

CombiNorm-Connect



Detailed product information can be found on www.bopla.de



- 7 widths
- Minimal design width with a maximum number of poles
- Optimal proportional relationship between PCB surface area and enclosure size
- Standard scope of delivery includes front panels and transparent hoods
- DIN rail bus connectors with gold-plated contacts
- Spring-cage terminal blocks
- Screw connection terminal blocks, fixed and pluggable into one another

Colour:

Light grey, similar to RAL 7035; special colours on request

Protection class:

IP 20/DIN EN 60529

Enclosure material:

Polyamide, UL 94 V0; for details see Technical Information

Modular assembly design, DIN rail bus connectors and a choice of terminal blocks make this program stand out from the rest



Snapping-on a DIN rail is also possible with DIN rail bus connectors (gold-plated contacts ensure high product quality).



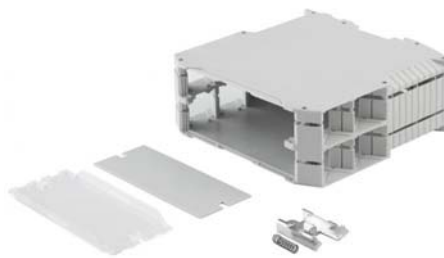
Because of the bus connectors, the supply and signal voltages are looped through. Individual modules can be removed without interrupting connection to the other devices.



Spring cage and screw-type terminals for wiring. The terminals are inserted during the soldering process, so the complete module can easily be inserted into the enclosure.



Large front surfaces for display or operating units, protected by a collapsible hood. The front panels can easily be processed and printed.



The enclosure elements are snapped onto each other, the foot catch is mounted, the front panel is plugged in, and the crystal-clear hood is fixed.



Optional is a functional earth ground contact for use with the conductive connection between PCB and DIN rail.



CNT...TB: Openings for DIN rail bus connectors.
 CNT-BV 12.. for CNT 12 TB
 CNT-BV 17.. for CNT 17, 35 TB
 CNT-BV 22.. for CNT 22, 45, 67, 90 TB



Openings of width 17 and greater can be closed with BLTB filler plugs if required. Width 12 is also available closed as standard.

CombiNorm-Connect | Enclosures



Enclosure with one connection level on one side

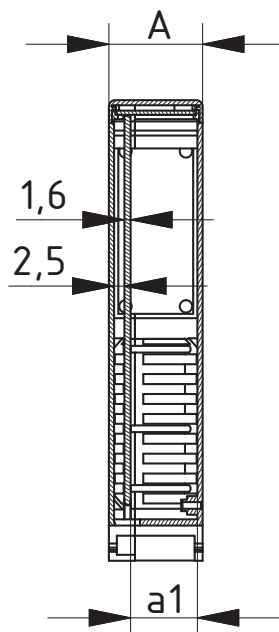
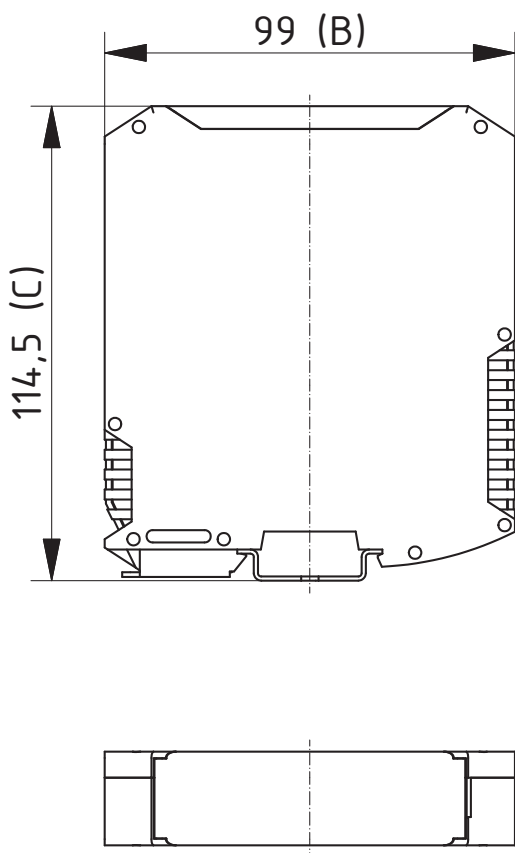
Model	Order no.	A	B	C	a1	a2	Note
CNT 17/1-3 TB-L	67617131	17,5	99	114,5	11		1 x 3-pole
CNT 17/1-3 TB	67617132	17,5	99	114,5	11		1 x 3-pole
CNT 22/1-4 TB-L	67622141	22,5	99	114,5	16		1 x 4-pole
CNT 22/1-4 TB	67622142	22,5	99	114,5	16		1 x 4-pole
CNT 35/1-2-3 TB-L	67635121	35	99	114,5	11	16	2 x 3-pole
CNT 35/1-2-3 TB	67635122	35	99	114,5	11	16	2 x 3-pole
CNT 45/1-2-4 TB-L	67635123	45	99	114,5	16	21	2 x 4-pole
CNT 45/1-2-4 TB	67635124	45	99	114,5	16	21	2 x 4-pole
CNT 67/1-3-4 TB-L	67667131	67,5	99	114,5	16	21	3 x 4-pole
CNT 67/1-3-4 TB	67667132	67,5	99	114,5	16	21	3 x 4-pole
CNT 90/1-4-4 TB-L	67690141	90	99	114,5	16	21	4 x 4-pole
CNT 90/1-4-4 TB	67690142	90	99	114,5	16	21	4 x 4-pole

Scope of delivery: Enclosure, front panel, 2 side panels, transparent hood, foot catch, spring

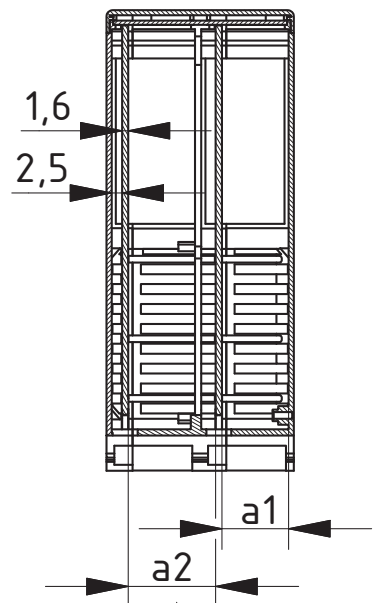
Note: TB = with rear-side opening for DIN rail bus connector; L = with air vents

Terminal use: Solder side left

CNT 17/22



CNT 35/45/67/90



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

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CombiNorm-Connect | Enclosures

Enclosure with two connection levels on both sides

Model	Order no.	A	B	C	a1	a2	Note
CNT 17/4-3 TB-L	67617431	17,5	99	114,5	11		4 x 3-pole
CNT 17/4-3 TB	67617432	17,5	99	114,5	11		4 x 3-pole
CNT 22/4-4 TB-L	67622441	22,5	99	114,5	16		4 x 4-pole
CNT 22/4-4 TB	67622442	22,5	99	114,5	16		4 x 4-pole
CNT 35/4-2-3 TB-L	67635421	35	99	114,5	11	16	8 x 3-pole
CNT 35/4-2-3 TB	67635422	35	99	114,5	11	16	8 x 3-pole
CNT 45/4-2-4 TB-L	67635423	45	99	114,5	16	21	8 x 4-pole
CNT 45/4-2-4 TB	67635424	45	99	114,5	16	21	8 x 4-pole

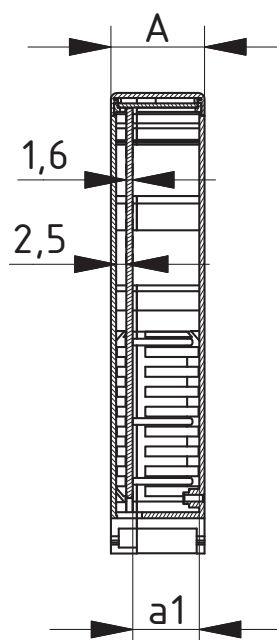
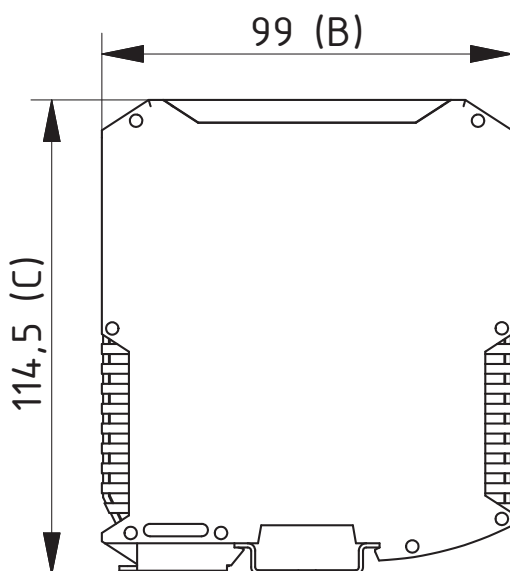
Scope of delivery: Enclosure, front panel, transparent hood, foot catch, spring

Note: TB = with rear-side opening for DIN rail bus connector; L = with air vents

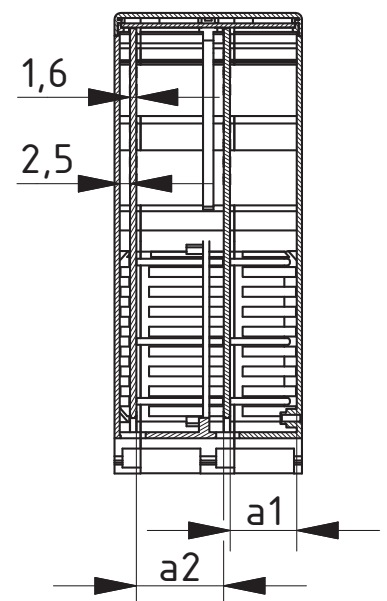
Terminal use: Solder side left



CNT 17/22



CNT 35/45



CombiNorm-Connect | Enclosures



Enclosure with three connection levels on both sides

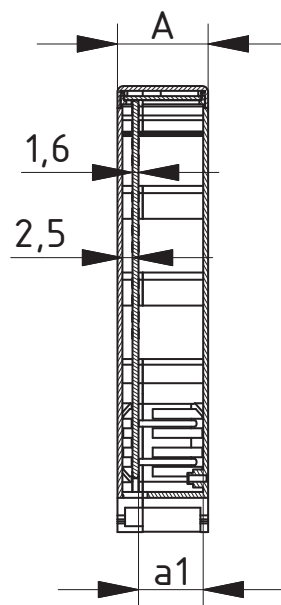
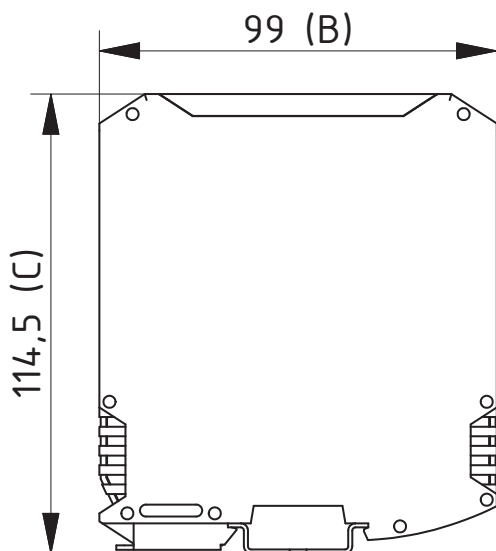
Model	Order no.	A	B	C	a1	a2	Note
CNT 12/6-2 TB-L	67612621	12,5	99	114,5	6,1		6 x 2-pole
CNT 12/6-2 TB	67612622	12,5	99	114,5	6,1		6 x 2-pole
CNT 12/6-2-L	67612623	12,5	99	114,5	6,1		6 x 2-pole
CNT 12/6-2	67612624	12,5	99	114,5	6,1		6 x 2-pole
CNT 17/6-3 TB-L	67617631	17,5	99	114,5	11		6 x 3-pole
CNT 17/6-3 TB	67617632	17,5	99	114,5	11		6 x 3-pole
CNT 22/6-4 TB-L	67622641	22,5	99	114,5	16		6 x 4-pole
CNT 22/6-4 TB	67622642	22,5	99	114,5	16		6 x 4-pole
CNT 35/6-2-3 TB-L	67635621	35	99	114,5	11	16	12 x 3-pole
CNT 35/6-2-3 TB	67635622	35	99	114,5	11	16	12 x 3-pole
CNT 45/6-2-4 TB-L	67635623	45	99	114,5	16	21	12 x 4-pole
CNT 45/6-2-4 TB	67635624	45	99	114,5	16	21	12 x 4-pole

Scope of delivery: Enclosure, front panel, transparent hood, foot catch, spring. Versions of CNT 12... come with foot catch and spring premounted.

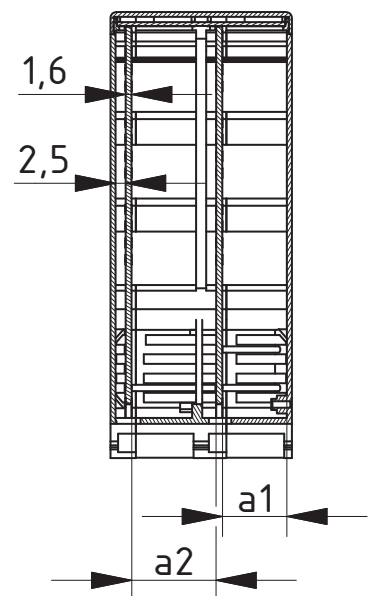
Note: TB = with rear-side opening for DIN rail bus connector; L = with air vents

Terminal use: Solder side left

CNT 12/17/22



CNT 35/45



Z-2603319

CombiNorm-Connect | Terminal blocks

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

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

Scope of delivery: 1 connection terminal



Technical data acc. to IEC / DIN VDE:

Connection capacity:

Single-wire (rigid): 0.14 – 2.5 mm²

Fine-strand (flexible): 0.14 – 2.5 mm²

AWG: 26-14

Fine-strand with ferrule, without plastic sleeve: 0.25 – 2.5 mm²

Fine-strand with ferrule, with plastic sleeve: 0.25 – 2.5 mm²

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

Single-wire (rigid): 0.14 – 0.75 mm²

Fine-strand (flexible): 0.14 – 0.75 mm²

Fine-strand with ferrule, without plastic sleeve: 0.25 – 0.75 mm²

Fine-strand with TWIN ferrule, with plastic sleeve: 0.5 – 1.5 mm²

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 | Terminal blocks



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

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

Scope of delivery: 1 terminal block; can be delivered strapped on request

Note:

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 | Terminal blocks

Note:

Technical data acc. to IEC / DIN VDE for SHRST

Connection capacity:

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

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

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

Rated current /conductor cross-section: 12 A / 2.5 mm²

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 | Terminal blocks



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

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

Scope of delivery: 1 connection terminal

Technical data acc. to IEC / DIN VDE:

Connection capacity:

Single-wire (rigid): 0.2 – 2.5 mm²

Fine-strand (flexible): 0.2 – 2.5 mm²

AWG 24-14

Fine-strand with ferrule, without plastic sleeve: 0.25 – 2.5 mm²

Fine-strand with ferrule, with plastic sleeve: 0.25 – 2.5 mm²

Rated current / conductor cross-section: 22 A / 2.5 mm²

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/
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

Note: For application options, please see the intro pages.

CNT-BL.. can also be used when STL... pin strips are fitted.



Bus connector / pin strip for bus connector

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

Scope of delivery: 1 piece

Note: 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



Functional earth ground contact

Model	Order no.
CNT-E	67712300

Scope of delivery: 10 contacts

Note: For contacting the PCB to the earthed DIN rail.

Not for use with CNT 12...TB.

