

## Europe type connectors

# WECO making contacts NECT







Catalogue 7

Electrical

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WECO

302



322-SVW



324-STFB

### Symbols on data sheets

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



**RoHS** compliant

These articles comply with the RoHS regulations.

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

The housing materials used are VDE-tested and approved according to the glow-wire tests specified in DIN EN/IEC 60335-1. They meet the requirements of the household appliance standard.



pottable

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

We reserve the right to make technical as well as changes to measurements, colours and formats after print. Only the values given in our written confirmations will be binding for us. Please take notice that it is not allowed to use our photos, drawings or catalogue pages for your own applications without having our written agreement.

### 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.



WECO

#### **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-towire 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.



We, WECO Contact GmbH, are a German manufacturer of high reputation for connectors in the field of electronics and electrical engineering. Our headquarter is located in Hanau and has own assembly and sales companies in Canada, Brazil, China, Hong Kong, Mexico, Tunisia and Czech Republic. With over 450 employees and a worldwide distribution network in 56 countries, we speak the language of our customers. Our wide 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 customerspecific 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 60335-1:2012-10 standardizes the safety features of electrical appliances for household and commercial use whose rated voltages do not exceed 250 V for singlephase appliances and 480 V for other appliances.

#### Which aspects of the household appliance standard are particularly important for WECO products?

#### Chapter 30: Heat- and flame-

**resistance.** Components made of non-metallic materials holding active components (e.g. connection elements) in position must be resistant against ignition and fire propagation. Electrical appliances are divided into several classes. Depending on their application, they are tested according to different methods.

Most WECO products meet the requirements for unattended appliances with currents > 0.2 A. These requirements stipulate the glow-wire resistance test for non-metallic materials and refer to other glow-wire tests.

These flame-resistance requirements shall prevent self-ignition of unattended appliances. On the market, they are designated as "no flame".

# Who is affected by this household appliance standard?

The standard is applicable for manufacturers of electric and electronic components in household appliances, such as terminals and switches, e.g. in:

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

Also affected is unattended equipment used in small and medium-sized enterprises, particularly:

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

#### WECO products are compliant with the glowwire test of the household appliance standard!

For the white goods market segment, WECO Contact GmbH offers an extensive range of PC board terminals and PC board plug connectors which meet the flame-resistance requirements of the Household Appliance Standard DIN EN/IEC 60335-1.

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

WECO products made of these molding materials are:

- All products with PC board connection technology, except for versions with higher number of poles such as series 95.., 96.. and 97...,
- terminal strips (catalogue 7), if purchased made of V-0 molding material (for unprinted versions, the part number ends with "EN6"),
- other products. Feasibility must be checked individually.



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WECO "no flame" products are designated with a small symbol on our label:



#### Our customer service

WECO takes technical support and after-sale service for our customers very seriously.

For your information, we have therefore compiled a list of all manufacturer products affected by the household appliance standard on our website. At a glance, you can gather information on whether your appliances are affected or not.

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

### **RoHS - Restriction of Hazardous Substances**

#### Declaration

The directive 2002/95/EC (RoHS 1) on the restriction of the use of certain hazardous substances in electrical and electronic equipment controls since 1st July 2006 the use of hazardous substances in devices and components. The directive is generally named with the short term RoHS (Restriction of Hazardous Substances). It affects manufacturers, sellers, distributors and recyclers of electrical and electronic equipment containing mercury, cadmium, lead, chromium VI, polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE).

This directive has been replaced on 3rd January 2013 by the revised version 2011/65/EU (RoHS 2). Thus, the ranges of validity of the RoHS have been extended. Earlier given exceptions are reduced step by step.

WECO Contact is a responsible manufacturer of components for electrical connection technology and thus



**/ECO** 

provides products in RoHS - compliant versions since the implementation of the EU Directive 2002/95/EC in 2006. All products are now RoHS compliant since the recast 2011/65/EU.

#### Labeling of our products

Customers can clearly see the RoHS Compliance of the product on the right bottom of our product labels, marked with a little icon:

MILLS AND COLUMNS, COMMING	
W	
999-25 1097-1078	1000
10000000000	100
	RoHS

Products, which have been produced before 14th October 2013, do not have this icon, but even here RoHS Compliance is guaranteed and marked - albeit somewhat hidden. These products bear the letters "GP" at the end of the line with the product type name.

970/02	GP	- 010
0		-
175-02 104770042		1000
		210

#### Frequently Asked Questions

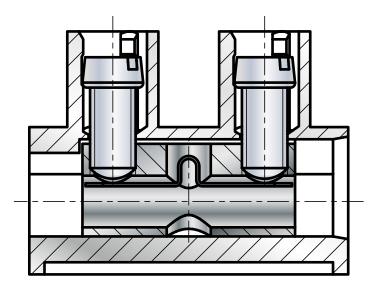
### Which technical solutions does WECO provide?

- Matt pure tin as a surface for solder elements,
- Thick layer passivated screws,
- Temperature-resistant housing

### What should be considered for the use of the products?

Particular attention should be paid to the storage life of the solder pins. For this, WECO offers a comfortable delivery-on-demand procedure by means of our supply agreements. The customer just sends a preview call for our production planning and always receives "fresh" products.





The following pages list our terminal strips whose clamping units are shaped as socket terminals.

The screw connections are available for various cross-sections both with and without wire protection.

The terminal strips are designed according to all pertinent international requirements. They comply with VDE Standards and are certified according to UL, CSA and VDE. Our socket terminal strips are available in a variety of different designs with rated connection capacities of 1,5 mm<sup>2</sup> to 16 mm<sup>2</sup>, and rated insulation voltages up to 750V.

Our connector portfolio offers versions in the common pitches 8 mm, 10 mm, 11,5 mm and 14,5 mm. All versions are available with 1 to 12 poles.

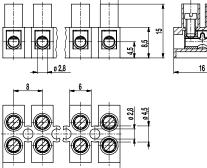
There is one fixing hole between every two poles and the flexible polyamide moulding allows for mounting on curved surfaces.

### Socket terminal strip 302(-HDS)

#### З02(-пDЗ) Останова

Screw connection





The socket terminal strip 302 is one of our smallest socket terminal strips. It is available in 8 mm pitch with 1- to 12-pole design and can be easily cut to the desired number of poles.

The flexible polyamide moulding can even be mounted on curved surfaces.

The wire protector of the "HDS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

Part N	umbers			
No. of poles	302	302-HDS	Length	PU
1	11.820.007	31.820.008	7,00	5000
2	12.820.007	32.820.008	15,00	2000
3	13.820.007	33.820.008	23,00	1000
4	14.820.007	34.820.008	31,00	1000
5	15.820.007	35.820.008	39,00	1000
6	16.820.007	36.820.008	47,00	100
7	17.820.007	37.820.008	55,00	70
8	18.820.007	38.820.008	63,00	70
9	19.820.007	39.820.008	71,00	60
10	20.820.007	40.820.008	79,00	50
11	21.820.007	41.820.008	87,00	50
12	22.820.007	42.820.008	94,00	50

further number of poles on request

#### Part Numbers: "no flame" acc. to glow-wire test

No. of poles	302	302-HDS	Length	PU
2	12.820.051.EN6	32.820.051.EN6	15,00	2000
3		33.820.051.EN6	23,00	1000
4		34.820.051.EN6	31,00	1000
6		36.820.051.EN6	47,00	100
8		38.820.051.EN6	63,00	70
9		39.820.051.EN6	71,00	60
12	22.820.051.EN6	42.820.051.EN6	94,00	50

further number of poles on request

#### General Information

Pitch	8 mm
No. of poles	1 - 12
Areas of application	For lightning applications and similar electrical equipment.

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#### Technical Data

Clamping Range	solid / flexible / A	solid / flexible / AWG			
without wire protector	0,5 - 4 mm² / 0,5	0,5 - 4 mm² / 0,5 - 2,5 mm² / 20 - 12 AWG			
with wire protector	0,34 - 2,5 mm² / (	0,34 - 2,5 mm² / 0,34 - 2,5 mm² / 22 - 14 AWG			
Rated Cross Section	1,5 mm <sup>2</sup>	1,5 mm <sup>2</sup>			
Wire Stripping Length	5 mm ± 0,5 mm				
Overvoltage Category		Ш	П		
Pollution Severity Level	3	2	2		
Rated Voltage	320 V	320 V	630 V		
Rated Impulse Voltage	4 kV	4 kV	4 kV		
Rated Insulation Voltage	450 V acc. to EN	450 V acc. to EN 60998-1			
Rated Current	17,5 A	17,5 A			
Torque	0,4 Nm				

#### Material

Moulding	PA, natural, V-2 (PA, white, V-0) Details in brackets for "no flame" products
Comparative Tracking Index	CTI ≥ 600
Insulating Group	1
Temperature Range	-40°C up to 100°C
Terminal Body	Nickel plated brass
Screw	M2,6; zinc plated steel, blue passivated
Wire protector	Stainless steel strip

#### Approvals

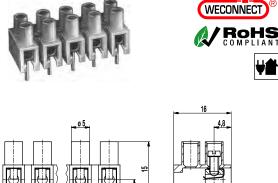
	Current	Voltage	Group	AWG	Nm
<b>AI</b> ®	20 10	300 300	B D	20 - 12 20 - 12	0,4 0,4
<b>€</b> ₽°	20 10	300 300	B D,E	26 - 12 26 - 12	0,4 [1] 0,4 [1]
	Current	Voltage	mm²		
DE	17,5	450	1,5		

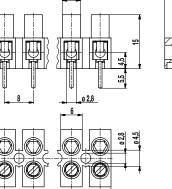
[1] 302-HDS: 26 - 14 AWG

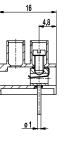
- · Marking options on the screw guides
- Marking strips BST-302
- Jumpers 302-J
- Moulding made of special polyamide for e.g. household appliances
- Screws made out of brass
- With pegs at the base for saving assembly time
- Up to 26 poles possible
- Socket with blind hole

#### 302-G(-DS)

Screw connection, with solder pin







Ψſ

The socket terminal strip 302-G is one of our smallest socket terminal strips. It is available in 8 mm pitch with 2- to 12-pole design and can be easily stripped to the desired number of poles.

The flexible polyamide moulding can even be mounted on curved surfaces.

This version features reliable contact protection and long clearance and creepage distances. The captive screws are vibration-proof and secured against self-loosening. In addition to be soldered in with solder pins, the terminal strips can be screw-mounted onto the PCB.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw. The terminal lead insertion depth is not limited.

Part I	Numbers			
No. of poles	302-G	302-G-DS	Length	PU
2	12.820.010	32.820.010	15,00	250
3	13.820.010	33.820.010	23,00	250
4	14.820.010	34.820.010	31,00	250
5	15.820.010	35.820.010	39,00	80
6	16.820.010	36.820.010	47,00	80
7	17.820.010	37.820.010	55,00	50
8	18.820.010	38.820.010	63,00	50
9	19.820.010	39.820.010	71,00	50
10	20.820.010	40.820.010	79,00	50
11	21.820.010	41.820.010	87,00	40
12	22.820.010	42.820.010	94,00	40

#### General Information

Pitch	8 mm
No. of poles	2 - 12

ECO

#### Technical Data

Clamping Range	solid / flexible / AWG				
without wire protector	0,75 - 4 mm² / 0,75 - 2,5 mm² / 18 - 12 AWG				
with wire protector	0,34 - 2,5 mm² / 0	0,34 - 2,5 mm² / 0,34 - 2,5 mm² / 22 - 14 AWG			
Rated Cross Section	1,5 mm <sup>2</sup>	1,5 mm <sup>2</sup>			
Wire Stripping Length	8 mm ± 0,5 mm	8 mm ± 0,5 mm			
Overvoltage Category					
Pollution Severity Level	3	2	2		
Rated Voltage	630 V	630 V	1000 V		
Rated Impulse Voltage	6 kV	6 kV	6 kV		
Rated Insulation Voltage	450 V acc. to EN 60998-1				
Rated Current	15 A				
Torque	0,4 Nm				

#### Material

Moulding	PA, white, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal Body	Tin plated brass
Screw	M2,6; zinc plated steel, blue passivated
Solder pin	ø 1 mm; tin plated copper
Wire protector	Tin plated tin bronze

#### Approvals

	Current	Voltage	Group	AWG	Nm	
<b>€₽</b> °	15 10	300 300	B D,E	26 - 14 26 - 14	0,4 0,4	

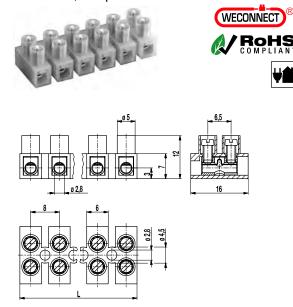
#### Options / Accessories

- Marking strips BST-302
- Jumper 302-J
- Longer solder pins up to 75 mm

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#### Socket terminal strip 302-N(-HDS)

Screw connection, low profile version



The socket terminal strip 302-N, low version in 8 mm pitch, is available with 1 to 12 poles.

The lower version (by 3 mm) is well suited for applications where mounting space is limited (e.g. in plastic boxes where longer clearance and creepage distances are not required).

The flexible polyamide moulding can even be mounted on curved surfaces.

The wire protector of the "HDS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

Part Numbers				
No. of poles	302-N	302-N-HDS	Length	PU
1	11.820.043	31.820.043	7,00	5000
2	12.820.043	32.820.043	15,00	2000
3	13.820.043	33.820.043	23,00	2000
4	14.820.043	34.820.043	31,00	1000
5	15.820.043	35.820.043	39,00	1000
6	16.820.043	36.820.043	47,00	100
7	17.820.043	37.820.043	55,00	70
8	18.820.043	38.820.043	63,00	70
9	19.820.043	39.820.043	71,00	60
10	20.820.043	40.820.043	79,00	50
11	21.820.043	41.820.043	87,00	50
12	22.820.043	42.820.043	94,00	50

further number of poles on request

#### Part Numbers: "no flame" acc. to glow-wire test

No. of poles	302-N	302-N-HDS	Length	PU
2	12.820.044.EN6	32.820.044.EN6	15,00	2000
4	14.820.044.EN6	34.820.044.EN6	31,00	1000
5	15.820.044.EN6		39,00	1000
12	22.820.044.EN6	42.820.044.EN6	94,00	50

further number of poles on request

#### General Information

Pitch	8 mm
No. of poles	1 - 12
Areas of application	For household appliances or lightning applications and similar electrical equipment.

ECO

#### Technical Data

Clamping Range	solid / flexible / A	WG		
without wire protector	0,5 - 4 mm² / 0,5	- 2,5 mm² / 20 - ′	12 AWG	
with wire protector	0,34 - 2,5 mm² / 0	0,34 - 2,5 mm² / 0,34 - 2,5 mm² / 22 - 14 AWG		
Rated Cross Section	1,5 mm <sup>2</sup>	1,5 mm <sup>2</sup>		
Wire Stripping Length	$5 \text{ mm} \pm 0.5 \text{ mm}$			
Overvoltage Category		Ш	II	
Pollution Severity Level	3	2	2	
Rated Voltage	250 V	320 V	320 V	
Rated Impulse Voltage	4 kV	4 kV	4 kV	
Rated Insulation Voltage	250 V acc. to EN	60998-1		
Rated Current	17,5 A			
Torque	0,4 Nm			

#### Material

Moulding	PA, natural, V-2 (PA, natural, V-0) Details in brackets for "no flame" products
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal Body	Nickel plated brass
Screw	M2,6; zinc plated steel, blue passivated
Wire protector	Stainless steel strip

#### Approvals

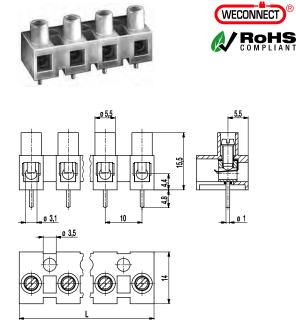
	Current	Voltage	Group	AWG	Nm
<b>FI</b> ®	10	300	B,D	20 - 12	0,4
<b>S₽</b> ®	20 10	300 300	B D,E	26 - 12 26 - 12	0,4 [1] 0,4 [1]
	Current	Voltage	mm²		
DE	17,5	250	1,5		

[1] 302-N-HDS: 26 - 14 AWG

- Marking options on the screw guides
- Marking strips BST-302
- Jumper 302-J
- Moulding made of special polyamide for e.g. household appliances
- Screws made out of brass
- Up to 26 poles possible
- · Socket with blind hole

#### 322-G(-DS)

Screw connection, with solder pin



The socket terminal strip 322-G is available in 10 mm pitch with 1- to 12-pole design and can be easily stripped to the desired number of poles. The flexible polyamide moulding can even be mounted on curved surfaces.

Due to large pitch and moulding shape, this version is also well suited for applications using higher voltages. The 322-G version features reliable contact protection and long clearance and creepage distances. The captive screws are vibration-proof and secured against self-loosening. In addition to be soldered in with solder pins, the terminal strips can be screw-mounted onto the PCB.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

The terminal lead insertion depth is not limited.

#### Part Numbers

No. of poles	322-G	322-G-DS	Length	PU
2	12.821.003	32.821.003	17,00	250
3	13.821.003	33.821.003	27,00	250
4	14.821.003	34.821.003	37,00	200
5	15.821.003	35.821.003	47,00	100
6	16.821.003	36.821.003	57,00	100
7	17.821.003	37.821.003	67,00	50
8	18.821.003	38.821.003	77,00	50
9	19.821.003	39.821.003	87,00	50
10	20.821.003	40.821.003	97,00	50
11	21.821.003	41.821.003	107,00	50
12	22.821.003	42.821.003	117,00	50

#### General Information

Pitch	10 mm
No. of poles	2 - 12

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#### Technical Data

Clamping Range	solid / flexible / AV	VG	
without wire protector	1 - 6 mm² / 1 - 2,5 mm² / 16 - 12 AWG		
with wire protector	0,75 - 4 mm² / 0,7	5 - 2,5 mm² / 18	- 12 AWG
Rated Cross Section	2,5 mm <sup>2</sup>		
Wire Stripping Length	8 mm ± 0,5 mm		
Overvoltage Category	111	III	II
Pollution Severity Level	3	2	2
Rated Voltage	1000 V	1000 V	1000 V
Rated Impulse Voltage	8 kV	8 kV	6 kV
Rated Insulation Voltage	750 V acc. to EN e	60998-1	
Rated Current	15 A		
Torque	0,5 Nm		

#### Material

Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal Body	Tin plated brass
Screw	M3, zinc plated steel, blue passivated
Solder pin	ø 1 mm; tin plated copper
Wire protector	Tin plated tin bronze

#### Approvals

	Current	Voltage	Group	AWG	Nm	
<b>AI</b> ®	20	300	В	18 - 12	0,51	
<u>ج</u>	20 10	300 300	B D,E	26-10 [1] 26-10 [1]	0,51 0,51	

[1] for 322-G-DS: 26 - 12 AWG

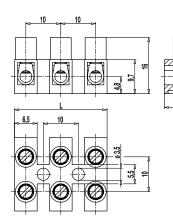
- Marking strips BST-322
- Jumper 322-J
- Longer solder pins up to 75 mm
- Large conductor space up to 4 mm<sup>2</sup>

### Socket terminal strip 323(-HDS)

#### Screw connection







The socket terminal strip 323 is available in 10 mm pitch with 1- to 12-pole design and can be easily stripped to the desired number of poles.

The flexible polyamide moulding can even be mounted on curved surfaces.

The wire protector of the "HDS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

#### Part Numbers

No. of poles	323	323-HDS	Length	PU
1	11.822.010	31.822.008	8,00	2500
2	12.822.010	32.822.008	18,00	1000
3	13.822.010	33.822.008	28,00	1000
4	14.822.010	34.822.008	38,00	800
5	15.822.010	35.822.008	48,00	500
6	16.822.010	36.822.008	58,00	100
7	17.822.010	37.822.008	68,00	70
8	18.822.010	38.822.008	78,00	70
9	19.822.010	39.822.008	88,00	60
10	20.822.010	40.822.008	98,00	50
11	21.822.010	41.822.008	108,00	50
12	22.822.010	42.822.008	117,00	50

#### Part Numbers: "no flame" acc. to glow-wire test

No. of poles	323	323-HDS	Length	PU
1	11.822.038.EN6	31.822.038.EN6	8,00	2500
2	12.822.038.EN6	32.822.038.EN6	18,00	1000
3	13.822.038.EN6	33.822.038.EN6	28,00	1000
4	14.822.038.EN6	34.822.038.EN6	38,00	800
5	15.822.038.EN6	35.822.038.EN6	48,00	500
6	16.822.038.EN6	36.822.038.EN6	58,00	100
7	17.822.038.EN6	37.822.038.EN6	68,00	70
8	18.822.038.EN6	38.822.038.EN6	78,00	70
9	19.822.038.EN6	39.822.038.EN6	88,00	60
10	20.822.038.EN6	40.822.038.EN6	98,00	50
11	21.822.038.EN6	41.822.038.EN6	108,00	50
12	22.822.038.EN6	42.822.038.EN6	117,00	50
12	22.822.038.EN6	42.822.038.EN6	117,00	50

#### General Information

Pitch	10 mm
No. of poles	1 - 12
Areas of application	For household appliances or lightning applications and similar electrical equipment.

**ECO** 

#### Technical Data

Clamping Range	solid / flexible / A	solid / flexible / AWG				
without wire protector	0,75 - 6 mm² / 0,7	0,75 - 6 mm² / 0,75 - 4 mm² / 18 - 10 AWG				
with wire protector	0,5 - 4 mm² / 0,5	0,5 - 4 mm² / 0,5 - 2,5 mm² / 20 - 12 AWG				
Rated Cross Section	2,5 mm <sup>2</sup>					
Wire Stripping Length	6,5 mm ± 0,5 mm	6,5 mm ± 0,5 mm				
Overvoltage Category		Ш	II			
Pollution Severity Level	3	2	2			
Rated Voltage	400 V	630 V	1000 V			
Rated Impulse Voltage	6 kV	6 kV	6 kV			
Rated Insulation Voltage	450 V acc. to EN 60998-1					
Rated Current	24 A					
Torque	0,5 Nm					

#### Material

Moulding	PA, natural, V-2 (PA, white, V-0) Details in brackets for "no flame" products		
Comparative Tracking Index	CTI ≥ 600		
Insulating Group			
Temperature Range	-40°C up to 100°C		
Terminal Body	Nickel plated brass		
Screw	M3; zinc plated steel, blue passivated		
Wire protector	Stainless steel strip		

#### Approvals

	Current	Voltage	Group	AWG	Nm
<b>RL</b> ®	30 10	300 300	B D	22 - 10 22 - 10	0,51 0,51
<b>SP</b> °	25 10	300 300	B D,E	26 - 10 26 - 10	0,51 0,51
	Current	Voltage	mm²		
<b>∠</b> YE	24	450	2,5		

#### Options / Accessories

• Marking options on and between the screw guides

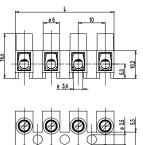
- Marking strips BST-323
- Jumper 323-J
- · Moulding made of special polyamide for e.g. household appliances
- Crosshead screws
- Cover caps A-323 und base plate B-323 for additional contact protection
- Integrated wire stop (323-V(-HDS))

323-FU-16,5(-HDS)

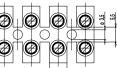
Screw connection, with 16,5 mm raised base











The socket terminal strip 323-FU-16,5 with raised foot is available in 10 mm pitch and with 1 to 12 poles.

The raised foot increases the creepage distance between terminal body and mounting surface.

The flexible polyamide moulding can even be mounted on curved surfaces.

The wire protector of the "HDS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

#### Part Numbers

No. of poles	323-FU-16,5	323-FU-16,5-HDS	Length	PU
1	11.822.048	31.822.048	8,00	5000
2	12.822.048	32.822.048	18,00	1000
3	13.822.048	33.822.048	28,00	1000
4	14.822.048	34.822.048	38,00	500
5	15.822.048	35.822.048	48,00	500
6	16.822.048	36.822.048	58,00	100
7	17.822.048	37.822.048	68,00	70
8	18.822.048	38.822.048	78,00	70
9	19.822.048	39.822.048	88,00	60
10	20.822.048	40.822.048	98,00	50
11	21.822.048	41.822.048	108,00	50
12	22.822.048	42.822.048	117,00	50

#### General Information

Pitch	10 mm
No. of poles	1 - 12
Areas of application	For lightning applications and similar electrical equipment.

ECO

#### Technical Data

Clamping Range	solid / flexible / AWG					
without wire protector	0,75 - 6 mm² / 0,7	0,75 - 6 mm² / 0,75 - 4 mm² / 18 - 10 AWG				
with wire protector	0,5 - 4 mm² / 0,5	0,5 - 4 mm² / 0,5 - 2,5 mm² / 20 - 12 AWG				
Rated Cross Section	2,5 mm²					
Wire Stripping Length	6,5 mm ± 0,5 mm					
Overvoltage Category			II			
Pollution Severity Level	3	2	2			
Rated Voltage	630 V	630 V	1000 V			
Rated Impulse Voltage	6 kV	6 kV	6 kV			
Rated Insulation Voltage	750 V acc. to EN	60998-1				
Rated Current	24 A					
Torque	0,5 Nm					

#### Material

PA, natural, V-2
CTI ≥ 600
I
-40°C up to 100°C
Tin plated brass
M3; zinc plated steel, blue passivated
Stainless steel strip

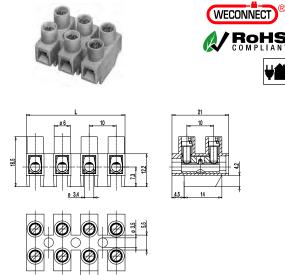
#### Approvals

	Current	Voltage	Group	AWG	Nm
<b>91</b> °	30 30 10	300 150 300	B C D	22 - 10 22 - 10 22 - 10	0,51 0,51 0,51
	25 25 10	300 150 300	B C D,E	26 - 10 26 - 10 26 - 10	0,51 0,51 0,51
	Current	Voltage	mm²		
	24	750	2,5		

- Marking options on and between the screw guides
- Marking strips BST-323
- Jumper 323-J
- Moulding made of special polyamide for e.g. household appliances
- Screws made out of brass
- Crosshead screws
- Cover caps A-323 und base plate B-323 for additional contact protection
- Integrated wire stop (323-V-FU-16,5(-HDS))

#### 323-FU-18,5(-HDS)

Screw connection, with 18,5 mm raised base



The socket terminal strip 323-FU-18,5 with tall foot is available in 10 mm pitch and with 1 to 12 poles.

The raised foot increases the creepage distance between terminal body and mounting surface. This terminal can be used for applications with higher voltages without an additional insulating pad.

The flexible polyamide moulding can even be mounted on curved surfaces.

The wire protector of the "HDS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

Part N	Part Numbers							
No. of poles	323-FU-18,5	323-FU-18,5-HDS	Length	PU				
1	11.822.049	31.822.049	8,00	3000				
2	12.822.049	32.822.049	18,00	1000				
3	13.822.049	33.822.049	28,00	1000				
4	14.822.049	34.822.049	38,00	500				
5	15.822.049	35.822.049	48,00	500				
6	16.822.049	36.822.049	58,00	80				
7	17.822.049	37.822.049	68,00	65				
8	18.822.049	38.822.049	78,00	50				
9	19.822.049	39.822.049	88,00	50				
10	20.822.049	40.822.049	98,00	40				
11	21.822.049	41.822.049	108,00	40				
12	22.822.049	42.822.049	117,00	40				

#### Part Numbers: "no flame" acc. to glow-wire test No. of 323-FU-18.5 323-FU-18.5-HDS Length PU

poles	525-10-10,5	323-1 0-10,3-1100	Lengin	10
3		33.822.021.EN6	28,00	1000
12		42.822.021.EN6	117,00	40

further number of poles on request

#### General Information

Pitch	10 mm
No. of poles	1 - 12
Areas of application	For lightning applications and similar electrical equipment.

ECO

#### Technical Data

Clamping Range	solid / flexible / A	WG				
without wire protector	0,75 - 6 mm² / 0,	0,75 - 6 mm² / 0,75 - 4 mm² / 18 - 10 AWG				
with wire protector	0,5 - 4 mm² / 0,5	0,5 - 4 mm² / 0,5 - 2,5 mm² / 20 - 12 AWG				
Rated Cross Section	2,5 mm²	2,5 mm <sup>2</sup>				
Wire Stripping Length	6,5 mm ± 0,5 mn	n				
Overvoltage Category		Ш	II			
Pollution Severity Level	3	2	2			
Rated Voltage	630 V	1000 V	1000 V			
Rated Impulse Voltage	8 kV	8 kV	6 kV			
Rated Insulation Voltage	750 V acc. to EN	60998-1				
Rated Current	24 A					
Torque	0,5 Nm					

#### Material

Moulding	PA, natural, V-2 (PA, white, V-0) Details in braquets for "no flame" products		
Comparative Tracking Index	CTI ≥ 600		
Insulating Group			
Temperature Range	-40°C up to 100°C		
Terminal Body	Nickel plated brass		
Screw	M3; zinc plated steel, blue passivated		
Wire protector	Stainless steel strip		

#### Approvals

	Current	Voltage	Group	AWG	Nm
<b>AI</b> ®	30 10	300 300	B D	22 - 10 22 - 10	0,51 0,51
<b>€</b> ₽®	25 5	300 600	B,C,D,E D,E	26 - 10 26 - 10	0,51 0,51
	Current	Voltage	mm²		
	24	750	2,5		

#### Options / Accessories

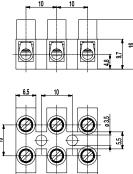
· Marking options on and between the screw guides

- Marking strips BST-323
- Jumper 323-J
- Moulding made of special polyamide for e.g. household appliances
- Screws made out of brass
- Crosshead screws
- Cover caps A-323 und base plate B-323 for additional contact protection
- Integrated wire stop (323-V-FU-18,5(-HDS))

#### 323-V(-HDS)

Screw connection, integrated wire stop



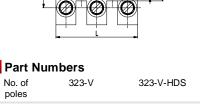




Length

PU

Ų



poles				
1	11.822.010	31.822.008	8,00	2500
2	12.822.010	32.822.008	18,00	1000
3	13.822.010	33.822.008	28,00	1000
4	14.822.010	34.822.008	38,00	800
5	15.822.010	35.822.008	48,00	500
6	16.822.010	36.822.008	58,00	100
7	17.822.010	37.822.008	68,00	70
8	18.822.010	38.822.008	78,00	70
9	19.822.010	39.822.008	88,00	60
10	20.822.010	40.822.008	98,00	50
11	21.822.010	41.822.008	108,00	50
12	22.822.010	42.822.008	117,00	50

#### Part Numbers: "no flame" acc. to glow-wire test

	0				
No. of poles	323-V	323-V-HDS	Length	PU	
1	11.822.038.EN6	31.822.038.EN6	8,00	2500	
2	12.822.038.EN6	32.822.038.EN6	18,00	1000	
3	13.822.038.EN6	33.822.038.EN6	28,00	1000	
4	14.822.038.EN6	34.822.038.EN6	38,00	800	
5	15.822.038.EN6	35.822.038.EN6	48,00	500	
6	16.822.038.EN6	36.822.038.EN6	58,00	100	
7	17.822.038.EN6	37.822.038.EN6	68,00	70	
8	18.822.038.EN6	38.822.038.EN6	78,00	70	
9	19.822.038.EN6	39.822.038.EN6	88,00	60	
10	20.822.038.EN6	40.822.038.EN6	98,00	50	
11	21.822.038.EN6	41.822.038.EN6	108,00	50	
12	22.822.038.EN6	42.822.038.EN6	117,00	50	

#### General Information

Pitch	10 mm
No. of poles	1 - 12
Areas of application	For household appliances or lightning applications and similar electrical equipment.

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#### Technical Data

Clamping Range solid / flexible / AWG						
without wire protector	0,75 - 6 mm² / 0,7	0,75 - 6 mm² / 0,75 - 4 mm² / 18 - 10 AWG				
with wire protector	0,5 - 4 mm² / 0,5	0,5 - 4 mm² / 0,5 - 2,5 mm² / 20 - 12 AWG				
Rated Cross Section	2,5 mm <sup>2</sup>					
Wire Stripping Length	5 mm ± 0,5 mm					
Overvoltage Category	111	III	II			
Pollution Severity Level	3	2	2			
Rated Voltage	400 V	630 V	1000 V			
Rated Impulse Voltage	6 kV	6 kV	6 kV			
Rated Insulation Voltage	450 V acc. to EN	60998-1				
Rated Current	24 A					
Torque	0,5 Nm					

#### Material

Moulding	PA, natural, V-2 (PA, white, V-0) Details in brackets for "no flame" products
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal Body	Nickel plated brass
Screw	M3; zinc plated steel, blue passivated
Wire protector	Stainless steel strip

#### Approvals

	Current	Voltage	Group	AWG	Nm
<b>RL</b> ®	30 10	300 300	B D	22 - 10 22 - 10	0,51 0,51
<b>€</b> ₽°	25 10	300 300	B D,E	26 - 10 26 - 10	0,51 0,51
	Current	Voltage	mm²		
	24	450	2,5		

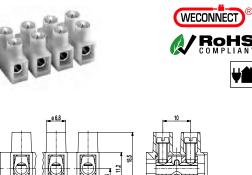
#### Options / Accessories

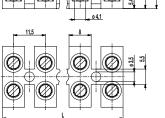
Consecutive numbering

- Special marking accord. drawing
- Self-adhesive marking strip
- · Moulding made of special polyamide for e.g. household appliances
- Crosshead screws
- · Cover caps A-323 und base plate B-323 for additional contact protection

### Socket terminal strip 324(-HDS)

#### Screw connection





The socket terminal strip 324 is available in 11,5 mm pitch with 1- to 12-pole design and can be easily stripped to the desired number of poles. One fixing hole is located between every two poles. The flexible polyamide moulding can even be mounted on curved surfaces.

The wire protector of the "HDS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

Part Nu	umbers			
No. of poles	324	324-HDS	Length	PU
1	11.823.003	31.823.012	9,00	3000
2	12.823.003	32.823.012	21,00	1000
3	13.823.003	33.823.012	32,00	800
4	14.823.003	34.823.012	44,00	500
5	15.823.003	35.823.012	55,00	250
6	16.823.003	36.823.012	67,00	100
7	17.823.003	37.823.012	78,00	75
8	18.823.003	38.823.012	90,00	75
9	19.823.003	39.823.012	101,00	50
10	20.823.003	40.823.012	113,00	50
11	21.823.003	41.823.012	124,00	50
12	22.823.003	42.823.012	135,00	50

further number of poles on request

Part Nur	nbers: "ı	no flame" acc. to	glow-wire t	est
No. of	324	224 HDS	Longth	DU

	poles	324	324-HD3	Lengin	FU
	4		34.823.022.EN6	44,00	500
	12		42.823.022.EN6	135,00	50
i	further number o	f poles on requ	iest		

#### General Information

Pitch	11,5 mm
No. of poles	1 - 12
Areas of application	For lightning applications and similar electrical equipment.

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#### Technical Data

Clamping Range	solid / flexible / Al	NG			
without wire protector	1 - 10 mm² / 1 - 6 mm² / 16 - 10 AWG				
with wire protector	0,75 - 6 mm² / 0,7	5 - 4 mm² / 18 -	12 AWG		
Rated Cross Section	4 mm <sup>2</sup>				
Wire Stripping Length	7 mm ± 0,5 mm				
Overvoltage Category	III	III	II		
Pollution Severity Level	3	2	2		
Rated Voltage	320 V	500 V	800 V		
Rated Impulse Voltage	6 kV	6 kV	6 kV		
Rated Insulation Voltage	450 V acc. to EN	60998-1			
Rated Current	32 A				
Torque	0,8 Nm				

#### Material

Comparative Tracking Index $CTI \ge 600$ Insulating GroupITemperature Range-40°C up to 100°CTerminal BodyNickel plated brassScrewM3,5; zinc plated steel, blue passivatedWire protectorStainless steel strip	Moulding	PA, natural, V-2 (PA, white, V-0) Details in braquets for "no flame" products
Temperature Range     -40°C up to 100°C       Terminal Body     Nickel plated brass       Screw     M3,5; zinc plated steel, blue passivated	Comparative Tracking Index	CTI ≥ 600
Terminal Body         Nickel plated brass           Screw         M3,5; zinc plated steel, blue passivated	Insulating Group	I
Screw M3,5; zinc plated steel, blue passivated	Temperature Range	-40°C up to 100°C
	Terminal Body	Nickel plated brass
Wire protector Stainless steel strip	Screw	M3,5; zinc plated steel, blue passivated
	Wire protector	Stainless steel strip

#### Approvals

	Current	Voltage	Group	AWG	Nm
<b>AI</b> ®	35 10	300 300	B D	22 - 8 22 - 8	0,8 0,8
<b>€₽</b> °	40 10	300 300	B D,E	22-10 [1] 22-10 [1]	0,8 0,8
	Current	Voltage	mm²		
	32	450	4,0		

[1] 26 - 10 AWG for 324-HDS

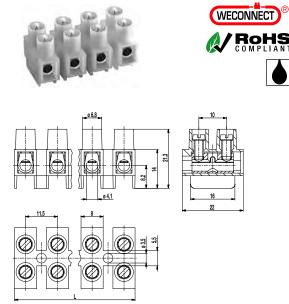
#### Options / Accessories

- · Marking options on and between the screw guides
- Marking strips BST-324
- Jumper 324-J
- Moulding made of special polyamide for e.g. household appliances
- Screws made out of brass
- Crosshead screws
- · Sockets with blind hole
- · Up to 24 poles possible

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### Socket terminal strip 324-FU(-HDS)

Screw connection, with raised base



The socket terminal strip 324-FU with a pitch of 11,5 mm is available in 1- to 12-pole design and can easily be cut into the required number of poles.

The raised base of the FU-Type extends the creepage distance to the ground to 12,7 mm which allows 600 V in accordance with CSA without an additional insulating base.

The flexible polyamide moulding can even be mounted on curved surfaces.

The wire protector of the "HDS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

Part Numbers							
No. of poles	324-FU	324-FU-HDS	Length	PU			
1	11.823.013	31.823.013	9,00	3000			
2	12.823.013	32.823.013	21,00	1000			
3	13.823.013	33.823.013	32,00	500			
4	14.823.013	34.823.013	44,00	500			
5	15.823.013	35.823.013	55,00	500			
6	16.823.013	36.823.013	67,00	100			
7	17.823.013	37.823.013	78,00	70			
8	18.823.013	38.823.013	90,00	50			
9	19.823.013	39.823.013	101,00	50			
10	20.823.013	40.823.013	113,00	50			
11	21.823.013	41.823.013	124,00	50			
12	22.823.013	42.823.013	135,00	50			

#### General Information

Pitch	11,5 mm
No. of poles	1 - 12
Areas of application	For lightning applications and similar electrical equipment.

ECO

#### Technical Data

Clamping Range	solid / flexible / AWG					
without wire protector	1 - 10 mm² / 1 - 6 mm² / 16 - 10 AWG					
with wire protector	0,75 - 6 mm² / 0,7	0,75 - 6 mm² / 0,75 - 4 mm² / 18 - 12 AWG				
Rated Cross Section	4 mm <sup>2</sup>					
Wire Stripping Length	$7 \text{ mm} \pm 0.5 \text{ mm}$					
Overvoltage Category			II			
Pollution Severity Level	3	2	2			
Rated Voltage	800 V	1000 V	1000 V			
Rated Impulse Voltage	8 kV	8 kV	6 kV			
Rated Insulation Voltage	750 V acc. to EN	60998-1				
Rated Current	32 A					
Torque	0,8 Nm					

#### Material

PA, natural, V-2
CTI ≥ 600
Ι
-40°C up to 100°C
Tin plated brass
M3,5; zinc plated steel, blue passivated
Stainless steel strip

#### Approvals

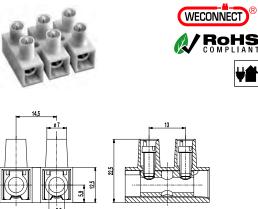
	Current	Voltage	Group	AWG	Nm
<b>RI</b> ®	35 10	300 300	B D	14 - 8 14 - 8	0,8 0,8
<b>S₽</b> ®	40 5	300 600	B,C D,E	22 - 10 22 - 10	0,8 [1] 0,8 [1]
	Current	Voltage	mm²		
NE	32	750	4,0		

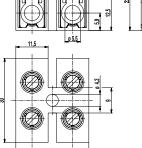
[1] for 324-FU-HDS does apply 26 - 10 AWG

- Marking options on the screw guides
- Marking strips BST-324
- Jumper 324-J
- · Moulding made of special polyamide for e.g. household appliances
- Screws made out of brass
- · Crosshead screws
- · Sockets with blind hole

### Socket terminal strip 326(-HDS)

#### Screw connection





The socket terminal strip 326 is available in 14,5 mm pitch with 1- to 12-pole design and can be easily stripped to the desired number of poles. This version has a large terminal space and a creepage distance of more than 7 mm measured from terminal body to mounting surface. That is why this terminal strip is suitable for voltages up to 750 V.

One fixing hole is located between every two poles.

The flexible polyamide moulding can even be mounted on curved surfaces.

The wire protector of the "HDS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

#### Part Numbers

No. of poles	326	326-HDS	Length	PU
1	11.824.006.EN6	31.824.006.EN6	14,50	1000
2	12.824.006.EN6	32.824.006.EN6	29,00	500
3	13.824.006.EN6	33.824.006.EN6	43,50	400
4	14.824.006.EN6	34.824.006.EN6	58,00	250
5	15.824.006.EN6	35.824.006.EN6	72,50	200
6	16.824.006.EN6	36.824.006.EN6	87,00	200
7	17.824.006.EN6	37.824.006.EN6	101,50	160
8	18.824.006.EN6	38.824.006.EN6	116,00	160
9	19.824.006.EN6	39.824.006.EN6	130,50	130
10	20.824.006.EN6	40.824.006.EN6	145,00	100
11	21.824.006.EN6	41.824.006.EN6	159,50	100
12	22.824.006.EN6	42.824.006.EN6	171,00	100

#### General Information

Pitch	14,5 mm
No. of poles	1 - 12
Areas of application	For lightning applications and similar electrical equipment.

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#### Technical Data

Clamping Range	solid / flexible / A	WG	
without wire protector	2,5 - 16 mm² / 2,5	5 - 10 mm² / 14 -	8 AWG
with wire protector	1,5 - 10 mm² / 1,5	5 - 6 mm² / 16 - 8	3 AWG
Rated Cross Section	10 mm <sup>2</sup>		
Wire Stripping Length	9 mm ± 1 mm		
Overvoltage Category		Ш	II
Pollution Severity Level	3	2	2
Rated Voltage	500 V	630 V	1000 V
Rated Impulse Voltage	6 kV	6 kV	6 kV
Rated Insulation Voltage	750 V acc. to EN	60998-1	
Rated Current	57 A		
Torque	1,2 Nm		

#### Material

Moulding	PA, white, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal Body	Nickel plated brass
Screw	M4; zinc plated steel, blue passivated
Wire protector	Stainless steel strip

#### Approvals

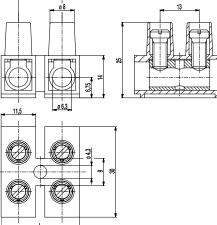
	Current	Voltage	Group	AWG	Nm
<b>ЯJ</b> ®	50 50 10	300 150 300	B C D	14 - 8 14 - 8 14 - 8	1,13 1,13 1,13
<b>S</b> ₽®	55 55 10	300 150 300	B C D,E	14 - 8 14 - 8 14 - 8	1,2 1,2 1,2
	Current	Voltage	mm²		
	57	750	10		

- Marking options on and between the screw guides
- Marking strips BST-326
- Jumper 327-J

### Socket terminal strip 327(-HDS)

#### Screw connection





The socket terminal strip 327 is available in 14,5 mm pitch with 1- to 12-pole design and can be easily stripped to the desired number of poles.

Due to the M5 screw, the socket hole diameter of 6,3 mm and a creepage distance of more than 9 mm between terminal body and mounting surface, this version is well suited for large cross-sections, high currents and voltages.

One fixing hole is located between every two poles.

The flexible polyamide moulding can even be mounted on curved surfaces.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

Part N	Part Numbers				
No. of poles	327	327-HDS	Length	PU	
1	11.825.001.EN6	31.825.001.EN6	14,50	1000	
2	12.825.001.EN6	32.825.001.EN6	29,00	500	
3	13.825.001.EN6	33.825.001.EN6	43,50	250	
4	14.825.001.EN6	34.825.001.EN6	58,00	250	
5	15.825.001.EN6	35.825.001.EN6	72,50	200	
6	16.825.001.EN6	36.825.001.EN6	87,00	180	
7	17.825.001.EN6	37.825.001.EN6	101,50	160	
8	18.825.001.EN6	38.825.001.EN6	116,00	160	
9	19.825.001.EN6	39.825.001.EN6	130,50	130	
10	20.825.001.EN6	40.825.001.EN6	145,00	100	
11	21.825.001.EN6	41.825.001.EN6	159,50	100	
12	22.825.001.EN6	42.825.001.EN6	171,00	90	

#### General Information

Pitch	14,5 mm
No. of poles	1 - 12
Areas of application	For lightning applications and similar electrical equipment.

VECO

#### Technical Data

Clamping Range	solid / flexible / A	WG	
without wire protector	4 - 16 mm² / 4 - 1	6 mm² / 12 - 4 A	WG
with wire protector	4 - 16 mm² / 4 - 1	0 mm² / 12 - 6 A	WG
Rated Cross Section	16 mm² [1]		
Wire Stripping Length	9 mm ± 1 mm		
Overvoltage Category	III		11
Pollution Severity Level	3	2	2
Rated Voltage	630 V	630 V	1000 V
Rated Impulse Voltage	6 kV	6 kV	6 kV
Rated Insulation Voltage	750 V acc. to EN	60998-1	
Rated Current	76 A		
Torque	2 Nm		

#### Material

PA, white, V-0
CTI ≥ 600
-40°C up to 100°C
Nickel plated brass
M5; zinc plated steel, blue passivated
Stainless steel strip

#### Approvals

	Current	Voltage	Group	AWG	Nm
<b>F</b> N®	80	300	B,C	14 - 4	1,8
<b>S</b> ₽°	80 80 10	300 150 300	B C D,E	14 - 6 14 - 6 14 - 6	1,8 1,8 1,8
	Current	Voltage	mm²		
<b>∠</b> VE	76	750	16		

#### Options / Accessories

• Marking options on and between the screw guides

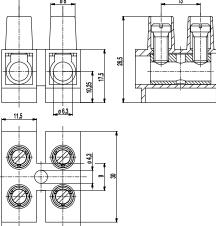
- Marking strips BST-327
- Jumper 327-J
- Version with raised base: please see 327-FU

[1] multi-wire

#### Socket terminal strip 327-FU(-HDS)

Screw connection, with raised base





The socket terminal strip 327-FU with raised base and a pitch of 14,5 mm is available in 1 to 12 pole design.

The raised base extends the creepage distance to the ground which allows 600 V in accordance with UL and CSA regulations without an additional insulating base.

One fixing hole is located between every two poles.

The flexible polyamide moulding can even be mounted on curved surfaces.

The wire protector of the "HDS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

#### Part Numbers

No. of poles	327-FU	327-FU-HDS	Length	PU
1	11.825.004.EN6	31.825.004.EN6	14,50	1000
2	12.825.004.EN6	32.825.004.EN6	29,00	500
3	13.825.004.EN6	33.825.004.EN6	43,50	250
4	14.825.004.EN6	34.825.004.EN6	58,00	250
5	15.825.004.EN6	35.825.004.EN6	72,50	200
6	16.825.004.EN6	36.825.004.EN6	87,00	100
7	17.825.004.EN6	37.825.004.EN6	101,50	100
8	18.825.004.EN6	38.825.004.EN6	116,00	160
9	19.825.004.EN6	39.825.004.EN6	130,50	70
10	20.825.004.EN6	40.825.004.EN6	145,00	100
11	21.825.004.EN6	41.825.004.EN6	159,50	100
12	22.825.004.EN6	42.825.004.EN6	171,00	50

#### General Information

Pitch	14,5 mm
No. of poles	1 - 12
Areas of application	For lightning applications and similar electrical equipment.

R

ECO

#### Technical Data

Clamping Range	solid / flexible / A	NG		
without wire protector	4 - 16 mm² / 4 - 1	4 - 16 mm² / 4 - 16 mm² / 12 - 4 AWG		
with wire protector	4 - 16 mm² / 4 - 1	4 - 16 mm² / 4 - 10 mm² / 12 - 6 AWG		
Rated Cross Section	16 mm² [1]	16 mm² [1]		
Wire Stripping Length	9 mm ± 1 mm			
Overvoltage Category	III	III	11	
Pollution Severity Level	3	2	2	
Rated Voltage	1000 V	1000 V	1000 V	
Rated Impulse Voltage	8 kV	8 kV	6 kV	
Rated Insulation Voltage	750 V acc. to EN	60998-1		
Rated Current	76 A			
Torque	2 Nm			

#### Material

PA, white, V-0
CTI ≥ 600
1
-40°C up to 100°C
Nickel plated brass
M5; zinc plated steel, blue passivated
Stainless steel strip

#### Approvals

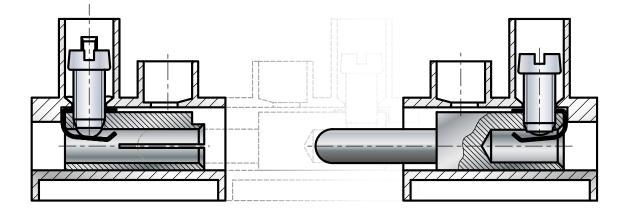
	Current	Voltage	Group	AWG	Nm
<b>RI</b> ®	65	600	B,C	14 - 6	1,8
<b>S₽</b> °	80	600	B,C,D,E	14 - 6	1,8
	Current	Voltage	mm²		
	76	750	16		

#### Options / Accessories

- · Marking options on and between the screw guides
- Marking strips BST-327
- Jumper 327-J

[1] multi-wire

### Plug-in terminal strips



The following pages list our range of plugin terminal strips.

Pre-wiring of various equipment components ensures quick and easy connection during final assembly and prevents confusing the wires.

Various sizes and contact systems are available for the respective application.

All –S and –NS types can be equipped with leading plugs and sockets for the earth lead upon request. That way, the protective earth is in contact first when plugging and last when unplugging.

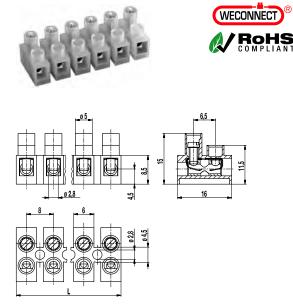
R

WECO

Plug-in connector combinations are protected against accidental contact at their wire entrances. The user is responsible to take the appropriate measures to prevent false or offset insertion of multi-pole plug-in connectors.

### Plug-in terminal strip 302-FB(-DS)

Screw connection & socket with clamping spring



The plug-in connector strip 302-FB is available in 8 mm pitch with 2 to 12 poles. It is well suited for applications where space is limited.

It has one screw connection per pole and one plug-in connection for a terminal strip with pins.

Plug-in terminal strips 302-SV or 302-SVG create a plug connection where both lead terminals are located parallel to the PCB. The contact pressure is applied by a stainless-steel spring.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

These terminals strips can be screw-mounted on a substrate.

#### Part Numbers

No. of poles	302-FB	302-FB-DS	Length	PU
2	72.820.029	84.820.029	15,00	250
3	73.820.029	85.820.029	23,00	250
4	74.820.029	86.820.029	31,00	250
5	75.820.029	87.820.029	39,00	80
6	76.820.029	88.820.029	47,00	80
7	77.820.029	89.820.029	55,00	50
8	78.820.029	90.820.029	63,00	50
9	79.820.029	91.820.029	71,00	50
10	80.820.029	92.820.029	79,00	40
11	81.820.029	93.820.029	87,00	40
12	82.820.029	94.820.029	94,00	40

#### General Information

Pitch	8 mm
No. of poles	2 - 12
Usable with	302-SV(-DS), 302-SVG
Areas of application	Applications that require to easily open and close not energised circuits.

ECO

#### Technical Data

Clamping Range	solid / flexible / A	WG		
without wire protector	0,5 - 4 mm² / 0,5	- 2,5 mm² / 20 - 1	12 AWG	
with wire protector	0,34 - 2,5 mm² / (	0,34 - 2,5 mm² / 0,34 - 1,5 mm² / 22 - 14 AWG		
Rated Cross Section	1,5 mm <sup>2</sup>	1,5 mm <sup>2</sup>		
Wire Stripping Length	5 mm ± 0,5 mm			
Overvoltage Category		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	0,4 Nm			
Other specifications	Rated values app 302-SV(-DS) and			

#### Material

Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal Body	Nickel plated brass
Screw	M2,6; zinc plated steel, blue passivated
Wire protector	Tin plated tin bronze
Spring	Stainless steel strip

#### Approvals

	Current	Voltage	Group	AWG	Nm	
<b>FN</b> ®	6	300	B,D	20 - 14	0,4 [1]	
<b>€₽</b> °	6	300	B,D,E	26 - 12	0,4 [1]	

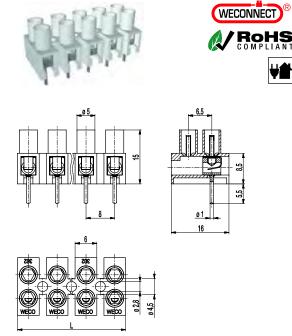
[1] When mounted on a suitable insulated surface, on standoffs or equivalent means.

- Marking options on the screw guides
- Marking strips BST-302
- Jumper 302-J
- · Moulding made of special polyamide for e.g. household appliances

#### Plug-in terminal strip

#### 302-FBG

Socket with clamping spring, with solder pin



The plug-in terminal strip 302-FBG is equipped with a solder pin and designed for the use on PCBs. Due to the small 8 mm pitch, this design is well suited for applications where space is limited.

Used in combination with a plug-in terminal strip 302-SV, the contact pressure is applied by a stainless-steel spring.

In plugged condition, all metal components are protected against accidental contact, except for the solder pins.

The screws are captive, vibration-proof and secured against self-loosening. In addition, the terminal strips can be screw-mounted onto the PCB.

#### Part Numbers

No. of poles	302-FBG	Length	PU
2	72.820.030	15,00	250
3	73.820.030	23,00	250
4	74.820.030	31,00	250
5	75.820.030	39,00	80
6	76.820.030	47,00	80
7	77.820.030	55,00	50
8	78.820.030	63,00	50
9	79.820.030	71,00	50
10	80.820.030	79,00	50
11	81.820.030	87,00	40
12	82.820.030	94,00	40

#### General Information

Pitch	8 mm	
No. of poles	2 - 12	
Usable with	302-SV	

VECO

#### Technical Data

1,5 mm <sup>2</sup>		
6 mm ± 0,5 mm		
III	Ш	11
3	2	2
500 V	630 V	1000 V
6 kV	6 kV	6 kV
450 V acc. to EN 6	50998-1	
6 A		
ø 1,3 mm		
Rated values apply 302-SV(-DS).	y to use in coml	pination with
	6 mm ± 0,5 mm III 3 500 V 6 kV 450 V acc. to EN 6 6 A Ø 1,3 mm Rated values appl	6 mm ± 0,5 mm III III 3 2 500 V 630 V 6 kV 6 kV 450 V acc. to EN 60998-1 6 A Ø 1,3 mm Rated values apply to use in coml

#### Material

Moulding	PA, white, V-0
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal Body	Nickel plated brass
Solder pin	ø 1 mm; tin plated copper
Spring	Stainless strip steel

#### Approvals

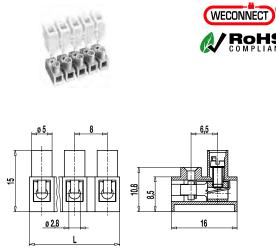
	Current	Voltage	Group	AWG	Nm
<b>RI</b> ®	7	300	B,D	20 - 14	
€₽∘	10	300	B,D,E	26-12 [1]	

[1] in combination with 302-SV-DS: 26-14 AWG

- Marking strips BST-302
- Longer solder pins up to 75 mm

#### Plug-in terminal strip 302-FLW-DS

Screw connection & socket with clamping spring, Plug-in direction vertical



The plug-in terminal strip 302-FLW-DS in 8 mm pitch is available with 2 to 12 poles. It is well suited for applications where space is limited.

It has one screw connection per pole and one vertical plug connection for a terminal strip with pins.

302-FLW-DS terminal strips unite contact spring with wire protector which offers good connection performance for applications requiring small plugging and pulling forces and low contact resistance. The wire protection reliably prevents damage to flexible wires by the turning screw.

The funnel-shaped insertion bushings guarantee perfect pin guidance and optimum contact protection.

Plug-in terminal strips 302-SV or 302-SVG create a plug connection where the connection leads are located in a 90° angle to each other. That way, challenges of limited mounting space can be resolved.

These terminals strips can be screw-mounted on a substrate.

	Part Numbers					
	No. of poles	302-FLW-DS	Length	PU		
	2	32.820.041	15,00	250		
	3	33.820.041	23,00	250		
	4	34.820.041	31,00	250		
	6	36.820.041	47,00	80		
	8	38.820.041	63,00	50		
	11	41.820.041	87,00	40		
	12	42.820.041	94,00	40		
1	further numl	per of poles on request				

further number of poles on request

General Information			
Pitch	8 mm		
No. of poles	2 - 12		
Usable with	302-SV(-DS), 302-SVG(-DS)		
Areas of application	This plug connector is well suited for applications that require to easily open and close not energised circuits.		

**ECO** 

#### Technical Data

Clamping Range	solid / flexible / AWG				
	0,34 - 2,5 mm² / 0,34 - 1,5 mm² / 22 - 14 AWG				
Rated Cross Section	1,5 mm <sup>2</sup>	1,5 mm <sup>2</sup>			
Wire Stripping Length	$7 \text{ mm} \pm 0.5 \text{ mm}$				
Overvoltage Category	111		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	0,4 Nm				
Other specifications	Rated values appl 302-SV(-DS).	Rated values apply to use in combination with 302-SV(-DS).			

#### Material

Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal Body	Tin plated brass
Screw	M2,6; zinc plated steel, blue passivated
Wire protector	Tin plated tin bronze
Plug	Tin plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm
<b>AN</b> ®	10	300	B,D	22 - 14	0,4
<b>S</b> ₽°	10	300	B,D,E	26 - 14	0,4

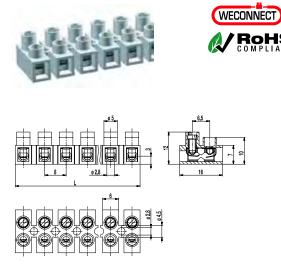
#### Options / Accessories

· Marking options on the screw guides

• Jumper 302-J

#### **Plug-in terminal strip** 302-NFB(-DS)

Screw connection & socket with clamping spring, low profile version



The plug-in connector strip 302-NFB, lower version, is available in 8 mm pitch with 1 to 12 poles.

The "N"-variant only differs from the standard 302-FB version by the 12 mm overall height (i.e. the moulding height is 3 mm lower). Note the shortened clearance and creepage distances.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw. These terminals strips can be screw-mounted on a substrate.

Part Numbers						
No. of poles	302-NFB	302-NFB-DS	Length	PU		
2	12.820.045	52.820.045	15,00	250		
3	13.820.045	53.820.045	23,00	250		
4	14.820.045	54.820.045	31,00	200		
5	15.820.045	55.820.045	39,00	100		
6	16.820.045	56.820.045	47,00	80		
7	17.820.045	57.820.045	55,00	80		
8	18.820.045	58.820.045	63,00	80		
9	19.820.045	59.820.045	71,00	60		
10	20.820.045	60.820.045	79,00	50		
11	21.820.045	61.820.045	87,00	50		
12	22.820.045	62.820.045	94,00	40		

General Information			
Pitch	8 mm		
No. of poles	2 - 12		
Usable with	302-NSV(-DS)		
Areas of application	This plug connector is well suited for applications that require to easily open and close not energised circuits.		

ECO

#### Technical Data

Clamping Range	solid / flexible / AWG
without wire protector	0,5 - 4 mm² / 0,5 - 2,5 mm² / 20 - 12 AWG
with wire protector	0,34 - 2,5 mm² / 0,34 - 1,5 mm² / 22 - 14 AWG
Rated Cross Section	1,5 mm <sup>2</sup>
Wire Stripping Length	5 mm ± 0,5 mm
Overvoltage Category	111 111 11
Pollution Severity Level	3 2 2
Rated Voltage	160 V (40V) 160 V (100V) 320 V (160V)
Rated Impulse Voltage	2,5 kV (1,5kV) 2,5 kV (1,5kV) 2,5 kV (1,5kV)
Rated Insulation Voltage	250 V acc. to EN 60998-1
Rated Current	6 A
Torque	0,4 Nm
Other specifications	Rated values apply to use in combination with 302-NSV(-DS). Values in parentheses apply to use without insulated substrates.

#### Material

PA, natural, V-2
CTI ≥ 600
1
-40°C up to 100°C
Nickel plated brass
M2,6; zinc plated steel, blue passivated
Tin plated tin bronze
Stainless steel strip

Approvals						
	Current	Voltage	Group	AWG	Nm	
<b>FL</b> ®	10	300	B,D	22 - 14	0,4 [2]	
<b>S</b> ₽°	6	300	B,D,E	26 - 12	0,4 [1] [2]	

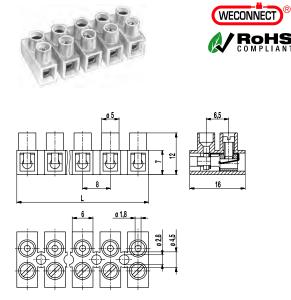
[1] for 302-NFB-DS: 26 - 14 AWG

[2] When mounted on a suitable insulated surface, on standoffs or equivalent means.

- · Marking options on the screw guides
- Jumper 302-J

### Plug-in terminal strip 302-NFLP-DS

Screw connection & socket with clamping spring, low profile version, Plug-in direction vertical, two screw guides of



The plug-in terminal strip 302-NFLP-DS, low version, is available in 8 mm pitch with 2 to 12 poles.

It has one screw connection per pole and one vertical plug connection to a terminal strip with pins.

Contact spring and wire protector form one unit. The wire protection reliably prevents damage to flexible wires by the turning screw.

The funnel-shaped insertion bushings guarantee perfect pin guidance and optimum contact protection.

The plug-in terminal strip 302-NSLP creates a plug connection where both terminal strips are located on top of each other and therefore require little mounting space. The leads remain in parallel position.

This arrangement does not allow for the connection of an earth lead.

These terminals strips can be screw-mounted on a substrate.

#### Part Numbers

No. of poles	302-NFLP-DS	Length	PU
2	52.820.048	15,00	250
3	53.820.048	23,00	250
4	54.820.048	31,00	200
5	55.820.048	39,00	100
6	56.820.048	47,00	80
7	57.820.048	55,00	80
8	58.820.048	63,00	80
9	59.820.048	71,00	60
10	60.820.048	79,00	50
11	61.820.048	87,00	50
12	62.820.048	94,00	40

# General Information Pitch 8 mm No. of poles 2 - 12 Usable with 302-NSLP(-HDS) Areas of application This plug connector is well suited for applications that require to easily open and close not energised

circuits.

ECO

#### Technical Data

Clamping Range	solid / flexible / A	WG	
	0,34 - 2,5 mm² / 0	0,34 - 2,5 mm² / 2	22 - 14 AWG
Rated Cross Section	1,5 mm <sup>2</sup>		
Wire Stripping Length	7 mm ± 0,5 mm		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	200 V	320 V	630 V
Rated Impulse Voltage	4 kV	4 kV	4 kV
Rated Insulation Voltage	250 V acc. to EN	60998-1	
Rated Current	6 A		
Torque	0,4 Nm		
Other specifications	Rated values app 302-NSLP(-HDS)		

#### Material

Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal Body	Nickel plated brass
Screw	M2,6; zinc plated steel, blue passivated
Wire protector	Tin plated tin bronze
Spring	Tin plated tin bronze

#### Approvals

	Current	Voltage	Group	AWG	Nm
<b>€</b> ₽°	10	300	B,D,E	26 - 14	0,4

#### Options / Accessories

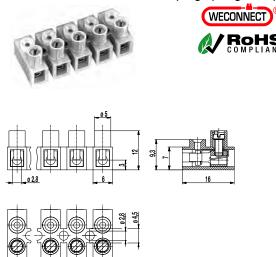
Marking options on the screw guides

• Jumper 302-J

26

### Plug-in terminal strip 302-NFLW-DS

Screw connection & socket with clamping spring, low profile version



The plug-in terminal strip 302-NFLW-DS, low version, is available in 8 mm pitch with 2 to 12 poles.

It has one screw connection per pole and one vertical plug connection to a terminal strip with pins.

Contact spring and wire protector form one unit and offers good connection performance for applications requiring small plugging and pulling forces and low contact resistance. The wire protection reliably prevents damage to flexible wires by the turning screw.

The funnel-shaped insertion bushings guarantee perfect pin guidance and optimum contact protection.

The "N"-variant only differs from the standard 302-FLW-DS version by the 12 mm overall height (i.e. the moulding height is 3 mm lower). This allows for a more compact angular plug connection to the 302-NSV terminal strip. Note the shortened clearance and creepage distances.

Plug-in terminal strip 302-NSLW creates a plug connection with wire entrances located parallel on top of each other which requires relatively little mounting space. That is why tensile forces on the wires have no direct effect on the contact performance.

This arrangement does not allow for the connection of an earth lead.

Part N	lumbers		
No. of poles	302-NFLW-DS	Length	PU
2	32.820.038	15,00	250
3	33.820.038	23,00	250
4	34.820.038	31,00	200
5	35.820.038	39,00	100
6	36.820.038	47,00	80
7	37.820.038	55,00	80
8	38.820.038	63,00	80
9	39.820.038	71,00	60
10	40.820.038	79,00	50
11	41.820.038	87,00	50
12	42.820.038	94,00	40

General Information	
Pitch	8 mm
No. of poles	2 - 12
Usable with	302-NSV(-DS), 302-NSLW(-HDS)
Areas of application	This plug connector is well suited for applications that require to easily open and close not energised circuits.

**ECO** 

#### Technical Data

Clamping Range	solid / flexible / A	WG	
	0,75 - 2,5 mm² / 0	),75 - 1,5 mm² / <sup>-</sup>	18 - 16 AWG
Rated Cross Section	1,5 mm <sup>2</sup>		
Wire Stripping Length	7 mm ± 0,5 mm		
Overvoltage Category	111	III	II
Pollution Severity Level	3	2	2
Rated Voltage	250 V	320 V	630 V
Rated Impulse Voltage	4 kV	4 kV	4 kV
Rated Insulation Voltage	250 V acc. to EN	60998-1	
Rated Current	6 A		
Torque	0,4 Nm		
Other specifications	Rated values app 302-NSLW(-HDS	5	vination with

#### Material

Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal Body	Nickel plated brass
Screw	M2,6; zinc plated steel, blue passivated
Wire protector	Tin plated tin bronze
Spring	Tin plated tin bronze

#### Approvals

	Current	Voltage	Group	AWG	Nm	
<b>AI</b> ®	10	300	B,D	22 - 14	0,4	
<b>€₽</b> °	10	300	B,D,E	26 - 14	0,4	

#### Options / Accessories

· Marking options on the screw guides

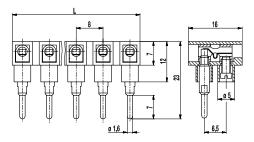
Jumper 302-J

#### Plug-in terminal strip 302-NSLP(-HDS)

Screw connection & pin, wire entrance vertical to pin, low profile version

WECONNECT





The plug-in terminal strip 302-NSLP, low version, is available in 8 mm pitch with 2 to 12 poles.

It has one screw connection per pole and one vertical pin for the connection to the female clamping unit.

Plug-in terminal strip 302-NFLP creates a plug-in connection where the wire entrances are located parallel on top of each other. This combination of plug-in terminal strips requires relatively little mounting space. That is why tensile forces on the conductors have no direct effect on the contact performance. This arrangement does not allow for the connection of an earth lead.

The wire protector of the "HDS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

These terminals strips can be screw-mounted on a substrate.

#### Part Numbers

No. of poles	302-NSLP	302-NSLP-HDS	Length	PU
2	72.820.039	52.820.039	15,00	250
3	73.820.039	53.820.039	23,00	250
4	74.820.039	54.820.039	31,00	200
5	75.820.048	55.820.039	39,00	100
6	76.820.039	56.820.039	47,00	80
7	77.820.039	57.820.039	55,00	80
8	78.820.039	58.820.039	63,00	80
9	79.820.039	59.820.039	71,00	60
10	80.820.039	60.820.039	79,00	40
11	81.820.039	61.820.039	87,00	40
12	82.820.039	62.820.039	94,00	40

General Information	
Pitch	8 mm
No. of poles	2 - 12
Usable with	302-NFLP-DS
Areas of application	This plug connector is well suited for applications that require to easily open and close not energised circuits.

**ECO** 

#### Technical Data

Clamping Range	solid / flexible / A	WG		
without wire protector	0,5 - 4 mm² / 0,5	- 2,5 mm² / 20 - 1	12 AWG	
with wire protector	0,34 - 2,5 mm² / (	),34 - 1,5 mm² / 2	22 - 14 AWG	
Rated Cross Section	1,5 mm <sup>2</sup>	1,5 mm <sup>2</sup>		
Wire Stripping Length	7 mm ± 0,5 mm			
Overvoltage Category	III	Ш	II	
Pollution Severity Level	3	2	2	
Rated Voltage	200 V	320 V	630 V	
Rated Impulse Voltage	4 kV	4 kV	4 kV	
Rated Insulation Voltage	250 V acc. to EN	60998-1		
Rated Current	6 A			
Torque	0,4 Nm			
Other specifications	Rated values app 302-NFLP-DS an	5		

#### Material

Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal Body	Nickel plated brass
Screw	M2,6; zinc plated steel, blue passivated
Wire protector	Stainless steel strip
Plug	Nickel plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm
<b>()</b>	10	300	B,D,E	26 - 12	0,4 [1]

[1] for 302-NSLP-HDS: 26 - 14 AWG

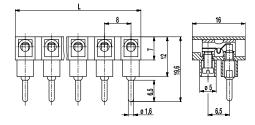
- Marking options on the screw guides
- Jumper 302-J

#### Plug-in terminal strip 302-NSLW(-HDS)

Screw connection & short pin, wire entrance vertical to pin, low profile version







The plug-in terminal strip 302-NSLW, low version, is available in 8 mm pitch with 2 to 12 poles.

It has one screw connection per pole and one vertical pin for the connection to the female clamping unit.

Plug-in terminal strip 302-NFLW creates a plug-in connection with wire entrances from opposite directions. This plug-in terminal strip combination requires relatively little mounting space. Since the plug-in direction is designed parallel to the screw axes, the tensile forces on the leads have no direct effect on the contact performance.

This arrangement does not allow for the connection of an earth lead.

The wire protector of the "HDS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

These terminals strips can be screw-mounted on a substrate.

#### Part Numbers

i ait i	umbers			
No. of poles	302-NSLW	302-NSLW-HDS	Length	PU
2	12.820.039	32.820.039	15,00	250
3	13.820.039	33.820.039	23,00	250
4	14.820.039	34.820.039	31,00	200
5	15.820.039	35.820.039	39,00	100
6	16.820.039	36.820.039	47,00	80
7	17.820.039	37.820.039	55,00	80
8	18.820.039	38.820.039	63,00	80
9	19.820.039	39.820.039	71,00	60
10	20.820.039	40.820.039	79,00	40
11	21.820.039	41.820.039	87,00	40
12	22.820.039	42.820.039	94,00	40

General Information					
Pitch	8 mm				
No. of poles	2 - 12				
Usable with	302-NFLW-DS				
Areas of application	This plug connector is well suited for applications that require to easily open and close not energised circuits.				

**ECO** 

#### Technical Data

Clamping Range	solid / flexible / AWG			
without wire protector	0,5 - 4 mm² / 0,5	12 AWG		
with wire protector	0,34 - 2,5 mm² / (	0,34 - 2,5 mm² / 2	22 - 14 AWG	
Rated Cross Section	1,5 mm <sup>2</sup>			
Wire Stripping Length	7 mm ± 0,5 mm			
Overvoltage Category		III	II	
Pollution Severity Level	3	2	2	
Rated Voltage	250 V	320 V	630 V	
Rated Impulse Voltage	4 kV	4 kV	4 kV	
Rated Insulation Voltage	250 V acc. to EN	60998-1		
Rated Current	6 A			
Torque	0,4 Nm			
Other specifications	Rated values apply to use in combination wit 302-NFLW-DS.			

#### Material

Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal Body	Nickel plated brass
Screw	M2,6; zinc plated steel, blue passivated
Wire protector	Stainless steel strip
Plug	Tin plated brass

#### Approvals

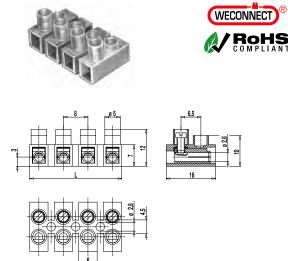
	Current	Voltage	Group	AWG	Nm
۶L®	10	300	B,D	22 - 14	0,4
<b>S₽</b> °	10	300	B,D,E	26 - 12	0,4 [1]

[1] for 302-NSLW-HDS: 26 - 14 AWG

- Marking options on the screw guides
- Jumper 302-J

### Plug-in terminal strip 302-NSTB(-DS)

Screw connection & socket, low profile version



The plug-in terminal strip 302-NSTB, lower version, is available in 8 mm pitch with 2 to 12 poles.

It has one screw connection per pole and one plug connection for a terminal strip with pins.

The slotted pins and slotted sockets of 302-NSTS plug-in terminal strip create appropriate contact pressure. Due to the small 8 mm pitch, this version is well suited for applications where space is limited.

The "N"-variant only differs from the standard 302-STB version by the 12 mm overall height (i.e. the moulding height is 3 mm lower). Note the shortened clearance and creepage distances.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

These terminals strips can be screw-mounted on a substrate.

Part Numbers								
No. of poles	302-NSTB	302-NSTB-DS	Length	PU				
2	32.820.046	52.820.046	15,00	250				
3	33.820.046	53.820.046	23,00	250				
4	34.820.046	54.820.046	31,00	200				
5	35.820.046	55.820.046	39,00	100				
6	36.820.046	56.820.046	47,00	80				
7	37.820.046	57.820.046	55,00	80				
8	38.820.046	58.820.046	63,00	80				
9	39.820.046	59.820.046	71,00	60				
10	40.820.046	60.820.046	79,00	50				
11	41.820.046	61.820.046	87,00	50				
12	42.820.046	62.820.046	94,00	40				

#### General Information

Pitch	8 mm
No. of poles	2 - 12
Usable with	302-NSTS(-DS)
Areas of application	Applications that require to easily open and close not energised circuits.

ECO

#### Technical Data

Clamping Range	solid / flexible / AWG					
without wire protector	0,5 - 4 mm² / 0,5	0,5 - 4 mm² / 0,5 - 2,5 mm² / 20 - 12 AWG				
with wire protector	0,34 - 2,5 mm² / 0	0,34 - 2,5 mm² / 0,34 - 1,5 mm² / 22 - 14 AWG				
Rated Cross Section	1,5 mm <sup>2</sup>					
Wire Stripping Length	6 mm ± 0,5 mm					
Overvoltage Category	111	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	0,4 Nm					
Other specifications	Rated values apply to use in combination with 302-NSTS(-DS).					

#### Material

PA, natural, V-2
CTI ≥ 600
I
-40°C up to 100°C
Nickel plated brass
M2,6; zinc plated steel, blue passivated
Tin plated tin bronze

#### Approvals

	Current	Voltage	Group	AWG	Nm
<b>FL</b> ®	10	300	B,D	22 - 14	0,4 [2]
<b>S₽</b> °	10	300	B,D,E	26 - 12	0,4 [1][2]

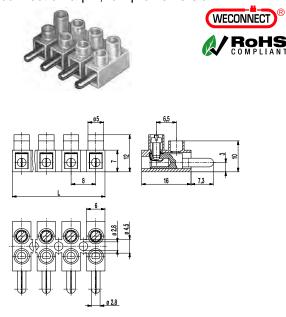
[1] for 302-NSTB-DS: 26 - 14 AWG

[2] When mounted on a suitable insulated surface, on standoffs or equivalent means.

- Marking options on the screw guides
- Jumper 302-J
- Moulding made of special polyamide for e.g. household appliances
- · Screws made out of brass
- Leading socket for the protective conductor pole

### Plug-in terminal strip 302-NSTS(-DS)

Screw connection & pin, low profile version



The plug-in terminal strip 302-NSTS, lower version, is available in 8 mm pitch with 2 to 12 poles.

It has one screw connection per pole and one vertical pin for the connection to the socket of the female counterpart.

The slotted pins and slotted sockets of plug-in terminal strip 302-NSTB create appropriate contact pressure. Due to the small 8 mm pitch, this version is well suited for applications where space is limited.

The "N"-variant only differs from the standard 302-STS version by the 12 mm overall height (i.e. the moulding height is 3 mm lower). Note the shortened clearance and creepage distances.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

These terminals strips can be screw-mounted on a substrate.

#### Part Numbers

No. of poles	302-NSTS	302-NSTS-DS	Length	PU
2	12.820.046	72.820.046	15,00	250
3	13.820.046	73.820.046	23,00	250
4	14.820.046	74.820.046	31,00	200
5	15.820.046	75.820.046	39,00	100
6	16.820.046	76.820.046	47,00	80
7	17.820.046	77.820.046	55,00	80
8	18.820.046	78.820.046	63,00	80
9	19.820.046	79.820.046	71,00	60
10	20.820.046	80.820.046	79,00	50
11	21.820.046	81.820.046	87,00	50
12	22.820.046	82.820.046	94,00	40

#### General Information

Pitch	8 mm
No. of poles	2 - 12
Usable with	302-NSTB(-DS)
Areas of application	This terminal strip is well suited for applications that require to easily open and close not energised circuits.

ECO

#### Technical Data

Clamping Range	solid / flexible / A	solid / flexible / AWG			
without wire protector	0,5 - 4 mm² / 0,5	0,5 - 4 mm² / 0,5 - 2,5 mm² / 20 - 12 AWG			
with wire protector	0,34 - 2,5 mm² / 0	0,34 - 2,5 mm² / 0,34 - 1,5 mm² / 22 - 14 AWG			
Rated Cross Section	1,5 mm <sup>2</sup>	1,5 mm <sup>2</sup>			
Wire Stripping Length	$6 \text{ mm} \pm 0.5 \text{ mm}$	6 mm ± 0,5 mm			
Overvoltage Category	III				
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	0,4 Nm	0,4 Nm			
Other specifications	Rated values apply to use in combination with 302-NSTB(-DS).				

#### Material

Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal Body	Nickel plated brass
Screw	M2,6; zinc plated steel, blue passivated
Wire protector	Tin plated tin bronze
Plug	Nickel plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm
<b>FL®</b>	10	300	B,D	22 - 14	0,4 [2]
<b>€₽</b> ®	10	300	B,D,E	26 - 12	0,4 [1][2]

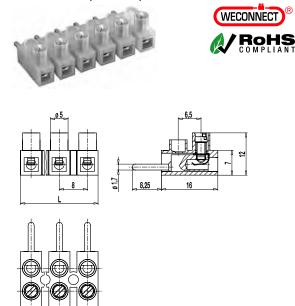
[1] for 302-NSTS-DS: 26 - 14 AWG

[2] When mounted on a suitable insulated surface, on standoffs or equivalent means.

- · Marking options on the screw guides
- Jumper 302-J
- · Moulding made of special polyamide for e.g. household appliances
- · Screws made out of brass

### Plug-in terminal strip 302-NSV(-DS)

Screw connection & pin, low profile version



The plug-in terminal strip 302-NSV, lower version, is available in 8 mm pitch with 2 to 12 poles.

It has one screw connection per pole and one vertical pin for the connection to the socket of the female counterpart.

The "N"-variant only differs from the standard 302-SV version by the 12 mm overall height (i.e. the moulding height is 3 mm lower). Note the shortened clearance and creepage distances.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

These terminals strips can be screw-mounted on a substrate.

#### Part Numbers

_					
	No. of poles	302-NSV	302-NSV-DS	Length	PU
	2	32.820.045	72.820.045	15,00	250
	3	33.820.045	73.820.045	23,00	250
	4	34.820.045	74.820.045	31,00	200
	5	35.820.045	75.820.045	39,00	100
	6	36.820.045	76.820.045	47,00	80
	7	37.820.045	77.820.045	55,00	80
	8	38.820.045	78.820.045	63,00	80
	9	39.820.045	79.820.045	71,00	60
	10	40.820.045	80.820.045	79,00	50
	11	41.820.045	81.820.045	87,00	50
	12	42.820.045	82.820.045	94,00	40

#### General Information

Pitch	8 mm
No. of poles	2 - 12
Usable with	302-NFB(-DS), 302-NFLW-DS
Areas of application	Applications that require to easily open and close not energised circuits.

**ECO** 

#### Technical Data

Clamping Range	solid / flexible / A	solid / flexible / AWG		
without wire protector	0,5 - 4 mm² / 0,5	0,5 - 4 mm² / 0,5 - 2,5 mm² / 20 - 12 AWG		
with wire protector	0,34 - 2,5 mm² /	0,34 - 2,5 mm² / 0,34 - 1,5 mm² / 22 - 14 AWG		
Rated Cross Section	1,5 mm <sup>2</sup>			
Wire Stripping Length	5 mm ± 0,5 mm			
Rated Voltage				
Overvoltage Category		III	II	
Pollution Severity Level	3	2	2	
Rated Voltage	160 V (40V)	160 V (100V)	320 V (160V)	
Rated Impulse Voltage	2,5 kV (1,5kV)	2,5 kV (1,5kV)	2,5 kV (1,5kV)	
Rated Insulation Voltage	250 V acc. to EN	250 V acc. to EN 60998-1		
Rated Current	6 A	6 A		
Torque	0,4 Nm	0,4 Nm		
Other specifications	302-NFB(-DS). V	Rated values apply to use in combination with 302-NFB(-DS). Values in parentheses apply to use without insulated substrates.		

#### Material

Moulding

PA, natural, V-2

Comparative Tracking Index	CTI ≥ 600
Insulating Group	
Temperature Range	-40°C up to 100°C
Terminal Body	Tin plated brass
Screw	M2,6; zinc plated steel, blue passivated
Wire protector	Tin plated tin bronze
Plug	Tin plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm
<b>FU</b> ®	10	300	B,D	22 - 14	0,4 [2]
<b>S₽</b> °	10	300	B,D,E	26 - 12	0,4 [1][2]

#### Options / Accessories

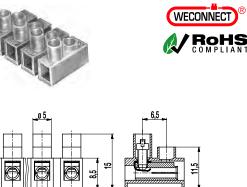
- · Marking options on the screw guides
- Jumper 302-J

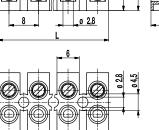
[1] for 302-NSV-DS: 26 - 14 AWG

[2] When mounted on a suitable insulated surface, on standoffs or equivalent means.

### Plug-in terminal strip 302-STB(-DS)

Screw connection & socket





The plug-in terminal strip 302-STB is available in 8 mm pitch with 1 to 12 poles. It has one screw connection per pole and one plug connection for a terminal strip with pins.

The slotted pins and slotted sockets of plug-in terminal strip 302-STS create appropriate contact pressure. Due to the small 8 mm pitch, this version is well suited for applications where space is limited.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

These terminals strips can be screw-mounted on a substrate.

#### Part Numbers 302-STB 302-STB-DS PU No. of Length poles 2 32.820.009 52.820.009 15,00 1000 3 33.820.009 53.820.009 23,00 1000 4 34.820.009 54.820.009 31,00 500 5 35.820.009 55.820.009 39,00 500 6 36.820.009 56.820.009 47,00 80 37.820.009 57.820.009 7 55,00 60 8 38.820.009 58.820.009 63,00 70 9 39.820.009 59.820.009 71,00 60 10 40.820.009 60.820.009 79,00 40 87,00 40 11 41.820.009 61.820.009 42.820.009 62.820.009 94,00 12 40

#### General Information

Pitch	8 mm
No. of poles	2 - 12
Usable with	302-STS(-DS)
Areas of application	This terminal strip is well suited for applications that require to easily open and close not energised circuits.

ECO

#### Technical Data

Clamping Range	solid / flexible / AWG			
without wire protector	0,5 - 4 mm² / 0,5 - 2,5 mm² / 20 - 12 AWG			
with wire protector	0,34 - 2,5 mm² / 0	0,34 - 2,5 mm² / 0,34 - 1,5 mm² / 22 - 14 AWG		
Rated Cross Section	1,5 mm²	1,5 mm <sup>2</sup>		
Wire Stripping Length	6 mm ± 0,5 mm	6 mm ± 0,5 mm		
Overvoltage Category				
Pollution Severity Level	3	2	2	
Rated Voltage	200 V	320 V	630 V	
Rated Impulse Voltage	4 kV	4 kV	4 kV	
Rated Insulation Voltage	450 V acc. to EN	60998-1		
Rated Current	6 A			
Torque	0,4 Nm			
Other specifications	Rated values apply to use in combination with 302-STS(-DS) and without insulated substrates.			

#### Material

PA, natural, V-2
CTI ≥ 600
-40°C up to 100°C
Nickel plated brass
M2,6; zinc plated steel, blue passivated
Tin plated tin bronze

#### Approvals

	Current	Voltage	Group	AWG	Nm	
<b>RJ</b> ®	6	300	B,D	20 - 14	0,4	
<b>€₽</b> °	10	300	B,D,E	26 - 12	0,4 [1]	

[1] for 302-STB-DS: 26 - 14 AWG

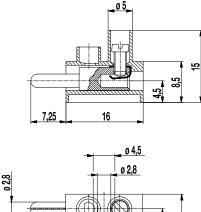
- · Marking options on the screw guides
- Jumper 302-J
- · Moulding made of special polyamide for e.g. household appliances
- · Screws made out of brass
- · Leading socket for the protective conductor pole
- With pegs at the base for saving assembly time

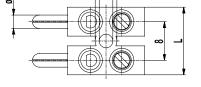
### Plug-in terminal strip 302-STS(-DS)

Screw connection & pin









The plug-in terminal strip 302-STS is available in 8 mm pitch with 1 to 12 poles. It has one screw connection per pole and one vertical pin for the connection to the socket of the female counterpart.

The slotted pins and slotted sockets of plug-in terminal strip 302-STB create appropriate contact pressure. Due to the small 8 mm pitch, this version is well suited for applications where space is limited.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw. These terminals strips can be screw-mounted on a substrate.

Part Numbers							
No. of poles	302-STS	302-STS-DS	Length	PU			
2	12.820.009	72.820.009	15,00	1000			
3	13.820.009	73.820.009	23,00	1000			
4	14.820.009	74.820.009	31,00	500			
5	15.820.009	75.820.009	39,00	500			
6	16.820.009	76.820.009	47,00	80			
7	17.820.009	77.820.009	55,00	60			
8	18.820.009	78.820.009	63,00	70			
9	19.820.009	79.820.009	71,00	60			
10	20.820.009	80.820.009	79,00	40			
11	21.820.009	81.820.009	87,00	40			
12	22.820.009	82.820.009	94,00	40			

#### General Information

Pitch	8 mm
No. of poles	2 - 12
Usable with	302-STB(-DS)
Areas of application	Applications that require to easily open and close not energised circuits.

**NECO** 

#### Technical Data

Clamping Range	solid / flexible / A	WG			
without wire protector	0,5 - 4 mm² / 0,5	0,5 - 4 mm² / 0,5 - 2,5 mm² / 20 - 12 AWG			
with wire protector	0,34 - 2,5 mm² / 0	0,34 - 2,5 mm² / 0,34 - 1,5 mm² / 22 - 14 AWG			
Rated Cross Section	1,5 mm <sup>2</sup>	1,5 mm²			
Wire Stripping Length	6 mm ± 0,5 mm				
Overvoltage Category	III	III	II		
Pollution Severity Level	3	2	2		
Rated Voltage	200 V	320 V	630 V		
Rated Impulse Voltage	4 kV	4 kV	4 kV		
Rated Insulation Voltage	450 V acc. to EN	60998-1			
Rated Current	6 A				
Torque	0,4 Nm	0,4 Nm			
Other specifications	Rated values apply to use in combination with 302-STB(-DS) and without insulated substrates.				

#### Material

Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal Body	Nickel plated brass
Screw	M2,6; zinc plated steel, blue passivated
Wire protector	Tin plated tin bronze
Plug	Nickel plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm	
<b>FL</b> ®	6	300	B,D	20 - 14	0,4	
<b>SP</b> °	10	300	B,D,E	26 - 12	0,4 [1]	

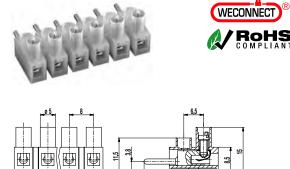
[1] for 302-STS-DS: 26 - 14 AWG

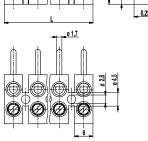
- Marking options on the screw guides
- Jumper 302-J
- · Moulding made of special polyamide for e.g. household appliances
- · Screws made out of brass
- With pegs at the base for saving assembly time

### Plug-in terminal strip

#### 302-SV(-DS)

Screw connection & pin





The plug-in terminal strip 302-SV is available in 8 mm pitch with 1 to 12 poles. It has one screw connection per pole and one vertical pin for the connection to the socket of the female counterpart.

In combination with the plug-in terminal strip 302-FB, this connector provides the contact pressure via a stainless steel spring which ensures good electrical contact. Plug-in direction is parallel to each other.

In combination with the plug-in terminal strip 302-FBG, this connector can be used especially on a printed circuit board.

Plug-in terminal strips 302-SV or 302-SVG create a plug connection where the connection leads are located in a 90° angle to each other. That way, challenges of limited mounting space can be resolved. Due to the small 8 mm pitch, this version is well suited for applications where space is limited.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

These terminals strips can be screw-mounted on a substrate.

Part Numbers						
No. of poles	302-SV	302-SV-DS	Length	PU		
2	60.820.029	48.820.029	15,00	250		
3	61.820.029	49.820.029	23,00	250		
4	62.820.029	50.820.029	31,00	250		
5	63.820.029	51.820.029	39,00	80		
6	64.820.029	52.820.029	47,00	80		
7	65.820.029	53.820.029	55,00	50		
8	66.820.029	54.820.029	63,00	50		
9	67.820.029	55.820.029	71,00	50		
10	68.820.029	56.820.029	79,00	40		
11	69.820.029	57.820.029	87,00	40		
12	70.820.029	58.820.029	94,00	40		

#### General Information

Pitch	8 mm
No. of poles	2 - 12
Usable with	302-FB(-DS), 302-FBG, 302-FLW-DS
Areas of application	Applications that require to easily open and close not energised circuits.

ECO

#### Technical Data

solid / flexible / A	WG			
0,5 - 4 mm² / 0,5 - 2,5 mm² / 20 - 12 AWG				
0,34 - 2,5 mm² / 0,34 - 1,5 mm² / 22 - 14 AWG				
1,5 mm²				
5 mm ± 0,5 mm				
- 111	III	II		
3	2	2		
160 V	160 V	320 V		
2,5 kV	2,5 kV	2,5 kV		
130 V acc. to EN	60998-1			
6 A				
0,4 Nm				
Rated values apply to use in combination with 302-FB(-DS) and without insulated substrates.				
	0,5 - 4 mm <sup>2</sup> / 0,5 0,34 - 2,5 mm <sup>2</sup> / 0 1,5 mm <sup>2</sup> 5 mm ± 0,5 mm III 3 160 V 2,5 kV 130 V acc. to EN 6 A 0,4 Nm Rated values app	0,34 - 2,5 mm² / 0,34 - 1,5 mm² / 2 1,5 mm² 5 mm ± 0,5 mm III III 3 2 160 V 160 V 2,5 kV 2,5 kV 130 V acc. to EN 60998-1 6 A 0,4 Nm Rated values apply to use in comt		

#### Material

Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	1
Temperature Range	-40°C up to 100°C
Terminal Body	Tin plated brass
Screw	M2,6; zinc plated steel, blue passivated
Wire protector	Tin plated tin bronze
Plug	Tin plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm
<b>FN</b> ®	6	300	B,C,D	20 - 14	0,4 [2]
<b>€₽</b> °	10	300	B,D,E	26 - 12	0,4 [1][2]

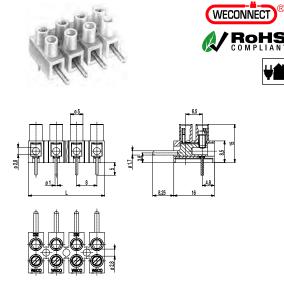
[1] for 302-SV-DS: 26 - 14 AWG

[2] When mounted on a suitable insulated surface, on standoffs or equivalent means.

- · Marking options on the screw guides
- Jumper 302-J
- · Moulding made of special polyamide for e.g. household appliances

302-SVG

Screw connection & pin, with solder pin



The plug-in terminal strip 302-SVG is equipped with a solder pin and designed for the use on PCBs. Due to the small 8 mm pitch, this design is well suited for applications where space is limited.

The flexible polyamide moulding can even be mounted on curved surfaces.

Used in combination with a plug-in terminal strip 302-FB plug-in terminal strip, the contact pressure is applied by a stainless-steel spring. Plug-in direction is parallel to each other. The wire entrance is located in plug direction.

The combination with 302-FLW-DS creates an angular plug connection which is well suited of resolving even challenging mounting conditions. The angular plug-in connector type 302-FLW-DS has a contact spring which forms a unit with the wire protector.

The direction of insertion is in a  $90^{\circ}$  angle. The wire entrance is perpendicular to the direction of insertion.

In plugged condition, all metal components are protected against accidental contact, except for the solder pins. The screws are captive, vibration-proof and secured against self-loosening. The strips have fixing holes to attach the screws between the poles.

The plug-in connector can be used as three-way contact.

Part Numbers				
No. of poles	302-SVG	Length	PU	
2	60.820.030	15,00	250	
3	61.820.030	23,00	100	
4	62.820.030	31,00	250	
5	63.820.030	39,00	80	
6	64.820.030	47,00	80	
7	65.820.030	55,00	50	
8	66.820.030	63,00	50	
9	67.820.030	71,00	50	
10	68.820.030	79,00	40	
11	69.820.030	87,00	40	
12	70.820.030	94,00	40	

#### General Information

Pitch	8 mm	
No. of poles	2 - 12	
Usable with	302-FB, 302-FLW-DS	

ECO

#### Technical Data

Clamping Range	solid / flexible / AV	solid / flexible / AWG			
	0,34 - 2,5 mm² / 0	,34 - 2,5 mm² / 3	22 - 14 AWG		
Rated Cross Section	1,5 mm <sup>2</sup>				
Wire Stripping Length	$5 \text{ mm} \pm 0.5 \text{ mm}$				
Overvoltage Category	III		II		
Pollution Severity Level	3	2	2		
Rated Voltage	400 V	630 V	1000 V		
Rated Impulse Voltage	6 kV	6 kV	6 kV		
Rated Insulation Voltage	450 V acc. to EN e	60998-1			
Rated Current	6 A				
Hole in PCB	ø 1,3 mm				
Other specifications	Rated values appl 302-FB(-DS) or 30	<i>,</i>	bination with		

#### Material

PA, white, V-0
CTI ≥ 600
1
-40°C up to 100°C
Tin plated brass
M2,6; zinc plated steel, blue passivated
ø 1 mm; tin plated copper
Tin plated brass

#### Approvals

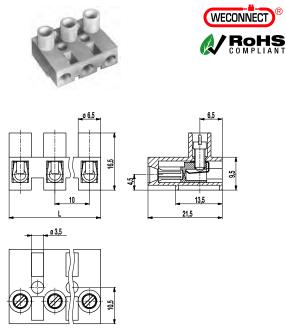
	Current	Voltage	Group	AWG	Nm
<b>S₽</b> °	10	300	B,D,E	26 - 12	0,4 [1]

[1] in combination with 302-FB

- Marking strips BST-302
- Longer solder pins up to 75 mm

# Plug-in terminal strip 321-B(-DS)

Screw connection & socket



The plug-in terminal strip 321-B is available in 10 mm pitch with 1 to 12 poles. It has one screw connection per pole and one plug connection for a terminal strip with pins.

The special moulding houses a spring-loaded terminal body with six slots and is protected against accidental contact.

A funnel guides the solid male plug 321-S. This combination provides permanent annular contact.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

These terminals strips can be screw-mounted on a substrate.

#### Part Numbers

No. of poles	321-B	321-B-DS	Length	PU
2	12.821.006	32.821.006	18,00	1000
3	13.821.006	33.821.006	28,00	1000
4	14.821.006	34.821.006	38,00	500
5	15.821.006	35.821.006	48,00	500
6	16.821.006	36.821.006	58,00	100
7	17.821.006	37.821.006	68,00	100
8	18.821.006	38.821.006	78,00	80
9	19.821.006	39.821.006	88,00	80
10	20.821.006	40.821.006	98,00	50
11	21.821.006	41.821.006	108,00	50
12	22.821.006	42.821.006	117,00	50

#### General Information

Pitch	10 mm
No. of poles	2 - 12
Usable with	321-S(-DS)
Areas of application	Applications that require to easily open and close not energised circuits.

WECO

#### Technical Data

Clamping Range	solid / flexible / A	WG		
without wire protector	0,75 - 6 mm² / 0,7	0,75 - 6 mm² / 0,75 - 4 mm² / 18 - 12 AWG		
with wire protector	0,5 - 4 mm² / 0,5	0,5 - 4 mm² / 0,5 - 2,5 mm² / 20 - 12 AWG		
Rated Cross Section	2,5 mm <sup>2</sup>	2,5 mm <sup>2</sup>		
Wire Stripping Length	6 mm ± 0,5 mm			
Overvoltage Category	III		II	
Pollution Severity Level	3	2	2	
Rated Voltage	320 V	320 V	630 V	
Rated Impulse Voltage	4 kV	4 kV	4 kV	
Rated Insulation Voltage	450 V acc. to EN	60998-1 [1]		
Rated Current	16 A			
Torque	0,5 Nm			
Other specifications	Rated values app 321-S(-DS) and in	5		

#### Material

PA, natural, V-2
CTI ≥ 600
I
-40°C up to 100°C
Nickel plated brass
M3; zinc plated steel, blue passivated
Tin plated tin bronze

#### Approvals

	Current	Voltage	Group	AWG	Nm
<b>FL</b> ®	20	300	В	18 - 12	0,51
<b>S</b> ₽®	15 10	300 300	B D,E	26 - 10 26 - 10	0,51 [2] 0,51 [2]

#### Options / Accessories

• Marking options on the screw guides

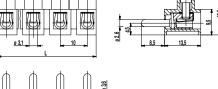
[1] with insulating base

[2] for 321-B-DS: 26 - 12 AWG

# 321-S(-DS)

Screw connection & pin





The plug-in terminal strip 321-S is available in 10 mm pitch with 1 to 12 poles. It has one screw connection per pole and one vertical pin for the connection to the socket of the female counterpart.

The plug-in terminal strip was designed with a solid pin in order provide permanent annular contact to the socket of 321-B.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

These terminals strips can be screw-mounted on a substrate.

Part N	Part Numbers					
No. of poles	321-S	321-S-DS	Length	PU		
2	12.821.007	32.821.007	18,00	1000		
3	13.821.007	33.821.007	28,00	1000		
4	14.821.007	34.821.007	38,00	500		
5	15.821.007	35.821.007	48,00	500		
6	16.821.007	36.821.007	58,00	100		
7	17.821.007	37.821.007	68,00	100		
8	18.821.007	38.821.007	78,00	80		
9	19.821.007	39.821.007	88,00	80		
10	20.821.007	40.821.007	98,00	50		
11	21.821.007	41.821.007	108,00	50		
12	22.821.007	42.821.007	118,00	50		

#### General Information

Pitch	10 mm
No. of poles	2 - 12
Usable with	321-B(-DS)
Areas of application	Applications that require to easily open and close not energised circuits.

VECO

#### Technical Data

Clamping Range	solid / flexible / A	WG			
without wire protector	0,75 - 6 mm² / 0,7	0,75 - 6 mm² / 0,75 - 2,5 mm² / 18 - 12 AWG			
with wire protector	0,5 - 4 mm² / 0,5	0,5 - 4 mm² / 0,5 - 2,5 mm² / 20 - 12 AWG			
Rated Cross Section	2,5 mm <sup>2</sup>	2,5 mm <sup>2</sup>			
Wire Stripping Length	6 mm ± 0,5 mm				
Overvoltage Category	III		II		
Pollution Severity Level	3	2	2		
Rated Voltage	320 V	320 V	630 V		
Rated Impulse Voltage	4 kV	4 kV	4 kV		
Rated Insulation Voltage	450 V acc. to EN	60998-1 [1]			
Rated Current	16 A	16 A			
Torque	0,5 Nm				
Other specifications	Rated values app 321-B(-DS) and ir	,			

#### Material

Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°F up to 100°C
Terminal Body	Nickel plated brass
Screw	M3; zinc plated steel, blue passivated
Wire protector	Tin plated tin bronze
Plug	Nickel plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm	
<b>AI</b> ®	20	300	В	18 - 12	0,51	
<b>€₽</b> ®	15 10	300 300	B D,E	26 - 10 26 - 10	0,51 [2] 0,51 [2]	

#### Options / Accessories

• Marking options on the screw guides

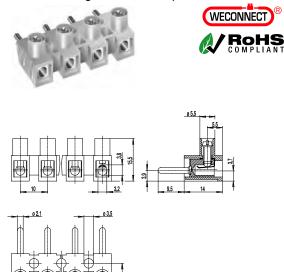
• Leading plug for the protective conductor pole

[1] with insulating base

[2] for 321-S-DS: 26 - 12 AWG

# Plug-in terminal strip 322-D-SV(-DS)

Screw connection, large conductor space



The 322-D-SV is based on our established plug-in terminal strip 322-SV. The clamping space is enlarged for 2x2,5 mm<sup>2</sup> solid wire without wire protector or 2x1,5 mm<sup>2</sup> with wire protector. Therefore, this version is most suitable when connections of two wires per pole are required.

With the exception of the clamping system, the measurements conform to the standard design.

The screws have a slotted, as well as a cross slot (plus-minus screw)

In combination with the plug-in terminal strip 323-FB, this connector provides the contact pressure via a stainless steel spring which ensures good electrical contact. Plug-in direction is parallel to each other.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

These terminals strips can be screw-mounted on a substrate.

#### Part Numbers

No. of poles	322-D-SV	322-D-SV-DS	Length	PU
2	12.821.036	32.821.036	16,50	1000
3	13.821.036	33.821.036	26,50	1000
4	14.821.036	34.821.036	36,50	800
5	15.821.036	35.821.036	46,50	500
6	16.821.036	36.821.036	56,50	100
8	18.821.036	38.821.036	76,50	70
10	20.821.036	40.821.036	96,50	50
12	22.821.036	42.821.036	116,50	50

further number of poles on request

#### General Information

Pitch	10 mm
No. of poles	2 - 12
Usable with	323-FB(-HDS)
Areas of application	Power supply units

**ECO** 

#### Technical Data

Clamping Range	solid / flexible / A	solid / flexible / AWG			
without wire protector	1 - 2x2,5 mm² / 1	1 - 2x2,5 mm² / 1 - 2x1,5 mm² / 2x16 AWG			
with wire protector	0,75 - 2x1,5 mm <sup>2</sup>	0,75 - 2x1,5 mm² / 0,75 - 2x1,5 mm² / 2x16 AWG			
Rated Cross Section	2 x 2,5 mm <sup>2</sup>				
Wire Stripping Length	7 mm ± 0,5 mm				
Overvoltage Category		Ш	II		
Pollution Severity Level	3	2	2		
Rated Voltage	500 V (160V)	630 V (160V)	1000 V (320V)		
Rated Impulse Voltage	6 kV (2,5 kV)	6 kV (2,5 kV)	6 kV (2,5 kV)		
Rated Insulation Voltage	750 V acc. to EN	60998-1 [1]			
Rated Current	16 A, with ambier	nt temperature u	p to 30°C		
Torque	0,5 Nm	0,5 Nm			
Other specifications	323-FB(-HDS). V	Rated values apply to use in combination with 323-FB(-HDS). Values in parentheses apply to use without insulated substrates.			

Material	
Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal Body	Tin plated brass
Screw	M3; zinc plated steel, blue passivated
Wire protector	Tin plated tin bronze
Plug	Tin plated brass

#### Options / Accessories

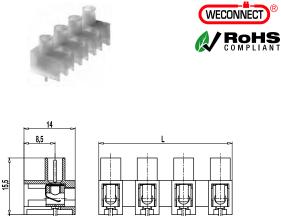
- · Marking options on and between the screw guides
- Jumper 323-J

[1] with insulating base

### Plug-in terminal strip 322-FBG

4,8

Socket with clamping spring, with solder pin



The plug-in terminal strip 322-FBG with a pitch of 10 mm is equipped with a solder pin and designed for the use on PCBs. Due to large pitch and moulding shape, this version is also well suited for applications using higher voltages.

Used in combination with a plug-in terminal strip 322-SVW, the contact pressure is applied by a stainless-steel spring.

In plugged condition, all metal components are protected against accidental contact, except for the solder pins.

The screws are captive, vibration-proof and secured against self-loosening. In addition, these terminals strips can be screw-mounted on the PCB.

Part N	umbers		
No. of poles	322-FBG	Length	PU
2	60.821.013	18,00	200
3	61.821.013	28,00	250
4	62.821.013	38,00	200
5	63.821.013	48,00	100
6	64.821.013	58,00	100
7	65.821.013	68,00	70
8	66.821.013	78,00	70
9	67.821.013	88,00	60
10	68.821.013	98,00	50
11	69.821.013	108,00	50
12	70.821.013	117,00	50

#### General Information

Pitch	10 mm
No. of poles	2 - 12
Usable with	322-SVW(-DS)

VECO

#### Technical Data

Overvoltage Category	111		II		
Pollution Severity Level	3	2	2		
Rated Voltage	630 V (500 V)	1000V (630V)	1000V (1000V)		
Rated Impulse Voltage	8 kV (6 kV)	8 kV (6 kV)	6 kV (6 kV)		
Rated Insulation Voltage	750 V acc. to EN	60998-1			
Rated Current	10 A	10 A			
Hole in PCB	ø 1,3 mm				
Other specifications	Rated values in p 322-SVW(-DS).	arentheses apply	to use with		

#### Material

Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal Body	Tin plated brass
Solder pin	ø 1 mm; tin plated copper
Spring	Stainless strip steel

#### Approvals

	Current	Voltage	Group	AWG	Nm
<b>FL</b> ®	20	300	В	18 - 12	
©۲ ۲	15 10	300 300	B D,E	26 - 10 26 - 10	

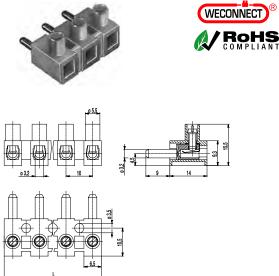
#### Options / Accessories

• Marking strips BST-322

Longer solder pins up to 75 mm

# 322-STFS(-DS)

Screw connection & pin



The plug-in terminal strip 322-STFS is available in 10 mm pitch with 2 to 12 poles. It has one screw connection per pole and one vertical pin for the connection to the socket of the female counterpart.

This plug-in terminal strip was designed with a solid pin in order to provide reliable permanent contact to the socket of 323-STFB.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

These terminals strips can be screw-mounted on a substrate.

Part Numbers				
No. of poles	322-STFS	322-STFS-DS	Length	PU
2	72.821.002	12.821.032	18,00	1000
3	73.821.002	13.821.032	28,00	1000
4	74.821.002	14.821.032	38,00	500
5	75.821.002	15.821.032	48,00	500
6	76.821.002	16.821.032	58,00	100
7	77.821.002	17.821.032	68,00	100
8	78.821.002	18.821.032	78,00	80
9	79.821.002	19.821.032	88,00	80
10	80.821.002	20.821.032	98,00	50
11	81.821.002	21.821.032	108,00	50
12	82.821.002	22.821.032	117,00	50

#### General Information

Pitch	10 mm
No. of poles	2 - 12
Usable with	323-STFB(-DS)
Areas of application	Applications that require to easily open and close not energised circuits.

**VECO** 

#### Technical Data

Clamping Range	solid / flexible / AWG				
without wire protector	0,75 - 6 mm² / 0,75 - 4 mm² / 18 - 10 AWG				
with wire protector	0,5 - 4 mm² / 0,5 -	0,5 - 4 mm² / 0,5 - 2,5 mm² / 20 - 12 AWG			
Rated Cross Section	2,5 mm <sup>2</sup>				
Wire Stripping Length	6 mm ± 0,5mm				
Overvoltage Category	III	III	II		
Pollution Severity Level	3	2	2		
Rated Voltage	400 V	630 V	1000 V		
Rated Impulse Voltage	6 kV	6 kV	6 kV		
Rated Insulation Voltage	450 V acc. to EN	60998-1 [1]			
Rated Current	16 A				
Torque	0,5 Nm				
Other specifications	Rated values appl 323-STFB and ins	,			

#### Material

Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal Body	Nickel plated brass
Screw	M3; zinc plated steel, blue passivated
Wire protector	Tin plated tin bronze
Plug	Nickel plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm
<b>S₽</b> °	15	300	B	26 - 10	0,51 [2]
	10	300	D,E	26 - 10	0,51 [2]

#### Options / Accessories

Marking options on the screw guides

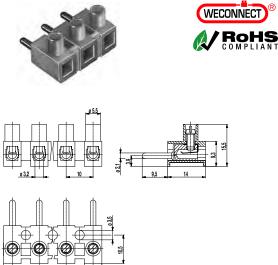
• Leading plug for the protective conductor pole

[1] with insulating base

[2] for 322-STFS-DS: 26 - 12 AWG

## 322-SV(-DS)

Screw connection & pin



The plug-in terminal strip 322-SV is available in 10 mm pitch with 2 to 12 poles. It has one screw connection per pole and one vertical pin for the connection to the socket of the female counterpart.

When used in combination with a plug-in terminal strip 323-FB plug-in terminal strip, the contact pressure is applied by a stainless-steel spring thus providing excellent electrical contact. The plugging direction is parallel to each other.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

These terminals strips can be screw-mounted on a substrate.

#### Part Numbers

-		annooro			
	No. of poles	322-SV	322-SV-DS	Length	PU
	2	72.821.012	12.821.012	18,00	1000
	3	73.821.012	13.821.012	28,00	1000
	4	74.821.012	14.821.012	38,00	800
	5	75.821.012	15.821.012	48,00	500
	6	76.821.012	16.821.012	58,00	100
	7	77.821.012	17.821.012	68,00	70
	8	78.821.012	18.821.012	78,00	70
	9	79.821.012	19.821.012	88,00	60
	10	80.821.012	20.821.012	98,00	50
	11	81.821.012	21.821.012	108,00	50
	12	82.821.012	22.821.012	117,00	50

#### General Information

Pitch	10 mm
No. of poles	2 - 12
Usable with	323-FB(-HDS)
Areas of application	Applications that require to easily open and close not energised circuits.

ECO

#### Technical Data

solid / flexible / A	WG			
0,5 - 4 mm² / 0,5	- 2,5 mm² / 20 -	12 AWG		
0,34 - 2,5 mm² / 0	0,34 - 2,5 mm² / 0,34 - 2,5 mm² / 22 - 14 AWG			
2,5 mm <sup>2</sup>				
7 mm ± 0,5 mm				
	III	II		
3	2	2		
400 V	630 V	1000 V		
6 kV	6 kV	6 kV		
450 V acc. to EN	60998-1 [1]			
16 A				
0,5 Nm				
Rated values apply to use in combination with 323-FB(-HDS) and insulated substrates.				
	0,5 - 4 mm <sup>2</sup> / 0,5 0,34 - 2,5 mm <sup>2</sup> / 0 2,5 mm <sup>2</sup> 7 mm ± 0,5 mm III 3 400 V 6 kV 450 V acc. to EN 16 A 0,5 Nm Rated values app	2,5 mm <sup>2</sup> 7 mm ± 0,5 mm 111 111 3 2 400 V 630 V 6 kV 6 kV 450 V acc. to EN 60998-1 [1] 16 A 0,5 Nm Rated values apply to use in com		

#### Material

Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Screw	M3, zinc plated steel, blue passivated
Wire protector	Tin plated tin bronze
Plug	Tin plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm
<b>FL</b> ®	20	300	В	18 - 12	0,51
<b>€</b> ₽°	15 10	300 300	B D,E	26 - 10 26 - 10	0,51 [2] 0,51 [2]

#### Options / Accessories

· Marking options on the screw guides

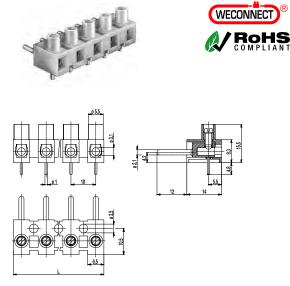
• Leading plug for the protective conductor pole

with insulating base
 for 322-SV-DS: 26-12 AWG

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### 322-SVG

Screw connection & pin, with solder pin



The plug-in terminal strip 322-SVG with a pitch of 10 mm is equipped with a solder pin and designed for the use on PCBs. Due to large pitch and moulding shape, this version is also well suited for applications using higher voltages.

When used in combination with a plug-in terminal strip 323-FB, the contact pressure is applied by a stainless-steel spring thus providing excellent electrical contact.

In plugged condition, all metal components are protected against accidental contact, except for the solder pins.

The screws are captive, vibration-proof and secured against self-loosening. In addition, the terminal strips can be screw-mounted onto the PCB. The plug-in connector can be used as three-way contact.

#### Part Numbers

No. of poles	322-SVG	Length	PU
2	72.821.013	18,00	250
3	73.821.013	28,00	250
4	74.821.013	38,00	200
5	75.821.013	48,00	100
6	76.821.013	58,00	100
7	77.821.013	68,00	70
8	78.821.013	78,00	70
9	79.821.013	88,00	60
10	80.821.013	98,00	50
11	81.821.013	108,00	50
12	82.821.013	117,00	50

#### General Information

Pitch	10 mm	
No. of poles	2 - 12	
Usable with	323-FB(-HDS)	

ECO

#### Technical Data

Clamping Range	solid / flexible / AWG		
	0,5 - 4 mm² / 0,5 -	2,5 mm² / 20 -	12 AWG
Rated Cross Section	2,5 mm²		
Wire Stripping Length	$5 \text{ mm} \pm 0.5 \text{ mm}$		
Overvoltage Category	III	III	II
Pollution Severity Level	3	2	2
Rated Voltage	500 V	630 V	1000 V
Rated Impulse Voltage	6 kV	6 kV	6 kV
Rated Insulation Voltage	750 V acc. to EN 6	50998-1	
Rated Current	10 A		
Hole in PCB	ø 1,3 mm		
Other specifications	Rated values apply 323-FB(-HDS).	y to use in com	pination with

#### Material

Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	
Temperature Range	-40°C up to 100°C
Terminal Body	Tin plated brass
Screw	M3; zinc plated steel, blue passivated
Solder pin	ø 1 mm; tin plated copper
Spring	Stainless strip steel

#### Approvals

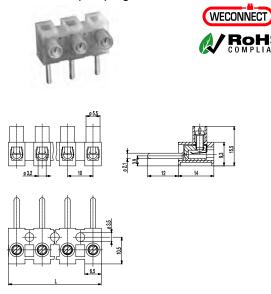
	Current	Voltage	Group	AWG	Nm	
<b>FL</b> ®	20	300	В	18 - 12	0,51	
<b>€₽</b> °	15 10	300 150	B D,E	26-10 [1] 26-10 [1]	0,51 0,51	

[1] in combination with 323-FB-HDS: 26 - 12 AWG

- Marking strips BST-322
- Longer solder pins up to 75 mm
- Leading plug for the protective conductor pole

#### Plug-in terminal strip 322-SVW(-DS)

Screw connection & pin, plug-in direction vertical, long pin



The plug-in terminal strip 322-SVW is available in 10 mm pitch with 2 to 12 poles. It has one screw connection per pole and one vertical pin for the connection to the socket of the female counterpart.

In combination with the 322-FBG plug-in terminal strip, this connector is particularly well suited for PCBs. The plug-in direction to the PCB is horizontal.

When used in combination with a type 323-FBW plug-in terminal strip, the contact pressure is applied by a stainless-steel spring thus providing excellent electrical contact. Due to the guided plug insertion from top, this angular plug-in connector combination is well suited for challenging mounting conditions.

The through-wiring for this angular plug-in connector with plug-in terminal strip 323-PHFBW is achieved by means of screw connections. The individual consumer is wired at the plug connection.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

These terminals strips can be screw-mounted on a substrate.

#### Part Numbers

No. of poles	322-SVW	322-SVW-DS	Length	PU
2	60.821.012	24.821.012	18,00	2000
3	61.821.012	25.821.012	28,00	1000
4	62.821.012	26.821.012	38,00	800
5	63.821.012	27.821.012	48,00	100
6	64.821.012	28.821.012	58,00	100
7	65.821.012	29.821.012	68,00	70
8	66.821.012	30.821.012	78,00	70
9	67.821.012	31.821.012	88,00	60
10	68.821.012	32.821.012	98,00	50
11	69.821.012	33.821.012	108,00	50
12	70.821.012	34.821.012	117,00	50

#### General Information

Pitch	10 mm
No. of poles	2 - 12
Usable with	322-FBG(-DS), 323-FBW(-DS), 323-PHFBW(-DS)
Areas of application	Applications that require to easily open and close not energised circuits.

ECO

#### Technical Data

Clamping Range	solid / flexible / A	WG			
without wire protector	0,5 - 4 mm² / 0,5	0,5 - 4 mm² / 0,5 - 2,5 mm² / 20 - 12 AWG			
with wire protector	0,34 - 2,5 mm² / (	0,34 - 2,5 mm² / 0,34 - 2,5 mm² / 22 - 14 AWG			
Rated Cross Section	2,5 mm <sup>2</sup>	2,5 mm <sup>2</sup>			
Wire Stripping Length	7 mm ± 0,5 mm				
Overvoltage Category	111	III	II		
Pollution Severity Level	3	2	2		
Rated Voltage	400 V (160 V)	630 V (160 V)	1000 V (320V)		
Rated Impulse Voltage	6 kV (2,5kV)	6 kV (2,5 kV)	6 kV (2,5 kV)		
Rated Insulation Voltage	450 V acc. to EN	60998-1			
Rated Current	10 A				
Torque	0,5 Nm				
Other specifications	Rated values app 323-FBW(-DS) an parentheses appl substrates.	nd insulated subs	strates. Values ir		

#### Material

Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Screw	M3; zinc plated steel, blue passivated
Wire protector	Tin plated tin bronze
Plug	Tin plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm
<b>71</b> ®	20	300	В	18 - 12	0,51
<b>()</b>	15 [2] 10 [2]	300 300	B D,E	26-10 [1] 26-10 [1]	0,51 0,51

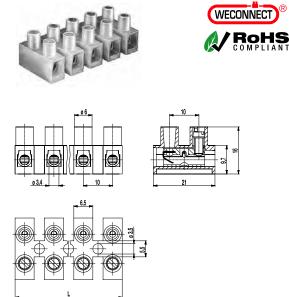
[1] for 322-SVW-DS: 26 - 12 AWG

[2] in combination with 323-PHFBW(-DS): 20 A

- Marking options on the screw guides
- Leading plug for the protective conductor pole
- · Moulding made of special polyamide for e.g. household appliances

# Plug-in terminal strip 323-FB(-HDS)

Screw connection & socket with clamping spring



The plug-in terminal strip 323-FB is available in 10 mm pitch with 2 to 12 poles. It has one screw connection per pole and one plug connection for a terminal strip with pins.

When using 322-SV plug-in terminal strips, the contact pressure is applied by a stainless-steel spring. The plugging direction is parallel to each other.

The wire protector of the "HDS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

These terminals strips can be screw-mounted on a substrate.

i art i	unibers			
No. of poles	323-FB	323-FB-HDS	Length	PU
2	72.822.032	12.822.032	18,00	1000
3	73.822.032	13.822.032	28,00	1000
4	74.822.032	14.822.032	38,00	800
5	75.822.032	15.822.032	48,00	500
6	76.822.032	16.822.032	58,00	100
7	77.822.032	17.822.032	68,00	70
8	78.822.032	18.822.032	78,00	70
9	79.822.032	19.822.032	88,00	60
10	80.822.032	20.822.032	98,00	50
11	81.822.032	21.822.032	108,00	50
12	82.822.032	22.822.032	117,00	50

Pitch	10 mm
No. of poles	2 - 12
Usable with	322-SV(-DS)
Areas of application	Applications that require to easily open and close not energised circuits.

WECO

#### Technical Data

Clamping Range	solid / flexible / A	WG			
without wire protector	0,75 - 6 mm² / 0,	0,75 - 6 mm² / 0,75 - 4 mm² / 18 - 10 AWG			
with wire protector	0,5 - 4 mm² / 0,5	0,5 - 4 mm² / 0,5 - 2,5 mm² / 20 - 12 AWG			
Rated Cross Section	2,5 mm <sup>2</sup>	2,5 mm²			
Wire Stripping Length	5 mm ± 0,5 mm				
Overvoltage Category	111	III	II		
Pollution Severity Level	3	2	2		
Rated Voltage	400 V	630 V	1000 V		
Rated Impulse Voltage	6 kV	6 kV	6 kV		
Rated Insulation Voltage	450 V acc. to EN	60998-1 [1]			
Rated Current	16 A				
Torque	0,5 Nm				
Other specifications		Rated values apply to use in combination with 322-SV(-DS) and insulated substrates.			

#### Material

Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal Body	Nickel plated brass
Screw	M3; zinc plated steel, blue passivated
Wire protector	Tin plated tin bronze
Spring	Stainless steel strip

#### Approvals

	Current	Voltage	Group	AWG	Nm
<b>FN</b> ®	20	300	В	18 - 12	0,51
	15 10	300 300	B D,E	26 - 10 26 - 10	0,51 [1] 0,51 [1]

#### Options / Accessories

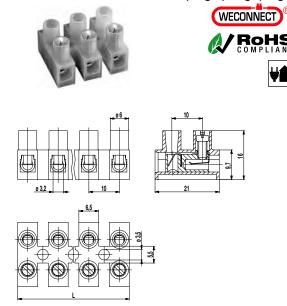
Marking options on the screw guides

• Jumper 323-J

with insulating base
 for 323-FB-HDS: 26 - 12 AWG

#### Plug-in terminal strip 323-FBW(-DS)

Screw connection & socket with clamping spring, plug-in direction vertical



The plug-in terminal strip 323-FBW is available in 10 mm pitch with 2 to 12 poles. It has one screw connection per pole and one plug connection pointing upwards for the connection of a terminal strip with pins.

When using a 322-SVW plug-in terminal strip, the contact pressure is applied by a stainless-steel spring thus providing excellent electrical contact. Due to the guided plug insertion from top, this angular plug-in connector combination is well suited for challenging mounting conditions.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

These terminals strips can be screw-mounted on a substrate.

#### Part Numbers

No. of poles	323-FBW	323-FBW-DS	Length	PU
2	60.822.032	12.822.011	18,00	2000
3	61.822.032	13.822.011	28,00	1000
4	62.822.032	14.822.011	38,00	800
5	63.822.032	15.822.011	48,00	500
6	64.822.032	16.822.011	58,00	100
7	65.822.032	17.822.011	68,00	70
8	66.822.032	18.822.011	78,00	70
9	67.822.032	19.822.011	88,00	60
10	68.822.032	20.822.011	98,00	50
11	69.822.032	21.822.011	108,00	50
12	70.822.032	22.822.011	117,00	50

#### Part numbers: "no flame" acc. to glow-wire-test

No. of poles	323-FBW	323-FBW-DS	Length	PU
2	60.822.032.EN6	12.822.011.EN6	18,00	2000
4	62.822.032.EN6	14.822.011.EN6	38,00	800
6	64.822.032.EN6	16.822.011.EN6	58,00	100
8	66.822.032.EN6	18.822.011.EN6	78,00	70
10	68.822.032.EN6	20.822.011.EN6	98,00	50
12	70.822.032.EN6	22.822.011.EN6	117,00	50

further number of poles on request

General Information				
Pitch	10 mm			
No. of poles	2 - 12			
Usable with	322-SVW(-DS)			
Areas of application	Applications that require to easily open and close not energised circuits.			

ECO

#### Technical Data

Clamping Range	solid / flexible / A	solid / flexible / AWG			
without wire protector	0,75 - 6 mm² / 0,7	0,75 - 6 mm² / 0,75 - 4 mm² / 18 - 10 AWG			
with wire protector	0,5 - 4 mm² / 0,5	- 2,5 mm² / 20 -	12 AWG		
Rated Cross Section	2,5 mm <sup>2</sup>	2,5 mm <sup>2</sup>			
Wire Stripping Length	7 mm ± 0,5 mm				
Overvoltage Category	111	III	II		
Pollution Severity Level	3	2	2		
Rated Voltage	400 V	630 V	1000 V		
Rated Impulse Voltage	6 kV	6 kV	6 kV		
Rated Insulation Voltage	450 V acc. to EN	60998-1			
Rated Current	10 A				
Torque	0,5 Nm				
Other specifications	Rated values app 322-SVW(-DS).	ly to use in com	pination with		

#### Material

Moulding	PA, natural, V-2 (PA, white, V-0) Details in brackets for "no-flame" products		
Comparative Tracking Index	CTI ≥ 600		
Insulating Group	I		
Temperature Range	-40°C up to 100°C		
Terminal Body	Nickel plated brass		
Screw	M3, zinc plated steel, passivated		
Wire protector	Tin plated tin bronze		
Spring	Stainless steel strip		

#### Approvals

	Current	Voltage	Group	AWG	Nm
<b>FU</b> ®	20	300	В	18 - 12	0,51
<b>()</b>	15 10	300 300	B D,E	26 - 10 26 - 10	0,51 [1] 0,51 [1]

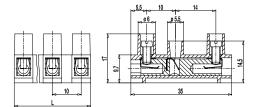
[1] for 323-FBW-DS: 26 - 12 AWG

- · Marking options on and between the screw guides
- Jumper 323-J
- Moulding made of special polyamide for e.g. household appliances

### Plug-in terminal strip 323-PHFBW(-DS)

2 screw connections & socket with clamping spring, plug-in direction vertical





The plug-in terminal strip 323-PHFBW is available in 10 mm pitch with 2 to 12 poles.

It has two screw connections per pole and one plug connection pointing upwards for the connection of a terminal strip with pins.

When using a 322-SVW plug-in terminal strip, the through-wiring of the angular plug connection is achieved by means of screw connections. The individual consumer is wired at the plug connection.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

These terminals strips can be screw-mounted on a substrate.

Part N	umbers			
No. of poles	323-PHFBW	323-PHFBW-DS	Length	PU
2	12.822.031	32.822.031	18,00	500
3	13.822.031	33.822.031	28,00	500
4	14.822.031	34.822.031	38,00	500
5	15.822.031	35.822.031	48,00	100
6	16.822.031	36.822.031	58,00	100
7	17.822.031	37.822.031	68,00	70
8	18.822.031	38.822.031	78,00	70
9	19.822.031	39.822.031	88,00	60
10	20.822.031	40.822.031	98,00	50
11	21.822.031	41.822.031	108,00	50
12	22.822.031	42.822.031	117,00	25

# General Information Pitch 10 mm No. of poles 2 - 12 Usable with 322-SVW(-DS) Areas of application Applications that require to easily open and close

not energised circuits.

ECO

#### Technical Data

Clamping Range	solid / flexible / A	WG			
without wire protector	0,75 - 6 mm² / 0,7	0,75 - 6 mm² / 0,75 - 4 mm² / 18 - 10 AWG			
with wire protector	0,5 - 4 mm² / 0,5	0,5 - 4 mm² / 0,5 - 2,5 mm² / 20 - 12 AWG			
Rated Cross Section	2,5 mm <sup>2</sup>				
Wire Stripping Length	6 mm ± 0,5 mm				
Overvoltage Category	III	III	П		
Pollution Severity Level	3	2	2		
Rated Voltage	400 V	630 V	1000 V		
Rated Impulse Voltage	6 kV	6 kV	6 kV		
Rated Insulation Voltage	750 V acc. to EN	60998-1			
Rated Current	• •	Through (total) current 25 A max., Plug connection 10 A max.			
Torque	0,5 Nm	0,5 Nm			
Other specifications	Rated values apply to use in combination with 322-SVW(-DS) and without insulated substrates.				

#### Material

Moulding	PA, natur, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal Body	Nickel plated brass
Screw	M3, zinc plated steel, blue passivated
Wire protector	Tin plated tin bronze
Spring	Stainless steel strip

#### Approvals

	Current	Voltage	Group	AWG	Nm
<b>FN</b> ®	20	300	В	18 - 12	0,51
	20 20 5	300 150 300	B C D,E	26 - 10 26 - 10 26 - 10	0,51 [1] 0,51 [1] 0,51 [1]

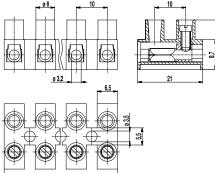
[1] for 323-PHFBW-DS: 26 - 12 AWG

- Marking options on and between the screw guides
- Jumper 323-J

# Plug-in terminal strip 323-STFB(-DS)

Screw connection & socket





The plug-in terminal strip 323-STFB is available in 10 mm pitch with 2 to 12 poles. It has one screw connection per pole and one plug connection for a terminal strip with pins.

The cross-slotted socket of this version is jacketed with a spring sleeve which provides good permanent contact to the male 322-STFS.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

Part Numbers				
No. of poles	323-STFB	323-STFB-DS	Length	PU
2	32.822.012	52.822.011	18,00	430
3	33.822.012	53.822.011	28,00	650
4	34.822.012	54.822.011	38,00	870
5	35.822.012	55.822.011	48,00	1080
6	36.822.012	56.822.011	58,00	1300
7	37.822.012	57.822.011	68,00	1500
8	38.822.012	58.822.011	78,00	1700
9	39.822.012	59.822.011	88,00	60
10	40.822.012	60.822.011	98,00	50
11	41.822.012	61.822.011	108,00	50
12	42.822.012	62.822.011	118,00	50

#### General Information

Pitch	10 mm
No. of poles	2 - 12
Usable with	322-STFS(-DS)
Areas of application	Applications that require to easily open and close not energised circuits.

WECO

#### Technical Data

Clamping Range	solid / flexible / A	WG		
without wire protector	0,75 - 6 mm² / 0,75 - 4 mm² / 18 - 10 AWG			
with wire protector	0,5 - 4 mm² / 0,5	- 2,5 mm² / 20 - 1	12 AWG	
Rated Cross Section	2,5 mm²			
Wire Stripping Length	6 mm ± 0,5 mm			
Overvoltage Category	III	III	II	
Pollution Severity Level	3	2	2	
Rated Voltage	400 V	630 V	630 V	
Rated Impulse Voltage	6 kV	6 kV	6 kV	
Rated Insulation Voltage	450 acc. to EN 60	998-1 [1]		
Rated Current	16 A			
Torque	0,5 Nm			
Other specifications	Rated values app 322-STFS(-DS) a	5		

#### Material

Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	
Temperature Range	-40°C up to 100°C
Terminal Body	Nickel plated brass
Screw	M3; zinc plated steel, blue passivated
Wire protector	Tin plated tin bronze
Spring	Stainless steel strip

#### Approvals

	Current	Voltage	Group	AWG	Nm
<b>S₽</b> °	15	300	B	26 - 10	0,51 [2]
	10	300	D,E	26 - 10	0,51 [2]

#### Options / Accessories

• Marking options on and between the screw guides

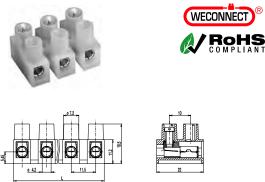
- Jumper 323-J
- Leading terminal body for the protective conductor pole

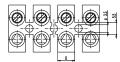
[1] with insulating base

[2] for 323-STFB-DS: 26 - 12 AWG

# Plug-in terminal strip 324-STFB(-DS)

Screw connection & socket





The plug-in terminal strip 324-STFB is available in 11,5 mm pitch with 2 to 12

poles. It has one screw connection per pole and one plug connection for a terminal strip with pins.

The cross-slotted socket of this version is jacketed with a spring sleeve which provides good permanent contact to the male 324-STFS.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

These terminals strips can be screw-mounted on a substrate.

Part N	Part Numbers					
No. of poles	324-STFB	324-STFB-DS	Length	PU		
2	32.823.004	32.823.017	21,00	1000		
3	33.823.004	33.823.017	32,00	500		
4	34.823.004	34.823.017	44,00	500		
5	35.823.004	35.823.017	55,00	250		
6	36.823.004	36.823.017	67,00	100		
7	37.823.004	37.823.017	78,00	75		
8	38.823.004	38.823.017	90,00	60		
9	39.823.004	39.823.017	101,00	50		
10	40.823.004	40.823.017	113,00	50		
11	41.823.004	41.823.017	124,00	50		
12	42.823.004	42.823.017	135,00	50		

#### General Information

Pitch	11,5 mm
No. of poles	2 - 12
Usable with	324-STFS(-DS)
Areas of application	Applications that require to easily open and close not energised circuits.

ECO

#### Technical Data

Clamping Range	solid / flexible / AWG			
without wire protector	1 - 10 mm² / 1 - 6 mm² / 16 - 10 AWG			
with wire protector	0,75 - 6 mm² / 0,	0,75 - 6 mm² / 0,75 - 4 mm² / 18 - 12 AWG		
Rated Cross Section	4 mm <sup>2</sup>			
Wire Stripping Length	7 mm ± 0,5 mm			
Overvoltage Category	III	Ш	П	
Pollution Severity Level	3	2	2	
Rated Voltage	250 V (500 V)	320 V (630 V)	630V (1000V)	
Rated Impulse Voltage	4 kV (6 kV)	4 kV (6 kV)	4 kV (6 kV)	
Rated Insulation Voltage	250 V acc. to EN	60998-1		
Rated Current	25 A			
Torque	0,8 Nm			
Other specifications	Rated values apply to use in combination with 324-STFS(-DS). Values in parentheses apply to use without insulated substrates.			

#### Material

Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal Body	Nickel plated brass
Screw	M3,5; zinc plated steel, blue passivated
Wire protector	Tin plated tin bronze
Spring	Stainless steel strip

#### Approvals

	Current	Voltage	Group	AWG	Nm
<b>71</b> ®	25	150	B,D	18 - 10	
<b>()</b>	20 10	300 300	B D,E	26 - 10 26 - 10	0,79 0,79

#### Options / Accessories

· Marking options on and between the screw guides

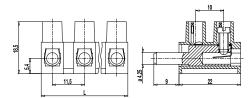
• Jumper 324-J

Leading socket for the protective conductor pole

# Plug-in terminal strip 324-STFS(-DS)

Screw connection & pin





The plug-in terminal strip 324-STFS is available in 11,5 mm pitch with 2 to 12 poles.

It has one screw connection per pole and one vertical pin for the connection to the socket of the female counterpart.

This plug-in terminal strip was designed with a solid pin in order to provide reliable permanent contact to the socket of 324-STFB.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

These terminals strips can be screw-mounted on a substrate.

Part N	Part Numbers					
No. of poles	324-STFS	324-STFS-DS	Length	PU		
2	72.823.004	12.823.017	21,00	1000		
3	73.823.004	13.823.017	32,00	500		
4	74.823.004	14.823.017	44,00	500		
5	75.823.004	15.823.017	55,00	250		
6	76.823.004	16.823.017	67,00	100		
7	77.823.004	17.823.017	78,00	75		
8	78.823.004	18.823.017	90,00	60		
9	79.823.004	19.823.017	101,00	50		
10	80.823.004	20.823.017	113,00	50		
11	81.823.004	21.823.017	124,00	50		
12	82.823.004	22.823.017	135,00	50		

#### General Information

Pitch	11,5 mm
No. of poles	2 - 12
Usable with	324-STFB(-DS)
Areas of application	Applications that require to easily open and close not energised circuits.

**ECO** 

#### Technical Data

Clamping Range	solid / flexible / A	WG		
without wire protector	1 - 10 mm² / 1 - 6 mm² / 16 - 10 AWG			
with wire protector	0,75 - 6 mm² / 0,75 - 4 mm² / 18 - 12 AWG			
Rated Cross Section	4 mm <sup>2</sup>	4 mm <sup>2</sup>		
Wire Stripping Length	7 mm ± 0,5 mm			
Overvoltage Category	III	Ш	II	
Pollution Severity Level	3	2	2	
Rated Voltage	250 V (500 V)	320 V (630 V)	630V (1000V)	
Rated Impulse Voltage	4 kV (6 kV)	4 kV (6 kV)	4 kV (6 kV)	
Rated Insulation Voltage	250 V acc. to EN	60998-1		
Rated Current	25 A			
Torque	0,8 Nm			
Other specifications	Rated values app 324-STFB(-DS). use without insula	Values in parenth		

#### Material

Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Screw	M3,5; zinc plated steel, blue passivated
Wire protector	Tin plated tin bronze
Plug	Nickel plated brass
Spring	Stainless steel strip

#### Approvals

	Current	Voltage	Group	AWG	Nm
<b>71</b> ®	25	150	B,D	18 - 10	
<b>()</b>	20 10	300 300	B D,E	26 - 10 26 - 10	0,79 0,79

#### Options / Accessories

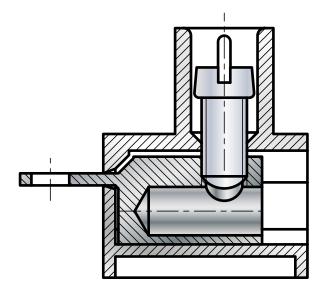
· Marking options on and between the screw guides

• Jumper 324-J

Leading plug for the protective conductor pole



# Screw/solder terminal strips



The following pages list our range of screw/solder terminal strips. They have a screw connection and their solder connection is formed as a solder tag.

Our screw/solder terminal strips are available in 3,5 mm, 5 mm, 8 mm and 10 mm pitch.

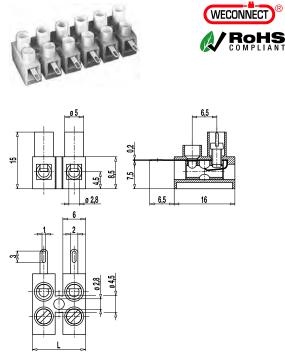
Due to the lateral mounting flanges, large cross-sections and compact size, they are suitable for every application All versions use captive screws that are ready to be wired and secured against self-loosening.

Versions of the 300 series can also be combined with plug-in terminal strips 302-SV(-DS) and 322-SV(-DS). Their pins are pushed into the sockets and then screw-connected.

## Screw/solder terminal strip

### 302-LF-DS

Screw/solder tag connection



The screw/solder terminal strip 302-LF-DS in 8 mm pitch is available with 1 to 12 poles. Due to the small pole spacing, it is well suited for applications where space is limited.

The solder tag is formed as a wire protector. The wire protection reliably prevents damage to multi-wire flexible conductors by the turning screw.

The screws are ready to be wired, secured against self-loosening and captive.

These strips can be combined with plug-in terminal strip 302-SV by plugging the pins into the sockets and screwing them tight.

These terminals strips can be screw-mounted on a substrate.

Part N	umbers		
No. of poles	302-LF-DS	Length	PU
2	36.820.029	15,00	500
3	37.820.029	23,00	200
4	38.820.029	31,00	100
5	39.820.029	39,00	100
6	40.820.029	47,00	80
7	41.820.029	55,00	60
8	42.820.029	63,00	60
12	46.820.029	94,00	40
furth an income	an of maloo an nonvool		

further number of poles on request

#### General Information

Pitch	8 mm	
No. of poles	1 - 12	
Usable with	302-SV(-DS)	

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#### Technical Data

Clamping Range	solid / flexible / A	WG	
	0,34 - 2,5 mm² / 0	),34 - 1,5 mm² / 2	22 - 14 AWG
Rated Cross Section	1,5 mm <sup>2</sup>		
Wire Stripping Length	$5 \text{ mm} \pm 0.5 \text{ mm}$		
Overvoltage Category	III		II
Pollution Severity Level	3	2	2
Rated Voltage	320 V	320 V	630 V
Rated Impulse Voltage	4 kV	4 kV	4 kV
Rated Insulation Voltage	450 V acc. to EN	60998-1	
Rated Current	6 A		
Torque	0,4 Nm		

#### Material

Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal Body	Nickel plated brass
Screw	M2,6; zinc plated steel, blue passivated
Wire protector	Tin plated tin bronze

#### Approvals

	Current	Voltage	Group	AWG	Nm	
<b>AN</b> ®	6	300	B,D	20 - 14	0,4	
<b>€₽</b> °	10	300	B,D,E	26 - 14	0,4	

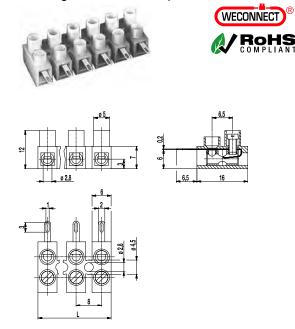
#### Options / Accessories

- · Marking options on the screw guides
- Jumper 302-J
- Insulation receptacles ISO-110
- Screws made out of brass
- Moulding made of special polyamide for e.g. household appliances
- Up to 26 poles possible
- With pegs at the base for saving assembly time

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# Screw/solder terminal strip 302-NLF-DS

Screw/solder tag connection, low profile version



The screw/solder terminal strip 302-NLF-DS, lower version, is available in 8 mm pitch with 1 to 12 poles.

Due to the small pole spacing, it is well suited for applications where space is limited.

The solder tag is formed as a wire protector. The wire protection reliably prevents damage to multi-wire flexible conductors by the turning screw. The screws are ready to be wired, secured against self-loosening and captive.

The "N"-variant only differs from the standard 302-LF-DS version by the 12 mm overall height (i.e. the moulding height is 3 mm lower). Note the shortened clearance and creepage distances.

These strips can be combined with plug-in 302-NSV terminal strips by plugging the pins into the sockets and screwing them tight.

These terminals strips can be screw-mounted on a substrate.

#### Part Numbers

No. of poles	302-NLF-DS	Length	PU
1	51.820.043	7,00	1000
2	52.820.043	15,00	500
3	53.820.043	23,00	200
4	54.820.043	31,00	100
5	55.820.043	39,00	100
6	56.820.043	47,00	80
7	57.820.043	55,00	60
8	58.820.043	63,00	60
9	59.820.043	71,00	50
10	60.820.043	79,00	50
11	61.820.043	87,00	40
12	62.820.043	94,00	40

#### General Information

Pitch	8 mm	
No. of poles	1 - 12	
Usable with	302-NSV(-DS)	

ECO

#### Technical Data

Clamping Range	solid / flexible / A	WG	
	0,34 - 2,5 mm² / 0	),34 - 1,5 mm² / 2	22 - 14 AWG
Rated Cross Section	1,5 mm²		
Wire Stripping Length	5 mm ± 0,5 mm		
Overvoltage Category	III		II
Pollution Severity Level	3	2	2
Rated Voltage	250 V	320 V	630 V
Rated Impulse Voltage	4 kV	4 kV	4 kV
Rated Insulation Voltage	250 V acc. to EN	60998-1	
Rated Current	6 A		
Torque	0,4 Nm		

#### Material

Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal Body	Nickel plated brass
Screw	M2,6; zinc plated steel, blue passivated
Wire protector	Tin plated tin bronze

#### Approvals

	Current	Voltage	Group	AWG	Nm
<b>S₽</b> °	10	300	B,D,E	26 - 14	0,4

- Marking options on the screw guides
- Jumper 302-J
- Insulation receptacles ISO-110
- Screws made out of brass
- · Moulding made of special polyamide for e.g. household appliances

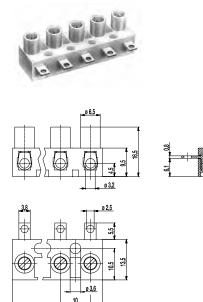
# Screw/solder terminal strip

### 321-LFS(-DS)

Screw/solder tag connection, side of solder tag closed, pottable

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RoHS



The screw/solder terminal strip 321-LFS in 10 mm pitch was designed for larger cross-sections than version 302-LF-DS. It is available with 1 to 12 poles. Mouldings of this type are encapsulated on the solder tag side and therefore particularly well suited for potting.

Socket and solder tag are manufactured in one piece.

The screws are ready to be wired, secured against self-loosening and captive.

These strips can be combined with plug-in terminal strip 322-SV by plugging the pins into the sockets and screwing them tight.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

These terminals strips can be screw-mounted on a substrate.

#### Part Numbers

i ait i	umbers			
No. of poles	321-LFS	321-LFS-DS	Length	PU
1	11.821.020	31.821.020	8,00	3000
2	12.821.020	32.821.020	18,00	1000
3	13.821.020	33.821.020	28,00	200
4	14.821.020	34.821.020	38,00	200
5	15.821.020	35.821.020	48,00	100
6	16.821.020	36.821.020	58,00	100
7	17.821.020	37.821.020	68,00	70
8	18.821.020	38.821.020	78,00	70
9	19.821.020	39.821.020	88,00	60
10	20.821.020	40.821.020	98,00	50
11	21.821.020	41.821.020	108,00	50
12	22.821.020	42.821.020	117,00	50

further number of poles on request

Pitch 10 mm	
No. of poles 1 - 12	

ECO

#### Technical Data

Clamping Range	solid / flexible / A	solid / flexible / AWG				
without wire protector	0,75 - 6 mm² / 0,7	0,75 - 6 mm² / 0,75 - 4 mm² / 18 - 12 AWG				
with wire protector	0,5 - 4 mm² / 0,5	0,5 - 4 mm² / 0,5 - 2,5 mm² / 20 - 12 AWG				
Rated Cross Section	2,5 mm²	2,5 mm <sup>2</sup>				
Wire Stripping Length	$7 \text{ mm} \pm 0.5 \text{ mm}$					
Overvoltage Category		III	II			
Pollution Severity Level	3	2	2			
Rated Voltage	400 V	630 V	1000 V			
Rated Impulse Voltage	6 kV	6 kV	6 kV			
Rated Insulation Voltage	450 V acc. to EN	60998-1				
Rated Current	26 A					
Torque	0,5 Nm					

#### Material

Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal Body	Tin plated brass
Screw	M3; zinc plated steel, blue passivated
Wire protector	Tin plated tin bronze

#### Approvals

	Current	Voltage	Group	AWG	Nm	
<b>€</b> ₽°	20 10	300 300	B D,E	26-10 [1] 26-10 [1]	0,51 0,51	

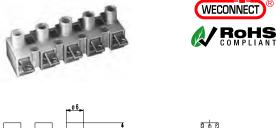
[1] for 321-LFS-DS: 26-12 AWG

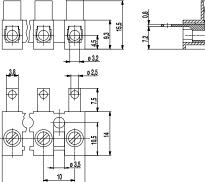
- Marking options on the screw guides
- Cover caps A-323 und base plate B-323 for additional contact protection
- Insulation receptacles ISO-110
- · Moulding made of special polyamide for e.g. household appliances
- · Up to 16 poles possible

### Screw/solder terminal strip

#### 322-LFS(-DS)

Screw/solder tag connection





The screw/solder terminal strip 322-LFS in 10 mm pitch was designed for larger cross-sections than version 302-LF-DS. It is available with 1 to 12 poles. Mouldings of this type are open on the solder tag side but they can be connected safe-to-touch as 2- and 3-pole version with cover caps A-323 and base plates B-323. This will extend the creepage distance to the mounting surface. Socket and solder tag are manufactured in one piece.

The screws are ready to be wired, secured against self-loosening and captive.

These strips can be combined with plug-in terminal strip 322-SV by plugging the pins into the sockets and screwing them tight.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

These terminals strips can be screw-mounted on a substrate.

Part N	umbers			
No. of poles	322-LFS	322-LFS-DS	Length	PU
1	10.821.002	23.821.002	8,00	3000
2	11.821.002	24.821.002	18,00	1000
3	12.821.002	25.821.002	28,00	1000
4	13.821.002	26.821.002	38,00	1000
5	14.821.002	27.821.002	48,00	500
6	15.821.002	28.821.002	58,00	140
7	16.821.002	29.821.002	68,00	90
8	17.821.002	30.821.002	78,00	90
9	18.821.002	31.821.002	88,00	80
10	19.821.002	32.821.002	98,00	70
11	20.821.002	33.821.002	108,00	70
12	21.821.002	34.821.002	117,00	70

#### General Information

Pitch	10 mm
No. of poles	1 - 12

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#### Technical Data

Clamping Range	solid / flexible / AWG				
without wire protector	0,5 - 4 mm² / 0,5 - 2,5 mm² / 20 - 12 AWG				
with wire protector	0,34 - 2,5 mm² / 0,34 - 2,5 mm² / 22 - 14 AWG				
Rated Cross Section	2,5 mm <sup>2</sup>				
Wire Stripping Length	$7 \text{ mm} \pm 0.5 \text{ mm}$				
Overvoltage Category	III	III	II		
Pollution Severity Level	3	2	2		
Rated Voltage	320 V	320 V	630 V		
Rated Impulse Voltage	4 kV	4 kV	4 kV		
Rated Insulation Voltage	450 V acc. to EN	60998-1			
Rated Current	24 A				
Torque	0,5 Nm				

#### Material

PA, natural, V-2
CTI ≥ 600
l
-40°C up to 100°C
Tin plated brass
M3, zinc plated steel, blue passivated
Tin plated tin bronze

#### Approvals

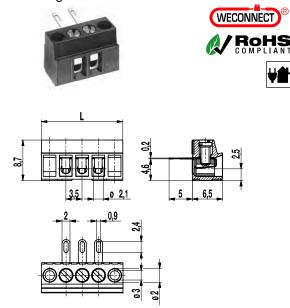
	Current	Voltage	Group	AWG	Nm	
<b>AI</b> ®	10	300	B,D	20 - 12	0,51	
<b>S₽</b> °	20 10	300 300	B D,E	22-10 [1] 22-10 [1]	0,51 0,51	

[1] for 322-LFS-DS: 26 - 12 AWG

- Marking options on the screw guides
- Cover caps A-323 und base plate B-323 for additional contact protection
- Insulation receptacles ISO-110
- · Lowered solder tag for larger creepage distances to the screw
- Solder tag with two holes
- · Moulding made of special polyamide for e.g. household appliances

#### Screw/solder terminal strip 931-A-LFDS

Screw/solder tag connection



The screw/solder terminal strip 931-A-LFDS with a pitch of 3,5 mm is available in 2- to 12-pole design.

Due to the small pitch, it requires only little mounting space and is therefore well suited for low-voltage applications.

The solder tag is formed as a wire protector. The wire protection reliably prevents damage to multi-wire flexible conductors by the turning screw.

The moulding can also be mounted using the lateral flanges.

#### Part Numbers

- i ait i			
No. of poles	931-A-LFDS	Length	PU
2	20.870.442	14,00	250
3	20.870.443	17,50	100
4	20.870.444	21,00	100
5	20.870.445	24,50	100
6	20.870.446	28,00	100
7	20.870.447	31,50	100
8	20.870.448	35,00	100
9	20.870.449	38,50	100
10	20.870.450	42,00	100
11	20.870.451	45,50	100
12	20.870.452	49,00	100

#### General Information

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

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#### Technical Data

Clamping Range	solid / flexible / A	WG	
	0,34 - 1,5 mm² / 0	),34 - 1 mm² / 22	- 16 AWG
Rated Cross Section	1 mm²		
Wire Stripping Length	$5 \text{ mm} \pm 0.5 \text{ mm}$		
Overvoltage Category	III		II
Pollution Severity Level	3	2	2
Rated Voltage	100 V	160 V	320 V
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV
Rated Insulation Voltage	130 A acc. to EN	60998-1	
Rated Current	4 A		
Torque	0,25 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
Screw	M2; zinc plated steel, blue passivated
Wire protector	Tin plated tin bronze

#### Approvals

	Current	Voltage	Group	AWG	Nm	
۶V®	10	300	В	26 - 16	0,23	
<b>€₽</b> °	10	300	В	26 - 16	0,2	

#### Options / Accessories

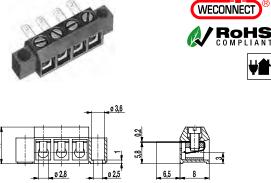
Consecutive numbering

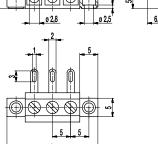
- Special marking according to drawing
- Self-adhesive marking strip BST-3,50
- Larger number of poles

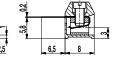
# Screw/solder terminal strip

#### 951-A-LFDS

Screw/solder tag connection







The screw/solder terminal strip 951-A-LFDS with a pitch of 5 mm is available in 2to 12-pole design.

It requires only little mounting space and is well suited for low-voltage applications.

The solder tag is formed as a wire protector. The wire protection reliably prevents damage to multi-wire flexible conductors by the turning screw.

The moulding can also be mounted using the lateral flanges.

#### Part Numbers

951-A-LFDS	Length	PU
20.871.252	20,00	250
20.871.253	25,00	250
20.871.254	30,00	200
20.871.255	35,00	100
20.871.256	4000	100
20.871.257	45,00	100
20.871.258	50,00	100
20.871.259	55,00	100
20.871.260	60,00	50
20.871.261	65,00	50
20.871.262	70,00	50
	951-A-LFDS 20.871.252 20.871.253 20.871.254 20.871.255 20.871.255 20.871.256 20.871.257 20.871.258 20.871.259 20.871.260 20.871.261	951-A-LFDS         Length           20.871.252         20,00           20.871.253         25,00           20.871.254         30,00           20.871.255         35,00           20.871.256         4000           20.871.257         45,00           20.871.258         50,00           20.871.259         55,00           20.871.260         60,00           20.871.261         65,00

#### General Information

Pitch	5 mm
No. of poles	2 - 12

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#### Technical Data

Clamping Range	solid / flexible / A	WG	
	0,34 - 2,5 mm² / 0	),34 - 2,5 mm² / 2	22 - 14 AWG
Rated Cross Section	1,5 mm <sup>2</sup>		
Wire Stripping Length	$6 \text{ mm} \pm 0.5 \text{ mm}$		
Overvoltage Category	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	0,4 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
Screw	M2,6; zinc plated steel, blue passivated
Wire protector	Tin plated tin bronze

#### Approvals

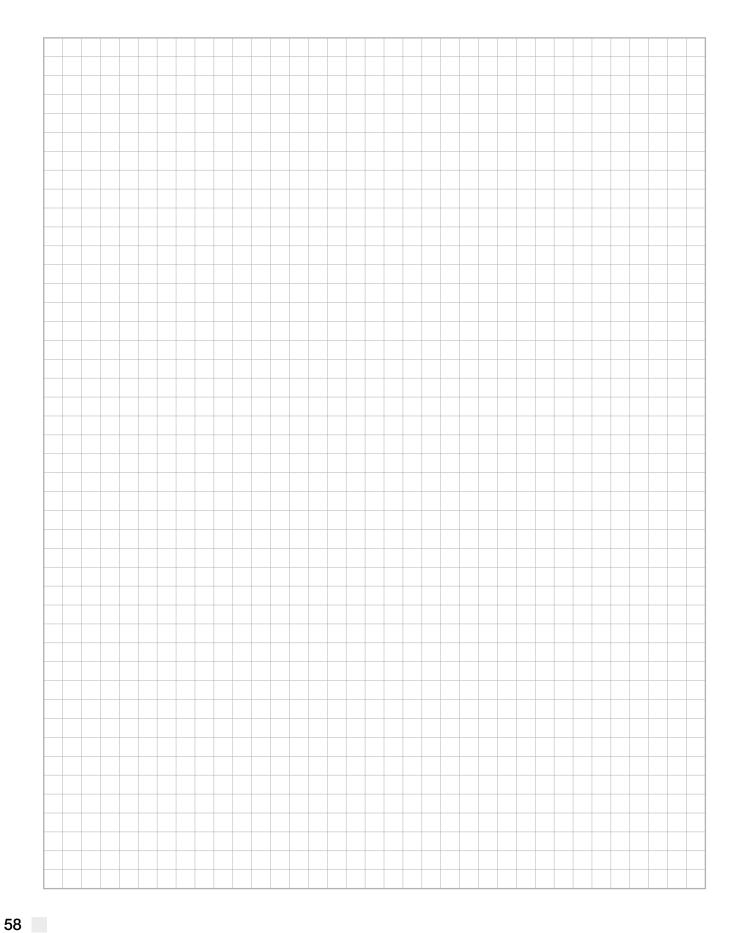
	Current	Voltage	Group	AWG	Nm	
<b>RI</b> ®	15	300	В	26 - 14	0,4	
<b>€₽</b> ®	15	300	В	26 - 14	0,4	

#### Options / Accessories

Consecutive numbering

- Special marking according to drawing
- Self-adhesive marking strip BST-5,00
- Larger number of poles

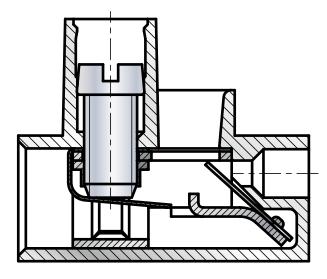
Notes



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# Screw/plug terminal strips



The page below lists our range of screw/ plug terminal strips

Screw/plug terminal strips have one screw connection and a dual wire terminal for solid wires on the opposite side of the srew connection.

They are well suited for the quick connection of solid wires.

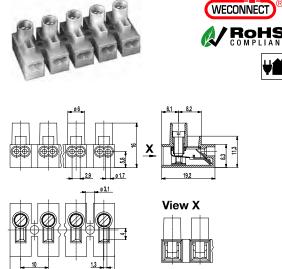
The screw connection allows for connecting solid and flexible wires. The version with wire protector offers additional protection to flexible wires from damage by the turning screw.

The screws are ready to be wired, secured against self-loosening and captive.

# Screw/plug-in terminal strip

# 820(-DS)

Screw/screwless connection



The terminal strip 820 with pitch 10 mm has a dual wire terminal connector on one side. Here, the leads are inserted and clamped all the way to the stop. These terminal strips are designed for solid conductors.

The opposite side is equipped with screw connections with rectangular clamping spaces. The screws are ready to be wired, secured against self-loosening and captive.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

These terminals strips can be screw-mounted on a substrate.

Note: For the version without wire protector, flexible wires can only be connected with a ferrule.

#### Part Numbers

820	820-DS	Length	PU
11.815.202	31.815.202	8,50	4000
12.815.202	32.815.202	18,50	2000
13.815.202	33.815.202	28,50	1000
14.815.202	34.815.202	38,50	800
15.815.202	35.815.202	48,50	500
16.815.202	36.815.202	58,50	200
17.815.202	37.815.202	68,50	200
18.815.202	38.815.202	78,50	100
19.815.202	39.815.202	88,50	100
20.815.202	40.815.202	98,50	50
21.815.202	41.815.202	108,50	50
22.815.202	42.815.202	117,50	50
	11.815.202 12.815.202 13.815.202 14.815.202 15.815.202 16.815.202 17.815.202 18.815.202 19.815.202 20.815.202 21.815.202	11.815.202         31.815.202           12.815.202         32.815.202           13.815.202         33.815.202           14.815.202         34.815.202           15.815.202         35.815.202           16.815.202         36.815.202           17.815.202         37.815.202           18.815.202         38.815.202           19.815.202         39.815.202           20.815.202         40.815.202           21.815.202         41.815.202	11.815.202         31.815.202         8,50           12.815.202         32.815.202         18,50           13.815.202         33.815.202         28,50           14.815.202         34.815.202         38,50           15.815.202         35.815.202         48,50           16.815.202         36.815.202         58,50           17.815.202         37.815.202         68,50           18.815.202         39.815.202         88,50           20.815.202         40.815.202         98,50           21.815.202         41.815.202         108,50

#### Part Numbers: "no flame" acc. to glow-wire test

No. of poles	820	820-DS	Length	PU
2		32.815.202.EN6	18,50	2000
3		33.815.202.EN6	28,50	1000
4		34.815.202.EN6	38,50	800
6		36.815.202.EN6	58,50	200
7		37.815.202.EN6	68,50	200
8		38.815.202.EN6	78,50	100
12		42.815.202.EN6	117,50	50
C	<i>c</i> 1			

further number of poles on request

#### HS Pitch No. of poles

No. of poles	1 - 12
Areas of application	Terminal for the quick connection of solid wires.

10 mm

ECO

#### Technical Data

General Information

Clamping Range	solid / flexible / A	WG		
	0,75 - 1,5 mm² /	/ 18 - 16 AWG	[1]	
without wire protector	0,75 - 6 mm² / 0,	0,75 - 6 mm² / 0,75 - 2,5 mm² / 18 - 12 AWG [2]		
with wire protector	0,75 - 6 mm² / 0,	0,75 - 6 mm² / 0,75 - 2,5 mm² / 18 - 12 AWG [2]		
Rated Cross Section	[1] 1,5 mm <sup>2</sup> / [2] 2	[1] 1,5 mm² / [2] 2,5 mm²		
Wire Stripping Length	7 mm ± 0,5 mm	7 mm ± 0,5 mm		
Overvoltage Category	3	2	2	
Pollution Severity Level	III	 III	II	
Rated Voltage	320 V	320 V	630 V	
Rated Impulse Voltage	4 kV	4 kV	4 kV	
Rated Insulation Voltage	450 V acc. to EN	60998-1		
Rated Current	[1] 17,5 A / [2] 24	[1] 17,5 A / [2] 24 A		
Torque	0,8 Nm	0,8 Nm		

#### Material

Moulding	PA, natural, V-2 (PA, natural, V-0) Details in braquets for "no flame" products
Comparative Tracking Index	CTI ≥ 600
Insulating Group	1
Temperature Range	-40°C up to 100°C
Terminal Body	Tin plated brass
Screw	M3,5; zinc plated steel, blue passivated
Wire protector	Stainless steel strip
Spring	Stainless steel strip

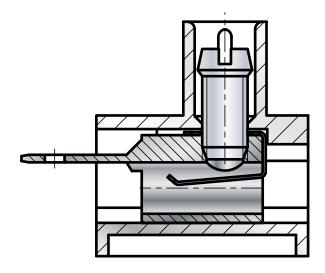
#### Approvals

	Current	Voltage	Group	AWG	Nm
۶V°	10 10	300 150	B C	16-10 [3] 16-10 [3]	0,51 0,51
<b>S₽</b> °	10 10	300 150	B,D C	20-10 [3] 20-10 [3]	0,51 0,51
	Current	Voltage	mm²		
	24	450	2,5/1,5		

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-10,00
- Version with dovetail base (type 821)
- [1] Plug connector
- [2] Screw connector
- [3] spring side 18 16 solid



# Tab and screw connector blocks



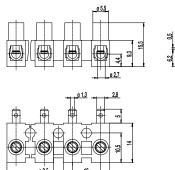
Tab and screw connector blocks are a combination of screw terminals and tab connector blocks.

They can be used to connect equipment to the grid and are well suited for many other applications. Tab connectors excel with simple and lowcost assembly and are designed to connect components inside the equipment. They feature screw connections for the connection to the grid.

#### Tab/screw connector

322-A-2,8(-DS) with tab A 2,8







The tab connector block 322-A-2,8 in 10 mm pitch is available with 1 to 12 poles. These connector strips are a combination of screw and tab connectors. The can be used to connect equipment to the grid and are well suited for many other applications.

After slipping on the tab receptacles, their ends protrude approx. 12,5 mm from the moulding. The screws are ready to be wired, secured against self-loosening and captive.

This tab connector block can be combined with our plug-in terminal strip 322-SV the plugs are simply inserted in the sockets and subsequently screwed tight.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw. These terminals strips can be screw-mounted on a substrate.

#### Part Numbers

No. of poles	322-A-2,8	322-A-2,8-DS	Length	PU
1	11.821.014	31.821.014	8,00	2000
2	12.821.014	32.821.014	18,00	2000
3	13.821.014	33.821.014	28,00	1000
4	14.821.014	34.821.014	38,00	800
5	15.821.014	35.821.014	48,00	500
6	16.821.014	36.821.014	58,00	100
7	17.821.014	37.821.014	68,00	70
8	18.821.014	38.821.014	78,00	70
9	19.821.014	39.821.014	88,00	60
10	20.821.014	40.821.014	98,00	50
11	21.821.014	41.821.014	108,00	50
12	22.821.014	42.821.014	117,00	50

#### General Information

Pitch	10 mm	
No. of poles	1 - 12	
Accessories	322-SV	

ECO

#### Technical Data

Clamping Range	solid / flexible / AWG		
without wire protector	0,5 - 4 mm² / 0,5 - 2,5 mm² / 20 - 12 AWG		
with wire protector	0,34 - 2,5 mm² / 0,34 - 2,5 mm² / 22 - 14 AWG		
Rated Cross Section	[1] 2,5 mm <sup>2</sup> ; [2] 1 mm <sup>2</sup>		
Overvoltage Category	III		II
Pollution Severity Level	3	2	2
Rated Voltage	400 V	630 V	1000 V
Rated Impulse Voltage	6 kV	6 kV	6 KV
Rated Insulation Voltage	450 V acc. to EN 60998-1		
Rated Current	6 A compare DIN 46 249		
Torque	0,5 Nm		

#### Material

Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 100°C
Terminal Body	Nickel plated brass
Screw	M3; zinc plated steel, blue passivated
Wire protector	Tin plated tin bronze

#### Approvals

	Current	Voltage	Group	AWG	Nm	
<b>S</b> ₽°	6	300	B,D,E	22 - 10	0,51	

#### Options / Accessories

· Marking options on the screw guides

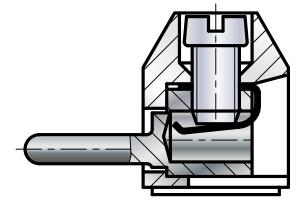
• Marking strips BST-322

Cover caps A-323 und base plate B-323 for additional contact protection

[1] Screw side [2] Plug-in side







This section lists our plug connector combination 951-B-SV and 971-FBS in 5 mm pitch.

They offer a number of valuable benefits:

- decentralized part/component assembly,
- prevention of wiring errors
- easy disconnection for service and maintenance purposes
- easy connection in confined mounting space.

Due to the 5 mm pitch, it requires only little mounting space, and is therefore well suited for applications where space is limited.

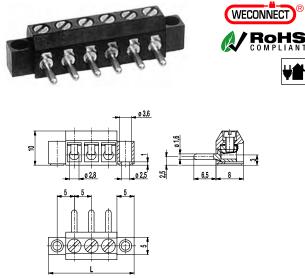
For low voltage applications the combination is safe-to-touch and should be mounted on an insulating pad.

Mounting flanges on the pin strip 951-B-SV offer alternative mounting configurations.

# Plug connector

951-B-SV(-DS)

Screw connection, with fastening flanges



The plug-in connector strip 951-B-SV in 5 mm pitch is available with 2 to 12 poles. Contrary to version 951-SV, the plug connector 951-B-SV has exterior mounting flanges and can be used in combination with version 971-FBS.

Due to the small pitch, this plug connection requires only little mounting space and is therefore well suited for applications (i.e. low-voltage) where space is limited. For low voltage applications, the combination is safe-to-touch and should be mounted on an insulating pad.

The wire protector of the "DS"-version reliably prevents damage to multi-wire flexible conductors by the turning screw.

Part Numbers				
No. of poles	951-B-SV	951-B-SV-DS	Length	PU
2	10.871.532	20.871.532	10,00	200
3	10.871.533	20.871.533	15,00	200
4	10.871.534	20.871.534	20,00	100
5	10.871.535	20.871.535	25,00	100
6	10.871.536	20.871.536	30,00	50
7	10.871.537	20.871.537	35,00	50
8	10.871.538	20.871.538	40,00	50
9	10.871.539	20.871.539	45,00	50
10	10.871.540	20.871.540	50,00	50
11	10.871.541	20.871.541	55,00	50
12	10.871.542	20.871.542	60,00	50

#### General Information

Pitch	5 mm
No. of poles	2 - 12
Usable with	971-FBS(-DS)
Areas of application	Applications that require to easily open and close not energised circuits.

**ECO** 

#### Technical Data

Clamping Range	solid / flexible / AV	VG		
without wire protector	0,75 - 4 mm² / 0,75	0,75 - 4 mm² / 0,75 - 2,5 mm² / 18 - 12 AWG		
with wire protector	0,34 - 2,5 mm <sup>2</sup> / 0,	0,34 - 2,5 mm² / 0,34 - 2,5 mm² / 22 - 14 AWG		
Rated Cross Section	1,5 mm <sup>2</sup>	1,5 mm <sup>2</sup>		
Wire Stripping Length	5 mm ± 0,5 mm	5 mm ± 0,5 mm		
Rated Voltage				
Overvoltage Category	III	Ш	II	
Pollution Severity Level	3	2	2	
Rated Voltage	160 V (80V)	160 V	320 V	
Rated Impulse Voltage	2,5 kV	2,5 kV	2,5 kV	
Rated Insulation Voltage	130 V acc. to EN 6	0998-1		
Rated Current	6 A			
Torque	0,4 Nm	0,4 Nm		
Other specifications	Rated values in pa insulated substrate acc. to glow-wire to	es. 2-8 poles typ		

#### Material

Moulding	PA, grey, V-0
Comparative Tracking Index	2-8 poles: CTI ≥ 600; 9-12 poles: CTI 400
Insulating Group	2-8 poles: I; 9-12 poles: II
Temperature Range	-40°C up to 100°C
Terminal Body	Tin plated brass
Screw	M2,6; zinc plated steel, blue passivated
Wire protector	Tin plated tin bronze
Plug	Tin plated brass

#### Approvals

	Current	Voltage	Group	AWG	Nm	
<b>RJ®</b>	7	300	В	26 - 14	0,4	
<b>S₽</b> °	7	300	В	26 - 14	0,4	

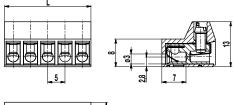
- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-5,00

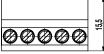
# Plug connector

#### 971-FBS(-DS)

Screw connection, plugable from backside







No. of poles	971-FBS	971-FBS-DS	Length	PU
2	10.873.102	20.873.102	10,00	200
3	10.873.103	20.873.102	15,00	200
4	10.873.104	20.873.104	20,00	100
5	10.873.105	20.873.105	25,00	100
6	10.873.106	20.873.106	30,00	50
7	10.873.107	20.873.107	35,00	50
8	10.873.108	20.873.108	40,00	50
9	10.873.109	20.873.109	45,00	50
10	10.873.110	20.873.110	50,00	50
11	10.873.111	20.873.111	55,00	50
12	10.873.112	20.873.112	60,00	50
13	10.873.113	20.873.112	65,00	50
14	10.873.114	20.873.114	70,00	50
15	10.873.115	20.873.115	75,00	50
16	10.873.116	20.873.116	80,00	50
17	10.873.117	20.873.117	85,00	50
18	10.873.118	20.873.118	90,00	50
19	10.873.119	20.873.119	95,00	50
20	10.873.120	20.873.120	100,00	50
21	10.873.121	20.873.121	105,00	50
22	10.873.122	20.873.122	110,00	50
23	10.873.123	20.873.123	115,00	50
24	10.873.124	20.873.124	120,00	50

#### General Information

Pitch	5 mm
No. of poles	2 - 24
Usable with	plug connectors 950-SVG, 971-FBSP, 951-B-SV

R

WECO

#### Technical Data

solid / flexible / AW	G		
1 - 6 mm² / 1 - 4 mm² / 16 - 10 AWG			
0,75 - 4 mm² / 0,75 - 2,5 mm² / 18 - 12 AWG			
2,5 mm <sup>2</sup>			
5,5 mm ± 0,5 mm			
III	111	II	
3	2	2	
250 V (200 V)	320 V	630 V (320 V)	
4 kV	4 kV	4 kV	
250 V acc. to EN 6	0998-1		
6 A			
0,5 Nm			
Rated voltage in parentheses apply to 13-24 poles types. 2-12 poles types are "no-flame" acc. to glow-wire test.			
	1 - 6 mm² / 1 - 4 mi 0,75 - 4 mm² / 0,75 2,5 mm ± 0,5 mm 5,5 mm ± 0,5 mm 111 3 250 V (200 V) 4 kV 250 V acc. to EN 60 6 A 0,5 Nm Rated voltage in pa types. 2-12 poles ty	0,75 - 4 mm² / 0,75 - 2,5 mm² / 2,5 mm² 5,5 mm ± 0,5 mm III III 3 2 250 V (200 V) 320 V 4 kV 4 kV 250 V acc. to EN 60998-1 6 A 0,5 Nm Rated voltage in parentheses ar types. 2-12 poles types are "no-	

#### Material

2-12 poles: CTI ≥ 600; 13-24 poles: CTI 250 2-12 poles: I; 13-24 poles: IIIa
2-12 poles: 1: 13-24 poles: 11a
- ·- F-····
-40°C up to 100°C
Tin plated brass
M3; zinc plated steel, blue passivated
Tin plated tin bronze
Stainless strip steel

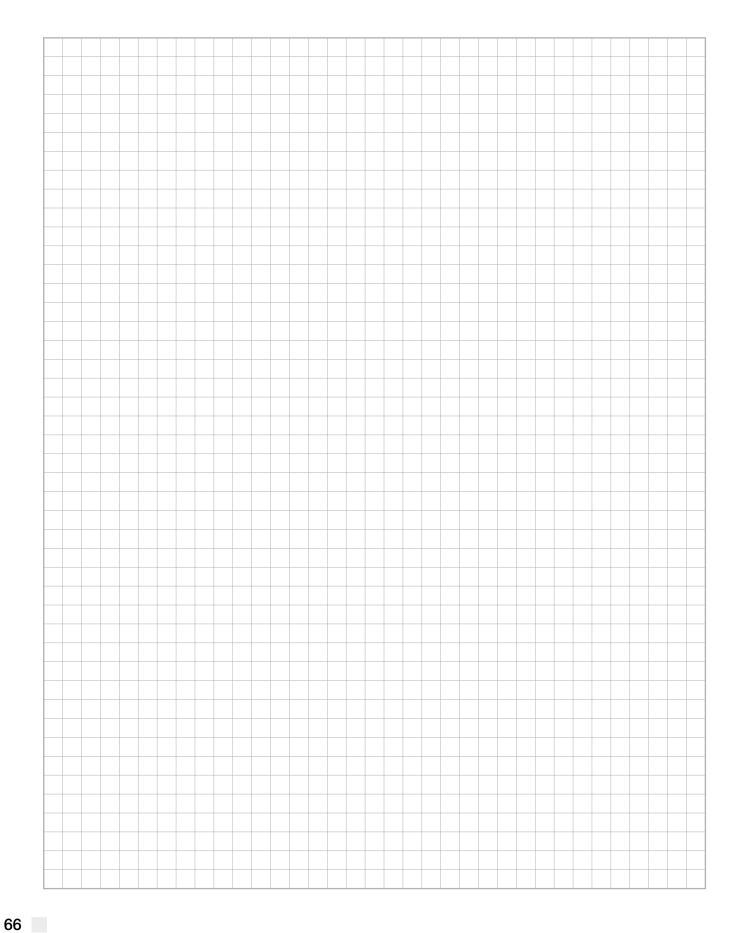
#### Approvals

	Current	Voltage	Group	AWG	Nm	
۶V®	20 10	300 300	B D	22-12 [1] 22-12 [1]	0,51 0,51	
<b>S</b> ₽®	20 10	300 300	B D, E	26 - 12 26 - 12	0,4 0,4	
	Current	Voltage	mm²			
<b>(\$</b> )	13,5	250	2,5			

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

- Consecutive numbering
- Special marking according to drawing
- Self-adhesive marking strip BST-5,00
- Pitch of 10 mm for larger clearance and creepage distances
- Version with extended wire entrance
- Double wire protector as bridge

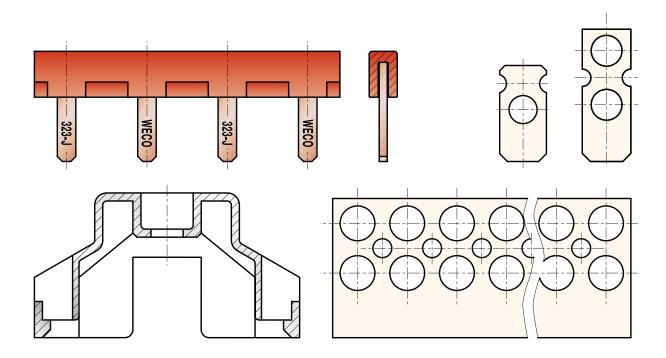
Notes



WECO<sup>®</sup>







This section lists the accessories for the aforementioned products.

In addition to cover caps/base plates for 10 mm pitch and jumpers for 8 mm, 10 mm, 11,5 mm and 14,5 mm pitch, we offer a large number of diverse marking strips and marking signs. The marking strips are mounted in combination with the terminal strip either above or below the moulding.

As a standard, marking strips and marking signs are delivered blank.

Upon request, we deliver our marking elements lettered to your specifications.

Subsequent lettering can be done by a felt pen, ink or stamp prior or after mounting the terminal strip.

# Jumper

302-J Accessories





3.2

#### General Information

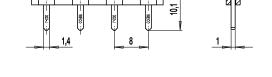
Pitch	8 mm
No. of poles	2 - 12
Usable with	for alles types of series 302, 302-N

R

WECO

#### Material

Moulding	PVC, red
Jumpers	Copper alloy, bare



The jumper 302-J electrically bridges adjacent poles of series 302 terminals. It is available in 8 mm pitch with 2 to 12 poles. Just like the lead, it is connected to the clamping units.

The jumper shell is insulated.

#### Part Numbers

No. of poles	302-J	Length	PU
2	12.451.302	15,00	100
3	13.451.302	23,00	100
4	14.451.302	31,00	100
5	15.451.302	39,00	100
6	16.451.302	47,00	100
7	17.451.302	55,00	50
8	18.451.302	63,00	50
9	19.451.302	71,00	50
10	20.451.302	79,00	50
11	21.451.302	87,00	50
12	22.451.302	95,00	50

### Jumper 323-J

Accessories







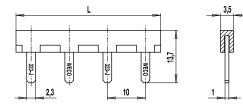
Pitch	10 mm
No. of poles	2 - 12
Usable with	all types of series 323, 323-FN, 323-FU

PVC, red Copper alloy, bare R

VECO

# Material

Moulding	
Jumpers	



The jumper 323-J electrically bridges adjacent poles of series 323 terminals. It is available in 10 mm pitch with 2 to 12 poles. Just like the lead, it is connected to the clamping units.

The jumper shell is insulated.

#### Part Numbers

No. of poles	323-J	Length	PU
2	12.451.323	18,00	250
3	13.451.323	28,00	100
4	14.451.323	38,00	100
5	15.451.323	48,00	100
6	16.451.323	58,00	100
7	17.451.323	68,00	50
8	18.451.323	78,00	50
9	19.451.323	88,00	50
10	20.451.323	98,00	50
11	21.451.323	108,00	50
12	22.451.323	118,00	50

### Jumper 324-J

Accessories





#### General Information

Pitch	11,5 mm
No. of poles	2 - 12
Usable with	all types of series 324, 324-FU

Copper alloy, bare

PVC, red

R

**NECO** 

#### Material

<b>⊢</b> ⊲[		3,8
	WECO 11,5	1.3

The jumper 324-J electrically bridges adjacent poles of series 324 terminals. It is available in 11,5 mm pitch with 2 to 12 poles. Just like the lead, it is connected to the clamping units.

The jumper shell is insulated.

#### Part Numbers

No. of poles	324-J	Length	PU
2	12.451.324	20,00	250
3	13.451.324	31,50	100
4	14.451.324	43,00	100
5	15.451.324	54,50	100
6	16.451.324	66,00	100
7	17.451.324	77,50	50
8	18.451.324	89,00	50
9	19.451.324	100,50	50
10	20.451.324	112,00	50
11	21.451.324	123,50	50
12	22.451.324	135,00	50

Moulding Jumpers

### Jumper 327-J

Accessories





#### General Information

Pitch	14,5 mm
No. of poles	2 - 12
Usable with	all types of series 326, 327, 327-FU

Copper alloy, bare

PVC, red

R

WECO

#### Material Moulding Jumpers

-		•		5,5
	-   -	-	_   _	
				20,5
327-J	WECO-	327-J	WECO	
¥.	φ	Ψ.	$\varphi$	
4,/			4,5	2,5

The jumper 327-J electrically bridges adjacent poles of series 326 and 327 terminals. It is available in 14 mm pitch with 2 to 12 poles.

Just like the lead, it is connected to the clamping units.

The jumper shell is insulated.

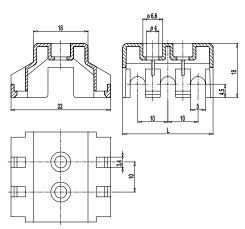
#### Part Numbers

No. of poles	327-J	Length	PU
2	12.451.327	29,00	100
3	13.451.327	43,50	100
4	14.451.327	58,00	100
5	15.451.327	72,50	100
6	16.451.327	87,00	100
7	17.451.327	101,50	50
8	18.451.327	116,00	50
9	19.451.327	130,50	50
10	20.451.327	145,00	50
11	21.451.327	159,50	50
12	22.451.327	174,00	50

### Cover cap A-323

Accessories





Cover caps A-323 are combined with base plates B-323 in order to ensure a safe-to-touch protection of the socket strip.

When cover caps are pushed onto the terminal strip, the lugs of the cover cap latch with those of the base plate. Cover caps can only be detached with a tool, e.g. a screwdriver.

Cover caps are available in 2- and 3-pole design and can be mounted side-by-side without pole loss.

If no base plate is used, the cap can be screwed to the terminal strip through the fixing holes or attached with plastic pins.

The tab/screw connector 322-A-2,8 and screw/solder terminal strip 322-LFS can only be equipped with base plate and/or cover cap as 2- or 3-pole terminal strip. They cannot be mounted side-by-side.

Since the cover cap latches in the base plate, the combination can be used unattached, as "flying lead" connection.

### Part Numbers

poles		C C	
2	12.891.102	19,00	1000
3	13.891.103	29,00	500

Length

PU

#### General Information

Pitch	10 mm
No. of poles	2 + 3
Usable with	322-A-2,8(-DS), 322-LFS(-DS), 323(-HDS), 323-FN(-HDS), 323-FU-16,5(-HDS)

**ECO** 

#### Material

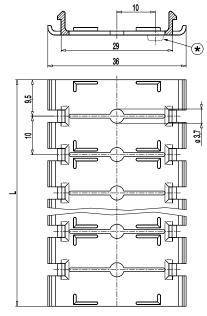
Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 80°C

#### Options / Accessories

• Moulding "no flame" acc. to glow-wire-test

Base plate B-323(-Z) Accessories





\* = peg only available for 2 and 3 poles

The base plates B-323 are combined with the cover caps A-323 in order to ensure a safe-to-touch protection of the socket strip. In this configuration, the base plate increases the creepage distance relative to the mounting surface. Firstly, the base plate is attached to the terminal strip then the cover cap can be

Firstly, the base plate is attached to the terminal strip then the cover cap can be pushed on. During this process, the cover cap lugs latch in the base plate and can only be detached with a tool, e.g. a screwdriver.

#### Base plates are available with 2 to 12 poles.

The 2- and 3-pole base plates are also available with ø 4 mm fastening pin (version "B-323-Z\*). This configuration allows for torsion-proof mounting with only one screw.

Since the cover cap latches in the base plate, the combination can be used unattached, as "flying lead" connection.

#### Part Numbers

No. of poles	B-323	B-323-Z	Length	PU
2	12.892.102	12.892.112	19,00	1000
3	13.892.103	13.892.113	29,00	1000
4	14.892.102		39,00	1000
5	15.892.102		49,00	1000
6	16.892.103		59,00	1000
7	17.892.102		69,00	1000
8	18.892.102		79,00	500
9	19.892.103		89,00	1000
10	20.892.102		99,00	1000
11	21.892.103		109,00	1000
12	10.892.122		119,00	1000

#### General Information

Pitch	10 mm
No. of poles	2 - 12
Usable with	322-A-2,8(-DS), 322-LFS(-DS), 323(-HDS), 323-FN(-HDS), 323-FU-16,5(-HDS)

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#### Material

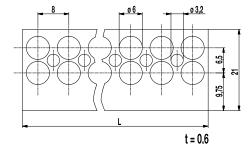
Moulding	PA, natural, V-2
Comparative Tracking Index	CTI ≥ 600
Insulating Group	I
Temperature Range	-40°C up to 80°C

#### Options / Accessories

• Moulding "no flame" acc. to glow-wire-test

#### Marking strip BST-302 Accessories





Marking strips BST-302 for our 302 series terminal strips are available in 2- to 12-pole and in 81-pole design (length: 648 mm). The customer can strip them easily to the desired pole number.

Marking strips are mounted in combination with the terminal strip, either above or below the moulding and are delivered blank, as standard. They can be lettered with a felt pen, ink or a stamp prior or after mounting the terminal strip.

Part Numbers			
No. of poles	BST-302	Length	PU
2	11.495.016	16,00	100
3	13.495.016	24,00	100
4	14.495.016	32,00	100
5	15.495.016	40,00	100
6	16.495.016	48,00	100
7	17.495.016	56,00	100
8	18.495.016	64,00	100
9	19.495.016	72,00	100
10	20.495.016	80,00	100
11	21.495.016	88,00	100
12	12.495.016	96,00	100
further number of poles on request			

#### General Information

Pitch	8 mm
No. of poles	2 - 12 / 81
Usable with	terminal strips of series 302

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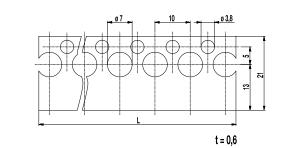
#### Material

Moulding	Hard PVC, white, matt
Temperature Range	approx. 80°C

- Consecutive numbering
- Special marking according to drawing
- Marking strip BST-302 in requested number of poles
- Marking strip BST-302 with double-sided marking space
- Marking signs BEZ (one pole)

#### Marking strip BST-322 Accessories





Marking strips BST-322 for our 322 series terminal strips are available in 2- to 12-pole and in 65-pole design (length: 650 mm). The customer can strip them easily to the desired pole number.

Marking strips are mounted in combination with the terminal strip, either above or below the moulding and are delivered blank, as standard. They can be lettered with a felt pen, ink or a stamp prior or after mounting the terminal strip.

#### Part Numbers

No. of poles	BST-322	Length	PU
2	11.495.022	20,00	100
3	13.495.022	30,00	100
4	14.495.022	40,00	100
5	15.495.022	50,00	100
6	16.495.022	60,00	100
7	17.495.022	70,00	100
8	18.495.022	80,00	100
9	19.495.022	90,00	100
10	20.495.022	100,00	100
11	21.495.022	110,00	100
12	12.495.022	120,00	100

further number of poles on request

#### General Information

Pitch	10 mm
No. of poles	2 - 12 / 65
Usable with	terminal strips of series 322

**ECO** 

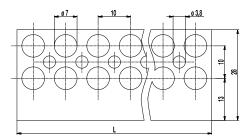
#### Material

Moulding	Hard PVC, white, matt
Temperature Range	approx. 80°C

- Consecutive numbering
- Special marking according to drawing
- Marking strip BST-322 in requested number of poles
- Marking strip BST-322 with double-sided marking space
- Marking signs BEZ (one pole)

#### Marking strip **BST-323** Accessories





Marking strips BST-323 for our 323 series terminal strips are available in 2- to 12-pole and in 65-pole design (length: 650 mm). The customer can strip them easily to the desired pole number.

Marking strips are mounted in combination with the terminal strip, either above or below the moulding and are delivered blank, as standard. They can be lettered with a felt pen, ink or a stamp prior or after mounting the terminal strip.

#### Part Numbers

No. of poles	BST-323	Length	PU
2	11.495.003	20,00	100
3	13.495.003	30,00	100
4	14.495.003	40,00	100
5	15.495.003	50,00	100
6	16.495.003	60,00	100
7	17.495.003	70,00	100
8	18.495.003	80,00	100
9	19.495.003	90,00	100
10	20.495.003	100,00	100
11	21.495.003	110,00	100
12	12.495.003	120,00	100
<i>c</i>	<i>. . . .</i>		

further number of poles on request

#### General Information

Pitch	10 mm
No. of poles	2 - 12 / 65
Usable with	terminal strips of series 323

**ECO** 

#### Material

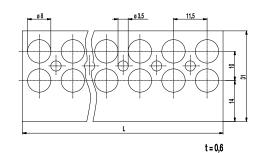
Moulding	Hard PVC, white, matt
Temperature Range	approx. 80°C

- Consecutive numbering
- Special marking according to drawing
- Marking strip BST-323 in requested number of poles
- Marking strip BST-323-D with double-sided marking space
- Marking signs BEZ (one pole)

#### Marking strip BST-324 Accessories







Marking strips BST-324 for our 324 series terminal strips are available in 2- to 12-pole and in 56-pole design (length: 643,50 mm). The customer can strip them easily to the desired pole number.

Marking strips are mounted in combination with the terminal strip, either above or below the moulding and are delivered blank, as standard. They can be lettered with a felt pen, ink or a stamp prior or after mounting the terminal strip.

#### Part Numbers

No. of poles	BST-324	Length	PU
2	11.495.060	23,00	100
3	13.495.060	34,50	100
4	14.495.060	46,00	100
5	15.495.060	57,50	100
6	16.495.060	69,00	100
7	17.495.060	80,50	100
8	18.495.060	92,00	100
9	19.495.060	103,50	100
10	20.495.060	115,00	100
11	21.495.060	126,50	100
12	12.495.060	138,00	100
furthor numb	or of polos on request		

further number of poles on request

#### General Information

Pitch	11,5 mm	
No. of poles	2 - 12 / 56	
Usable with	terminal strips of series 324	

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#### Material

Moulding	Hard PVC, white, matt
Temperature Range	approx. 80°C

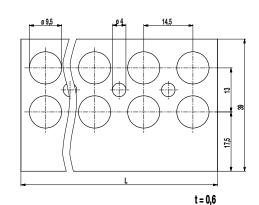
- Consecutive numbering
- Special marking according to drawing
- Marking strip BST-324 in requested number of poles
- Marking strip BST-324 with double-sided marking space
- Marking signs BEZ (one pole)

#### Marking strip BST-327 Accessories









Marking strips BST-327 for our 326 and 327 series terminal strips are available in 2- to 12-pole and in 44-pole design (length: 638 mm). The customer can strip them easily to the desired pole number.

Marking strips are mounted in combination with the terminal strip, either above or below the moulding and are delivered blank, as standard. They can be lettered with a felt pen, ink or a stamp prior or after mounting the terminal strip.

Part Numbers						
No. of poles	BST-327	Length	PU			
2	11.495.007	29,00	100			
3	13.495.007	43,50	100			
4	14.495.007	58,00	100			
5	15.495.007	72,50	100			
6	16.495.007	87,00	100			
7	17.495.007	101,50	100			
8	18.495.007	116,00	100			
9	19.495.007	130,50	100			
10	20.495.007	145,00	100			
11	21.495.007	159,50	100			
12	22.495.007	174,00	100			
6						

further number of poles on request

#### General Information

Pitch	14,5 mm
No. of poles	2 - 12 / 44
Usable with	terminal strips of series 326 and 327

**ECO** 

#### Material

Moulding	Hard PVC, white, matt
Temperature Range	approx. 80°C

- Consecutive numbering
- Special marking according to drawing
- Marking strip BST-327 in requested number of poles
- Marking strip BST-327 with double-sided marking space

# Insulation receptacles ISO

Accessories



Mounting example

The insulation receptacles, made of polyethylene, are available in various colours and sizes. Receptacles for tabs according to DIN 46 247 are fully insulated (including the crimped point) with insulation receptacles. Prior to crimping, they are pushed onto the wire end and are therefore captive. They can also be used to insulate crimped plug-in receptacles and cable sockets.

#### Part numbers

Part numbers	Туре	Colour	Nom. Size	Cross-section*	Length x width x height	Pcs
10.838.001	ISO-110-PEN	natural	2,8	up to 1 mm² (16 AWG)	19,5 x 5,5 x 3,5 mm	10 000
10.838.031	ISO-110-PEG	yellow	2,8	up to 1 mm <sup>2</sup> (16 AWG)	19,5 x 5,5 x 3,5 mm	10 000
10.838.034	ISO-110-PER	red	2,8	up to 1 mm <sup>2</sup> (16 AWG)	19,5 x 5,5 x 3,5 mm	10 000
10.838.021	ISO-110-PES	black	2,8	up to 1 mm <sup>2</sup> (16 AWG)	19,5 x 5,5 x 3,5 mm	10 000
10.838.011	ISO-187-PEN	natural	4,8	up to 1,5 mm <sup>2</sup> (16 AWG)	21 x 8 x 4,5 mm	10 000
10.838.005	ISO-187-PEG	yellow	4,8	up to 1,5 mm <sup>2</sup> (16 AWG)	21 x 8 x 4.5 mm	10 000
10.838.035	ISO-187-PER	red	4,8	up to 1,5 mm <sup>2</sup> (16 AWG)	21 x 8 x 4,5 mm	10 000
10.838.036	ISO-187-PES	black	4,8	up to 1,5 mm <sup>2</sup> (16 AWG)	21 x 8 x 4,5 mm	10 000
10.838.006	ISO-23-PEN	natural	6,3	up to 2,5 mm² (14 AWG)	23 x 12.5 x 8.5 mm	10 000
10.838.007	ISO-23-PEG	vellow	6,3	up to 2,5 mm <sup>2</sup> (14 AWG)	23 x 12,5 x 8,5 mm	10 000
10.838.017	ISO-23-PES	black	6,3	up to 2,5 mm <sup>2</sup> (14 AWG)	23 x 12,5 x 8,5 mm	10 000
10.838.013	ISO-25-PEN	natural	6,3	up to 2,5 mm <sup>2</sup> (14 AWG)	25 x 9.5 x 5 mm	10 000
10.838.014	ISO-25-PEG	vellow	6,3	up to 2,5 mm <sup>2</sup> (14 AWG)	25 x 9,5 x 5 mm	10 000
10.838.016	ISO-25-PES	black	6,3	up to 2,5 mm <sup>2</sup> (14 AWG)	25 x 9,5 x 5 mm	10 000
10.838.009	ISO-250-PEN	natural	6,3	up to 4 mm <sup>2</sup> (12 AWG)	25 x 9,5 x 6 mm	10 000
10.838.010	ISO-250-PEG	yellow	6,3	up to 4 mm <sup>2</sup> (12 AWG)	25 x 9,5 x 6 mm	10 000
10.838.018	ISO-250-PES	black	6,3	up to 4 mm <sup>2</sup> (12 AWG)	25 x 9,5 x 6 mm	10 000

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

#### General Information

Additonal Information	By means of using both ISO-23 (tab connector side) and ISO-25 insulation receptacles, a 6,3 mm cross-section cable connection can be completely insulated (see figure).
Material	
Moulding	PE, see table for colours
Temperature Range	approx. up to 50°C

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#### Options / Accessories

· Insulation receptacles in other colours

### Marking

WECO offers marking of individual connections for nearly all terminals and products.

Marking can be carried out by either pre-fabricated self-adhesive marking strips or by tampon printing.

#### Marking strips

Self-adhesive marking strips consist of polyester with black print on silver background. They are scratch-proof and surface-sealed with Mylar.

The numbering begins with 1. The last digit represents the indicated number of poles.

The marking strips withstand PC board

cleaning processes using water and soap, Freon, fluorinated or chlorinated cleaning agents. However, they are not reflow-capable and should therefore only be mounted after the reflow soldering process.

Marking strips are delivered in ten strips per sheet.



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Part number	Туре	Marking	Pitch	Length (L)	Width (a)	PU
24.499.013	BST-3,50/24	12324	3,50 mm	84 mm	3 mm	100
24.499.009	BST-5,00/12	12312	5,00 mm	60 mm	3,5 mm	100
24.499.010	BST-5,00/32	1 2 3 32	5,00 mm	160 mm	3,5 mm	100
24.499.006	BST-5,08/12	12312	5,08 mm	61 mm	3,5 mm	100
24.499.007	BST-5,08/32	1 2 3 32	5,08 mm	162 mm	3,5 mm	100
24.499.012	BST-7,50/19	12319	7,50 mm	141 mm	3,5 mm	100
24.499.011	BST-10,00/16	12316	10,00 mm	155 mm	3,5 mm	100
24.499.008	BST-10,16/16	12316	10,16 mm	157 mm	3,5 mm	100

#### Tampon printing

As an alternative to self-adhesive marking strips, we mark the lead connections of our terminal strips according to your individual specifications.

Individual marking is performed by means of tampon printing. In addition to digits and letters tampon printing offers special marking types.

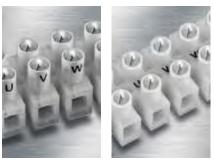
Tampon printing is an indirect printing process which uses a tampon to apply the printing ink onto the component. This process ensures best contour accuracy plus high scratch and smear resistance. Depending on the moulding colour, our PCB connectors are printed on predefined surfaces in either white or black.

Terminal strips of catalogue 7 are printed in black.

For the marking position two options are available: on the screw guidance or in between the screw guidance (for series 302 only at the screw guidance).

Upon request, we offer lettering in special colours.



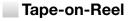


### Packaging

As standard, we deliver our products packaged in eco-friendly folding boxes made of cardboard or corrugated board.



In order to ensure efficient automated assembly and subsequent soldering of our components, WECO offers various component packaging systems, such as





These carrier tapes on reels are suitable for most SMD and THR components. They feature blisters and are sealed with a cover film.

WECO offer reels in different widths of 24 mm, 32 mm, 44 mm, 56 mm, 72 mm or 88 mm.

#### Trays



WECO also offers trays as another option for automated component assembly. The flat trays feature component pockets, they are stackable and ensure sufficiently large component supply.

#### Bar magazines

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Our 550 mm bar magazines have various geometries which are tailored to the individual component size and shape. Both magazine ends are closed with a plug that is easy to remove.

Delivered in cardboard folding boxes, bar magazines are easy to unpack.

When assembling components from tape-on-reels or trays, the placement head vacuum-picks the component from the tape or the tray, verifies the position by means of a camera system, calculates angle and position offset to the nominal position and places the component onto the PC board. After all components have been placed, a conveyor system transports the assembled PC board downstream.



All three component packaging types use anti-static materials to avoid problems with electrostatic discharges (ESD).

### Other options

#### Moulding colours

WECO offers a multitude of various moulding colours.

In addition to our standard colours charcoal grey, black, vermilion and natural other moulding colours are also possible.

Please contact us for further information, we look forward to assisting you.

#### Standard colours



#### Special colours

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#### Screws

We use standard slotted-head screws for our products.

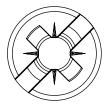
Upon inquiry and specific customer request, we also offer screws with Phillips/ Pozidriv or +/- screw heads.

#### Other materials:

Our products are predominantly equipped with steel screws. Upon request, screws made of alternative materials, such as brass, are also available.





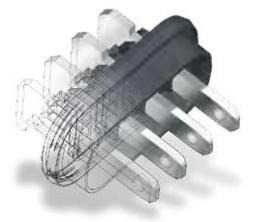


### Sie suchen eine kundenspezifische Lösung?



#### "Hoch Hinaus"

Ausführung einer Klemme unserer 970er-Baureihe im Raster 5 mm. Um einen Abstand von 100 mm zur Leiterplatte zu erreichen, wurde ein Gehäuseunterteil konstruiert, welches die Stifte nicht nur schützt sondern sie auch in eine besondere Anordnung positioniert. Im Klemmbereich sind noch zusätzlich verlängerte Rippen angebracht.



#### "Abgedichtet"

Im Raster 3,5 mm wurde dieses Einlegeteil mit vier Flachsteckern 2,8 x 0,8 mm dafür entwickelt, die Kontakte abzudichten, um die Anwendung nach Schutzklasse IP54 zu erfüllen.

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Unser Produkt-Informationszentrum unterstützt Sie bei allen technischen Fragestellungen.

- Rufen Sie uns an unter 06181/105-151.
- Kontaktieren Sie uns per Email unter products@wecogroup.de.
- Sie möchten einen Besuch bei Ihnen vor Ort? Wir vereinbaren gerne einen Besuchstermin.
- Ihnen wäre ein Besuch bei uns angenehmer? Sie sind bei uns immer herzlich willkommen.

Wir freuen uns auf Ihren Kontakt.

#### "Gut Kontaktiert"

Diese Steckerleiste im Raster 5 mm verfügt über außenliegende und vergoldete Kontaktflächen. Die Seitenwände wurden zusätzlich mit Rippen zur Aufnahme eines korrespondierenden Rasthakens versehen.

### Soldering processes

As a principle, soldering electrically and mechanically connects electronic components to printed circuits forming a subassembly. The solder contributes essentially to the operational reliability of an assembly. Among the various soldering methods, such as reflow soldering and wave soldering, Surface-Mount-Technology

(SMT) using reflow soldering is the most common and cost-efficient process.

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#### Reflow soldering

During the reflow soldering process, printed circuit boards assembled with SMD and THR components, are passed at a constant speed through various heating zones of a furnace (preheating, reflow soldering and furnace cooling).

In contrast to wave soldering, components and their plastic packages are exposed to the same temperatures as the metallic contacts to be soldered.

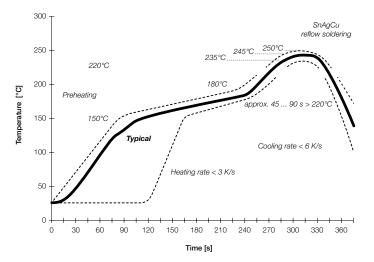
Electrical components, printed circuit boards and solder joints are heated either by infrared, convection or a vapor phase processes. In order to avoid oxidation of the solder pads on the printed circuit, this process can also be conducted under inert atmosphere.

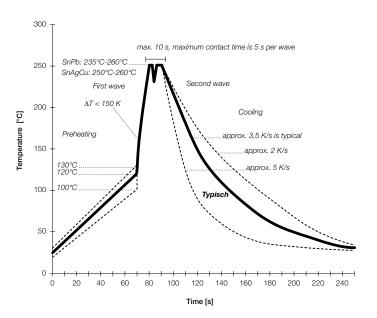
#### Wave soldering

Wave soldering processes are suitable for soldering conventional components.

A conveyor system moves the PCB through the soldering system at a constant speed. Upstream in the wave soldering system, the PCB and its components pass through the fluxer. Downstream in the preheating zone, the solvents contained in the fluxer are vaporized thus activating the flux.

Liquid solder is continuously pumped flowing over edges, through holes or into gaps, forming a wave of solder. This solder wave conveys and wets the underside of the printed circuit. Capillary forces raise the solder through the space between hole and component lead (solder pin) forming the characteristic solder meniscus.







The shown tables represents two solder temperature profiles compliant with EN 61760-1. Due to the various customerspecific parameters (e.g. soldering system, solder paste, component arrangement and orientation) the profiles are only recommendations and should be used accordingly.

### **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 (see 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, see table F.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 overcurrent protection devices.

#### Overvoltage category III

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

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>		Rated impulse voltage <sup>2)</sup>					
the supply based on IE		Overvoltage catagory 4)					
Three phase	Single phase	I.		- 111	IV		
V	V	V	V	V	V		
	120-240	800	1 500	2 500	4 000		
230/400 277/48	0	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		
voltages. Equipment w accordance v The / mark in voltage line-to	for application to e ith these rated imp vith IEC 60364-4-2 dicates a four-wire p-neutral, while the ated, it refers to thr	ulse voltages 14. three-phase of higher value i	can be used in distribution syst s the voltage lir	installations in em. The lower ne-to-line. Whe	value is the ire only one		

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

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

for 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 of the supplementary to the rated voltage of the equipment.

voltage rationalized inforugin lable rad of name rad, according to the close radio r

rating. Material group IIIb is no not recommended for application in pollution degree 3 above 630 V.

and the availability 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.

### Technical Information

#### 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.

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

		num clearenc 000 m above :				
Required impulse withstand	Inho	Case A mogeneous (see 3.15)	field			
voltage 1) 5)	Pollution degree					
	1	2	3			
kV	mm	mm	mm			
1,2	0,25	0,25	0.0.4)			
1,5 <sup>2)</sup>	0,5	0,5	0,8 4)			
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 2)	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 2)	8,0	8,0	8,0			
<ol> <li>This voltage is         <ul> <li>for functional insulation, the maximum impulse voltage expected to occur accross the clearence (see 5.1.5),</li> <li>for basic insulation directly exposed to or significantly influenced by transient overvoltages from the low-</li> </ul> </li> </ol>						

- influenced by transient overvoltages from the lowvoltage 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
- 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. Prefered values as specified in 4.2.3. The minimum clearences 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). Even on the circuit within on universe the binds to impulse
- charactensitics of the associated creepage distance under humidity conditions (see IEC 60664-5). 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
- 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.

#### Insulant

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

VECO

	0 1
Insulant I:	$600 \le CTI$
Insulant II:	$400 \le CTI < 600$
Insulant Illa:	$175 \leq CTI < 400$
Insulant IIIb:	$100 \le CTI < 175$

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.

### **Technical Information**

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

Relation between rated connection abilities and wires

DIN EN 60999-1, table 1 (extract)

	Theoretical diameter of the largest conductor							
	metric			AWG				
	so	olid	flexible		solid		flexible	
Rated cross section					b)	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 a)	14	1,71	1,95	2,08	
4,0	2,4	2,7	2,9 ª)	12	2,15	2,45	2,70	
6,0	2,9	3,3	3,9 ª)	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 diam IEC 60228A and I ICEA-Publication	EC 60344 a	nd for AWG o	conductors c	n ASTM B 1	72-71 [4],	0	[7].	
b) Nominal + 5	%.	ble wires in cla h of the three						

#### Current carrying-capacity

Technical data state a maximum rated current at which no thermal damage or malfunctions occur, if a certain ambient temperature and rated cross-section is provided. The rated current is a current which the terminal or connector can carry simultaneously at all contacts without exceeding the maximum permissible temperature limit.

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Appropriate test currents are applied to the rated cross sections (see table T2). Depending on the connection type, the maximum permissible heating of the clamping unit is limited to 45 K (acc. to DIN 60998-1, Temperature Rise Test for PCB Connectors) and to 30 K (acc. to DIN 60512-5-1, Temperature Rise Test for Plug Connectors) Based on the results of the temperature rise test acc. to DIN EN 60512-5-2 and the rated cross-section, a current carrying curve (base curve) is generated under consideration of the upper temperature limit for the insulating material and depending on the ambient temperature.

This base curve is used to determine the current carrying capacity of PCB connectors. For plug connectors, the base curve is corrected by factor 0.8 (derating curve). The permissible current carrying capacity not only depends on the terminal design but also the final application of the terminal. The corresponding equipment specifications, e.g. DIN EN 60335-1 (VDE 0700-1) must be observed.

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

Rated Cross-section	Load capacity
mm²	А
0,2	4
0,34	5
0,5	6
0,75	9
1	13,5
1,5	17,5
2,5	24
4	32
6	41
10	57
16	76
25	101
35	125

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#### Catalogue overview

Electronic

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

R

WECO

Electrical # 7: Europe type connectors # 8: Tab connectors & Screw connectors

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