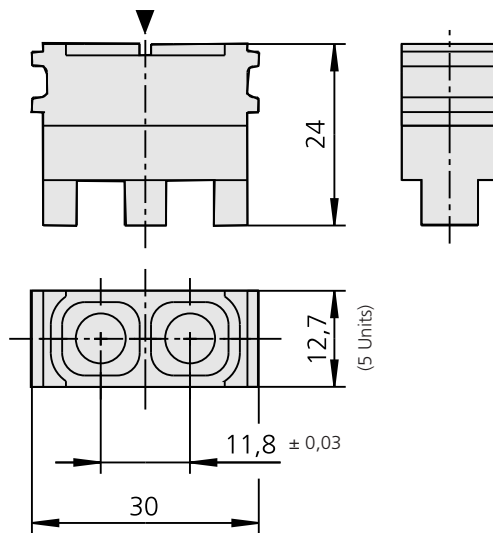
	Part Number.	Cable-Impedance (Ω)	Cable	Crimp Dies Part Number.
Insulation body	611 155 102 923 000			
Spacer	611 129 111 923 000			
Dummy contact	021 341 177 300 000			
Pin Contact straight	122 126 001 257 000	50	RG 178 / RG 196	082 000 039 101 000
Pin Contact straight	122 126 003 257 000	50	RG 174 / RG 188 / RG 316	082 000 039 102 000
Pin Contact straight	122 126 009 257 000	50	RG 223	082 000 039 106 000
Socket Contact straight	122 126 002 257 000	50	RG 178 / RG 196	082 000 039 101 000
Socket Contact straight	122 126 004 257 000	50	RG 174 / RG 188 / RG 316	082 000 039 102 000
Socket Contact straight	122 126 010 257 000	50	RG 223	082 000 039 106 000
Crimp tool for EMI Sleeve	080 000 039 000 000			

**Module 2 Positions for  
50 Ω Coax-Contacts  
-high voltage, non magnetic-**



**Module, Pin and Socket, 2 Positions**

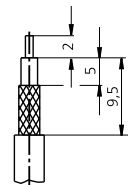
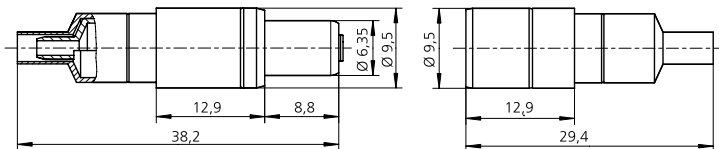
Plugging Direction



Pin

Socket

Strip off length



**Accessories**

Removal tool I



Part-No. 087 170 391 000 000

## Module 2 Positions for 75 Ω Coax Contacts

### Technical information:

Frequency range: 0-2 GHz

**Voltage Information acc. MIL <sup>2)</sup>**

Reference voltage: 475 V  
 Test voltage: 1425 V

<sup>2)</sup> see page 99

Insulation resistance: >100 G Ω  
 Total mating force (Average): 9 N/Module  
 Total demating force (Average): 7,5 N/Module

**Materials:**

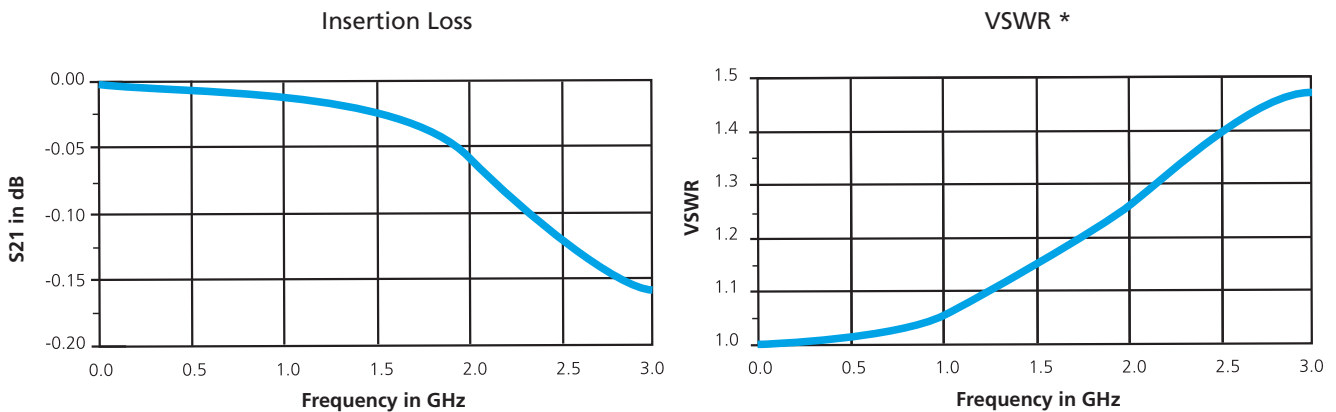
Insulation body: Glass-filled thermoplastic (Polyester), UL-94 V0 rated  
 Contact body: Cu-Alloy  
 Contact spring: Cu Sn

**Contact finish:**

Pin, center contact: 0,75 μm Au over 1,25 μm Ni  
 Pin, outer contact: 6 μm Ni  
 Socket, center contact: Springs 0,75 μm Au over 1,25 μm Ni  
 Socket, outer contact: Springs 0,75 μm Au over 1,25 μm Ni  
 Operating temperature: -40°C up to +125°C

Mating cycles: min. 100.000

### High frequency characteristics of the 75 Ω Coaxial Contacts



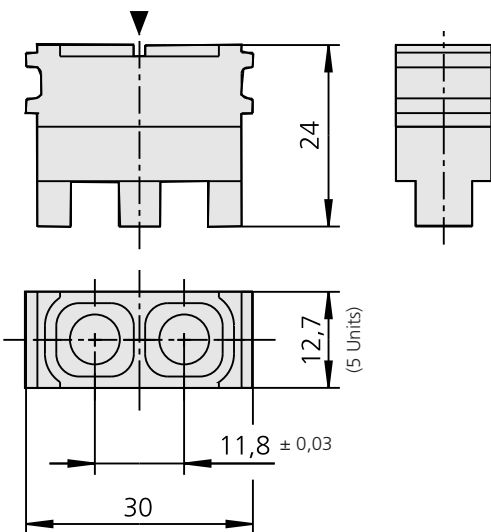
	Part Number.	Cable Impedance (Ω)	Cable	Crimp Dies Part Number
Insulation Body	611 155 102 923 000			
Spacer	611 129 111 923 000			
Dummy contact	021 341 179 923 000			
Pin Contact straight	122 348 003 207 000	75	RG 179 / RG 187	082 000 039 102 000
Pin Contact straight	122 348 007 207 000	75	G 03233 (H+S)	082 000 039 106 000
Pin Contact straight	122 348 009 207 000	75	RG 59	082 000 039 109 000
Socket Contact straight	122 348 004 207 000	75	RG 179 / RG 187	082 000 039 102 000
Socket Contact straight	122 348 008 207 000	75	G 03233 (H+S)	082 000 039 106 000
Socket Contact straight	122 348 010 207 000	75	RG 59	082 000 039 109 000
Crimp tool for EMI Sleeve	080 000 039 000 000			

## Module 2 Positions for 75 Ω Coax Contacts

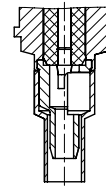


### Module, Pin and Socket, 2 Positions

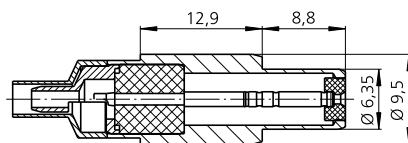
Plugging Direction



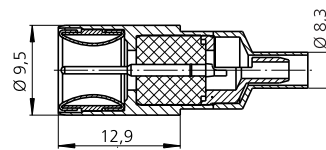
Cable termination



Pin



Socket



Center contact soldered  
Outer contact soldered or crimped

### Accessories

Removal tool I



Part-No. 087 170 391 000 000

## Module for compressed air valve Tube Ø max. 4 mm

### Technical information:

**Materials:**

Insulation body: Glass-filled thermoplastic (Polyester), UL-94 V0 rated

Compressed Air valve: Cu-Alloy – blank

Air pressure: valid operating pressure max. 20 bar

Total mating force (Average): 18,3 N/Module (not shut off)

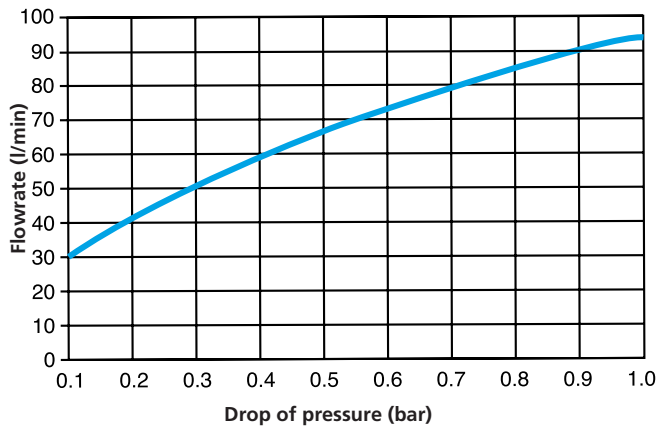
Total demating force (Average): 13,9 N/Module (not shut off)

Total mating force (Average): 15,0 N/Module (shut off) <sup>1)</sup>

Total demating force (Average): 4,8 N/Module (shut off) <sup>1)</sup>

Operating temperature: -40°C up to +125°C

Mating cycles: min. 5.000



**Attention:**

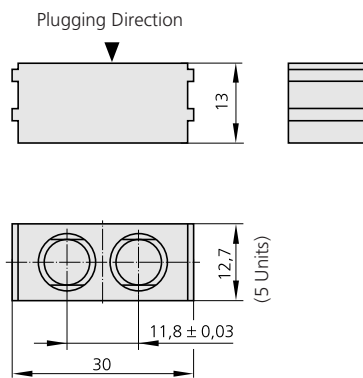
<sup>1)</sup> Because of function are the contacts in mated condition prestressed. This prestressing must be hold up by a clamping system in the frame.

	Part Number.	Dim. A Ø	Dim. X	Termination		
				I	II	
Module, 2 Positions	611 141 102 923 000					
Plug Sleeve (not shut off)	196 023 001 300 000	3	8,5	X		
Plug Sleeve (not shut off)	196 024 001 300 000	4	10,5	X		
Plug Sleeve (not shut off)	196 025 001 300 000	M5	-		X	
Coupling Plug (not shut off)	196 023 003 300 000	3	8,5	X		
Coupling Plug (not shut off)	196 024 003 300 000	4	10,5	X		
Coupling Plug (not shut off)	196 025 003 300 000	M5	-		X	
Plug sleeve (shut off)	196 025 014 300 000	M5	-		X	<sup>1)</sup>
Coupling Plug (shut off)	196 023 002 300 000	3	8,5	X		
Coupling Plug (shut off)	196 024 002 300 000	4	10,5	X		
Coupling Plug (shut off)	196 025 012 300 000	M5	-		X	<sup>1)</sup>

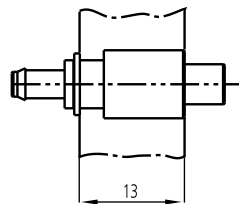
**Module for compressed air valve**  
**Tube Ø max. 4 mm**



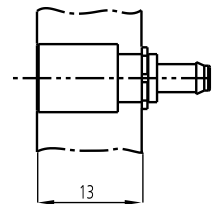
Module, Pin and Socket, 2 positions



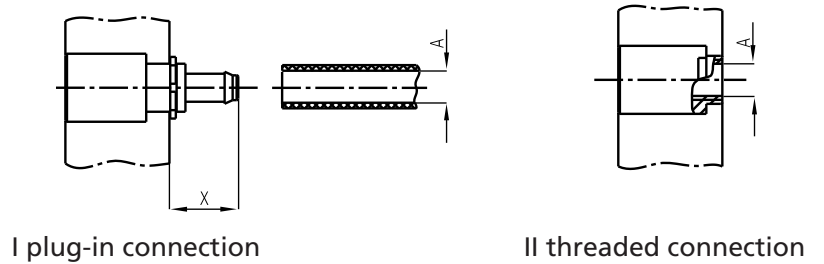
Plug sleeve (Pin)



Coupling plug



Termination



## Module for compressed air valve Tube Ø max. 6 mm

### Technical information:

**Materials:**

Insulation body: Glass-filled thermoplastic (Polyester), UL-94 V0 rated

Compressed air valve: Cu-Alloy – blank

Air pressure: valid operating pressure max. 12 bar

Total mating force (Average): 10,8 N/Module (not shut off)

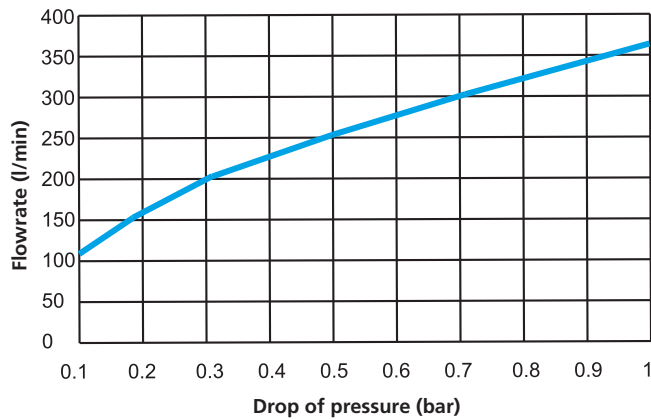
Total demating force (Average): 7,8 N/Module (not shut off)

Total mating force (Average): 8,6 N/Module (shut off) <sup>1)</sup>

Total demating force (Average): 4,5 N/Module (shut off) <sup>1)</sup>

Operating temperature: -40°C up to +125°C

Mating cycles: min. 5.000



**Attention:**

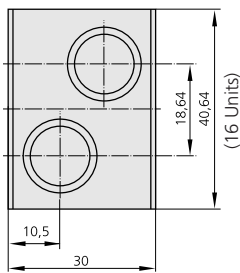
<sup>1)</sup> Because of function are the contacts in mated condition prestressed. This prestressing must be hold up by a clamping system in the frame.

	Part Number.	Dim. A Ø	Dim. X	
Socket Module, 2 Positions	610 140 102 923 000			
Pin Module, 2 Positions	611 140 102 923 000			
Module (Socket & Pin) 1 Position	611 142 101 923 000			
Plug Sleeve (not shut off)	196 001 001 300 000	4	15	
Plug Sleeve (not shut off)	196 002 001 300 000	6	17,5	
Coupling Plug (not shut off)	196 001 003 300 000	4	15	
Coupling Plug (not shut off)	196 002 003 300 000	6	17,5	
Coupling Plug (shut off)	196 001 002 300 000	4	15	<sup>1)</sup>
Coupling Plug (shut off)	196 002 002 300 000	6	17,5	<sup>1)</sup>

## Module for compressed air valve Tube Ø max. 6 mm

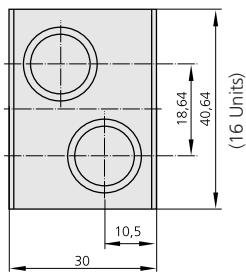
Socket Module,  
2 Pos.

Plugging Direction



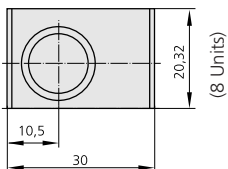
Pin Module,  
2 Pos.

Plugging Direction

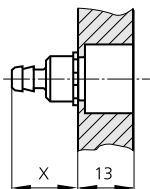


Module, 1 Pos.  
(Pin and Socket)

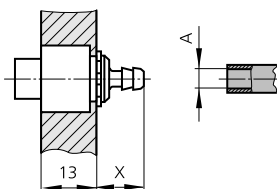
Plugging Direction



Couplin plug



Plug sleeve



both side "shut off version" on request

## Module 2 Positions for Fiber Optic Contacts

for 1mm POF (Polymer Optical Fiber) with 2,2 / 2,3 mm outer diameter

### Technical information:

**Insertion loss:**

typical: 1,5dB at 670nm  
 during ivetime: < 2dB at 670nm

Mating cycles: min. 100.000  
 Total mating force (Average): 11,7N <sup>1)</sup>

**Materials:**

Insulation body: Glass-filled thermoplastic (Polyester), UL-94 V0 rated  
 Fiber optical contact: Cu-Ni-Zn Legierung  
 Type of optical fiber: Polymer-Optical-Fiber 980/1000 (POF) or 980/1550  
 Fiber fastening: Clamping

**Temperature Range:**

Standard fiber: -40°C/+85°C  
 High temperature fiber: -40°C/+115°C

Mating cycles: min. 100.000

**Attention:**

<sup>1)</sup> Because of function are the contacts in mated condition prestressed. This prestressing must be hold up by a clamping system in the frame.

**Assembly:**

Please ask for the assembly instruction.

	Part Number.	Dim. A	
Module, 2 Positions	611 141 102 923 000		
Socket 980/1000 µm	196 501 001 901 000	1,05	
Plug 980/1000 µm	196 501 002 901 000	1,02	
Socket 980/1550 µm (MOST standard)	196 502 001 901 000	1,60	
Plug 980/1550 µm (MOST standard)	196 502 002 901 000	1,60	
Tool for cable-stripping	598 501 001 000 000		
Wrench/Spanner 4,5 mm	598 501 002 000 000		
Wrench/box spanner 8 mm	598 501 003 000 000		
Polish-device for jack	598 501 004 000 000		
Spare blades	598 501 006 000 000		
Polish-device for plug	598 501 007 000 000		
Sandpaper 1000	598 501 008 000 000		
Polishfleece	598 501 009 000 000		
Polish for acrylic glass	598 501 005 000 000		

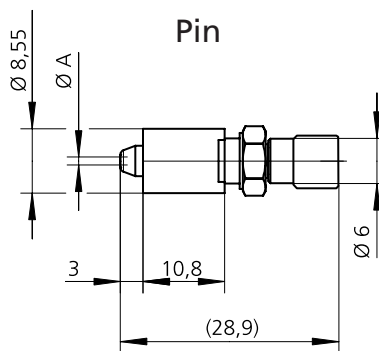
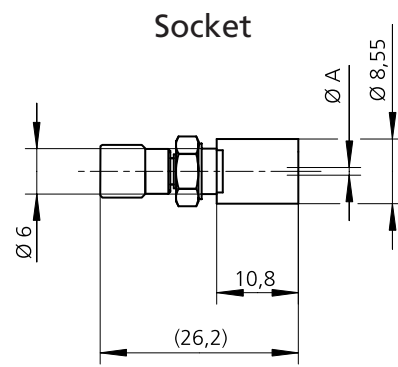
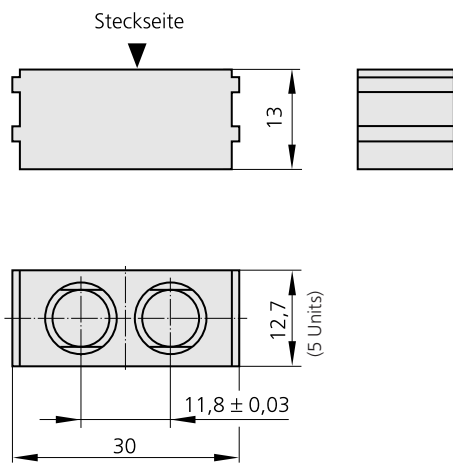
**Fiber optical contact for glass fiber on request**

## Module 2 Positions for Fiber Optic Contacts

for 1mm POF (Polymer Optical Fiber)  
with 2,2 / 2,3 mm outer diameter



### Module, Pin and Socket, 2 Positions



## Module 5 Positions for Fiber Optic Contacts

for 1mm POF (Polymer Optical Fiber)  
with 2,2 / 2,3 mm outer diameter

### Technical information:

**Insertion loss:**

typical: 1,5dB at 670nm  
during ivetime: < 2dB at 670nm

Mating cycles: 40.000  
Total mating force (Average): < 25N <sup>1)</sup>

**Materials:**

Insulation body: Glass-filled thermoplastic (Polyester), UL-94 V0 rated  
Fiber optical contact: Cu-Alloy  
Type of optical fiber: Polymer-Optical-Fiber 980/1000 (POF)  
Fiber fastening: Crimp

**Temperature Range:**

Standard fiber: -40°C/+85°C  
High temperature fiber: -40°C/+115°C

Mating cycles: min. 40.000

**Attention:**

<sup>1)</sup> Because of function are the contacts in mated condition prestressed. This prestressing must be hold up by a clamping system in the frame.

**Assembly:**

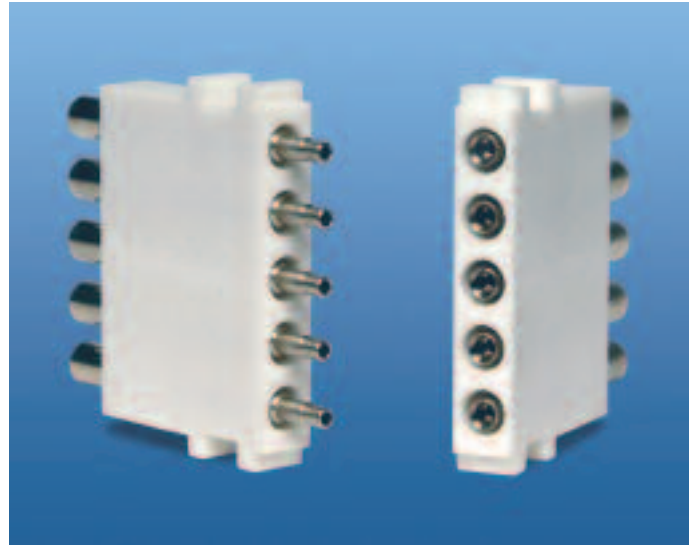
Please ask for the assembly instructions.

	Part Number.	
Insulation body, 5polig	611 163 105 923 000	
Socket contact 980/1000 µm	196 503 001 901 000	
Pin contact 980/1000 µm	196 503 002 901 000	
Set (strip- and crimp-wrench)	080 000 048 000 000	
Tool for cable stripping	080 000 048 100 000	
Crimp-wrench	080 000 048 200 000	

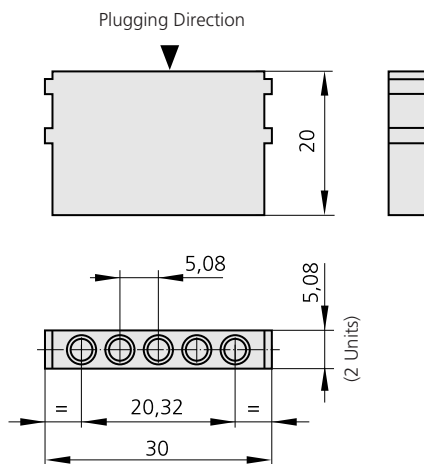
**Fiber optical contact for glass fiber on request**

## Module 5 Positions for Fiber Optic Contacts

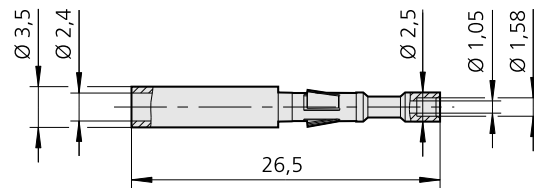
for 1mm POF (Polymer Optical Fiber)  
with 2,2 / 2,3 mm outer diameter



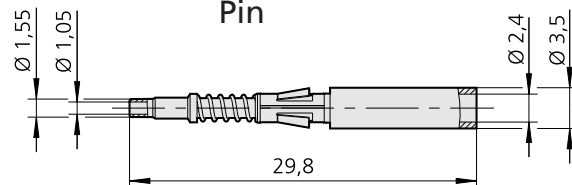
### Module, Pin and Socket, 5 Positions



Socket



Pin



### Accessories

Removal tool

Attention: Removal from the front - no cut off of the cable necessary



Part-No. 087 611 001 002 000

## Module for multiposition, shielded implementation – Size 0 (Application in Bussystems)

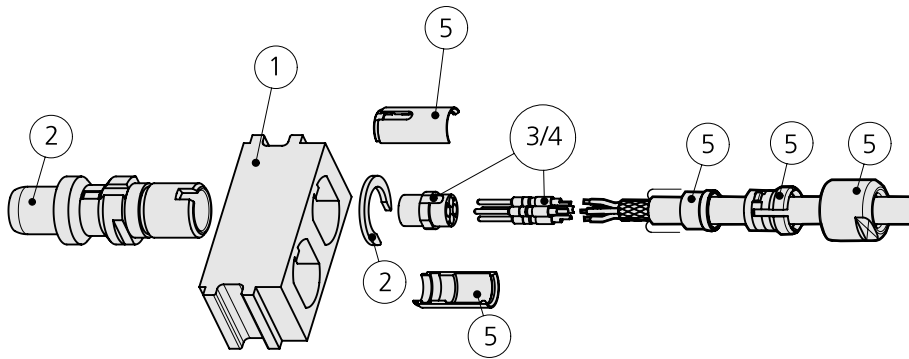
### Technical information:

We get data rates from up to 400 Mbit/s according to IEEE 1394-1995. with our inserts.

The application in the following systems includes this module:

- Profibus
- Interbus
- P-Net
- CAN-Bus

### Assembly - Pin-Part

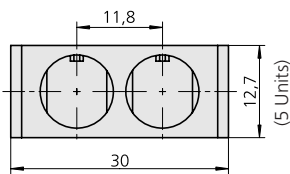
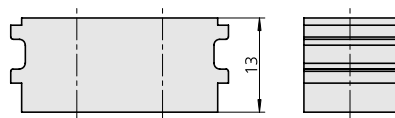


### Part Number:

#### Basis Parts:

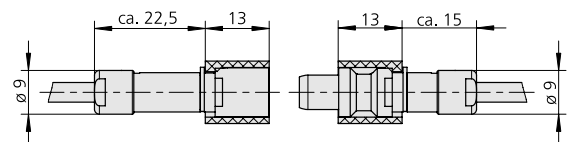
① Insulation body:	611 148 102 923 000
② Cable housing cpl.:	653 001 001 304 000
② Plug housing cpl.:	653 001 002 304 000
Dummy contact:	021 341 182 300 000

## Module for multiposition, shielded implementation – Size 0 (Application in Bussystems)



In-Line Receptacle

Plug



### Inserts cpl. – Solder-in Version

Inserts



Pos	Contact Ø	Application cross section	Rated voltage Rated impulse voltage Degree of Pollution up to VDE 110	Test Voltage acc to VDE 0627	Version	Insert cpl. Part number
2pol.	0,9	AWG 22	32 V/2KV/3	875 VAC	St	700 849 724 002 200
			100V/2 KV/2		Bu	700 749 724 002 200
3pol.	0,9	AWG 22	10V/1,5 KV/3	875 VAC	St	700 849 724 003 200
			32 V/1,5 KV/2		Bu	700 749 724 003 200
4pol.	0,7	AWG 26	10V/1,5 KV/3	875 VAC	St	700 848 724 004 200
			32 V/1,5 KV/2		Bu	700 748 724 004 200
5pol.	0,7	AWG 26	10V/1,5 KV/3	750 VAC	St	700 848 724 005 200
			32 V/1,5 KV/2		Bu	700 748 724 005 200
6pol.	0,5	AWG 28	10V/1,5 KV/3	750 VAC	St	700 841 724 006 200
			32 V/1,5 KV/2		Bu	700 741 724 006 200
7pol.	0,5	AWG 28	10V/1,5 KV/3	750 VAC	St	700 841 724 007 200
			32 V/1,5 KV/2		Bu	700 741 724 007 200

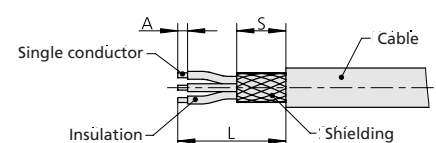
Only Inserts -Crimp termination (on request)

### Assembly Set

Cable Ø	Part number
1,5-2,0 mm	653 001 001 304 020
2,0-2,5 mm	653 001 001 304 025
2,5-3,0 mm	653 001 001 304 030
3,0-3,5 mm	653 001 001 304 035
3,5-4,0 mm	653 001 001 304 040
4,0-4,5 mm	653 001 001 304 045
4,5-5,0 mm	653 001 001 304 050

### Strip off length

Contact Ø	Solder term		
	L	A	S
0,5	7	2	2,5
0,7	7	2	2,5
0,9	7	2	2,5



## Module for multiposition, shielded implementation – Size 1 (Application in Bussystems)Module

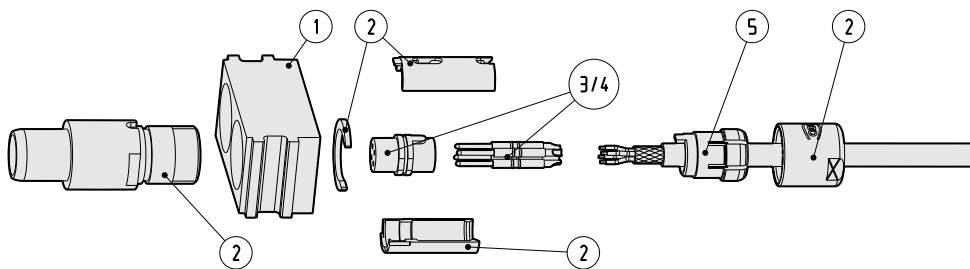
### Technical information:

We get data rates from up to 400 Mbit/s according to IEEE 1394-1995. with our inserts.

The application in the following systems includes this module:

- Profibus
- Interbus
- P-Net
- CAN-Bus

### Assembly - Pin-Part

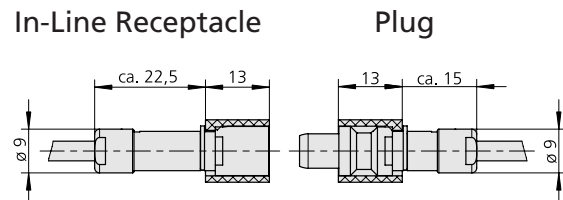
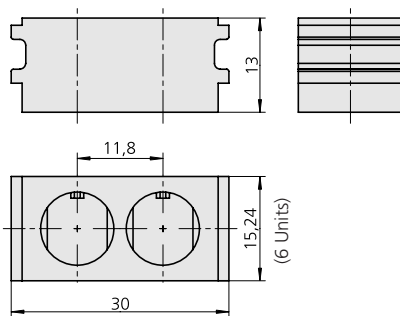


### Part Number:

#### Basis Parts:

- |                       |                     |
|-----------------------|---------------------|
| ① Insulation body:    | 611 167 102 923 000 |
| ② Cable housing cpl.: | 653 002 001 304 000 |
| ② Plug housing cpl.:  | 653 002 002 304 000 |

## Module for multiposition, shielded implementation – Size 1 (Application in Bussystems)Module



### ④ Inserts cpl. – Solder-in Version

Inserts



Pos	Contact Ø	Application cross section	Rated voltage Rated impulse voltage Degree of Pollution up to VDE 110	Rated voltage to MIL ISAE A513441/ IEC 60512-2	Version	Insert cpl. Part number	Mating force	Demating kraft
2pol.	1,3	AWG 20	32V/1,5KV/3	300 VAC	St	701 844 724 002 200	22 N	17 N
			80V/2,5KV/2		Bu	701 744 724 002 200		
3pol.	1,3	AWG 20	16 V/1,5KV/3	333 VAC	St	701 844 724 003 200	22 N	17 N
			40V/1,5KV/2		Bu	701 744 724 003 200		
4pol.	0,9	AWG 22	10V/1,5KV/3	333 VAC	St	701 849 724 004 200	21 N	16 N
			32 V/1,5 KV/2		Bu	701 749 724 004 200		
5pol.	0,9	AWG 22	32 V/1,5 KV/2	400 VAC	St	701 849 724 005 200	21 N	16 N
			32 V/1,5 KV/2		Bu	701 749 724 005 200		
6pol.	0,7	AWG 22	32 V/1,5 KV/2	450 VAC	St	701 848 724 406 200	20 N	16 N
			32 V/1,5 KV/2		Bu	701 748 724 406 200		
7pol.	0,7	AWG 22	32 V/1,5 KV/2	450 VAC	St	701 848 724 407 200	20 N	16 N
			32 V/1,5 KV/2		Bu	701 748 724 407 200		
8pol.	0,7	AWG 22	32 V/1,5 KV/2	500 VAC	St	701 848 724 408 200	20 N	16 N
			32 V/1,5 KV/2		Bu	701 748 724 408 200		
10pol.	0,5	AWG 28	32 V/1,5 KV/2	500 VAC	St	701 841 724 410 201	20 N	18 N
			32 V/1,5 KV/2		Bu	701 741 724 410 200		
14pol.	0,5	AWG 28	20 V/1,5 KV/2	550 VAC	St	701 841 724 414 201	20 N	18 N
			20 V/1,5 KV/2		Bu	701 741 724 414 200		

Only Inserts -Crimp termination (on request)

### ⑤ Assembly Set

Cable Ø	Part number
1,5-2,1 mm	751 020 188 304 022
2,0-3,2 mm	751 020 188 304 032
3,0-4,2 mm	751 020 188 304 042
4,0-5,2 mm	751 020 188 304 052
5,0-6,2 mm	751 020 188 304 062
6,0-7,2 mm	751 020 188 304 072
7,0-7,7 mm	751 020 188 304 077

### Strip off length

contact Ø	Solder term.			Crimp ter.		
	L	A	S	L	A	S
0,5	9	2	2,5	-	-	-
0,7	9	2	2,5	12	3	2,5
0,9	9	2	2,5	12	3	2,5
1,3	9	2	2,5	12	3	2,5

