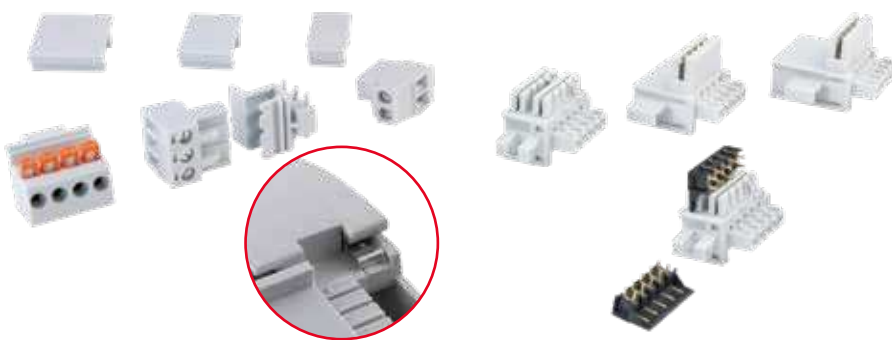


## The product advantages

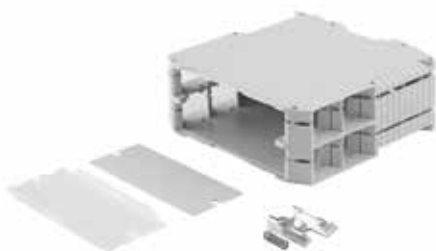


CombiNorm Connect is a modular DIN rail enclosure which makes possible external plug-in contacting of the PCB in the area of the DIN rail adapter.



A selection of different spring-cage and screw terminals for wiring modules is available. Optionally, a conductive connection between the PCB and DIN rail can be created via an earthing contact.

The modules are connected to each other by means of special DIN rail bus connectors. In this way, supply and signal voltages are transmitted through the complete system. Individual modules can be removed without interrupting the connection to the other devices.



All enclosure components can be locked together without the use of tools.

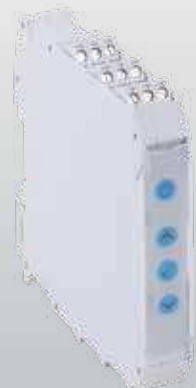


The enclosure components are available in many variants and can be combined with each other in almost any way required.



**Quick-Finder:**  
[www.bopla.de/67](http://www.bopla.de/67)

## Examples of use



# CombiNorm- Connect



**Colour:**

● Light grey, similar to RAL 7035

Special colours on request

**Protection class:**

IP20 / DIN EN 60529

**Material:**

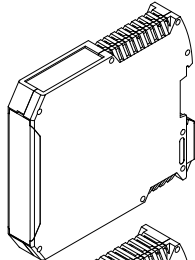
Enclosure: polyamide UL 94 V-0

For details see technical information.

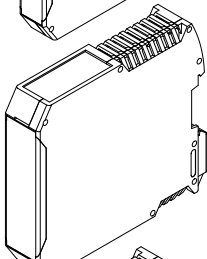


## Enclosure sizes

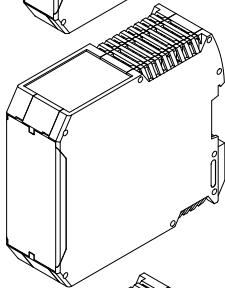
CNT 17



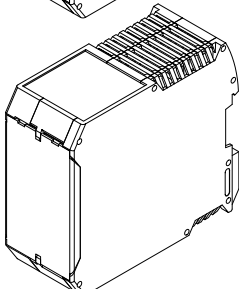
CNT 22



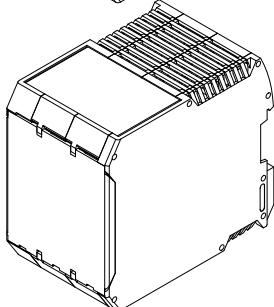
CNT 35



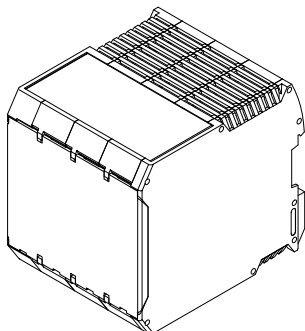
CNT 45



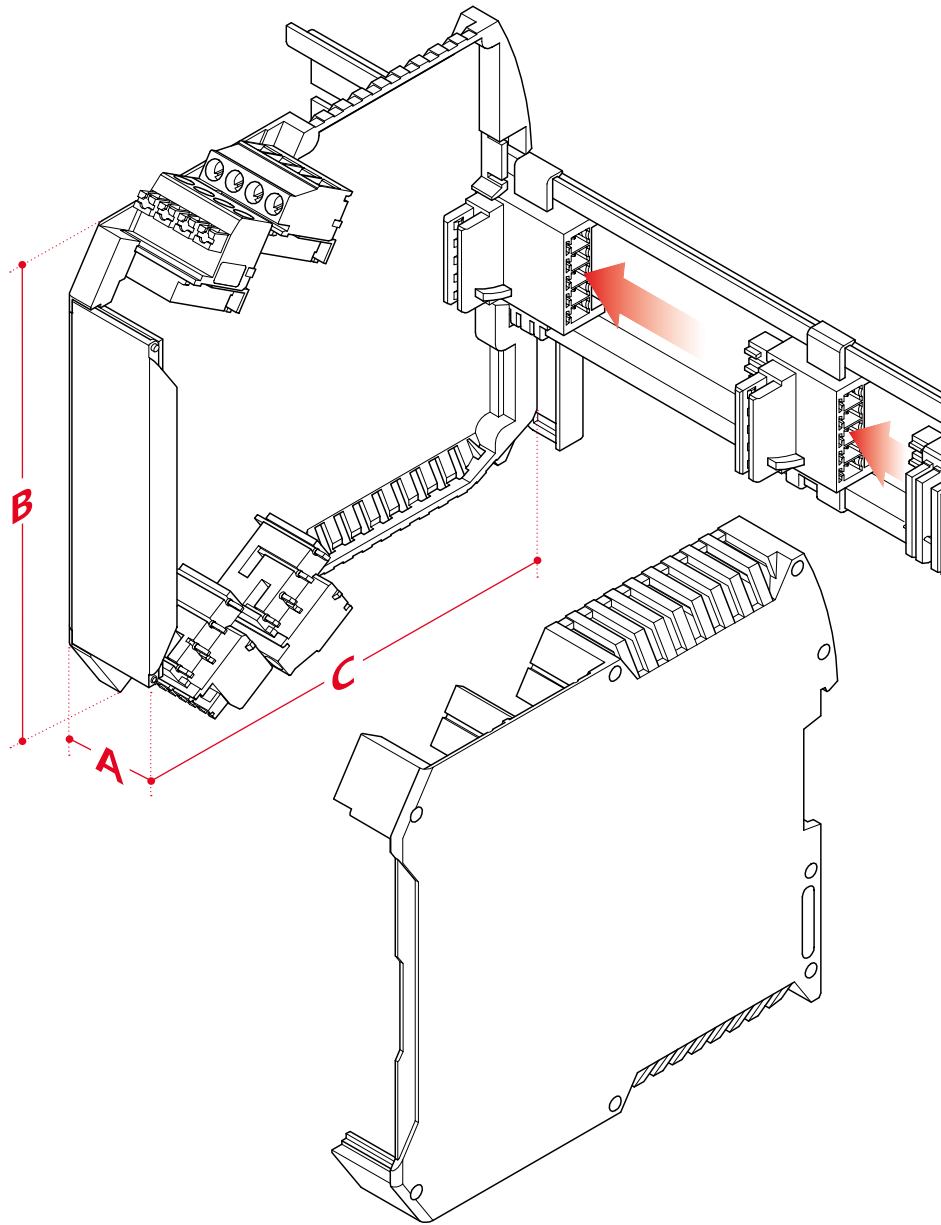
CNT 67



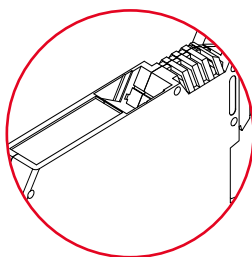
CNT 90



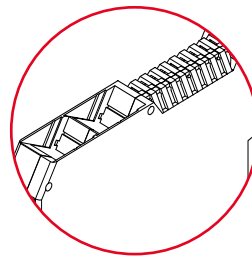
## Design example



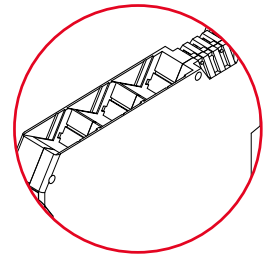
### Terminal variants



One connection level



Two connection levels



Three connection levels

# CombiNorm-Connect



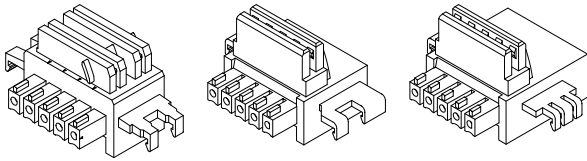
A Phoenix Mecano Company

## Bus connector

CNT-BV 12/2-5

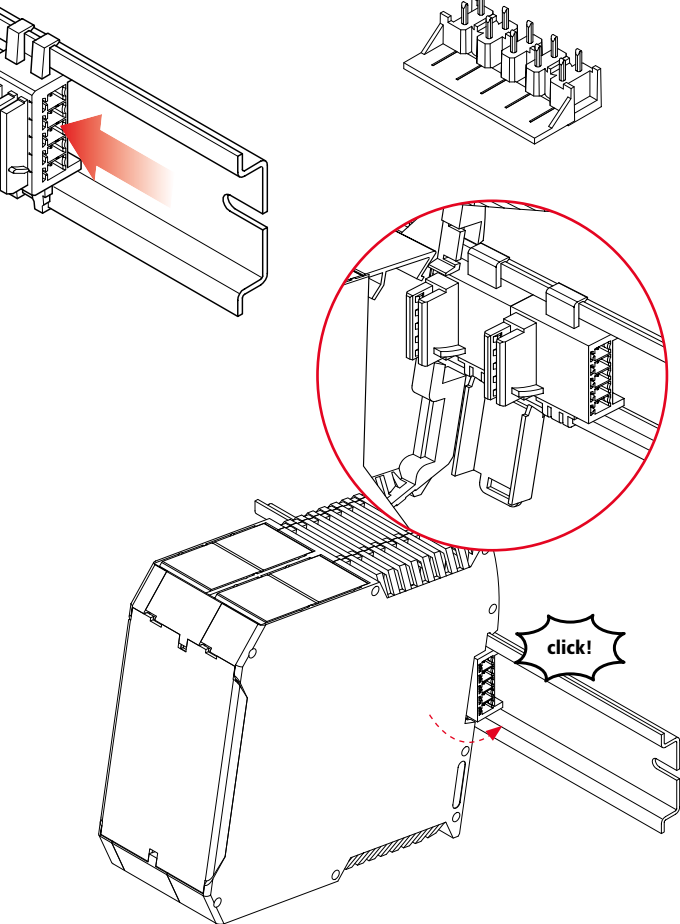
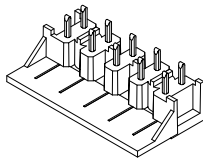
CNT-BV 17/1-5

CNT-BV 22/1-5

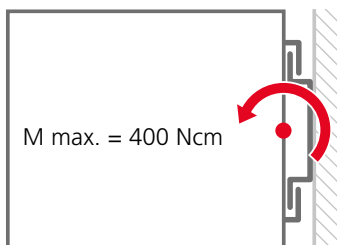


## Pin strip

CNT-STL



## Load capacity of DIN rail holder



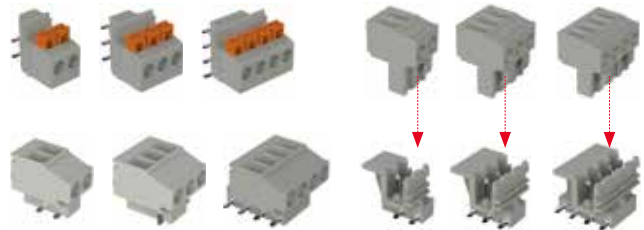
## Dimensions

Model	A	B	C
CNT 17/1-3 TB (-L)	17.5	99	114.5
CNT 22/1-4 TB (-L)	22.5	99	114.5
CNT 35/1-2-3 TB (-L)	35	99	114.5
CNT 45/1-2-4 TB (-L)	45	99	114.5
CNT 67/1-3-4 TB (-L)	67.5	99	114.5
CNT 90/1-4-4 TB (-L)	90	99	114.5
CNT 17/4-3 TB (-L)	17.5	99	114.5
CNT 22/4-4 TB (-L)	22.5	99	114.5
CNT 35/4-2-3 TB (-L)	35	99	114.5
CNT 45/4-2-4 TB (-L)	45	99	114.5
CNT 12/6-2...	12.5	99	114.5
CNT 17/6-3 TB (-L)	17.5	99	114.5
CNT 22/6-4 TB (-L)	22.5	99	114.5
CNT 35/6-2-3 TB (-L)	35	99	114.5
CNT 45/6-2-4 TB (-L)	45	99	114.5

## Bus connector / Pin strip

Model	Note
CNT-STL	Pin strip, 5-pole, for CNT-BV 12/2-5, to solder into the PCB
CNT-BV 12/2-5	5-pole, to CNT-BV 12
CNT-BV 17/1-5	5-pole, to CNT-BV 17 and 35
CNT-BV 22/1-5	5-pole, to CNT-BV 22, 45, 67 and 90

## Accessories



Screw connection terminal blocks, single / double section and spring-cage terminal blocks, single section



Functional earth ground contact

Filler plug

# CombiNorm-Connect

Enclosure with one connection level on one side



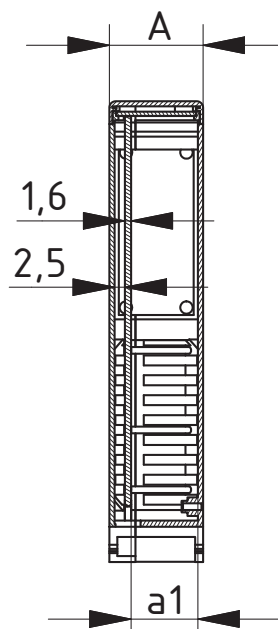
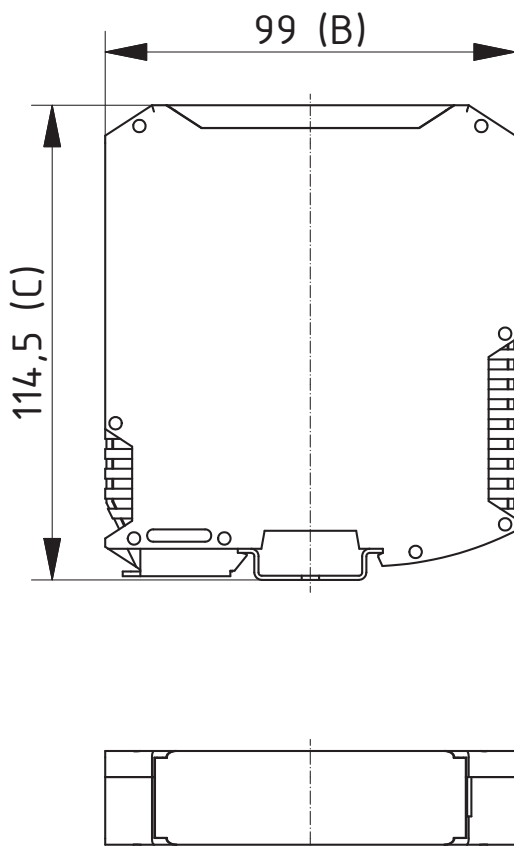
## Enclosure with one connection level on one side

Model	Order no.	A	B	C	a1	a2	Note
CNT 17/1-3 TB-L	67617131.S	17.5	99	114.5	11	-	1 x 3-pole
CNT 17/1-3 TB	67617132.S	17.5	99	114.5	11	-	1 x 3-pole
CNT 22/1-4 TB-L	67622141.S	22.5	99	114.5	16	-	Test 1
CNT 22/1-4 TB	67622142.S	22.5	99	114.5	16	-	Test 1
CNT 35/1-2-3 TB-L	67635121.S	35	99	114.5	11	16	2 x 3-pole
CNT 35/1-2-3 TB	67635122.S	35	99	114.5	11	16	2 x 3-pole
CNT 45/1-2-4 TB-L	67635123.S	45	99	114.5	16	21	2 x 4-pole
CNT 45/1-2-4 TB	67635124.S	45	99	114.5	16	21	2 x 4-pole
CNT 67/1-3-4 TB-L	67667131.S	67.5	99	114.5	16	21	3 x 4-pole
CNT 67/1-3-4 TB	67667132.S	67.5	99	114.5	16	21	3 x 4-pole
CNT 90/1-4-4 TB-L	67690141.S	90	99	114.5	16	21	4 x 4-pole
CNT 90/1-4-4 TB	67690142.S	90	99	114.5	16	21	4 x 4-pole

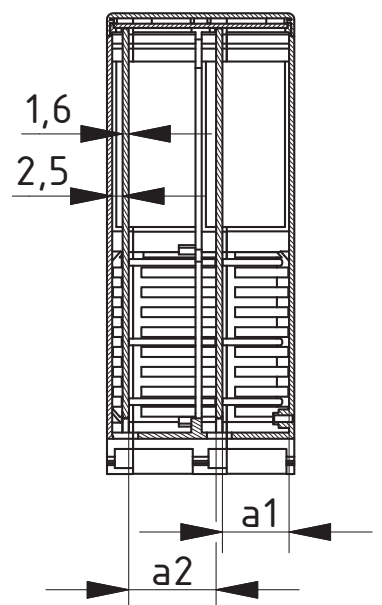
**Scope Of Delivery:** 10x: Enclosure, front panel, 2 side panels, transparent hood, foot catch, spring

**Notes:** TB = with rear-side opening for DIN rail bus connector; L = with air vents Terminal use: Solder side left

CNT 17/22



CNT 35/45/67/90



CNT 35/45 1xa2  
CNT 67 2xa2  
CNT 90 3xa2

Z-2603317

# CombiNorm-Connect

Enclosure with two connection levels on both sides

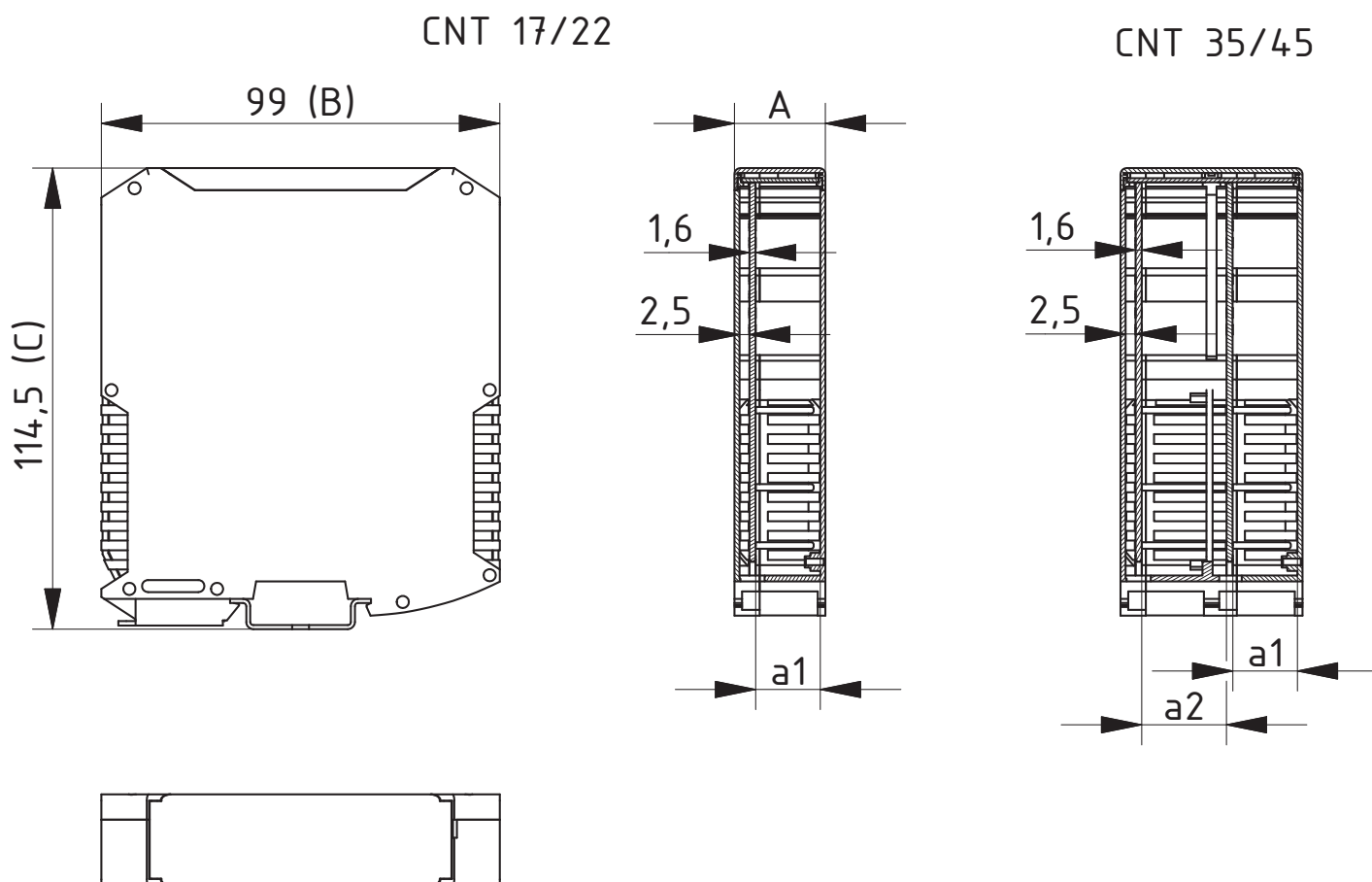
## Enclosure with two connection levels on both sides

Model	Order no.	A	B	C	a1	a2	Note
CNT 17/4-3 TB-L	67617431.S	17.5	99	114.5	11	-	4 x 3-pole
CNT 17/4-3 TB	67617432.S	17.5	99	114.5	11	-	4 x 3-pole
CNT 22/4-4 TB-L	67622441.S	22.5	99	114.5	16	-	4 x 4-pole
CNT 22/4-4 TB	67622442.S	22.5	99	114.5	16	-	4 x 4-pole
CNT 35/4-2-3 TB-L	67635421.S	35	99	114.5	11	16	8 x 3-pole
CNT 35/4-2-3 TB	67635422.S	35	99	114.5	11	16	8 x 3-pole
CNT 45/4-2-4 TB-L	67635423.S	45	99	114.5	16	21	8 x 4-pole
CNT 45/4-2-4 TB	67635424.S	45	99	114.5	16	21	8 x 4-pole



**Scope Of Delivery:** 10x: Enclosure, front panel, transparent hood, foot catch, spring

**Notes:** TB = with rear-side opening for DIN rail bus connector; L = with air vents Terminal use: Solder side left



# CombiNorm-Connect

Enclosure with three connection levels on both sides



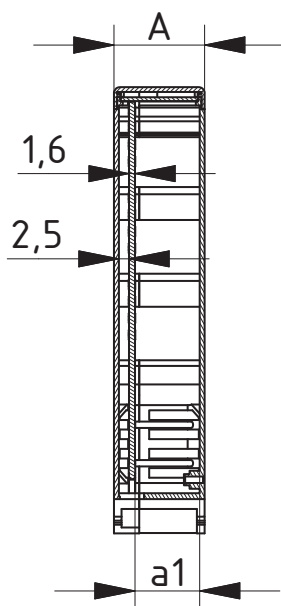
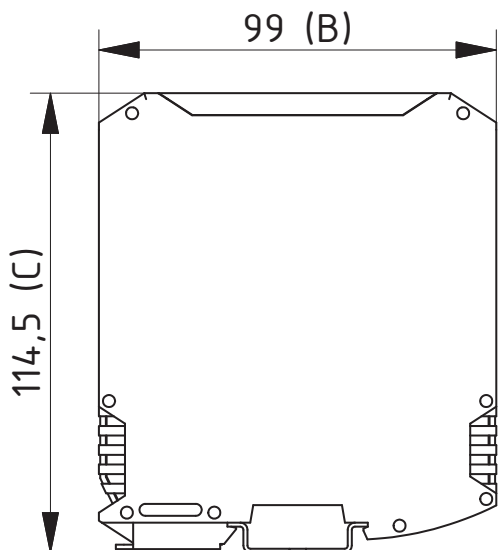
## Enclosure with three connection levels on both sides

Model	Order no.	A	B	C	a1	a2	Note
CNT 12/6-2 TB-L	67612621.S	12.5	99	114.5	6.1	-	6 x 2-pole
CNT 12/6-2 TB	67612622.S	12.5	99	114.5	6.1	-	6 x 2-pole
CNT 12/6-2-L	67612623.S	12.5	99	114.5	6.1	-	6 x 2-pole
CNT 12/6-2	67612624.S	12.5	99	114.5	6.1	-	6 x 2-pole
CNT 17/6-3 TB-L	67617631.S	17.5	99	114.5	11	-	6 x 3-pole
CNT 17/6-3 TB	67617632.S	17.5	99	114.5	11	-	6 x 3-pole
CNT 22/6-4 TB-L	67622641.S	22.5	99	114.5	16	-	6 x 4-pole
CNT 22/6-4 TB	67622642.S	22.5	99	114.5	16	-	6 x 4-pole
CNT 35/6-2-3 TB-L	67635621.S	35	99	114.5	11	16	Test 2
CNT 35/6-2-3 TB	67635622.S	35	99	114.5	11	16	Test 2
CNT 45/6-2-4 TB-L	67635623.S	45	99	114.5	16	21	12 x 4-pole
CNT 45/6-2-4 TB	67635624.S	45	99	114.5	16	21	12 x 4-pole

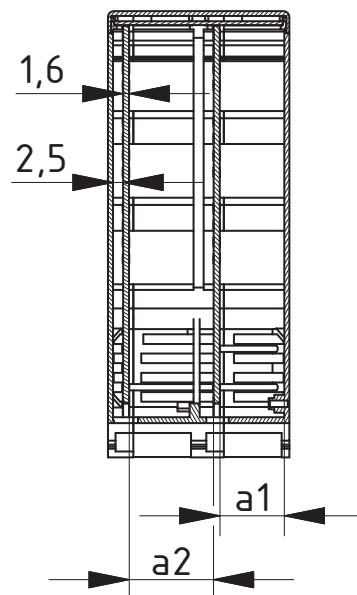
**Scope Of Delivery:** 10x: Enclosure, front panel, transparent hood, foot catch, spring. Versions of CNT 12... come with foot catch and spring premounted.

**Notes:** TB = with rear-side opening for DIN rail bus connector; L = with air vents Terminal use: Solder side left

CNT 12/17/22



CNT 35/45



Z-2603319

# CombiNorm-Connect

## Bus connector

### Bus connector / pin strip for bus connector

Model	Order no.	Note
CNT-STL	<b>67810000</b>	Pin strip, 5-pole, for CNT-BV 12/2-5, to solder into the PCB
CNT-BV 12/2-5	<b>67811225</b>	5-pole, for CNT 12
CNT-BV 17/1-5	<b>67811715</b>	5-pole, for CNT 17 and 35
CNT-BV 22/1-5	<b>67812215</b>	5-pole, for CNT 22, 45, 67 and 90



**Scope Of Delivery:** 1 piece

**Notes:** The DIN rail bus connector may only be activated if power has been disconnected. If, for operational reasons, it is necessary to switch on low power, then empirical values can be provided on request. Connection data CNT-BV: I = 8 A; U = 125 V. PCB thickness 1.4 - 1.8 mm



# CombiNorm-Connect

## Connection terminals



### Screw connection terminal blocks, single section, 5 mm pitch, for wave soldering processes

Model	Order no.	Note
SPK 2-L	<b>67820021.S</b>	2-pole, soldering pins on the left
SPK 2-R	<b>67820022.S</b>	2-pole, soldering pins on the right
SPK 3-L	<b>67820031.S</b>	3-pole, soldering pins on the left
SPK 3-R	<b>67820032.S</b>	3-pole, soldering pins on the right
SPK 4-L	<b>67820041.S</b>	4-pole, soldering pins on the left
SPK 4-R	<b>67820042.S</b>	4-pole, soldering pins on the right

**Scope Of Delivery:** 50 connection terminals

Technical data acc. to IEC / DIN VDE:

Connection capacity:

Single-wire (rigid): 0.14 – 2.5 mm<sup>2</sup>

Fine-strand (flexible): 0.14 – 2.5 mm<sup>2</sup>

AWG: 26-14

Fine-strand with ferrule, without plastic sleeve: 0.25 – 2.5 mm<sup>2</sup>

Fine-strand with ferrule, with plastic sleeve: 0.25 – 2.5 mm<sup>2</sup>

Multi-conductor connection capacity (two conductors with the same cross-section):

Single-wire (rigid): 0.14 – 0.75 mm<sup>2</sup>

Fine-strand (flexible): 0.14 – 0.75 mm<sup>2</sup>

Fine-strand with ferrule, without plastic sleeve: 0.25 – 0.75 mm<sup>2</sup>

Fine-strand with TWIN ferrule, with plastic sleeve: 0.5 – 1.5 mm<sup>2</sup>

Rated current / conductor cross-section: 24 A / 2.5

Rated insulation voltage at pollution level 2: 400 V

Rated insulation voltage / rated impulse voltage: 250V/4KV overvoltage category III / pollution level 3  
400V/4KV overvoltage category III / pollution level 2  
630V/4KV overvoltage category II / pollution level 2

Approval data (UL / CUL)	Use Group:	B	C	D
Rated voltage:		300V	-	300V
Rated current:		20A	-	10A
Connection capacity (AWG):		30-12	-	30-12

Approval data (CSA)	Use Group:	B	C	D
Rated voltage:		300V	-	300V
Rated current:		10A	-	10A
Connection capacity (AWG):		28-12	-	28-12

Dimensions: Pitch: 5.0 mm  
Drill hole Ø / pin dimensions: 1.4 mm / 0.8 x 1.0 mm  
Wire stripping length: 7 mm  
Screw size: M3  
Tightening torque: 0.5-0.6 Nm

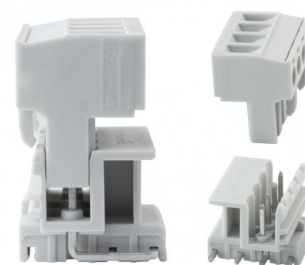
Colour: Light grey, similar to RAL 7035

Materials: Insulating material type / insulating material group: PA/I  
Inflammability class: UL 94 V0

# CombiNorm-Connect

## Connection terminals

### Screw connection terminal blocks, double section, 5 mm pitch, for wave soldering processes



Model	Order no.	Note
STL 2-L	<b>67830021.S</b>	Pin strip, 2-pole, soldering pins on the left
STL 2-R	<b>67830022.S</b>	Pin strip, 2-pole, soldering pins on the right
STL 3-L	<b>67830031.S</b>	Pin strip, 3-pole, soldering pins on the left
STL 3-R	<b>67830032.S</b>	Pin strip, 3-pole, soldering pins on the right
STL 4-L	<b>67830041.S</b>	Pin strip, 4-pole, soldering pins on the left
STL 4-R	<b>67830042.S</b>	Pin strip, 4-pole, soldering pins on the right
SHRST 2	<b>67830050.S</b>	Screw connector, 2-pole
SHRST 3	<b>67830060.S</b>	Screw connector, 3-pole
SHRST 4	<b>67830070.S</b>	Screw connector, 4-pole

**Scope Of Delivery:** 50 connection terminals; can be delivered strapped on request

**Notes:** According to DIN EN 61984, CNT connectors are connectors without breaking capacity. When used according to regulations, they may not be connected or disconnected when live or if power is switched on. Only pin strip and screw plugs with the same number of poles may only be combined.

Technical data acc. to IEC / DIN VDE for STL:

Rated current / conductor cross-section: 12A / -

Rated insulation voltage at pollution level 2: 320 V

Rated insulation voltage / rated impulse voltage: 250V/4KV overvoltage category III / pollution level 3  
320V/4KV overvoltage category III / pollution level 2  
400V/4KV overvoltage category II / pollution level 2

Approval data (UL / CUL)	Use Group:	B	C	D
Rated voltage:		300V	-	300V
Rated current:		12A	-	10A
Connection capacity (AWG):		-	-	-

Approval data (CSA)	Use Group:	B	C	D
Rated voltage:		300V	-	300V
Rated current:		10A	-	10A
Connection capacity (AWG):		-	-	-

Dimensions: Pitch: 5.0 mm  
Drill hole Ø / pin dimensions: 1.4 mm / 1 x 1

Colour: Light grey, similar to RAL 7035

Materials: High-temperature resistant polyamide for use with unleaded soldering processes  
Insulating material type / insulating material group: PA/I  
Inflammability class: UL 94 V0

# CombiNorm-Connect

## Connection terminals

Note:

Technical data acc. to IEC / DIN VDE for SHRST

Connection capacity:

Single-wire (rigid):	0.2 – 2.5 mm <sup>2</sup>
Fine-strand (flexible):	0.2 – 2.5 mm <sup>2</sup>
AWG:	24-12
Fine-strand with ferrule, without plastic sleeve:	0.25 – 2.5 mm <sup>2</sup>
Fine-strand with TWIN ferrule, with plastic sleeve:	0.25 – 2.5 mm <sup>2</sup>

Multi-conductor connection capacity (two conductors with the same cross-section):

Single-wire (rigid):	0.2 – 1 mm <sup>2</sup>
Fine-strand (flexible):	0.2 – 1.5 mm <sup>2</sup>
Fine-strand with ferrule, without plastic sleeve:	0.25 – 1 mm <sup>2</sup>
Fine-strand with TWIN ferrule, with plastic sleeve:	0.5 – 1.5 mm <sup>2</sup>

Rated current /conductor cross-section: 12 A / 2.5 mm<sup>2</sup>

Rated insulation voltage at pollution level 2: 320 V

Rated insulation voltage / rated impulse voltage: 250V/4KV overvoltage category III / pollution level 3  
320V/4KV overvoltage category III / pollution level 2  
630V/4KV overvoltage category II / pollution level 2

Approval data (UL / CUL)	Use Group:	B	C	D
Rated voltage:		250V	-	300V
Rated current:		12A	-	10A
Connection capacity (AWG):		30-12	-	30-12

Approval data (CSA)	Use Group:	B	C	D
Rated voltage:		300V	-	300V
Rated current:		10A	-	10A
Connection capacity (AWG):		28-12	-	28-12

Dimensions:	Pitch: 5.0 mm
Wire stripping length:	7 mm
Screw size:	M3
Tightening torque:	0.5-0.6 Nm

Colour: Light grey, similar to RAL 7035

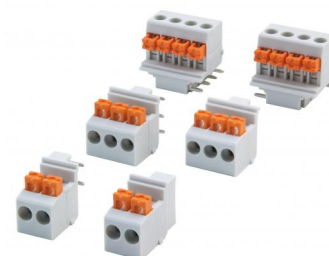
Materials: Insulating material type / insulating material group: PA/I  
Inflammability class: UL 94 V0

# CombiNorm-Connect

## Connection terminals

### Spring-cage terminal blocks, single section, 5 mm pitch, for wave soldering processes

Model	Order no.	Note
FKPK 2-L	<b>67840021.S</b>	2-pole, soldering pins on the left
FKPK 2-R	<b>67840022.S</b>	2-pole, soldering pins on the right
FKPK 3-L	<b>67840031.S</b>	3-pole, soldering pins on the left
FKPK 3-R	<b>67840032.S</b>	3-pole, soldering pins on the right
FKPK 4-L	<b>67840041.S</b>	4-pole, soldering pins on the left
FKPK 4-R	<b>67840042.S</b>	4-pole, soldering pins on the right



**Scope Of Delivery:** 50 connection terminals

Technical data acc. to IEC / DIN VDE:

Connection capacity:

Single-wire (rigid): 0.2 – 2.5 mm<sup>2</sup>

Fine-strand (flexible): 0.2 – 2.5 mm<sup>2</sup>

AWG 24-14

Fine-strand with ferrule, without plastic sleeve: 0.25 – 2.5 mm<sup>2</sup>

Fine-strand with ferrule, with plastic sleeve: 0.25 – 2.5 mm<sup>2</sup>

Rated current / conductor cross-section: 22 A / 2.5 mm<sup>2</sup>

Rated insulation voltage at pollutionlevel 2: 250 V

Rated insulation voltage / rated impulse voltage: 250V/4KV overvoltage category III / pollution level 3

250V/4KV overvoltage category III / pollution level 2

250V/4KV overvoltage category II / pollution level 2

Approval data (UL /CUL)	Use Group:	B	C	D
Rated voltage:		300V	-	300V
Rated current:		10A	-	10A
Connection capacity (AWG):		24-14	-	24-14

Approval data (CSA)	Use Group:	B	C	D
Rated voltage:		-	-	-
Rated current:		-	-	-
Connection capacity (AWG):		-	-	-

Dimensions:

Pitch: 5.0 mm

Wire stripping length: 10 mm

Drill hole Ø /pin dimensions: 1.4 mm / 0.8 x 1.0 mm

Colour:

Light grey, similar to RAL 7035

Materials:

Insulating material type / insulating material group: PA/I

Inflammability class: UL 94 V0

# CombiNorm-Connect

## Accessories



### Filler plug, polyamide

Model	Order no.	Note
CNT-BL 12	67713012	For terminal points 2-pole, 5 mm pitch
CNT-BL 17	67713017	For terminal points 3-pole, 5 mm pitch
CNT-BL 22	67713022	For terminal points 4-pole, 5 mm pitch
CNT-BLTB 17/22	67713023	For the bus connector opening upward of CNT 17 TB

**Scope Of Delivery:** 10 filler plugs

**Notes:** For application options, please see the intro pages. CNT-BL.. can also be used when STL... pin strips are fitted.

### Functional earth ground contact

Model	Order no.
CNT-E	67712300

**Scope Of Delivery:** 10 contacts

**Notes:** For contacting the PCB to the earthed DIN rail. Not for use with CNT 12...TB.





**BOPLA**

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