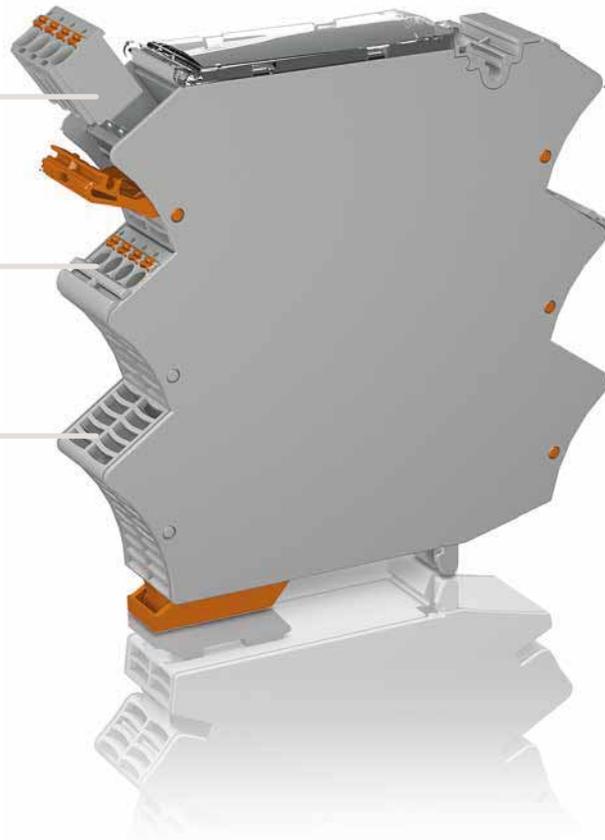# Empty Housings

Empty housings

9

Modular Empty Housings
Overview and Configuration
2857 Series

Pluggable *picoMAX*®
Connectors

Fixed *picoMAX*®
Connectors

Connector-free slot

All are freely selectable for
each connection point

9

Supplied as a Pre-Assembled Unit:
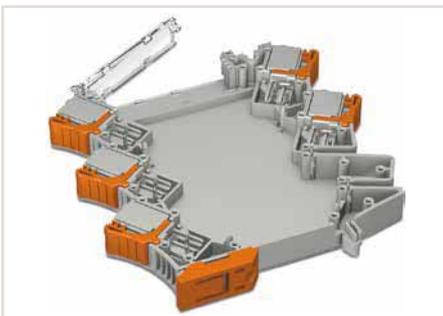
1. Pre-Assembled Unit:
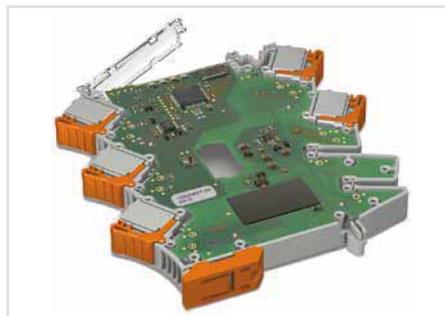
2. Insert and solder the PCB.
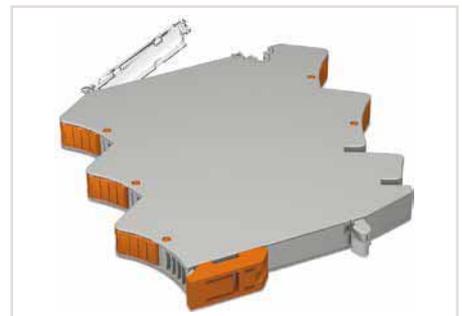
3. Snap on the side wall.

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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 level
1

Connection level
1
2
Connection level
2
Jumper slot
1
3
2
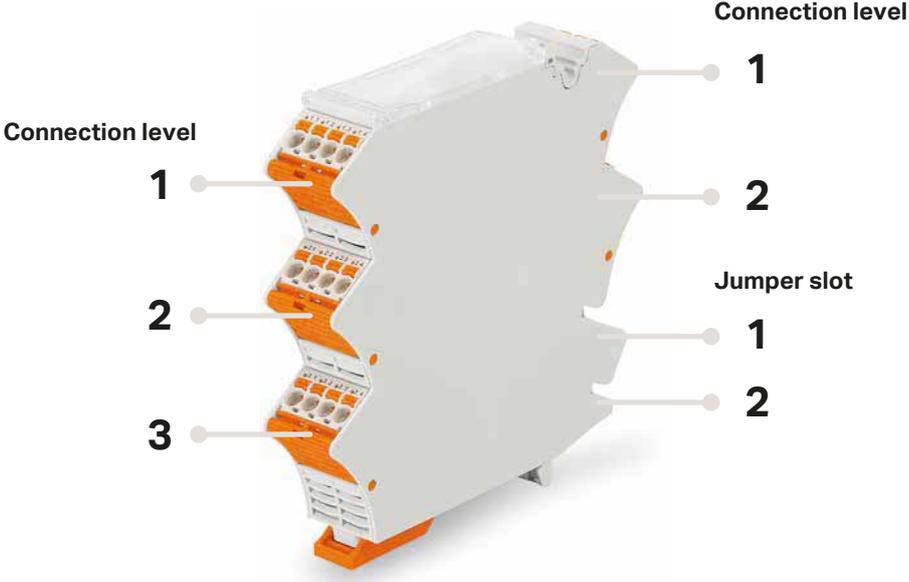
Connection levels	3-2
Jumper slots	0-2

Modular Empty Housings

2857 Series
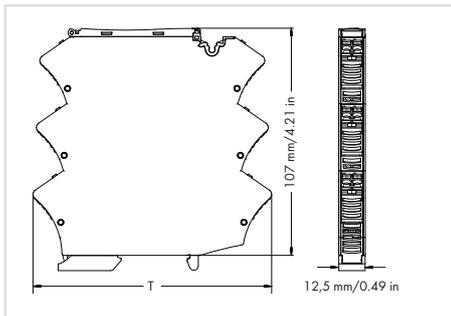
Features:
- *pico*MAX® **female connectors, with coding keys, 4-pole**
- Pre-Assembled Unit:
- Flexible conductor termination
- Customizable connection levels
- Various marking options available
- Sealable, transparent cover
- Commoning via jumpers (859-402)

picoMAX® 5.0 Female Connectors

Technical Data	
Pin spacing	5 mm / 0.197 inch
Ratings per	IEC/EN 60664-1
Nominal voltage (III / 3)	250 V
Nominal surge voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Nominal surge voltage (III / 2)	4 kV
Nominal voltage (II / 2)	630 V
Nominal surge voltage (II / 2)	4 kV
Nominal current	16 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Nominal current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Nominal current UL (Use Group D)	10 A
Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Nominal current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Nominal current CSA (Use Group D)	10 A
Conductor Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductors, tool-operated termination	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductors, tool-operated termination	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductors with insulated ferrules	0.2 … 1.5 mm² / 24 … 16 AWG
Fine-stranded conductors with uninsulated ferrules	0.2 … 2.5 mm² / 24 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch
Material Data	
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (Ecu)
Contact plating	Tin-plated
Insulating material	Polyphtalamide (PPA GF)
Flammability rating	V0

Technical Data: Empty Housing

Material Data	
Housing material	PC
Flammability rating	V0
Environmental Requirements	
Ambient operating temperature	−40 … +70 °C
Storage temperature	−40 … +85 °C

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📖 Additional technical data,
see *picoMAX*® Catalog

📖 Marking strips, WMB and WMB Inline,
see page 608

WAGO

PUSH-IN CAGE CLAMP®

Modular empty housing, for DIN-35 rail, 12.5 mm wide housing		
Description	Item No.	Pack. Unit
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: Empty Housing

Dimensions (mm) W x H x D	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-rail
Power loss	2 W

Accessories

Description	Item No.	Pack. Unit
Coding pin carrier	**2092-1610**	1
Jumpers	**859-402**	1

| Modular empty housing, for DIN-35 rail, 22.5 mm wide housing		
Description	Item No.	Pack. Unit
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: Empty Housing

Dimensions (mm) W x H x D	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-rail
Power loss	3 W

Accessories

Description	Item No.	Pack. Unit
Coding pin carrier	**2092-1610**	1
Jumpers	**859-402**	1

9

www.wago.com
Заказ на сайте
www.wgspb.ru

Stripboards
for Modular Empty Housings
2857 Series
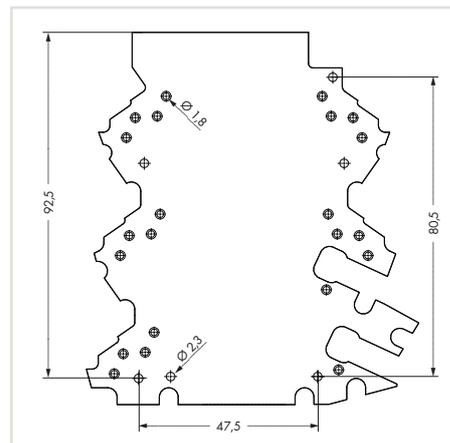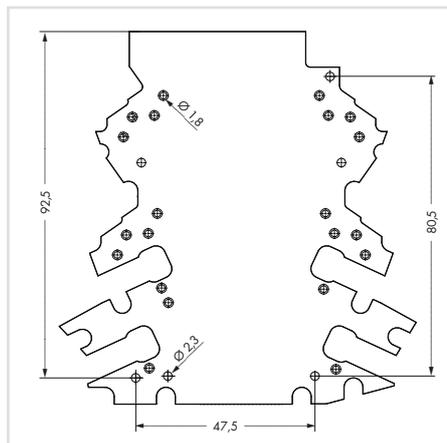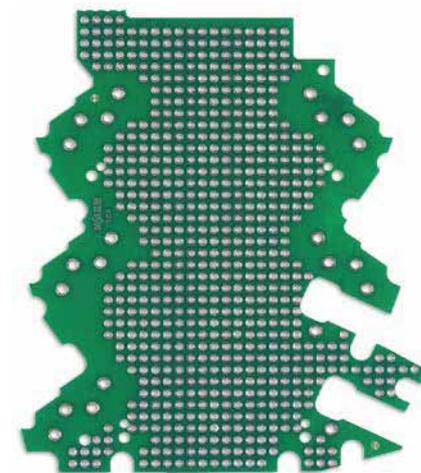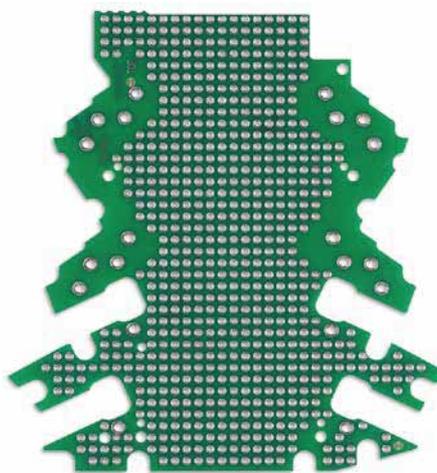
Stripboard, for installation in 12.5 mm and 22.5 mm empty housings		
	Item No.	Pack. Unit
	2857-191/3140-000	5 (5 x 1)

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

Technical Data

Connection levels	2-2	3-2
Jumper slots	2–2	0-2

9

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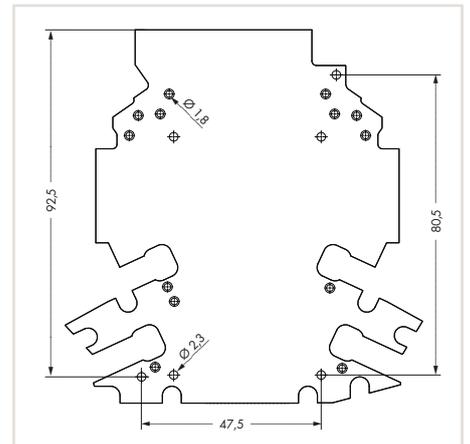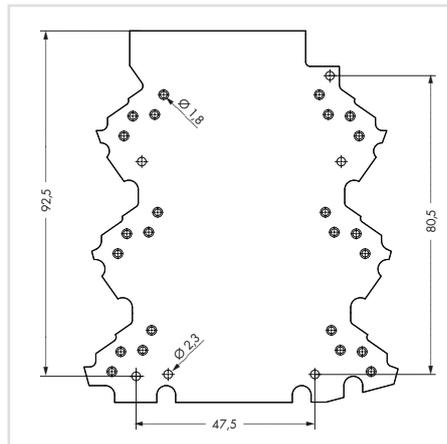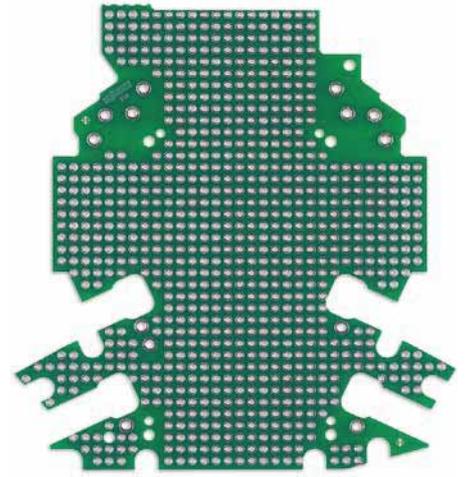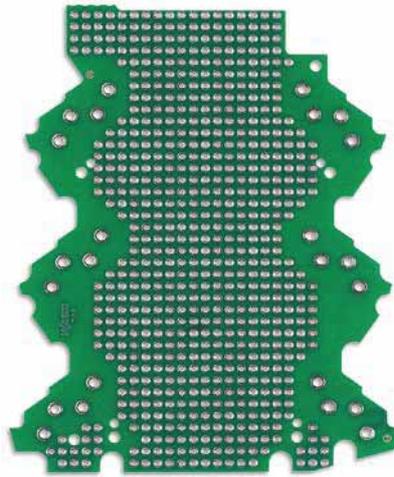| Stripboard, for installation in 12.5 mm and 22.5 mm empty housings		
	Item No.	Pack. Unit
	2857-193/3140-000	5 (5 x 1)

Stripboard, for installation in 12.5 mm and 22.5 mm empty housings		
	Item No.	Pack. Unit
	2857-194/3140-000	5 (5 x 1)

9

Technical Data

Connection levels	3-3	1-1
Jumper slots	0-0	2-2

Empty Component Plug Housings for Building Custom Circuits

286/786 Series

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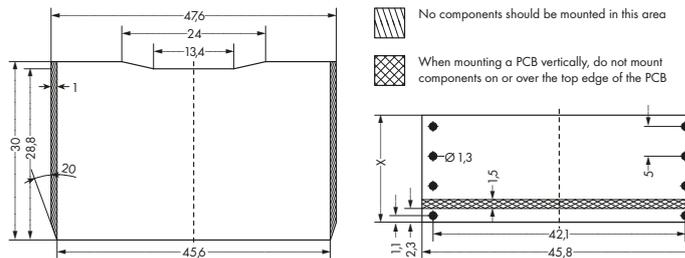
Module width	10	15	20	25
Component height	4.2	9.2	14.2	19.2
X = total height of PCB	8	13	18	23

Empty component plug housing, 286 Series

Type	Pole	Width	Item No.	Pack. Unit
9	4	10 mm wide / 0.394 inch	286-110	1
10	6	15 mm / 0.591 inch	286-111	1
11	8	20 mm / 0.787 inch	286-112	1
12	10	25 mm / 0.984 inch	286-113	1

Technical Data

Rated voltage	250 V
Rated impulse voltage	4 KV
Pollution degree	3
per contact	6 A
Module height	82.5 mm (from upper-edge of DIN-rail)

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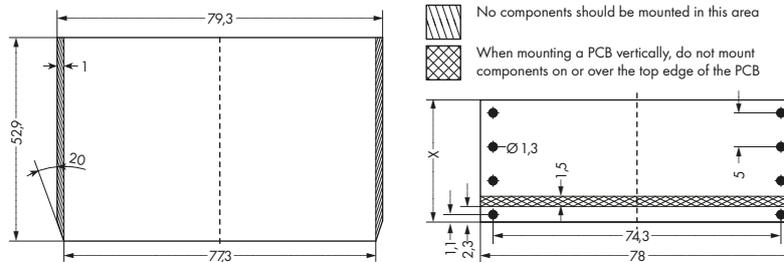
Module width	15	20	25
Component height	9.2	14.2	19.2
X = total height of PCB	13	18	23

Empty component plug housing, 786 Series

Type	Pole	Width	Item No.	Pack. Unit
14	6	15 mm / 0.591 inch	786-101	1
15	8	20 mm / 0.787 inch	786-102	1
16	10	25 mm / 0.984 inch	786-103	1

Technical Data

Rated voltage	250 V
Rated impulse voltage	4 KV
Pollution degree	3
per contact	6 A
Module height	82.5 mm (from upper-edge of DIN-35 rail)

9

WAGO

Accessories

Unlocking pliers for component plug housings

	Item No.	Pack. Unit
	210-492	1

WSB Quick marking system, 10 strips with 10 markers, white with black printing

Marking	Item No.	Pack. Unit
plain	209-501	5 cards
1 … 10 (10 x)	209-702	5 cards

Terminal block for pluggable modules

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

Conductor range: 0.08 mm² … 2.5 mm² / 28 … 14 AWG; Strip length: 8 … 9 mm / 0.31 … 0.35 in.

9

# Empty Component Plug Housings for Building Custom Circuits

280 Series

| Empty component plug housing			
	Description	Item No.	Pack. Unit
Type 1	2-pole, 5 mm/0.197 inch wide; Plug inside dimensions (W/H/D): 3.2/15/15 mm	280-801	100
Type 2	2-pole, 10 mm/0.394 inch wide; Plug inside dimensions (W/H/D): 8.2/15/15 mm	280-802	50
Type 3	4-pole, 10 mm/0.394 inch wide; Plug inside dimensions (W/H/D): 8.2/15/15 mm	280-804	50

Technical Data

Rated voltage	250 V
Rated impulse voltage	4 KV
Pollution degree	3
per contact	6 A (max.)

Type	1	2	3	4
A	5	10	10	10
B	3.2	8.2	8.2	8.2
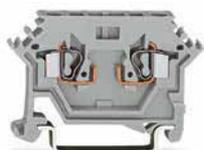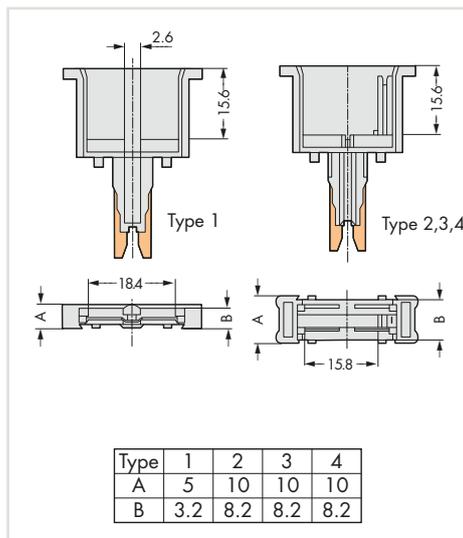
2-conductor carrier terminal block
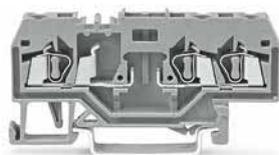
3-conductor carrier terminal block
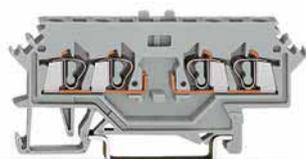
4-conductor carrier terminal block

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

Technical Data

Conductor range	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

9

WAGO

Empty component plug housing

	Description	Item No.	Pack. Unit
Type 4	2-pole, 10 mm/0.394 inch wide; Plug inside dimensions (W/H/D): 8.2/15/15 mm	280-803	50

Technical Data

Rated voltage	250 V
Rated impulse voltage	4 KV
Pollution degree	3
per contact	6 A (max.)

Type	1	2	3	4
A	5	10	10	10
B	3.2	8.2	8.2	8.2

2-conductor through terminal block

3-conductor through terminal block

Through terminal block

	Description	Item No.	Pack. Unit
2-conductor, front-entry wiring	gray, terminal block width: 5 mm/0.197 inch, marking on both sides	280-601	100
2-conductor, front-entry wiring	gray, terminal block width: 5 mm/0.197 inch, marking in center position	280-901	100
3-conductor, front-entry wiring	gray, terminal block width: 5 mm/0.197 inch	280-681	100

Technical Data

Conductor range	0.08 … 2.5 mm² / 28 … 12 AWG (12 AWG: THHN, THWN)
Strip length	8 … 9 mm / 0.31 … 0.35 inch

4-conductor through terminal block

2-conductor through terminal block

Through terminal block

	Description	Item No.	Pack. Unit
4-conductor, front-entry wiring	gray, terminal block width: 5 mm/0.197 inch, marking on both sides	280-621	100
4-conductor, front-entry wiring	gray, terminal block width: 5 mm/0.197 inch, marking in center position	280-833	100
2-conductor, front-entry wiring	gray, terminal block width: 5 mm/0.197 inch	280-101	100

Technical Data

Conductor range	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

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Empty Electronic Terminal Block Housings

859 Series

PCB dimensions

PCB dimensions

Modular housing for mounting electronic components in a rail-mounted terminal block		
	Item No.	Pack. Unit
	859-110	1

Frame to enlarge terminal block width		
	Item No.	Pack. Unit
	859-501	1

Technical Data

Housing material	PA 66	PA 66
Flammability rating	V0 (UL94)	V0 (UL94)
Color	gray	gray
Protection type	IP20	IP20
Permissible ambient operating temperature	−25 … +70 °C	−25 … +70 °C
Storage temperature	−40 … +85 °C	−40 … +85 °C
Width	6 mm	8 mm
Mounting position	Any	Any
Dimensions (W x H x D)	6 x 56 x 91 mm, height from upper-edge of DIN-rail	6 x 56 x 91 mm, height from upper-edge of DIN-rail
Connection technology	CAGE CLAMP®	CAGE CLAMP®
Conductor range	0.08 … 2.5 mm² / 28 … 14 AWG	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inch	5 … 6 mm / 0.2 … 0.24 inch

9

WAGO

Accessories

859 Series

End and intermediate plate

Description	Item No.	Pack. Unit
End and intermediate plate, 1 mm thick, gray	859-525	100 (4x25)

Push-in type jumper bar, light gray, insulated, 18 A

Description		Item No.	Pack. Unit
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. suffixes for colored push-in type jumper bars	yellow	... /000-029	
	red	... /000-005	
	blue	... /000-006	

Test pin

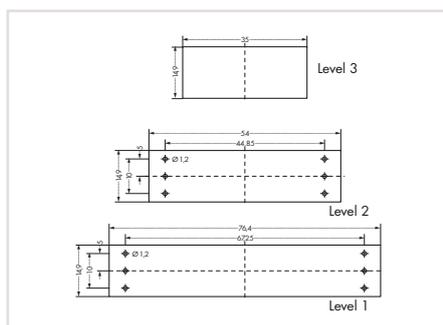| Description	Item No.	Pack. Unit
Test pin, 1 mm Ø, with solder connection for test cable	100 (100x1)	1

9

DIN-Rail-Mount Enclosures
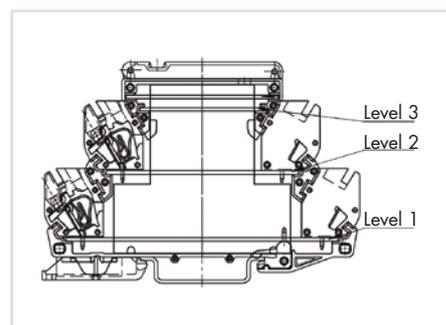
789 Series
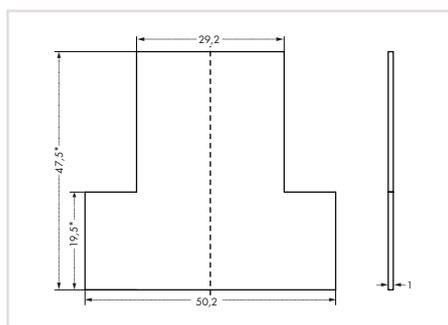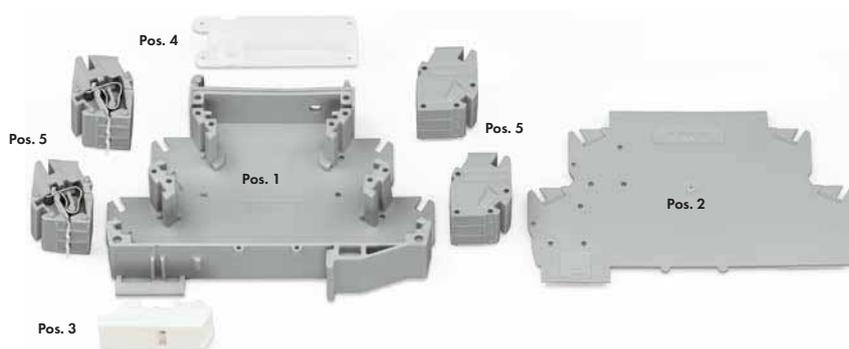
PCB dimensions, horizontal mounting

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

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

Universal modular component plug housing, as rail-mount terminal block			
Description	Pos.	Item No.	Pack. Unit
Housing: 55 mm	1	**789-120**	1
Top cover: 55 mm	2	**789-122**	1
Transparent cover	4	**789-124**	1
Release mechanism	3	**789-126**	1
Terminal block, 3-pole: CCC*	5	**789-127**	1
Terminal block, 3-pole: COC*	5	**789-128**	1
Terminal block, 3-pole: CCO*	5	**789-129**	1
Terminal block, 3-pole: OCC*	5	**789-130**	1
Terminal block, 3-pole: OCO*	5	**789-131**	1
Terminal block, 3-pole: OOO*	5	**789-132**	1
Terminal block, 3-pole: OOC*	5	**789-133**	1
Terminal block, 3-pole: COO*	5	**789-134**	1

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

Technical Data

Rated voltage	250 V
Rated impulse voltage	4 kV
Pollution degree	3
Housing material	PA 66
Flammability rating	V0
Color	gray (similar to RAL 7038)
Protection type	IP20
Permissible ambient operating temperature	−25 … +70 °C
Storage temperature	−40 … +85 °C
Mounting position	Any
Dimensions (W x H x D)	17.5 x 55 x 90 mm, height from upper-edge of DIN-rail
Connection technology	CAGE CLAMP®
Conductor range	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

9

WAGO

Accessories

789 Series

Push-in type jumper bar

Description	Item No.	Pack. Unit
I$_N$ 16 A uninsulated, 12-way, to be cut to the required length	789-112	100 (4x25)

Operating tool, with a partially insulated shaft

Description	Item No.	Pack. Unit
Type 2, (3.5 x 0.5) mm blade	210-620	1

Felt-tip pen

Description	Item No.	Pack. Unit
for permanent marking	210-110	1

WMB Multi marking system, 10 strips with 10 markers, white with black printing

Description		Item No.	Pack. Unit
plain		248-501	5 cards
Marking	1 …10 (10 x)	248-502	5 cards
	11 … 20 (10 x)	248-503	5 cards
	21 … 30 (10 x)	248-504	5 cards
	31 … 40 (10 x)	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

9

DIN-Rail Mount PCB Carriers

288 Series
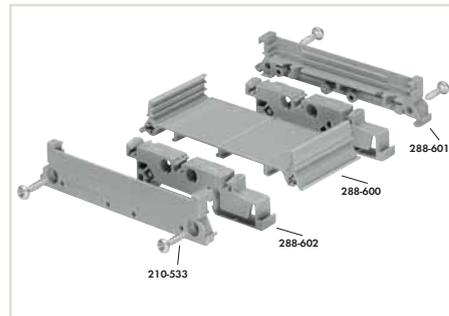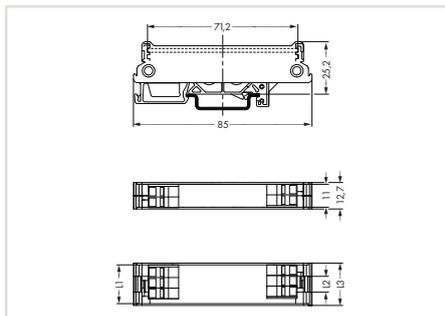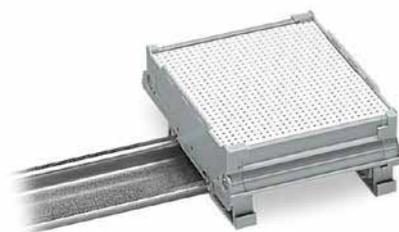
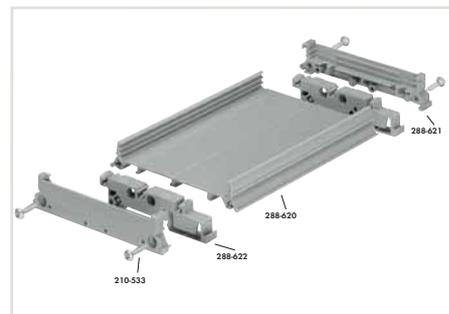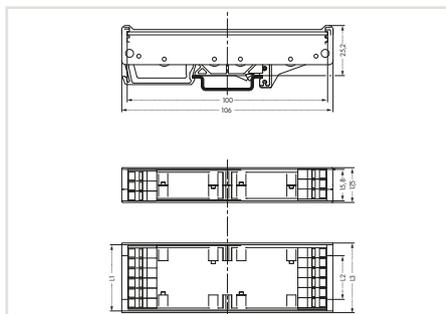

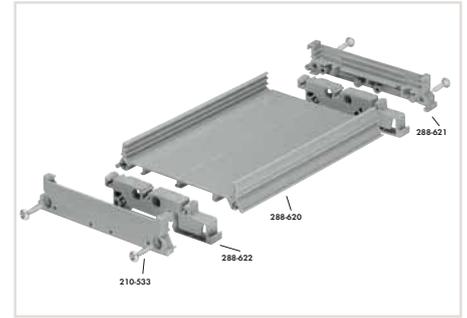Mounting carrier (size 1

Length calculation for a complete mounting carrier:

PCB length: L1
Base length: L2 = L1 – 11 mm
Mounting carrier length: L3 = L1 + 2 mm
Lateral cover (size 1): 6.35 mm thick
Free space between base and PCB (when using upper PCB groove): 5 mm
PCB tolerances: 1.5 mm ± 0.2 mm (thickness), ± 0.2 mm (length/width); −0.1/+0.3 for milling contours

| DIN-rail mount PCB carrier, size 1		
Description	Item No.	Pack. Unit
Lateral cover, size 1, small, 6.35 mm thick	288-601	1
Mounting foot for DIN-35 rail	288-602	1
Carrier base, size 1, 1 m long	288-600	1

Mounting carrier (size 2

Length calculation for a complete mounting carrier:

PCB length: L1
Base length: L2 = L1 – 15.8 mm
Mounting carrier length: L3 = L1 + 2 mm
Cover length: L4 = L1
Lateral cover (size 2): 8.75 mm thick
Free space between base and PCB (when using upper PCB groove): 5 mm
PCB tolerances: 1.5 mm ± 0.2 mm (thickness), ± 0.2 mm (length/width); −0.1/+0.3 for milling contours

DIN-rail mount PCB carrier, size 2		
Description	Item No.	Pack. Unit
Lateral cover, size 2, small, 8.75 mm thick	288-621	1
Mounting foot for DIN-35 rail	288-622	1
Carrier base, size 2, 1 m long	288-620	1
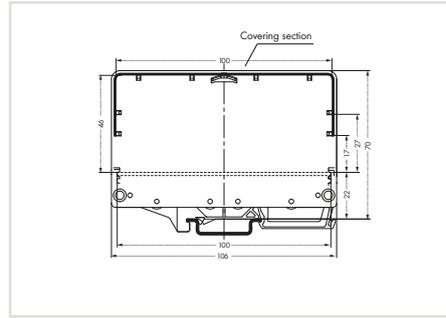
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Covering section

Mounting carrier (size 2

Length calculation for a complete mounting carrier:

PCB length: L1
Base length: $L2 = L1 - 15.8$ mm
Mounting carrier length: $L3 = L1 + 2$ mm
Cover length: $L4 = L1$
Lateral cover (size 2): 8.75 mm thick
Free space between base and PCB (when using upper PCB groove): 5 mm
PCB tolerances: 1.5 mm ± 0.2 mm (thickness), ± 0.2 mm (length/width); −0.1/+0.3 for milling contours

DIN-rail mount PCB carrier, size 2 with cover		
Description	Item No.	Pack. Unit
Lateral cover, size 2, large, 8.75 mm thick	**288-626**	1
Cover, size 2, 1 m long	**288-627**	1

Accessories

Marking strips

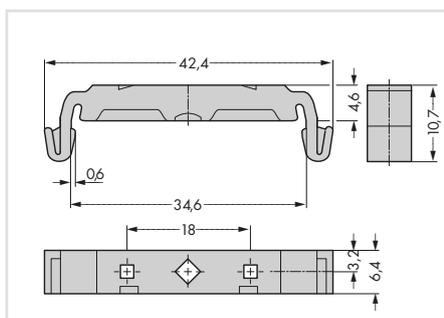| Description	Item No.	Pack. Unit
Phillips screw 2.9 x 13*	**210-533**	25
Marking strip, (7.5 x 0.5) mm, 1 m long, translucent	**709-196**	1

* Two pieces per lateral cover; for a module length of 35 mm or higher; lateral covers must be rivet-
ed for smaller modules. Rivet length depends on module length (rivets are not offered by WAGO).

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DIN-Rail-Mount PCB Carriers and Feet

288/209 Series
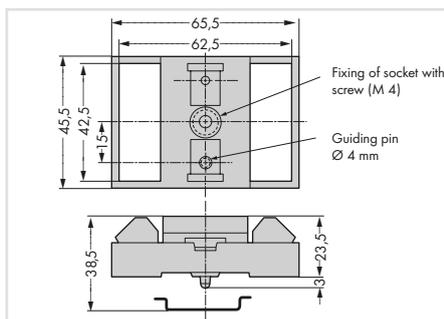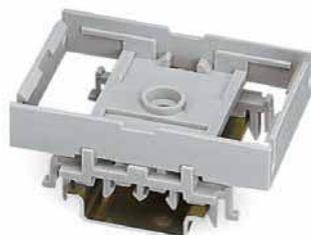
Mounting carrier			
Description		Item No.	Pack. Unit
Mounting carrier	For screw or DIN-rail mounting via universal snap-on type mounting feet (to be ordered separately)	**288-001**	1
Universal mounting foot	Snap-on type, for DIN-15, DIN-32 and DIN-35 rails	**288-002**	10
Mounting carrier for PCBs	Suitable for a "Eurocard" PCB (100 x 160 mm)	**288-003**	1

Mounting foot			
Description		Item No.	Pack. Unit
Mounting foot	For screwing onto relay modules, 2 mm Ø holes for mounting screws, 3.2 mm PCB hole diameter, 18 mm distance, for DIN-35 rail mounting	**209-120**	25
Mounting screw	For mounting foot (209-1209	**209-119**	50
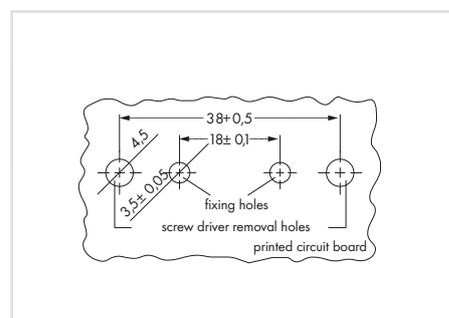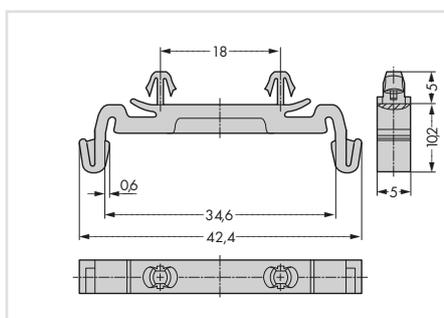
Mounting foot			
Description		Item No.	Pack. Unit
Mounting foot	Snaps on relay modules, for 3.5 mm mounting hole diameter, 18 mm distance, for DIN-35 rail mounting	**209-188**	25

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