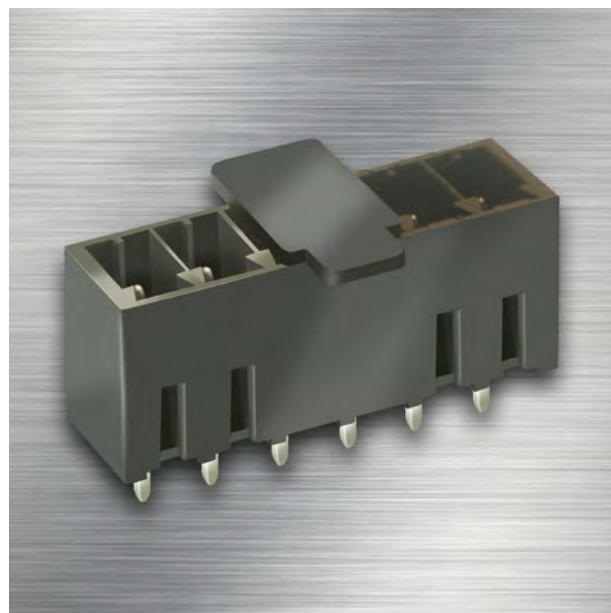
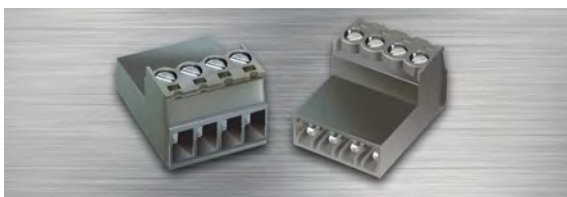


# ■ Connection Technology for Printed Circuit Boards Pitch 3.5 mm

WECO - making contact



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210-A-126-SMD



110-A-IDC



110-S-211

## 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 and are, in addition, fitted with a high temperature resistant housing.



Tape-on-Reel Product

This product is available in Tape-on-Reel.

Detailed information about number of poles, part numbers, tape width, belt height and packing units is given on the data sheet.



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 conforms with the requirements of the increased household appliance standard.

## Overview



### Connectors for printed circuit boards

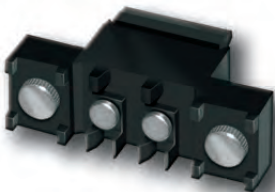
WECO PCB connectors always offer a good solution for almost any connection problem by its big variety of types. The screw connections are available in socket terminal style, in elevator clamping style or as head contact terminals. The plug connectors are especially designed for the connection of components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



### Plug-In connector systems

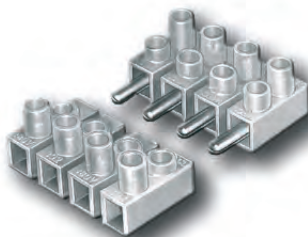
The series of conecta are plug-in connector systems consisting of plug connectors with screw and their corresponding pin strips.

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.

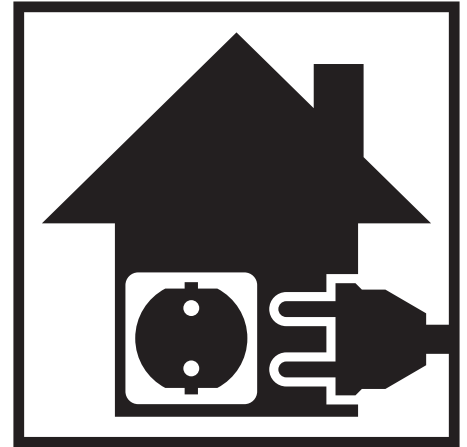
The materials used for enclosures are VDE-tested and approved according to the glow-wire tests specified in DIN EN/IEC 60335-1. This applies for all standard WECO colors!

#### 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?

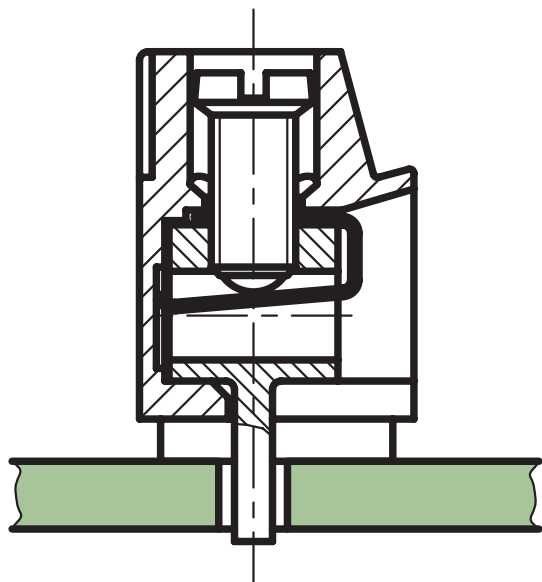
Even today, long after the tightened Household Appliance Standard DIN EN/IEC 60335-1 entered into force, many questions still arise and need clarification.

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



WEPCO Contact offers PCB connectors with a big variety of designs. We offer solutions for almost every application. The smallest connectors and terminals of our product range - 3,5 mm - are shown in this catalogue.

Depending on the type, the connectors are available with standard number of poles from 2 to 12 or 2 to 24. The „-T“ versions are available in of 2 and 3 pole versions. Lateral locking elements allow to mount them in any required pole configuration. Precise guidance and compliance of the pitch is guaranteed.

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

Damage to flexible conductors can be prevented reliably by using our wire protection (indicated by „-DS“ in the product designation).

An enlarged terminal compartment with nearly square shape comes with the types of our series 938. Fine-stranded conductors up to 1.5 mm<sup>2</sup> can be connected with our wire protection-version.

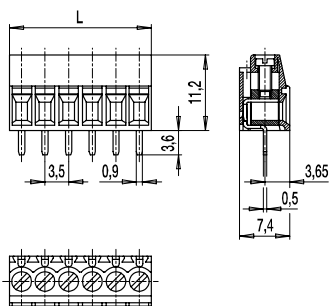
All versions have captive screws which also allow up-side down working.

Our standard terminals come without marking. On request, a marking, e.g. a sequential or individual numbering according to customers request can be printed on the housing.

## PCB Connector

### 210-A-111

Screw connection



Series 210 is a space-saving PCB connector with a pitch of 3,5 mm and with relatively high connection capacity. The 2 to 24 pole connectors are equipped with M2 captive screws offering high-quality screw connection with elevator system. Connectors with such elevator system are ideal for frequent disconnections because terminal body and conductor move parallel towards the pressure clamp. The elevator system allows easy disconnecting and contacting without any material fatigue of the connector. A special feature of the housing is the easy identification of the pole separation, when viewed from the top. The connectors come equipped with a test hole and can be mounted side-by-side without pole loss.

#### Part Numbers

No. of poles	210-A-111	Length	Pcs
2	10.804.002	7,00	250
3	10.804.003	10,50	250
4	10.804.004	14,00	250
5	10.804.005	17,50	200
6	10.804.006	21,00	200
8	10.804.008	28,00	100
10	10.804.010	35,00	100
12	10.804.012	42,00	100

further number of poles on request

#### General Information

Pitch	3,5 mm
No. of poles	2 - 24
Areas of application	For all applications requiring low profile but large terminal space of 1,7 x 2,6 mm.

#### Technical Data

Clamping Range	solid / flexible / AWG 0,14 - 1,5 mm <sup>2</sup> / 0,14 - 1,5 mm <sup>2</sup> / 30 - 16 AWG		
Rated Cross Section	1 mm <sup>2</sup>		
Wire Stripping Length	5,5 mm ± 0,5 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	125 V	160 V	200 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	13,5 A		
Hole in PCB	ø 1,2 mm		
Torque	0,2 Nm		

#### Material

Moulding	PBTP, grey, V-0
Comparative Tracking Index	CTI 250
Insulating Group	IIIa
Temperature Range	-40°C up to 100°C
Terminal Body	Nickel plated brass
Pressure clamp	Copper alloy, tin plated
Screw	M2, copper alloy, tin plated
Solder pin	Copper alloy, tin plated

#### Approvals

	Current	Voltage	Group	AWG	Nm
	10	300	B	30 - 16	0,23
	10	300	B	30 - 16	0,22

#### Options / Accessories

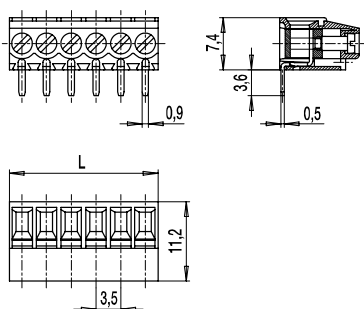
- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50
- Version with anti-twist-peg



## PCB connector

### 210-A-121

Screw connection, wire entrance vertical to PCB



Series 210 is a space-saving PCB connector with a pitch of 3,5 mm and with relatively high connection capacity. The 2 to 24 pole connectors are equipped with M2 captive screws offering high-quality screw connection with elevator system. Connectors with such elevator system are ideal for frequent disconnections because terminal body and conductor move parallel towards the pressure clamp. The elevator system allows easy disconnecting and contacting without any material fatigue of the connector. A special feature of the housing is the easy identification of the pole separation, when viewed from the top. The connectors come equipped with a test hole and can be mounted side-by-side without pole loss.

#### Part Numbers

No. of poles	210-A-121	Length	Pcs
2	20.804.002	7,00	250
3	20.804.003	10,50	250
4	20.804.004	14,00	250
5	20.804.005	17,50	200
6	20.804.006	21,00	200
8	20.804.008	28,00	100
10	20.804.010	35,00	100
12	20.804.012	42,00	100

further number of poles on request

#### General Information

Pitch	3,5 mm
No. of poles	2 - 24
Areas of application	For all applications requiring low profile but large terminal space of 1,7 x 2,6 mm.




#### Technical Data

Clamping Range	solid / flexible / AWG 0,14 - 1,5 mm <sup>2</sup> / 0,14 - 1,5 mm <sup>2</sup> / 30 - 14 AWG		
Rated Cross Section	1 mm <sup>2</sup>		
Wire Stripping Length	5,5 mm ± 0,5 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	125 V	160 V	200 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	13,5 A		
Hole in PCB	ø 1,2 mm		
Torque	0,2 Nm		

#### Material

Moulding	PBTP, grey, V-0
Comparative Tracking Index	CTI 250
Insulating Group	IIIa
Temperature Range	-40°C up to 100°C
Terminal Body	Nickel plated brass
Pressure clamp	Copper alloy, tin plated
Screw	M2, copper alloy, tin plated
Solder pin	Copper alloy, tin plated

#### Approvals

	Current	Voltage	Group	AWG	Nm
	10	300	B	30 - 16	0,23
	10	300	B	30 - 16	0,22
					

#### Options / Accessories

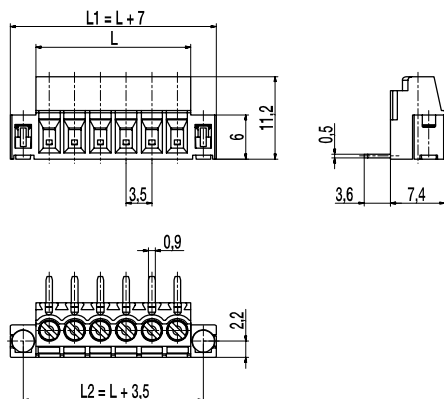
- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50
- Version with anti-twist-peg



## PCB connector for SMD

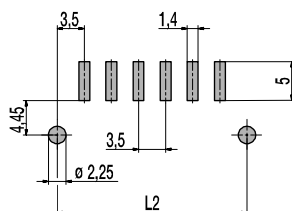
### 210-A-126-SMD

Screw connection, with solder flanges



L = No. of poles x pitch

### PCB Layout



Solder paste thickness: 0,2 mm

The 2 to 12 pole connectors with a pitch of 3,5 mm have a screw connection with elevator clamping system and are equipped with M2 captive screws. Just as the 210-A-SMD, the 210-A-126-SMD represents a space saving and compact connector with a high connecting capacity. The generous clamping range is of 1,7 mm x 2,6 mm.

A distinguishing characteristic to the 210-A-SMD, however, is the clearly increased adhesion force on the PCB. Soldering cylinders on either side of the housing (floating anchors) are movable in vertical direction and thereby they obtain 100% coplanarity between solder pins and soldering cylinders.

They are transferred more to the front in comparison to the connector centre in order to keep the retaining strength, where the wires are connected. Thus, the force, acting on the solder pins, is reduced in a very important way.

Packed in magazines or equipped with Pick Discs in Tape-on-Reel, this genuine SMD terminal is suitable for the automatic assembly.

### Part Numbers

No. of poles	210-A-126-SMD	Length	Pcs
2	10.804.232	14,00	888
3	10.804.233	17,50	696
4	10.804.234	21,00	576
6	10.804.236	28,00	432
10	10.804.240	42,00	234
12	10.804.242	49,00	198

further number of poles on request

### General Information

Pitch	3,5 mm
No. of poles	2 - 12

### Technical Data

Clamping Range	solid / flexible / AWG 0,14 - 1,5 mm <sup>2</sup> / 0,14 - 1,5 mm <sup>2</sup> / 30 - 16 AWG		
Rated Cross Section	1 mm <sup>2</sup>		
Wire Stripping Length	5,5 mm ± 0,5 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	13,5 A		
Soldering process	Reflow solder		
Torque	0,2 Nm		

### Material

Moulding	PA HT, black, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 150°C; reflow solder temperature (Peak) max. 260°C (15-30 s)
Terminal Body	Nickel plated brass
Pressure clamp	Copper alloy, tin plated
Screw	M2, copper alloy, tin plated
Solder pin	Copper alloy, tin plated
Solder cylinder	Tin plated brass

### Approvals

	Current	Voltage	Group	AWG	Nm
	10	300	B	30 - 16	0,23
	10	300	B	30 - 16	0,22

### Options / Accessories

- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50 [1]

### Part Numbers: Tape-on-Reel

No. of poles	210-A-126-SMD	Tape Width	Tape Height	Pcs
2	10.804.232.A00	44 mm	14,6 mm	325
3	10.804.233.A00	44 mm	14,6 mm	325
4	10.804.234.A00	44 mm	14,6 mm	325
5	10.804.235.A00	44 mm	14,6 mm	325
6	10.804.236.A00	44 mm	14,6 mm	325
8	10.804.238.A00	56 mm	14,6 mm	325

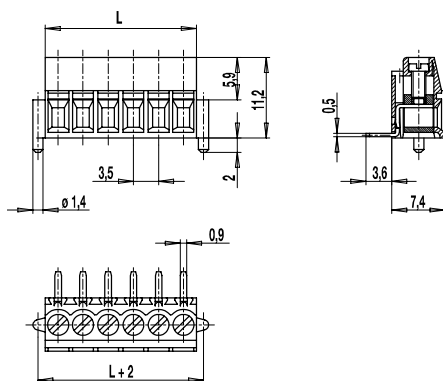
further number of poles on request

[1] To be fitted after reflow soldering process

## PCB connector for SMD

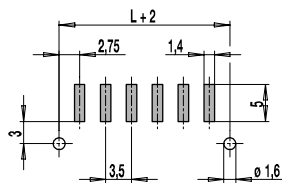
### 210-A-SMD

Screw connection, with anti-twist peg



L = No. of poles x pitch

### PCB Layout



Solder paste thickness: 0,2 mm

The PCB connectors for surface mounting comprise several types for reflow processes.

The SMD connector 210-A-SMD with a pitch of 3,5 mm is designed with screw connections in elevator clamping style.

The terminal clamp and the soldering tag are manufactured as a single unit and permanently engaged in the housing. The solder pins are exactly aligned parallel to the printed circuit board in order to create a coplanar connection after the reflow soldering process.

The moulding is made of heat resistant thermoplastic material and equipped with plastic pegs on both sides to prevent twisting.

The use of a strain relief is recommended. This article is only available in tubes or in Tape-on-Reel.

### Part Numbers

No. of poles	210-A-SMD	Length	Pcs
2	10.804.202	7,00	900
3	10.804.203	10,50	684
4	10.804.204	14,00	540
5	10.804.205	17,50	450
6	10.804.206	21,00	378
8	10.804.208	28,00	288
10	10.804.210	35,00	234
12	10.804.212	42,00	198

further number of poles on request

### General Information

Pitch	3,5 mm
No. of poles	2 - 12

### Technical Data

Clamping Range	solid / flexible / AWG 0,14 - 1,5 mm <sup>2</sup> / 0,14 - 1,5 mm <sup>2</sup> / 30 - 16 AWG		
Rated Cross Section	1 mm <sup>2</sup>		
Wire Stripping Length	5,5 mm ± 0,5 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	13,5 A		
Soldering process	Reflow solder		
Torque	0,2 Nm		

### Material

Moulding	PA HT, black, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 150°C; reflow solder temperature (Peak) max. 260°C (15-30 s)
Terminal Body	Nickel plated brass
Pressure clamp	Copper alloy, tin plated
Screw	M2, Copper alloy, tin plated
Solder pin	Copper alloy, tin plated

### Approvals

	Current	Voltage	Group	AWG	Nm
	10	300	B	30 - 16	0,23
	10	300	B	30 - 16	0,22

### Options / Accessories

- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50 [1]

### Part Numbers: Tape-on-Reel

No. of poles	210-A-SMD	Tape Width	Tape Height	Pcs
2	10.804.202.A00	44 mm	14,6 mm	325
3	10.804.203.A00	44 mm	14,6 mm	325
4	10.804.204.A00	44 mm	14,6 mm	325
5	10.804.205.A00	44 mm	14,6 mm	325
6	10.804.206.A00	44 mm	14,6 mm	325
7	10.804.207.A00	44 mm	14,6 mm	325

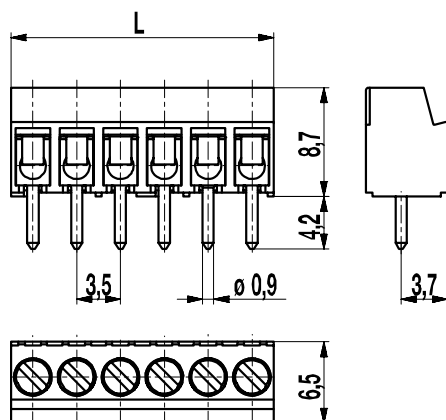
further number of poles on request

[1] To be fitted after reflow soldering process

## PCB connector

### 930(-DS)

Screw connection



Series 930 Mini PCB connectors are designed with a pitch of 3,5 mm. They can be mounted side-by-side without pole loss, and come equipped with captive screws. DS-types are provided with wire protection which reliably prevents damage to flexible conductors.

#### Part Numbers

No. of poles	930	930-DS	Length	Pcs
2	10.870.402	20.870.402	7,00	250
3	10.870.403	20.870.403	10,50	250
4	10.870.404	20.870.404	14,00	250
5	10.870.405	20.870.405	17,50	200
6	10.870.406	20.870.406	21,00	200
7	10.870.407	20.870.407	24,50	100
8	10.870.408	20.870.408	28,00	100
9	10.870.409	20.870.409	31,50	100
10	10.870.410	20.870.410	35,00	100
11	10.870.411	20.870.411	38,50	100
12	10.870.412	20.870.412	42,00	100
13	10.870.413	20.870.413	45,50	100
14	10.870.414	20.870.414	49,00	100
15	10.870.415	20.870.415	52,50	100
16	10.870.416	20.870.416	56,00	100
17	10.870.417	20.870.417	59,50	100
18	10.870.418	20.870.418	63,00	100
19	10.870.419	20.870.419	66,50	100
20	10.870.420	20.870.420	70,00	100
21	10.870.421	20.870.421	73,50	100
22	10.870.422	20.870.422	77,00	100
23	10.870.423	20.870.423	80,50	100
24	10.870.424	20.870.424	84,00	100

#### General Information

Pitch	3,5 mm
No. of poles	2 - 24



#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i>		
without wire protector	0,75 - 1,5 mm² / 0,75 - 1,5 mm² / 18 - 16 AWG		
with wire protector	0,34 - 1,5 mm² / 0,34 - 1 mm² / 22 - 16 AWG		
Rated Cross Section	1 mm²		
Wire Stripping Length	5 mm ± 0,5 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	13,5 A		
Hole in PCB	ø 1,2 mm		
Torque	0,2 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	M2, zinc plated steel, blue passivated
Solder pin	ø 0,9 mm; tin plated brass
Wire protector	German silver

#### Approvals

	Current	Voltage	Group	AWG	Nm
	10	300	B	26 - 16	0,23
	10	300	B	26 - 16	0,2

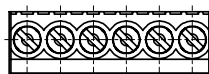
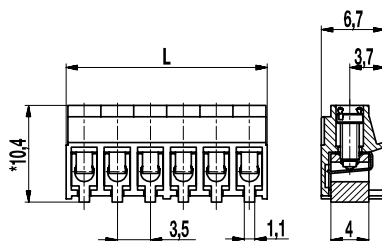
#### Options / Accessories

- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50
- Pitch of 7 mm for larger clearance and creepage distances

## PCB connector for SMD

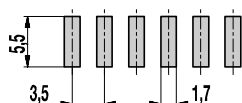
### 930-D-SMD(-DS)

Screw connection, floating terminal bodies



\* = Height without -DS: 10,2 mm  
L = No. of poles x pitch + 0,3 mm

### PCB Layout



Solder paste thickness: 0,15 - 0,2 mm

This connector is in Tape-on-Reel-version supplied with a removable Pick Disc. That allows this product to be picked-and placed into any automated assembly processes. Its floating terminal bodies compensate for irregularities (non planarity and bumps) on the printed circuit board.

The same feature eliminates CTE (coefficient of thermal expansion) mismatch with the PCB and thus promotes excellent in field reliability and the successful passing of thermal cycling testing.

The screws are turned in to the optimal length of engagement by the factory but due to the movable sockets it is not to be excluded that the position of the screws may change by transport. Therefore it can be necessary that the screw has to be turned back for using the maximum permissible wire cross-section.

### Part Numbers

No. of poles	930-D-SMD	930-D-SMD-DS	Length	Pcs
2	10.870.602	20.870.602	7,30	250
3	10.870.603	20.870.603	10,80	250
4	10.870.604	20.870.604	14,30	250
5	10.870.605	20.870.605	17,80	200
6	10.870.606	20.870.606	21,30	200
7	10.870.607	20.870.607	24,80	100
8	10.870.608	20.870.608	28,30	100
9	10.870.609	20.870.609	31,80	100
10	10.870.610	20.870.610	35,30	100
11	10.870.611	20.870.611	38,80	100
12	10.870.612	20.870.612	42,30	100

### General Information

Pitch	3,5 mm
No. of poles	2 - 12

### Technical Data

Clamping Range	<i>solid / flexible / AWG</i>		
without wire protector	0,75 - 1,5 mm <sup>2</sup> / 0,75 - 1,5 mm <sup>2</sup> / 18 - 16 AWG		
with wire protector	0,25 - 1 mm <sup>2</sup> / 0,25 - 1 mm <sup>2</sup> / 24 - 18 AWG		
Rated Cross Section	1 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	125 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	13,5 A		
Soldering process	Reflow solder		
Torque	0,2 Nm		

### Material

Moulding	PA HT, black, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 150°C; reflow solder temperature (Peak) max. 260°C (15-30 s)
Terminal Body	Tin plated brass
Screw	M2, tin plated brass
Wire protector	German silver

### Approvals

	Current	Voltage	Group	AWG	Nm
	10	150	B	26 - 16	0,23
	10	150	B	26 - 16	0,2

### Options / Accessories

- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50 [1]

### Part Numbers: Tape-on-Reel

No. of poles	930-D-SMD	930-D-SMD-DS	Tape Width	Tape Height	Pcs
2		20.870.602.A00	24 mm	11,3 mm	500
3		20.870.603.A00	24 mm	11,3 mm	500
4		20.870.604.A00	24 mm	11,3 mm	500
5		20.870.605.A00	32 mm	11,3 mm	500
6		20.870.606.A00	44 mm	11,3 mm	500
10		20.870.610.A00	56 mm	11,3 mm	500
12		20.870.612.A00	56 mm	11,3 mm	500

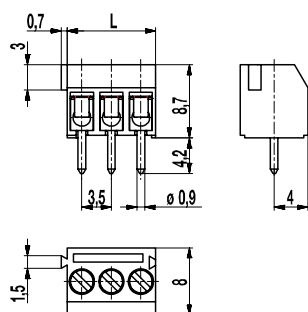
further number of poles on request

[1] To be fitted after reflow soldering process

## PCB connector

### 930-T(-DS)

Screw connection, interlocking



Series 930 Mini PCB connectors are designed with a pitch of 3,5 mm. Lateral locking elements allow mounting them in any required pole configuration while maintaining pitch. All designs come with captive screws. DS-types are provided with wire protection which reliably prevents damage to flexible conductors.

#### Part Numbers

No. of poles	930-T	930-T-DS	Length	Pcs
2	30.870.002	40.870.002	7,00	250
3	30.870.003	40.870.003	10,50	250

#### General Information

Pitch	3,5 mm
No. of poles	2 + 3



#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i>		
without wire protector	0,75 - 1,5 mm <sup>2</sup> / 0,75 - 1,5 mm <sup>2</sup> / 18 - 16 AWG		
with wire protector	0,34 - 1,5 mm <sup>2</sup> / 0,34 - 1 mm <sup>2</sup> / 22 - 16 AWG		
Rated Cross Section	1 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	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	13,5 A		
Hole in PCB	ø 1,2 mm		
Torque	0,2 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	M2, zinc plated steel, blue passivated
Solder pin	ø 0,9 mm; tin plated brass
Wire protector	German silver

#### Approvals

	Current	Voltage	Group	AWG	Nm
	10	300	B	26 - 16	0,23
	10	300	B	26 - 16	0,2

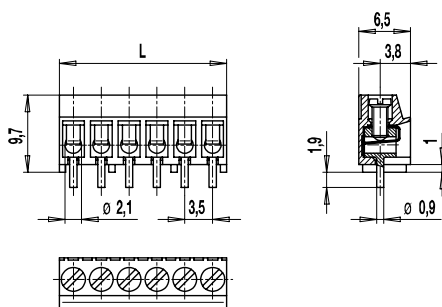
#### Options / Accessories

- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50
- Pitch of 7 mm for larger clearance and creepage distances

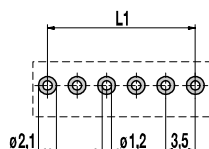
## PCB connector for THR

### 930-THR(-DS)

Screw connection



### PCB Layout



$L1 = (\text{No. of poles} - 1) \times \text{pitch}$   
Solder paste thickness: 0,15 - 0,2 mm  
Solder pad diameter:  $\varnothing 2,1$  mm

This product based on our established 930 series have been designed for the soldering process in Through-Hole-Reflow technology.

The soldering paste is applied to the plated through holes and the pins are placed in the circuit board and soldered by a reflow oven.

The terminal mouldings are made of heat-resistant material. The stand-offs on the base ensures there is enough room for the soldering paste and facilitates good heat circulation for optimum soldering and enables the soldering joint to be visually inspected.

The solder pin projects very slightly with a circuit board thickness of 1,6 mm and creates a solder point on both sides and thus guarantees a secure mounting. The position of the solder pins enables an equally minimal allocation area on the circuit board as with wave soldering.

### Part Numbers

No. of poles	930-THR	930-THR-DS	Length	Pcs
2	10.879.002	20.879.002	7,40	250
3	10.879.003	20.879.003	10,90	250
4	10.879.004	20.879.004	14,40	250
5	10.879.005	20.879.005	17,90	200
6	10.879.006	20.879.006	21,40	200
7	10.879.007	20.879.007	24,90	100
8	10.879.008	20.879.008	28,40	100
9	10.879.009	20.879.009	31,90	100
10	10.879.010	20.879.010	35,40	100
11	10.879.011	20.879.011	38,90	100
12	10.879.012	20.879.012	42,40	100

### General Information

Pitch	3,5 mm
No. of poles	2 - 12

### Technical Data

Clamping Range	<i>solid / flexible / AWG</i>		
without wire protector	0,75 - 1,5 mm <sup>2</sup> / 0,75 - 1,5 mm <sup>2</sup> / 18 - 16 AWG		
with wire protector	0,34 - 1,5 mm <sup>2</sup> / 0,34 - 1 mm <sup>2</sup> / 22 - 16 AWG		
Rated Cross Section	1 mm <sup>2</sup>		
Wire Stripping Length	5 mm $\pm$ 0,5 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	13,5 A		
Soldering process	Wave solder & reflow solder		
Hole in PCB	$\varnothing 1,2$ mm		
Torque	0,2 Nm		
PCB thickness	Wave solder max. 1,6 mm; reflow solder 0,8-1,6 mm		

### Material

Moulding	PA HT, black, V-0
Comparative Tracking Index	CTI $\geq$ 600
Insulating Group	I
Temperature Range	-40°C up to 150°C; reflow solder temperature (Peak) max. 260°C (15-30 s)
Terminal Body	Tin plated brass
Screw	M2, zinc plated steel, blue passivated
Solder pin	$\varnothing 0,9$ mm; tin plated brass
Wire protector	German silver

### Approvals

	Current	Voltage	Group	AWG	Nm
	10	300	B	26 - 16	0,23
	10	300	B	26 - 16	0,2

### Options / Accessories

- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50 [1]
- Other pin length on request
- Enlarged clamping size on request

### Part Numbers: Tape-on-Reel

No. of poles	930-THR	930-THR-DS	Tape Width	Tape Height	Pcs
3		20.879.003.A00	32 mm	13 mm	500
6		20.879.006.A00	56 mm	13 mm	500
12		20.879.012.A00	56 mm	13 mm	500

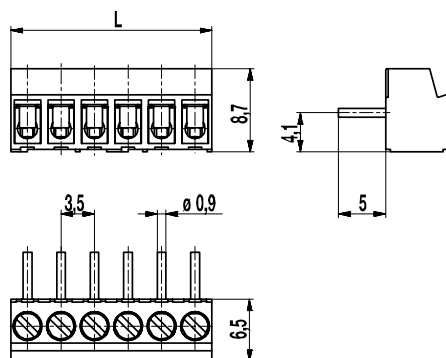
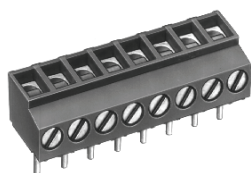
further number of poles on request

[1] To be fitted after reflow soldering process

## PCB connector

### 931(-DS)

Screw connection, wire entrance vertical to PCB



Series 931 Mini PCB connectors are designed with a pitch of 3,5 mm, can be mounted side-by-side without pole loss, and come equipped with captive screws. DS-types are provided with wire protection which reliably prevents damage to flexible conductors.

#### Part Numbers

No. of poles	931	931-DS	Length	Pcs
2	10.870.502	20.870.502	7,00	250
3	10.870.503	20.870.503	10,50	250
4	10.870.504	20.870.504	14,00	250
5	10.870.505	20.870.505	17,50	200
6	10.870.506	20.870.506	21,00	200
7	10.870.507	20.870.507	24,50	100
8	10.870.508	20.870.508	28,00	100
9	10.870.509	20.870.509	31,50	100
10	10.870.510	20.870.510	35,00	100
11	10.870.511	20.870.511	38,50	100
12	10.870.512	20.870.512	42,00	100
13	10.870.513	20.870.513	45,50	100
14	10.870.514	20.870.514	49,00	100
15	10.870.515	20.870.515	52,50	100
16	10.870.516	20.870.516	56,00	100
17	10.870.517	20.870.517	59,50	100
18	10.870.518	20.870.518	63,00	100
19	10.870.519	20.870.519	66,50	100
20	10.870.520	20.870.520	70,00	100
21	10.870.521	20.870.521	73,50	100
22	10.870.522	20.870.522	77,00	100
23	10.870.523	20.870.523	80,50	100
24	10.870.524	20.870.524	84,00	100

#### General Information

Pitch	3,5 mm
No. of poles	2 - 24



#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i>		
without wire protector	0,75 - 1,5 mm <sup>2</sup> / 0,75 - 1,5 mm <sup>2</sup> / 18 - 16 AWG		
with wire protector	0,34 - 1,5 mm <sup>2</sup> / 0,34 - 1 mm <sup>2</sup> / 22 - 16 AWG		
Rated Cross Section	1 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	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	13,5 A		
Hole in PCB	ø 1,2 mm		
Torque	0,2 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	M2, zinc plated steel, blue passivated
Solder pin	ø 0,9 mm; tin plated brass
Wire protector	German silver

#### Approvals

	Current	Voltage	Group	AWG	Nm
	10	300	B	26 - 16	0,23
	10	300	B	26 - 16	0,2

#### Options / Accessories

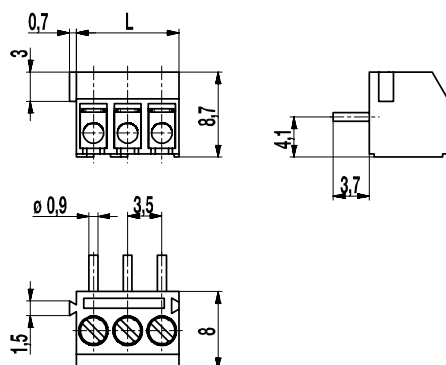
- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50
- Pitch of 7 mm for larger clearance and creepage distances



## PCB connector

### 931-T(-DS)

Screw connection, wire entrance vertical to PCB, interlocking



Series 931 Mini PCB connectors are designed with a pitch of 3,5 mm. Identical with Type 931, this design has locking elements which allow mounting the 2 and 3 pole connectors in any required pole number configuration, while maintaining the pitch.

DS-types are provided with wire protection which reliably prevents damage to flexible conductors.

#### Part Numbers

No. of poles	931-T	931-T-DS	Length	Pcs
2	10.870.102	20.870.102	7,00	250
3	10.870.103	20.870.102	10,50	250

#### General Information

Pitch	3,5 mm
No. of poles	2 + 3



#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i>		
without wire protector	0,75 - 1,5 mm <sup>2</sup> / 0,75 - 1,5 mm <sup>2</sup> / 18 - 16 AWG		
with wire protector	0,34 - 1,5 mm <sup>2</sup> / 0,34 - 1 mm <sup>2</sup> / 22 - 16 AWG		
Rated Cross Section	1 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	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	13,5 A		
Hole in PCB	ø 1,2 mm		
Torque	0,2 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	M2, zinc plated steel, blue passivated
Solder pin	ø 0,9 mm; tin plated brass
Wire protector	German silver

#### Approvals

	Current	Voltage	Group	AWG	Nm
	10	300	B	26 - 16	0,23
	10	300	B	26 - 16	0,2

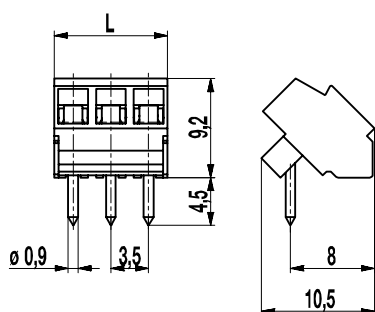
#### Options / Accessories

- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50
- Pitch of 7 mm for larger clearance and creepage distances

## PCB connector

### 934(-DS)

Screw connection 45°-angle to PCB



Series 934 Mini PCB connectors are designed with a pitch of 3,5 mm, can be mounted side-by-side without pole loss, and come equipped with captive screws. The wire entrance is located in a 45° angle to the PC board. This allows a space-saving arrangement of the connectors directly behind each other. DS-types are provided with wire protection which reliably prevents damage to flexible conductors.

#### Part Numbers

No. of poles	934	934-DS	Length	Pcs
2	10.870.552	20.870.552	7,00	250
3	10.870.553	20.870.553	10,50	250
4	10.870.554	20.870.554	14,00	250
5	10.870.555	20.870.555	17,50	200
6	10.870.556	20.870.556	21,00	200
7	10.870.557	20.870.557	24,50	100
8	10.870.558	20.870.558	28,00	100
9	10.870.559	20.870.559	31,50	100
10	10.870.560	20.870.560	35,00	100
11	10.870.561	20.870.561	38,50	100
12	10.870.562	20.870.562	42,00	100
13	10.870.563	20.870.563	45,50	100
14	10.870.564	20.870.564	49,00	100
15	10.870.565	20.870.565	52,50	100
16	10.870.566	20.870.566	56,00	100
17	10.870.567	20.870.567	59,50	100
18	10.870.568	20.870.568	63,00	100
19	10.870.569	20.870.569	66,50	100
20	10.870.570	20.870.570	70,00	100
21	10.870.571	20.870.571	73,50	100
22	10.870.572	20.870.572	77,00	100
23	10.870.573	20.870.573	80,50	100
24	10.870.574	20.870.574	84,00	100

#### General Information

Pitch	3,5 mm
No. of poles	2 - 24



#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i>		
without wire protector	0,75 - 1,5 mm <sup>2</sup> / 0,75 - 1,5 mm <sup>2</sup> / 18 - 16 AWG		
with wire protector	0,34 - 1,5 mm <sup>2</sup> / 0,34 - 1 mm <sup>2</sup> / 22 - 16 AWG		
Rated Cross Section	1 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	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	13,5 A		
Hole in PCB	ø 1,2 mm		
Torque	0,2 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	M2, zinc plated steel, blue passivated
Solder pin	ø 0,9 mm; tin plated brass
Wire protector	German silver

#### Approvals

	Current	Voltage	Group	AWG	Nm
	10	300	B	26 - 16	0,23
	10	300	B	26 - 16	0,2

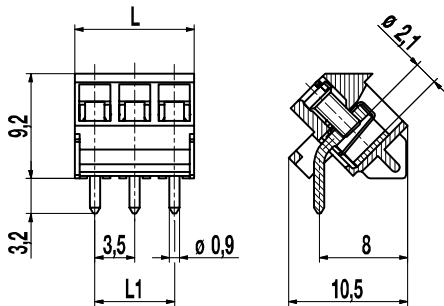
#### Options / Accessories

- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50
- Pitch of 7 mm for larger clearance and creepage distances

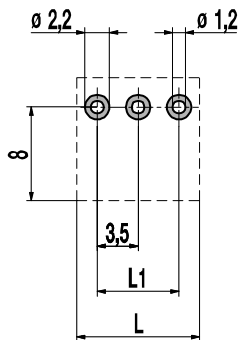
## PCB connector for THR

### 934-THR-DS

Screw connection 45°-angle to PCB



### PCB Layout



$L1 = (\text{No. of poles} - 1) \times \text{pitch}$   
Solder paste thickness: 0,15 - 0,2 mm  
Solder pad diameter:  $\varnothing$  2,2 mm

By creating the 934-THR-DS, WECO offers a Through-Hole PCB terminal for the reflow soldering process with a pitch of 3,5 mm.

The wire entry has a connection angle of 45° to the PCB. This offers the advantage that terminal rows can be located space saving one directly behind the other. Additionally, the connectors can be arranged side by side without a change of the pitch.

The housing material consists of high temperature resistant plastic. Spacers, so-called "Stand-offs" on the base assure an improved hot-air circulation during the reflow soldering process in the convection oven.

The screw connector 934-THR-DS is standardly equipped with captive screws and wire protectors. It is available in 2 to 12 pole versions.

This connector is packed tape on reel for the automatic assembling. It has a flat roof design on the housing at the middle poles in order to create a flat surface for the vacuum pipette.

### Part Numbers

No. of poles	934-THR-DS	Length	Pcs
2	20.879.302	7,00	250
4	20.879.304	14,00	250
6	20.879.306	21,00	200
12	20.879.312	42,00	100

further number of poles on request

### General Information

Pitch	3,5 mm
No. of poles	2 - 12
Areas of application	Devices with space critical applications or multi-row connections

### Technical Data

Clamping Range	solid / flexible / AWG 0,25 - 1,5 mm <sup>2</sup> / 0,25 - 1 mm <sup>2</sup> / 24 - 16 AWG		
Rated Cross Section	1 mm <sup>2</sup>		
Wire Stripping Length	5 mm $\pm$ 0,5 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	10 A		
Soldering process	Wave solder & reflow solder		
Hole in PCB	$\varnothing$ 1,2 mm		
Torque	0,2 Nm		
PCB thickness	Wave solder max. 1,6 mm; reflow solder 1,6 mm - 3,2 mm		

### Material

Moulding	PA HT, black, V-0
Comparative Tracking Index	CTI $\geq$ 600
Insulating Group	I
Temperature Range	-40°C up to 150°C; reflow solder temperature (Peak) max. 260°C (15-30 s)
Terminal Body	Tin plated brass
Screw	M2, zinc plated steel, blue passivated
Solder pin	$\varnothing$ 0,9 mm; tin plated brass
Wire protector	German silver

### Approvals

	Current	Voltage	Group	AWG	Nm
	10	300	B	26 - 16	0,23
	10	300	B	26 - 16	0,2

### Options / Accessories

- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50 [1]
- Other plug pin lengths on request

### Part Numbers: Tape-on-Reel

No. of poles	934-THR-DS	Tape Width	Tape Height	Pcs
2	20.879.302.A00	32 mm	15,2 mm	300
5	20.879.305.A00	32 mm	15,2 mm	300

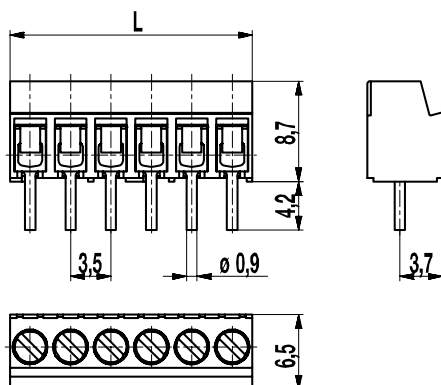
further number of poles on request

[1] To be fitted after reflow soldering process

## PCB connector

### 938(-DS)

Screw connection, large conductor space



Series 938 Mini PCB connectors are designed with a pitch of 3,5 mm pitch, can be mounted side-by-side without pole loss, and come equipped with captive screws. The terminal space of the 938 design is almost square in shape. For designs with wire protection also flexible wires up to 1,5 mm<sup>2</sup> can be connected.

#### Part Numbers

No. of poles	938	938-DS	Length	Pcs
2	30.870.402	40.870.402	7,00	250
3	30.870.403	40.870.403	10,50	250
4	30.870.404	40.870.404	14,00	250
5	30.870.405	40.870.405	17,50	200
6	30.870.406	40.870.406	21,00	200
7	30.870.407	40.870.407	24,50	100
8	30.870.408	40.870.408	28,00	100
9	30.870.409	40.870.409	31,50	100
10	30.870.410	40.870.410	35,00	100
11	30.870.411	40.870.411	38,50	100
12	30.870.412	40.870.412	42,00	100
13	30.870.413	40.870.413	45,50	100
14	30.870.414	40.870.414	49,00	100
15	30.870.415	40.870.415	52,50	100
16	30.870.416	40.870.416	56,00	100
17	30.870.417	40.870.417	59,50	100
18	30.870.418	40.870.418	63,00	100
19	30.870.419	40.870.419	66,50	100
20	30.870.420	40.870.420	70,00	100
21	30.870.421	40.870.421	73,50	100
22	30.870.422	40.870.422	77,00	100
23	30.870.423	40.870.423	80,50	100
24	30.870.424	40.870.424	84,00	100

#### General Information

Pitch	3,5 mm
No. of poles	2 - 24



#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i>		
without wire protector	0,75 - 1,5 mm <sup>2</sup> / 0,75 - 1,5 mm <sup>2</sup> / 18 - 16 AWG		
with wire protector	0,34 - 1,5 mm <sup>2</sup> / 0,34 - 1,5 mm <sup>2</sup> / 22 - 16 AWG		
Rated Cross Section	1 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	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	13,5 A		
Hole in PCB	ø 1,2 mm		
Torque	0,2 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	M2, zinc plated steel, blue passivated
Solder pin	ø 0,9 mm; tin plated brass
Wire protector	German silver

#### Approvals

	Current	Voltage	Group	AWG	Nm
	10	300	B	26 - 16	0,23
	10	300	B	26 - 16	0,2

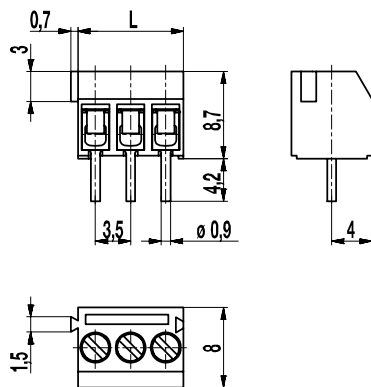
#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-3,50
- Pitch of 7 mm for larger clearance and creepage distances

## PCB connector

### 938-T(-DS)

Screw connection, large conductor space, interlocking



Series 938 Mini PCB connectors are designed with a pitch of 3.5 mm. Lateral locking elements allow mounting them in any required pole configuration while maintaining the pitch. All designs come with captive screws. For designs with wire protection also flexible wires up to 1.5 mm<sup>2</sup> can be connected.

#### Part Numbers

No. of poles	938-T	938-T-DS	Length	Pcs
2	10.870.002	20.870.002	7,00	250
3	10.870.003	20.870.003	10,50	250

#### General Information

Pitch	3,5 mm
No. of poles	2 + 3



#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i>		
without wire protector	0,75 - 1,5 mm <sup>2</sup> / 0,75 - 1,5 mm <sup>2</sup> / 18 - 16 AWG		
with wire protector	0,34 - 1,5 mm <sup>2</sup> / 0,34 - 1,5 mm <sup>2</sup> / 22 - 16 AWG		
Rated Cross Section	1 mm <sup>2</sup>		
Wire Stripping Length	6 mm ± 0,5 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	13,5 A		
Hole in PCB	ø 1,2 mm		
Torque	0,2 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	M2, zinc plated steel, blue passivated
Solder pin	ø 0,9 mm; tin plated brass
Wire protector	German silver

#### Approvals

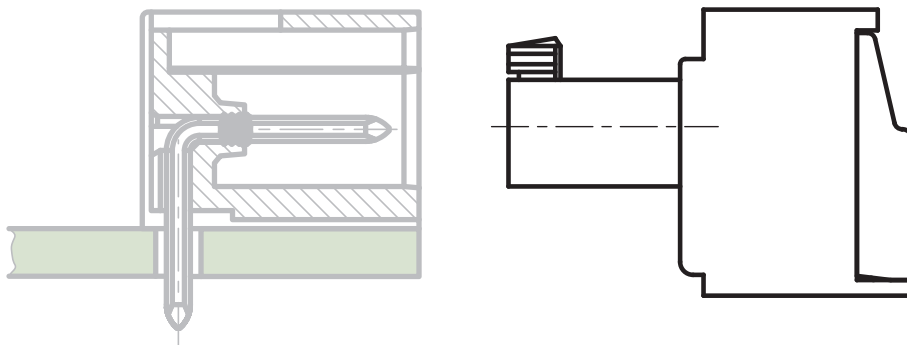
	Current	Voltage	Group	AWG	Nm
	10	300	B	26 - 16	0,23
	10	300	D	26 - 16	0,2

#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-3,50
- Pitch of 7 mm for larger clearance and creepage distances



## ■ Plug connectors



In this chapter are shown our plug connectors with a pitch of 3.5 mm.

The use of plug connectors in conjunction with the corresponding pin strips, offers a number of advantages:

- a decentralized production of the assemblies,
- avoidance of errors in the wiring,
- slight decoupling for service,
- connection simplification at constricted spaces.

In range of the plug connectors there are solutions with screw designs and solutions with spring clamp technology. The screw connection versions have captive screws. The connectors threaded models have screws that are protected against self-loosening.

The plug connectors of the series 93 can be mounted side-by-side without loosening the pitch.

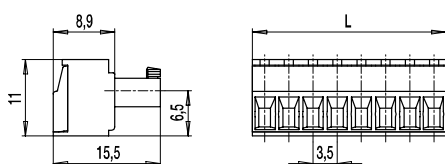
The series 110 features in the standard version coding pins that can be cut off if necessary. In combination with appropriately coded pin headers it gets an optimized twist and false-plug protection.



## Plug connector

### 110-A-111

Screw connection



Plug connectors of series 110 offer remarkable connection data (1,5 mm<sup>2</sup> / 160 V-III-3 / 8 A) for their small dimensions. The high-quality elevator system guarantees reliable connection of all conductor types. The compact housings with a pitch of 3,5 mm are available with 2 to 24 poles. The user can choose from different designs with vertical, parallel or diagonal plug direction to the PC board. Variants with connecting flanges further expand the area of application. As standard, the plug connectors come with coding elements which can be cut off, if necessary.

#### Part Numbers

No. of poles	110-A-111	Length	Pcs
2	10.840.002	7,00	200
3	10.840.003	10,50	200
4	10.840.004	14,00	100
5	10.840.005	17,50	100
6	10.840.006	21,00	100
7	10.840.007	24,50	50
8	10.840.008	28,00	50
9	10.840.009	31,50	50
10	10.840.010	35,00	50
11	10.840.011	38,50	50
12	10.840.012	42,00	50
13	10.840.013	45,50	50
14	10.840.014	49,00	50
15	10.840.015	52,50	50
16	10.840.016	56,00	50
17	10.840.017	59,50	50
18	10.840.018	63,00	50
19	10.840.019	66,50	50
20	10.840.020	70,00	50
21	10.840.021	73,50	50
22	10.840.022	77,00	50
23	10.840.023	80,50	50
24	10.840.024	84,00	50

#### General Information

Pitch	3,5 mm
No. of poles	2 - 24
Usable with	all pin strips of series 110

#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i> 0,14 - 1,5 mm <sup>2</sup> / 0,14 - 1,5 mm <sup>2</sup> / 28 - 16 AWG		
Rated Cross Section	1,5 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	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		
Torque	0,2 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	Nickel plated brass
Pressure clamp	Tin plated tin bronze
Screw	M2, tin plated tin bronze
Spring	Tin plated tin bronze

#### Approvals

	Current	Voltage	Group	AWG	Nm
	8	300	B, D	30 - 16	0,2
	8	300	B	30 - 16	0,2

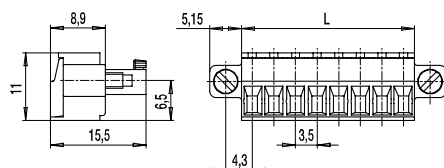
#### Options / Accessories

- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50
- Pitch of 7 mm for larger clearance and creepage distances
- Strain relief

## Plug connector

### 110-A-115

Screw connection, with connecting flanges



Plug connectors of series 110 offer remarkable connection data (1,5 mm<sup>2</sup> / 160 V-III-3 / 8 A) for their small dimensions. The high-quality elevator system guarantees reliable connection of all conductor types. The compact housings with a pitch of 3,5 mm are available with 2 to 24 poles. The user can choose from different designs with vertical, parallel or diagonal plug direction to the PC board. Series 110-A-115 is a version with connecting flanges on both housing sides which further extend the area of application. The corresponding pin strips in connecting flange design feature lateral thread inserts which offer vibration-proof screw-connection of the plug connector and also prevent unintended loosening. As standard, the plug connectors come with coding elements which can be cut off, if necessary.

#### Part Numbers

No. of poles	110-A-115	Length	Pcs
2	15.840.077	7,00	100
3	15.840.078	10,50	100
4	15.840.079	14,00	100
5	15.840.080	17,50	50
6	15.840.081	21,00	50
7	15.840.082	24,50	50
8	15.840.083	28,00	50
9	15.840.084	31,50	50
10	15.840.085	35,00	50
11	15.840.086	38,50	50
12	15.840.087	42,00	50
13	15.840.088	45,50	50
14	15.840.089	49,00	50
15	15.840.090	52,50	50
16	15.840.091	56,00	50
17	15.840.092	59,50	50
18	15.840.093	63,00	50
19	15.840.094	66,50	50
20	15.840.095	70,00	50
21	15.840.096	73,50	50
22	15.840.097	77,00	50

#### General Information

Pitch	3,5 mm
No. of poles	2 - 22
Usable with	all pin strips of series 110 with connecting flanges

#### Technical Data

Clamping Range	<i>solid / flexible / AWG</i> 0,14 - 1,5 mm <sup>2</sup> / 0,14 - 1,5 mm <sup>2</sup> / 28 - 16 AWG		
Rated Cross Section	1,5 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	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		
Torque	0,2 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	Nickel plated brass
Pressure clamp	Tin plated tin bronze
Screw	M2, tin plated tin bronze
Spring	Tin plated tin bronze

#### Approvals

	Current	Voltage	Group	AWG	Nm
	8	300	B, D	30 - 16	0,2
	8	300	B	30 - 16	0,2

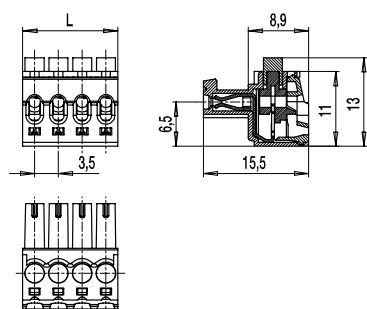
#### Options / Accessories

- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50
- Pitch of 7 mm for larger clearance and creepage distances
- Strain relief

## Plug connector

### 110-A-IDC

Insulation Displacement Contacts



Due to the pitch of 3,5 mm, plug connectors of series 110 are particularly suitable for confined spaces. Socket connectors 110-A-IDC (Insulation Displacement Connector) form an indirect connection with pin strips 110-M, -P and -S. The insulation displacement contacts connect with non-stripped IDC-suitable wires. The wire is pushed into the guide entry all the way to the stop. By pushing the button, the terminal clamp closes and the cutting contact creates the connection. Special pliers are available for this task. The clamping point can be opened with a small screwdriver, if necessary.

#### Part Numbers

No. of poles	110-A-IDC	Length	Pcs
2	10.840.202	7,00	200
3	10.840.203	10,50	200
4	10.840.204	14,00	100
5	10.840.205	17,50	100
6	10.840.206	21,00	100
8	10.840.208	28,00	50
10	10.840.210	35,00	50
12	10.840.212	42,00	50

further number of poles on request

#### General Information

Pitch	3,5 mm
No. of poles	2 - 12
Usable with	all pin strips of series 110
Areas of application	E.g. telecommunication technology
Additional Information	Flexible wire: <ul style="list-style-type: none"> <li>• MSR TSR 0.56 mm<sup>2</sup> according to VDE 0881</li> <li>• AWG 20/7 Style 1061</li> <li>• Insulation: Semi-Rigid-(SR)-PVC</li> </ul>

#### Technical Data

Clamping Range	solid / flexible / AWG 0,5 mm <sup>2</sup> Spezialleiter / special wire		
Wire Stripping Length	6,5 mm ± 0,5 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	5 A		
Other specifications	Wire insulation diameter 1,45 - 1,7 mm		

#### Material

Moulding	PA, light grey, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Contact elements	Copper alloy, tin plated

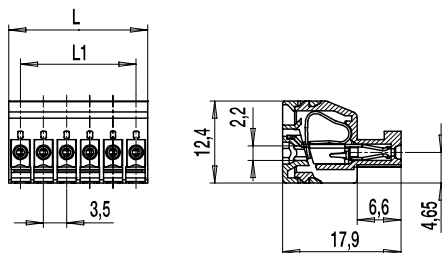
#### Options / Accessories

- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50
- Connecting flanges
- Special flat nose pliers

## Plug connector

### 110-F-111

Spring clamp connection



L = No. of poles x pitch  
L1 = No. of poles x pitch - 3,5

#### Features

- Plug connector to connect wires with spring clamp technology with a pitch of 3,5 mm
- For solid and flexible wires
- Cross section up to 1,5 mm²
- Available in 2 to 12 pole lengths
- Coding possible with standard coding keys in the pin strip
- Special area for marking
- Colour black

#### Advantages

- High packing density
- Suitable under high vibration load
- Mating compatible with competitor products

#### Part Numbers

No. of poles	110-F-111	Length	Pcs
2	10.840.902	7,00	100
3	10.840.903	10,50	100
4	10.840.904	14,00	50
5	10.840.905	17,50	50
6	10.840.906	21,00	50
7	10.840.907	24,50	50
8	10.840.908	28,00	50
9	10.840.909	31,50	50
10	10.840.910	35,00	50
11	10.840.911	38,50	50
12	10.840.912	42,00	50

#### General Information

Pitch	3,5 mm
No. of poles	2 - 12
Usable with	all pin strips of series 110
Additional Information	Standard screwdrivers, size A 0,4 x 2,5, can be used to open the spring clamp. Also available as version 110-F-115 with flanges.

#### Technical Data

Clamping Range	solid / flexible / AWG 0,14 - 1,5 mm² / 0,14 - 1,5 mm² / 26 - 14 AWG		
Rated Cross Section	1,5 mm²		
Wire Stripping Length	8 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	125 V	125 V	250 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		

#### Material

Moulding	PA, black, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Pressure clamp	Copper alloy, tin plated
Tension spring	Steel
Spring	Copper alloy, tin plated

#### Approvals

	Current	Voltage	Group	AWG	Nm
	8	300	B, D	30- 16	
	5	300	B	22 - 14	

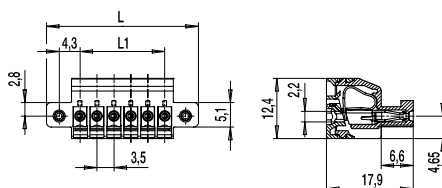
#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-3,50

## Plug connector

### 110-F-115

Spring clamp connection, with connecting flanges



L = No. of poles x pitch + 10,4  
L1 = No. of poles x pitch - 3,5

#### Features

- Plug connector to connect wires with spring clamp technology with a pitch of 3,5 mm
- For solid and flexible wires
- Cross section up to 15 mm<sup>2</sup>
- Available in 2 to 12 pole lengths
- Coding possible with standard coding keys in the pin strip
- Special area for marking
- Colour black

#### Advantages

- High packing density
- Suitable under high vibration load
- Mating compatible with competitor products

## General Information

Pitch	3,5 mm
No. of poles	2 - 12
Usable with	all pin strips of series 110
Additional Information	Standard screwdrivers, size A 0,4 x 2,5, can be used to open the spring clamp. Also available as version 110-F-111 without flanges.

## Technical Data

Clamping Range	solid / flexible / AWG		
	0,14 - 1,5 mm <sup>2</sup> / 0,14 - 1,5 mm <sup>2</sup> / 26 - 14 AWG		
Rated Cross Section	1,5 mm <sup>2</sup>		
Wire Stripping Length	8 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	125 V	125 V	250 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		

## Material

Moulding	PA, black, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Pressure clamp	Copper alloy, tin plated
Tension spring	Steel
Spring	Copper alloy, tin plated

## Part Numbers

No. of poles	110-F-115	Length	Pcs
2	15.840.977	17,40	100
3	15.840.978	20,90	100
4	15.840.979	24,40	50
5	15.840.980	27,90	50
6	15.840.981	31,40	50
7	15.840.982	34,90	50
8	15.840.983	38,40	50
9	15.840.984	41,90	50
10	15.840.985	45,40	50
11	15.840.986	48,90	50
12	15.840.987	52,40	50

## Approvals

	Current	Voltage	Group	AWG	Nm
	8	300	B, D	30 - 16	
	5	300	B	22 - 14	

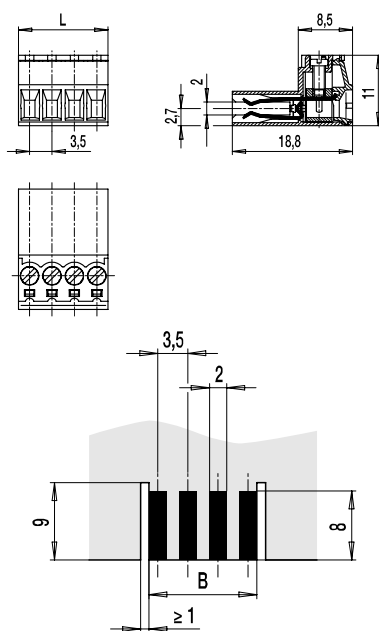
## Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-3,50

## Plug connector

### 110-AP-211

Screw connection, direct connection to PCB



$$B = (\text{Number of poles} \times 3,5) - 1,5$$

Due to the pitch of 3,5 mm, plug connectors of series 110 are particularly suitable for confined spaces. The Version 110-AP with screw terminals using lift system is suitable for the direct connection to PC boards. Slots corresponding with the housing side walls or the PC board width determine the correct plug connector position on the conductor paths. The board design determines whether the contacting is single- or double-sided.

Slots between the plug connections not only to increase the creepage distances in the housing but also serve as receptacle for coding keys.

## Part Numbers

No. of poles	110-AP-211	Length	Pcs
2	10.842.072	7,00	200
3	10.842.073	10,50	200
4	10.842.074	14,00	100
5	10.842.075	17,50	100
6	10.842.076	21,00	100
7	10.842.077	24,50	50
8	10.842.078	28,00	50
9	10.842.079	31,50	50
10	10.842.080	35,00	50
11	10.842.081	38,50	50
12	10.842.082	42,00	50

further number of poles on request

## General Information

Pitch	3,5 mm
No. of poles	2 - 12
Areas of application	Telecommunication technology, house telephones, intercoms


## Technical Data

Clamping Range	<i>solid / flexible / AWG</i> 0,14 - 1,5 mm <sup>2</sup> / 0,14 - 1,5 mm <sup>2</sup> / 30 - 16 AWG
Rated Cross Section	1 mm <sup>2</sup>
Wire Stripping Length	6,5 mm
Overvoltage Category	II
Pollution Severity Level	2
Rated Voltage	320 V
Rated Impulse Voltage	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1
Rated Current	3 A for one side PCB contact 6 A for two side PCB contact
Torque	0,2 Nm
PCB thickness	1,4 - 1,8 mm

## Material

Moulding	PA, grey, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Contact elements	Copper alloy, tin plated
Screw	M2, copper alloy, tin plated

## Approvals

	Current	Voltage	Group	AWG	Nm
	7	150	B	30 - 16	0,23

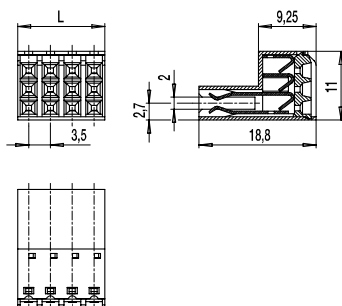
## Options / Accessories

- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50
- Coding keys 110-AP, Part-No.: 10.496.028
- Factory-assembled coding keys on request

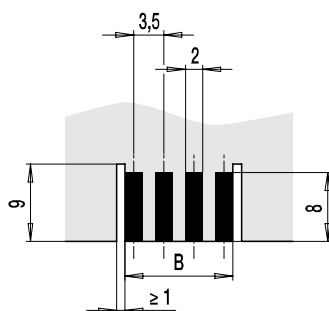
## Plug connector

### 110-FP3-211

Spring contact, tribble connection, direct connection to PCB



### PCB Layout



$$B = (\text{Number of poles} \times 3,5) - 1,5$$

Due to the pitch of 3,5 mm, plug connectors of series 110 are particularly suitable for confined spaces. The version 110-FP3-211 with spring connection is suitable for direct connection to PC boards. Each pole contains three separate clamping units one on top of the other. Individual wires can be connected without having to use a tool. The wires disconnect by simultaneous twisting and pulling.

Slots corresponding with the housing side walls or the PC board width determine the correct plug connector position on the conductor paths. The board design determines whether the contacting is single- or double-sided.

Slots between the plug connections not only to increase the creepage distances in the housing but also serve as receptacle for coding keys.

### Part Numbers

No. of poles	110-FP3-211	Length	Pcs
2	10.842.372	7,00	200
3	10.842.373	10,50	200
4	10.842.374	14,00	100
5	10.842.375	17,50	100
6	10.842.376	21,00	100
8	10.842.378	28,00	50
10	10.842.380	35,00	50
12	10.842.382	42,00	50

further number of poles on request

### General Information

Pitch	3,5 mm
No. of poles	2 - 12
Usable with	copper-covered single- or double-sided PCB's
Areas of application	Telecommunication technology, house telephones, intercoms

### Technical Data

Clamping Range	<i>solid / flexible / AWG</i> 0,2 - 0,5 mm² / 24 - 20 AWG nur starre Leiter ; only solid wires
Wire Stripping Length	6 mm
Overvoltage Category	II
Pollution Severity Level	2
Rated Voltage	320 V
Rated Impulse Voltage	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1
Rated Current	3 A for one side PCB contact 6 A for two side PCB contact
PCB thickness	1,4 - 1,8 mm

### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Contact elements	Copper alloy, tin plated

### Options / Accessories

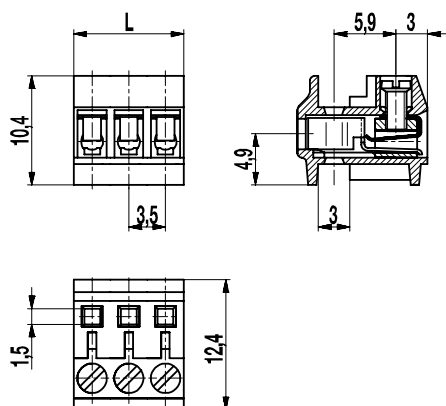
- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50
- Coding keys 110-AP, Part-No.: 10.496.028
- Factory-assembled coding keys on request



## Plug connector

### 930-FL(-DS)

Screw connection



The plug connector 930-FL is designed for the insertion of pin strips 931-SLR-THR-1,1 or 931-SLR-SMD-1,1 both from the top and the bottom.

The possibility to plug from either side allows mounting in reverse order: the plug connector can be pre-assembled in a housing and then the PC board can be slotted in from above. When using pin strips with extra-long pins (available upon request), two plug connectors can be mounted one on top of the other (stacked) thus achieving a parallel connection.

### Part Numbers

No. of poles	930-FL	930-FL-DS	Length	Pcs
2	10.870.302	20.870.302	7,00	250
3	10.870.303	20.870.303	10,50	250
4	10.870.304	20.870.304	14,00	250
5	10.870.305	20.870.305	17,50	100
6	10.870.306	20.870.306	21,00	100
7	10.870.307	20.870.307	24,50	100
8	10.870.308	20.870.308	28,00	100
9	10.870.309	20.870.309	31,50	100
10	10.870.310	20.870.310	35,00	100
11	10.870.311	20.870.311	38,50	100
12	10.870.312	20.870.312	42,00	100
13	10.870.313	20.870.313	45,50	50
14	10.870.314	20.870.314	49,00	50
15	10.870.315	20.870.315	52,50	50
16	10.870.316	20.870.316	56,00	50
17	10.870.317	20.870.317	59,50	50
18	10.870.318	20.870.318	63,00	50
19	10.870.319	20.870.319	66,50	50
20	10.870.320	20.870.320	70,00	50
21	10.870.321	20.870.321	73,50	50
22	10.870.322	20.870.322	77,00	50
23	10.870.323	20.870.323	80,50	50
24	10.870.324	20.870.324	84,00	50

### General Information

Pitch	3,5 mm
No. of poles	2 - 24
Usable with	pin strip 931-SLR-THR-1,1; 931-SLR-SMD-1,1; tab connector 931-FST

### Technical Data

Clamping Range	<i>solid / flexible / AWG</i>		
without wire protector	0,34 - 1,5 mm² / 0,34 - 1 mm² / 22 - 18 AWG		
with wire protector	0,14 - 0,75 mm² / 0,14 - 0,75 mm² / 26 - 20 AWG		
Rated Cross Section	0,75 mm²		
Wire Stripping Length	5 mm ± 0,5 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	6 A		
Torque	0,2 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	Nickle plated brass
Screw	M2, zinc plated steel, blue passivated.
Wire protector	German silver
Spring	Tin plated tin bronze

### Approvals

	Current	Voltage	Group	AWG	Nm
	6	300	B	30 - 18	0,23
	6	300	B	30 - 18	0,2

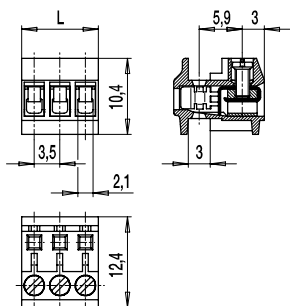
### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-3,50
- Pitch of 7 mm for larger clearance and creepage distances

## Plug connector

### 938-FLDS

Screw connection, large conductor space



Due to the rectangular shape, the terminal space of plug connector 938-FLDS is dimensioned relatively large. Spring and wire protection are designed in one piece. The plug connector 938-FLDS is designed for the insertion of pin strips 931-SLS both from the top and the bottom side. The possibility to plug from either side allows mounting in reverse order: The plug connector can be pre-assembled in a housing and then the PC board can be slotted in from above. When using pin strips with extra-long pins (available upon request), two plug connectors can be mounted one on top of the other (stacked) thus achieving a parallel connection.

#### Part Numbers

No. of poles	938-FLDS	Length	Pcs
2	40.870.302	7,00	250
3	40.870.303	10,50	250
4	40.870.304	14,00	250
5	40.870.305	17,50	100
6	40.870.306	21,00	100
8	40.870.308	28,00	100
10	40.870.310	35,00	100
12	40.870.312	42,00	100

further number of poles on request

#### General Information

Pitch	3,5 mm
No. of poles	2 - 16
Usable with	Pin strip 931-SLS; 931-SLR-THR; 931-SLR-THR-1,3; 931-SLR-SMD-1,3 (pin strip with $\varnothing 1,3$ mm in plug-in area); tab connector 931-FST



#### Technical Data

Clamping Range	solid / flexible / AWG 0,2 - 1,5 mm <sup>2</sup> / 0,2 - 1 mm <sup>2</sup> / 26 - 16 AWG		
Rated Cross Section	1 mm <sup>2</sup>		
Wire Stripping Length	5 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	6 A		
Torque	0,2 Nm		

#### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	CTI $\geq$ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal Body	Nickel plated brass
Screw	M2, zinc plated steel, blue passivated
Wire protector	Copper alloy, tin plated
Spring	Copper alloy, tin plated

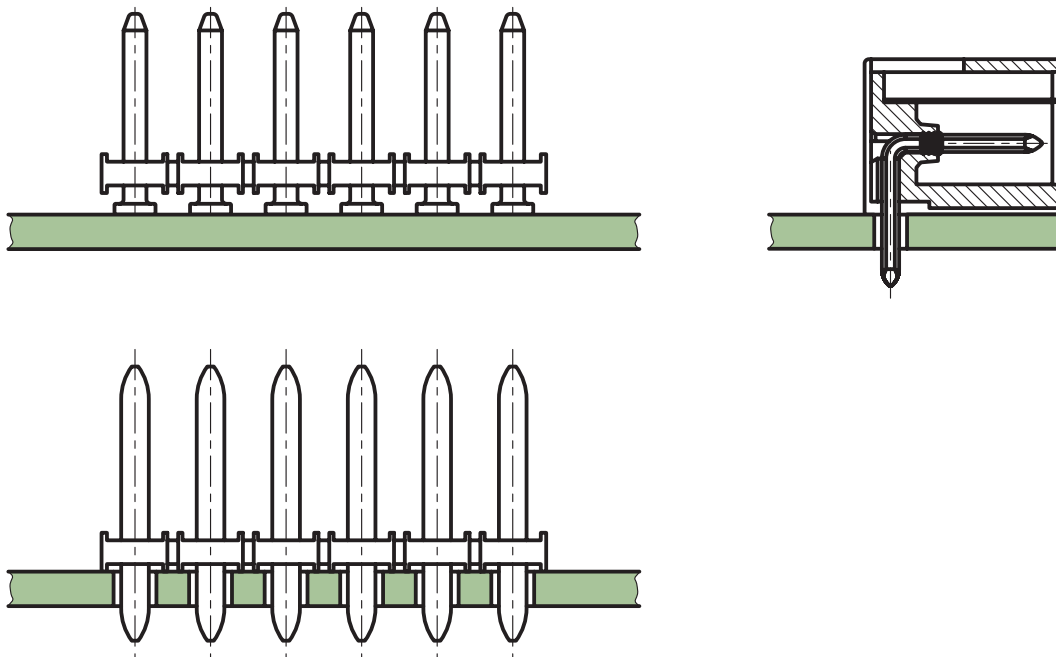
#### Approvals

	Current	Voltage	Group	AWG	Nm
	6	300	B	28 - 20	0,23
	6	300	B	28 - 20	0,2

#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-3,50
- Plug connectors with special locking system on request

## ■ Pin strips



As counterparts to the plug connectors there are pin strips of the series 110. They offer remarkable connection data at small dimensions.

Depending on the version they are available from 2 to 24 pole, versions with flanges 2 to 22 poles and two-tier versions 4 to 48 poles (4 to 44 poles with flanges).

At the direction of insertion, the user can choose between vertical, parallel or at a 45 degree angle to the PCB.

The pin strips of the series 110 feature slots to accommodate the coding elements 120-K. Angle elements on both sides of the housing prevent a false plugging.

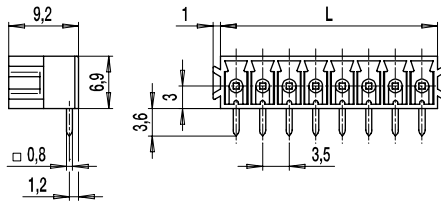
Two-tier versions as well as versions with connecting flanges extend the possibilities of application even further.

The pin strips of the series 931 without housing represent the counterparts to the plug connectors 930-FL and 938-FLDS. They are suitable for SMD and THR applications.

## Pin strip

### 110-M-211

Plug-in direction parallel to PCB, with false insertion prevention



Pin strips of series 110 offer remarkable connection data (1,5 mm² / 160 V-III-3 / 8 A) for their small dimensions. In combination with the corresponding plug connectors they guarantee reliable wire connection for all wire types. The compact housings with a pitch of 3,5 mm are available with 2 to 24 poles. The plug direction of the 110-M-211 is parallel to the PC board. The pin strips feature slots to accommodate the coding elements 120-K. Laterally attached dovetail expansions reliably prevent incorrect plugging.

#### Part Numbers

No. of poles	110-M-211	Length	Pcs
2	10.841.002	7,00	200
3	10.841.003	10,50	200
4	10.841.004	14,00	100
5	10.841.005	17,50	100
6	10.841.006	21,00	100
7	10.841.007	24,50	50
8	10.841.008	28,00	50
9	10.841.009	31,50	50
10	10.841.010	35,00	50
11	10.841.011	38,50	50
12	10.841.012	42,00	50
13	10.841.013	45,50	50
14	10.841.014	49,00	50
15	10.841.015	52,50	50
16	10.841.016	56,00	50
17	10.841.017	59,50	50
18	10.841.018	63,00	50
19	10.841.019	66,50	50
20	10.841.020	70,00	50
21	10.841.021	73,50	50
22	10.841.022	77,00	50
23	10.841.023	80,50	50
24	10.841.024	84,00	50

#### General Information

Pitch	3,5 mm
No. of poles	2 - 24
Usable with	all plug connectors of series 110
Additional Information	For versions with connecting flanges see 110-M-215.

#### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		
Hole in PCB	ø 1,3 mm		

#### Material

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

#### Approvals

	Current	Voltage	Group	AWG	Nm
	8	300	B, D		
	8	300	B		

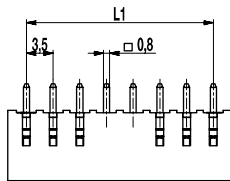
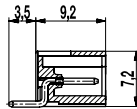
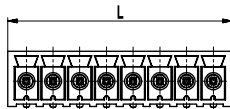
#### Options / Accessories

- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50
- Pitch of 7 mm for larger clearance and creepage distances
- Coding elements 120-K
- With smooth side wall

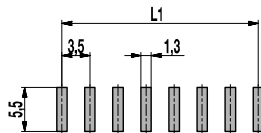
## Pin strip for SMD

### 110-M-211-SMD

Plug-in direction parallel to PCB



### PCB Layout



$L1 = (\text{No. of poles} - 1) \times \text{pitch}$   
Solder paste thickness: 0,2 mm

The 110-M-211-SMD is a pin strip for the reflow soldering process in a horizontal version with a pitch of 3.5 mm and available in 2 to 12 poles.

It is compatible with all standard connectors series 110 and 110-A-IDC (Insulation Displacement Contacts).

The housing of the pin strips meets the requirements of the elevated soldering temperatures in the lead-free soldering process.

### Part Numbers

No. of poles	110-M-211-SMD	Length	Pcs
2	10.843.102	8,40	992
3	10.843.103	11,90	704
4	10.843.104	15,40	544
5	10.843.105	18,90	432
6	10.843.106	22,40	368
7	10.843.107	25,90	320
8	10.843.108	29,40	272
9	10.843.109	32,90	240
10	10.843.110	36,40	224
11	10.843.111	39,90	208
12	10.843.112	43,40	195

### General Information

Pitch	3,5 mm
No. of poles	2 - 12
Usable with	all plug connectors of series 110
Additional Information	Version with solder flanges see also 110-M-216-SMD

### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		
Soldering process	Reflow solder		

### Material

Moulding	PA HT, black, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	40°C up to 150°C; reflow solder temperature (Peak) max. 260°C (15-30 s)
Solder pin	0,8 x 0,8 mm; tin plated brass

### Approvals

	Current	Voltage	Group	AWG	Nm
	8	300	B, D		
	pending				

### Options / Accessories

- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50 [1]
- Coding elements 120-K [1]

### Part Numbers: Tape-on-Reel

No. of poles	110-M-211-SMD	Tape Width	Tape Height	Pcs
4	10.843.104.A00	56 mm	8 mm	475
5	10.841.105.A00	56 mm	8 mm	475
6	10.841.106.A00	56 mm	8 mm	475
7	10.841.107.A00	56 mm	8 mm	475
8	10.841.108.A00	56 mm	8 mm	475
9	10.841.109.A00	56 mm	8 mm	475
10	10.841.110.A00	56 mm	8 mm	475

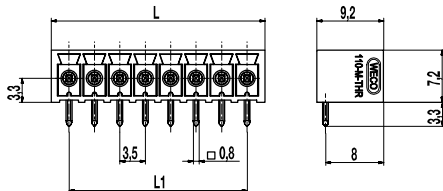
further number of poles on request

[1] To be fitted after reflow soldering process

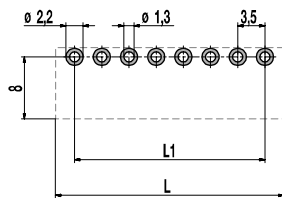
## Pin strip for THR

### 110-M-211-THR

Plug-in direction parallel to PCB



### PCB Layout



$L1 = (\text{No. of poles} - 1) \times \text{pitch}$   
Solder paste thickness: 0,15 - 0,2 mm

The 110-M-211-THR is a pin strip, suitable for the reflow soldering process, in horizontal design with a pitch of 3,5 mm and available from 2 to 12 poles. It is compatible to all standard plugs of the series 110 as well as to the Insulation Displacement Connector 110-A-IDC.

The housing of the pin strips correspond to the requirements of the increased soldering temperatures in the lead free soldering process. Spacers, so-called stand-offs, ensure a better hot-air circulation during the reflow soldering process in the convection oven and allow an improved visual control of the solder joint.

All THR pin strips of this series are packed Tape-on-Reel for the assembling with pick & place machines.

### Part Numbers

No. of poles	110-M-211-THR	Length	Pcs
2	10.841.302	8,40	200
3	10.841.303	11,90	200
4	10.841.304	15,40	100
5	10.841.305	18,90	100
6	10.841.306	22,40	100
7	10.841.307	25,90	50
8	10.841.308	29,40	50
9	10.841.309	32,90	50
10	10.841.310	36,40	50
11	10.841.311	39,90	50
12	10.841.312	43,40	50

### General Information

Pitch	3,5 mm
No. of poles	2 - 12
Usable with	all plug connectors of series 110
Additional Information	Version with connecting flanges see also 110-M-215-THR

### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		
Soldering process	Wave solder & reflow solder		
Hole in PCB	ø 1,3 mm		
PCB thickness	Wave solder max. 1,6 mm; reflow solder 1,6 - 3,2 mm		

### Material

Moulding	PA HT, black, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 150°C; reflow solder temperature (Peak) max. 260°C (15-30 s)
Solder pin	0,8 x 0,8 mm; tin plated brass

### Approvals

	Current	Voltage	Group	AWG	Nm
	8	300	B, D		
	8	300	B		

### Options / Accessories

- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50 [1]
- Coding elements 120-K [1]

### Part Numbers: Tape-on-Reel

No. of poles	110-M-211-THR	Tape Width	Tape Height	Pcs
2	10.841.302.A00	32 mm	11,8 mm	500
3	10.841.303.A00	32 mm	11,8 mm	500
4	10.841.304.A00	32 mm	11,8 mm	500
5	10.841.305.A00	32 mm	11,8 mm	500

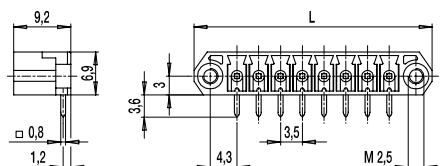
further number of poles on request

[1] To be fitted after reflow soldering process

## Pin strip

### 110-M-215

Plug-in direction parallel to PCB, with connecting flanges



Pin strips of series 110 offer remarkable connection data (1,5 mm² / 160 V-III-3 / 8 A) for their small dimensions. In combination with the corresponding plug connectors they guarantee reliable wire connection for all wire types. The compact housings with a pitch of 3,5 mm are available with 2 to 22 poles. The plug direction of the 110-M-215 is parallel to the PC board. Laterally attached connecting flanges with thread inserts expand the area of application of this variant. The corresponding pin strips in connecting flange design feature lateral thread inserts which offer vibration-proof screw-connection of the plug connector and also prevent unintended loosening. The pin strips feature slots to accommodate the coding elements 120-K.

## Part Numbers

No. of poles	110-M-215	Length	Pcs
2	10.841.052	17,30	100
3	10.841.053	20,80	100
4	10.841.054	24,30	100
5	10.841.055	27,80	50
6	10.841.056	31,30	50
7	10.841.057	34,80	50
8	10.841.058	38,30	50
9	10.841.059	41,80	50
10	10.841.060	45,30	50
11	10.841.061	48,80	50
12	10.841.062	52,30	50
13	10.841.063	55,80	50
14	10.841.064	59,30	50
15	10.841.065	62,80	50
16	10.841.066	66,30	50
17	10.841.067	69,80	50
18	10.841.068	73,30	50
19	10.841.069	76,80	50
20	10.841.070	80,30	50
21	10.841.071	83,80	50
22	10.841.072	87,30	50

## General Information

Pitch	3,5 mm
No. of poles	2 - 22
Usable with	all plug connectors of series 110 with connecting flanges

## Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		
Hole in PCB	ø 1,3 mm		

## Material

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

## Approvals

	Current	Voltage	Group	AWG	Nm
	8	300	B, D		
	8	300	B		

## Options / Accessories

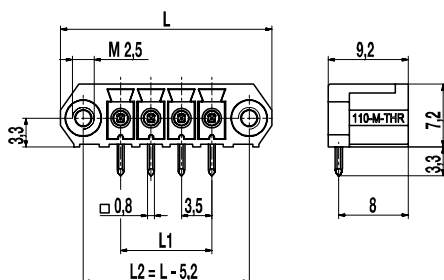
- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50
- Pitch of 7 mm for larger clearance and creepage distances
- Coding elements 120-K



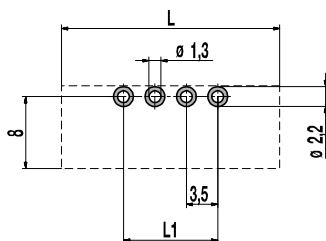
## Pin strip for THR

### 110-M-215-THR

Plug-in direction parallel to PCB, with connecting flanges



### PCB Layout



L1 = (No. of poles - 1) x pitch  
Solder paste thickness: 0,15 - 0,2 mm

The 110-M-215-THR is a pin strip, suitable for the reflow soldering process, in horizontal design with a pitch of 3,5 mm and available from 2 to 12 poles. It is compatible to all standard plugs of the series 110 as well as to the Insulation Displacement Connector 110-A-IDC.

The housing of the pin strips correspond to the requirements of the increased soldering temperatures in the lead free soldering process. Spacers, so-called stand-offs, ensure a better hot-air circulation during the reflow soldering process in the convection oven and allow an improved visual control of the solder joint.

All THR pin strips of this series are packed Tape-on-Reel for the assembling with pick & place machines.

This version has connecting flanges on both sides of the connector to extend the range of applications additionally.

Description for the application of the flange execution see 110-M-215.

### Part Numbers

No. of poles	110-M-215-THR	Length	Pcs
2	10.841.352	17,30	100
3	10.841.353	20,80	100
4	10.841.354	24,30	100
5	10.841.355	27,80	50
6	10.841.356	31,30	50
8	10.841.358	38,30	50
10	10.841.360	45,30	50
11	10.841.361	48,80	50
12	10.841.362	52,30	50

### General Information

Pitch	3,5 mm
No. of poles	2 - 12
Usable with	all plug connectors of series 110 with connecting flanges

### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		
Soldering process	Wave solder & reflow solder		
Hole in PCB	ø 1,3 mm		
PCB thickness	Wave solder max. 1,6 mm; reflow solder 1,6 mm - 3,2 mm		

### Material

Moulding	PA HT, black, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 150°C; reflow solder temperature (Peak) max. 260°C (15-30 s)
Solder pin	0,8 x 0,8 mm; tin plated brass

### Approvals

	Current	Voltage	Group	AWG	Nm
	8	300	B, D		
	8	300	B		

### Options / Accessories

- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50 [1]
- Coding elements 120-K [1]

### Part Numbers: Tape-on-Reel

No. of poles	110-M-215-THR	Tape Width	Tape Height	Pcs
2	10.841.352.A00	32 mm	11,8 mm	500
3	10.841.353.A00	32 mm	11,8 mm	500

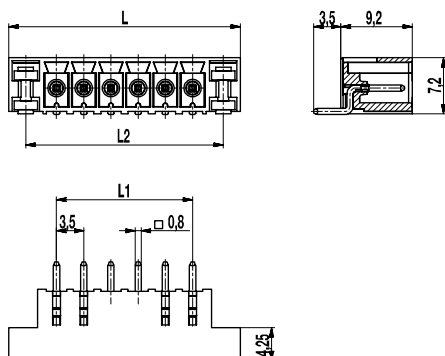
further number of poles on request

[1] To be fitted after reflow soldering process

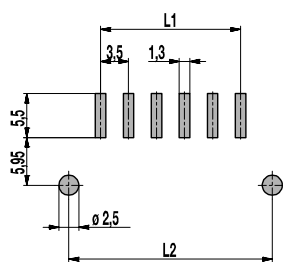
## Pin strip for SMD

### 110-M-216-SMD

Plug-in direction parallel to PCB, with solder flanges



#### PCB Layout



$L1 = (\text{No. of poles} - 1) \times \text{pitch}$   
Solder paste thickness: 0,2 mm

The 110-M-216-SMD is a pin strip for the reflow soldering process in a horizontal version with a pitch of 3.5 mm and available in 2 to 12 poles.

This product is characterized by the "Floating Anchors". They are movable in vertical direction and achieve 100% coplanarity. Side flanges improve the stability and increase the adhesion force on the PC board.

The pin strip is compatible with all standard connectors series 110 and 110-A-IDC (Insulation Displacement Contacts).

The housing of the pin strips meets the requirements of the elevated soldering temperatures in the lead-free soldering process.

#### Part Numbers

No. of poles	110-M-216-SMD	Length	Pcs
2	10.843.126	15,80	528
3	10.843.127	19,30	432
4	10.843.128	22,80	368
5	10.843.129	26,30	320
6	10.843.130	29,80	272
7	10.843.131	33,30	240
8	10.843.132	36,80	224
9	10.843.133	40,30	208
10	10.843.134	43,80	192
11	10.843.135	47,30	176
12	10.843.136	50,80	160

#### General Information

Pitch	3,5 mm
No. of poles	2 - 12
Usable with	all plug connectors of series 110

#### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		
Soldering process	Reflow solder		

#### Material

Moulding	PA HT, black, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	40°C up to 150°C; reflow solder temperature (Peak) max. 260°C (15-30 s)
Solder pin	0,8 x 0,8 mm; tin plated brass
Solder cylinder	tin plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm
	8	300	B, D		
	pending				

#### Options / Accessories

- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50 [1]
- Coding elements 120-K [1]

#### Part Numbers: Tape-on-Reel

No. of poles	110-M-216-SMD	Tape Width	Tape Height	Pcs
2	10.843.126.A00	56 mm	8 mm	475
3	10.843.127.A00	56 mm	8 mm	475
4	10.843.128.A00	56 mm	8 mm	475
5	10.843.129.A00	56 mm	8 mm	475
6	10.843.130.A00	56 mm	8 mm	475
7	10.843.131.A00	56 mm	8 mm	475
8	10.843.132.A00	56 mm	8 mm	475

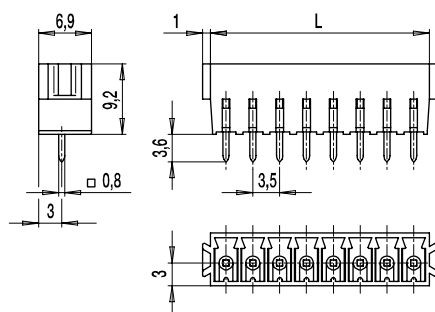
further number of poles on request

[1] To be fitted after reflow soldering process

## Pin strip

### 110-M-221

Plug-in direction vertical to PCB, with false insertion prevention



Pin strips of series 110 offer remarkable connection data (1,5 mm² / 160 V-III-3 / 8 A) for their small dimensions. In combination with the corresponding plug connectors they guarantee reliable wire connection for all wire types. The compact housings with a pitch of 3,5 mm are available with 2 to 24 poles. The plug direction of the 110-M-221 is vertical to the PC board. The pin strips feature slots to accommodate the coding elements 120-K. Laterally attached dovetail expansions reliably prevent false insertion.

#### Part Numbers

No. of poles	110-M-221	Length	Pcs
2	20.841.002	7,00	200
3	20.841.003	10,50	200
4	20.841.004	14,00	100
5	20.841.005	17,50	100
6	20.841.006	21,00	100
7	20.841.007	24,50	50
8	20.841.008	28,00	50
9	20.841.009	31,50	50
10	20.841.010	35,00	50
11	20.841.011	38,50	50
12	20.841.012	42,00	50
13	20.841.013	45,50	50
14	20.841.014	49,00	50
15	20.841.015	52,50	50
16	20.841.016	56,00	50
17	20.841.017	59,50	50
18	20.841.018	63,00	50
19	20.841.019	66,50	50
20	20.841.020	70,00	50
21	20.841.021	73,50	50
22	20.841.022	77,00	50
23	20.841.023	80,50	50
24	20.841.024	84,00	50

#### General Information

Pitch	3,5 mm
No. of poles	2 - 24
Usable with	all plug connectors of series 110
Additional Information	For versions with connecting flanges see 110-M-225

#### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		
Hole in PCB	ø 1,3 mm		

#### Material

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

#### Approvals

	Current	Voltage	Group	AWG	Nm
	8	300	B, D		
	8	300	B		

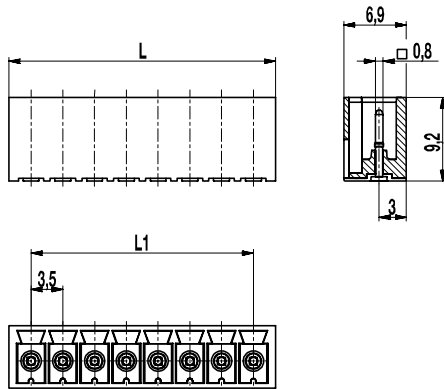
#### Options / Accessories

- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50
- Pitch of 7 mm for larger clearance and creepage distances
- Coding elements 120-K
- With smooth side wall

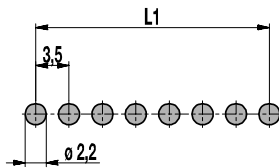
## Pin strip for SMD

### 110-M-221-SMD

Plug-in direction vertical to PCB



#### PCB Layout



$L1 = (\text{No. of poles} - 1) \times \text{pitch}$   
Solder paste thickness: 0,15 - 0,2 mm

The 110-M-221-SMD is a pin strip for the reflow soldering process in a vertical version with a pitch of 3.5 mm and available in 2 to 12 poles. This product is characterized by the so-called "Floating Pins". They are movable in vertical direction and achieve a 100% coplanarity. It is compatible with all standard connectors series 110 and 110-A-IDC (Insulation Displacement Contacts). The housing of the pin strips meets the requirements of the elevated soldering temperatures in the lead-free soldering process. The pin strips of this series are available in Tape-on-Reel for automatic pick & place and are equipped with high temperature resistant Pick Caps which can easily be removed after the soldering process.

#### Part Numbers

No. of poles	110-M-221-SMD	Length	Pcs
2	20.843.152	8,40	200
3	20.843.153	11,90	200
4	20.843.154	15,40	100
5	20.843.155	18,90	100
6	20.843.156	22,40	100
7	20.843.157	25,90	50
8	20.843.158	29,40	50
9	20.843.159	32,90	50
10	20.843.160	36,40	50
11	20.843.161	39,90	50
12	20.843.162	43,40	50

#### General Information

Pitch	3,5 mm
No. of poles	2 - 12
Usable with	all plug connectors of series 110
Additional Information	Version with solder flanges see also 110-M-226-SMD

#### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		
Soldering process	Reflow solder		

#### Material

Moulding	PA HT, black, V-0
Comparative Tracking Index	CTI $\geq$ 600
Insulating Group	I
Temperature Range	-40°C up to 150°C; reflow solder temperature (Peak) max. 260°C (15-30 s)
Solder pin	0,8 x 0,8 mm; tin plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm
	8	150	B		
	8	300	D		
	pending				

#### Options / Accessories

- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50 [1]
- Coding elements 120-K [1]

#### Part Numbers: Tape-on-Reel

No. of poles	110-M-221-SMD	Tape Width	Tape Height	Pcs
5	20.843.155.A00	56 mm	10,9 mm	550
6	20.843.156.A00	56 mm	10,9 mm	550
7	20.843.157.A00	56 mm	10,9 mm	550
8	20.843.158.A00	56 mm	10,9 mm	550
9	20.843.159.A00	56 mm	10,9 mm	550
10	20.843.160.A00	56 mm	10,9 mm	550

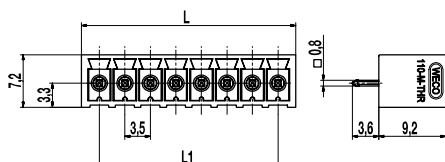
further number of poles on request

[1] To be fitted after reflow soldering process

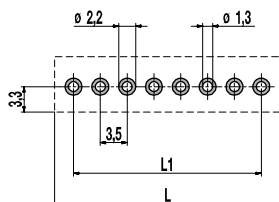
## Pin strip for THR

### 110-M-221-THR

Plug-In direction vertical to PCB



### PCB Layout



$L1 = (\text{No. of poles} - 1) \times \text{pitch}$   
Solder paste thickness: 0,15 - 0,2 mm

The 110-M-221-THR is a pin strip, suitable for the reflow soldering process, in vertical design with a pitch of 3,5 mm and available from 2 to 12 poles. It is compatible to all standard plugs of the series 110 as well as to the Insulation Displacement Connector 110-A-IDC.

The housing of the pin strips correspond to the requirements of the increased soldering temperatures in the lead free soldering process. Spacers, so-called stand-offs, ensure a better hot-air circulation during the reflow soldering process in the convection oven and allow an improved visual control of the solder joint.

All THR pin strips of this series are packed Tape-on-Reel for the assembling with pick & place machines. They are equipped with high temperature resistant Pick Caps (see picture), which can be comfortably removed after the soldering process.

### Part Numbers

No. of poles	110-M-221-THR	Length	Pcs
2	20.841.302	8,40	200
3	20.841.303	11,90	200
4	20.841.304	15,40	100
5	20.841.305	18,90	100
6	20.841.306	22,40	100
7	20.841.307	25,90	50
8	20.841.308	29,40	50
9	20.841.309	32,90	50
10	20.841.310	36,40	50
11	20.841.311	39,90	50
12	20.841.312	43,40	50

### General Information

Pitch	3,5 mm
No. of poles	2 - 12
Usable with	all plug connectors of series 110
Additional Information	Version with connecting flanges see also 110-M-225-THR

### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		
Soldering process	Wave solder & reflow solder		
Hole in PCB	ø 1,3 mm		
PCB thickness	Wave solder max. 1,6 mm; reflow solder 1,6 mm - 3,2 mm		

### Material

Moulding	PA HT, black, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 150°C; reflow solder temperature (Peak) max. 260°C (15-30 s)
Solder pin	0,8 x 0,8 mm; tin plated brass

### Approvals

	Current	Voltage	Group	AWG	Nm
	8	300	B, D		
	8	300	B		

### Options / Accessories

- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50 [1]
- Coding elements 120-K [1]

### Part Numbers: Tape-on-Reel

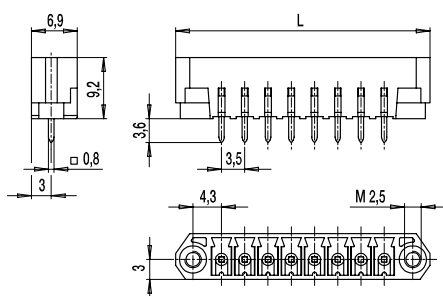
No. of poles	110-M-221-THR	Tape Width	Tape Height	Pcs
5	20.841.305.A00	56 mm	14,9 mm	300
6	20.841.306.A00	56 mm	14,9 mm	300
7	20.841.307.A00	56 mm	14,9 mm	300
8	20.841.308.A00	56 mm	14,9 mm	300
9	20.841.309.A00	56 mm	14,9 mm	300
10	20.841.310.A00	56 mm	14,9 mm	300

further number of poles on request

[1] To be fitted after reflow soldering process

## Pin strip 110-M-225

Plug-in direction vertical to PCB, with connecting flanges



Pin strips of series 110 offer remarkable connection data (1,5 mm² / 160 V-III-3 / 8 A) for their small dimensions. In combination with the corresponding plug connectors they guarantee reliable wire connection for all wire types. The compact housings with a pitch of 3,5 mm are available with 2 to 22 poles. The plug direction of the 110-M-225 is vertical to the PC board. Laterally attached connecting flanges with thread inserts expand the area of application of this variant. The corresponding pin strips in connecting flange design feature lateral thread inserts which offer vibration-proof screw-connection of the plug connector and also prevent unintended loosening. In addition, pin strip connectors can be attached to housing walls with screws (not included in the delivery extent). The pin strips feature slots to accommodate the coding elements 120-K.

### Part Numbers

No. of poles	110-M-225	Length	Pcs
2	20.841.052	17,30	100
3	20.841.053	20,80	100
4	20.841.054	24,30	100
5	20.841.055	27,80	50
6	20.841.056	31,30	50
7	20.841.057	34,80	50
8	20.841.058	38,30	50
9	20.841.059	41,80	50
10	20.841.060	45,30	50
11	20.841.061	48,80	50
12	20.841.062	52,30	50
13	20.841.063	55,80	50
14	20.841.064	59,30	50
15	20.841.065	62,80	50
16	20.841.066	66,30	50
17	20.841.067	69,80	50
18	20.841.068	73,30	50
19	20.841.069	76,80	50
20	20.841.070	80,30	50
21	20.841.071	83,80	50
22	20.841.072	87,30	50

further number of poles on request

### General Information

Pitch	3,5 mm
No. of poles	2 - 22
Usable with	all plug connectors of series 110 with connecting flanges

### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		
Hole in PCB	ø 1,3 mm		

### Material

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

### Approvals

	Current	Voltage	Group	AWG	Nm
	8	300	B, D		
	8	300	B		

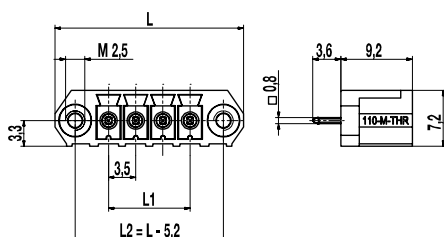
### Options / Accessories

- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50
- Pitch of 7 mm for larger clearance and creepage distances
- Coding elements 120-K

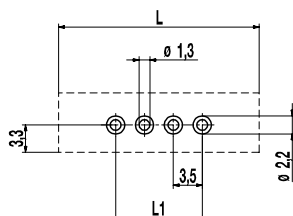
## Pin strip for THR

### 110-M-225-THR

Plug-In direction vertical to PCB, with connecting flanges



### PCB Layout



$L1 = (\text{No. of Poles} - 1) \times \text{pitch}$   
Solder paste thickness: 0,15 - 0,2 mm

The 110-M-225-THR is a pin strip, suitable for the reflow soldering process, in vertical design with a pitch of 3,5 mm and available from 2 to 12 poles. It is compatible to all standard plugs of the series 110 as well as to the Insulation Displacement Connector 110-A-IDC.

This version has connecting flanges on both sides of the connector to extend the range of applications additionally.

The housing of the pin strips correspond to the requirements of the increased soldering temperatures in the lead free soldering process. Spacers, so-called stand-offs, ensure a better hot-air circulation during the reflow soldering process in the convection oven and allow an improved visual control of the solder joint.

All THR pin strips of this series are packed Tape-on-Reel for the assembling with pick & place machines. They are equipped with high temperature resistant Pick Caps, which can comfortably be removed after the soldering process.

### Part Numbers

No. of poles	110-M-225-THR	Length	Pcs
2	20.841.352	17,30	100
3	20.841.353	20,80	100
4	20.841.354	24,30	100
5	20.841.355	27,80	50
6	20.841.356	31,30	50
8	20.841.358	38,30	50
10	20.841.360	45,30	50
11	20.841.361	48,80	50
12	20.841.362	52,30	50

### General Information

Pitch	3,5 mm
No. of poles	2 - 12
Usable with	all plug connectors of series 110 with connecting flanges

### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		
Soldering process	Wave solder & reflow solder		
Hole in PCB	ø 1,3 mm		
PCB thickness	Wave solder max. 1,6 mm; reflow solder 1,6 mm - 3,2 mm		

### Material

Moulding	PA HT, black, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 150°C; reflow solder temperature (Peak) max. 260°C (15-30 s)
Solder pin	0,8 x 0,8 mm; tin plated brass

### Approvals

	Current	Voltage	Group	AWG	Nm
	8	300	B, D		
	8	300	B		

### Options / Accessories

- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50 [1]
- Coding elements 120-K [1]

### Part Numbers: Tape-on-Reel

No. of poles	110-M-225-THR	Tape Width	Tape Height	Pcs
3	20.841.353.A00	56 mm	14,9 mm	300
4	20.841.354.A00	56 mm	14,9 mm	300
5	20.841.355.A00	56 mm	14,9 mm	300
6	20.841.356.A00	56 mm	14,9 mm	300
7	20.841.357.A00	56 mm	14,9 mm	300
8	20.841.358.A00	56 mm	14,9 mm	300

further number of poles on request

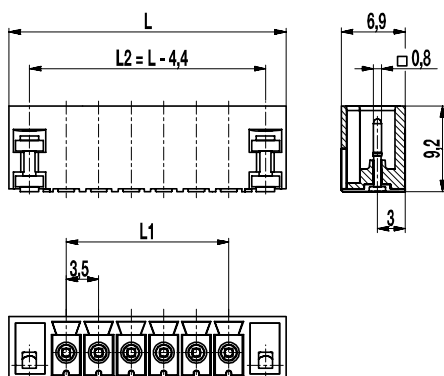
[1] To be fitted after reflow soldering process



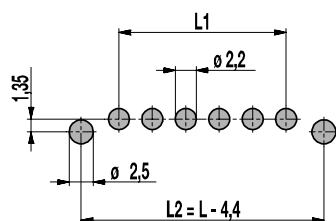
## Pin strip for SMD

### 110-M-226-SMD

Plug-in direction vertical to PCB, with solder flanges



### PCB Layout



$L1 = (\text{No. of poles} - 1) \times \text{pitch}$   
Solder paste thickness: 0,15 - 0,2 mm

The 110-M-226-SMD is a pin strip for the reflow soldering process in a vertical version with a pitch of 3.5 mm and available in 2 to 12 poles.

This product is characterized by the "Floating Anchors" and "Floating Pins". They are movable in vertical direction and achieve a 100% coplanarity. Side flanges improve the stability and increase the adhesion force on the PC board.

It is compatible with all standard connectors series 110 and 110-A-IDC (Insulation Displacement Contacts).

The housing of the pin strips meets the requirements of the elevated soldering temperatures in the lead-free soldering process.

The pin strips of this series are available in Tape-on-Reel for automatic pick & place and are equipped with high temperature resistant Pick Caps which can easily be removed after the soldering process.

### Part Numbers

No. of poles	110-M-226-SMD	Length	Pcs
2	20.843.176	15,80	200
3	20.843.177	19,30	200
4	20.843.178	22,80	100
5	20.843.179	26,30	100
6	20.843.180	29,80	100
7	20.843.181	33,30	50
8	20.843.182	36,80	50
9	20.843.183	40,30	50
10	20.843.184	43,80	50
11	20.843.185	47,30	50
12	20.843.186	50,80	50

### General Information

Pitch	3,5 mm
No. of poles	2 - 12
Usable with	all plug connectors of series 110

### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		
Soldering process	Reflow solder		

### Material

Moulding	PA HT, black, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 150°C; reflow solder temperature (Peak) max. 260°C (15-30 s)
Solder pin	0,8 x 0,8 mm; tin plated brass
Solder cylinder	tin plated brass

### Approvals

	Current	Voltage	Group	AWG	Nm
	8	150	B		
	8	300	D		
	pending				

### Options / Accessories

- Consecutive numbering
- Special marking accord. drawing
- Self-adhesive marking strip BST-3,50 [1]
- Coding elements 120-K [1]

### Part Numbers: Tape-on-Reel

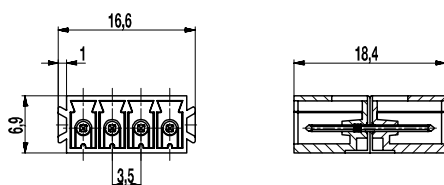
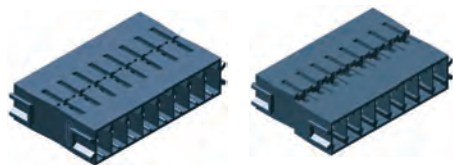
No. of poles	110-M-226-SMD	Tape Width	Tape Height	Pcs
3	20.843.177.A00	56 mm	10,9 mm	550
4	20.843.178.A00	56 mm	10,9 mm	550
5	20.843.179.A00	56 mm	10,9 mm	550
6	20.843.180.A00	56 mm	10,9 mm	550
7	20.843.181.A00	56 mm	10,9 mm	550
8	20.843.182.A00	56 mm	10,9 mm	550

further number of poles on request

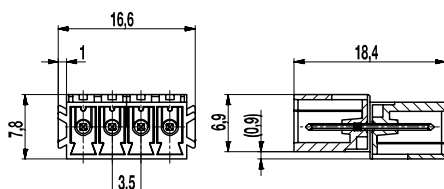
[1] To be fitted after reflow soldering process



## Coupler 110-M-241(-R)



110-M-241



110-M-241-R

All couplers consist of two vertical pin strips 110-M assembled back-to-back with continuous pins for both pin strips. This allows plugging and coding on both sides.

In addition, pin strips with connecting flange can be screw connected with each other or alternatively with plug connectors.

Rotating one pin strip generates the R-variant (R for reverse), on which pole markings of both plug connectors match.

### Advantages:

- Pre-assembled functional units can be quickly connected and disconnected
- Shorter assembly times, easier unit exchange
- Current handling capability identical to all other 110-products
- Coding possibility
- Printed upon request with markings readable in plugged condition
- Easier maintenance and trouble-shooting

## Part Numbers

No. of poles	110-M-241	110-M-241-R	Length	Pcs
2	10.841.702	40.841.702	7,00	100
3	10.841.703	40.841.703	10,50	100
4	10.841.704	40.841.704	14,00	50
8	10.841.708	40.841.708	28,00	25
12	10.841.712	40.841.712	42,00	25

further number of poles on request

## General Information

Pitch	3,5 mm
No. of poles	2 - 12
Usable with	all plug connectors of series 110



## Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		

## Material

Moulding	PA, grey, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Pin	0,8 x 0,8 mm; tin plated brass

## Approvals

	Current	Voltage	Group	AWG	Nm
	8	300	B		
	8	300	B		

## Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-3,50

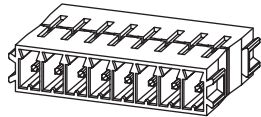
## Coupler

### 110-M-241(-R)

ADDITION: Overview variants

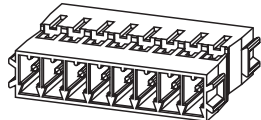
#### 110-M-241/..

Standard version



#### 110-M-241/..-R

like 110-M-241,  
but one pin strip turned 180°



Matching Parts: 2x 110-A-111

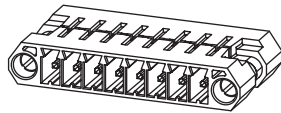
#### Part numbers

No. of poles	110-M-241	110-M-241-R	Length	Pcs
2	10.841.702	40.841.702	7,00	100
3	10.841.703	40.841.703	10,50	100
4	10.841.704	40.841.704	14,00	50
8	10.841.708	40.841.708	28,00	25
12	10.841.712	40.841.712	42,00	25

further number of poles on request

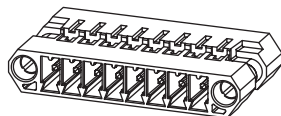
#### 110-M-245/..

like 110-M-241,  
but both pin strips fixed together with  
screws



#### 110-M-245/..-R

like 110-M-241,  
but both pin strips fixed together with  
screws



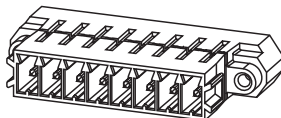
#### Part numbers

No. of poles	110-M-245	110-M-245-R	Length	Pcs
2	10.841.751		17,30	100
3			20,80	
4		40.841.754	24,30	50
8			38,30	
10	10.841.760	40.841.760	45,30	50

further number of poles on request

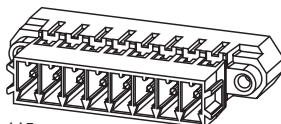
#### 110-M-345/..

like 110-M-241,  
but one pin strip with connecting  
flanges



#### 110-M-345/..-R

like 110-M-345,  
but one pin strip turned 180°



Matching Parts: 1x 110-A-111 and 1x 110-A-115

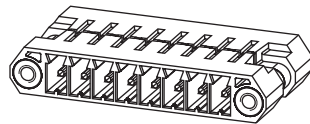
#### Part numbers

No. of poles	110-M-345	110-M-345-R	Length	Pcs
2	10.841.902	40.841.902	17,30	100
3			20,80	
4	10.841.904	40.841.904	24,30	50
8			38,30	
12	10.841.912	40.841.912	45,30	25

further number of poles on request

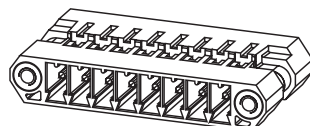
#### 110-M-445/..

like 110-M-241,  
but both pin strips with connecting  
flanges



#### 110-M-445/..-R

like 110-M-445,  
but one pin strip turned 180°



Matching Parts: 2x 110-A-115

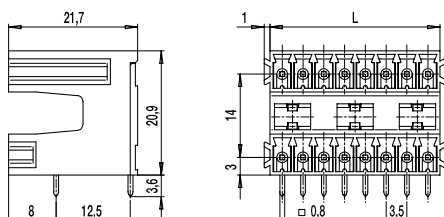
#### Part numbers

No. of poles	110-M-445	110-M-445-R	Length	Pcs
2	10.841.927	40.841.927	17,30	100
3			20,80	
4	10.841.929	40.841.929	24,30	50
8			38,30	
12	10.841.937	40.841.937	45,30	50

further number of poles on request

## Pin strip 110-P-211

Two-tier version, plug-in direction parallel to PCB, with false insertion prevention



Pin strips of series 110 offer remarkable connection data (1,5 mm² / 160 V-III-3 / 8 A) for their small dimensions. The compact housings of these two-tier versions with a pitch of 3,5 mm are available with 4 to 48 poles. The plug direction of the 110-P-211 is parallel to the PC board. The pin strips feature slots to accommodate the coding elements 120-K. Laterally attached dovetail expansions reliably prevent false insertion.

### Part Numbers

No. of poles	110-P-211	Length	Pcs
4	10.841.602	7,00	100
6	10.841.603	10,50	100
8	10.841.604	14,00	50
10	10.841.605	17,50	50
12	10.841.606	21,00	50
14	10.841.607	24,50	50
16	10.841.608	28,00	25
18	10.841.609	31,50	25
20	10.841.610	35,00	25
22	10.841.611	38,50	25
24	10.841.612	42,00	25
26	10.841.613	45,50	25
28	10.841.614	49,00	25
30	10.841.615	52,50	25
32	10.841.616	56,00	25
34	10.841.617	59,50	25
36	10.841.618	63,00	25
38	10.841.619	66,50	25
40	10.841.620	70,00	25
42	10.841.621	73,50	25
44	10.841.622	77,00	10
46	10.841.623	80,50	10
48	10.841.624	84,00	10

### General Information

Pitch	3,5 mm
No. of poles	4 - 48
Usable with	all plug connectors of series 110
Additional Information	For versions with connecting flanges see 110-P-215

### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		
Hole in PCB	ø 1,3 mm		

### Material

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

### Approvals

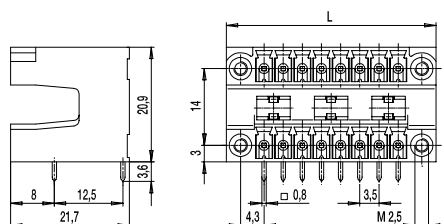
	Current	Voltage	Group	AWG	Nm
	8	300	B, D		
	8	300	B		

### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-3,50
- Pitch of 7 mm for larger clearance and creepage distances
- Coding elements 120-K
- With flat side walls

## Pin strip 110-P-215

Two-tier version, plug-in direction parallel to PCB, with connecting flanges



Pin strips of series 110 offer remarkable connection data (1,5 mm² / 160 V-III-3 / 8 A) for their small dimensions. The compact housings of these two-tier versions with a pitch of 3,5 mm are available with 4 to 44 poles. The plug direction of the 110-P-215 is parallel to the PC board. Laterally attached connecting flanges with thread inserts expand the area of application of this version. The corresponding pin strips in connecting flange design feature lateral thread inserts which offer vibration-proof screw-connection of the plug connector and also prevent unintended loosening. The pin strips feature slots to accommodate the coding elements 120-K.

### Part Numbers

No. of poles	110-P-215	Length	Pcs
4	10.841.652	17,30	100
6	10.841.653	20,80	10
8	10.841.654	24,30	50
10	10.841.655	27,80	50
12	10.841.656	31,30	50
14	10.841.657	34,80	50
16	10.841.658	38,30	25
18	10.841.659	41,80	25
20	10.841.660	45,30	25
22	10.841.661	48,80	25
24	10.841.662	52,30	25
26	10.841.663	55,80	25
28	10.841.664	59,30	25
30	10.841.665	62,80	25
32	10.841.666	66,30	25
34	10.841.667	69,80	25
36	10.841.668	73,30	25
38	10.841.669	76,80	25
40	10.841.670	80,30	25
42	10.841.671	83,80	25
44	10.841.672	87,30	10

### General Information

Pitch	3,5 mm
No. of poles	4 - 44
Usable with	all plug connectors of series 110 with connecting flanges

### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		
Hole in PCB	ø 1,3 mm		

### Material

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

### Approvals

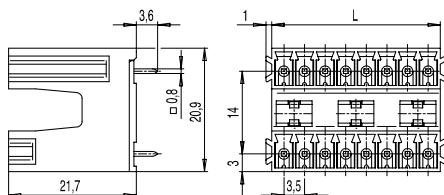
	Current	Voltage	Group	AWG	Nm
	8	300	B, D		
	8	300	B		

### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-3,50
- Pitch of 7 mm for larger clearance and creepage distances
- Coding elements 120-K
- With PCB location pin

## Pin strip 110-P-221

Two-tier version, plug-in direction vertical to PCB, with false insertion prevention



Pin strips of series 110 offer remarkable connection data (1,5 mm<sup>2</sup> / 160 V-III-3 / 8 A) for their small dimensions. The compact housings of these two-tier versions with a pitch of 3,5 mm are available with 4 to 48 poles. The plug direction of the 110-P-221 is vertical to the PC board. The pin strips feature slots to accommodate the coding elements 120-K. Laterally attached dovetail expansions reliably prevent false insertion.

### Part Numbers

No. of poles	110-P-221	Length	Pcs
4	20.841.602	7,00	100
6	20.841.603	10,50	100
8	20.841.604	14,00	50
10	20.841.605	17,50	50
12	20.841.606	21,00	50
14	20.841.607	24,50	50
16	20.841.608	28,00	25
18	20.841.609	31,50	25
20	20.841.610	35,00	25
22	20.841.611	38,50	25
24	20.841.612	42,00	25
26	20.841.613	45,50	25
28	20.841.614	49,00	25
30	20.841.615	52,50	25
32	20.841.616	56,00	25
34	20.841.617	59,50	25
36	20.841.618	63,00	25
38	20.841.619	66,50	25
40	20.841.620	70,00	25
42	20.841.621	73,50	25
44	20.841.622	77,00	10
46	20.841.623	80,50	10
48	20.841.624	84,00	10

### General Information

Pitch	3,5 mm
No. of poles	4 - 48
Usable with	all plug connectors of series 110
Additional Information	For versions with connecting flanges see 110-P-225

### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		
Hole in PCB	ø 1,3 mm		

### Material

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

### Approvals

	Current	Voltage	Group	AWG	Nm
	8	300	B, D		
	8	300	B		

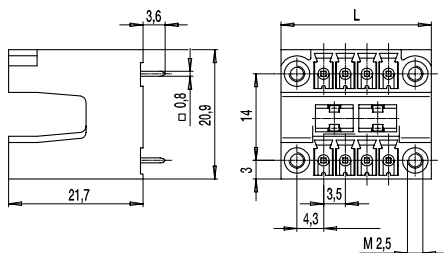
### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-3,50
- Pitch of 7 mm for larger clearance and creepage distances
- Coding elements 120-K
- With flat side walls

## Pin strip

### 110-P-225

Two-tier version, plug-in direction vertical to PCB, with connecting flanges



Pin strips of series 110 offer remarkable connection data (1,5 mm² / 160 V-III-3 / 8 A) for their small dimensions. The compact housings of these two-tier versions with a pitch of 3,5 mm are available with 4 to 44 poles. The plug direction of the 110-P-225 is vertical to the PC board. Laterally attached connecting flanges with thread inserts expand the area of application of this version. The corresponding pin strips in connecting flange design feature lateral thread inserts which offer vibration-proof screw-connection of the plug connector and also prevent unintended loosening. The pin strips feature slots to accommodate the coding elements 120-K.

#### Part Numbers

No. of poles	110-P-225	Length	Pcs
4	20.841.652	17,30	100
6	20.841.653	20,80	100
8	20.841.654	24,30	50
10	20.841.655	27,80	50
12	20.841.656	31,30	50
14	20.841.657	34,80	50
16	20.841.658	38,30	25
18	20.841.659	41,80	25
20	20.841.660	45,30	25
22	20.841.661	48,80	25
24	20.841.662	52,30	25
26	20.841.663	55,80	25
28	20.841.664	59,30	25
30	20.841.665	62,80	25
32	20.841.666	66,30	25
34	20.841.667	69,80	25
36	20.841.668	73,30	25
38	20.841.669	76,80	25
40	20.841.670	80,30	25
42	20.841.671	83,80	25
44	20.841.672	87,30	10

#### General Information

Pitch	3,5 mm
No. of poles	4 - 44
Usable with	all plug connectors of series 110 with connecting flanges

#### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		
Hole in PCB	ø 1,3 mm		

#### Material

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

#### Approvals

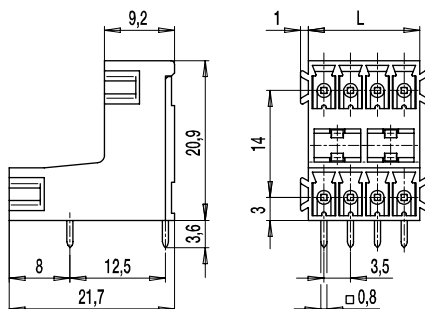
	Current	Voltage	Group	AWG	Nm
	8	300	B, D		
	8	300	B		

#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-3,50
- Pitch of 7 mm for larger clearance and creepage distances
- Coding elements 120-K

## Pin strip 110-S-211

Staggered two-tier version, plug-in direction parallel to PCB, with false insertion prevention



Pin strips of series 110 offer remarkable connection data (1,5 mm² / 160 V-III-3 / 8 A) for their small dimensions. The compact housings of these two-tier versions with a pitch of 3,5 mm are available with 4 to 48 poles. The plug direction of the 110-S-211 is parallel to the PC board. The pin strips feature slots to accommodate the coding elements 120-K. Laterally attached dovetail expansions reliably prevent false insertion.

### Part Numbers

No. of poles	110-S-211	Length	Pcs
4	10.841.402	7,00	100
6	10.841.403	10,50	100
8	10.841.404	14,00	50
10	10.841.405	17,50	50
12	10.841.406	21,00	50
14	10.841.407	24,50	50
16	10.841.408	28,00	25
18	10.841.409	31,50	25
20	10.841.410	35,00	25
22	10.841.411	38,50	25
24	10.841.412	42,00	25
26	10.841.413	45,50	25
28	10.841.414	49,00	25
30	10.841.415	52,50	25
32	10.841.416	56,00	25
34	10.841.417	59,50	25
36	10.841.418	63,00	25
38	10.841.419	66,50	25
40	10.841.420	70,00	25
42	10.841.421	73,50	25
44	10.841.422	77,00	10
46	10.841.423	80,50	10
48	10.841.424	84,00	10

### General Information

Pitch	3,5 mm
No. of poles	4 - 48
Usable with	all plug connectors of series 110
Additional Information	For versions with connecting flanges see 110-S-215

### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		
Hole in PCB	ø 1,3 mm		

### Material

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

### Approvals

	Current	Voltage	Group	AWG	Nm
	8	300	B, D		
	8	300	B		

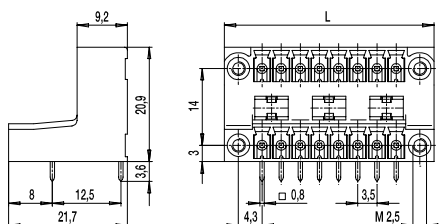
### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-3,50
- Pitch of 7 mm for larger clearance and creepage distances
- Coding elements 120-K

## Pin strip

### 110-S-215

Staggered two-tier version, plug-in direction parallel to PCB, with connecting flanges



Pin strips of series 110 offer remarkable connection data (1,5 mm² / 160 V-III-3 / 8 A) for their small dimensions. The compact housings of these two-tier versions with a pitch of 3,5 mm are available with 4 to 44 poles. The plug direction of the 110-S-215 is parallel to the PC board. Laterally attached connecting flanges with thread inserts expand the area of application of this version. The corresponding pin strips in connecting flange design feature lateral thread inserts which offer vibration-proof screw-connection of the plug connector and also prevent unintended loosening. The pin strips feature slots to accommodate the coding elements 120-K.

#### Part Numbers

No. of poles	110-S-215	Length	Pcs
4	10.841.452	17,30	100
6	10.841.453	20,80	10
8	10.841.454	24,30	50
10	10.841.455	27,80	50
12	10.841.456	31,30	50
14	10.841.457	34,80	50
16	10.841.458	38,30	25
18	10.841.459	41,80	25
20	10.841.460	45,30	25
22	10.841.461	48,80	25
24	10.841.462	52,30	25
26	10.841.463	55,80	25
28	10.841.464	59,30	25
30	10.841.465	62,80	25
32	10.841.466	66,30	25
34	10.841.467	69,80	25
36	10.841.468	73,30	25
38	10.841.469	76,80	25
40	10.841.470	80,30	25
42	10.841.471	83,80	25
44	10.841.472	87,30	10

#### General Information

Pitch	3,5 mm
No. of poles	4 - 44
Usable with	all plug connectors of series 110 with connecting flanges

#### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		
Hole in PCB	ø 1,3 mm		

#### Material

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

#### Approvals

	Current	Voltage	Group	AWG	Nm
	8	300	B, D		
	8	300	B		

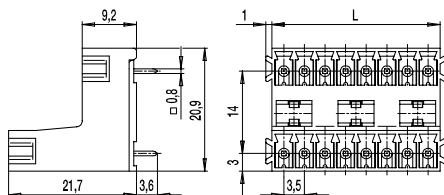
#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-3,50
- Pitch of 7 mm for larger clearance and creepage distances
- Coding elements 120-K
- With PCB location pin



## Pin strip 110-S-221

Staggered two-tier version, plug-in direction vertical to PCB, with false insertion prevention



Pin strips of series 110 offer remarkable connection data (1,5 mm² / 160 V-III-3 / 8 A) for their small dimensions. The compact housings of these two-tier versions with a pitch of 3,5 mm are available with 4 to 48 poles. The plug direction of the 110-S-221 is vertical to the PC board. The pin strips feature slots to accommodate the coding elements 120-K. Laterally attached dovetail expansions reliably prevent false insertion.

### Part Numbers

No. of poles	110-S-221	Length	Pcs
4	20.841.402	7,00	100
6	20.841.403	10,50	100
8	20.841.404	14,00	50
10	20.841.405	17,50	50
12	20.841.406	21,00	50
14	20.841.407	24,50	50
16	20.841.408	28,00	25
18	20.841.409	31,50	25
20	20.841.410	35,00	25
22	20.841.411	38,50	25
24	20.841.412	42,00	25
26	20.841.413	45,50	25
28	20.841.414	49,00	25
30	20.841.415	52,50	25
32	20.841.416	56,00	25
34	20.841.417	59,50	25
36	20.841.418	63,00	25
38	20.841.419	66,50	25
40	20.841.420	70,00	25
42	20.841.421	73,50	25
44	20.841.422	77,00	10
46	20.841.423	80,50	10
48	20.841.424	84,00	10

### General Information

Pitch	3,5 mm
No. of poles	4 - 48
Usable with	all plug connectors of series 110
Additional Information	For versions with connecting flanges see 110-S-225

### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		
Hole in PCB	ø 1,3 mm		

### Material

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

### Approvals

	Current	Voltage	Group	AWG	Nm
	8	300	B, D		
	8	300	B		

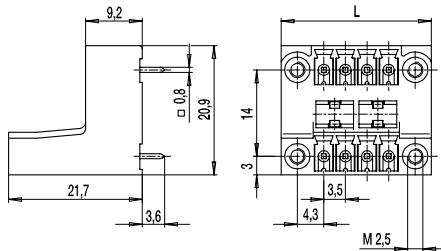
### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-3,50
- Pitch of 7 mm for larger clearance and creepage distances
- Coding elements 120-K

## Pin strip

### 110-S-225

Staggered two-tier version, plug-in direction vertical to PCB, with connecting flanges



Pin strips of series 110 offer remarkable connection data (1,5 mm² / 160 V-III-3 / 8 A) for their small dimensions. The compact housings of these two-tier versions with a pitch of 3,5 mm are available with 4 to 44 poles. The plug direction of the 110-S-225 is vertical to the PC board. Laterally attached connecting flanges with thread inserts expand the area of application of this version. The corresponding pin strips in connecting flange design feature lateral thread inserts which offer vibration-proof screw-connection of the plug connector and also prevent unintended loosening. The pin strips feature slots to accommodate the coding elements 120-K.

#### Part Numbers

No. of poles	110-S-225	Length	Pcs
4	20.841.452	17,30	100
6	20.841.453	20,80	10
8	20.841.454	24,30	50
10	20.841.455	27,80	50
12	20.841.456	31,30	50
14	20.841.457	34,80	50
16	20.841.458	38,30	25
18	20.841.459	41,80	25
20	20.841.460	45,30	25
22	20.841.461	48,80	25
24	20.841.462	52,30	25
26	20.841.463	55,80	25
28	20.841.464	59,30	25
30	20.841.465	62,80	25
32	20.841.466	66,30	25
34	20.841.467	69,80	25
36	20.841.468	73,30	25
38	20.841.469	76,80	25
40	20.841.470	80,30	25
42	20.841.471	83,80	25
44	20.841.472	87,30	10

#### General Information

Pitch	3,5 mm
No. of poles	4 - 44
Usable with	all plug connectors of series 110 with connecting flanges

#### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		
Hole in PCB	ø 1,3 mm		

#### Material

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

#### Approvals

	Current	Voltage	Group	AWG	Nm
	8	300	B, D		
	8	300	B		

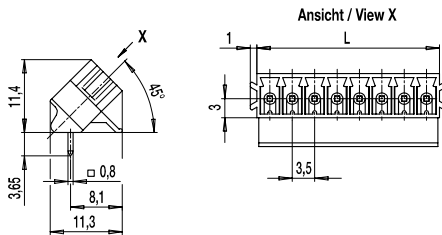
#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-3,50
- Pitch of 7 mm for larger clearance and creepage distances
- Coding elements 120-K

## Pin strip

### 110-V-211

Plug-in direction diagonal 45° to PCB, with false insertion prevention



Pin strips of series 110 offer remarkable connection data (1,5 mm² / 160 V-III-3 / 8 A) for their small dimensions.

In combination with the corresponding plug connectors they guarantee reliable wire connection for all wire types. The compact housings with a pitch of 3.5 mm are available with 2 to 22 poles. The plug direction of the 110-V-211 is diagonal 45° to the PC board.

The pin strips feature slots to accommodate the coding elements 120-K. Laterally attached dovetail expansions reliably prevent false insertion.

#### Part Numbers

No. of poles	110-V-211	Length	Pcs
2	10.841.202	7,00	200
3	10.841.203	10,50	200
4	10.841.204	14,00	100
5	10.841.205	17,50	100
6	10.841.206	21,00	100
7	10.841.207	24,50	50
8	10.841.208	28,00	50
9	10.841.209	31,50	50
10	10.841.210	35,00	50
11	10.841.211	38,50	50
12	10.841.212	42,00	50
13	10.841.213	45,50	50
14	10.841.214	49,00	50
15	10.841.215	52,50	50
16	10.841.216	56,00	50
17	10.841.217	59,50	50
18	10.841.218	63,00	50
19	10.841.219	66,50	50
20	10.841.220	70,00	50
21	10.841.221	73,50	50
22	10.841.222	77,00	50
23	10.841.223	80,50	50
24	10.841.224	84,00	50

#### General Information

Pitch	3,5 mm
No. of poles	2 - 24
Usable with	all plug connectors of series 110
Additional Information	For versions with connecting flanges see 110-V-215

#### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		
Hole in PCB	ø 1,3 mm		

#### Material

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

#### Approvals

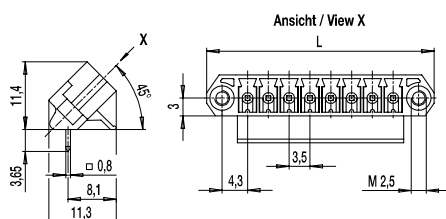
	Current	Voltage	Group	AWG	Nm
	8	300	B, D		
	8	300	B		

#### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-3,50
- Pitch of 7 mm for larger clearance and creepage distances
- Coding elements 120-K
- With flat side walls

## Pin strip 110-V-215

Plug-in direction diagonal 45° to PCB, with connecting flanges



Pin strips of series 110 offer remarkable connection data (1,5 mm² / 160 V-III-3 / 8 A) for their small dimensions.

In combination with the corresponding plug connectors they guarantee reliable wire connection for all wire types. The compact housings with a pitch of 3.5 mm are available with 2 to 24 poles. The plug direction of the 110-V-215 is diagonal 45° to the PC board.

Laterally attached connecting flanges with thread inserts expand the area of application of this variant. The corresponding pin strips in connecting flange design feature lateral thread inserts which offer vibration-proof screw-connection of the plug connector and also prevent unintended loosening.

The pin strips feature slots to accommodate the coding elements 120-K.

### Part Numbers

No. of poles	110-V-215	Length	Pcs
2	10.841.252	17,30	100
3	10.841.253	20,80	100
4	10.841.254	24,30	100
5	10.841.255	27,80	50
6	10.841.256	31,30	50
7	10.841.257	34,80	50
8	10.841.258	38,30	50
9	10.841.259	41,80	50
10	10.841.260	45,30	50
11	10.841.261	48,80	50
12	10.841.262	52,30	50
13	10.841.263	55,80	50
14	10.841.264	59,30	50
15	10.841.265	62,80	50
16	10.841.266	66,30	50
17	10.841.267	69,80	50
18	10.841.268	73,30	50
19	10.841.269	76,80	50
20	10.841.270	80,30	50
21	10.841.271	83,80	50
22	10.841.272	87,30	50

### General Information

Pitch	3,5 mm
No. of poles	2 - 22
Usable with	all plug connectors of series 110 with connecting flanges

### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	8 A		
Hole in PCB	ø 1,3 mm		

### Material

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

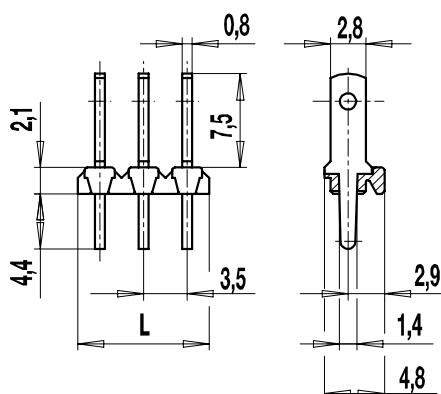
### Approvals

	Current	Voltage	Group	AWG	Nm
	8	300	B, D		
	8	300	B		

### Options / Accessories

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-3,50
- Pitch of 7 mm for larger clearance and creepage distances
- Coding elements 120-K

## Tab connector 931-FST



The tab connector 931-FST with tabs 2,8 x 0,8 mm can be used both with plug connector 930-FL or 938-FLDS and to connect individual wires with tab receptacles B 2.8-DIN 46 247 whose crimped points must be insulated. The tab connector is inserted in the plug connector 930-FL in direction of the wire entrance, which minimizes the space requirements on the PC board compared to the combination with pin strip 931-SLS or 931-SLR. The receptacles are not parts of our production program.

### Part Numbers

No. of poles	931-FST	Length	Pcs
2	12.893.705	7,00	1000
3	13.893.705	10,50	1000
4	14.893.705	14,00	500
5	15.893.705	17,50	500
6	16.893.705	21,00	500
7	17.893.705	24,50	500
8	18.893.705	28,00	250
9	19.893.705	31,50	200
10	20.893.705	35,00	200
11	21.893.705	38,50	200
12	22.893.705	42,00	250
13	23.893.705	45,50	200
14	24.893.705	49,00	200
15	25.893.705	52,50	200
16	26.893.705	56,00	200

### General Information

Pitch	3,5 mm
No. of poles	2 - 16
Usable with	plug connector 930-FL; 938-FLDS; receptacle B 2,8

### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	250 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 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 1,8 mm		
Other specifications	Rated voltage with insulated receptacles		

### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	CTI 250
Insulating Group	IIIa
Temperature Range	-40°C up to 100°C
Solder pin	1,4 x 0,8 mm; tin plated brass
Tab	2,8 x 0,8 mm; tin plated brass

### Approvals

	Current	Voltage	Group	AWG	Nm
	6	300	B		
	6	300	B		

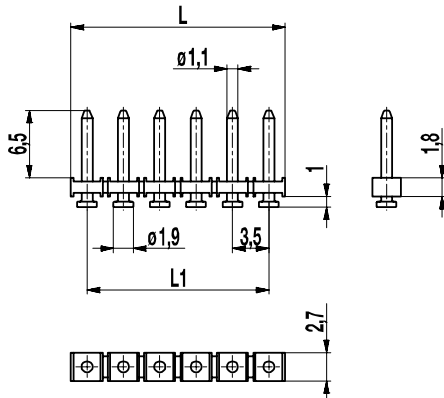
### Options / Accessories

- Pitch of 7 mm for larger clearance and creepage distances

## Pin strip for SMD

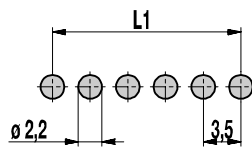
### 931-SLR-SMD-1,1

Plug-in area  $\varnothing$  1,1 mm



$L1 = (\text{No. of poles} - 1) \times \text{pitch}$

## PCB Layout



Solder paste thickness: 0,15 - 0,2 mm

931-SLR-SMD is a pin strip with a pitch of 3,5 mm for the application in a reflow soldering process. Contrary to the pin strips 931-SLR-THR and 931-SLR-THR-1,1, for which holes in the PCB are necessary, the SMD types of WECO base on true surface assembly. Soldering expands at the end of the pins guarantee optimal retention force on the printed circuit board.

The pin strip 931-SLR-SMD-1,1, comes with a constant pin  $\varnothing$  of 1,1 mm at the plug-in area.

Just like all THR versions of WECO, also the housings of the SMD series are made out of high temperature resistant plastic material and exhibit a very high CTI value.

For the automatic assembling all pin strips of this series are packed in Tape-on-Reel and equipped with high temperature resistant Pick Caps, which can easily be removed after the soldering process.

## Part Numbers

No. of poles	931-SLR-SMD-1,1	Length	Pcs
2	12.893.732	6,50	1000
3	13.893.732	10,00	1000
4	14.893.732	13,50	500
5	15.893.732	17,00	500
6	16.893.732	20,50	500
8	18.893.732	27,50	250
10	20.893.732	34,50	200
12	22.893.732	41,50	200
16	26.893.732	55,50	200

further number of poles on request

## General Information

Pitch	3,5 mm
No. of poles	2 - 16
Usable with	plug connector 930-FL(-DS)
Additional Information	Also, please take into consideration the pin strips 931-SLS for wave soldering and series 931-SLR-THR for Through-Hole-Reflow.

## Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	6 A		
Soldering process	Reflow solder		

## Material

Moulding	PA HT, black, V-0
Comparative Tracking Index	CTI $\geq$ 600
Insulating Group	I
Temperature Range	-40°C up to 150°C; reflow solder temperature (Peak) max. 260°C (15-30 s)
Solder pin	$\varnothing$ 1,1 mm (plug-in area); tin plated brass

## Approvals

	Current	Voltage	Group	AWG	Nm
	6	150	B		
	6	300	D		
	6	150	B		
	6	300	D		

## Options / Accessories

- Other plug pin lengths on request
- Other solder pin surfaces on request

## Part Numbers: Tape-on-Reel

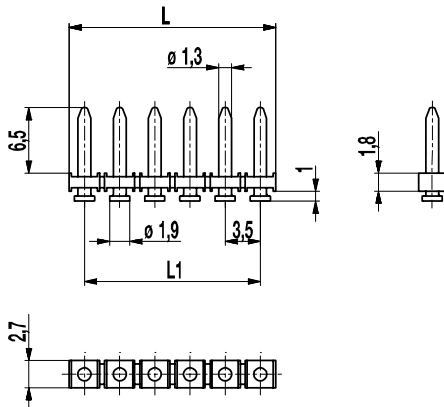
No. of poles	931-SLR-SMD-1,1	Tape Width	Tape Height	Pcs
3	13.893.732.A00	32 mm	14,6 mm	500
4	14.893.732.A00	32 mm	14,6 mm	500
5	15.893.732.A00	32 mm	14,6 mm	500
6	16.893.732.A00	56 mm	14,6 mm	500
7	17.893.732.A00	56 mm	14,6 mm	500
8	18.893.732.A00	56 mm	14,6 mm	500
9	19.893.732.A00	56 mm	14,6 mm	500
10	20.893.732.A00	56 mm	14,6 mm	500
11	21.893.732.A00	56 mm	14,6 mm	500
12	22.893.732.A00	72 mm	14,9 mm	500
13	23.893.732.A00	72 mm	14,9 mm	500
14	24.893.732.A00	72 mm	14,9 mm	500

further number of poles on request

## Pin strip for SMD

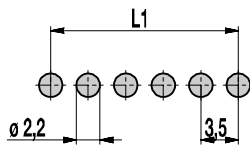
### 931-SLR-SMD-1,3

Plug-in area ø 1,3 mm



$$L1 = (\text{No. of poles} - 1) \times \text{pitch}$$

## PCB Layout



Solder paste thickness: 0,15 - 0,2 mm

931-SLR-SMD is a pin strip with a pitch of 3,5 mm for the application in a reflow soldering process. Contrary to the pin strips 931-SLR-THR and 931-SLR-THR-1,3, for which holes in the PCB are necessary, the SMD types of WECO base on true surface assembly. Soldering expands at the end of the pins guarantee optimal retention force on the printed circuit board.

The pin strip 931-SLR-SMD-1,3, comes with a constant pin ø of 1,3 mm at the plug-in area.

Just like all THR versions of WECO, also the housings of the SMD series are made out of high temperature resistant plastic material and exhibit a very high CTI value.

For the automatic assembling all pin strips of this series are packed in Tape-on-Reel and equipped with high temperature resistant Pick Caps, which can easily be removed after the soldering process.

## Part Numbers

No. of poles	931-SLR-SMD-1,3	Length	Pcs
2	12.893.731	6,50	1000
3	13.893.731	10,00	1000
4	14.893.731	13,50	500
6	16.893.731	20,50	500
8	18.893.731	27,50	250
10	20.893.731	34,50	200
12	22.893.731	41,50	200
16	26.893.731	55,50	200

further number of poles on request

## General Information

Pitch	3,5 mm
No. of poles	2 - 16
Usable with	plug connector 938-FLDS
Additional Information	Also, please take into consideration the pin strips 931-SLS for wave soldering and series 931-SLR-THR for Through-Hole-Reflow.

## Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	6 A		
Soldering process	Reflow solder		

## Material

Moulding	PA HT, black, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 150°C; reflow solder temperature (Peak) max. 260°C (15-30 s)
Solder pin	ø 1,3 mm (plug-in area); tin plated brass

## Approvals

	Current	Voltage	Group	AWG	Nm
UL®	6	150	B		
	6	300	D		
CSA®	6	150	B		
	6	300	D		

## Options / Accessories

- Other plug pin lengths on request
- Other solder pin surfaces on request

## Part Numbers: Tape-on-Reel

No. of poles	931-SLR-SMD-1,3	Tape Width	Tape Height	Pcs
3	13.893.731.A00	32 mm	14,6 mm	500
4	14.893.731.A00	32 mm	14,6 mm	500
5	15.893.731.A00	32 mm	14,6 mm	500
6	16.893.731.A00	56 mm	14,6 mm	500
7	17.893.731.A00	56 mm	14,6 mm	500
8	18.893.731.A00	56 mm	14,6 mm	500
9	19.893.731.A00	56 mm	14,6 mm	500
10	20.893.731.A00	56 mm	14,6 mm	500
11	21.893.731.A00	56 mm	14,6 mm	500
12	22.893.731.A00	72 mm	14,9 mm	500
13	23.893.731.A00	72 mm	14,9 mm	500
14	24.893.731.A00	72 mm	14,9 mm	500

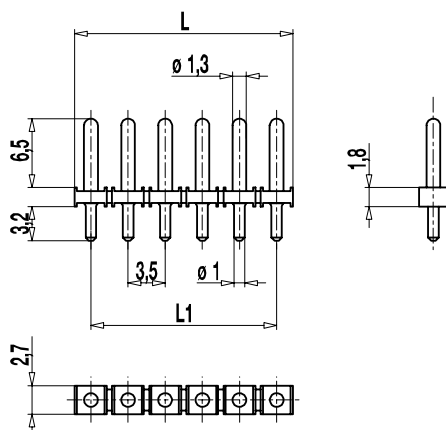
further number of poles on request



## Pin strip for THR

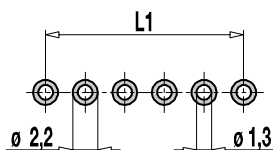
### 931-SLR-THR

Soldering area  $\varnothing$  1 mm; plug-in area  $\varnothing$  1,3 mm



$$L1 = (\text{No. of poles} - 1) \times \text{pitch}$$

### PCB Layout



Solder paste thickness: 0,15 - 0,2 mm  
Solder pad diameter:  $\varnothing$  2,2 mm

931-SLR-THR is a pin strip with a pitch of 3,5 mm for the application in a reflow soldering process. The high temperature resistant plastic housing has a very high CTI value and is equipped with spacers, so-called stand-offs, which ensure a better hot-air circulation during the reflow soldering process in the convection oven. Beyond this, they assure an improved optical control of the solder joints.

The pin strips of the series 931-SLR-THR comes with a stepped pin,  $\varnothing$  1,3 mm in the plug-in area and  $\varnothing$  1 mm in the soldering area.

For the automatic assembling all pin strips of this series are packed in Tape-on-Reel and equipped with high temperature resistant Pick Caps, which can easily be removed after the soldering process.

### Part Numbers

No. of poles	931-SLR-THR	Length	Pcs
2	12.893.721	6,50	1000
3	13.893.721	10,00	1000
4	14.893.721	13,50	500
5	15.893.721	17,00	500
6	16.893.721	20,50	500
8	18.893.721	27,50	250
10	20.893.721	34,50	200
12	22.893.721	41,50	200
16	26.893.721	55,50	200

further number of poles on request

### General Information

Pitch	3,5 mm
No. of poles	2 - 16
Usable with	plug connector 938-FLDS
Additional Information	Also, please take into consideration the pin strips 931-SLR-SMD-1,3 in genuine surface mount technology.

### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	6 A		
Soldering process	Wave solder & reflow solder		
Hole in PCB	$\varnothing$ 1,3 mm		
PCB thickness	Wave solder max. 1,6 mm; reflow solder 1,6 - 3,2 mm		

### Material

Moulding	PA HT, black, V-0
Comparative Tracking Index	CTI $\geq$ 600
Insulating Group	I
Temperature Range	-40°C up to 150°C; reflow solder temperature (Peak) max. 260°C (15-30 s)
Solder pin	$\varnothing$ 1,3 mm (plug-in area) / $\varnothing$ 1,0 mm (soldering area); tin plated brass

### Approvals

	Current	Voltage	Group	AWG	Nm
	6	150	B		
	6	300	D		
	6	150	B		
	6	300	D		

### Options / Accessories

- Other plug pin lengths on request
- Other solder pin surfaces on request

### Part Numbers: Tape-on-Reel

No. of poles	931-SLR-THR	Tape Width	Tape Height	Pcs
3	13.893.721.A00	32 mm	14,6 mm	500
4	14.893.721.A00	32 mm	14,6 mm	500
5	15.893.721.A00	32 mm	14,6 mm	500
6	16.893.721.A00	56 mm	14,6 mm	500
7	17.893.721.A00	56 mm	14,6 mm	500
8	18.893.721.A00	56 mm	14,6 mm	500
9	19.893.721.A00	56 mm	14,6 mm	500
10	20.893.721.A00	56 mm	14,6 mm	500
11	21.893.721.A00	56 mm	14,6 mm	500
12	22.893.721.A00	72 mm	14,9 mm	500
13	23.893.721.A00	72 mm	14,9 mm	500
14	24.893.721.A00	72 mm	14,9 mm	500

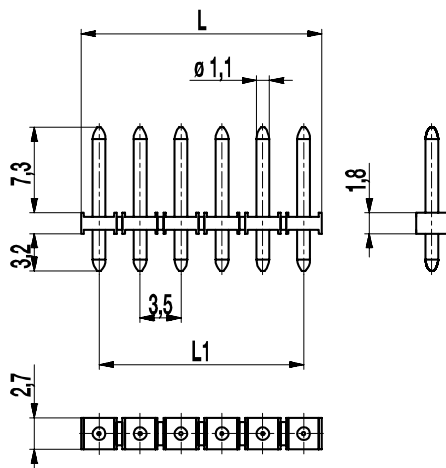
further number of poles on request



## Pin strip for THR

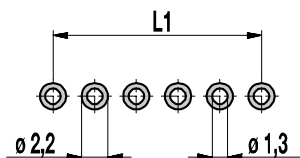
### 931-SLR-THR-1,1

Soldering/plug-in area  $\varnothing$  1,1 mm



$$L1 = (\text{No. of poles} - 1) \times \text{pitch}$$

### PCB Layout



Solder paste thickness: 0,15 - 0,2 mm  
Solder pad diameter:  $\varnothing$  2,2 mm

931-SLR-THR-1,1 is a pin strip with a pitch of 3,5 mm for the application in a reflow soldering process. The high temperature resistant plastic housing has a very high CTI value and is equipped with spacers, so-called "Stand-offs", which ensure a better hot-air circulation during the reflow soldering process in the convection oven. Beyond this, they assure an improved optical control of the solder joints. The pin strips of the series 931-SLR-THR-1,1 comes with a constant pin  $\varnothing$  of 1,1 mm.

For the automatic assembling process, all pin strip versions are packed Tape-on-Reel and are equipped with high temperature resistant Pick Caps, which can comfortably be removed after the soldering process.

### Part Numbers

No. of poles	931-SLR-THR-1,1	Length	Pcs
2	32.893.727	6,50	1000
3	33.893.727	10,00	1000
4	34.893.727	13,50	500
5	35.893.727	17,00	500
6	36.893.727	20,50	500
8	38.893.727	27,50	250
10	40.893.727	34,50	200
12	42.893.727	41,50	200
16	46.893.727	55,50	200

further number of poles on request

### General Information

Pitch	3,5 mm
No. of poles	2 - 16
Usable with	plug connector 930-FL(DS)
Additional Information	Also, please take into consideration the pin strips 931-SLR-THR, 931-SLR-THR-1,3 and 931-SLR-SMD-1,3 in genuine surface mount technology.

### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	6 A		
Soldering process	Wave solder & reflow solder		
Hole in PCB	$\varnothing$ 1,3 mm		
PCB thickness	Wave solder max. 1,6 mm; reflow solder 1,6 - 3,2 mm		

### Material

Moulding	PA HT, black, V-0
Comparative Tracking Index	CTI $\geq$ 600
Insulating Group	I
Temperature Range	-40°C up to 150°C; reflow solder temperature (Peak) max. 260°C (15-30 s)
Solder pin	$\varnothing$ 1,1 mm; tin plated brass

### Approvals

	Current	Voltage	Group	AWG	Nm
	6	300	B, D		
	6	300	B, D		

### Options / Accessories

- Other plug pin lengths on request
- Other solder pin surfaces on request

### Part Numbers: Tape-on-Reel

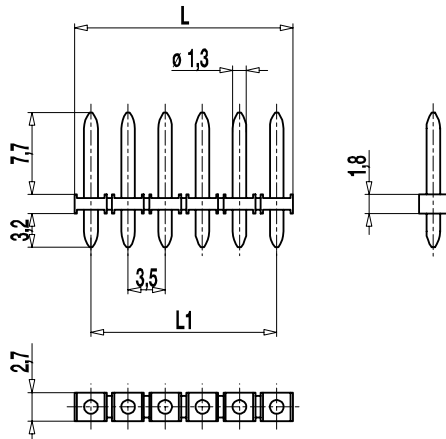
No. of poles	931-SLR-THR-1,1	Tape Width	Tape Height	Pcs
3	33.893.727.A00	32 mm	14,6 mm	500
4	34.893.727.A00	32 mm	14,6 mm	500
5	35.893.727.A00	32 mm	14,6 mm	500
6	36.893.727.A00	56 mm	14,6 mm	500
7	37.893.727.A00	56 mm	14,6 mm	500
8	38.893.727.A00	56 mm	14,6 mm	500
9	39.893.727.A00	56 mm	14,6 mm	500
10	40.893.727.A00	56 mm	14,6 mm	500
11	41.893.727.A00	56 mm	14,6 mm	500
12	42.893.727.A00	72 mm	14,9 mm	500
13	43.893.727.A00	72 mm	14,9 mm	500
14	44.893.727.A00	72 mm	14,9 mm	500

further number of poles on request

## Pin strip for THR

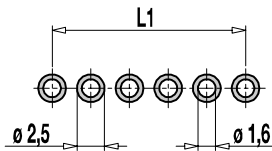
### 931-SLR-THR-1,3

Soldering/plug-in area  $\varnothing$  1,3 mm



$$L1 = (\text{No. of poles} - 1) \times \text{pitch}$$

## PCB Layout



Solder paste thickness: 0,15 - 0,2 mm  
Solder pad diameter:  $\varnothing$  2,5 mm

931-SLR-THR-1,3 is a pin strip with a pitch of 3,5 mm for the application in a reflow soldering process. The high temperature resistant plastic housing has a very high CTI value and is equipped with spacers, so-called "Stand-offs", which ensure a better hot-air circulation during the reflow soldering process in the convection oven. Beyond this, they assure an improved optical control of the solder joints.

The pin strips of the series 931-SLR-THR-1,3 comes with a constant pin  $\varnothing$  of 1,3 mm.

For the automatic assembling process, all pin strip versions are packed Tape-on-Reel and are equipped with high temperature resistant Pick Caps, which can comfortably be removed after the soldering process.

## Part Numbers

No. of poles	931-SLR-THR-1,3	Length	Pcs
2	12.893.726	6,50	1000
3	13.893.726	10,00	1000
4	14.893.726	13,50	500
5	15.893.726	17,00	500
6	16.893.726	20,50	500
8	18.893.726	27,50	250
10	20.893.726	34,50	200
12	22.893.726	41,50	200
16	26.893.726	55,50	200

further number of poles on request

## General Information

Pitch	3,5 mm
No. of poles	2 - 16
Usable with	plug connector 938-FLDS
Additional Information	Also, please take into consideration the pin strips 931-SLR-SMD-1,3 in genuine surface mount technology.

## Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	160 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	6 A		
Soldering process	Wave solder & reflow solder		
Hole in PCB	$\varnothing$ 1,6 mm		
PCB thickness	Wave solder max. 1,6 mm; reflow solder 1,6 - 3,2 mm		

## Material

Moulding	PA HT, black, V-0
Comparative Tracking Index	CTI $\geq$ 600
Insulating Group	I
Temperature Range	-40°C up to 150°C; reflow solder temperature (Peak) max. 260°C (15-30 s)
Solder pin	$\varnothing$ 1,3 mm; tin plated brass

## Approvals

	Current	Voltage	Group	AWG	Nm
	6	150	B		
	6	300	D		
	6	150	B		
	6	300	D		

## Options / Accessories

- Other plug pin lengths on request
- Other solder pin surfaces on request

## Part Numbers: Tape-on-Reel

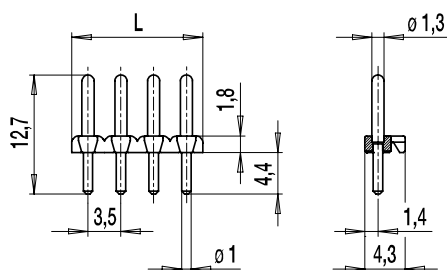
No. of poles	931-SLR-THR-1,3	Tape Width	Tape Height	Pcs
3	13.893.726.A00	32 mm	14,6 mm	500
4	14.893.726.A00	32 mm	14,6 mm	500
5	15.893.726.A00	32 mm	14,6 mm	500
6	16.893.726.A00	56 mm	14,6 mm	500
7	17.893.726.A00	56 mm	14,6 mm	500
8	18.893.726.A00	56 mm	14,6 mm	500
9	19.893.726.A00	56 mm	14,6 mm	500
10	20.893.726.A00	56 mm	14,6 mm	500
11	21.893.726.A00	56 mm	14,6 mm	500
12	22.893.726.A00	72 mm	14,9 mm	500
13	23.893.726.A00	72 mm	14,9 mm	500
14	24.893.726.A00	72 mm	14,9 mm	500

further number of poles on request

## Pin strip

### 931-SLS

Soldering area  $\varnothing$  1 mm; plug-in area  $\varnothing$  1,3 mm



The pin strip 931-SLS features a pin diameter of 1,3 mm in the plug-in area and 1,0 mm in soldering area. When using with plug connector 938-FLDS, the housing extensions prevent incorrect plugging.

#### Part Numbers

No. of poles	931-SLS	Length	Pcs
2	12.893.701	7,00	1000
3	13.893.701	10,50	1000
4	14.893.701	14,00	500
5	15.893.701	17,50	500
6	16.893.701	21,00	500
7	17.893.701	24,50	500
8	18.893.701	28,00	250
9	19.893.701	31,50	200
10	20.893.701	35,00	200
11	21.893.701	38,50	200
12	22.893.701	42,00	200
13	23.893.701	45,50	200
14	24.893.701	49,00	200
15	25.893.701	52,50	200
16	26.893.701	56,00	200

#### General Information

Pitch	3,5 mm
No. of poles	2 - 16
Usable with	plug connector 938-FLDS

#### Technical Data

Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	100 V	160 V	200 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 V acc. to EN 60998-1		
Rated Current	6 A		
Hole in PCB	$\varnothing$ 1,3 mm		

#### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	CTI 250
Insulating Group	IIIa
Temperature Range	-40°C up to 100°C
Solder pin	$\varnothing$ 1,3 mm (plug-in-area); $\varnothing$ 1,0 mm (soldering area); tin plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm
	6	150	B		
	6	150	B		

#### Options / Accessories

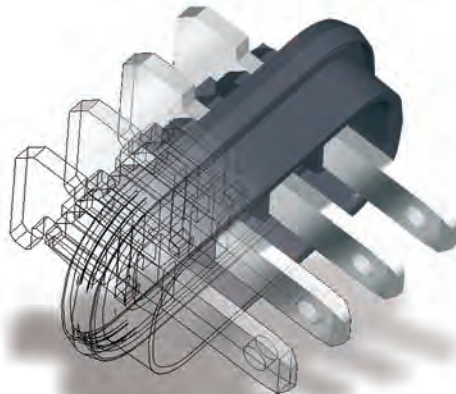
- Consecutive numbering
- Pitch of 7 mm for larger clearance and creepage distances
- Other pin length on request
- Single solder pins LST-1,3 x 6,5. ATTENTION: Reduced clearance and creepage distance due to pin form!

## ■ Looking for a Customer Designed Solution?



„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.



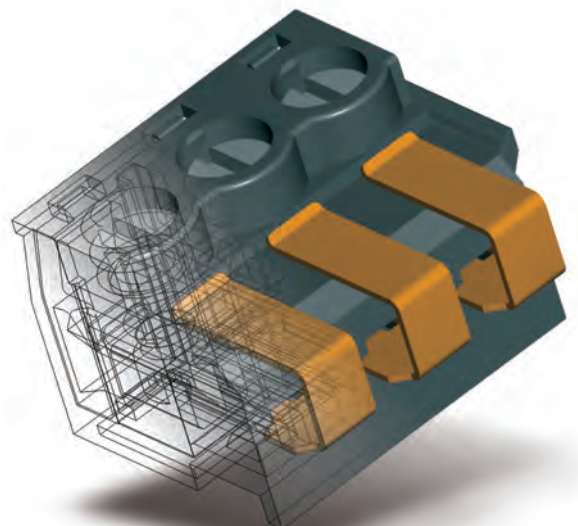
„Sealed“

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

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.

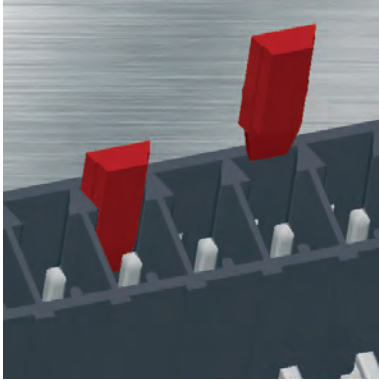


„Well Contacted“

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

### ■ Coding Elements



This coding element is applicable for the Conecta Series of 110, 120, 121 and 122.

For coding, all pin strips and plug connectors of this series are equipped with a trapezoidal slot per pole into which the coding elements can easily be inserted.

With this, simple solution error free plugging is ensured.

In the standard version the coding elements have a bright red colour, making them clearly visible in mated condition. Alternatively, they are also available in light grey. 12 of each coding element are related to a strip.

The coding elements are not reflow solderable and for SMD & THR products they can only be used after the soldering process.

The 110-AP coding elements are white and come as an endless chain for self cutting.

Part number	Type	Pcs
20.496.025	120-K/12 KODIEREL.	120
17.496.025	120-K/12 KODIEREL. LIGHT GREY	120
10.496.028	110-AP KODIERPLAETTCHEN	100

### ■ 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	Lenght (L)	Width (a)	Pcs
24.499.013	BST-3,50/24	3,50	84	3	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

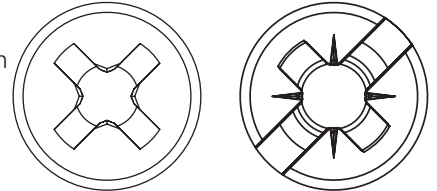


Our standard products are fitted with slotted screws.

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 2000 m 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	2	3
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>	Minimum creepage distances								
	Printed wiring material			Pollution degree					
				1			2		
				All material groups			All material groups except IIIb		
V	mm	mm	mm	I	II	III	I	II	III <sup>2)</sup>
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

## 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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110-AP-211	27	930-THR	13
110-F-111	25		
110-F-115	26	931	14
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110-M-211-SMD	33	931-SLR-SMD-1,3	58
110-M-211-THR	34	931-SLR-THR	59
110-M-215	35	931-SLR-THR-1,1	60
110-M-215-THR	36	931-SLR-THR-1,3	61
110-M-216-SMD	37	931-SLS	62
110-M-221	38	931-T	15
110-M-221-SMD	39		
110-M-221-THR	40	934	16
110-M-225	41	934-THR-DS	17
110-M-225-THR	42		
110-M-226-SMD	43	938	18
110-M-241(-R)	44,45	938-FLDS	30
110-M-245(-R)	45	938-T	19
110-M-345(-R)	45		
110-M-445(-R)	45	BST-3,50	64
110-P-211	46		
110-P-215	47		
110-P-221	48		
110-P-225	49		
110-S-211	50		
110-S-215	51		
110-S-221	52		
110-S-225	53		
110-V-211	54		
110-V-215	55		
120-K	64		
210-A-111	6		
210-A-121	7		
210-A-126-SMD	8		
210-A-SMD	9		

### 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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