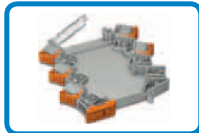




9



Empty Housings, 2857 Series

Overview and Configuration
Modular Empty Housings
Stripboards

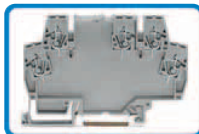
450 - 0
0 - 0
0 - 0



Empty Component Plug Housings 280, 286, 786 Series

Empty Component Plug Housings for Building Custom Circuits
Empty Component Plug Housings for Building Custom Circuits

0 - 0
0



Empty Housings, 859 Series

Empty Electronic Terminal Block Housings

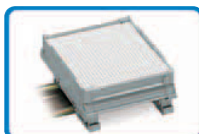
0



Empty Housings, 789 Series

DIN-Rail Mounted Enclosures
Accessories, 789 Series

0
0



Mounting Carriers, 209, 210, 288 Series

Mounting Carriers for DIN-Rail Mounting PCBs
Mounting Carriers and Feet for DIN-Rail Mounting PCBs

0 - 0
0 - 0

Modular Empty Housings, 2857 Series

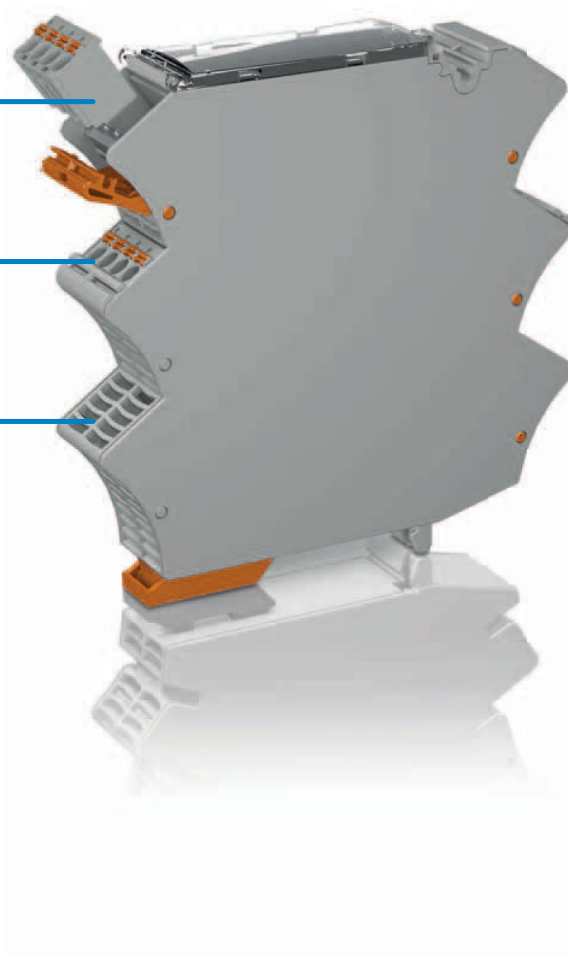
Overview and Configuration

Pluggable
connection
with *picoMAX*®

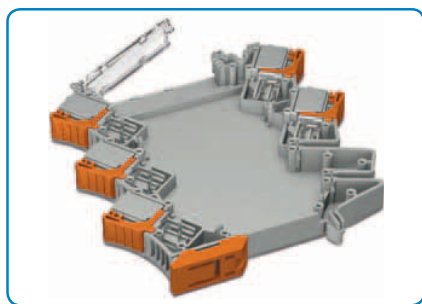
Fixed
connection
with *picoMAX*®

Empty slot
without connection technology

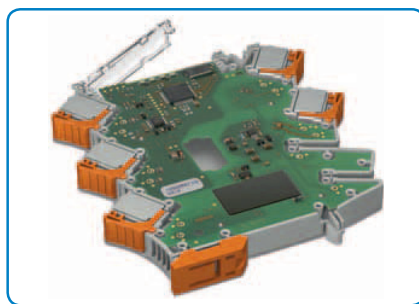
... freely selectable at each
connection point



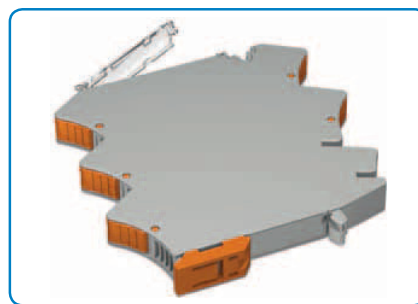
Supplied as a pre-assembled unit



1. Pre-assembled unit



2. Inserting and soldering
the PCB.



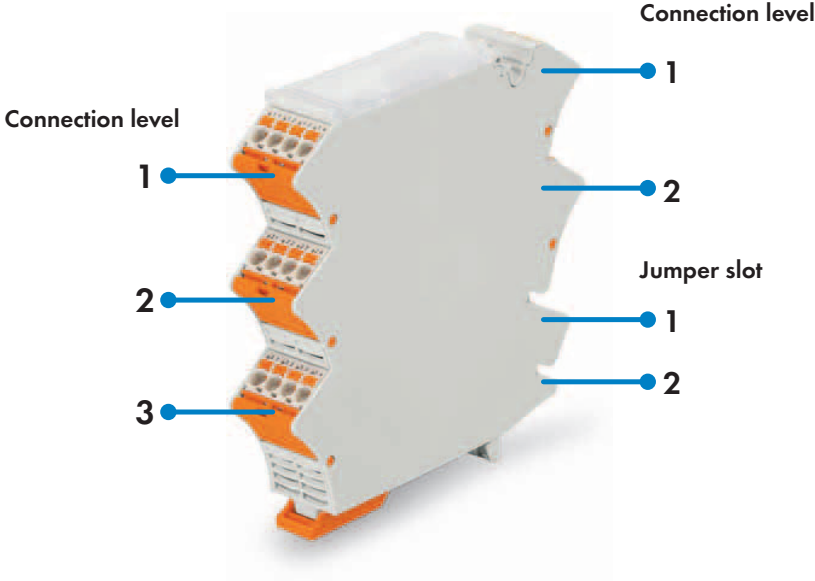
3. Snapping on side wall.

Housing configuration

Housing width: 12.5 mm	 2857-101	 2857-102	 2857-103	-
Housing width: 22.5 mm	 2857-121	 2857-122	 2857-123	 2857-124
Connection levels	2-2	3-2	3-3	1-1
Jumper slots	2-2	0-2	0-0	2-2

Mixed configuration (fixed/removable/empty slot) upon request.

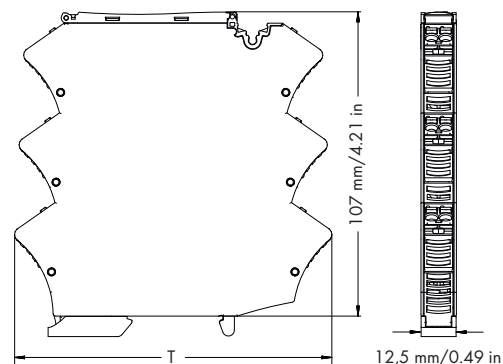
Example of connection level and jumper slot assignment:



Connection levels	3-2
Jumper slots	0-2

Modular Empty Housings

Housing width: 12.5 mm



Features:

- *picoMAX*® female connectors, with coding keys, 2-pole
- Pre-assembled unit
- Flexible conductor termination
- Customization of connection levels
- Various marking options available
- Sealable, transparent cover
- Commoning option via 859-402 jumpers

Technical Data: Empty Housing

Material Data:

Housing material	PC
Flammability rating	VO

Environmental Requirements:

Ambient operating temperature	-40 °C ... +70 °C
Storage temperature	-40 °C ... +85 °C

Dimensions:

Dimensions (mm) W x H x L	12.5 x 107 x 108 (2857-101)
	12.5 x 107 x 110 (2857-102)
	12.5 x 107 x 112 (2857-103)
	Height from upper-edge of DIN 35 rail

Technical Data:

Power loss	2 W
Accessories	Coding key carrier: 2092-1610
	Jumpers: 859-402
	Marker strips, WMB and
	WMB Inline: see section 11

Description	Item No.	Pack. Unit
Modular empty housing, for DIN 35 rail		
Housing width: 12.5 mm		
2-2 connection levels, 2-2 jumper slots	2857-101	10
3-2 connection levels, 0-2 jumper slots	2857-102	10
3-3 connection levels, 0-0 jumper slots	2857-103	10

Technical Data: Female Connector with *picoMAX*® 5.0 Conductor Termination

Technical Data:

Pin spacing	5 mm / 0.197 in		
Ratings per	IEC/EN 60664-1		
Overvoltage category EN	III	III	II
Pollution degree	3	2	2
Rated voltage EN	250 V	320 V	630 V
Rated surge voltage	4 kV	4 kV	4 kV
Nominal current	16 A	16 A	16 A
Approvals per	UL/CSA		
Use Group UL 1059	B	C	D
Rated voltage	300 V	-	300 V
Nominal current UL	15 A	-	10 A

Conductor Data:

Wire connection	CAGE CLAMP® S
Solid sizes	0.2 ... 2.5 mm² / AWG 24 ... 12
Fine-stranded wires	0.2 ... 2.5 mm² / AWG 24 ... 12
Fine-stranded wires with insulated ferrule	0.2 ... 1.5 mm² / AWG 24 ... 16
Fine-stranded wires with uninsulated ferrule	0.2 ... 2.5 mm² / AWG 24 ... 14
Strip length	9 ... 10 mm / 0.35 ... 0.39 in

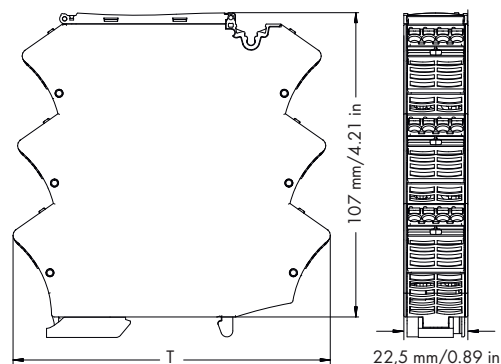
Material Data:

Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (Ecu)
Contact plating	Tin-plated
Insulating material	Polyphthalamide glass fiber (PPA-GF)
Flammability rating	VO

For additional technical data, see WAGO's *picoMAX*® catalog.

Modular Empty Housings

Housing width: 22.5 mm



Features:

- picoMAX® female connectors, with coding keys, 4-pole
- Pre-assembled unit
- Flexible conductor termination
- Customization of connection levels
- Various marking options available
- Sealable, transparent cover
- Commoning option via 859-402 jumpers

Technical Data: Empty Housing

Material Data:

Housing material	PC
Flammability rating	V0

Environmental Requirements:

Ambient operating temperature	-40 °C ... +70 °C
Storage temperature	-40 °C ... +85 °C

Dimensions:

Dimensions (mm) W x H x L	22.5 x 107 x 108 (2857-121)
	22.5 x 107 x 110 (2857-122)
	22.5 x 107 x 112 (2857-123)
	22.5 x 107 x 105 (2857-124)
	Height from upper-edge of DIN 35 rail

Technical Data:

Power loss	3 W
Accessories	Coding key carrier: 2092-1610
	Jumpers: 859-402
	Marker strips, WMB and
	WMB Inline: see section 11

Description	Item No.	Pack. Unit
Modular empty housing, for DIN 35 rail		
Housing width: 22.5 mm		
2-2 connection levels, 2-2 jumper slots	2857-121	5
3-2 connection levels, 0-2 jumper slots	2857-122	5
3-3 connection levels, 0-0 jumper slots	2857-123	5
1-1 connection levels, 2-2 jumper slots	2857-124	5

Technical Data: Female Connector with picoMAX® 5.0 Conductor Termination

Technical Data:

Pin spacing	5 mm / 0.197 in		
Ratings per	IEC/EN 60664-1		
Overvoltage category EN	III	III	II
Pollution degree	3	2	2
Rated voltage EN	250 V	320	630 V
Rated surge voltage	4 kV	4 kV	4 kV
Nominal current	16 A	16 A	16 A
Approvals per	UL/CSA		
Use Group UL 1059	B	C	D
Rated voltage	300 V	-	300 V
Nominal current UL	15 A	-	10 A

Conductor Data:

Wire connection	CAGE CLAMP® S
Solid sizes	0.2 ... 2.5 mm² / AWG 24 ... 12
Fine-stranded wires	0.2 ... 2.5 mm² / AWG 24 ... 12
Fine-stranded wires with insulated ferrule	0.2 ... 1.5 mm² / AWG 24 ... 16
Fine-stranded wires with uninsulated ferrule	0.2 ... 2.5 mm² / AWG 24 ... 14
Strip length	9 ... 10 mm / 0.35 ... 0.39 in

Material Data:

Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (Ecu)
Contact plating	Tin-plated
Insulating material	Polyphthalamide glass fiber (PPA-GF)
Flammability rating	V0

For additional technical data, see WAGO's picoMAX® catalog.

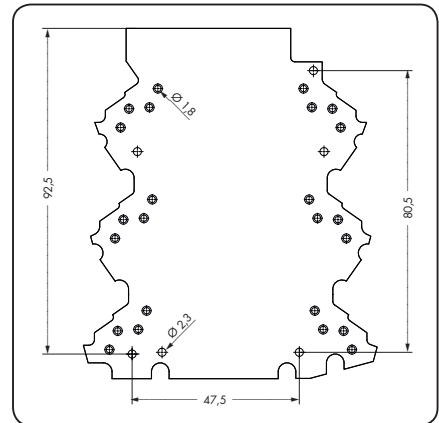
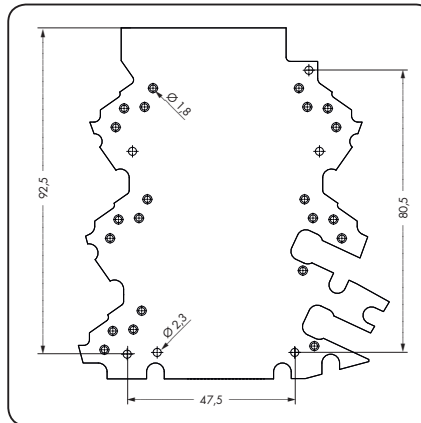
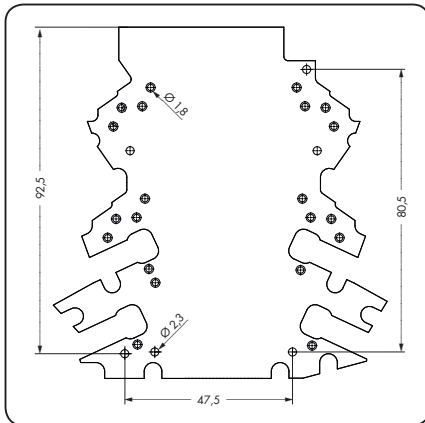
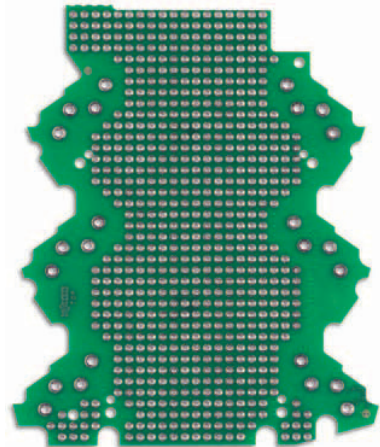
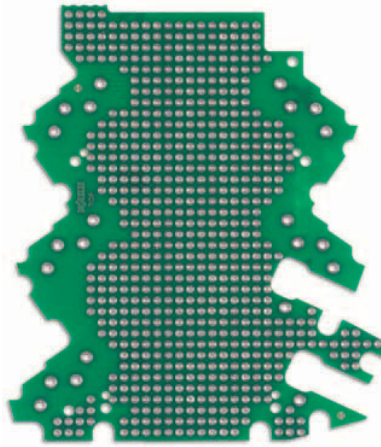
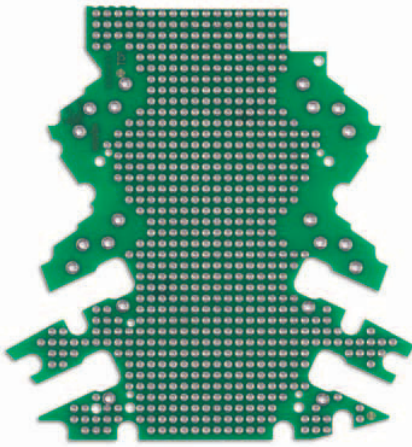
Stripboards, 2857 Series

for Empty Housings

Stripboard
2-2 connection levels
2-2 jumper slots

Stripboard
3-2 connection levels
0-2 jumper slots

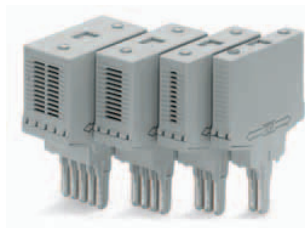
Stripboard
3-3 connection levels
0-0 jumper slots



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
Stripboard, for installation in 12.5mm and 22.5mm empty housings		Stripboard, for installation in 12.5mm and 22.5mm empty housings		Stripboard, for installation in 12.5mm and 22.5mm empty housings	
2857-191/3140-000	5 (5 x 1)	2857-192/3140-000	5 (5 x 1)	2857-193/3140-000	5 (5 x 1)

Empty Component Plug Housings for Building Custom Circuits

286 Series, empty component plug



Description		Item No.	Pack. Unit
Empty component plug, type 9	4-pole, 10 mm / 0.394 in wide	286-110	1
Empty component plug, type 10	6-pole, 15 mm / 0.591 in wide	286-111	1
Empty component plug, type 11	8-pole, 20 mm / 0.787 in wide	286-112	1
Empty component plug, type 12	10-pole, 25 mm / 0.984 in wide	286-113	1

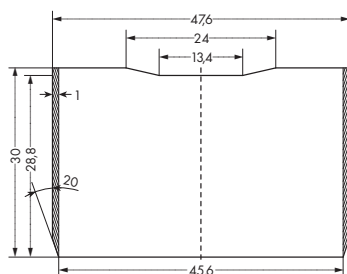
250 V/ 4 kV/ 3 (rated voltage/ rated surge voltage/ pollution degree);

6 A per contact;

Module height 82.5 mm/3.25 in (from upper-edge of DIN 35 rail);

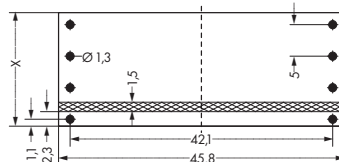
PCB dimensions and component height see drawing and table

PCB dimensions



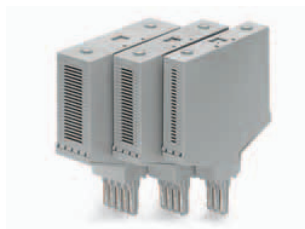
No components should be mounted in this area

When mounting a PCB vertically, do not mount components on or over the top edge of the PCB



Module width	10	15	20	25
Component height	4.2	9.2	14.2	19.2
X = total height of PCB	8	13	18	23

786 Series, empty component plug



Description		Item No.	Pack. Unit
Empty component plug, type 14	6-pole, 15 mm / 0.591 in wide	786-101	1
Empty component plug, type 15	8-pole, 20 mm / 0.787 in wide	786-102	1
Empty component plug, type 16	10-pole, 25 mm / 0.984 in wide	786-103	1

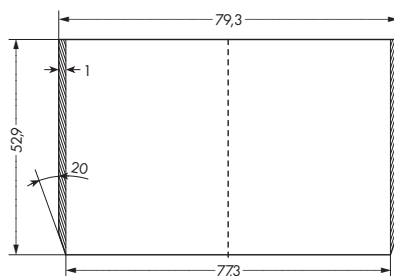
250 V/ 4 kV/ 3 (rated voltage/ rated surge voltage/ pollution degree);

6 A per contact;

Module height 82.5 mm/3.25 in (from upper-edge of DIN 35 rail);

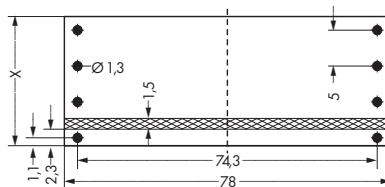
PCB dimensions and component height see drawing and table

PCB dimensions



No components should be mounted in this area

When mounting a PCB vertically, do not mount components on or over the top edge of the PCB



Module width	15	20	25
Component height	9.2	14.2	19.2
X = total height of PCB	13	18	23

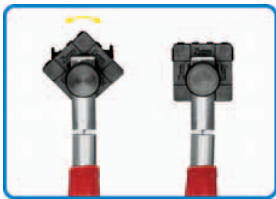
Unlocking pliers for component plug housing



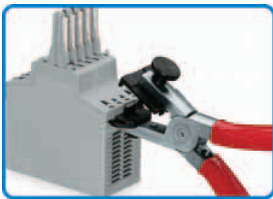
WSB-marker cards



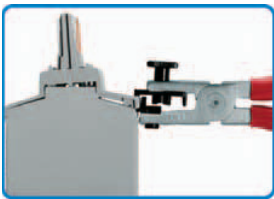
Description	Item No.	Pack. Unit
Unlocking pliers for component plug housing	210-492	1
WSB Quick marking system for module width 5 - 17.5 mm plain	209-501	5 cards
Marking 1 ... 10 (10 x)	209-702	5 cards
10 strips with 10 markers, white with black printing		



Adjust the pliers to the proper housing width



Insert the pliers into the locking slots . . .



. . . by compressing the pliers . . .



. . . the cover is removed.

2-conductor terminal block



4-conductor terminal block



Description	Item No.	Pack. Unit
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator	12 mm / 0.472 in wide 280-618	1
with 4-conductor terminal blocks, orange separator	12 mm / 0.472 in wide 280-608	1
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator	17 mm / 0.669 in wide 280-619	1
with 4-conductor terminal blocks, orange separator	17 mm / 0.669 in wide 280-609	1
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator	22 mm / 0.866 in wide 280-638	1
with 4-conductor terminal blocks, orange separator	22 mm / 0.866 in wide 280-628	1
Terminal block for pluggable modules, with 2-conductor terminal blocks, orange separator	27 mm / 1.063 in wide 280-639	1
with 4-conductor terminal blocks, orange separator	27 mm / 1.063 in wide 280-629	1

Wire range 0.08 mm² ... 2.5 mm² / AWG 28 ... 14; Stripped lengths 8 ... 9 mm / 0.33 in

Other Terminal blocks see Full Line Catalog, Volume 1, Rail-Mounted Terminal Block Systems

Empty Component Plug Housings for Building Custom Circuits

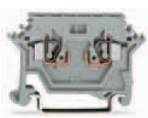
280 Series, empty component plug housings for building custom circuits



Description	Item No.	Pack. Unit
Empty component plug, type 1 2-pole, 5 mm / 0.197 in wide; Inside dimensions of plug W/H/D 3.2/15/15 mm (0.126/0.591/0.591 in)	280-801	100
Empty component plug, type 2 2-pole, 10 mm / 0.394 in wide; Inside dimensions of plug W/H/D 8.2/15/15 mm (0.323/0.591/0.591 in)	280-802	50
Empty component plug, type 3 4-pole, 10 mm / 0.394 in wide; Inside dimensions of plug W/H/D 8.2/15/15 mm (0.323/0.591/0.591 in)	280-804	50

250 V/ 4 kV/ 3 (rated voltage/ rated surge voltage/ pollution degree);

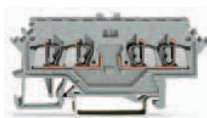
2-conductor terminal



3-conductor terminal



4-conductor terminal



Description	Item No.	Pack. Unit
2-conductor terminal block gray, terminal block width 5 mm / 0.197 in, marking on both sides	280-616	100
2-conductor terminal block gray, terminal block width 5 mm / 0.197 in, marking in center position	280-916	100
3-conductor terminal block gray, terminal block width 5 mm / 0.197 in	280-610	100
4-conductor terminal block gray, terminal block width 5 mm / 0.197 in, marking on both sides	280-606	100
4-conductor terminal block gray, terminal block width 5 mm / 0.197 in, marking in center position	280-686	100

Wire range 0.08 mm² ... 2.5 mm² / AWG 28 ... 14; Stripped lengths 8 ... 9 mm / 0.33 in

For accessories like end plates, jumpers etc. see Full Line Catalog, Volume 1, Rail-Mounted Terminal Block Systems

Empty Component Plug Housings for Building Custom Circuits, 280 Series



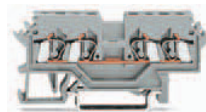
2-conductor terminal block



3-conductor terminal block



4-conductor terminal block



2-conductor terminal block



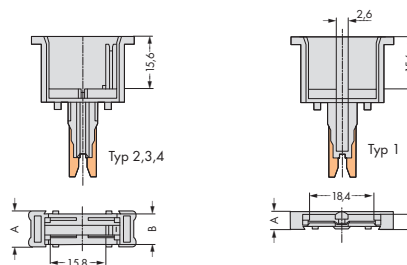
Description	Item No.	Pack. Unit
Empty component plug, type 4 2-pole, 10 mm / 0.394 in wide; Inside dimensions of plug W/H/D 8.2/15/15 mm (0.323/0.591/0.591 in)	280-803	50
250 V/ 4 kV/ 3 (rated voltage/ rated surge voltage/ pollution degree); 6 A max.		
Front-entry 2-conductor terminal block gray, terminal block width 5 mm / 0.197 in, marking on both sides	280-601	100
Front-entry 2-conductor terminal block gray, terminal block width 5 mm / 0.197 in, marking in center position	280-901	100
Front-entry 3-conductor terminal block gray, terminal block width 5 mm / 0.197 in	280-681	100
Wire range 0.08 mm ² ... 2.5 mm ² / AWG 28 ... 12 (THHN, THWN); Stripped lengths 8 ... 9 mm / 0.33 in		
Front-entry 4-conductor terminal block gray, terminal block width 5 mm / 0.197 in, marking on both sides	280-621	100
Front-entry 4-conductor terminal block gray, terminal block width 5 mm / 0.197 in, marking in center position	280-833	100
Side-entry 2-conductor terminal block gray, terminal block width 5 mm / 0.197 in	280-101	100
Wire range 0.08 mm ² ... 2.5 mm ² / AWG 28 ... 14; Stripped lengths 8 ... 9 mm / 0.33 in		
For accessories like end plates, jumpers etc. see Full Line Catalog, Volume 1, Rail-Mounted Terminal Block Systems		



Press screwdriver into appropriate slot (1) and remove cover with levering action (2).

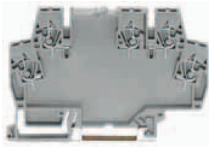


Introduce cover in the outer groove of the plug and press completely down until snap-fit engaged.

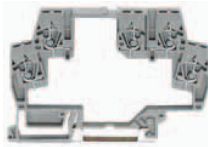


Typ	1	2	3	4
A	5	10	10	10
B	3,2	8,2	8,2	8,2

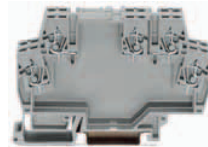
859-110



859-501

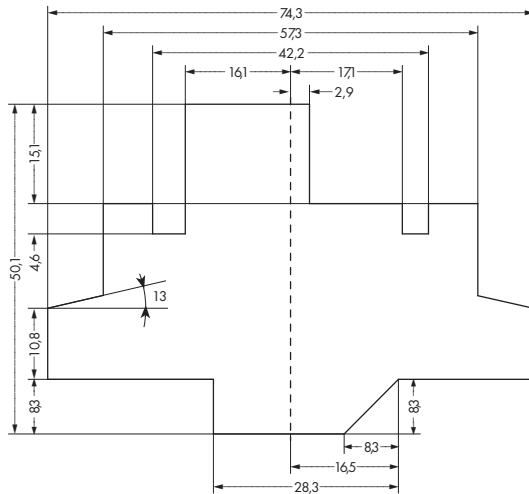


859-110 and 859-501

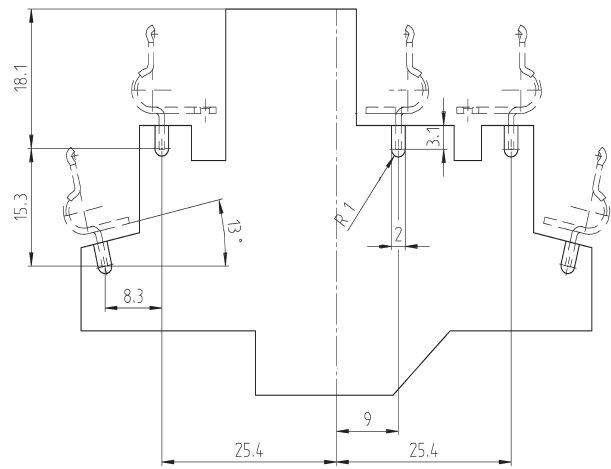


Description	Item No.	Pack. Unit	Technical Data
Modular housing for mounting electronic components in a rail-mounted terminal block	859-110	1	Housing material: PA 6.6
Frame to enlarge the terminal block width	859-501	1	Flammability rating: V0
			Color: gray (similar to RAL 7038)
			Degree of protection: IP20
			Perm. ambient temperature: -25 °C ... +70 °C
			Storage temperature: -40 °C ... +85 °C
			Width: 6 mm (859-110), 8 mm (859-501)
			Mounting position: any
			Dimensions (W x H x L): (6 x 56 x 91) mm Height from upper-edge of DIN 35 rail
			Wire connection: CAGE CLAMP®
			Cross sections: 0.08 mm² ... 2.5 mm² / AWG 28 ... 14
			Stripped lengths: 5 ... 6 mm / 0.22 in

PCB dimensions



PCB dimensions



End and intermediate plate



Push-in type jumper bar



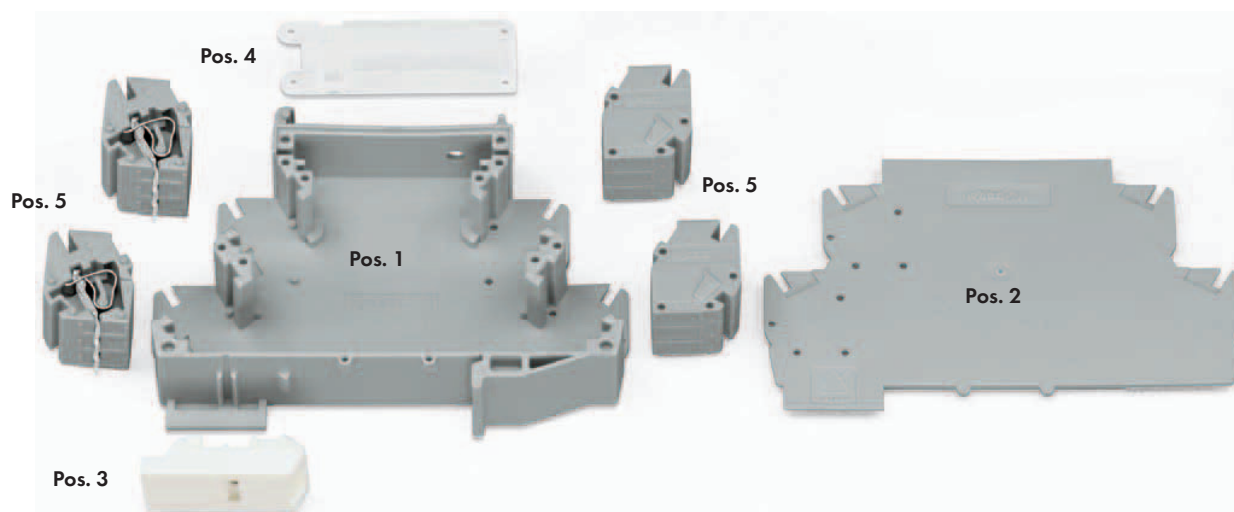
Commoning



Test pin



Description	Item No.	Pack. Unit
End and intermediate plate; 1 mm / 0.039 in thick, gray	859-525	100 (4x25)
Push-in type jumper bars, light gray, insulated, 18 A		
2-way	859-402	200 (8x25)
3-way	859-403	200 (8x25)
4-way	859-404	200 (8x25)
5-way	859-405	200 (8x25)
6-way	859-406	100 (4x25)
7-way	859-407	100 (4x25)
8-way	859-408	100 (4x25)
9-way	859-409	100 (4x25)
10-way	859-410	100 (4x25)
Item no. suffix for colored push-in type jumper bars		
yellow	... /000-029	
blue	... /000-006	
red	... /000-005	
Test pin; Ø 1 mm / 0.039 in; test wire for sold. onto test plug	859-500	1 (1x1)

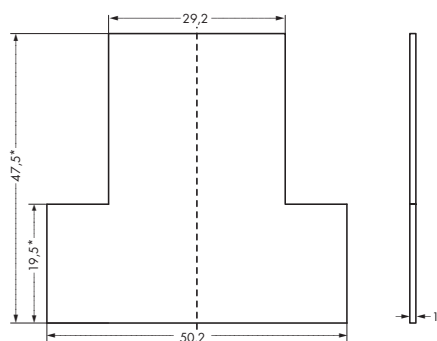


Description		Item No.	Pack. Unit	Technical Data
Housing 55 mm/2.17 in	Pos. 1	789-120	1	Rated voltage acc. to VDE 0110 Part 1 /4.97 IEC 60664-1: 250 V /4 kV /3
Top cover 55 mm/2.17 in	Pos. 2	789-122	1	Housing material: PA 6,6
Transparent cover	Pos. 4	789-124	1	Flammability rating: V0
Release mechanism	Pos. 3	789-126	1	Color: gray (similar to RAL 7038)
3-pole terminal block: CCC*	Pos. 5	789-127	1	Degree of protection: IP20
3-pole terminal block: COC*	Pos. 5	789-128	1	Perm. ambient temperature: -25 °C ... +70 °C
3-pole terminal block: CCO*	Pos. 5	789-129	1	Storage temperature: -40 °C ... +85 °C
3-pole terminal block: OCC*	Pos. 5	789-130	1	Mounting position: any
3-pole terminal block: OCO*	Pos. 5	789-131	1	Dimensions (W x H x L): (17.5 x 55 x 90) mm Hight from upper-edge of DIN 35 rail
3-pole terminal block: OOO*	Pos. 5	789-132	1	Wire connection: CAGE CLAMP®
3-pole terminal block: OOC*	Pos. 5	789-133	1	Cross sections: 0.08 mm² ... 2.5 mm² /AWG 28 ... 14
3-pole terminal block: COO*	Pos. 5	789-134	1	Stripped lengths: 5 ... 6 mm / 0.22 in

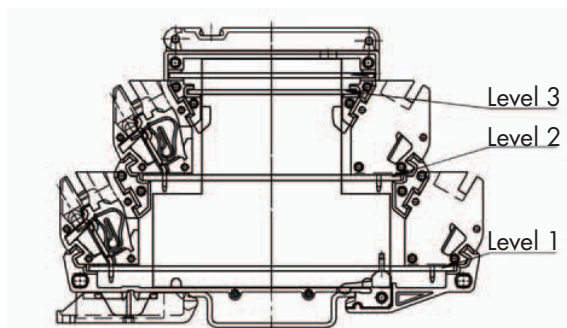
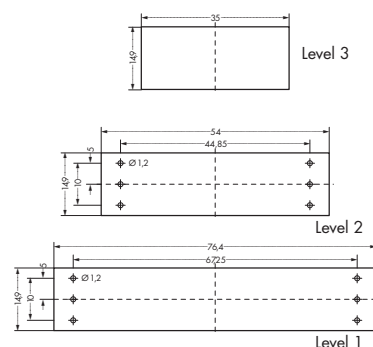
* C = with clamping spring, O = without clamping spring, enclosure open on the right side

PCB dimensions, horizontal mounting

* less 4.5mm when mounting a vertical PCB on level 1



PCB dimensions vertical mounting (max. PCB thickness 1.5 mm) in level 1; (max. PCB thickness 1 mm) in level 2 and 3



Push-in type jumper bars



Commoning



Description	Item No.	Pack. Unit
Push-in type jumper bars	uninsulated, 12-way, to be cut to the required length	789-112
		100 (4x25)

Operating tool



Wire connection



Marking pen with fiber tip

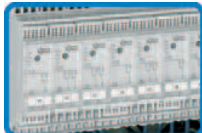


Description		Item No.	Pack. Unit
Operating tool, with partially insulated shaft	Type 2, blade (3.5 x 0.5) mm	210-720	1
Marking pen	for permanent marking	210-110	1

Miniature quick marking card



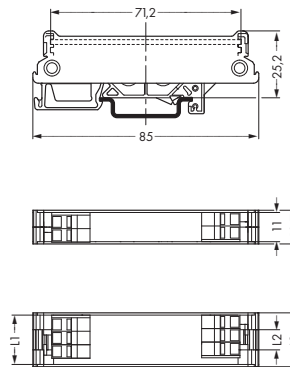
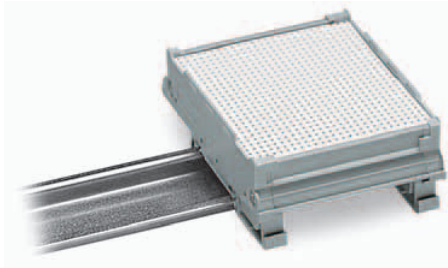
Marking



Description		Item No.	Pack. Unit
Miniature WSB Quick marking system	plain	248-501	5 cards
Marking software and printer/plotter see Section 11			
Marking	1 ...10 (10 x)	248-502	5 cards
	11 ... 20 (10x)	248-503	5 cards
	21 ... 30 (10x)	248-504	5 cards
	31 ... 40 (10x)	248-505	5 cards
	41 ... 50 (10 x)	248-506	5 cards
	1 ... 50 (2 x)	248-566	5 cards
	K 1 ... K 10 (10 x)	248-450	5 cards
	K 11 ... K 20 (10 x)	248-451	5 cards
	K 100 (10 x)	248-452	5 cards
	U 1 ... U 10 (10 x)	248-453	5 cards
	U 11 ... U 20 (10 x)	248-454	5 cards
	U 100 (10 x)	248-455	5 cards
10 strips with 10 markers, white with black printing			

Mounting Carriers for DIN-Rail Mounting PCBs

Mounting carrier size 1



Description	Item No.	Pack. Unit
Lateral cover, size 1, small, 6.35 mm /0.25 in thick	288-601	1
Fixing foot for mounting on DIN 35 rails	288-602	1
Track section, size 1, 1 m /3'3" long	288-600	1

In order to determine the length of a complete mounting carrier:

Length of PCB: L1

Length of track section: L2 = L1 - 11 mm /0.433 in

Length of mounting carrier: L3 = L1 + 1.7 mm/0.067 in

with lateral cover size 1, 6.35 mm/0.25 in thick.

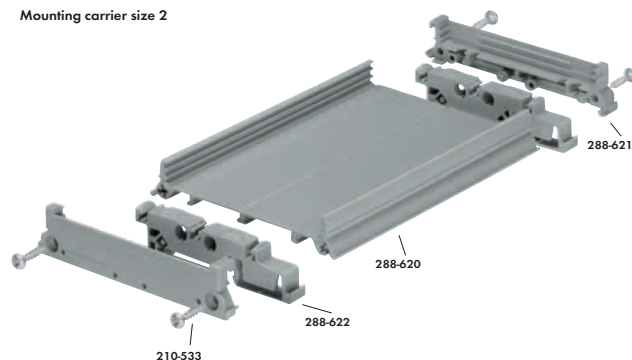
Distance between PCB and upper groove of track section is 5 mm/0.197 in PCB tolerances: thickness 1.5 mm ± 0.2 mm, length/width ± 0.2 mm; -0.1/+0.3 for milling contours

Marker strips

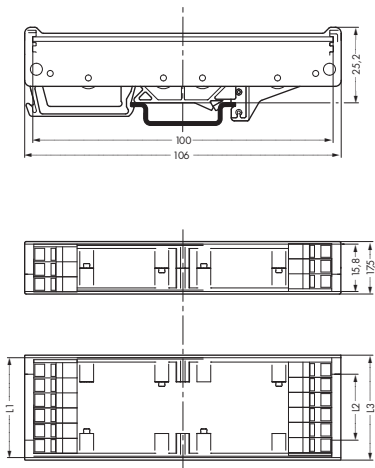


Description		Item No.	Pack. Unit
Phillips screw 2.9 x 13*	* To be used from a module length of 35 mm/1.378 in. For smaller modules the lateral covers have to be riveted. Rivet length depends on module length. Rivets not in the WAGO product range.	210-533	25
7.5x0.5mm on roll 5x1m, white		709-198	1
7.5x0.5mm on roll 5x1m, translucent		709-196	1

Mounting carrier size 2

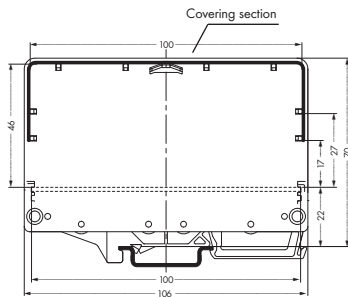


Mounting carrier size 2



Description	Item No.	Pack. Unit
Lateral cover, size 2, small*, 8.75 mm /0.344 in thick	288-621	1
Fixing foot for mounting on DIN 35 rails	288-622	1
Track section, size 2, 1 m /3'3" long	288-620	1

Mounting carrier size 2, with covering section



Description	Item No.	Pack. Unit
Lateral cover, size 2, big* 8.75 mm /0.344 in thick	288-626	1
Covering section, size 2, 1 m /3'3" long	288-627	1

In order to determine the length of a complete mounting carrier:

Length of PCB: L1

Length of track section: L2 = L1 – 15,8 mm/0.622 in

Length of mounting carrier: L3 = L1 + 1.7 mm/0.067 in

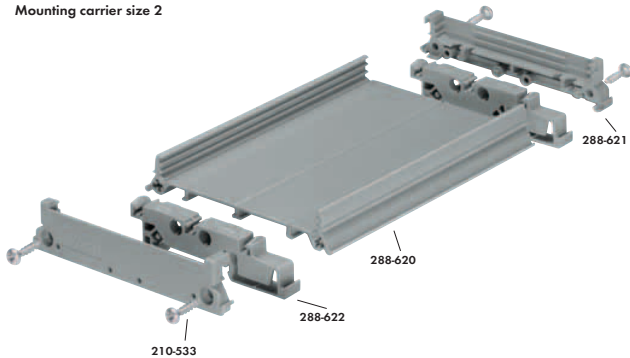
Length of covering section: L4 = L1

with lateral cover, size 2, 8.75 mm/0.344 in thick

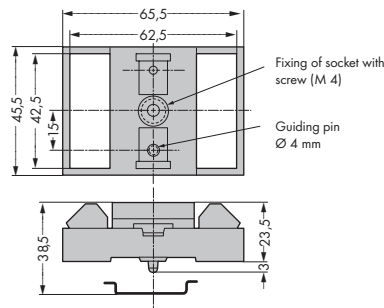
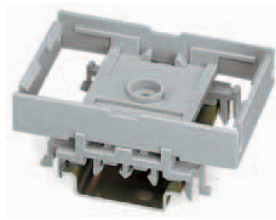
Distance between PCB and upper groove of track section is 5 mm/0.197 in PCB

tolerances: thickness 1.5 mm ± 0.2 mm, length/width ± 0.2 mm; -0.1/+0.3 for milling contours

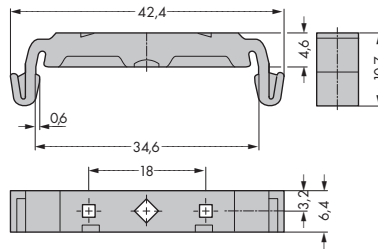
Mounting carrier size 2



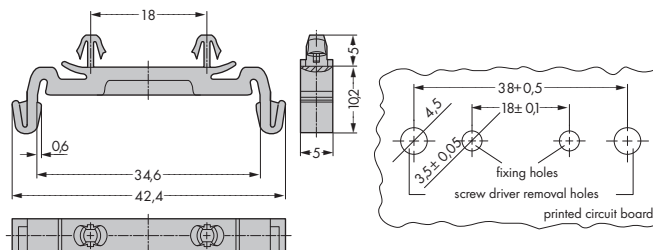
Mounting Carriers and Feet for DIN-Rail Mounting PCBs



Description		Item No.	Pack. Unit
Mounting carrier	For screw-fixing or DIN-rail mounting with snap-fit type universal mounting feet (then needs 2 x mounting feet)	288-001	1
Universal mounting foot	Snap-fit type, suitable for DIN 15, 32 and 35 rails	288-002	10
Universal mounting foot	Suitable for Europa card (100 x 160) mm	288-003	1



Description		Item No.	Pack. Unit
Mounting foot	For screw-fixing to relay modules, holes for fixing screws 2 mm/0.079 in, PCB hole Ø 3.2 mm/0.126 in, distance 18 mm/0.709 in,	209-120	25
Fixing screw	For mounting foot 209-120	209-119	50



Description		Item No.	Pack. Unit
Mounting foot	For snap-fit mounting to relay modules, for fixing hole Ø 3.5 mm/0.138 in, distance 18 mm/0.709 in, for mounting on DIN 35 rail	209-188	25