

# ■ Connection Technology for Printed Circuit Boards up from pitch 10 mm

WECO - making contact



## Content

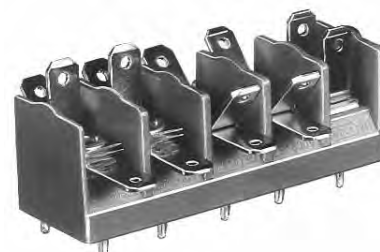
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158-A-111



972



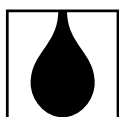
983-FD

## Symbols on data sheets

These symbols can be found on our data sheets on the right side of the product image.



These articles comply with the RoHS regulations.



pottable

Through its geometry, this product is specially suitable for potting.



„no flame“ after glow-wire test  
according to household appliance  
standard DIN EN/IEC 60335-1

The materials used for enclosures are VDE-tested and approved according to the glow-wire tests specified in DIN EN/IEC 60335-1. It is conform with the requirements of the increased household appliance standard.

## Overview



### Connectors for printed circuit boards

WECO PCB connectors always offer a good solution for almost any connection problem by its big variety of types. The screw connections are available in socket terminal style, in elevator clamping style or as head contact terminals. The plug connectors are especially designed for the connection of components or peripheral devices. Tab connectors and screwless types complete the product program.



### Plug-In connector systems

The series of conecta are plug-in connector systems consisting of plug connectors with screw and their corresponding pin strips.

Due to four different pitch sizes, lateral flange executions, tier versions and different plug directions, this product serie suit almost every application on the PCB. All connectors offer coding possibilities to avoid incorrect plugging.



### SMD & THR

“SMarTconn” covers terminals and plug connectors for surface mount and reflow soldering technique. Apart from the proven Through-Hole-Technology (THR) we focus on genuine SMD - Surface Mount Devices – in this product serie. With their reliable adhesive forces and their good reflow soldering capabilities, we offer products, which are a worthy replacement for the conventional soldering technique. All products of this series are packed in tape-on-reel or tube magazines for the automatic assembling with a pick & place machine.



### Terminal strips

This group contains socket terminals, plug-in connectors, screwless types and additionally the combination of screw and solder tag for the wire-to-wire connection. All types are available for different cross sections, with and without wire protectors. The used Polyamide plastic material pass the ball pressure test with 125°C according to VDE 0470, which is demanded in many IEC and VDE regulations for insulants.



### Tab connectors

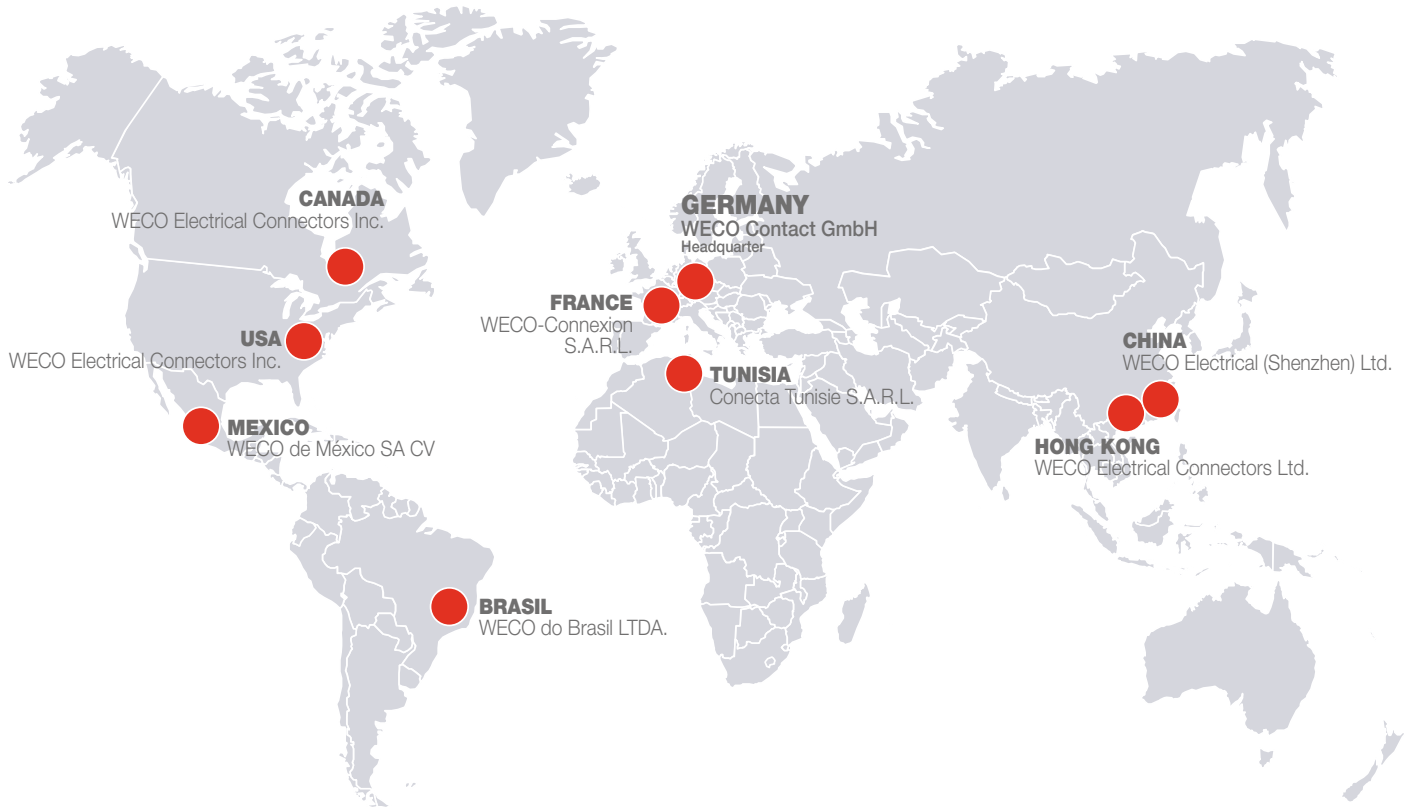
These connectors are equipped with receptacles in different sizes and styles. Mixed arrangements per terminal block as well as per pole (Multi-Point Tab Connectors) are possible. Combinations of tab / solder connectors, flat plug couplers and space saving tier versions increase the density of connections. The tab connectors offer a wide spectrum of possible combinations, whereby many connection problems can be solved.



### Ceramic terminal blocks

This group covers mantle terminals, ceramic terminal strips and terminals for explosion and firedamp-hazard areas. Various sizes and designs permit them to be used for wire cross sections up to 120 mm<sup>2</sup> and including applications in furnace construction and ship building, for engines and intrinsically safe electrical equipment. The terminal blocks with ceramic insulator can be used at increased temperatures.

## ■ The WECO Group



We, WECO Contact GmbH, are a German manufacturer of high reputation in the field of electronics and electrical engineering. Our headquarter is located in Hanau and has own assembly and sales companies in USA, Canada, Brazil, France, China, Hong Kong and Mexico. With over 450 employees and a worldwide distribution network in 56 countries, we speak the language of our customers.

Our extensive product range includes nearly 17,000 different articles.

We are well known for innovation which is particularly evident in the patented SMD series for the genuine surface mounting technology. Hereby, the user experiences real cost savings in the manufacturing process, especially if the terminal is the last component of the customer to be soldered on the board.

Another strength are the customer-specific developments and a fast and flexible project implementation with which we respond to the increasing engineering demands of the middle class customers.

The entire WECO Group is a reliable partner for our customers, and the customers' satisfaction is one of our main goals to achieve.

## ■ Household Appliance Standard DIN EN/IEC 60335-1

### What is the household appliance standard all about?

The Household Appliance Standard DIN EN/IEC 60335-1:2007-02 standardizes the safety features of electrical appliances for household use and similar purposes.

The standard requires testing of glow wire resistance for non-metallic materials used in appliances operated with  $>0,2$  A and applies for non-metallic materials which hold active components in position.

These fire protection requirements shall prevent self-ignition of unattended appliances thus significantly increasing fire safety.

### For which appliances does this standard apply?

The standard is applicable for electric and electronic components in unattended household appliances with rated currents of  $>0,2$  A, such as

terminals and switches, e.g. in:

- Dishwashers, washing machines, refrigerators
- Kitchen stoves, microwaves
- Small household appliances, such as mixers, coffee machines

Unattended equipment used in small and medium-sized enterprises is also affected, namely:

- Pump components
- Illuminant components
- Industrial and commercial cleaning equipment
- Hair salon equipment etc.

### WECO products are compliant with the glow-wire tests according to the household appliance standard!

For the white goods market segment, WECO Contact GmbH offers an extensive range of products meeting the requirements of the Household Appliance Standard DIN EN/IEC 60335-1. Even before the transition period expired in July 2007, many WECO products had already been compliant with the tightened household appliance standard, providing WECO Contact with an enormous edge over competitors, particularly over those in Asia.

The materials used for enclosures are VDE-tested and approved according to the glow-wire tests specified in DIN EN/IEC 60335-1. This applies for all standard WECO colours!

#### PRODUCTS:

- All products of the connections for printed circuit boards with the exception of large-pole articles of the series 95.., 96.. and 97.. as well as SMD and THR products.
- Series 326 and 327
- Other products: Producibility must be verified for each product

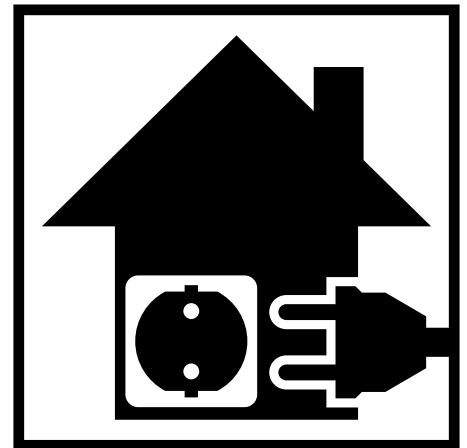
We designate products compliant with this tightened household appliance standard, if a specific variant compatible to the household appliance standard is available:

#### • PART NUMBER:

The existing 8-digit article number will be continued and supplemented by „EN6“.

#### • DESIGNATION:

The existing designation will be continued. A „6“ will be placed before „GP“ resulting in „6GP“.



### Are you affected?

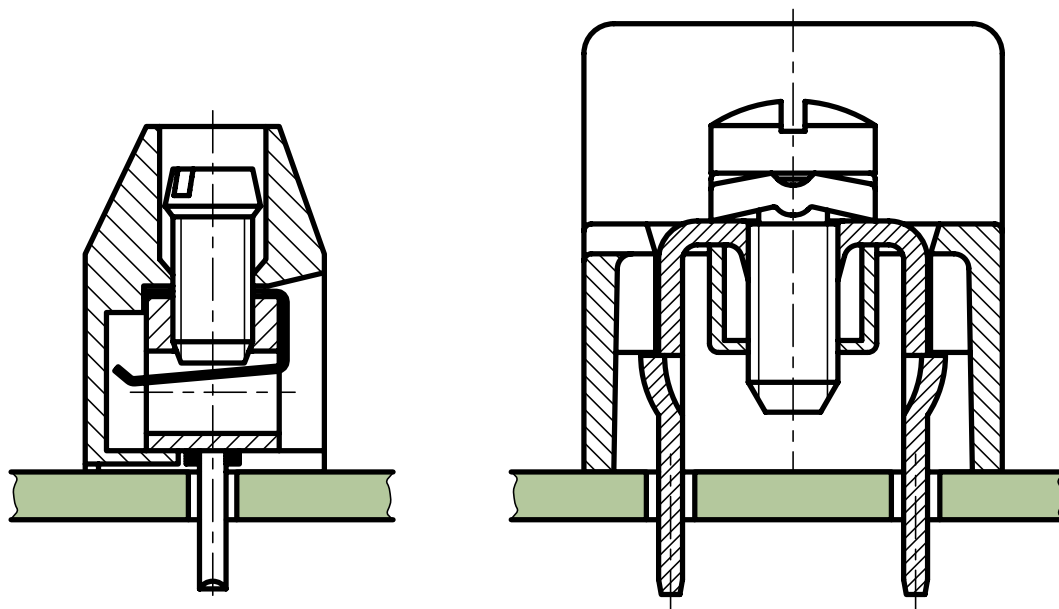
Even today, long after the tightened Household Appliance Standard DIN EN/IEC 60335-1 entered into force, many questions still arise and need clarification.

Even equipment manufacturers affected by this household appliance standard often are unaware of the standard's requirements and only find out that they ARE AFFECTED, when they submit their products at VDE and are denied approval because products do not meet the currently valid standards.

We at WECO Contact take technical support and service for our customers seriously. Therefore, we have compiled on our website a list of all manufacturer products affected by the household appliance standard. At a glance, our customers can now gather information on whether their appliances are affected or not.

The list is also a valuable tool for both sales staff and field reps, helping them to resolve possible unclear issues in project meetings, and enabling them to optimally support the customer.

## ■ PCB connectors



Thanks to their versatile design, WEPCO Contact PCB connectors offers a solution for every connection application. This catalogue lists connectors for printed circuits in 10 mm, 10,16 mm and 12,7 mm pitch.

Depending on the type, the connectors are available with the common number of poles.

The screw terminals are built on the principle of the socket terminal, either as a lift system or as a head contact terminal.

Damage to flexible conductors can be prevented through the use of our products with wire protection (indicated by the name “-DS” in the product) reliably prevented.

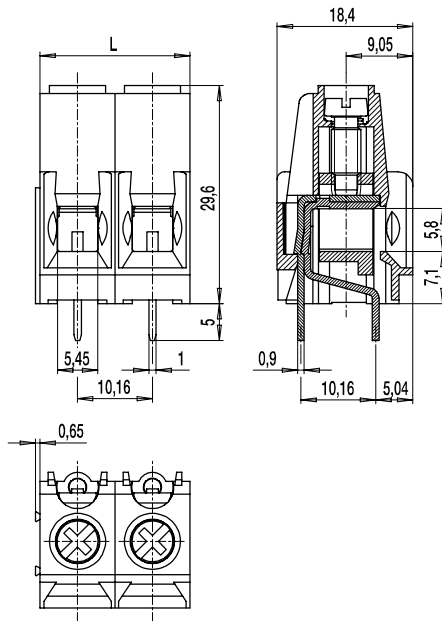
All versions – with the exception of the series 983 - are equipped with captive screws which also allow over-head assembly.

As standard, our terminals are delivered unmarked. Upon request, they can also be printed, e.g. with consecutive numbering or individual labeling according to customer requirement.

## PCB connector

### 158-A-111

Screw connection



Series 158-A is particularly designed for high voltages and strong currents. A terminal space for solid wires of up to 16 mm<sup>2</sup> or for flexible wires of up to 10 mm<sup>2</sup> is characteristic for this series. Two solder pins per pole ensure safe connection to the PCB.

Series 158-A-111 is a low version in 10.16 mm pitch and suitable for voltages up to 690 V.

Unlimited UL-approval (UL1059, general industrial, Group C) for 300 V facilitates design approval. This series is suitable for field wiring applications according to UL508C.

#### Part Numbers

No. of poles	158-A-111	Length	Pcs
2	12.801.901	20,32	50
3	13.801.901	30,48	50
4	14.801.901	40,64	50
5	15.801.901	50,80	50

further number of poles on request

#### General Information

Pitch	10,16 mm
No. of poles	2 - 12
Usable with	158-A-211, 159-A-111 and 159-A-211, mountable side-by-side to any series connector
Areas of application	Power electronics, in particular for drives with frequency converters, and also for power supplies and charging units.
Additional Information	Hole for ø 2 mm test plug

#### Technical Data

Clamping Range	solid / flexible / AWG		
	0,5 - 16 mm <sup>2</sup> / 0,5 - 10 mm <sup>2</sup> / 20 - 6 AWG		
Rated Cross Section	10 mm <sup>2</sup>		
Wire Stripping Length	10,5 mm ± 1 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	690 V	1000 V	1000 V
Rated Impulse Voltage	8 kV	8 kV	6 kV
Rated Current	57 A		
Hole in PCB	ø 1,5 mm		
Torque	1,2 Nm		
Other specifications	Maximum current/cross-section 76 A / 16 mm <sup>2</sup> , stranded wire		

#### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal body	Nickel plated brass
Pressure clamp	Tin plated copper
Screw	Plus-minus, M4; zinc plated steel, blue passivated
Solder pin	Tin plated copper

#### Approvals

	Current	Voltage	Group	AWG	Nm
UL®	60	300	B, C	20 - 6	1,3
	10	300	D	20 - 6	1,3

#### Options / Accessories

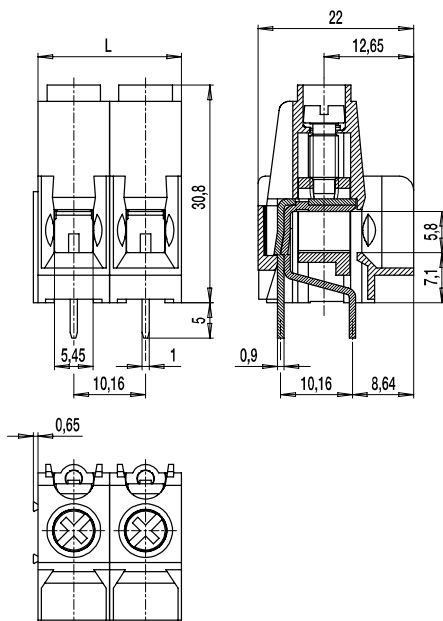
- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,16



## PCB connector

### 158-A-211

Screw connection, tall version, extended wire entrance



Series 158-A is particularly designed for high voltages and strong currents. A terminal space for solid wires of up to 16 mm<sup>2</sup> or for flexible wires of up to 10 mm<sup>2</sup> is characteristic for this series. Two solder pins per pole ensure safe connection to the PCB.

Series 158-A-211 is a tall version in 10.16 mm pitch and suitable for voltages up to 800 V.

Unlimited UL-approval (UL1059, general industrial, Group C) for 300 V facilitates design approval. This series is suitable for field wiring applications according to UL508C.

#### Part Numbers

No. of poles	158-A-211	Length	Pcs
2	12.801.902	20,32	50
3	13.801.902	30,48	50
4	14.801.902	40,64	50
5	15.801.902	50,80	50

further number of poles on request

#### General Information

Pitch	10,16 mm
No. of poles	2 - 12
Usable with	158-A-111, 159-A-111 and 159-A-211, mountable side-by-side to any series connector
Areas of application	Power electronics, in particular for drives with frequency converters, and also for power supplies and charging units.
Additional Information	Hole for ø 2 mm test plug


#### Technical Data

Clamping Range	solid / flexible / AWG		
	0,5 - 16 mm <sup>2</sup> / 0,5 - 10 mm <sup>2</sup> / 20 - 6 AWG		
Rated Cross Section	10 mm <sup>2</sup>		
Wire Stripping Length	10,5 mm ± 1 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	800 V	1000 V	1000 V
Rated Impulse Voltage	8 kV	8 kV	6 kV
Rated Current	57 A		
Hole in PCB	ø 1,5 mm		
Torque	1,2 Nm		
Other specifications	Maximum current/cross-section 76 A / 16 mm <sup>2</sup> , stranded wire		

#### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal body	Nickel plated brass
Pressure clamp	Tin plated copper
Screw	Plus-minus, M4; zinc plated steel, blue passivated
Solder pin	Tin plated copper

#### Approvals

	Current	Voltage	Group	AWG	Nm
	60	300	B, C	20 - 6	1,3
	10	300	D	20 - 6	1,3

#### Options / Accessories

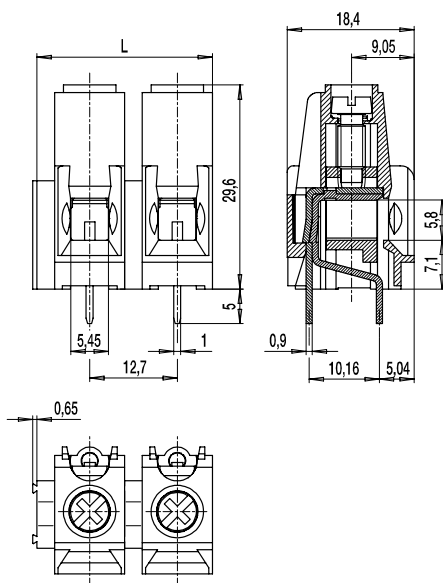
- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,16



## PCB connector

### 159-A-111

Screw connection



Series 159-A is particularly designed for high voltages and strong currents. A terminal space for solid wires of up to 16 mm<sup>2</sup> or for flexible wires of up to 10 mm<sup>2</sup> is characteristic for this series. Two solder pins per pole ensure safe connection to the PCB.

Series 159-A-111 is a low version in 12.7 mm pitch and suitable for voltages up to 1000 V.

Unlimited UL-approval (UL1059, general industrial, Group C) for 600 V facilitates design approval. This series is suitable for field wiring applications according to UL508C.

#### Part Numbers

No. of poles	159-A-111	Length	Pcs
2	12.801.903	25,40	50
3	13.801.903	38,10	50
4	14.801.903	50,80	50
5	15.801.903	63,50	50

further number of poles on request

#### General Information

Pitch	12,7 mm
No. of poles	2 - 12
Usable with	159-A-211, 158-A-111 and 158-A-211, mountable side-by-side to any series connector
Areas of application	Power electronics, in particular for drives with frequency converters, and also for power supplies and charging units.
Additional Information	Hole for ø 2 mm test plug

#### Technical Data

Clamping Range	solid / flexible / AWG		
	0,5 - 16 mm <sup>2</sup> / 0,5 - 10 mm <sup>2</sup> / 20 - 6 AWG		
Rated Cross Section	10 mm <sup>2</sup>		
Wire Stripping Length	10,5 mm ± 1 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	1000 V	1000 V	1000 V
Rated Impulse Voltage	8 kV	8 kV	6 kV
Rated Current	57 A		
Hole in PCB	ø 1,5 mm		
Torque	1,2 Nm		
Other specifications	Maximum current/cross-section 76 A / 16 mm <sup>2</sup> , stranded wire		

#### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal body	Nickel plated brass
Pressure clamp	Tin plated copper
Screw	Plus-minus, M4; zinc plated steel, blue passivated
Solder pin	Tin plated copper

#### Approvals

	Current	Voltage	Group	AWG	Nm
UL®	60	600	B, C	20 - 6	1,3
	5	600	D	20 - 6	1,3

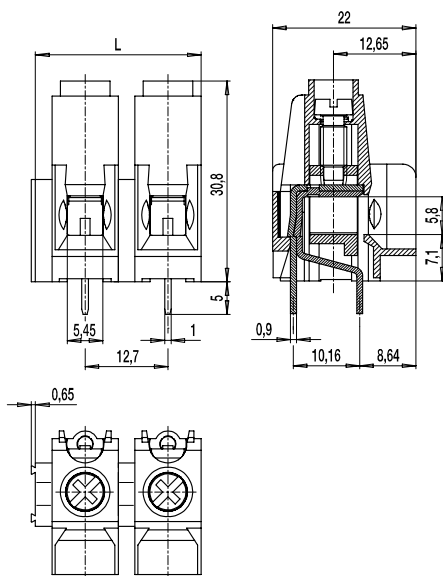
#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing

## PCB connector

### 159-A-211

Screw connection, tall version, extended wire entrance



Series 159-A is particularly designed for high voltages and strong currents. A terminal space for solid wires of up to 16 mm<sup>2</sup> or for flexible wires of up to 10 mm<sup>2</sup> is characteristic for this series. Two solder pins per pole ensure safe connection to the PCB.

Series 159-A is a tall version in 12.7 mm pitch. As the low version, it is suitable for voltages of up to 1000 V. Due to its extended wire entrance, it is particularly shock-proof and easy to assemble.

Unlimited UL-approval (UL1059, general industrial, Group C) for 600 V facilitates design approval. This series is suitable for field wiring applications according to UL508C.

#### Part Numbers

No. of poles	159-A-211	Length	Pcs
2	12.801.904	25,40	50
3	13.801.904	38,10	50
4	14.801.904	50,80	50
5	15.801.904	63,50	50

further number of poles on request

#### General Information

Pitch	12,7 mm
No. of poles	2 - 12
Usable with	159-A-111, 158-A-111 and 158-A-211, mountable side-by-side to any series connector
Areas of application	Power electronics, in particular for drives with frequency converters, and also for power supplies and charging units.
Additional Information	Hole for ø 2 mm test plug

#### Technical Data

Clamping Range	solid / flexible / AWG		
	0,5 - 16 mm <sup>2</sup> / 0,5 - 10 mm <sup>2</sup> / 20 - 6 AWG		
Rated Cross Section	10 mm <sup>2</sup>		
Wire Stripping Length	10,5 mm ± 1 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	1000 V	1000 V	1000 V
Rated Impulse Voltage	8 kV	8 kV	6 kV
Rated Current	57 A		
Hole in PCB	ø 1,5 mm		
Torque	1,2 Nm		
Other specifications	Maximum current/cross-section 76 A / 16 mm <sup>2</sup> , stranded wire		

#### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal body	Nickel plated brass
Pressure clamp	Tin plated copper
Screw	Plus-minus, M4; zinc plated steel, blue passivated
Solder pin	Tin plated copper

#### Approvals

	Current	Voltage	Group	AWG	Nm
UL <sup>®</sup> US	60	600	B, C	20 - 6	1,3
	5	600	D	20 - 6	1,3

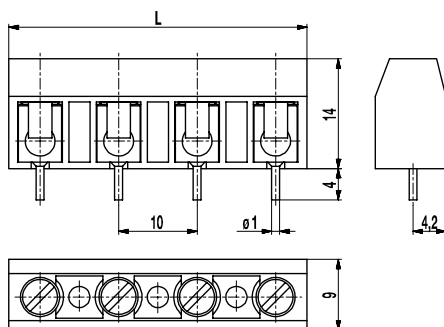
#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing

## PCB connector

### 910(-DS)

Screw connection



The series 910 PCB connector in 10 mm pitch is designed for particularly large wires.

#### Part Numbers

No. of poles	910	910-DS	Length	Pcs
2	10.876.002	20.876.002	18,00	250
3	10.876.003	20.876.003	28,00	250
4	10.876.004	20.876.004	38,00	200
5	10.876.005	20.876.005	48,00	100
6	10.876.006	20.876.006	58,00	100
7	10.876.007	20.876.007	68,00	100
8	10.876.008	20.876.008	78,00	100
9	10.876.009	20.876.009	88,00	100
10	10.876.010	20.876.010	98,00	100
11	10.876.011	20.876.011	108,00	100
12	10.876.012	20.876.012	118,00	100

#### General Information

Pitch	10 mm
No. of poles	2 - 12

#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i>		
without wire protector	2,5 - 10 mm <sup>2</sup> / 2,5 - 6 mm <sup>2</sup> / 14 - 10 AWG		
with wire protector	1,5 - 6 mm <sup>2</sup> / 1,5 - 4 mm <sup>2</sup> / 16 - 12 AWG		
Rated Cross Section	4 mm <sup>2</sup>		
Wire Stripping Length	6,5 mm ± 0,5 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	500 V	630 V	1000 V
Rated Impulse Voltage	6 kV	6 kV	6 kV
Rated Insulation Voltage	750 V acc. to EN 60998-1		
Rated Current	25 A		
Hole in PCB	ø 1,3 mm		
Torque	0,8 Nm		

#### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	CTI 400
Insulating Group	II
Temperature Range	-40°C up to 100°C
Terminal body	Tin plated brass
Screw	M3,5; zinc plated steel, blue passivated
Solder pin	ø 1 mm; tin plated brass
Wire protector	Tin plated tin bronze

#### Approvals

	Current	Voltage	Group	AWG	Nm
	25	300	B	18 - 10	0,79
	25	300	B	22-10 [1]	0,79
	10	300	D, E	22-10 [1]	0,79
	Current	Voltage	mm <sup>2</sup>		
	32	750	4,0		

[1] for 910-DS: 26 - 10 AWG

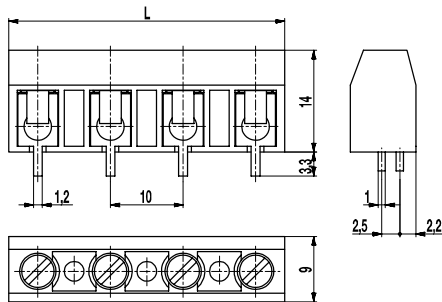
#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,00
- Solder pin ø 1.5 mm
- Version with two solder pins per pole, please see 910-Y(-DS)

## PCB connector

### 910-Y(-DS)

Screw connection, 2 solder pins per pole



The series 910-Y PCB connector in 10 mm pitch with two solder pins per pole is designed for particularly large wires.

#### Part Numbers

No. of poles	910-Y	910-Y-DS	Length	Pcs
2	30.876.002	40.876.002	18,00	250
3	30.876.003	40.876.003	28,00	250
4	30.876.004	40.876.004	38,00	200
5	30.876.005	40.876.005	48,00	100
6	30.876.006	40.876.006	58,00	100
7	30.876.007	40.876.007	68,00	100
8	30.876.008	40.876.008	78,00	100
9	30.876.009	40.876.009	88,00	100
10	30.876.010	40.876.010	98,00	100
11	30.876.011	40.876.011	108,00	100
12	30.876.012	40.876.012	118,00	100

#### General Information

Pitch	10 mm
No. of poles	2 - 12



#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i>		
without wire protector	2,5 - 10 mm <sup>2</sup> / 2,5 - 6 mm <sup>2</sup> / 14 - 10 AWG		
with wire protector	1,5 - 6 mm <sup>2</sup> / 1,5 - 4 mm <sup>2</sup> / 16 - 12 AWG		
Rated Cross Section	4 mm <sup>2</sup>		
Wire Stripping Length	6,5 mm ± 0,5 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	500 V	630 V	1000 V
Rated Impulse Voltage	6 kV	6 kV	6 kV
Rated Insulation Voltage	750 V acc. to EN 60998-1		
Rated Current	25 A		
Hole in PCB	ø 1,8 mm		
Torque	0,8 Nm		

#### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	CTI 400
Insulating Group	II
Temperature Range	-40°C up to 100°C
Terminal body	Tin plated brass
Screw	M3,5; zinc plated steel, blue passivated
Solder pin	1,0 x 1,2 mm; tin plated brass
Wire protector	Tin plated tin bronze

#### Approvals

	Current	Voltage	Group	AWG	Nm
	25	300	B	18 - 10	0,79
	25 10	300 300	B D, E	22-10 [1] 22-10 [1]	0,79 0,79

[1] for 910-Y-DS: 26 - 10 AWG

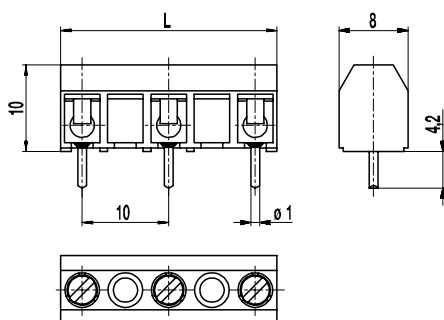
#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,00

## PCB connector

### 952(-DS)

Screw connection



PCB connector 952 with a pitch of 10 mm is available in 2- to 16-pole design and is a very space saving PCB connector.

Wire protection in DS-design reliably prevents damage to stranded wires by the screw.

The screws are secured against self-loosening.

#### Part Numbers

No. of poles	952	952-DS	Length	Pcs
2	12.871.053	22.871.053	15,00	250
3	12.871.055	22.871.055	25,00	100
4	12.871.001	22.871.001	35,00	100
5	12.871.009	22.871.009	45,00	100
6	12.871.011	22.871.011	55,00	100
7	12.871.063	22.871.063	65,00	100
8	12.871.065	22.871.065	75,00	100
9	12.871.067	22.871.067	85,00	100
10	12.871.069	22.871.069	95,00	100
11	12.871.071	22.871.071	105,00	100
12	12.871.073	22.871.073	115,00	100
13	12.871.075	22.871.075	125,00	100
14	12.871.077	22.871.077	135,00	100
15	12.871.079	22.871.079	145,00	100
16	12.871.061	22.871.061	155,00	100

#### General Information

Pitch	10 mm
No. of poles	2 - 16

#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i>		
without wire protector	0,75 - 4 mm² / 0,75 - 2,5 mm² / 18 - 12 AWG		
with wire protector	0,34 - 2,5 mm² / 0,34 - 2,5 mm² / 22 - 14 AWG		
Rated Cross Section	1,5 mm²		
Wire Stripping Length	6 mm ± 0,5 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	630 V (500 V)	630 V	1000 V
Rated Impulse Voltage	6 kV	6 kV	6 kV
Rated Insulation Voltage	750 V acc. to EN 60998-1		
Rated Current	17,5 A		
Hole in PCB	ø 1,3 mm		
Torque	0,4 Nm		
Other specifications	Rated voltage in brackets applies to 5-16-pole connectors, "no-flame" according to glow wire test applies to 2-4-pole connectors.		

#### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	2-4 poles: CTI ≥ 600; 5-16 poles: CTI 400
Insulating Group	2-4 poles: I; 5-16 poles: II
Temperature Range	-40°C up to 100°C
Terminal body	Tin plated brass
Screw	M2,6; zinc plated steel, blue passivated
Solder pin	ø 1 mm; tin plated copper
Wire protector	Tin plated tin bronze

#### Approvals

	Current	Voltage	Group	AWG	Nm
	15	300	B	26 - 14	0,4
	10	300	D	26 - 14	0,4
	15	300	B	26 - 14	0,4
	10	300	D, E	26 - 14	0,4
	Current	Voltage	mm²		
	17,5	750	1,5		

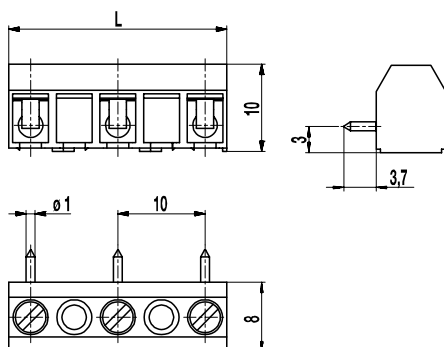
#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,00
- Longer solder pins up to 75 mm

## PCB connector

### 953(-DS)

Screw connection, wire entrance vertical to PCB



PCB connector 953 is the horizontal version of 952 and with a pitch of 10 mm available in 2- to 16-pole design. It is a very space saving PCB connector.

Wire protection in DS-design reliably prevents damage to stranded wires by the screw.

The wire entrance is vertical to the PCB.

The screws are secured against self-loosening.

#### Part Numbers

No. of poles	953	953-DS	Length	Pcs
2	12.871.083	22.871.083	15,00	250
3	12.871.085	22.871.085	25,00	100
4	12.871.022	22.871.022	35,00	100
5	12.871.019	22.871.019	45,00	100
6	12.871.021	22.871.021	55,00	100
7	12.871.023	22.871.023	65,00	100
8	12.871.025	22.871.025	75,00	100
9	12.871.027	22.871.027	85,00	100
10	12.871.029	22.871.029	95,00	100
11	12.871.031	22.871.031	105,00	100
12	12.871.039	22.871.039	115,00	100
13	12.871.041	22.871.041	125,00	100
14	12.871.037	22.871.037	135,00	100
15	12.871.089	22.871.089	145,00	100
16	12.871.091	22.871.091	155,00	100

#### General Information

Pitch	10 mm
No. of poles	2 - 16

#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i>		
without wire protector	0,75 - 4 mm <sup>2</sup> / 0,75 - 2,5 mm <sup>2</sup> / 18 - 12 AWG		
with wire protector	0,34 - 2,5 mm <sup>2</sup> / 0,34 - 2,5 mm <sup>2</sup> / 22 - 14 AWG		
Rated Cross Section	1,5 mm <sup>2</sup>		
Wire Stripping Length	5 mm ± 0,5 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	630 V (500 V)	630 V	1000 V
Rated Impulse Voltage	6 kV	6 kV	6 kV
Rated Insulation Voltage	750 V acc. to EN 60998-1		
Rated Current	17,5 A		
Hole in PCB	ø 1,3 mm		
Torque	0,4 Nm		
Other specifications	Rated voltage in brackets applies to 5-16-pole connectors, "no-flame" according to glow wire test applies to 2-4-pole connectors.		

#### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	2-4 poles: CTI ≥ 600; 5-16 poles: CTI 400
Insulating Group	2-4 poles: I; 5-16 poles: II
Temperature Range	-40°C up to 100°C
Terminal body	Tin plated brass
Screw	M2,6; zinc plated steel, blue passivated
Solder pin	ø 1 mm; tin plated copper
Wire protector	Tin plated tin bronze

#### Approvals

	Current	Voltage	Group	AWG	Nm
	15	300	B	26 - 14	0,4
	10	300	D	26 - 14	0,4
	15	300	B	26 - 14	0,4
	10	300	D, E	26 - 14	0,4
	Current	Voltage	mm <sup>2</sup>		
	17,5	750	1,5		

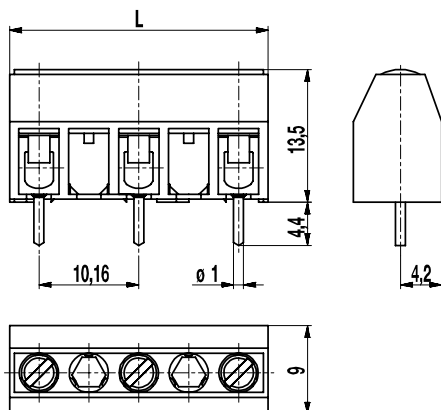
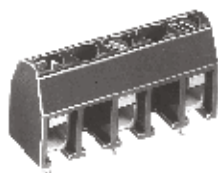
#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,00

## PCB connector

### 969(-DS)

Screw connection, large conductor space



The PCB connector 969 with a pitch of 10,16 mm is available in 2- to 16-pole design.

It has a large conductor space and large clearance and creepage distances.

Wire protection in DS-design reliably prevents damage to stranded wires by the screw.

The screws are secured against self-loosening.

#### Part Numbers

No. of poles	969	969-DS	Length	Pcs
2	32.878.003	42.878.003	16,24	250
3	32.878.005	42.878.005	26,40	100
4	32.878.007	42.878.007	36,56	100
5	32.878.009	42.878.009	46,62	100
6	32.878.011	42.878.011	56,88	100
7	32.878.013	42.878.013	67,04	100
8	32.878.015	42.878.015	77,20	100
9	32.878.017	42.878.017	87,36	100
10	32.878.019	42.878.019	97,52	100
11	32.878.021	42.878.021	107,68	100
12	32.878.023	42.878.023	117,84	100
13	32.878.025	42.878.025	128,00	100
14	32.878.027	42.878.027	138,16	100
15	32.878.029	42.878.029	148,32	100
16	32.878.031	42.878.031	158,48	100

#### General Information

Pitch	10,16 mm
No. of poles	2 - 16

#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i>		
without wire protector	1 - 6 mm <sup>2</sup> / 1 - 4 mm <sup>2</sup> / 16 - 12 AWG		
with wire protector	0,75 - 4 mm <sup>2</sup> / 0,75 - 2,5 mm <sup>2</sup> / 18 - 12 AWG		
Rated Cross Section	2,5 mm <sup>2</sup>		
Wire Stripping Length	6,5 mm ± 0,5 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	630 V (500 V)	630 V	1000 V
Rated Impulse Voltage	6 kV	6 kV	6 kV
Rated Insulation Voltage	750 V acc. to EN 60998-1		
Rated Current	24 A		
Hole in PCB	ø 1,3 mm		
Torque	0,5 Nm		
Other specifications	Rated voltage in brackets applies to 5-16-pole connectors, "no-flame" according to glow wire test applies to 2-4-pole connectors.		

#### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	2-4 poles: CTI ≥ 600; 5-16 poles: CTI 400
Insulating Group	2-4 poles: I; 5-16 poles: II
Temperature Range	-40°C up to 100°C
Terminal body	Tin plated brass
Screw	M3; zinc plated steel, blue passivated
Solder pin	ø 1 mm; tin plated copper
Wire protector	Tin plated tin bronze

#### Approvals

	Current	Voltage	Group	AWG	Nm
	20	300	B	22-12 [1]	0,51
	20	300	B	26 - 12	0,51
	10	300	D, E	26 - 12	0,51
	Current	Voltage	mm <sup>2</sup>		
	24	750	4,0		

[1] Min No. 26 AWG for factory-wiring only

#### Options / Accessories

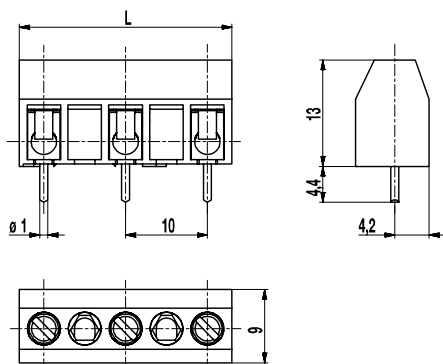
- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,16
- Longer solder pins up to 95 mm
- Two solder pins per pole, please see 978-TY(-DS) in 5 mm pitch
- Version with extended wire entrance



## PCB connector

### 972(-DS)

Screw connection



The PCB connector 972 with a pitch of 10 mm is available in 2- to 16-pole design and has large clearance and creepage distances.

Wire protection in DS-design reliably prevents damage to stranded wires by the screw.

The screws are secured against self-loosening.

#### Part Numbers

No. of poles	972	972-DS	Length	Pcs
2	12.872.003	22.872.003	16,00	250
3	12.872.005	22.872.005	26,00	100
4	12.872.007	22.872.007	36,00	100
5	12.872.009	22.872.009	46,00	100
6	12.872.011	22.872.011	56,00	100
7	12.872.013	22.872.013	66,00	100
8	12.872.015	22.872.015	76,00	100
9	12.872.017	22.872.017	86,00	100
10	12.872.019	22.872.019	96,00	100
11	12.872.021	22.872.021	106,00	100
12	12.872.023	22.872.023	116,00	100
13	12.872.025	22.872.025	126,00	100
14	12.872.027	22.872.027	136,00	100
15	12.872.029	22.872.029	146,00	100
16	12.872.031	22.872.031	156,00	100

#### General Information

Pitch	10 mm
No. of poles	2 - 16

#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i>		
without wire protector	1 - 6 mm² / 1 - 2,5 mm² / 16 - 12 AWG		
with wire protector	0,75 - 4 mm² / 0,75 - 2,5 mm² / 18 - 12 AWG		
Rated Cross Section	2,5 mm²		
Wire Stripping Length	6,5 mm ± 0,5 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	630 V (500 V)	630 V	1000 V
Rated Impulse Voltage	6 kV	6 kV	6 kV
Rated Insulation Voltage	750 V acc. to EN 60998-1		
Rated Current	24 A		
Hole in PCB	ø 1,3 mm		
Torque	0,5 Nm		
Other specifications	Rated voltage in brackets applies to 5-16-pole connectors, "no-flame" according to glow wire test applies to 2-4-pole connectors.		

#### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	2-4 poles: CTI ≥ 600; 5-16 poles: CTI 400
Insulating Group	2-4 poles: I; 5-16 poles: II
Temperature Range	-40°C up to 100°C
Terminal body	Tin plated brass
Screw	M3; zinc plated steel, blue passivated
Solder pin	ø 1 mm; tin plated copper
Wire protector	Tin plated tin bronze

#### Approvals

	Current	Voltage	Group	AWG	Nm
	20	300	B	22-12 [1]	0,51
	20	150	C	22-12 [1]	0,51
	20	300	B	26 - 12	0,51
	10	300	D, E	26 - 12	0,51
	Current	Voltage	mm²		
	24	750	2,5		

[1] Min No. 26 AWG for factory-wiring only

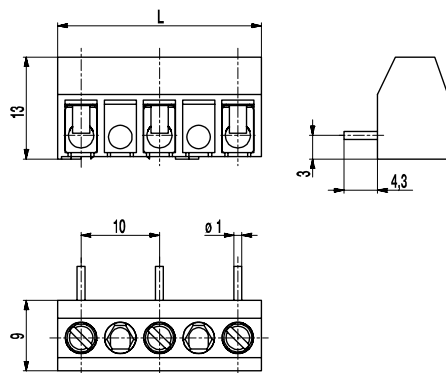
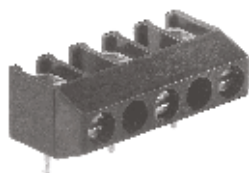
#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,00
- Longer solder pins up to 95 mm
- Two solder pins per pole, please see 978-TY(-DS) in 5 mm pitch
- Version with extended wire entrance
- Version with larger clamping range

## PCB connector

### 973(-DS)

Screw connection, wire entrance vertical to PCB



The PCB connector 973 is the horizontal version of 972 and with a pitch of 10 mm available in 2- to 16-pole design. It has large clearance and creepage distances.

Wire protection in DS-design reliably prevents damage to stranded wires by the screw.

The wire entrance is vertical to the PCB.

The screws are secured against self-loosening.

#### Part Numbers

No. of poles	973	973-DS	Length	Pcs
2	12.872.103	22.872.103	16,00	250
3	12.872.105	22.872.105	26,00	100
4	12.872.107	22.872.107	36,00	100
5	12.872.109	22.872.109	46,00	100
6	12.872.111	22.872.111	56,00	100
7	12.872.113	22.872.113	66,00	100
8	12.872.115	22.872.115	76,00	100
9	12.872.117	22.872.117	86,00	100
10	12.872.119	22.872.119	96,00	100
11	12.872.121	22.872.121	106,00	100
12	12.872.123	22.872.123	116,00	100
13	12.872.125	22.872.125	126,00	100
14	12.872.127	22.872.127	136,00	100
15	12.872.129	22.872.129	146,00	100
16	12.872.131	22.872.131	156,00	100

#### General Information

Pitch	10 mm
No. of poles	2 - 16

#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i>		
without wire protector	1 - 6 mm² / 1 - 2,5 mm² / 16 - 12 AWG		
with wire protector	0,75 - 4 mm² / 0,75 - 2,5 mm² / 18 - 12 AWG		
Rated Cross Section	2,5 mm²		
Wire Stripping Length	5,5 mm ± 0,5 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	630 V (500 V)	630 V	1000 V
Rated Impulse Voltage	6 kV	6 kV	6 kV
Rated Insulation Voltage	750 V acc. to EN 60998-1		
Rated Current	24 A		
Hole in PCB	ø 1,3 mm		
Torque	0,5 Nm		
Other specifications	Rated voltage in brackets applies to 5-16-pole connectors, "no-flame" according to glow wire test applies to 2-4-pole connectors.		

#### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	2-4 poles: CTI ≥ 600; 5-16 poles: CTI 400
Insulating Group	2-4 poles: I; 5-16 poles: II
Temperature Range	-40°C up to 100°C
Terminal body	Tin plated brass
Screw	M3; zinc plated steel, blue passivated
Solder pin	ø 1 mm; tin plated brass
Wire protector	Tin plated tin bronze

#### Approvals

	Current	Voltage	Group	AWG	Nm
	20	300	B	22-12 [1]	0,51
	20	150	C	22-12 [1]	0,51
	20	300	B	26 - 12	0,51
	10	300	D, E	26 - 12	0,51
	Current	Voltage	mm²		
	24	750	2,5		

[1] Min No. 26 AWG for factory-wiring only

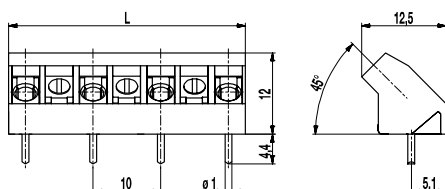
#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,00
- Version with extended wire entrance
- Version like type 971-HG(-DS) in 5 mm pitch

## PCB connector

### 975(-DS)

Screw connection 45°-angle to PCB



The PCB connector 975, inclined version with a pitch of 10 mm is available in 2- to 13-pole design.

The wire entrance is in a 45° angle diagonal to the PC board. Therefore, this PCB connector is ideal for the assembly in the center of PCBs. The design of this PCB connector allows space-saving arrangement of consecutive rows of terminals.

Wire protection in DS-design reliably prevents damage to stranded wires by the screw.

The screws are secured against self-loosening.

#### Part Numbers

No. of poles	975	975-DS	Length	Pcs
2	12.874.003	22.874.003	15,00	250
3	12.874.005	22.874.005	25,00	100
4	12.874.007	22.874.007	35,00	100
5	12.874.009	22.874.009	45,00	100
6	12.874.011	22.874.011	55,00	100
7	12.874.013	22.874.013	65,00	100
8	12.874.015	22.874.015	75,00	50
9	12.874.017	22.874.017	85,00	50
10	12.874.019	22.874.019	95,00	50
11	12.874.021	22.874.021	105,00	50
12	12.874.023	22.874.023	115,00	50
13	12.874.025	22.874.025	125,00	50

#### General Information

Pitch	10 mm
No. of poles	2 - 13

#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i>		
without wire protector	1 - 6 mm² / 1 - 2,5 mm² / 16 - 12 AWG		
with wire protector	0,75 - 4 mm² / 0,75 - 2,5 mm² / 18 - 12 AWG		
Rated Cross Section	2,5 mm²		
Wire Stripping Length	6,5 mm ± 0,5 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	630 V	630 V	1000 V
Rated Impulse Voltage	6 kV	6 kV	6 kV
Rated Insulation Voltage	750 V acc. to EN 60998-1		
Rated Current	24 A		
Hole in PCB	ø 1,3 mm		
Torque	0,5 Nm		

#### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal body	Tin plated brass
Screw	M3; zinc plated steel, clear passivated
Solder pin	ø 1 mm; tin plated copper
Wire protector	Tin plated tin bronze

#### Approvals

	Current	Voltage	Group	AWG	Nm
	20	300	B	22-12 [1]	0,51
	10	300	D	22-12 [1]	0,51
	20	300	B	26 - 12	0,51
	10	300	D, E	26 - 12	0,51
	Current	Voltage	mm²		
	24	750	2,5		

[1] Min No. 26 AWG for factory-wiring only

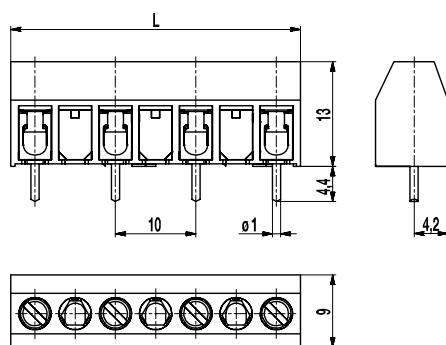
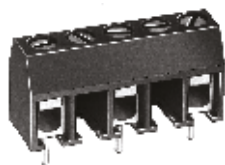
#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,00
- Longer solder pins up to 95 mm
- Special wire protector for very thin conductors
- Version with additional raised base of 1,6 mm

## PCB connector

### 979(-DS)

Screw connection, large conductor space



The PCB connector 979 with a pitch of 10 mm is available in 2- to 16-pole design. Compared to the PCB connector 972, it has a larger conductor space for wires up to 6 mm<sup>2</sup> and has also large clearance and creepage distances.

Wire protection in DS-design reliably prevents damage to stranded wires by the screw.

The screws are secured against self-loosening.

#### Part Numbers

No. of poles	979	979-DS	Length	Pcs
2	32.872.003	42.872.003	16,00	250
3	32.872.005	42.872.005	26,00	100
4	32.872.007	42.872.007	36,00	100
5	32.872.009	42.872.009	46,00	100
6	32.872.011	42.872.011	56,00	100
7	32.872.013	42.872.013	66,00	100
8	32.872.015	42.872.015	76,00	100
9	32.872.017	42.872.017	86,00	100
10	32.872.019	42.872.019	96,00	100
11	32.872.021	42.872.021	106,00	100
12	32.872.023	42.872.023	116,00	100
13	32.872.025	42.872.025	126,00	100
14	32.872.027	42.872.027	136,00	100
15	32.872.029	42.872.029	146,00	100
16	32.872.031	42.872.031	156,00	100

#### General Information

Pitch	10 mm
No. of poles	2 - 16

#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i>		
without wire protector	0,75 - 6 mm <sup>2</sup> / 0,75 - 4 mm <sup>2</sup> / 18 - 10 AWG		
with wire protector	0,34 - 6 mm <sup>2</sup> / 0,34 - 4 mm <sup>2</sup> / 22 - 10 AWG		
Rated Cross Section	2,5 mm <sup>2</sup>		
Wire Stripping Length	6,5 mm ± 0,5 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	630 V (500 V)	630 V	1000 V
Rated Impulse Voltage	6 kV	6 kV	6 kV
Rated Insulation Voltage	750 V acc. to EN 60998-1		
Rated Current	24 A		
Hole in PCB	ø 1,3 mm		
Torque	0,5 Nm		
Other specifications	Rated voltage in brackets applies to 5-16-pole connectors, "no-flame" according to glow wire test applies to 2-4-pole connectors.		

#### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	2-4 poles: CTI ≥ 600; 5-16 poles: CTI 400
Insulating Group	2-4 poles: I; 5-16 poles: II
Temperature Range	-40°C up to 100°C
Terminal body	Tin plated brass
Screw	M3; zinc plated steel, blue passivated
Solder pin	ø 1 mm; tin plated copper
Wire protector	Tin plated tin bronze

#### Approvals

	Current	Voltage	Group	AWG	Nm
	20	300	B	22-12 [1]	0,51
	20	300	B	26 - 12	0,51
	10	300	D, E	26 - 12	0,51
	Current	Voltage	mm <sup>2</sup>		
	24	750	4,0		

[1] Min No. 26 AWG for factory-wiring only

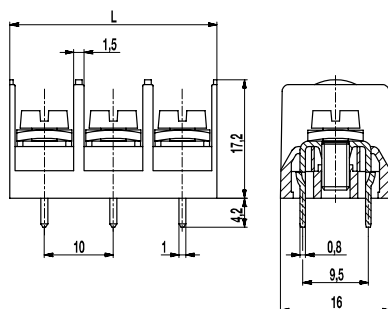
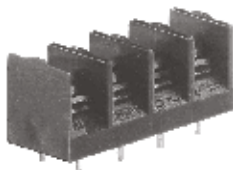
#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,00
- Longer solder pins up to 95 mm
- Version with extended wire entrance
- With test holes, compare 970-MP, 970-TMP

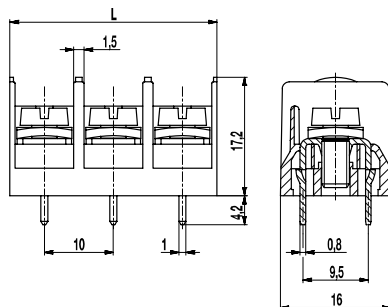
## PCB connector

### 983-D/-ZD

Screw connection, 2 solder pins per pole



983-D



983-ZD

The PCB connector 983-D with a pitch of 10 mm features in spite of its small dimensions, large clearance and creepage distances.

This version is equipped with two solder pins per pole and is available in 2- to 26-pole design.

The conductor terminal is of head contact design, whereby the screws and square washers are movably connected.

For easier connection, the non-rotably mounted square washers are automatically lifted when the screw is loosened.

The connector can be mounted side-by-side in the nominal pitch.

Variant "-ZD" features an additional back wall.

#### Part Numbers

No. of poles	983-D	983-ZD	Length	Pcs
2	20.873.802	20.873.872	20,00	100
3	20.873.803	20.873.873	30,00	100
4	20.873.804	20.873.874	40,00	100
5	20.873.805	20.873.875	50,00	100
6	20.873.806	20.873.876	60,00	100
8	20.873.808	20.873.878	80,00	50
10	20.873.810	20.873.880	100,00	50
12	20.873.812	20.873.882	120,00	50
14	20.873.814	20.873.884	140,00	80
16	20.873.816	20.873.886	160,00	20
18	20.873.818	20.873.888	180,00	25
20	20.873.820	20.873.890	200,00	25
22	20.873.822	20.873.892	220,00	25
24	20.873.824	20.873.894	240,00	25
26	20.873.826	20.873.896	260,00	10

further number of poles on request

#### General Information

Pitch	10 mm
No. of poles	2 - 26



#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i> 0,75 - 2,5 mm <sup>2</sup> / 0,75 - 2,5 mm <sup>2</sup> / 18 - 12 AWG		
Rated Cross Section	2,5 mm <sup>2</sup>		
Wire Stripping Length	8,5 mm ± 0,5 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	500 V	630 V	1000 V
Rated Impulse Voltage	6 kV	6 kV	6 kV
Rated Insulation Voltage	750 V acc. to EN 60998-1		
Rated Current	24 A		
Hole in PCB	ø 1,6 mm		
Torque	1,2 Nm		
Other specifications	Per pole two wires of identical cross-section can be connected.		

#### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Pressure clamp	Tin plated brass
Screw	M4; zinc plated steel, blue passivated
Solder pin	0,8 x 1,0 mm; tin plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm
	20	300	B	20 - 12	1,13
	20 10	300 300	B D, E	20 - 12 20 - 12	1,13 1,13

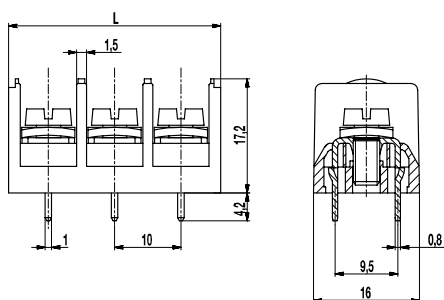
#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,00
- Cover cap 983-A
- Securing pins BEF-983
- Crosshead screws
- 10 mm pin length

## PCB connector

### 983-D/...-DAM

Screw connection, reinforced side walls, 2 pins per pole



The PCB connector 983-D/...-DAM is based on the well proven terminals of the series 983.

The optimized geometry and slightly modified housing offer some advantages compared to the standard versions:

- The reinforced side walls can equalize the resulting torque to the outside. As a result, the reinforced side avoid the stacking without pole loss as given in the standard version.
- The new housing geometry creates now the possibility to implement central soldering pins.

The connection is designed as head contact, screw and washers forming a combination.

This terminal is available from 2 to 6 poles as well as a version with only one soldering pin (see 983-S/...-DAM).

#### Part Numbers

No. of poles	983-D/...-DAM	Length	Pcs
2	20.873.912	22,00	100
3	20.873.913	32,00	100
4	20.873.914	42,00	100
5	20.873.915	52,00	100
6	20.873.916	62,00	100

#### General Information

Pitch	10 mm
No. of poles	2 - 6

#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i> 0,75 - 2,5 mm <sup>2</sup> / 0,75 - 2,5 mm <sup>2</sup> / 18 - 12 AWG		
Rated Cross Section	2,5 mm <sup>2</sup>		
Wire Stripping Length	8,5 mm ± 0,5 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	500 V	630 V	1000 V
Rated Impulse Voltage	6 kV	6 kV	6 kV
Rated Insulation Voltage	750 V acc. to EN 60998-1		
Rated Current	24 A		
Hole in PCB	ø 1,6 mm		
Torque	1,2 Nm		
Other specifications	Per pole two wires of identical cross-section can be connected.		

#### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Pressure clamp	Tin plated brass
Screw	M4; zinc plated steel, blue passivated
Solder pin	0,8 x 1,0 mm; tin plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm
	20	300	B	20 - 12	1,13
	pending				

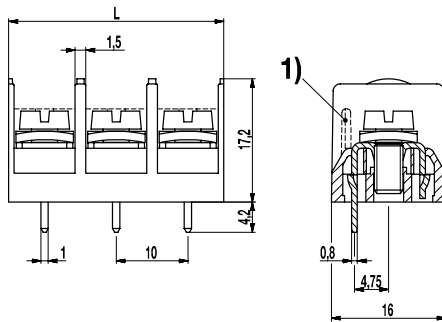
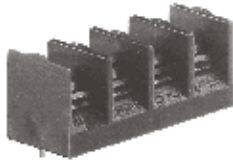
#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,00
- Cover cap 983-A
- Securing pins BEF-983
- Crosshead screws
- 10 mm pin length

## PCB connector

### 983-S/-ZS

Screw connection, 1 solder pin per pole



1) Backwall (Version -ZS)

The PCB connector 983-S with a pitch of 10 mm features in spite of its small dimensions, large clearance and creepage distances. This version is equipped with one solder pin per pole and is available in 2- to 26-pole design.

The conductor terminal is of head contact design, whereby the screws and square washers are movably connected.

For easier connection, the non-rotably mounted square washers are automatically lifted when the screw is loosened.

The connector can be mounted side-by-side in the nominal pitch.

Variant "-ZS" features an additional back wall.

#### Part Numbers

No. of poles	983-S	983-ZS	Length	Pcs
2	10.873.802	10.873.872	20,00	100
3	10.873.803	10.873.873	30,00	100
4	10.873.804	10.873.874	40,00	100
5	10.873.805	10.873.875	50,00	100
6	10.873.806	10.873.876	60,00	100
7	10.873.807	10.873.877	70,00	50
8	10.873.808	10.873.878	80,00	50
9	10.873.809	10.873.879	90,00	50
10	10.873.810	10.873.880	100,00	50
11	10.873.811	10.873.881	110,00	50
12	10.873.812	10.873.882	120,00	50
13	10.873.813	10.873.883	130,00	20
14	10.873.814	10.873.884	140,00	20
15	10.873.815	10.873.885	150,00	20
16	10.873.816	10.873.886	160,00	20
17	10.873.817	10.873.887	170,00	25
18	10.873.818	10.873.888	180,00	25
19	10.873.819	10.873.889	190,00	25
20	10.873.820	10.873.890	200,00	25
21	10.873.821	10.873.891	210,00	25
22	10.873.822	10.873.892	220,00	25
23	10.873.823	10.873.893	230,00	25
24	10.873.824	10.873.894	240,00	25
25	10.873.825	10.873.895	250,00	10
26	10.873.826	10.873.896	260,00	10

#### General Information

Pitch	10 mm
No. of poles	2 - 26

#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i> 0,75 - 2,5 mm <sup>2</sup> / 0,75 - 2,5 mm <sup>2</sup> / 18 - 12 AWG		
Rated Cross Section	2,5 mm <sup>2</sup>		
Wire Stripping Length	8,5 mm ± 0,5 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	500 V	630 V	1000 V
Rated Impulse Voltage	6 kV	6 kV	6 kV
Rated Insulation Voltage	750 V acc. to EN 60998-1		
Rated Current	24 A		
Hole in PCB	ø 1,6 mm		
Torque	1,2 Nm		
Other specifications	Per pole two wires of identical cross-section can be connected.		

#### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Pressure clamp	Tin plated brass
Screw	M4; zinc plated steel, blue passivated
Solder pin	0,8 x 1,0 mm; tin plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm
	20	300	B	20 - 12	1,13
	20 10	300 300	B D, E	20 - 12 20 - 12	1,13 1,13

#### Options / Accessories

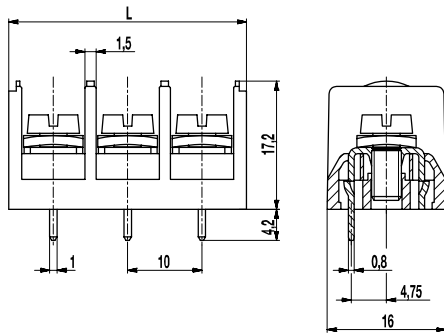
- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,00
- Cover cap 983-A
- Securing pins BEF-983
- Crosshead screws
- 10 mm pin length



## PCB connector

### 983-S/...-DAM

Screw connection, reinforced side walls, 1 solder pin per pole



The PCB connector 983-S/...-DAM is based on the well proven terminals of the series 983.

The optimized geometry and slightly modified housing offer some advantages compared to the standard

versions:

- The reinforced side walls can equalize the resulting torque to the outside. As a result, the reinforced side avoid the stacking without pole loss as given in the standard version.
- The new housing geometry creates now the possibility to implement central soldering pins.

The connection is designed as head contact, screw and washers forming a combination.

This terminal is available from 2 to 6 poles as well as a version with two soldering pins (see 983-D/...-DAM).

#### Part Numbers

No. of poles	983-S/...-DAM	Length	Pcs
2	10.873.912	22,00	100
3	10.873.913	32,00	100
4	10.873.914	42,00	100
5	10.873.915	52,00	100
6	10.873.915	62,00	100

#### General Information

Pitch	10 mm
No. of poles	2 - 6

#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i> 0,75 - 2,5 mm <sup>2</sup> / 0,75 - 2,5 mm <sup>2</sup> / 18 - 12 AWG		
Rated Cross Section	2,5 mm <sup>2</sup>		
Wire Stripping Length	8,5 mm ± 0,5 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	500 V	630 V	1000 V
Rated Impulse Voltage	6 kV	6 kV	6 kV
Rated Insulation Voltage	750 V acc. to EN 60998-1		
Rated Current	24 A		
Hole in PCB	ø 1,6 mm		
Torque	1,2 Nm		
Other specifications	Per pole two wires of identical cross-section can be connected.		

#### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Pressure clamp	Tin plated brass
Screw	M4; zinc plated steel, blue passivated
Solder pin	0,8 x 1,0 mm; tin plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm
	20	300	B	20 - 12	1,13
	pending				

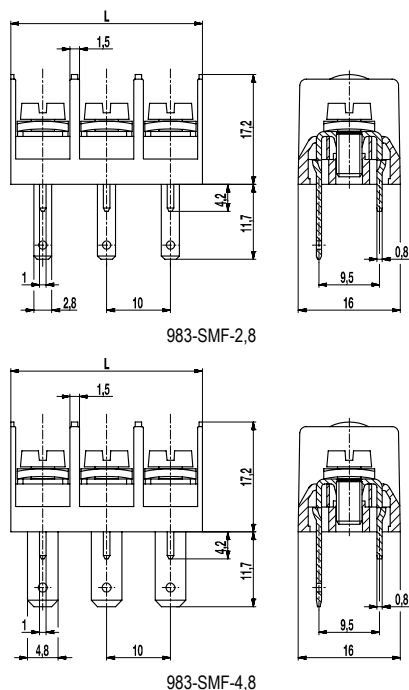
#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,00
- Cover cap 983-A
- Securing pins BEF-983
- Crosshead screws
- 10 mm pin length

## PCB connector

### 983-SMF-2,8/-4,8

Screw connection, with solder pin and tab



983-SMF-2,8

983-SMF-4,8

The PCB connectors 983-SMF-2,8 and 983-SMF-4,8 with a pitch of 10 mm are available in 1- to 12-pole design and can be mounted side-by-side in the nominal pitch.

They are based on our series 983 terminal strips.

The conductor terminal is of head contact design with Screws M4, whereby the screws and square washers are movably connected.

For easier connection, the non-rotably mounted square washers are automatically lifted when the screw is loosened.

On the solder side and the plug-in side they feature one solder pin and one tab connection of 2.8 mm or 4.8 mm width per pole.

This allows current to flow to other components without having to use additional conductor paths.

## Part Numbers

No. of poles	983-SMF-2,8	983-SMF-4,8	Length	Pcs
1	91.873.803	92.873.803	30,00	100
2	91.873.804	92.873.804	40,00	100
3	91.873.805	92.873.805	50,00	100
4	91.873.806	92.873.806	60,00	100
5	91.873.807	92.873.807	70,00	100
6	91.873.808	92.873.808	80,00	100
7	91.873.809	92.873.809	90,00	50
8	91.873.810	92.873.810	100,00	50
9	91.873.811	92.873.811	110,00	50
10	91.873.812	92.873.812	120,00	50
11	91.873.813	92.873.813	130,00	50
12	91.873.814	92.873.814	140,00	50

## General Information

Pitch	10 mm
No. of poles	1 - 12

## Technical Data

Clamping Range	<i>solid / flexible / AWG</i> 0,5 - 2,5 mm <sup>2</sup> / 0,5 - 2,5 mm <sup>2</sup> / 20 - 12 AWG
Rated Cross Section	2,5 mm <sup>2</sup>
Wire Stripping Length	8,5 mm
Overvoltage Category	III
Pollution Severity Level	3
Rated Voltage	320 V
Rated Impulse Voltage	4 kV
Rated Insulation Voltage	450 V acc. to EN 60998-1
Rated Current	6 A: with receptacles 2,8; wire 1 mm <sup>2</sup> (16 AWG) 16 A: with receptacles 4,8; wire 2,5 mm <sup>2</sup> (14 AWG)
Hole in PCB	ø 1,6 mm
Torque	1,2 Nm
Other specifications	Screw-fixing holes ø 3,2 mm. Per pole two wires of identical cross-section can be connected. Indicated rated voltage applies to applications with insulation receptacles.

## Material

Moulding	PA, grey, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Pressure clamp	Tin plated brass
Screw	M4; zinc plated steel, blue passivated
Solder pin	0,8 x 1,0 mm; tin plated brass

## Approvals

	Current	Voltage	Group	AWG	Nm
	20	300	B	20 - 12	1,13
	6	300	B, D, E	20 - 12	1,13 [1]
	15	300	B	20 - 12	1,33 [2]
	10	300	D, E	20 - 12	1,33 [2]

[1] for 982-SMF-2,8

[2] for 982-SMF-4,8

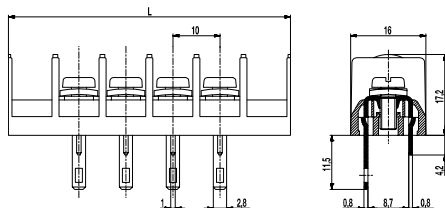
## Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,00
- Cover cap 983-A
- Securing pins BEF-983, fastening pole position can be freely selected
- Crosshead screws
- Various versions of tabs instead of screw connections

## PCB connector

### 983-SML-2,8

Screw connection, with solder pin and solder tag



The PCB connector 983-SML-2,8 with a pitch of 10 mm is available in 1- to 12-pole design and can be mounted side-by-side in the nominal pitch. They are based on our series 983 terminal strips.

The conductor terminal is of head contact design with screws M4, whereby the screws and square washers are movably connected. For easier connection, the non-rotatably mounted square washers are automatically lifted when the screw is loosened.

On the solder side and the plug-in side they feature one solder pin and one soldering tag of 2.8 mm width per pole. This allows current to flow to other components without having to use additional conductor paths.

#### Part Numbers

No. of poles	983-SML-2,8	Length	Pcs
1	94.873.803	30,00	100
2	94.873.804	40,00	100
3	94.873.805	50,00	100
4	94.873.806	60,00	100
5	94.873.807	70,00	100
6	94.873.808	80,00	100
7	94.873.809	90,00	50
8	94.873.810	100,00	50
9	94.873.811	110,00	50
10	94.873.812	120,00	50
11	94.873.813	130,00	50
12	94.873.814	140,00	50

#### General Information

Pitch	10 mm
No. of poles	1 - 12

#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i> 0,5 - 2,5 mm <sup>2</sup> / 0,5 - 2,5 mm <sup>2</sup> / 20 - 12 AWG
Rated Cross Section	2,5 mm <sup>2</sup>
Wire Stripping Length	8,5 mm
Overvoltage Category	III
Pollution Severity Level	3
Rated Voltage	320 V
Rated Impulse Voltage	4 kV
Rated Insulation Voltage	450 V acc. to EN 60998-1
Rated Current	17,5 A (wire 1.5 mm <sup>2</sup> in soldering tag area)
Hole in PCB	ø 1,6 mm
Torque	1,2 Nm
Other specifications	Fixing holes ø 3,2 mm. Per pole two wires of identical cross-section can be connected.

#### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	CTI ≥ 600
Temperature Range	-40°C up to 100°C
Pressure clamp	Tin plated brass
Screw	M4; zinc plated steel, blue passivated
Solder pin	0,8 x 1,0 mm; tin plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm
	20	300	B	20 - 12	1,13
	20 10	300 300	B D, E	20 - 12 20 - 12	1,13 1,13

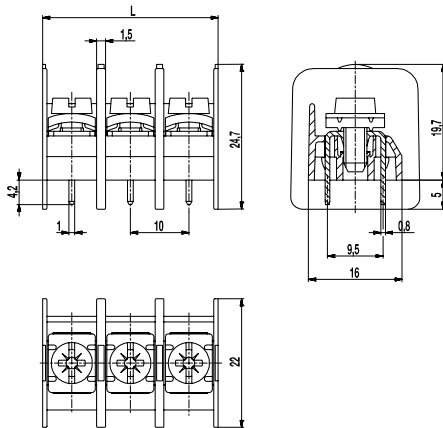
#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,00
- Cover cap 983-A
- Securing pins BEF-983
- Fastening pole position can be freely selected
- Crosshead screws
- Various tab versions available instead of screw connections

## PCB connector

### 983-UD

Screw connection, 2 solder pins per pole, with surrounding rib



Version with framed ribs to realize larger clearance and creepage distances.  
For wave soldering corresponding slots are necessary in the printed circuit board.

#### Part Numbers

No. of poles	983-UD	Length	Pcs
2	20.873.862	20,00	200
3	20.873.863	30,00	200
4	20.873.864	40,00	100
5	20.873.865	50,00	100
6	20.873.866	60,00	100
7	20.873.867	70,00	50

#### General Information

Pitch	10 mm
No. of poles	2 - 7
Additional Information	with plus/minus screw, cross recess: Pozidriv



#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i> 0,75 - 2,5 mm <sup>2</sup> / 0,75 - 2,5 mm <sup>2</sup> / 18 - 12 AWG
Rated Cross Section	2,5 mm <sup>2</sup>
Wire Stripping Length	8,5 mm
Overvoltage Category	III
Pollution Severity Level	3
Rated Voltage	800 V
Rated Impulse Voltage	8 kV
Rated Insulation Voltage	750 V acc. to EN 60998-1
Rated Current	24 A
Hole in PCB	ø 1,6 mm
Torque	1,2 Nm
Other specifications	Per pole two wires of identical cross-section can be connected.

#### Material

Moulding	PA HT, black, V-0
Comparative Tracking Index	CTI 250
Insulating Group	IIIa
Temperature Range	-40°C up to 120°C; temporary max. 260°C
Pressure clamp	Tin plated brass
Screw	M4; zinc plated steel, blue passivated
Solder pin	0,8 x 1,0 mm; tin plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm
	20	600	B, C	20 - 12	1,13
	20	600	B, C	20 - 12	1,13

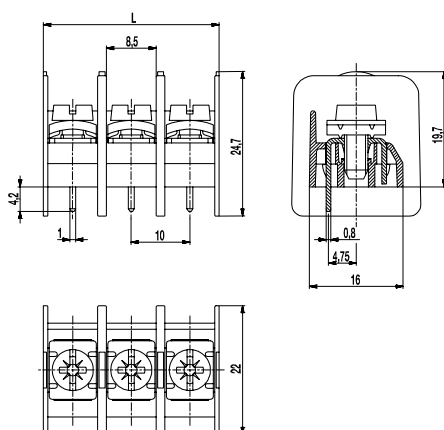
#### Options / Accessories

- 10 mm pin length

## PCB connector

### 983-US

Screw connection, 1 solder pin per pole, with surrounding rib



Version with framed ribs to realize larger clearance and creepage distances.  
For wave soldering corresponding slots are necessary in the printed circuit board.

#### Part Numbers

No. of poles	983-US	Length	Pcs
2	10.873.862	20,00	200
3	10.873.863	30,00	200
4	10.873.864	40,00	100
5	10.873.865	50,00	100
6	10.873.866	60,00	100
7	10.873.867	70,00	50

#### General Information

Pitch	10 mm
No. of poles	2 - 7
Additional Information	with plus/minus screw, cross recess: Pozidriv

#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i> 0,75 - 2,5 mm <sup>2</sup> / 0,75 - 2,5 mm <sup>2</sup> / 18 - 12 AWG
Rated Cross Section	2,5 mm <sup>2</sup>
Wire Stripping Length	8,5 mm
Overvoltage Category	III
Pollution Severity Level	3
Rated Voltage	800 V
Rated Impulse Voltage	8 kV
Rated Insulation Voltage	750 V acc. to EN 60998-1
Rated Current	24 A
Hole in PCB	ø 1,6 mm
Torque	1,2 Nm
Other specifications	Per pole two wires of identical cross-section can be connected.

#### Material

Moulding	PA HT, black, V-0
Comparative Tracking Index	CTI 250
Insulating Group	IIIa
Temperature Range	-40°C up to 120°C; temporary max. 260°C
Pressure clamp	Tin plated brass
Screw	M4; zinc plated steel, blue passivated
Solder pin	0,8 x 1,0 mm; tin plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm
	20	600	B, C	20 - 12	1,13
	20	600	B, C	20 - 12	1,13

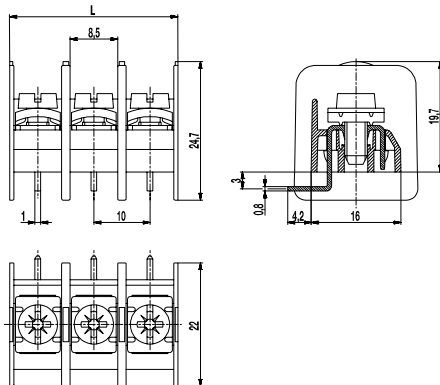
#### Options / Accessories

- 10 mm pin length

## PCB connector

### 983-UW

Screw connection, wire entrance vertical to PCB, with surrounding rib



Version with framed ribs to realize larger clearance and creepage distances.  
For wave soldering corresponding slots are necessary in the printed circuit board.

#### Part Numbers

No. of poles	983-UW	Length	Pcs
2	30.873.862	20,00	100
3	30.873.863	30,00	100
4	30.873.864	40,00	100
5	30.873.865	50,00	100
6	30.873.866	60,00	100
7	30.873.867	70,00	50

#### General Information

Pitch	10 mm
No. of poles	2 - 7
Additional Information	with plus/minus screw, cross recess: Pozidriv



#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i> 0,75 - 2,5 mm <sup>2</sup> / 0,75 - 2,5 mm <sup>2</sup> / 18 - 12 AWG
Rated Cross Section	2,5 mm <sup>2</sup>
Wire Stripping Length	8,5 mm
Overvoltage Category	III
Pollution Severity Level	3
Rated Voltage	800 V
Rated Impulse Voltage	8 kV
Rated Insulation Voltage	750 V acc. to EN 60998-1
Rated Current	15 A
Hole in PCB	ø 1,6 mm
Torque	1,2 Nm
Other specifications	Per pole two wires of identical cross-section can be connected.

#### Material

Moulding	PA HT, black, V-0
Comparative Tracking Index	CTI 250
Insulating Group	IIIa
Temperature Range	-40°C up to 120°C; temporary max. 260°C
Pressure clamp	Tin plated brass
Screw	M4; zinc plated steel, blue passivated
Solder pin	0,8 x 1,0 mm; tin plated brass

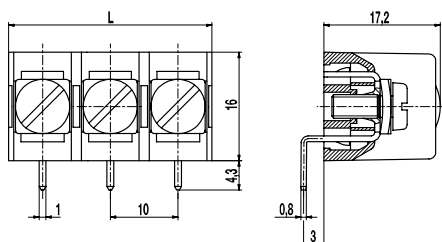
#### Approvals

	Current	Voltage	Group	AWG	Nm
	20	600	B, C	20 - 12	1,13
	20	600	B, C	20 - 12	1,13

## PCB connector

### 983-W/-ZW

Screw connection, wire entrance vertical to PCB



The PCB screw connector 983-W in 10 mm pitch is available with 2- to 26-pole design and can be mounted side-by-side in the nominal pitch. This version is equipped with one solder pin per pole.

The conductor terminal, located vertical to the PCB, is of head contact design, whereby the screws and square washers are movably connected. For easier connection, the non-rotably mounted square washers are automatically lifted when the screw is loosened.

#### Part Numbers

No. of poles	983-W	983-ZW	Length	Pcs
2	30.873.802	30.872.872	20,00	100
3	30.873.803	30.872.873	30,00	100
4	30.873.804	30.872.874	40,00	100
5	30.873.805	30.872.875	50,00	100
6	30.873.806	30.872.876	60,00	100
7	30.873.807	30.872.877	70,00	50
8	30.873.808	30.872.878	80,00	50
9	30.873.809	30.872.879	90,00	50
10	30.873.810	30.872.880	100,00	50
11	30.873.811	30.872.881	110,00	50
12	30.873.812	30.872.882	120,00	50

further number of poles on request

#### General Information

Pitch	10 mm
No. of poles	2 - 26



#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i> 0,75 - 2,5 mm <sup>2</sup> / 0,75 - 2,5 mm <sup>2</sup> / 18 - 12 AWG
Wire Stripping Length	8,5 mm
Overvoltage Category	III
Pollution Severity Level	3
Rated Voltage	500 V
Rated Impulse Voltage	6 kV
Rated Insulation Voltage	450 V acc. to EN 60998-1
Rated Current	15 A
Hole in PCB	ø 1,6 mm
Torque	1,2 Nm
Other specifications	Per pole two wires of identical cross-section can be connected.

#### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Pressure clamp	Tin plated brass
Screw	M4; zinc plated steel, blue passivated
Solder pin	0,8 x 1,0 mm; tin plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm
	20	300	B	20 - 12	1,13
	20 10	300 300	B D, E	20 - 12 20 - 12	1,13 1,13

#### Options / Accessories

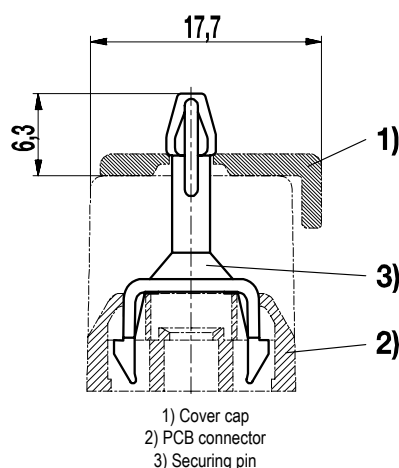
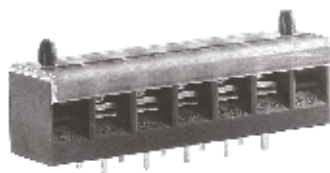
- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,00
- Cover cap 983-A
- Securing pins BEF-983
- Crosshead screws



## Cover cap

### 983-A

#### Accessories



The 983-A cover cap is used as shock protection for series 983 PCB connectors. All cover caps have two  $\varnothing 3$  mm fastening holes. They are fastened after wiring the strips with two securing pins BEF-983, which are pressed into the first and the last empty pole compartment of the PCB connector.

When ordering PCB connectors of series 983, the two empty pole compartments on the far left and the far right must be specified because terminal pole numbers are only allocated to connected pole compartments.

The number of poles and the cover cap sizes stated herein are already configured according to the number of empty pole compartments, i.e. a 3-pole cover cap is suitable for a 3-pole PCB connector equipped with two additional empty pole compartments.

#### Part Numbers

No. of poles	983-A	Length	Pcs
1	13.891.203	30,00	200
2	14.891.203	40,00	200
3	15.891.203	50,00	200
4	16.891.203	60,00	100
5	17.891.203	70,00	100
6	18.891.203	80,00	100
7	19.891.203	90,00	100
8	20.891.203	100,00	100
9	21.891.203	110,00	100
10	22.891.203	120,00	100
11	23.891.203	130,00	100
12	24.891.203	140,00	100
14	26.891.203	160,00	100
16	28.891.203	180,00	100
18	30.891.203	200,00	100
20	32.891.203	220,00	100
22	34.891.203	240,00	100
24	36.891.203	260,00	100

further number of poles on request

#### General Information

No. of poles	1 - 24
Usable with	PCB connector of series 983

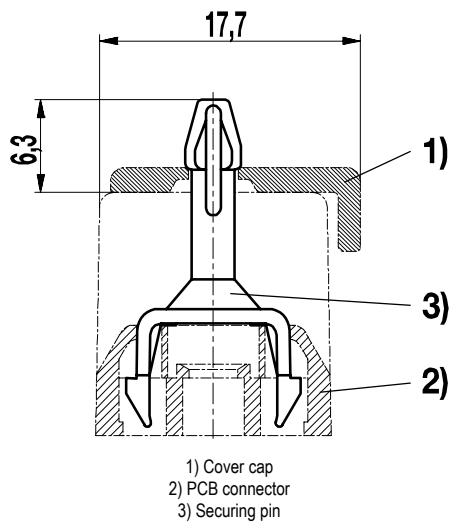
#### Material

Moulding	ABS, transparent
Temperature Range	-30°C up to 80°C

#### Options / Accessories

- Securing pins BEF-983
- Fixing holes in different position

## Securing pin BEF-983 Accessories



The securing pins BEF-983 are used to attach the cover caps onto series 982 and 983 PCB connectors.  
Both pins are pressed into the far end empty pole compartments of the series 982 and 983 PCB connectors.

### Part Numbers

No. of poles	BEF-983	Length	Pcs
1	10.476.008		1.000

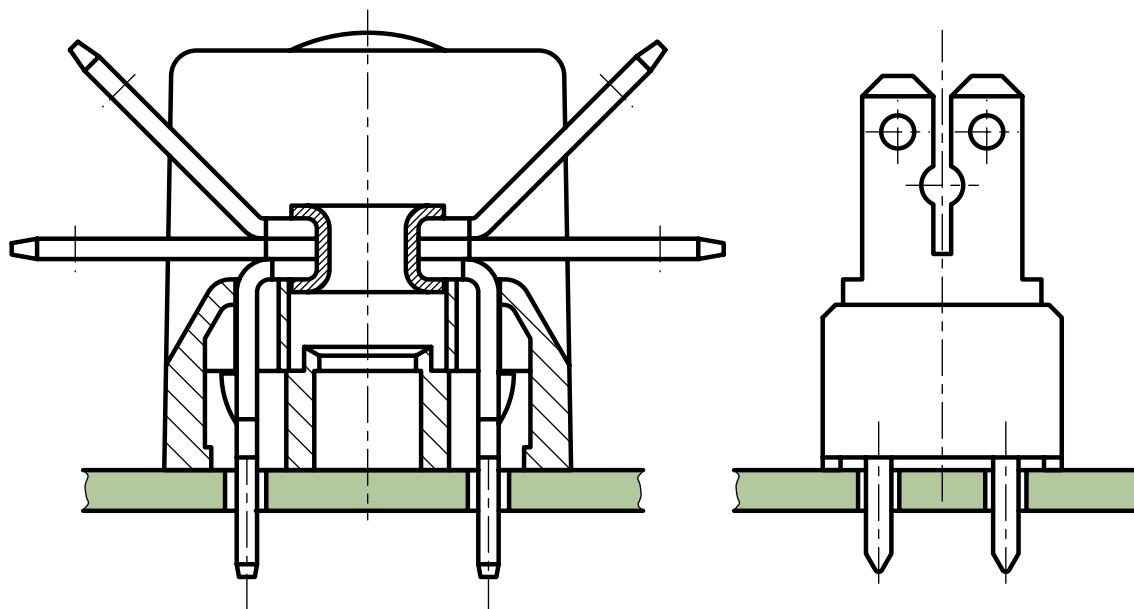
### General Information

Usable with	PCB connectors series 982 and 983, cover caps 982-A and 983-A
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### Material

Moulding	PA, grey, V-0
Temperature Range	-30°C up to 80°C

## ■ Tab connectors



On the following pages you can find our range of tab connectors with a pitch of 10 mm.

The Series 900 of our tab connector assortment can be flexibly used on various pitches. The tab connectors with double solder termination are designed for 2,8 mm, 4,8 mm, 6,3 mm tab receptacles.

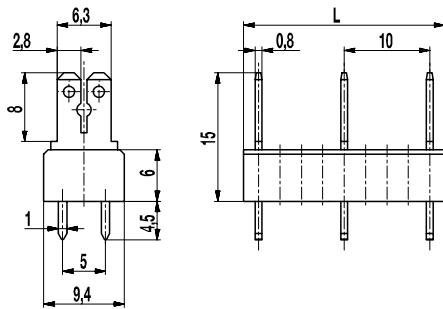
Depending on the respective application, the series 900 allows to plug on bare, partially or fully insulated tab receptacles according to DIN 46247.

For the insulation of the tabs, receptacles ISO-110 for 2,8 mm and ISO-25 for 6,3 mm or 2x 2,8 mm can be used (see accessories). When using double-spring contacts for 6,3 mm tab connectors, our insulation socket ISO-900 is best suitable.

## Tab connector

### 900-S-10

Tab 2x 2,8 mm / 1x 6,3 mm



The tab connector 900-S-10 with double solder termination and a pitch of 10 mm is designed for 1x 2,8 mm or 1x 6,3 mm tab connector receptacles.

Depending on the respective application, the tab connectors of series 900 allow to plug in bare, partially or fully insulated tab receptacles according to DIN 46247. Also non-insulated 2,8 mm or 6,3 mm tab receptacles can be plugged on these tab connectors. Insulation receptacles ISO-25 (see also ISO product data sheet) can be used to insulate 2,8 mm or 6,3 mm tab receptacles. Insulation sockets are available for 6,3 mm tab connectors with double-spring contacts (see also ISO-900 product data sheet).

#### Part Numbers

No. of poles	900-S-10	Length	Pcs
2	80.870.903	13,50	250
3	80.870.905	23,50	100
4	80.870.907	33,50	100
5	80.870.909	43,50	100
6	80.870.911	53,50	100
7	80.870.913	63,50	100
8	80.870.915	73,50	100
9	80.870.917	83,50	100
10	80.870.919	93,50	100
11	80.870.921	103,50	100
12	80.870.923	113,50	100
13	80.870.925	123,50	50

further number of poles on request

#### General Information

Pitch	10 mm
No. of poles	2 - 13

#### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	630 V	630 V	1000 V
Rated Impulse Voltage	6 kV	6 kV	6 kV
Rated Insulation Voltage	750 V acc. to EN 60998-1		
Rated Current	6 A: with receptacles 2,8; wire 1 mm <sup>2</sup> (16 AWG) 16 A: with receptacles 6,3; wire 2,5 mm <sup>2</sup> (14 AWG)		
Hole in PCB	ø 1,6 mm		
Other specifications	Indicated rated voltages refer to applications with insulation receptacles		

#### Material

Moulding	PA, red, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Solder pin	1,0 x 0,8 mm; tin plated brass
Tab	2,8 x 0,8 mm; 6,3 x 0,8 mm; tin plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm
UL®	15	300	B		
	15	150	C		
SP®	15	300	B		
	10	300	D, E		

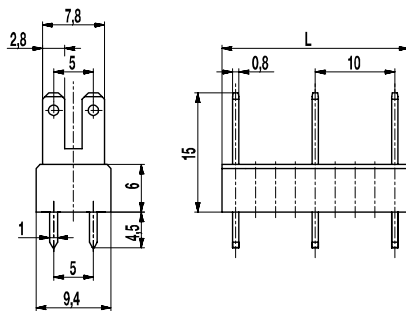
#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,00
- Insulation receptacles ISO
- Insulation sockets ISO-900
- Change of pitch
- Component mix of tab connector versions
- Tab connectors are also individually available (see single tabs GST-900)

## Tab connector

### 900-SH-10

Tab 2x 2,8 mm



The tab connector 900-SH-10 with double solder termination and a pitch of 10 mm is designed for 2x 2,8 mm tab connector receptacles.

Depending on the respective application, the tab connectors of series 900 allow to plug in bare, partially or fully insulated tab receptacles according to DIN 46247. On tab connectors of this series, two non-insulated 2,8 mm tab receptacles can be plugged in parallel. Insulation receptacles ISO-110 (see also ISO product data sheet) can be used to insulate 2,8 mm tab receptacles.

#### Part Numbers

No. of poles	900-SH-10	Length	Pcs
2	39.870.903	13,50	250
3	39.870.905	23,50	100
4	39.870.907	33,50	100
5	39.870.909	43,50	100
6	39.870.911	53,50	100
7	39.870.913	63,50	100
8	39.870.915	73,50	100
9	39.870.917	83,50	100
10	39.870.919	93,50	100
11	39.870.921	103,50	100
12	39.870.923	113,50	100
13	39.870.925	123,50	50

further number of poles on request

#### General Information

Pitch	10 mm
No. of poles	2 - 13



#### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	630 V	630 V	1000 V
Rated Impulse Voltage	6 kV	6 kV	6 kV
Rated Insulation Voltage	750 V acc. to EN 60998-1		
Rated Current	6 A: with receptacles 2,8; wire 1 mm <sup>2</sup> (16 AWG)		
Hole in PCB	ø 1,6 mm		
Other specifications	Indicated rated voltages refer to applications with insulation receptacles		

#### Material

Moulding	PA, red, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Solder pin	1,0 x 0,8 mm; tin plated brass
Tab	2,8 x 0,8 mm; tin plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm
	15	300	B		
	15	150	C		
	15	300	B		
	10	300	D, E		

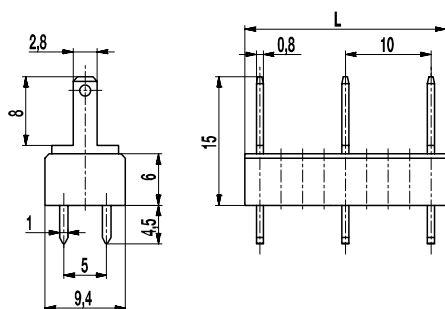
#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,00
- Insulation receptacles ISO
- Change of pitch
- Component mix of tab connector versions
- Tab connectors are also individually available (see single tabs GST-900)

## Tab connector

### 900-SUB-10

Tab 2,8 mm



The tab connector 900-SUB-10 with double solder termination and a pitch of 10 mm is designed for 2,8 mm tab connector receptacles.

Depending on the respective application, the tab connectors of series 900 allow to plug in bare, partially or fully insulated tab receptacles according to DIN 46247. Insulation receptacles ISO-110 (see also ISO product data sheet) can be used to insulate 2,8 mm tab receptacles.

Insulation sockets are available for 6,3 mm tab connectors with double-spring contacts (see also ISO-900 product data sheet).

#### Part Numbers

No. of poles	900-SUB-10	Length	Pcs
2	13.870.903	13,50	250
3	13.870.905	23,50	250
4	13.870.907	33,50	250
5	13.870.909	43,50	250
6	13.870.911	53,50	250
7	13.870.913	63,50	100
8	13.870.915	73,50	100
9	13.870.917	83,50	100
10	13.870.919	93,50	100
11	13.870.921	103,50	100
12	13.870.923	113,50	100
13	13.870.925	123,50	50

further number of poles on request

#### General Information

Pitch	10 mm
No. of poles	2 - 13



#### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	630 V	630 V	1000 V
Rated Impulse Voltage	6 kV	6 kV	6 kV
Rated Insulation Voltage	750 V acc. to EN 60998-1		
Rated Current	6 A: with receptacles 2,8; wire 1 mm <sup>2</sup> (16 AWG)		
Hole in PCB	ø 1,6 mm		
Other specifications	Indicated rated voltages refer to applications with insulation receptacles		

#### Material

Moulding	PA, red, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Solder pin	1,0 x 0,8 mm; tin plated brass
Tab	2,8 x 0,8 mm; tin plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm
	15	300	B		
	15	150	C		
	6	300	B, D, E		

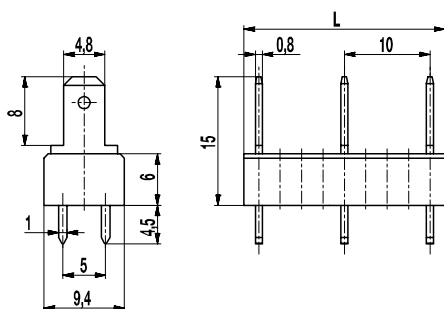
#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,00
- Insulation receptacles ISO
- Insulation sockets ISO-900
- Change of pitch
- Component mix of tab connector versions
- Tab connectors are also individually available (see single tabs GST-900)

## Tab connector

### 900-SUC-10

Tab 4,8 mm



The tab connector 900-SUC-10 with double solder termination and a pitch of 10 mm is designed for 4,8 mm tab connector receptacles.

Depending on the respective application, the tab connectors of series 900 allow to plug in bare, partially or fully insulated tab receptacles according to DIN 46247. Insulation receptacles ISO-187 (see also ISO product data sheet) can be used to insulate 4,8 mm tab receptacles.

Insulation sockets are available for 6,3 mm tab connectors with double-spring contacts (see also ISO-900 product data sheet).

#### Part Numbers

No. of poles	900-SUC-10	Length	Pcs
2	19.870.903	13,50	250
3	19.870.905	23,50	100
4	19.870.907	33,50	100
5	19.870.909	43,50	100
6	19.870.911	53,50	100
7	19.870.913	63,50	100
8	19.870.915	73,50	100
9	19.870.917	83,50	100
10	19.870.919	93,50	100
11	19.870.921	103,50	100
12	19.870.923	113,50	100
13	19.870.925	123,50	50

further number of poles on request

#### General Information

Pitch	10 mm
No. of poles	2 - 13



#### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	630 V	630 V	1000 V
Rated Impulse Voltage	6 kV	6 kV	6 kV
Rated Insulation Voltage	750 V acc. to EN 60998-1		
Rated Current	16 A: with receptacles 4,8; wire 2,5 mm <sup>2</sup> (14 AWG)		
Hole in PCB	ø 1,6 mm		
Other specifications	Indicated rated voltages refer to applications with insulation receptacles		

#### Material

Moulding	PA, red, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Solder pin	1,0 x 0,8 mm; tin plated brass
Tab	4,8 x 0,8 mm; tin plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm
	15	300	B		
	15	150	C		
	15	300	B		
	10	300	D, E		

#### Options / Accessories

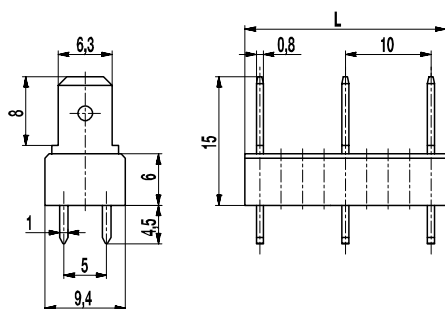
- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,00
- Insulation receptacles ISO
- Insulation sockets ISO-900
- Change of pitch
- Component mix of tab connector versions
- Tab connectors are also individually available (see single tabs GST-900)



## Tab connector

### 900-SUN-10

Tab 6,3 mm



The tab connector 900-SUN-10 with double solder termination and a pitch of 10 mm is designed for 6,3 mm tab connector receptacles.

Depending on the respective application, the tab connectors of series 900 allow to plug in bare, partially or fully insulated tab receptacles according to DIN 46247. Insulation receptacles ISO-25 and ISO-250 (see also ISO product data sheet) can be used to insulate 6,3 mm tab receptacles.

Insulation sockets are available for 6,3 mm tab connectors with double-spring contacts (see also ISO-900 product data sheet).

#### Part Numbers

No. of poles	900-SUN-10	Length	Pcs
2	49.870.903	13,50	250
3	49.870.905	23,50	100
4	49.870.907	33,50	100
5	49.870.909	43,50	100
6	49.870.911	53,50	100
7	49.870.913	63,50	100
8	49.870.915	73,50	100
9	49.870.917	83,50	100
10	49.870.919	93,50	100
11	49.870.921	103,50	100
12	49.870.923	113,50	100
13	49.870.925	123,50	50

further number of poles on request

#### General Information

Pitch	10 mm
No. of poles	2 - 13



#### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	630 V	630 V	1000 V
Rated Impulse Voltage	6 kV	6 kV	6 kV
Rated Insulation Voltage	750 V acc. to EN 60998-1		
Rated Current	16 A: with receptacles 6,3; wire 2,5 mm <sup>2</sup> (14 AWG)		
Hole in PCB	ø 1,6 mm		
Other specifications	Indicated rated voltages refer to applications with insulation receptacles		

#### Material

Moulding	PA, red, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Solder pin	1,0 x 0,8 mm; tin plated brass
Tab	6,3 x 0,8 mm; tin plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm
	15	300	B		
	15	150	C		
	15	300	B		
	10	300	D, E		

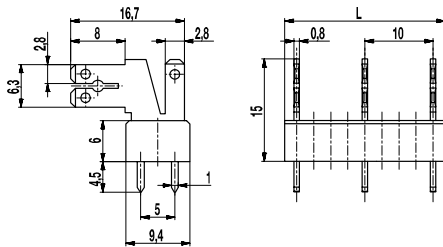
#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,00
- Insulation receptacles ISO
- Insulation sockets ISO-900
- Change of pitch
- Component mix of tab connector versions
- Tab connectors are also individually available (see single tabs GST-900)

## Tab connector

### 900-W-10

Tabs with 90° angle



The tab connector 900-W-10 with double solder termination and a pitch of 10 mm is designed for 1x 2,8 mm and 1x 2,8 mm / 1x 6,3 mm tab connector receptacles.

Depending on the respective application, the tab connectors of series 900 allow to plug in bare, partially or fully insulated tab receptacles according to DIN 46247. A non-insulated 2,8 mm or a 6,3 mm (optionally also insulated) tab connector receptacle can be plugged in the angled plug-in area of the tab connector. To the vertical tab connector, a non-insulated 2,8 mm tab connector receptacle can be also be connected. Insulation receptacles ISO-25 and ISO-250 (see also ISO product data sheet) can be used to insulate 6,3 mm tab receptacles.

#### Part Numbers

No. of poles	900-W-10	Length	Pcs
2	30.870.903	13,50	250
3	30.870.905	23,50	100
4	30.870.907	33,50	100
5	30.870.909	43,50	100
6	30.870.911	53,50	100
7	30.870.913	63,50	100
8	30.870.915	73,50	50
9	30.870.917	83,50	50
10	30.870.919	93,50	50
11	30.870.921	103,50	50
12	30.870.923	113,50	50
13	30.870.925	123,50	50

further number of poles on request

#### General Information

Pitch	10 mm
No. of poles	2 - 13

#### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	630 V	630 V	1000 V
Rated Impulse Voltage	6 kV	6 kV	6 kV
Rated Insulation Voltage	750 V acc. to EN 60998-1		
Rated Current	6 A: with receptacles 2,8; wire 1 mm <sup>2</sup> (16 AWG) 16 A: with receptacles 6,3; wire 2,5 mm <sup>2</sup> (14 AWG)		
Hole in PCB	ø 1,6 mm		
Other specifications	Indicated rated voltages refer to applications with insulation receptacles		

#### Material

Moulding	PA, red, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Solder pin	1,0 x 0,8 mm; tin plated brass
Tab	2,8 x 0,8 mm; 6,3 x 0,8 mm; tin plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm
	15	300	B		
	15	150	C		
	15	300	B		
	10	300	D, E		

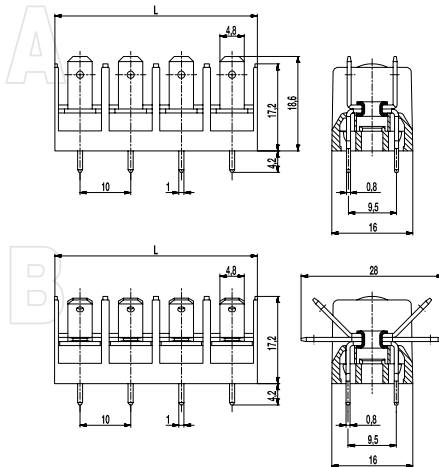
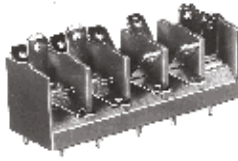
#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,00
- Insulation receptacles ISO
- Change of pitch
- Component mix of tab connector versions
- Tab connectors are also individually available (see single tabs GST-900)

## Tab connector

### 983-FD

Tab/screw connection, 2 solder pins per pole

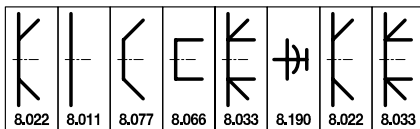
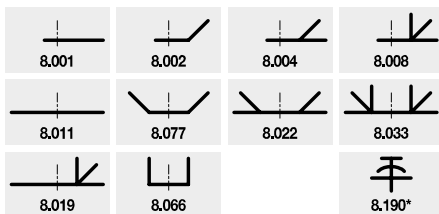


L = Number of poles x pitch

A: Terminal design with tab connector package 8.066

B: Terminal design with tab connector package 8.022

### Terminal designs / Example of mixed assembly



\* = Screw connection

On the input side, each pole of the tab connector 983-FD in 10 mm pitch can be connected to up to 6 tab connections or one screw connection.

For a uniform assembly, version, assembly type (4-digit number) and number of poles must be specified. Both technical drawings (A and B) show an example for uniform assembly. Mixed assembly requires either specifications of the terminal design for each pole or a drawing.

Due to the multitude of assembly combinations there is no designated order code. For uniform assembly with screw connections (8.190) see tab connector strip 983-D.

### General Information

Pitch	10 mm
No. of poles	2 - 26
Usable with	receptacles for tabs acc. to DIN 46247

### Technical Data

Clamping Range	<i>solid / flexible / AWG</i> 0,75 - 2,5 mm <sup>2</sup> / 0,75 - 2,5 mm <sup>2</sup> / 18 - 12 AWG
Rated Cross Section	2,5 mm <sup>2</sup>
Wire Stripping Length	8,5 mm
Overvoltage Category	III
Pollution Severity Level	3
Rated Voltage	500 V
Rated Impulse Voltage	4 kV
Rated Insulation Voltage	450 V acc. to EN 60998-1
Rated Current	16 A: with receptacles 4,8; wire 2,5 mm <sup>2</sup> (14 AWG)
Hole in PCB	ø 1,6 mm
Torque	1,2 Nm
Other specifications	For screw connections, 2 wires of the same cross-section can be connected per pole. The specified rated voltage applies to applications with insulating receptacles.

### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Pressure clamp	Tin plated brass
Screw	M4; zinc plated steel, blue passivated
Solder pin	0,8 x 1,0 mm; tin plated brass
Tab	Nickel plated brass
Tubular rivet	Tin plated copper

### Approvals

	Current	Voltage	Group	AWG	Nm
	15	300	B	20 - 12	
	15	300	B	20 - 12	
	10	300	D, E	20 - 12	

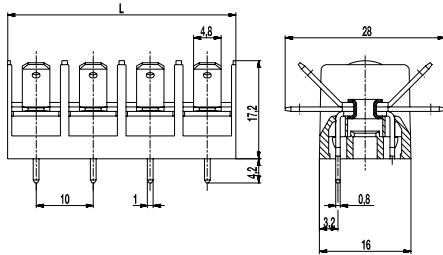
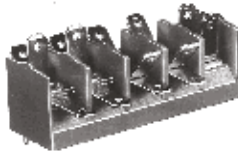
### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,00
- Cover cap 983-A (two unassigned poles required); not suitable for every assembly type
- Crosshead screws
- 10 mm pin length
- Version without solder pin

## Tab connector

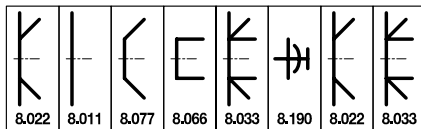
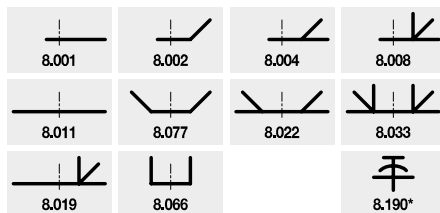
### 983-FS

Tab/screw connection, 1 solder pin per pole



L = Number of poles x pitch  
Terminal design with tab connector package 8.022

### Terminal designs / Example of mixed assembly



\* = Screw connection

On the input side, each pole of the tab connector 983-FS in 10 mm pitch can be connected to up to 6 tab connections or one screw connection. For a uniform assembly, version, assembly type (4-digit number) and number of poles must be specified. Both technical drawings (A and B) show an example for uniform assembly. Mixed assembly requires either specifications of the terminal design for each pole or a drawing.

Due to the multitude of assembly combinations there is no designated order code. For uniform assembly with screw connections (8.190) see tab connector strip 983-S.

### General Information

Pitch	10 mm
No. of poles	2 - 26
Usable with	receptacles for tabs acc. to DIN 46247

### Technical Data

Clamping Range	<i>solid / flexible / AWG</i> 0,75 - 2,5 mm <sup>2</sup> / 0,75 - 2,5 mm <sup>2</sup> / 18 - 12 AWG
Rated Cross Section	2,5 mm <sup>2</sup>
Wire Stripping Length	8,5 mm
Overvoltage Category	III
Pollution Severity Level	3
Rated Voltage	500 V
Rated Impulse Voltage	4 kV
Rated Insulation Voltage	450 V acc. to EN 60998-1
Rated Current	16 A: with receptacles 4,8; wire 2,5 mm <sup>2</sup> (14 AWG)
Hole in PCB	ø 1,6 mm
Torque	1,2 Nm
Other specifications	For screw connections, 2 wires of the same cross-section can be connected per pole. The specified rated voltage applies to applications with insulating receptacles.

### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Pressure clamp	Tin plated brass
Screw	M4; zinc plated steel, blue passivated
Solder pin	0,8 x 1,0 mm; tin plated brass
Tab	Nickel plated brass
Tubular rivet	Tin plated copper

### Approvals

	Current	Voltage	Group	AWG	Nm
	15	300	B	20 - 12	
	15	300	B	20 - 12	
	10	300	D, E	20 - 12	

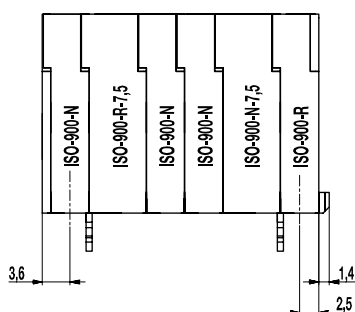
### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,00
- Cover cap 983-A (two unassigned poles required); not suitable for every assembly type
- Crosshead screws
- 10 mm pin length
- Version without solder pin
- Version with screw connections only, please see 983-S

## Insulation sockets

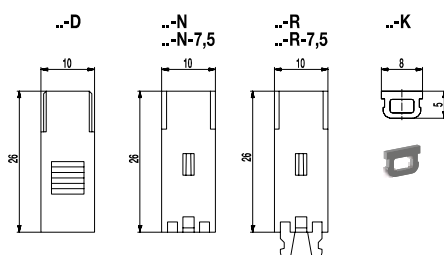
### ISO-900

#### Accessories



Mounting example

#### Versions



Version D: Cover

Version N: Standard insulation socket

Version R: Insulation socket with snap-fits

Version K: Coding keys to block empty chambers

ISO-900 insulation sockets are used to insulate double spring contacts. They are single pole and can be mounted side-by-side in 5 mm and 7,5 mm pitch. Apart from the standard insulation sockets ISO-900-N und ISO-900-N-7,5, type ISO-900-R and ISO-900-R-7,5 with a latching hook are available to provide additional locking strength against accidental withdrawal. These latching hooks snap in the empty receptacles of tab connectors 900-S and 900-SUN. The cover ISO-900-D is used as contact protection for the last pole. Insulation sockets with latching hooks and ISO-900-K coding keys allow contacting the sockets. They are inserted into the empty slots of the tab connector, in which no insulation socket with latching hook is allocated, thus preventing incorrect connections.

#### General Information

Pitch	5 mm / 7,5 mm
Usable with	Tab connectors 900-S, 900-SUN and 900-SUC
Additional Information	When accurately positioned in the socket, the double-spring contacts audibly snap into place. These metal parts are not part of our product range. They can be used e.g. for TYCO timer contacts (no. 925598-1).

#### Material

Moulding	PA, red, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C

#### Options / Accessories

- Special marking according to drawing
- ISO-900 insulation sockets can be provided as multipole combinations. Please enclose a drawing.
- Spacer 2,5 mm (ISO-900-Z)

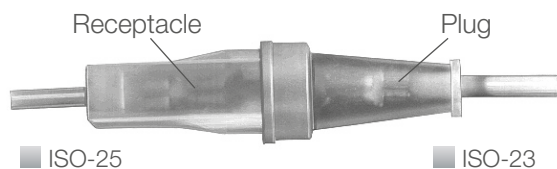
#### Part Numbers

Type	Part Numbers	Length	Pcs
ISO-900-D	25.838.106		1000
ISO-900-N	10.838.104		1000
ISO-900-N-7,5	10.838.105		1000
ISO-900-R	20.838.107		1000
ISO-900-R-7,5	10.838.108		1000
ISO-900-K	10.496.021		1000

## Insulation receptacles

### ISO

#### Accessories



ISO-25

ISO-23



ISO-110

ISO-187

ISO-25

ISO-250

Mounting example

Depending of their scope of application, insulation receptacles are made of either polyethylene (...PE) or polypropylene V-0 (...PPV0) and are available in various colours and sizes. Tab receptacles according to DIN 46 247 are fully insulated (including the crimped point) with insulation receptacles. Prior to crimping, they are pushed onto the wire end, and are therefore captive. They can also be used to insulate crimped plug-in receptacles and cable sockets.

#### General Information

##### Additional Information

By means of using both ISO-23 (tab connector side) and ISO-25 insulation receptacles, a 6,3 mm cross-section cable connection can be completely insulated (see figure).

#### Material

##### Moulding

PE = Polyethylene (see table for colours)  
PP = Polypropylene, nature, V-0

##### Comparative Tracking Index

CTI ≥ 600

##### Insulating Group

I

##### Temperature Range

PE: ca. 70 up to 80°C, short-time ca. 90°C  
PP: up to 80°C, short-time ca. 140°C

#### Options / Accessories

- Insulation receptacles in other colours

#### Part numbers

Part numbers	Type	Colour	Nom. size	Cross-section	Length x width x height	Pcs
10.838.001	ISO-110-PEN	natural	2,8	up to 1 mm <sup>2</sup> (16 AWG)	19,5 x 5,5 x 3,5 mm	10.000
10.838.031	ISO-110-PEG	yellow	2,8	up to 1 mm <sup>2</sup> (16 AWG)	19,5 x 5,5 x 3,5 mm	10.000
10.838.034	ISO-110-PER	red	2,8	up to 1 mm <sup>2</sup> (16 AWG)	19,5 x 5,5 x 3,5 mm	10.000
10.838.021	ISO-110-PES	black	2,8	up to 1 mm <sup>2</sup> (16 AWG)	19,5 x 5,5 x 3,5 mm	10.000
10.838.032	ISO-110-PPV0	nature	2,8	up to 1 mm <sup>2</sup> (16 AWG)	19,5 x 5,5 x 3,5 mm	10.000
10.838.011	ISO-187-PEN	natural	4,8	up to 1,5 mm <sup>2</sup> (16 AWG)	21 x 8 x 4,5 mm	10.000
10.838.005	ISO-187-PEG	yellow	4,8	up to 1,5 mm <sup>2</sup> (16 AWG)	21 x 8 x 4,5 mm	10.000
10.838.035	ISO-187-PER	red	4,8	up to 1,5 mm <sup>2</sup> (16 AWG)	21 x 8 x 4,5 mm	10.000
10.838.036	ISO-187-PES	black	4,8	up to 1,5 mm <sup>2</sup> (16 AWG)	21 x 8 x 4,5 mm	10.000
10.838.044	ISO-187-PPV0	nature	4,8	up to 1,5 mm <sup>2</sup> (16 AWG)	21 x 8 x 4,5 mm	10.000
10.838.006	ISO-23-PEN	natural	6,3	up to 2,5 mm <sup>2</sup> (14 AWG)	23 x 12,5 x 8,5 mm	10.000
10.838.007	ISO-23-PEG	yellow	6,3	up to 2,5 mm <sup>2</sup> (14 AWG)	23 x 12,5 x 8,5 mm	10.000
10.838.017	ISO-23-PES	black	6,3	up to 2,5 mm <sup>2</sup> (14 AWG)	23 x 12,5 x 8,5 mm	10.000
10.838.046	ISO-23-PPV0	nature	6,3	up to 2,5 mm <sup>2</sup> (14 AWG)	23 x 12,5 x 8,5 mm	10.000
10.838.013	ISO-25-PEN	natural	6,3	up to 2,5 mm <sup>2</sup> (14 AWG)	25 x 9,5 x 5 mm	10.000
10.838.014	ISO-25-PEG	yellow	6,3	up to 2,5 mm <sup>2</sup> (14 AWG)	25 x 9,5 x 5 mm	10.000
10.838.016	ISO-25-PES	black	6,3	up to 2,5 mm <sup>2</sup> (14 AWG)	25 x 9,5 x 5 mm	10.000
10.838.045	ISO-25-PPV0	nature	6,3	up to 2,5 mm <sup>2</sup> (14 AWG)	25 x 9,5 x 5 mm	10.000
10.838.009	ISO-250-PEN	natural	6,3	up to 4 mm <sup>2</sup> (12 AWG)	25 x 9,5 x 6 mm	10.000
10.838.010	ISO-250-PEG	yellow	6,3	up to 4 mm <sup>2</sup> (12 AWG)	25 x 9,5 x 6 mm	10.000
10.838.018	ISO-250-PES	black	6,3	up to 4 mm <sup>2</sup> (12 AWG)	25 x 9,5 x 6 mm	10.000
10.838.048	ISO-250-PPV0	nature	6,3	up to 4 mm <sup>2</sup> (12 AWG)	25 x 9,5 x 6 mm	10.000

\* Since cable diameters vary, cross-sections are only reference values.

## Single tabs GST-900 Accessories

This tabs for printed circuits with a thickness of 0,8 mm are used to connect tab receptacles, size 2,8, 4,8 and 6,3 according to DIN 46 247. Depending on their scope of application they are available with vertical and/or parallel outgoing wires. Tabs can be insulated with our ISO insulation receptacles.

### Technical Data

Rated Current	Tab 2,8:	6 A
	Tab 4,8:	16 A
	Tab 6,3:	25 A
	please see DIN 46 249	

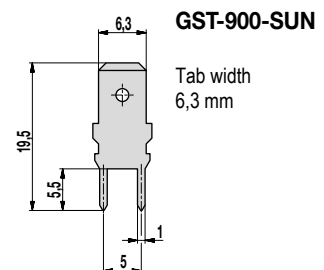
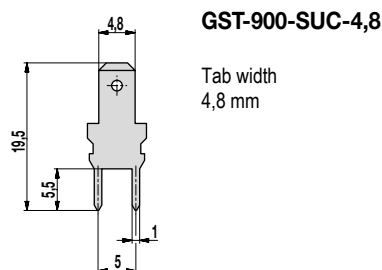
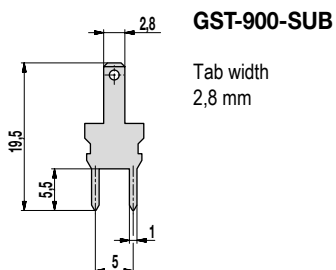
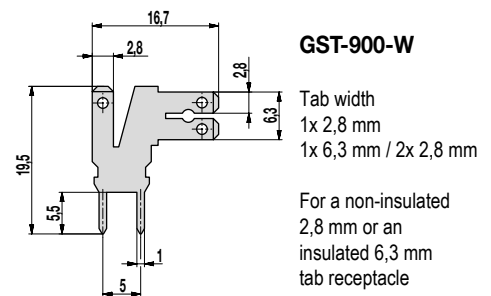
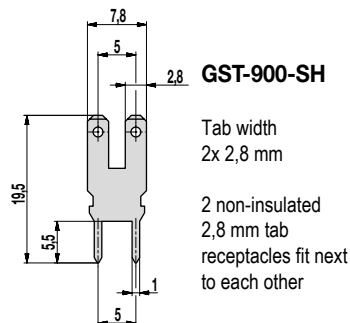
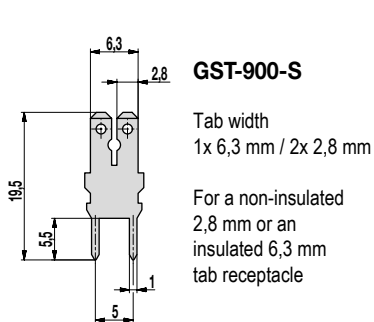
### Material

Tab	Tin plated brass, thickness 0,8 mm
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### Options / Accessories

- Tab GST-900-S with press-fit pins

### Versions

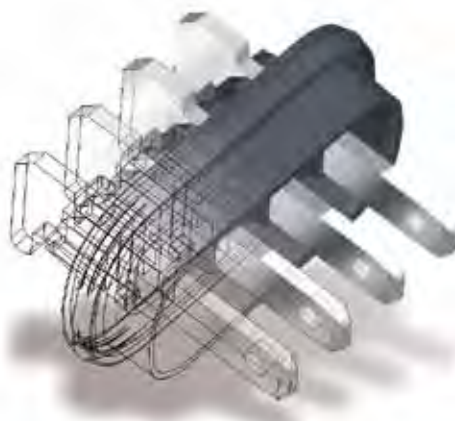


### Part numbers

Type	Part number	Pcs
GST-900-S	10.351.107	1.000
GST-900-SH	10.351.111	1.000
GST-900-SUB	10.371.106	1.000
GST-900-SUC-4,8	10.361.108	1.000
GST-900-SUN	10.351.113	1.000
GST-900-W	10.351.109	1.000



## ■ Looking for a Customer Designed Solution?



„Sealed“

With a pitch of 3.5 mm, this insert with four tabs 2.8 x 0.8 mm was designed to seal the contacts, for an application which required the protection class IP54.



„Top“

Version of a terminal our series 970 in 5 mm pitch.

In order to achieve a distance of 100 mm from the PCB, a housing was constructed, which not only does protect the pins but also positions them in a special arrangement. In the terminal area are also placed elongated ribs.

Our Product Information Centre will assist you with every technical inquiry.

- Please, call us under +49 6181 105-151.
- Contact us via e-mail at [products@wecogroup.com](mailto:products@wecogroup.com).
- You want us to pay you a visit? We are pleased to arrange an appointment.
- You would prefer a visit in Hanau?

Of course, you are welcomed anytime.

We are looking forward to your call.



„Well Contacted“

This plug connector with the pitch of 5 mm is designed with outer gold-plated contact surfaces. Additionally, the side walls provide ribs for receiving a corresponding locking hook.



## ■ Accessories / Options

### ■ Marking strips



These marking strips are made of polyester with black print on a silver background. They have a scratch resistant mylar surface.

Numbering begins with 1, the specified pole number is the last digit respectively.

The marking strips withstand printed circuit board cleaning agents containing water and soap, freon, fluorinated or chlorinated ingredients; they are not suitable for reflow soldering procedures.

They are supplied on adhesive cards each containing ten strips.

Part number	Type	Pitch	Length (L)	Width (a)	Pcs
24.499.011	BST-10,00/16	10,00 mm	155 mm	3,5 mm	100
24.499.008	BST-10,16/16	10,16 mm	157 mm	3,5 mm	100

### ■ Marking



Alternatively to the self-adhesive marking strips, we offer a special marking to meet almost any special and individual marking requirement. The printing is carried out on pre-designed marking areas.

Depending upon the housing colour, the numbers are imprinted in white or in black.

Other printing colours are possible on request.

## ■ Accessories / Options

### ■ Colours



WECO offers a wide range of housing colours.

Besides our standard housing colours, you can choose between many other colours.

Please contact us for further information.

### ■ Screws

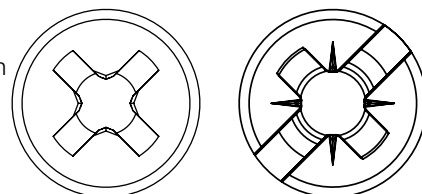


Our standard products are fitted with slotted screws.

On enquiry and customer's request, we also offer screws with Philips/Pozidrive or +/- screw heads.

Further materials:

Standard screws are made of steel; also screws out of various materials, e.g. brass, are available on request.



### ■ Packaging: Card board boxes, Tape-on-Reel, Magazines



According to standard, we pack our products in pollution free folding boxes from card board and from corrugated board. Besides, we offer transfer tubes (magazines) as packing for the use with feeders and dispensers for automated insertion machinery. Transfer tubes offer the advantage of a better transportation facility and a simple withdrawal over the cardboards.

Our SMD and THR products are packed in "Tape-on-Reel" for the automated assembly process in pick and place machines. Please find data sheet information about products packed on Tape-on-Reel on our website.

## Technical Information

### Rating of clearance and creepage distances according to DIN EN 60664-1 (VDE 0110-1)

The rating of clearance and creepage distances depends on the expected electrical surge, the characteristic values of the electronic protection measures as well as the contamination at the place of installation.

Clearance distances are dimensioned in accordance with the rated impulse voltage table F.1, which results out of the overvoltage category and phase-to-earth voltage.

The minimum clearance in air is stated at altitudes of less than 2000m above sea level and ascertained in accordance with the impulse voltage and the contamination level, table 2.

Creepage distances are measured by the operating voltage, the characteristic of the insulants (CTI value), the expected contamination level as well as the preventive measures against contamination. Basis of the creepage distance is the rated voltage derived from the operating and / or system voltage.

The minimum creepage distance (depending on the respective degree of contamination) are assigned to the rated voltage, see table F.4.

#### Overvoltage categories

##### Overvoltage category IV

Electrical equipments for the use at the connection point of the installation e.g. electricity meter and primary over-current protection devices.

##### Overvoltage category III

Electrical equipment in firm installations and for such cases in which special demands are made against the reliability and the availability

### F.2 DIN EN 60664-1 (VDE 0110-1), table F.2 (extract) Clearance for transient overvoltages

Required impulse withstand voltage <sup>1) 9)</sup>	Minimum clearance in air up to 2 000 m above sea level		
	Case A Inhomogeneous field (see 3.15)		
	Pollution degree		
kV	1 mm	2 mm	3 mm
1,2	0,25	0,25	0,8 <sup>4)</sup>
1,5 <sup>2)</sup>	0,5	0,5	
2,0	1,0	1,0	1,0
2,5 <sup>2)</sup>	1,5	1,5	1,5
3,0	2,0	2,0	2,0
4,0 <sup>2)</sup>	3,0	3,0	3,0
5,0	4,0	4,0	4,0
6,0 <sup>2)</sup>	5,5	5,5	5,5
8,0 <sup>2)</sup>	8,0	8,0	8,0

<sup>1)</sup> This voltage is  
- for functional insulation, the maximum impulse voltage expected to occur across the clearance (see 5.1.5),  
- for basic insulation directly exposed to or significantly influenced by transient overvoltages from the low-voltage mains (see 4.3.3.3, 4.3.3.4.1 and 5.1.6), the rated impulse voltage of the equipment,  
- for other basic insulation (see 4.3.3.4.2), the highest impulse voltage that can occur in the circuit.

<sup>2)</sup> Preferred values as specified in 4.2.3.

<sup>4)</sup> The minimum clearances given for pollution degrees 2 and 3 are based on the reduced withstand characteristics of the associated creepage distance under humidity conditions (see IEC 60664-5).

<sup>5)</sup> For parts or circuits within equipment subject to impulse voltages according to 4.3.3.4.2, interpolation of values is allowed. However, standardization is achieved by using the preferred series of impulse voltage values in 4.2.3.

of the electrical equipment, e.g. switches in firm installations and devices for industrial use with continuing connection to the firm installation.

##### Overvoltage category II

Energy using electrical equipment, which is energised by a firm installation e.g. household appliances, portable tools and other domestic appliances as well as similar devices.

##### Overvoltage category I

Electrical equipment for the connection to electric circuits, in which measures are taken for the delimitation of the transient overvoltages to a suitable low value, e.g. devices with electronic circuits and appropriate protection level.

### F.4 DIN EN 60664-1 (VDE 0110-1), table F.4 (extract) Creepage distance for the avoidance of the failure by tracking

Voltage r.m.s. <sup>1)</sup>  V	Minimum creepage distances								
	Printed wiring material			Pollution degree					
				1			2		
				All material groups			All material groups except IIIb		
	All material groups	All material groups except IIIb	All material groups	I	II	III	I	II	III <sup>2)</sup>
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
25	0,025	0,040	0,125	0,500	0,500	0,500	1,250	1,250	1,250
32	0,025	0,040	0,14	0,53	0,53	0,53	1,30	1,30	1,30
40	0,025	0,040	0,16	0,56	0,80	1,10	1,40	1,60	1,80
50	0,025	0,040	0,18	0,60	0,85	1,20	1,50	1,70	1,90
63	0,040	0,063	0,20	0,63	0,90	1,25	1,60	1,80	2,00
80	0,063	0,100	0,22	0,67	0,95	1,30	1,70	1,90	2,10
100	0,100	0,160	0,25	0,71	1,00	1,40	1,80	2,00	2,20
125	0,160	0,250	0,28	0,75	1,05	1,50	1,90	2,10	2,40
160	0,250	0,400	0,32	0,80	1,10	1,60	2,00	2,20	2,50
200	0,400	0,630	0,42	1,00	1,40	2,00	2,50	2,80	3,20
250	0,560	1,000	0,56	1,25	1,80	2,50	3,20	3,60	4,00
320	0,75	1,60	0,75	1,60	2,20	3,20	4,00	4,50	5,00
400	1,0	2,0	1,0	2,0	2,8	4,0	5,0	5,6	6,3
500	1,3	2,5	1,3	2,5	3,6	5,0	6,3	7,1	8,0
630	1,8	3,2	1,8	3,2	4,5	6,3	8,0	9,0	10,0
800	2,4	4,0	2,4	4,0	5,6	8,0	10,0	11,0	12,5
1000	3,2	5,0	3,2	5,0	7,1	10,0	12,5	14,0	16,0

<sup>1)</sup> This voltage is  
- for functional insulation, the working voltage,  
- for basic and supplementary insulation of the circuit energized directly from the supply mains (see 4.3.2.2.1), the voltage rationalized through Table F.3a or Table F.3b, based on the rated voltage of the equipment, or the rated insulation voltage,  
- for basic and supplementary insulation of systems, equipment and internal circuits not energized directly from the mains (see 4.3.2.2.2), the highest r.m.s. voltage which can occur in the system, equipment or internal circuit when supplied at rated voltage and under the most onerous combination of conditions of operation within equipment rating.

<sup>2)</sup> Material group IIIb is no not recommended for application in pollution degree 3 above 630 V.

#### Degree of contamination

The micro environment determines the influence of the contamination on the isolation.

However the macro environment must be considered with the view of the micro environment.

Resources to achieve a reduction of the contamination on the regarded isolation can be planned by the effective employment of casings ( housings), encapsulations or hermetic sealings.

The influence of the contamination is considered with the calculation of air and creepage distances by degrees of pollution.

### F.1 DIN EN 60664-1 (VDE 0110-1), table F.1 (extract) Rated impulse voltages for electrical equipments, which are energised directly by a low-voltage system

Nominal voltage of the supply system <sup>1)</sup> based on IEC 60038 <sup>3)</sup>		Rated impulse voltage <sup>2)</sup>			
		Overvoltage category <sup>4)</sup>			
Three phase	Single phase	I	II	III	IV
V	V	V	V	V	V
	120-240	800	1 500	2 500	4 000
230/400 277/480		1 500	2 500	4 000	6 000
400/690		2 500	4 000	6 000	8 000
1 000		4 000	6 000	8 000	12 000

<sup>1)</sup> See Annex B for application to existing different low-voltage mains and their nominal voltages.

<sup>2)</sup> Equipment with these rated impulse voltages can be used in installations in accordance with IEC 60364-4-44.

<sup>3)</sup> The / mark indicates a four-wire three-phase distribution system. The lower value is the voltage line-to-neutral, while the higher value is the voltage line-to-line. Where only one value is indicated, it refers to three-wire, three-phase systems and specifies the value line-to-line.

<sup>4)</sup> See 4.3.3.2.2 for an explanation of the overvoltage categories.

## Technical Information

Four degrees of contamination levels are defined for the micro environment:

### Contamination level 1

No contamination or only dry, non-conductive contamination occurs. The contamination has no influence.

### Contamination level 2

Only non-conductive contamination occurs. However, occasional temporary conductivity must be expected as a result of moisture condensation.

### Contamination level 3

Conductive contamination occurs; dry, non-conductive contamination which becomes conductive as a result of moisture condensation may also occur.

### Contamination level 4

Impurities in the form of conductive dust, rain or humidity result in permanent conductivity.

### Insulant

DIN EN 60664-1 (VDE 0110-1) divides the insulants according to their CTI values in four groups. These are:

Insulant I:	600 = CTI
Insulant II:	400 = CTI < 600
Insulant IIIa:	175 = CTI < 400
Insulant IIIb:	100 = CTI < 175

The check numbers of the tracking must be determined according to IEC 60112 at an examination body using test solution A. The check number of the tracking is used as a proof of the creepage characteristics of insulants.

### Rated cross section

The current carrying capacity depends not only on the terminal design, but also on the application of the terminals. The appropriate specifications for the devices, e.g. DIN EN 60335-1 (VDE 0700-1), should be taken into account.

According to DIN EN 60999-1/VDE 0609 part 1, the current cross section and respectively the rated connection ability of a connection refers to the wire cross section indicated by the manufacturer, to which determined thermal, mechanical and electrical requirements apply to.

The relationship between rated connection abilities and diameters of the wires is represented in table 1.

If nothing else is specified in the product standard, each connection point must be able to take up not only its rated cross section (rated connection ability) but also the next two lower cross sections.

Connecting points must be able to take up unprepared wires.

Regarded as unprepared wires are all cables stripped at their ends, whose form is adjusted before insertion or whose wires are twisted for the purpose of the solidification.

## T1 DIN EN 60999-1, table 1 (extract) Relation between rated connection abilities and wires

Rated cross section	Theoretical diameter of the largest conductor						
	metric			AWG			
	solid		flexible	solid		b) Class B	c) Class I, K, M
	single wire	multi-stranded wire			single wire	multi-stranded wire	multi-stranded wire
mm <sup>2</sup>	mm	mm	mm	No.	mm	mm	mm
0,2	0,51	0,53	0,61	24	0,54	0,61	0,64
0,34	0,63	0,66	0,8	22	0,68	0,71	0,80
0,5	0,9	1,1	1,1	20	0,85	0,97	1,02
0,75	1,0	1,2	1,3	18	1,07	1,23	1,28
1,0	1,2	1,4	1,5	—	—	—	—
1,5	1,5	1,7	1,8	16	1,35	1,55	1,60
2,5	1,9	2,2	2,3 <sup>a)</sup>	14	1,71	1,95	2,08
4,0	2,4	2,7	2,9 <sup>a)</sup>	12	2,15	2,45	2,70
6,0	2,9	3,3	3,9 <sup>a)</sup>	10	2,72	3,09	3,36
10,0	3,7	4,2	5,1	8	3,34	3,89	4,32
16,0	4,6	5,3	6,3	6	4,32	4,91	5,73
25,0	—	6,6	7,8	4	5,45	6,18	7,26
35	—	7,9	9,2	2	6,87	7,78	9,02

NOTE: The diameter of the largest solid and flexible wire is based on Table 1 according to IEC 60228A and IEC 60344 and for AWG conductors on ASTM B 172-71 [4].  
ICEA-Publication S-19-81 [5], ICEA-Publication S-66-524 [6] and ICEA-Publication S-66-516 [7].

<sup>a)</sup> Information only for flexible wires in class 5 of IEC 60228A.  
<sup>b)</sup> Nominal + 5 %.  
<sup>c)</sup> Largest diameter for each of the three classes I, K, M + 5 %.

In the USA and Canada an identification is used by leader sizes (AWG) instead of the cross section indicated in mm<sup>2</sup>.

## Current carrying capacity

Current carrying capacity In the technical data a current carrying capacity is shown, with which no thermal damage and no disturbance of the function arise under consideration of the rated cross section and the ambient temperature.

Testing currents according to DIN EN 60998-1 (VDE 0613 part 1) are assigned to the rated cross sections in table 2.

With the testing currents the heating up of energized parts of the connecting point may not exceed 45 K.

The permitted carrying capacity not only depends on the terminal construction, but also on the use of the terminal.

The appropriate technical regulations for devices, e.g. DIN EN 60335-1 (VDE 0700-1) should be taken into consideration.

## T2 DIN EN 60998-1, table 2 (extract) Relation between rated connection abilities and testing current

Rated Cross-section	Load capacity
mm <sup>2</sup>	A
0,2	4
0,34	5
0,5	6
0,75	9
1	13,5
1,5	17,5
2,5	24
4	32
6	41
10	57
16	76
25	101
35	125

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### Catalogue overview

#### Electronic

- # 1: Pitch 3,5 mm
- # 2: Pitch 5 mm
- # 3: Pitch 5,08 mm
- # 4: Pitch 7,5 mm
- # 5: Pitch >10 mm
- # 6: SMD & THR

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