The modular construction of this innovative enclosure ensures that the demands made of a future-orientated enclosure system are satisfied in the best possible way.
Variable widths and depths, ingress protection IP 66 and access protection which can be defined – these are just a few of the excellent facilities provided by this enclosure.

The hinge system design and the possibility of installing prefabricated mounting racks minimize the assembly times.
The double clamp area permits easy, clean wiring with a large number of cable entries.

Enclosure material: ABS, polycarbonate (only FD...G). For technical data see pages 646-651.

Colour: Fronts and bases light grey, similar to RAL 7035; front lid in G-version clear; side covers light grey, similar to RAL 7035; rear parts agate grey, similar to RAL 7038. Special colours at minimum order quantities on request.

Ingress protection: IP 66 (IP 30 with ventilation) / DIN EN 60529).

Accessories (additional charge):
See product pages.

Definable access protection:

The integrated quick-release fastening allows left-hand or right-hand opening between every system part.
Each hinged quick-release fastening can be protected against unauthorized access by lock bolts or lead seals.
The optimal way to close the front lids is by using a cylinder catch.

Enclosure variants:

Front, base and rear parts can be combined in a basic size in any way required – also without bases.
If the units are of sufficient size, the bases can be positioned with ventilation according to the convection requirements.

19" technology

The range of accessories includes two different 19" systems which, in terms of the components, cannot be combined with each other.

19" DIN EN 60297-3-101
This BOPLA 19" system corresponds to DIN EN 60297-3-101 (482.6 mm design).
It provides the modular construction of subassemblies and mounting racks with plug-in connectors acc. to DIN EN 60603-2 (previously DIN 41612).

19" module IEEE 1101.10
BOPLA's new 19" module IEEE 1101.10 system is designed – among others – for the release lever acc. to IEEE 1101.10 to support the connector forces of subassemblies with plug-in connectors with a large number of poles, as used, for example, with Compact PCI or VME 64x systems.

◀ Control panel mounting model for Combicard 6000 enclosure system consisting of FD 6000 G, BC 6000 NG, BC 6000, FD 6000 and BC 6000 NG-AP.
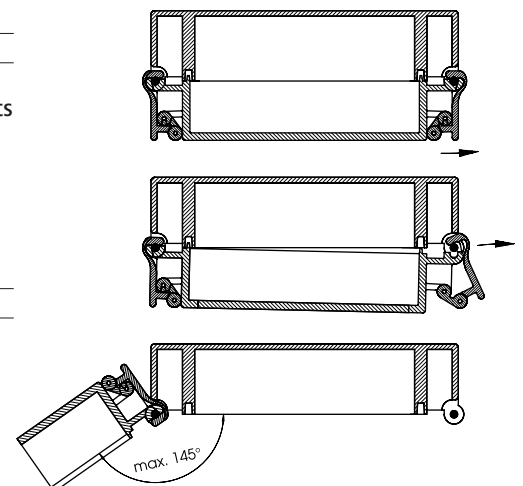
Patented hinged quick-release fastening with a maximum opening angle of 145°. ▼

Dimensions:

Model	Front length	Front height	Depth
5000	175.7	146.7	corresponding to the
6000	226.5	146.7	combined system parts
7000	323.0	146.7	

19" dimensions:

Model	TE (x 5.08)	HE (x 44.45)	
5000	20	3	available on request
6000	30	3	for Eurocard
7000	49	3	100 x 160 mm, 100 x 220 mm

Z-2101917

CombiCard 5000-7000 system components

Clear or light grey (similar to RAL 7035) front lid with **integrated hinged quick-release fastenings**. There is a 1 mm deep offset area for membrane keypads in the front area.

Closed front frame design to hold membranes or membrane keypads. Mounting bosses are moulded on the inside area for the fitting of PCBs, mounting plates or keyboard support plates. The front frame can be fixed with snap-on covers on the base or rear or – to comply with the **VDE regulations** – **with screws** (included in scope of delivery). If required, upgrading to a hinged quick-release fastening is possible at a later date using accessory SV 5670.

Front lids, clear

Order designation

Model	Order no.
FD 5000	79002800
FD 6000	79002900
FD 7000	79003000
FD 5000 G	79003100
FD 6000 G	79003200
FD 7000 G	79003300

G = clear

Scope of delivery:
Front lid with seal,
2 mounted locks,
1 blind plug *[1] – to close the lock opening on the opening side,
1 catch *[2] – to close the lock opening and one-time definition of the hinge side on the front lid.

Accessories (additional charge)

Model	Order no.	Designation
SHLO-302	21008310	Cylinder catch *[3]
VA 5670	79005300	Lock cover
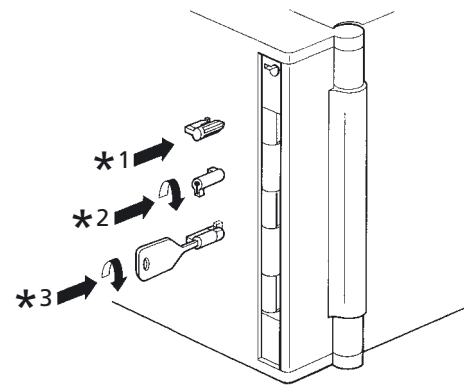
Table of dimensions

Model	B1	B2	B3
FD 5000 (G)	175.7	$131.8^{+0.5}_{-0.3}$	129.1 / 128.6
FD 6000 (G)	226.5	$182.6^{+0.6}_{-0.3}$	179.9 / 179.4
FD 7000 (G)	323.0	$279.1^{+1.0}_{-0.5}$	276.4 / 275.9

Front frames, closed

Order designation

Model	Order no.
FR 5000	79003700
FR 6000	79003800
FR 7000	79003900

Accessory (additional charge)

Model	Order no.	Designation
SV 5670	79005400	Hinged fastening

Scope of delivery:
Front frame with seal,
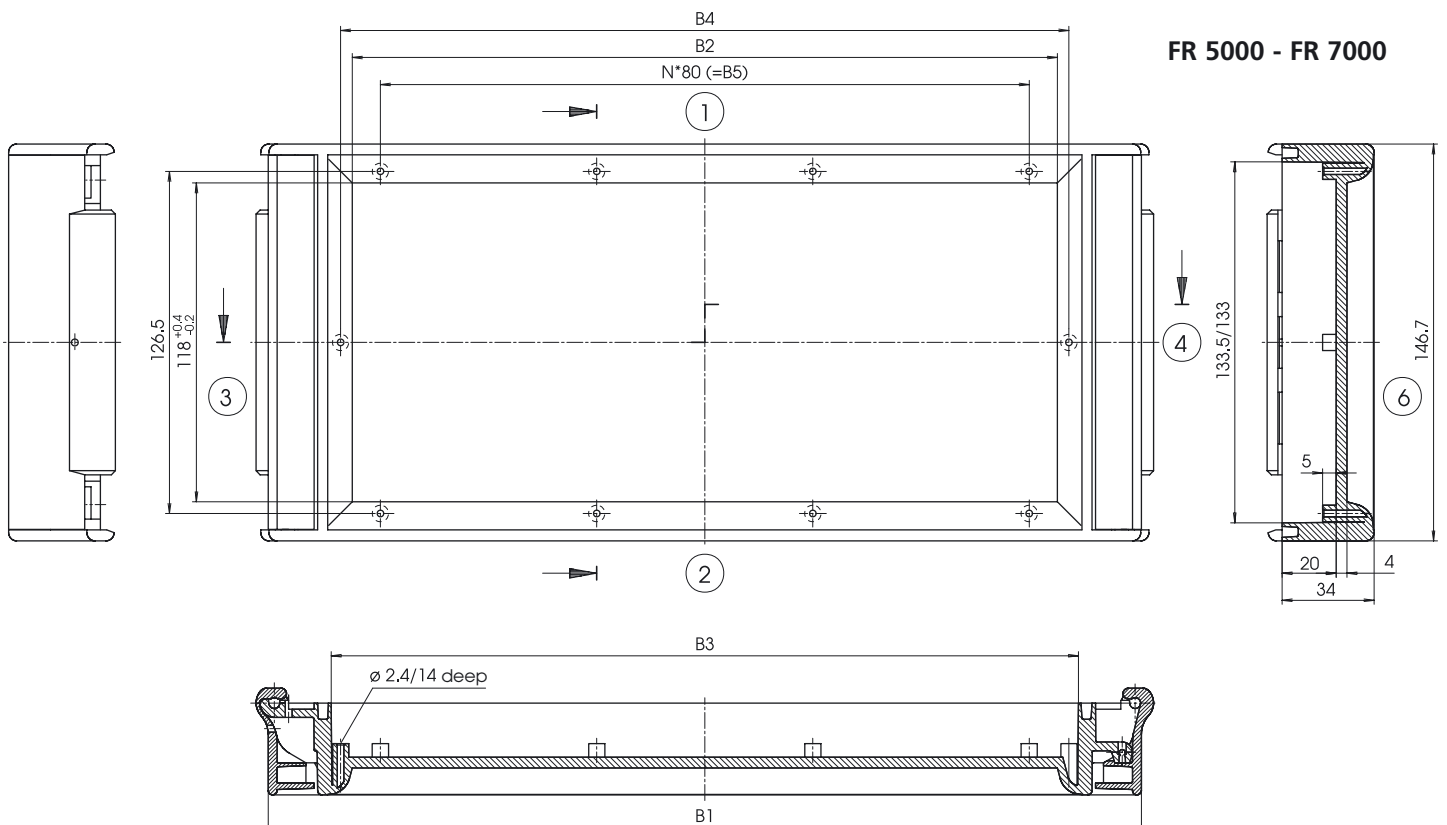2 snap-on covers,
4 fixing screws

Table of dimensions

Model	B1	B2	B3	B4	B5	N
FR 5000	175.7	$113.6^{+0.4}_{-0.2}$	129.1 / 128.6	122.1	80	1
FR 6000	226.5	$164.4^{+0.6}_{-0.3}$	179.9 / 179.4	172.9	160	2
FR 7000	323.0	$260.9^{+1.0}_{-0.5}$	276.4 / 275.9	269.4	240	3

FD 5000 (G) - FD 7000 (G)

B2

① ④ ③ ②

138.8 +0.5 −0.3

133.5

146.7

4
1
34

⑥

B3

B1

Z-2101294

FR 5000 - FR 7000

B4
B2
N*80 (=B5)

① ④ ③ ②

126.5
118 +0.4 −0.2

133.5/133

146.7

⑥

5

20   4
34

B3

ø 2.4/14 deep

B1

Z-2101296

All dimensions in mm. Please refer also to technical data.

199
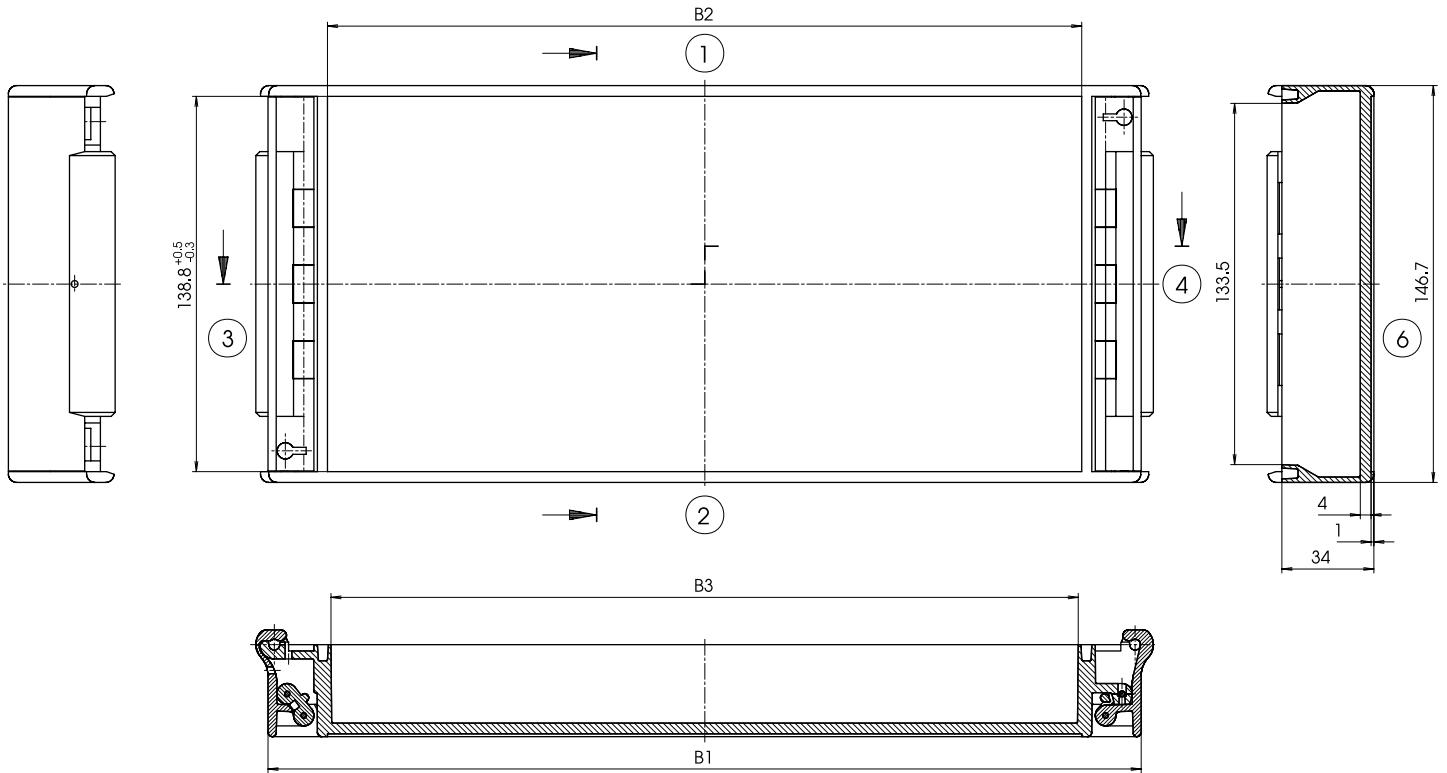
CombiCard 5000-7000 system components

Open front frame design, for fitting front panels FP...AI with integrated pre-formed moulded seal. Customer-specific panels with comparable quality and stability guarantee IP 66. The front frame can be fixed by means of the snap-on cover on the base or rear or – to comply with the **VDE regulations** – **with screws** (included in scope of delivery). If required, upgrading to a hinged quick-release fastening can be carried out at a later date using accessory SV 5670.
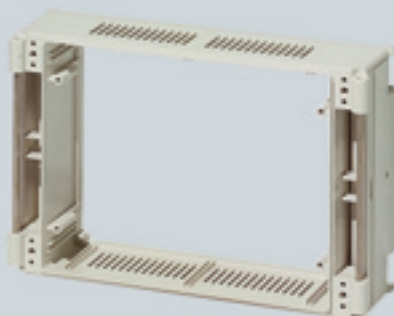
Base (with/without air vents) with **integrated hinged quick-release fastenings** to increase the installation depth in combination with front, base and rear parts. The base contains mounting bosses for:
– front panel FP_000 l
– mounting rack BGT_000...
– mounting plate M_000
The hinged quick-release fastenings are to be opened by means of a tool (in accordance with VDE) and also sealable or to be secured by means of catch SR 5670-__. Unlocking is only possible when the front element is open (see page 211).

Front frames, open

Order designation			Accessories (additional charge)	
Model	**Order no.**		**Front panels**	**Order no.**
FO 5000	79003400		FP 5000 AI	79004300
FO 6000	79003500		FP 6000 AI	79004400
FO 7000	79003600		FP 7000 AI	79004500

Scope of delivery:
Front frame with seal,
2 snap-on covers,
4 fixing screws,
10 front panel fixing screws

Accessory (additional charge)		
Model	**Order no.**	**Designation**
SV 5670	79005400	Hinged quick-release fastening

Table of dimensions

Model	B1	B2	B3
FO 5000	175.7	109.6	129.1 / 128.6
FO 6000	226.5	160.4	179.9 / 179.4
FO 7000	323.0	256.9	276.9 / 275.9

Bases -0.5 (51.51 mm construction depth)

Order designation			Accessories (additional charge)	
Model	**Order no.**		**Front panels**	**Order no.**
BC 5000 -0.5	79001000		FP 5000 I	79004000
BC 6000 -0.5	79001100		FP 6000 I	79004100
BC 7000 -0.5	79001200		FP 7000 I	79004200
BC 5000 L-0.5	79001300			
BC 6000 L-0.5	79001400		**Mounting plates**	**Order no.**
BC 7000 L-0.5	79001500		M 5000	80050000
L = with ventilation			M 6000	80060000
			M 7000	80070000

Scope of delivery:
BC_000-0.5: base with seal,
2 mounted locks
BC_000 L-0.5:
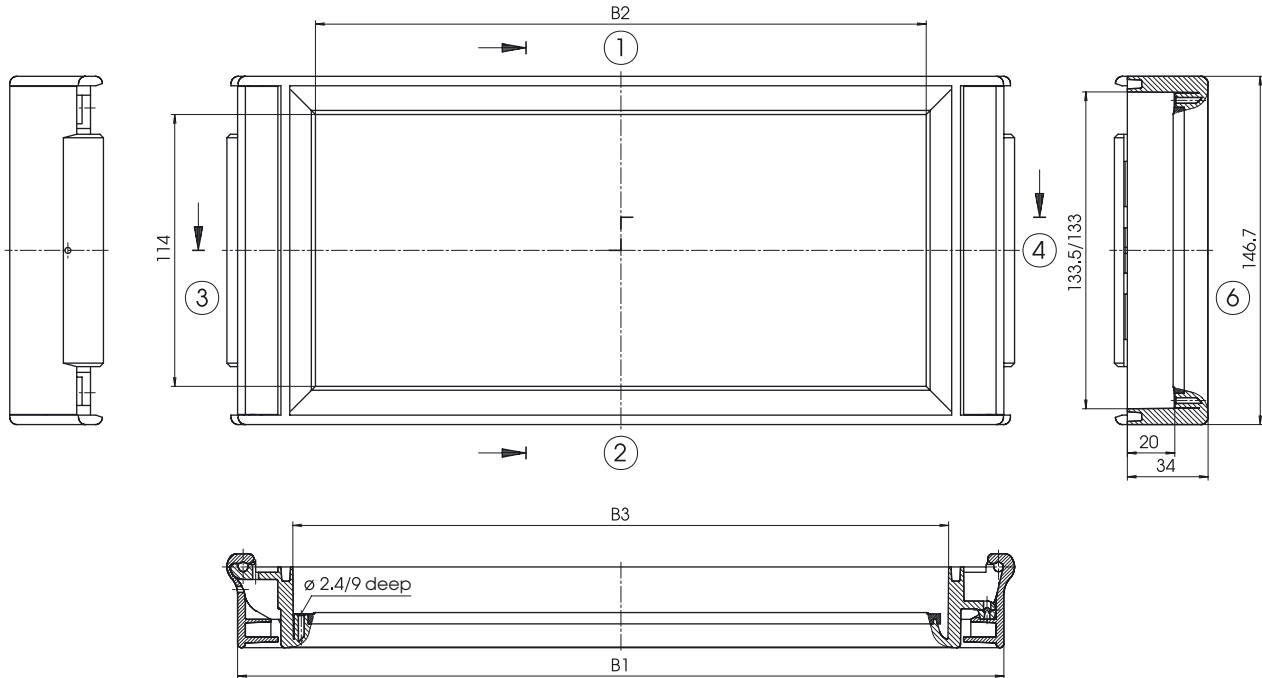base with air vents without seal,
2 mounted locks

Accessory (additional charge)		
Model	**Order no.**	**Designation**
SR 5670-0.5	79004900	Set of catches

Table of dimensions

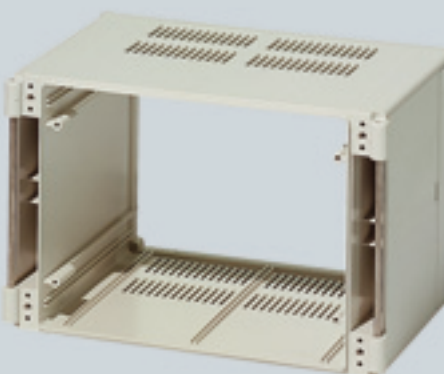| Model	B1	B2	B3	B4	B5	B6	B7	N
BC 5000 (L)-0.5	175.7	128.5/127.1	133.7/133.2	105.78	119.88	125.08	35.56	7
BC 6000 (L)-0.5	226.5	179.3/177.9	184.5/184.0	156.58	170.68	175.88	60.96	12
BC 7000 (L)-0.5	323.0	275.8/274.4	281.0/280.5	253.10	267.20	272.40	111.76	22

FO 5000 - FO 7000

B2

① ③ ④ ⑥

114

133.5/133

146.7

20
34

②

B3

ø 2.4/9 deep

B1

Z-2101295

**BC 5000 (L) -0,5 -
BC 7000 (L) -0,5**

B5
B4

①

130
115
90

③

ø 2.4

④

146.7
133.5

ø 2.4

138.7/138.2

23   3

②
B6

B2

N*5.08(=B7)   N*5.08(=B7)

15.24

12

51.51

26

2.4/2
B3
B1
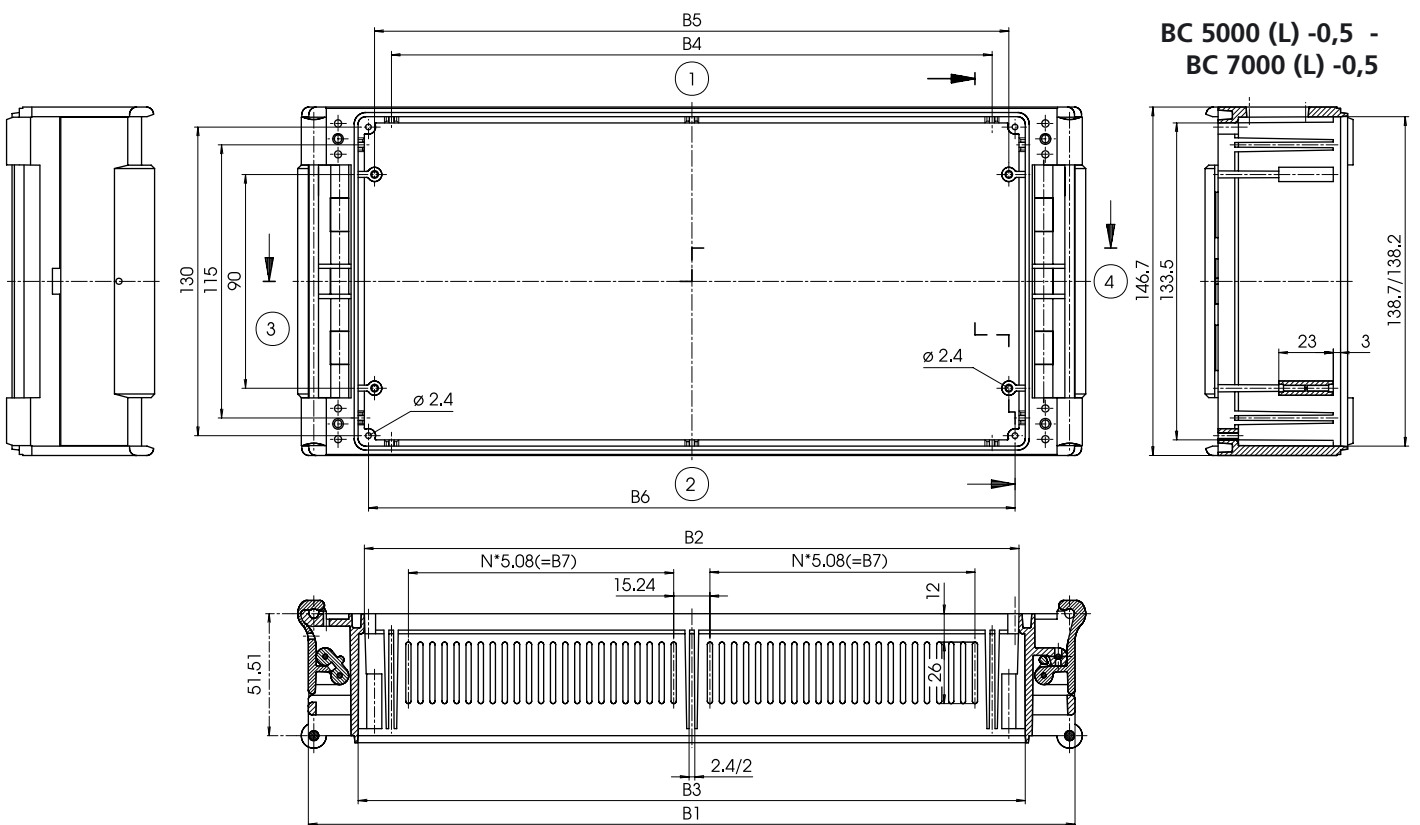
Z-2101291

CombiCard 5000-7000 system components

Bases -1 (88.25 mm construction depth)

Order designation

Model	Order no.
BC 5000 -1	79001600
BC 6000 -1	79001700
BC 7000 -1	79001800
BC 5000 L-1	79001900
BC 6000 L-1	79002000
BC 7000 L-1	79002100

L = with ventilation

Accessories (additional charge)

Front panels	Order no.
FP 5000 I	79004000
FP 6000 I	79004100
FP 7000 I	79004200

Mounting plates	Order no.
M 5000	80050000
M 6000	80060000
M 7000	80070000

Scope of delivery:
BC_000-1: base with seal,
2 mounted locks
BC_000 L-1:
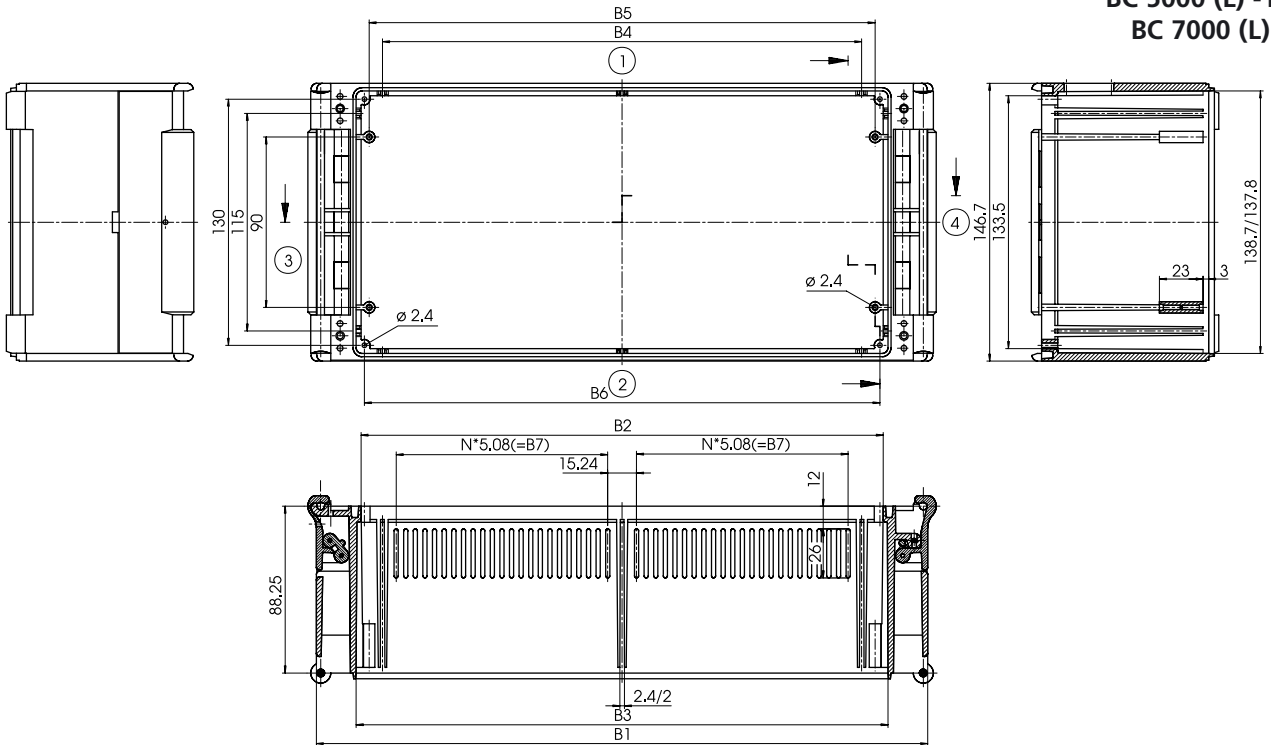base with air vents without seal,
2 mounted locks

Accessory (additional charge)

Model	Order no.	Designation
SR 5670-1	79005010	Set of catches

Base (with/without air vents) **with integrated hinged quick-release fastenings** to increase the installation depth in combination with front, base and rear parts.
The base contains mounting bosses for:
– front panel FP_000 l
– mounting rack BGT_000...
– mounting plate M_000
The hinged quick-release fastenings are to be opened by means of a tool (in accordance with VDE) and also to be sealable or to be secured by means of catch SR 5670-__.
Unlocking is only possible when the front element is open
(see page 211).

Table of dimensions

Model	B1	B2	B3	B4	B5	B6	B7	N
BC 5000 (L)-1	175.7	128.5/127.1	133.7/132.8	105.78	119.88	125.08	35.56	7
BC 6000 (L)-1	226.5	179.3/177.9	184.5/183.6	156.58	170.68	175.88	60.96	12
BC 7000 (L)-1	323.0	275.8/274.4	261.0/280.1	253.10	267.20	272.40	111.76	22

Bases -1.5 (139.76 mm construction depth)

Order designation

Model	Order no.
BC 5000 -1.5	79002200
BC 6000 -1.5	79002300
BC 7000 -1.5	79002400
BC 5000 L-1.5	79002500
BC 6000 L-1.5	79002600
BC 7000 L-1.5	79002700

L = with ventilation

Accessories (additional charge)

Front panels	Order no.
FP 5000 I	79004000
FP 6000 I	79004100
FP 7000 I	79004200

Mounting plates	Order no.
M 5000	80050000
M 6000	80060000
M 7000	80070000

Scope of delivery:
BC_000-1.5: base with seal,
2 mounted locks
BC_000 L-1.5:
base with air vents without seal,
2 mounted locks

Accessory (additional charge)

Model	Order no.	Designation
SR 5670-1.5	79005100	Set of catches

Table of dimensions

Model	B1	B2	B3	B4	B5	B6	B7	B7	N
BC 5000 (L)-1.5	175.7	128.5/127.1	133.7/132.3	105.78	119.88	125.08	125.08	35.56	7
BC 6000 (L)-1.5	226.5	179.3/177.9	184.5/183.1	156.58	170.68	175.88	175.88	60.96	12
BC 7000 (L)-1.5	323.0	275.8/274.4	281.0/279.6	253.10	267.20	272.40	272.40	111.76	22

**BC 5000 (L) -1 -
BC 7000 (L) -1**

Z-2101292

**BC 5000 (L) -1,5 -
BC 7000 (L) -1,5**
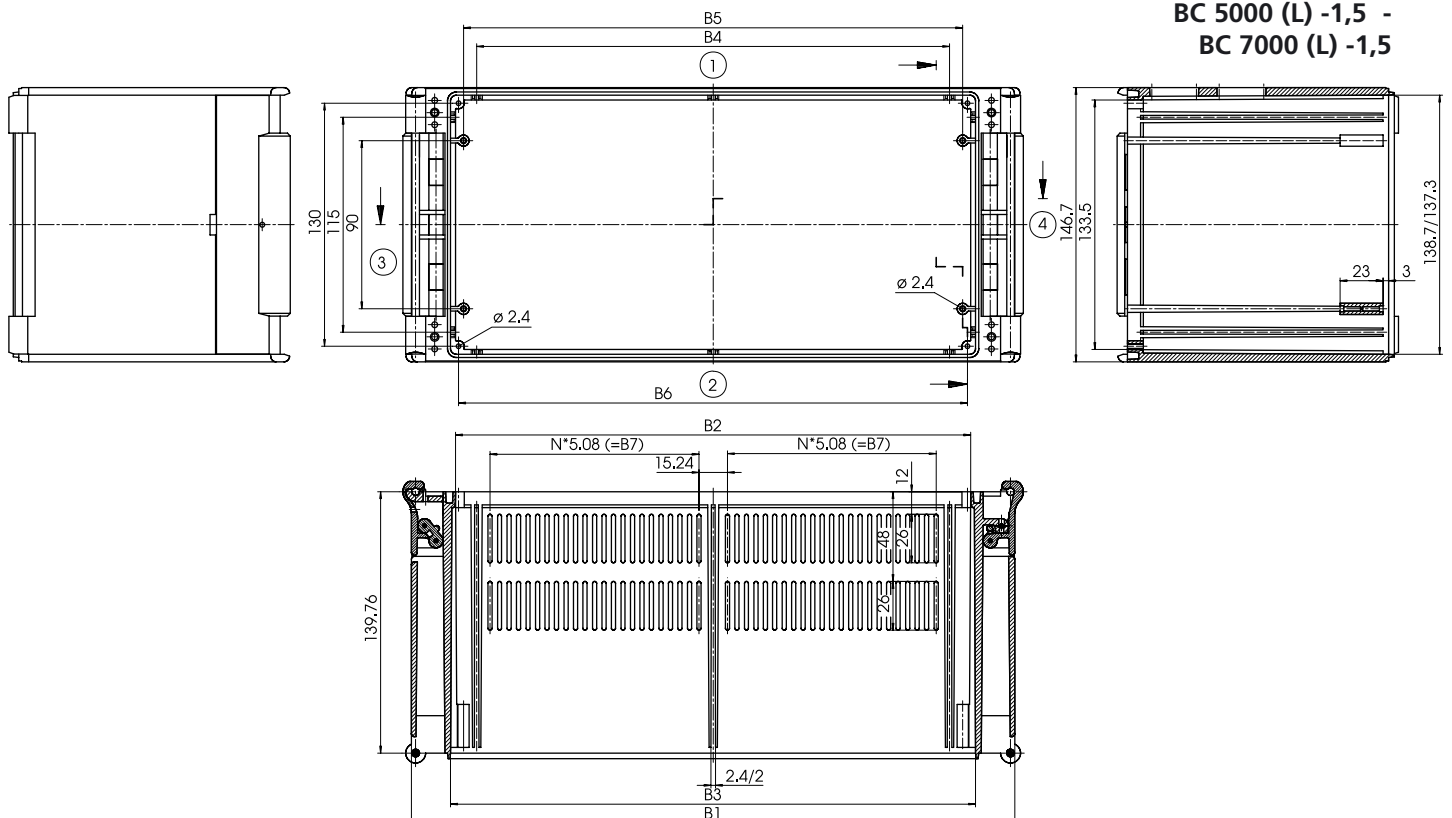
Z-2101293

CombiCard 5000-7000 system components

Base (with/without air vents) with integrated **hinge axes** on both **front and back** so that the base and/or **front elements** can be snapped into **both sides**.
This means that the unit in the control panel is optimally accessible from both sides: from the front for operation, from the rear for connection technology and servicing.

For examples of construction see page 205.

Mounting bosses are provided in the base for:
– front panel FP_000 I
– mounting rack BGT_000...
– mounting plate M_000
– DIN rails TS...

Base NG (control panel mounting)

Order designation

Model	Order no.
BC 5000 NG	79001610
BC 5000 NG-L	79001910
BC 6000 NG	79001710
BC 6000 NG-L	79002010
BC 7000 NG	79001810
BC 7000 NG-L	79002110

L = with ventilation

Important: When these bases (BC...NG (-L)) are used, **front lids** must be used on both sides to close the enclosure.
Tightening torque for the fixing elements = 80 Ncm.

Scope of delivery:
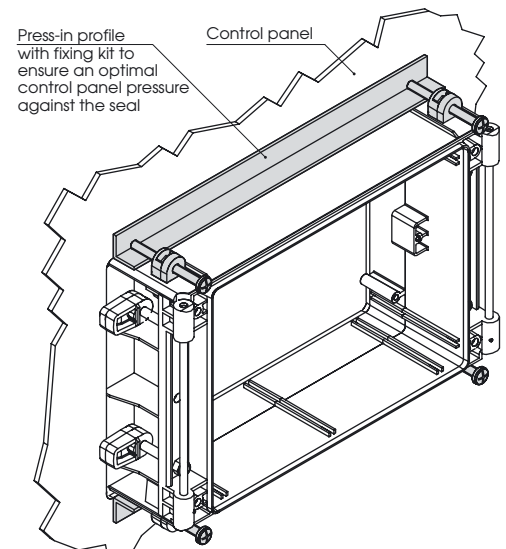Base including mounted set of fixing elements for control panel mounting.
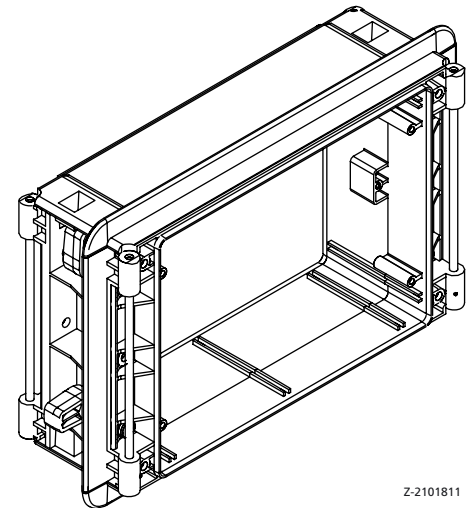
Z-2101811

Table of dimensions

Model	B1	B2	B3	B4	B5	B6	B7	N	A1
BC 5000 NG (-L)	203.7	129.1/128.7	133.7/133.3	105.78	119.88	113.7	35.56	7	185.2
BC 6000 NG (-L)	254.5	179.9/179.5	184.5/184.1	156.58	170.68	164.5	60.96	12	236.0
BC 7000 NG (-L)	351.0	276.4/276.0	281.0/280.6	253.10	267.20	261.0	111.76	22	332.5

Accessories (additional charge)

Model	Order no.	Description
BC 5000 NG-DI*	79001630	Self-adhesive seal
BC 5000 NG-AP	79001620	Press-in profile with fixing kit to ensure an optimal control panel pressure against the seal
BC 6000 NG-DI*	79001730	Self-adhesive seal
BC 6000 NG-AP	79001720	Press-in profile with fixing kit to ensure an optimal control panel pressure against the seal
BC 7000 NG-DI*	79001830	Self-adhesive seal
BC 7000 NG-AP	79001820	Press-in profile with fixing kit to ensure an optimal control panel pressure against the seal

* Ingress protection acc. to DIN EN 60529 possible up to max. IP 65, depending on the control panel material and thickness.
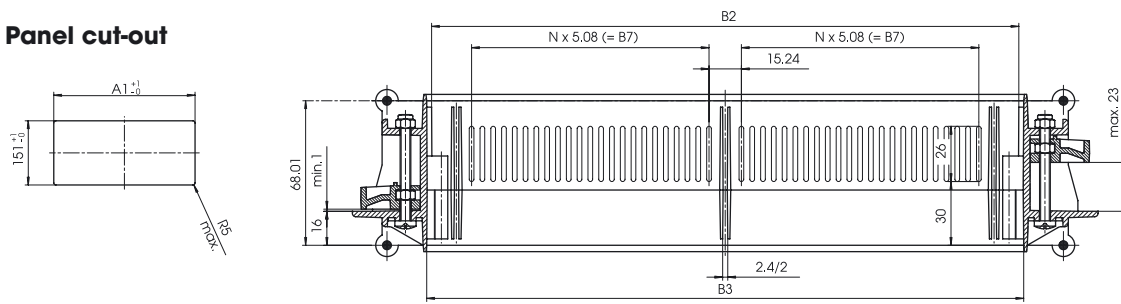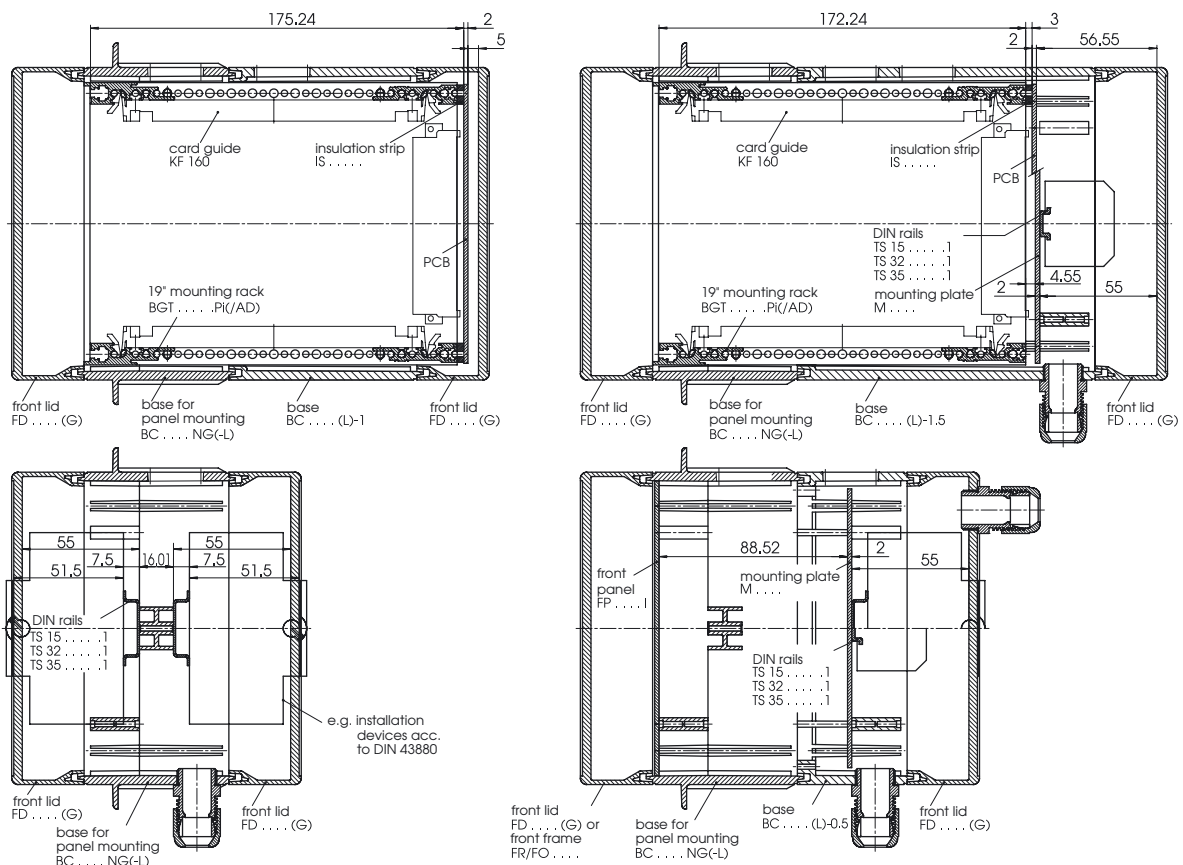
Press-in profile with fixing kit to ensure an optimal control panel pressure against the seal

Control panel

Z-2101888

B1
B5
B4

①

R 14.5

169.7
115
90

③

ø2.4
④
ø2.4

L

②

B6

146.7
134.1 / 133.7
138.7 / 138.3
16   23   3

Panel cut-out

A1 +1 -0

151 +1 -0

R5 max.

B2
N x 5.08 (= B7)   N x 5.08 (= B7)
15.24

68.01
min. 1
16

max. 23
26
30

2.4/2
B3
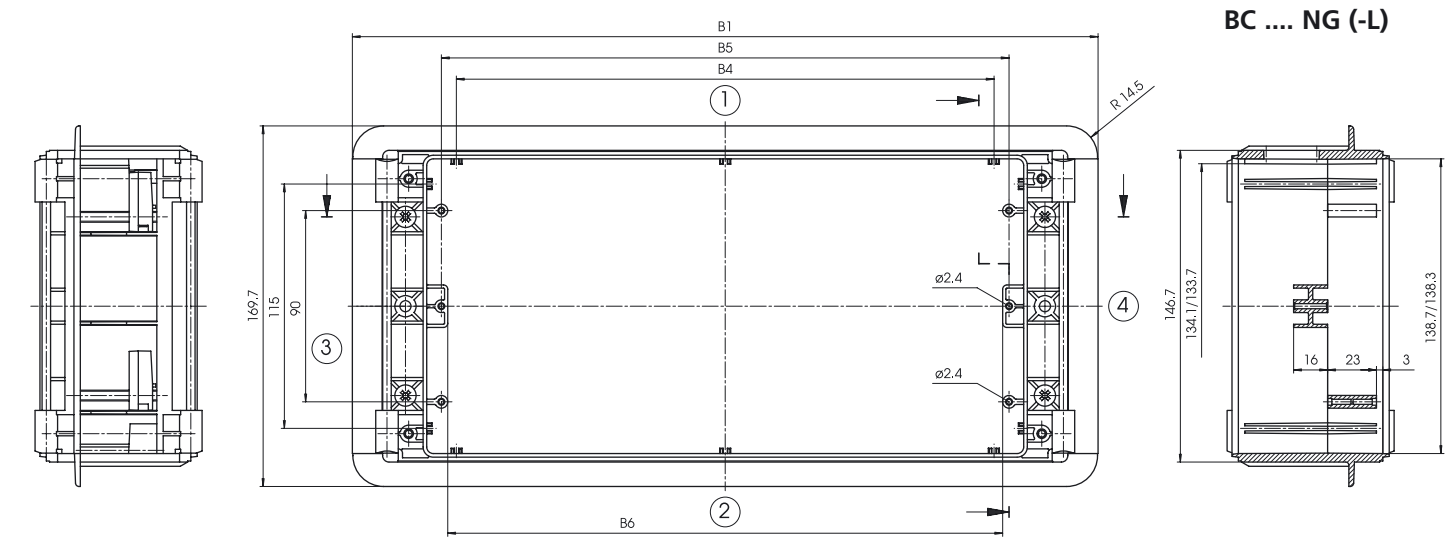
Z-2101784

Examples of construction

175.24   2
5

card guide
KF 160

insulation strip
IS . . . . .

PCB

19" mounting rack
BGT . . . . . .Pi(/AD)

front lid
FD . . . . (G)

base for
panel mounting
BC . . . . NG(-L)

base
BC . . . . (L)-1

front lid
FD . . . . (G)

172.24   3
2   56.55

card guide
KF 160

insulation strip
IS . . . . .

PCB

DIN rails
TS 15 1
TS 32 1
TS 35 1

mounting plate
M . . . .

19" mounting rack
BGT . . . . . .Pi(/AD)

2   4.55   55

front lid
FD . . . . (G)

base for
panel mounting
BC . . . . NG(-L)

base
BC . . . . (L)-1.5

front lid
FD . . . . (G)

55   55
51.5   7.5   16.01   7.5   51.5

DIN rails
TS 15 1
TS 32 1
TS 35 1

e.g. installation
devices acc.
to DIN 43880

front lid
FD . . . . (G)

base for
panel mounting
BC . . . . NG(-L)

front lid
FD . . . . (G)

front
panel
FP . . . .

mounting plate
M . . . .

88.52   2   55

DIN rails
TS 15 1
TS 32 1
TS 35 1

front lid
FD . . . . (G) or
front frame
FR/FO . . . .

base for
panel mounting
BC . . . . NG(-L)

base
BC . . . . (L)-0.5

front lid
FD . . . . (G)

Z-2101893

All dimensions in mm. Please refer also to technical data.

BOPLA
A Phoenix Mecano Company

Rear section (**without terminal compartment**) for combining with base (not BC...NG) or front elements. Mounting bosses are provided in the rear section for the fixing of mounting plates/DIN rails.
Wall fixing points or screw fastening points for wall brackets are provided outside the sealed lip.
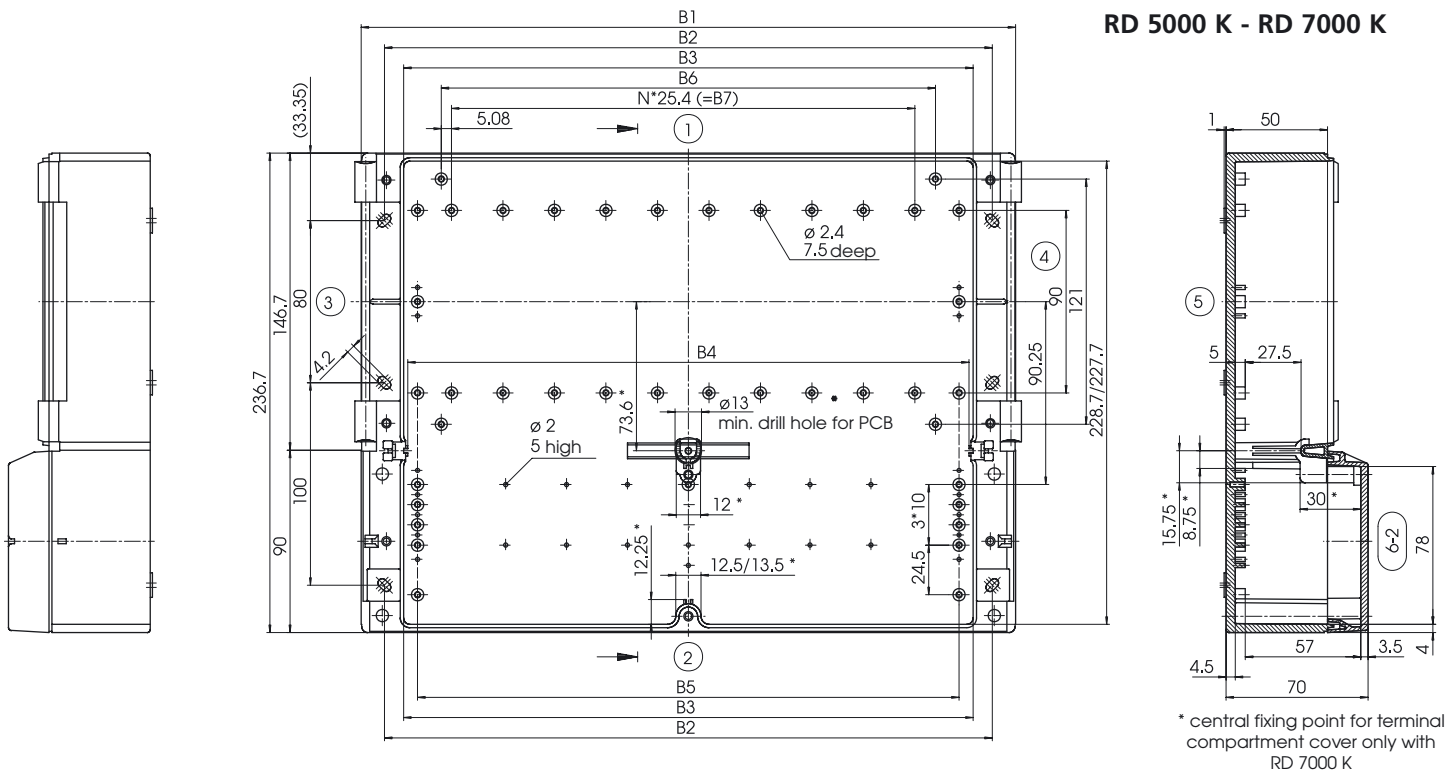
Rear section (**with terminal compartment on one side**) for combining with base (not BC...NG) or front elements.
Mounting bosses are provided in the rear for the fixing of mounting plates/DIN rails.
Wall fixing points or screw fastening points for wall brackets are provided outside the sealed lip.

Rear sections without terminal compartment

Order designation

Model	Order no.
RD 5000	79000100
RD 6000	79000200
RD 7000	79000300

A fixing kit BS 5670 is also required for fitting front panels FP_000 I in the rear section. This elevates the front panel in the rear section.

Scope of delivery:
Rear section

Accessories (additional charge)

Front panels	Order no.
FP 5000 I	79004000
FP 6000 I	79004100
FP 7000 I	79004200

Mounting plates	Order no.
M 5000	80050000
M 6000	80060000
M 7000	80070000

Accessories (additional charge)

Model	Order no.	Designation
BS 5670	79005500	Fixing kit for FP...I in RD...
WL 5670	79004600	Wall brackets

For **DIN rails** see page 213.

Table of dimensions

Model	B1	B2	B3	B5	B6	B7	N
RD 5000	175.7	152.7	133.7 / 132.7	119.88	96.52	76.2	3
RD 6000	226.5	203.5	184.5 / 183.5	170.68	147.32	127.0	5
RD 7000	323.0	300.0	281.0 / 280.0	267.20	243.84	228.6	9

Rear sections with terminal compartment

Order designation

Model	Order no.
RD 5000 K	79000400
RD 6000 K	79000500
RD 7000 K	79000600

A fixing kit BS 5670 is also required for fitting front panels FP_000 I in the rear section. This elevates the front panel in the rear section.

Scope of delivery:
Rear section,
terminal compartment bar,
terminal compartment cover including seal and fixing screws

Accessories (additional charge)

Front panels	Order no.
FP 5000 I	79004000
FP 6000 I	79004100
FP 7000 I	79004200

Mounting plates	Order no.
M 5000 K	80050100
M 6000 K	80060100
M 7000 K	80070100

Accessories (additional charge)

Model	Order no.	Designation
BS 5670	79005500	Fixing kit for FP...I in RD...
WL 5670 K	79004700	Wall brackets

For **DIN rails** see page 213.

Table of dimensions

Model	B1	B2	B3	B4	B5	B6	B7	N
RD 5000 K	175.7	152.7	133.7/132.7	129.7/128.7	119.88	96.52	76.2	3
RD 6000 K	226.5	203.5	184.5/183.5	180.5/179.5	170.68	147.32	127.0	5
RD 7000 K	323.0	300.0	281.0/280.0	277.0/276.0	267.20	243.84	228.6	9

RD 5000 - RD 7000

Z-2101288

RD 5000 K - RD 7000 K

min. drill hole for PCB

ø 2
5 high

ø13

* central fixing point for terminal
compartment cover only with
RD 7000 K

Z-2101289

CombiCard 5000-7000 system components/accessories

Rear section **(with terminal compartment on both sides)** for combining with base (not BC...NG) or front elements. Mounting bosses are provided in the rear section for the fixing of mounting plates/DIN rails.
Wall fixing points or screw fastening points for wall brackets are provided outside the sealed lip.

The wall brackets can be mounted either projecting outwards for a **projecting wall fastening** or flush with the enclosure edge as a **distance piece**. In both cases there is an 11 mm clearance for rear ventilation or cable bushing.

Rear sections with terminal compartment on both sides

Order designation

Model	Order no.
RD 5000 BK	79000700
RD 6000 BK	79000800
RD 7000 BK	79000900

A fixing kit BS 5670 is also required for fitting front panels FP_000 I in the rear section. This elevates the front panel in the rear section.

Accessories (additional charge)

Front panels	Order no.
FP 5000 I	79004000
FP 6000 I	79004100
FP 7000 I	79004200

Mounting plates	Order no.
M 5000 BK	80050200
M 6000 BK	80060200
M 7000 BK	80070200

Scope of delivery:
Rear section,
2 terminal compartment bars
2 terminal compartment covers incl.
seal and fixing screws

Accessories (additional charge)

Model	Order no.	Designation
BS 5670	79005500	Fixing kit for FP...I in RD...
WL 5670 BK	79004800	Wall brackets

For **DIN rails** see page 213.

Table of dimensions

Model	B1	B2	B3	B4	B5	B6	B7	N
RD 5000 BK	175.7	152.7	133.7/132.7	129.7/128.7	119.88	96.52	76.2	3
RD 6000 BK	226.5	203.5	184.5/183.5	180.5/179.5	170.68	147.32	127.0	5
RD 7000 BK	323.0	323.0	281.0/280.0	277.0/276.0	267.20	243.84	228.6	9

Wall brackets

Order designation

Model	Order no.	Description
WL 5670	79004600	Wall bracket for RD_000
WL 5670 K	79004700	Wall bracket for RD_000 K
WL 5670 BK	79004800	Wall bracket for RD_000 BK

Scope of delivery:
2 wall brackets including fixing material for screwing to the rear section

front section
1 base BC..-1
rear section
wall bracket

$F_{max} = 200N$

front section
2 bases BC..-1
rear section
wall bracket

$F_{max} = 150N$

front section
2 bases BC..-1
rear section
wall bracket

$F_{max} = 100N$
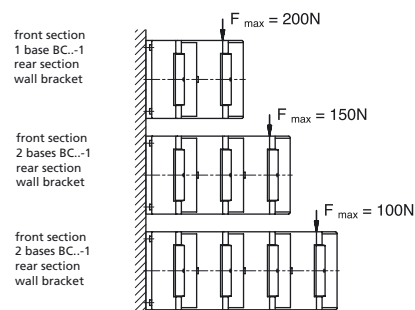
Table of dimensions

Model	B1	B2
RD 5000 (K) (BK)	192.7	152.7
RD 6000 (K) (BK)	243.5	203.5
RD 7000 (K) (BK)	340.0	300.0

Accessories described on pages 208-213.

RD 5000 BK - RD 7000 BK

B1
B2
B3
B6
N*25.4 (=B7)
5.08
(23.35)
90
100
80
326.7
146.7
318.7/317.7
121
90.25
90
ø 2.4
7.5 deep
ø 2
5 high
B4
73.6 *
ø13
min. drill hole for PCB
12 *
12.25 *
12.5/13.5 *
3*10
24.5
4.2
100
90
B5
B3
B2

1
50
27.5
5
15.75 *
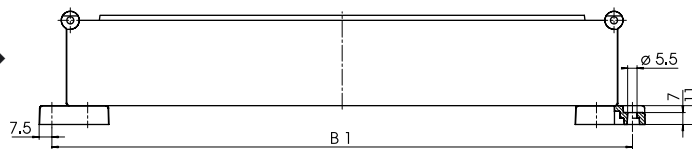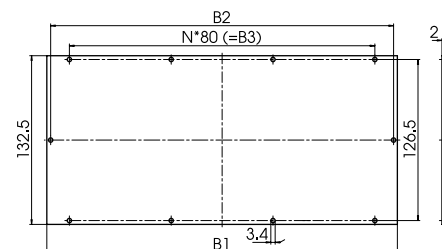8.75 *
30 *
78
57
3.5
4
4.5
70
6-1
6-2
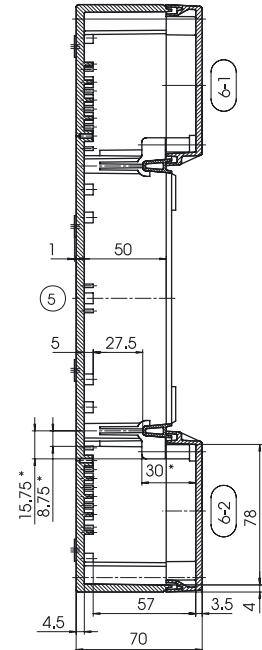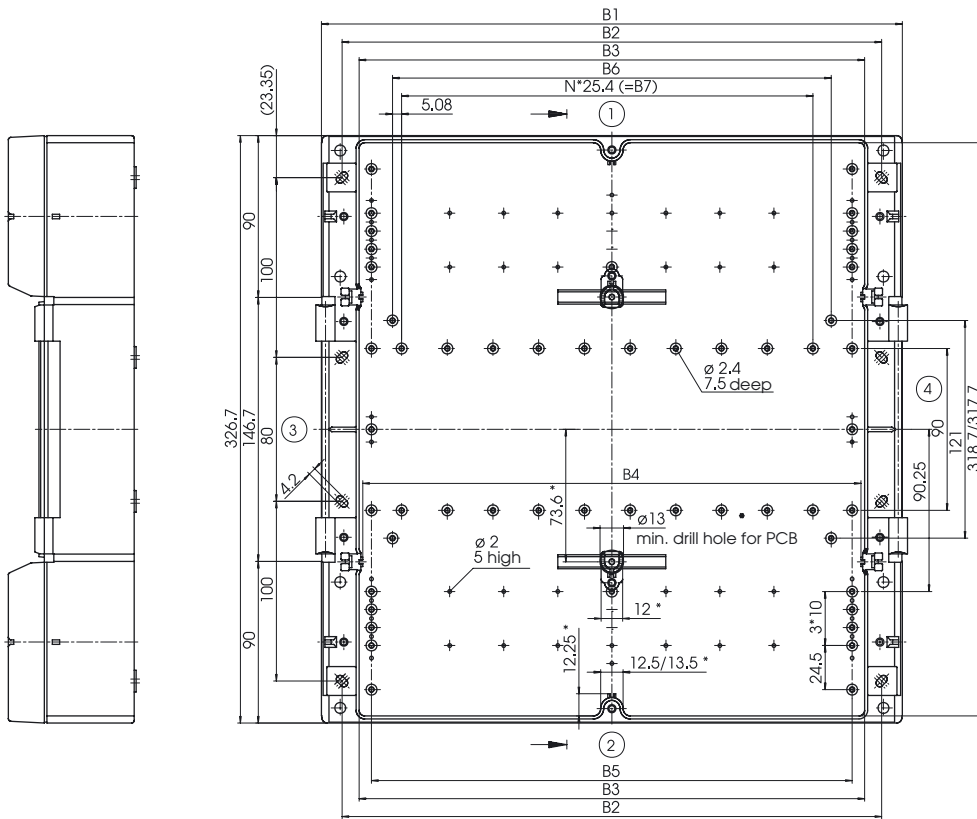
* central fixing point for terminal
compartment cover only with
RD 7000 BK   Z-2101290

mounted as a distance piece ▶
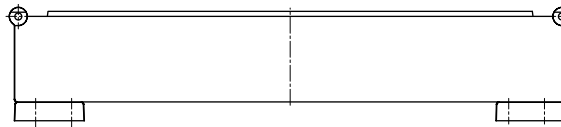
WL 5670

mounted as a wall bracket ▶

ø 5.5
7
1
7.5
B 1

10.5
90
90
(13.35)
120
146.7
100
80
80
100
B2
(13.35)
90
90
(13.35)
120
146.7
(13.35)
120
146.7
80
80
100
100
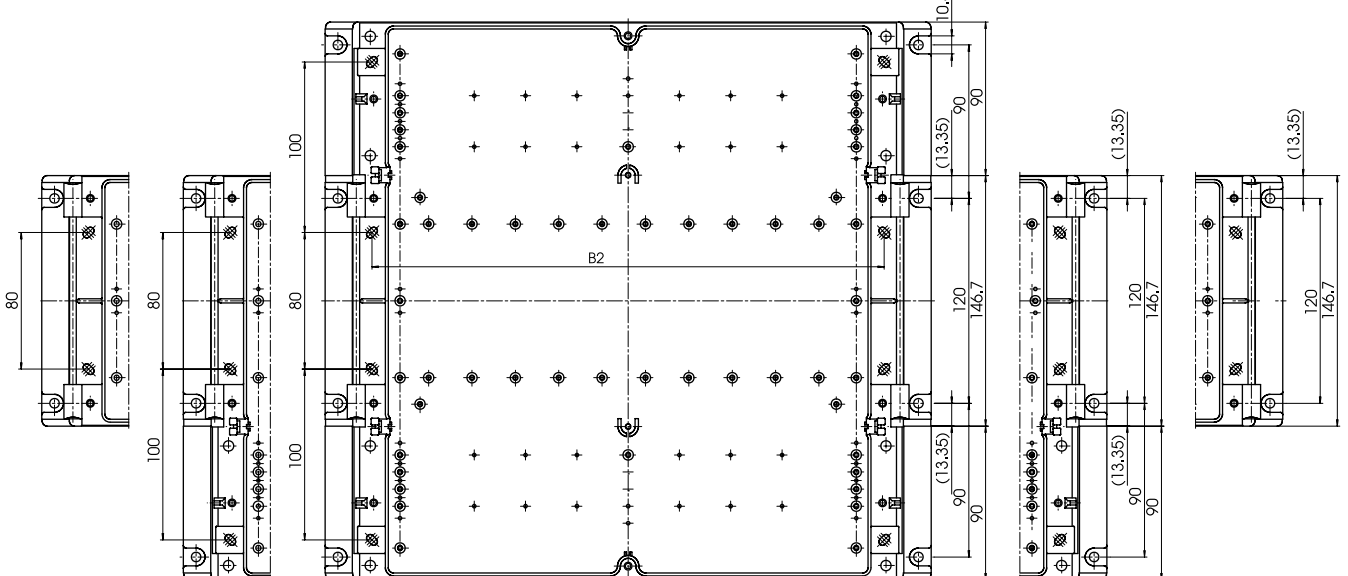
Z-2101299

CombiCard 5000-7000 accessories

Material: anodised aluminium

Material: anodised aluminium

The handle can be fitted to the BC_000 -1, BC_000 -1.5 and to the rear section RD_000.
In addition to its standard carrying function, the handle can also be used as a swivelling set-up handle (fixed locking position at 30° intervals).

Front panels, internal for BC.../RD...

Order designation		Table of dimensions	
Model	**Order no.**	**B1**	**B2**
FP 5000 l	79004000	133.3	119.88
FP 6000 l	79004100	184.1	170.68
FP 7000 l	79004200	280.6	267.20
BS 5670	79005500	Fixing kit for FP_000 l in RD...	

Scope of delivery:
FP_000 I without fixing screws; for fixing screws, see accessories starting on page 576.
A fixing kit BS 5670 is also required for fitting front panels FP_000 I in the rear section. This elevates the front panel in the rear section.
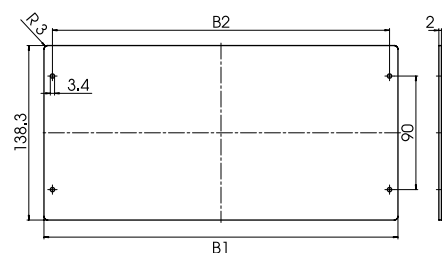
Z-2101298

Front panels for FO...

Order designation		Table of dimensions			
Model	**Order no.**	**B1**	**B2**	**B3**	**N**
FP 5000 Al	79004300	128.1	122.1	80	1
FP 6000 Al	79004400	178.9	172.9	160	2
FP 7000 Al	79004500	275.4	269.4	240	3

The fixing screws are included with the front frame FO_000.

Z-2101297

Handle

Order designation	
Model	**Order no.**
HS 5000	79605020
HS 6000	79606020
HS 7000	79607020

Fmax = 300 N

ø 19.4
ø 2.8 mm only in outside wall
ø 5
(□ 13.72)
22.5
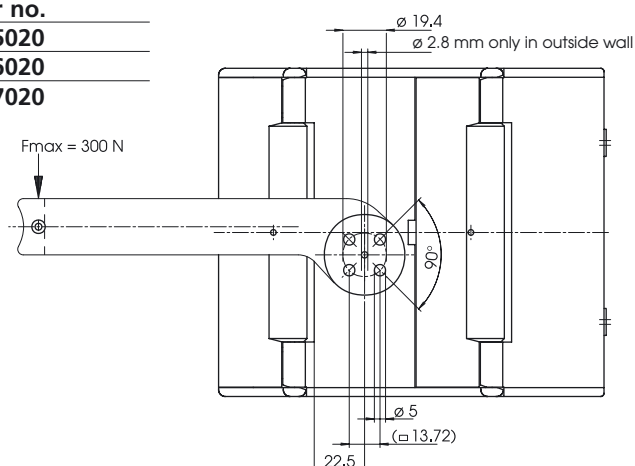
Z-2101630

Lock bolts for bases to lock fastening function

Order designation

Model	Order no.	Application
SR 5670 -0.5	79004900	BC...(L)-0.5
SR 5670 -1	79005010	BC...(L)-1
SR 5670 -1.5	79005100	BC...(L)-1.5

SR: The lock bolts can be used to ensure that the hinged quick-release fastenings cannot be opened when the enclosure is closed. The lock bolt can only be moved and the hinged quick-release fastening opened <u>after</u> this enclosure system part has been removed. This protects a unit against unauthorized access, or restricts the hinged quick-release fastening to the hinge function.
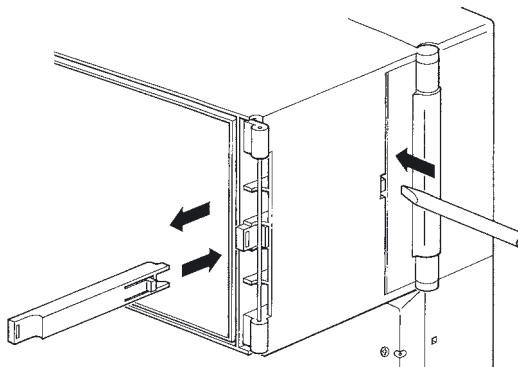
Scope of delivery: 2 pieces

Lock cover / hinged quick-release fastening

Order designation

Model	Order no.	Application
VA 5670	79005300	FD...(G)
SV 5670	79005400	FO/FR

Lock cover VA
for clipping onto the hinge side at the front lid FD... (G)
Scope of delivery: 2 pieces

Hinged quick-release fastening SV
for conversion of front frames
FR and FO
Scope of delivery: 2 pieces
1 catch*
1 blind plug*

SV 5670   VA 5670

14.9
138.3
10
2
Z-2101336
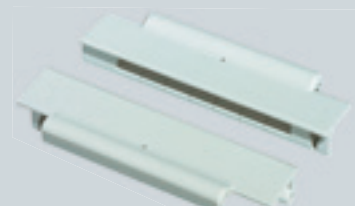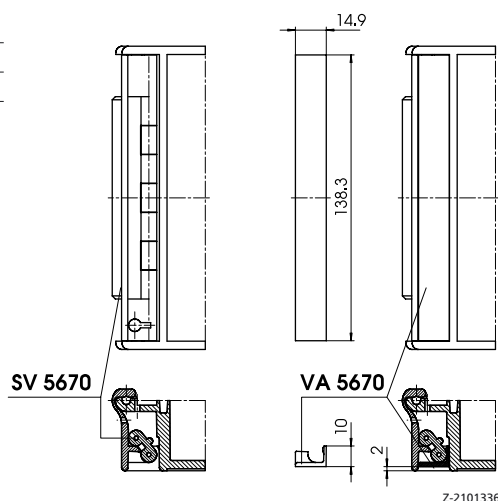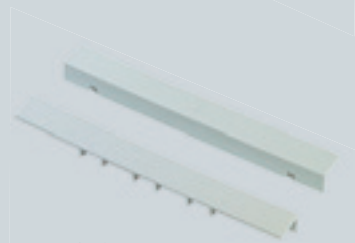
SV 5670

VA 5670

Cylinder catch

Order designation

Model	Order no.	Application
SHLO-302	21008310	FD...(G) / SV 5670

Blind plug**

Catch**

Cylinder lock catch
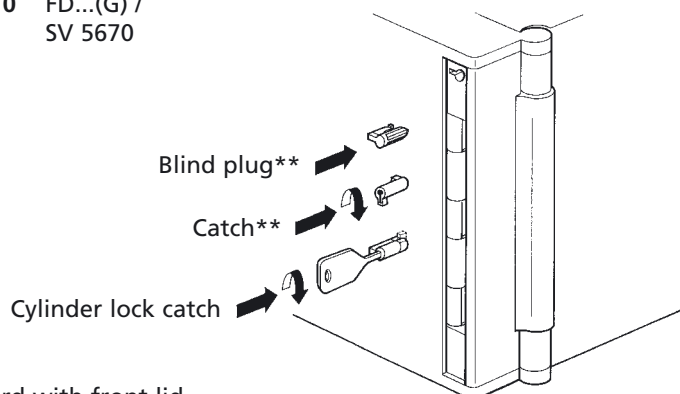
Cylinder catch

** Supplied as standard with front lid
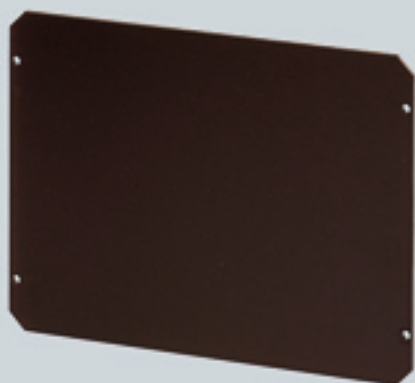
Material: laminated paper 2 mm
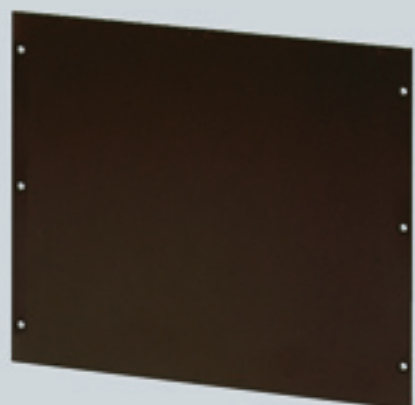
Material: laminated paper 2 mm
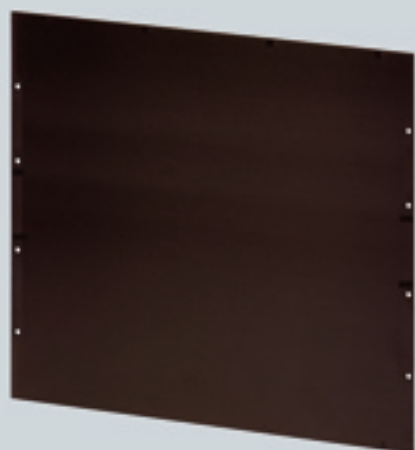
Material: laminated paper 2 mm

Mounting plates for RD... and BC...(L)-...

Order designation

Model	Order no.
M 5000	80050000
M 6000	80060000
M 7000	80070000

Table of dimensions

Model	B1	B2
M 5000	125.88	119.88
M 6000	176.68	170.68
M 7000	273.20	267.20
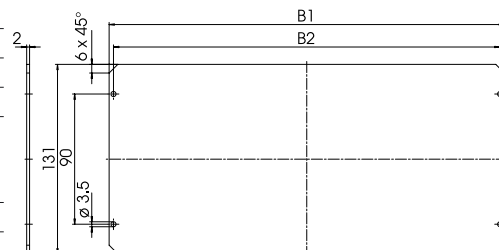
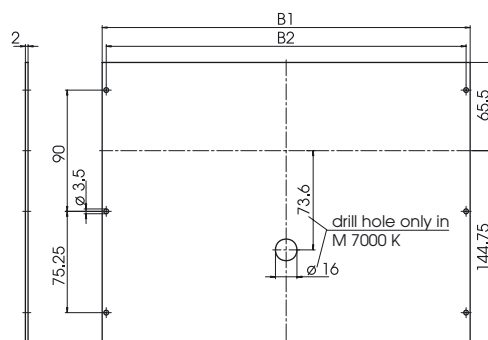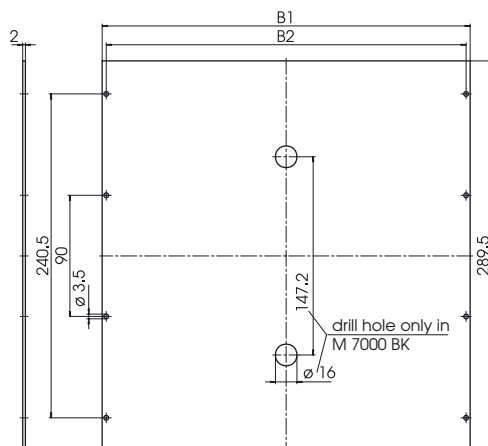For fixing screws, see accessories
starting on page 642.

Z-2101328

Mounting plates for RD...K

Order designation

Model	Order no.
M 5000 K	80050100
M 6000 K	80060100
M 7000 K	80070100

Table of dimensions

Model	B1	B2
M 5000 K	125.88	119.88
M 6000 K	176.68	170.68
M 7000 K	273.20	267.20

For fixing screws, see accessories
starting on page 642.

drill hole only in M 7000 K

Z-2101329

Mounting plates for RD...BK

Order designation

Model	Order no.
M 5000 BK	80050200
M 6000 BK	80060200
M 7000 BK	80070200

Table of dimensions

Model	B1	B2
M 5000 BK	125.88	119.88
M 6000 BK	176.68	170.68
M 7000 BK	273.20	267.20

For fixing screws, see accessories
starting on page 642.

drill hole only in M 7000 BK

Z-2101330

212

DIN rails

Order designation

Model	5000	6000	7000	Design
	Order no.	Order no.	Order no.	
TS 15...1	22151301	22151801	22152801	Top hat rail DIN EN 60715 TH15
TS 32...1	22321301	22321801	22322801	Top hat rail DIN EN 60715 G 32
TS 35...1	22351301	22351801	22352801	Top hat rail DIN EN 60715 TH35

For fixing screws, see accessories
starting on page 642.

Table of dimensions

For model	Length
5000	130
6000	180
7000	280

TS 15

TS 32

TS 35
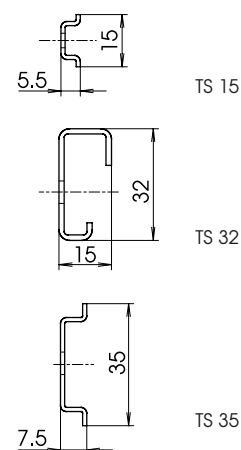
Z-2001663

Dimensioning acc. to VDE 0611 Part 1 / DIN EN 60947-7-1

Possible terminal assignment

Model	Phoenix			Weidmüller	
	MBK 2.5	MBK 5	MBK 10	AKZ 1.5	AKZ 4
V ~	500.0	500.0	500.0	400.0	500.0
A	19.5	35.0	46.0	17.5	32.0
mm²	1.5	4.0	6.0	1.5	4.0
RD 5000, RD 5000 K	15.0	12.0	10.0	14.0	12.0
RD 5000 BK	30.0	24.0	20.0	28.0	24.0
RD 6000, RD 6000 K	20.0	18.0	14.0	20.0	16.0
RD 6000 BK	40.0	36.0	28.0	40.0	32.0
RD 7000, RD 7000 K	40.0	34.0	28.0	38.0	32.0
RD 7000 BK	80.0	68.0	56.0	76.0	64.0

Terminal accessories

End-angle pieces	2	2	2	2	2
Back plates	–	–	–	1	1

If the terminals are soldered, the following numbers can be achieved:

Soldered terminals with 2.5 or 2.54 pitch

Model	single-row	double-row (double-deck terminals)
RD 5000, RD 5000 K	17	34
RD 5000 BK	34	68
RD 6000, RD 6000 K	26	52
RD 6000 BK	52	104
RD 7000, RD 7000 K	44	88
RD 7000 BK	88	176

FD .....
BC ..... -1 (2 pieces)
RD ..... K
BGT .... Pi
ZS .....

Attention:

central fixing points
with RD 7000 K!

Z-2101486

FD .....
BC ..... -1,5
RD ..... K
BGT .... Pi

Attention:

central fixing points
with RD 7000 K!

Z-2101487

CombiCard 5000-7000 accessories 19" – DIN EN 60297-3-101

This Bopla 19" system corresponds to DIN EN 60297-3-101 (482.6 mm design). It allows the modular construction of subassemblies and mounting racks with plug-in connectors acc. to DIN EN 60603-2 (previously DIN 41612). The plug-in connectors are fastened either directly in the bus PCB or via Z-rails on the rear of the holder.
No accessory part of 19" module IEEE 1101.10, such as card guide KF/M, can be combined in this system.
If a BC...1.5 is used, the bus PCB can be fitted directly in the rear section, and at the same time it can accommodate the connection terminals in the terminal compartment.

Mounting racks for front panel and BUS PCB technology
DIN EN 60297-3-101

Order designation

Model	Order no.	TE	B1	B3	B5
BGT 5000 Pi	53215000	20	101.88	132.68	119.88
BGT 6000 Pi	53216000	30	152.68	183.48	170.68
BGT 7000 Pi	53217000	49	249.20	280.00	267.20

Scope of delivery:
Mounting racks including screws for fixing in CombiCard 5000 - 7000.
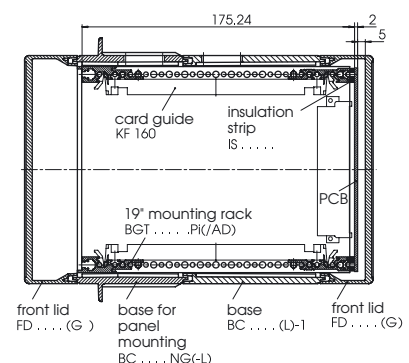
Accessories (additional charge)
see pages 216-219.
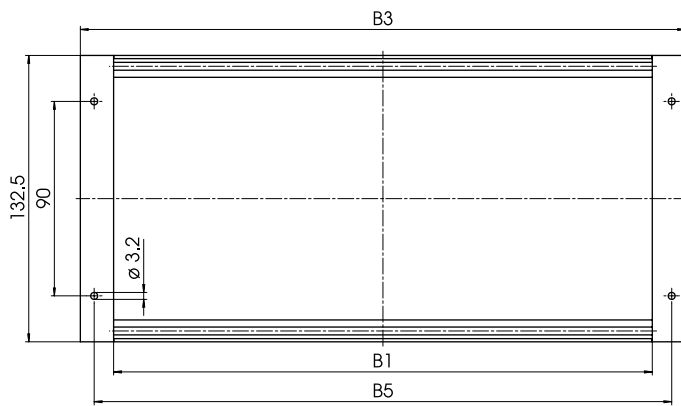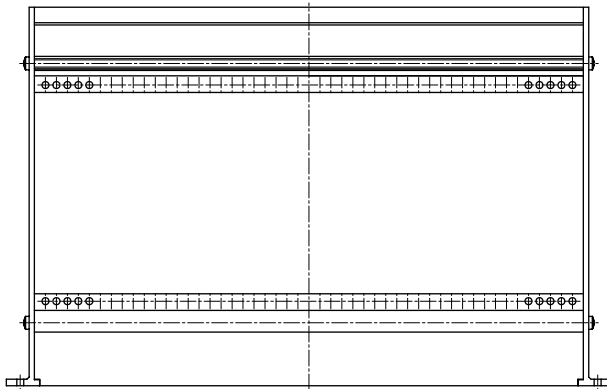
Examples of applications
(see also below):

32   172.24   5

FD ....
BC .... -1.5
RD .... K
BGT .... Pi

Attention:
central fixing points with RD 7000 K!

Z-2101487

172.24   3   2   56.55

card guide KF 160
insulation strip IS .....
DIN rails TS 15 .....1 TS 32 .....1 TS 35 1
PCB
19" mounting rack BGT .... .Pi(/AD)
mounting plate M ....
2   4.55   55

front lid FD .... (G)
base for panel mounting BC .... NG(-L)
base BC .... (L)-1.5
front lid FD .... (G)
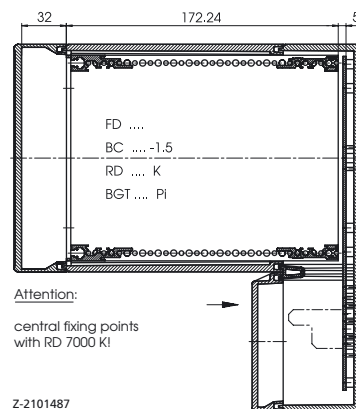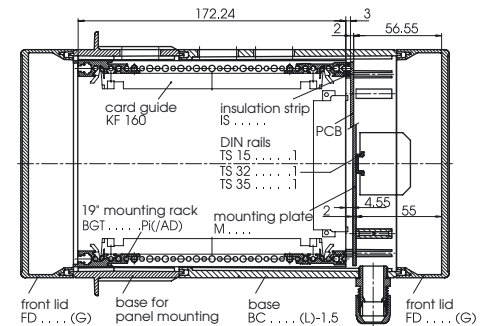
Z-2101893a

Mounting racks with sheet metal covers for BUS PCB technology
DIN EN 60297-3-101

Order designation

Model	Order no.	TE	B1	B3	B5
BGT 5000 Pi/AD	53215100	20	101.88	132.68	119.88
BGT 6000 Pi/AD	53216100	30	152.68	183.48	170.68
BGT 7000 Pi/AD	53217100	49	249.20	280.00	267.20

Scope of delivery:
Mounting racks including screws for fixing in CombiCard 5000 - 7000.

Accessories (additional charge)
see pages 216-219.

Examples of applications
(see also above):

32   177.24   36.8

FD ....
BC .... -1 (2 pieces)
RD .... K
BGT .... Pi
ZS ....

90

Attention:
central fixing points with RD 7000 K!

Z-2101486

175.24   2   5

card guide KF 160
insulation strip IS .....
PCB
19" mounting rack BGT .... .Pi(/AD)

front lid FD .... (G)
base for panel mounting BC .... NG(-L)
base BC .... (L)-1
front lid FD .... (G)

Z-2101893b

*Not suitable for combining with 19" module IEEE 1101.10 system parts on pages 220-225.

BGT 5000 Pi - BGT 7000 Pi

B3

132.5
90
⌀ 3.2

B1
B5

130.1

130
172.24
112.3
116.3
112.3
122.5
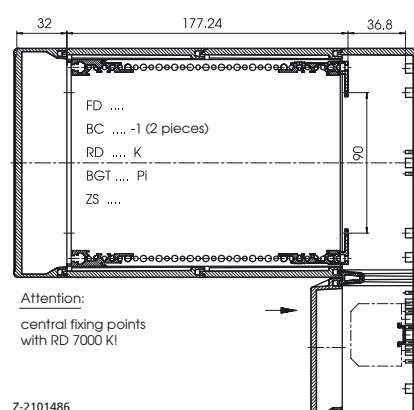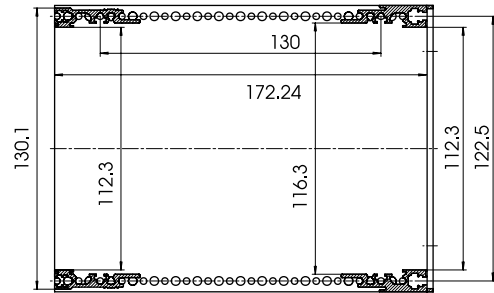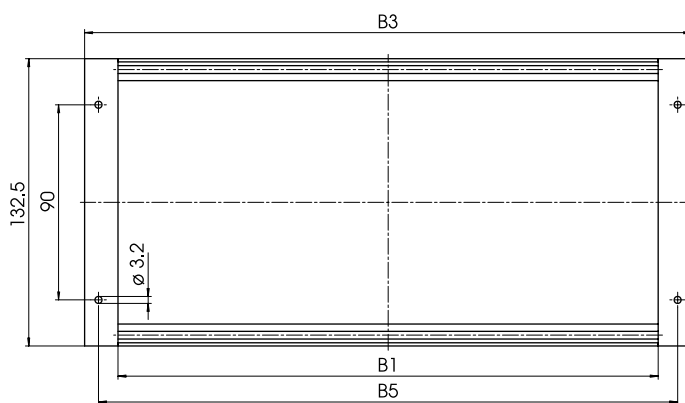
Z-2101334

BGT 5000 Pi/AD - BGT 7000 Pi/AD

B3

132.5
90
⌀ 3.2

B1
B5

132.1

130
172.24
112.3
116.3
112.3
122.5

Z-2101335

All dimensions in mm. Please refer to technical data.   215
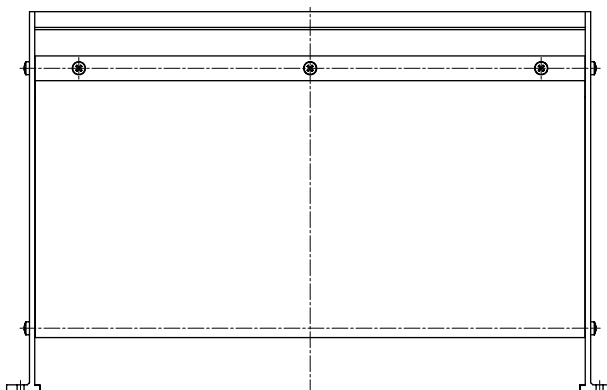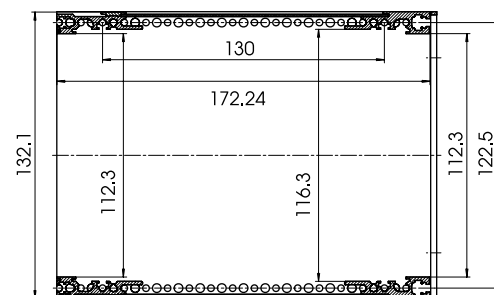
CombiCard 5000-7000 accessories 19" – DIN EN 60297-3-101

Card guide
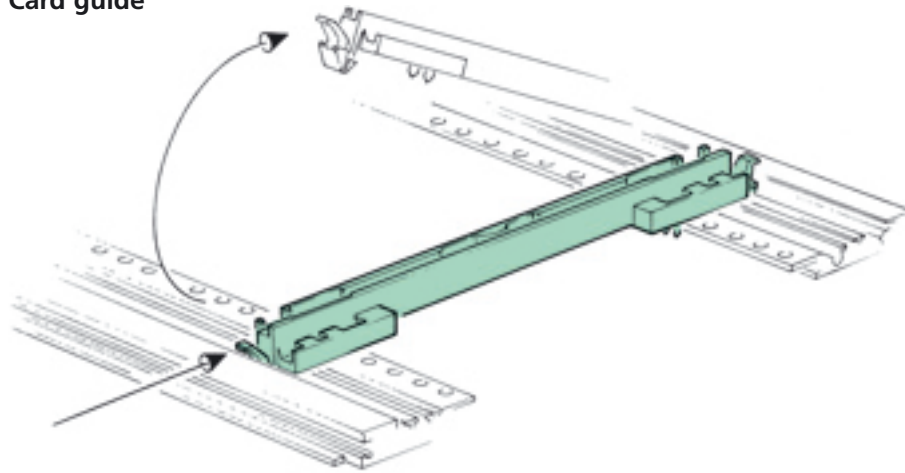
Order designation

Model	Order no.	Rated depth
KF 160	**54700160**	160

Special features: Locking by means of snap bolt which is released by finger activation. This guarantees easy handling even when the slots are close together.
Can be fitted with M2.5 x 8 and tapped strips GS...-II.

Scope of delivery: PU = 10 pcs
Material: polyamide UL 94 V1
Colour: yellow-green, similar to RAL 6018

Card securing device for card guide
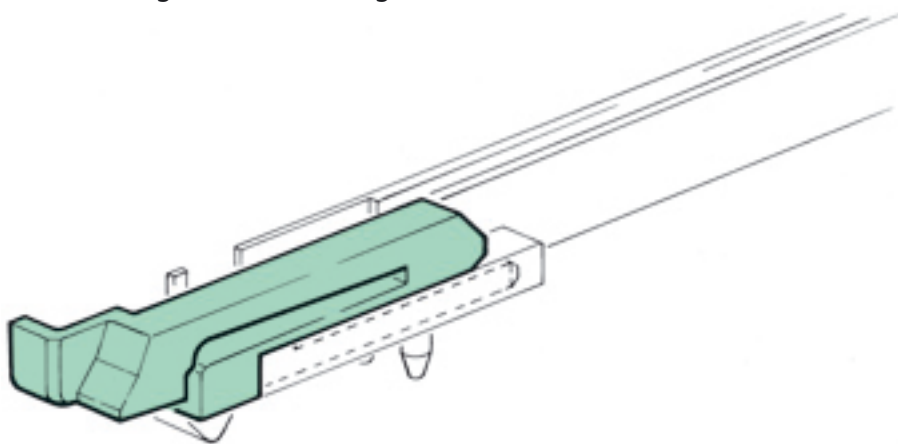
Order designation

Model	Order no.	
KSO	**54700180**	for upper
KSU	**54700190**	for lower

KS – card securing device.
To secure PCBs in the connectors.
For use behind part front panels.
Scope of delivery: 10 card securing devices
Material: polyamide UL 94 V1
Colour: yellow-green, similar to RAL 6018

Card release lever for card guide
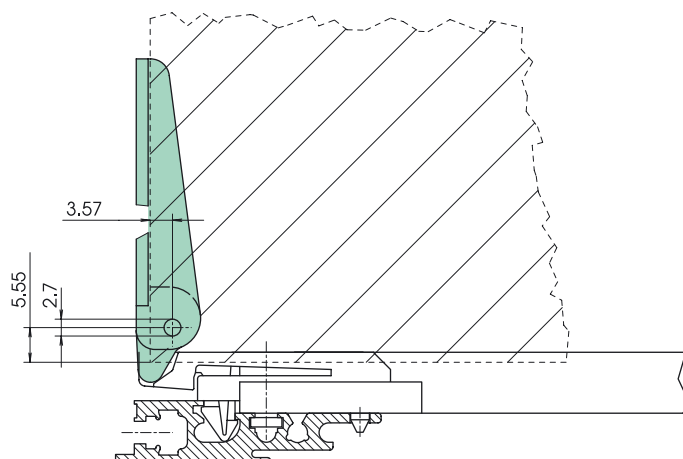
Order designation

Model	Order no.	
KHO	**54700195**	for upper
KHU	**54700200**	for lower

Special features:
– for use with KF and KS behind part front panels
– when operated, simultaneous release of the PCB and lifting out from the connector
– area for gluing marking illustration 37 x 5 mm
Scope of delivery: 10 card release levers, 10 grooved pins ø 2.5 x 8, DIN 1472
Material: polyamide UL 94 V1
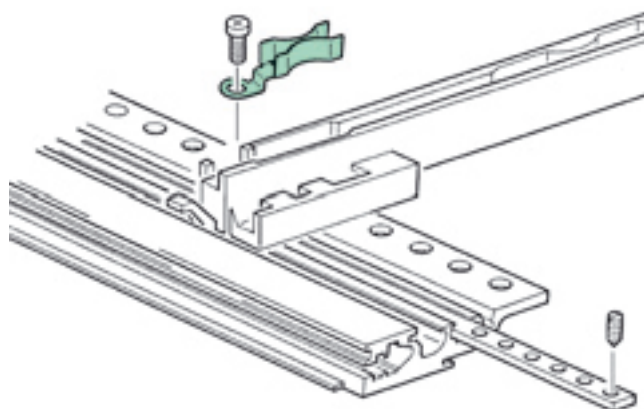**Colour:** yellow-green, similar to RAL 6018

3.57
5.55
2.7

*Not suitable for combining with 19" module IEEE 1101.10 system parts on pages 220-225.

Order designation

Model	Order no.	
KEU	54700380	for lower
KEO	54700385	for upper

Scope of delivery: earthing spring, fixing screw

Please order tapped strip and tapped pin separately.
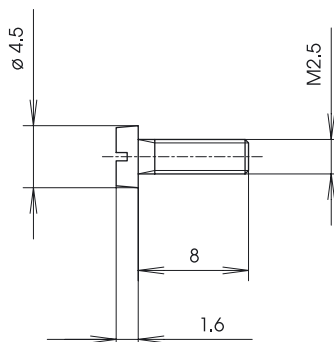
Card earthings
for leading earthing of the PCB

Order designation

Model	Order no.
BFS 0300	54700030

Scope of delivery: PU = 10 pcs

Cylinder screw M2.5 x 8
DIN 84 for fixing
of the card guide KF
and the card earthing KEU / KEO

Z-2901670-BFS

Order designation

Model	Order no.
GSE	54700390

Scope of delivery: PU = 10 pcs

Tapped pin M2.5 x 5
for positioning and earthing the tapped strip

Z-2901670-GSE

All dimensions in mm. Please refer to technical data.
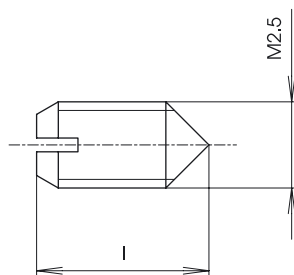
CombiCard 5000-7000 accessories 19″ – DIN EN 60297-3-101

Tapped strips M 2.5

II (5 x 1.5)

I (7 x 2)
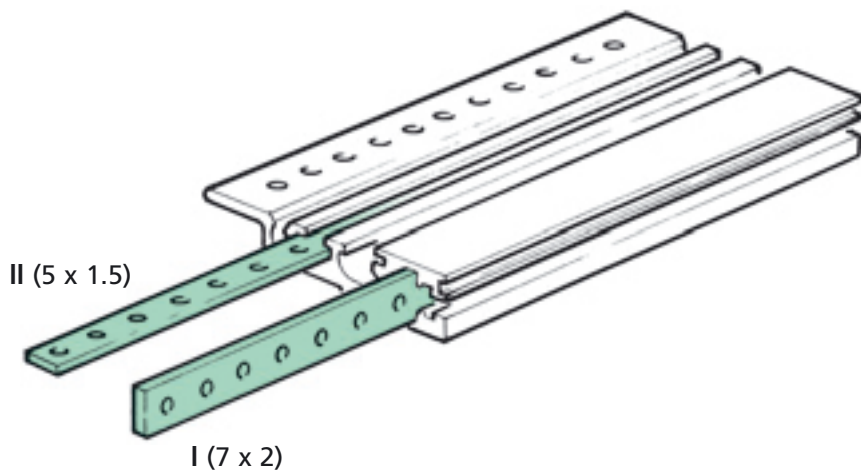
Order designation

Model	Order no.	TE
GS 00020-I	54000201	20
GS 00030-I	54000301	30
GS 00049-I	54000491	49
GS 00020-II	54000202	20
GS 00030-II	54000302	30
GS 00049-II	54000492	49

Scope of delivery: 2 tapped strips

Z-rails DIN EN 60 603-2
(previously DIN 41612)

7.95
0.6
1,2 5.1
0.4
5
2,55 16.25
2

L
Ø 3
(22.5)
M2.5 2.5

Z-2900433
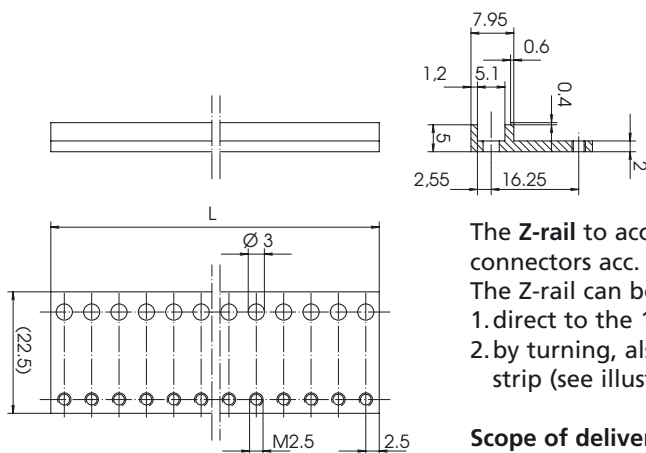
The **Z-rail** to accommodate plug-in connectors acc. to DIN EN 60 603-2. The Z-rail can be fitted in two ways:
1. direct to the 19″ profiles
2. by turning, also on the insulating strip (see illustration opposite).

Scope of delivery: 2 Z-rails

Order designation

Model	Order no.	TE
ZS 00020	54001200	20
ZS 00030	54001300	30
ZS 00049	54001490	49

Accessories (additional charge)

Model	Order no.	Description
GS 000..-II	(see above)	Tapped strip
IS 000...	(see below)	Insulating strip
BFS 00300	54700030	Cylinder screw (see page 217)

Insulating strips

175.24

3

Z-2900470
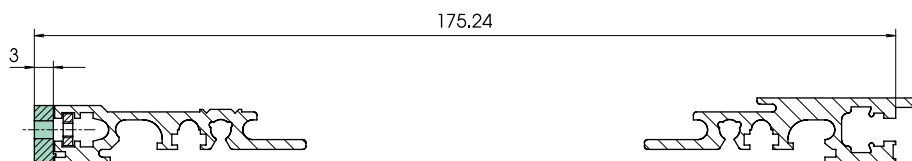
Order designation

Model	Order no.	TE
IS 00020	54000120	20
IS 00030	54000130	30
IS 00049	54000149	49

The plastic **insulating strip** is used to insulate bus PCBs from the 19″ profiles.
At the same time, this creates the insertion depth needed for plug-in connectors DIN EN 60 603-2 in respect of the bus PCB.

**Scope of delivery:** 2 insulating strips

GS – tapped strip with M 2.5.
The **GS...I** (7 x 2) can be inserted in
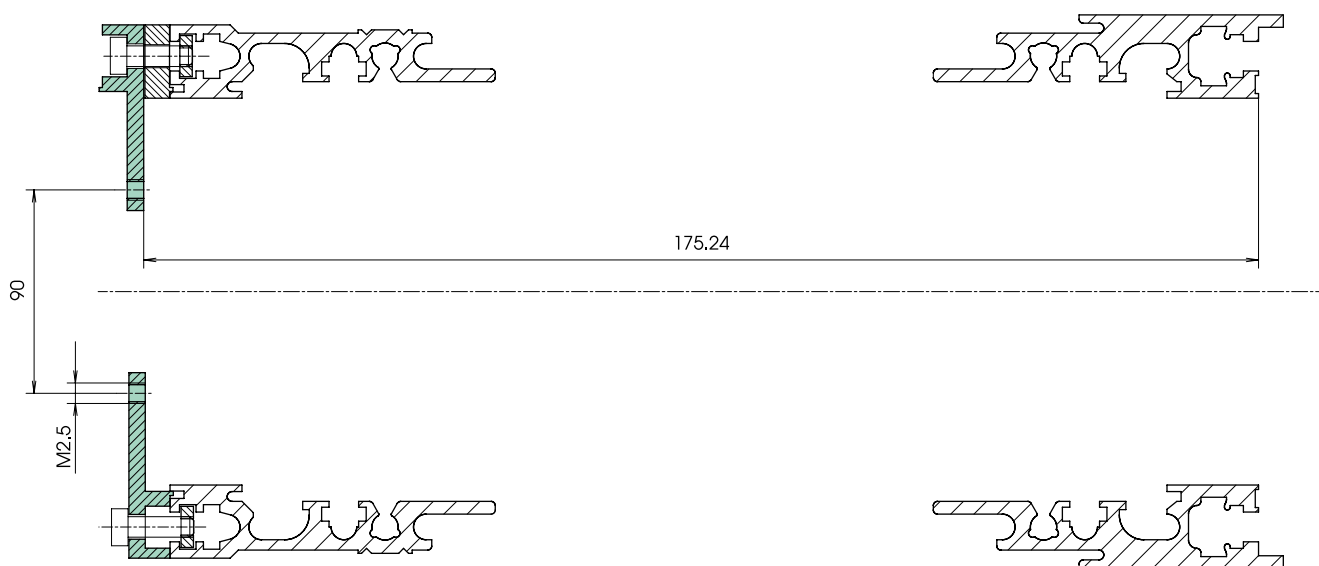position 1 and is used for fixing part
front panels.
The **GS...II** (5 x 1.5) can
a) be inserted in position 2 to fix the
   card guide or mounting plates etc.;
b) be used in position 3 to fix the
   Z-rail or – in combination with the
   insulating strip – to fix BUS PCBs.

Tapped strip 5 x 1.5 mm, M 2.5

130 at 160 mm insertion depth   21.1

Z-2900469

175.24

90

M2.5
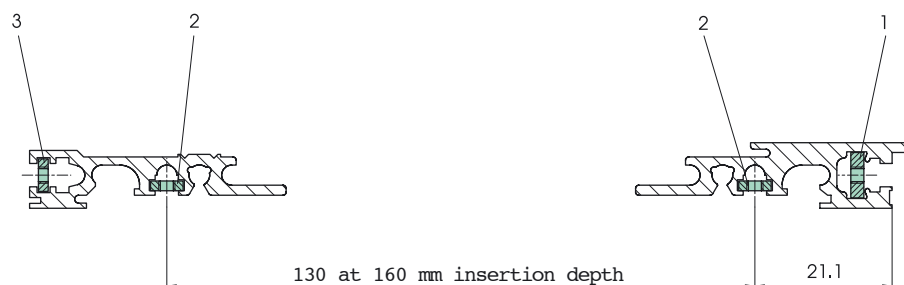
Z-2900468

To install your modular components, you also require:

– part front panels
  (without release lever IEEE 1101.10)
– slot-in front panels
– cassettes
– swivelling or hinged front panels

Please send for our separate "part of
the red" catalogue.

We supply mechanical processing
and printing in accordance with your
instructions.
We can also offer you membranes or
membrane keypads. Further informa-
tion can be found on page 564.

CombiCard 5000-7000 accessories 19" module - IEEE 1101.10*
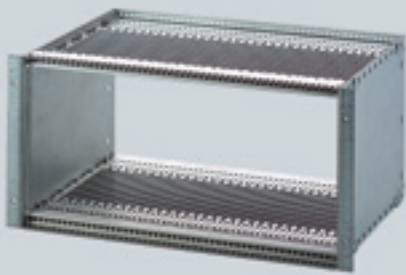
In addition to conventional 19" tech-nology, Bopla's new **19" module IEEE 1101.10** system is designed for release levers acc. to IEEE 1101.10 to support the connector forces of, for example **Compact PCI** or **VME 64x systems**.
All the individual mounting rack parts are connected electrically to each other so that – with the appro-priate additional accessories and EMC part front panels – optimal EMC protection is achieved.
No accessory parts of 19" IEC 60297-3 such as card guide KF 160 can be combined in this system.

Mounting racks with integrated sheet metal cover for:

– release lever HG/M IEEE 1101.10
– front panel technology, BUS PCB technology acc. to IEC 60297-3
– card depth 160 or 220 mm

For accessories (additional charge) see pages 220-225.
For additional mounting rack accessories, e.g. part front panels, slot-in front pan-els, cassettes, etc., can be found in our separate "part of the red" catalogue.

Order designation

Model	Order no.	HE	TE	a	b	c	d
BGT/M 5000.Pi/AD-160	85215160	3	20	132.38	101.98	119.88	175.25
BGT/M 6000.Pi/AD-160	85216160	3	30	183.18	152.78	170.68	175.25
BGT/M 7000.Pi/AD-160	85217160	3	49	279.70	249.30	267.20	175.25
BGT/M 5000.Pi/AD-220	85215220	3	20	132.38	101.98	119.88	235.25
BGT/M 6000.Pi/AD-220	85216220	3	30	183.18	152.78	170.68	235.25
BGT/M 7000.Pi/AD-220	85217220	3	49	279.70	249.30	267.20	235.25

Scope of delivery

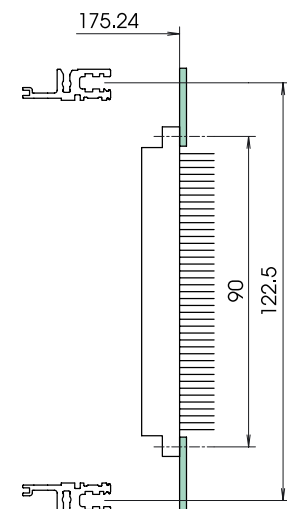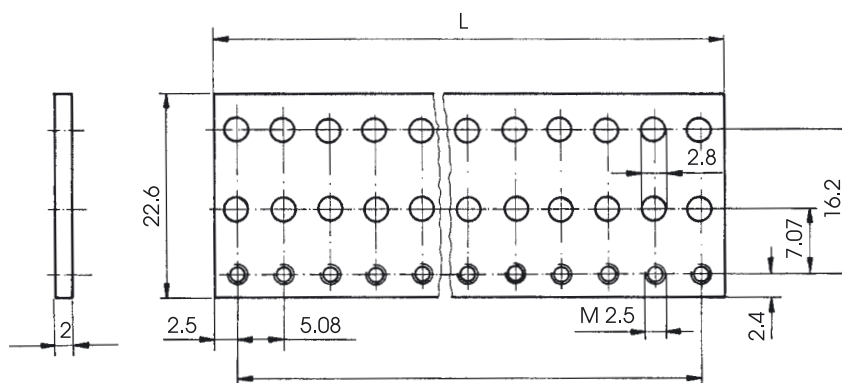|	
Item 1	2 side walls
Item 2	2 sheet metal covers w. integrated front profile (also for use with lever)
Item 3	2 tapped strips
Item 4	2 perforated strips
Item 5	2 flange coverings
Item 6	2 tapped pins for positioning perforated strips and tapped strips
Item 7	Set of screws for fixing the side walls
Item 8	4 screws for fixing in CombiCard 5000 - 7000

Perforated rails for plug-in con-nectors acc. to DIN EN 60603-2
(previously DIN 41612)

Order designation

Model	Order no.	TE	Length	Material
LS/M 00020	86520220	20	101.6	Aluminium, passivated
LS/M 00030	86530220	30	152.4	Aluminium, passivated
LS/M 00049	86549220	49	248.9	Aluminium, passivated

Accessory

Model	Order no.	Quantity	Description
BFS/M 2300	86000230	20 pieces	Fixing material for perforated rails or bus PCBs SHR Z M2.5 x 8-F, nickel-plated steel

Z-2901902
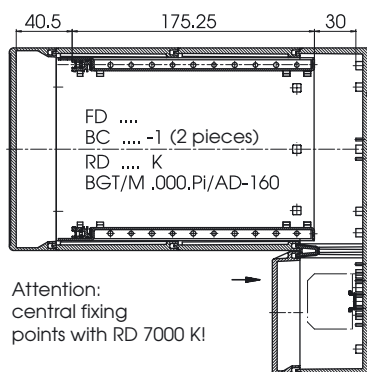
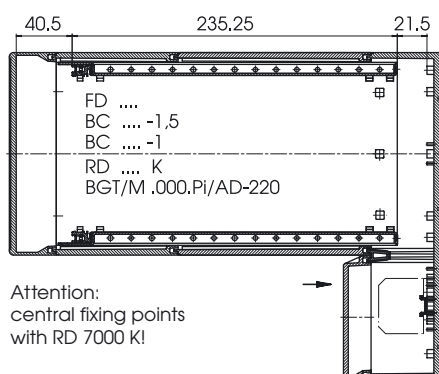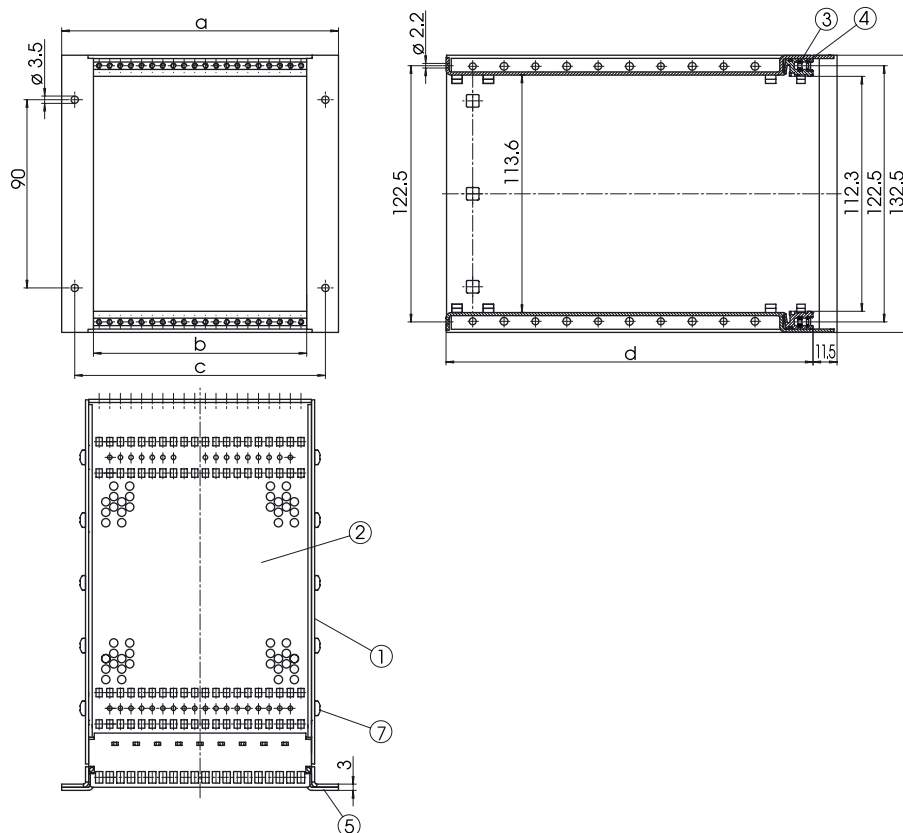*Not suitable for combining with 19" DIN EN 60297-3-101 system parts on pages 214-219.

Examples of use:

FD ....
BC .... -1 (2 pieces)
RD .... K
BGT/M .000.Pi/AD-160

Attention:
central fixing
points with RD 7000 K!

FD ....
BC .... -1,5
BC .... -1
RD .... K
BGT/M .000.Pi/AD-220

Attention:
central fixing points
with RD 7000 K!

Z-2101983 / Z-2101984

Z-2101982

**EMC springs for
front profile/front panel**

Order designation

Model	Order no.	Quantity	TE	Length
EMC spring FP/M 20TE	86001120	10 pcs	20	102
EMC spring FP/M 30TE	86001130	10 pcs	30	153
EMC spring FP/M 49TE	86001149	10 pcs	49	249

Accessories

Model	Order no.	Quantity	Description
MWZ/M-II	86001202	1 piece	Fitting tool II

The contact strip is clipped onto the
profile and forms the contact to the
front panel.
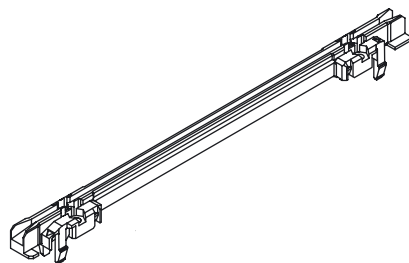The rear of the front panels must
be equipped with a conductive
surface.

Z-2901815

CombiCard 5000-7000 accessories 19" module - IEEE 1101.10*
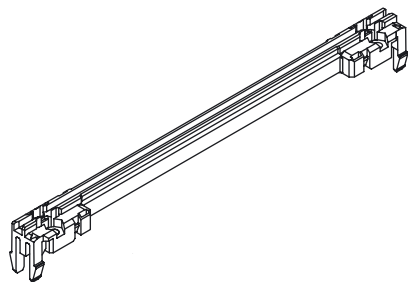
Standard card guides

Z-2901889

Order designation

Model	Order no.	Card depth	Groove	Material	Quantity
KF/M 160	86216010	160	2	PBT UL 94 V-O red	1 piece
KF/M 220	86222010	220	2	PBT UL 94 V-O red	1 piece

This one-piece standard card guide can be extended by the card earthing KE/M.

Accessories (additional charge)

Model	Order no.	Description	Quantity	
KE/M	86022100	Card earthing	20 pcs	see also page 224
BFS/M 0200	86000020	Fixing kit	20 pcs	

Card guides for coding block

Z-2901890

Order designation

Model	Order no.	Card depth	Groove	Material	Quantity
KF/M 160-COB	86021016	160	2	PBT UL 94 V-O red	1 piece
KF/M 220-COB	86021022	220	2	PBT UL 94 V-O red	1 piece

This one-piece card guide is shorter and is required for the use of the coding block and the card securing device.

Accessories (additional charge)

Model	Order no.	Description	Quantity	
KE/M	86022100	Card earthing	20 pcs	see also page 224
BFS/M 0200	86000020	Fixing kit	20 pcs	
KH/M	86022300	Card lever	1 piece	see also page 224
KS/M	86022200	Card securing device	1 piece	see also page 224
COBU/M	86021100	Coding block (lower)	1 piece	see also page 225
COK/M	86021300	Coding pegs	100 pcs	see also page 225

Universal card guides, components

KF/M 1000

KF/M 000-K or
KF/M 000- K-COB
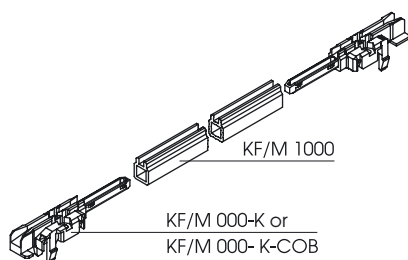
Z-2901891

Order designation

Model	Order no.	Length	Qty.	Material	Description
KF/M 000-K	86020000		1 pair	PBT UL 94 V-O red	End pieces standard
KF/M 000-K-COB	86020100		1 pair	PBT UL 94 V-O red	End pieces for coding block, Card securing dev.
KF/M 1000	86200020	1000	1 piece	Anod. aluminium	Card guide profile

Split card guide with aluminium card guide profile and, as required:
– standard end piece
– end piece for coding block.

Note:
On request, the centre part card guide profile can be cut to the appropriate PCB depth.

End piece standard:
For additional description and notes on accessories, see above under "Standard card guide".

End piece for coding block:
For additional description and notes on accessories, see above under "Card guides for coding block".

*Not suitable for combining with 19" DIN EN 60297-3-101 system parts on pages 214-219.

Table of measurements for all guide rails

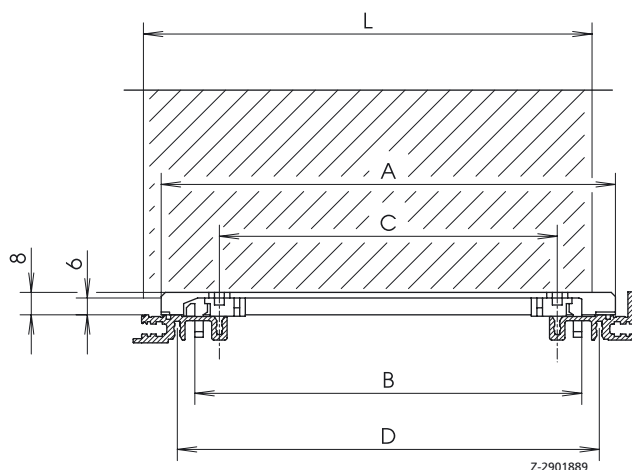| Card depth	A	A*	B	C	D
160	161.5	138	135	120	150
220	221.5	198	195	180	210
280	281.5	258	255	240	270
340	341.5	318	315	300	330
400	401.5	378	375	360	390

A: length of standard rail
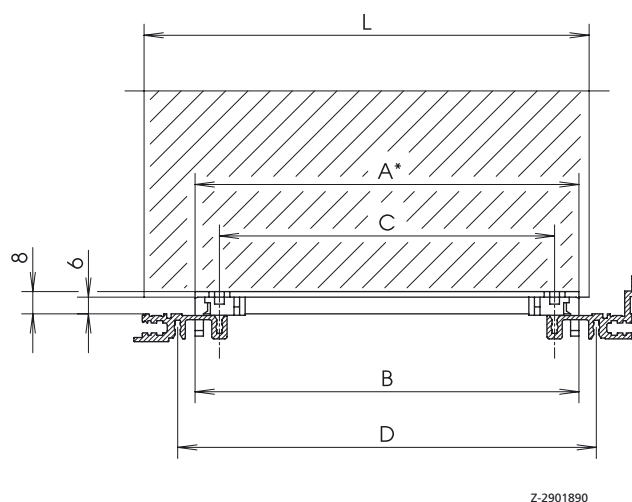A*: length of rail for accessories
B: clearance dimension for snap hooks
C: clearance dimension for guide rail screw holes
D: module rail screw dimension

Standard and universal card guide
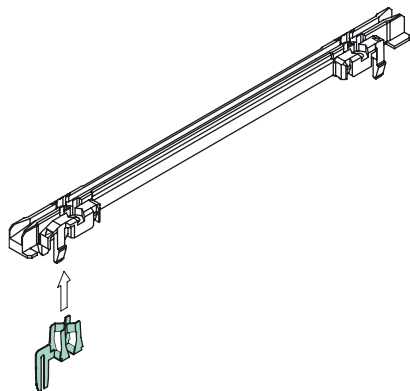

Z-2901889

Card guide for coding block

Z-2901890

Order designation

Model	Order no.	Quantity	Description
BFS/M 2300	86000230	20 pcs	SHR Z M2.5 x 8-F, nickel-plated steel

Fixing kit for screwing of:
  – card guides
  – perforated rails
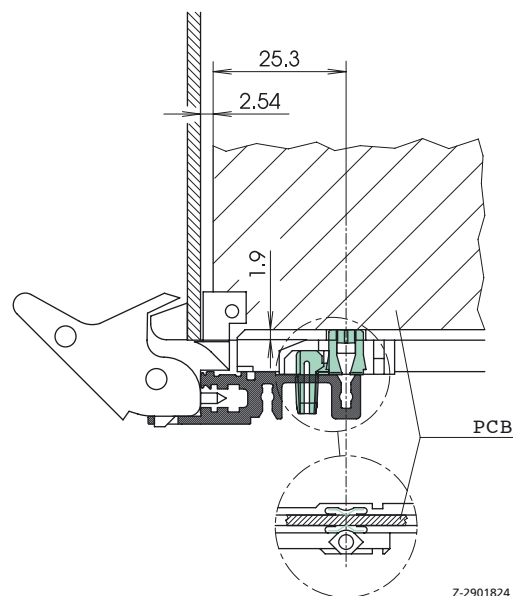 – PCBs

CombiCard 5000-7000 accessories 19" module - IEEE 1101.10*

Card earthing

Z-2901824

Order designation

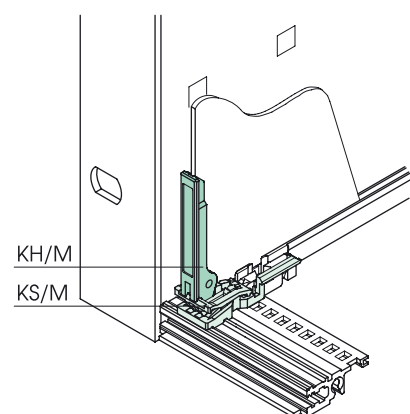| Model	Order no.	Quantity	Material
KE/M	86022100	20 pcs	Tinned steel

The card earthing can be used with all card guide rail types (the front and rear). It ensures a conductive contact between the PCB and the support system.

25.3

2.54

1.9

PCB

Z-2901824

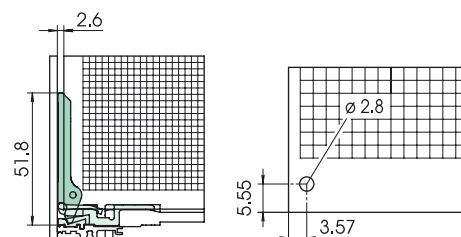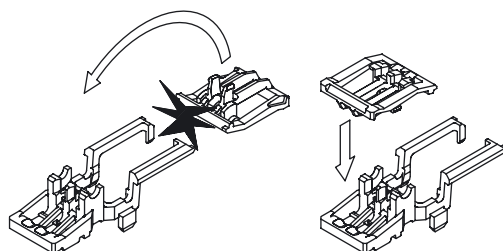## Card lever and card securing device

Order designation

Model	Order no.	Quantity	Material	Description
KH/M	86022300	1 piece	PBT UL 94 V-O red	Card lever
KS/M	86022200	1 piece	PBT UL 94 V-O red	Card securing device

The card lever can only be used in connection with the card securing device. Fitting is possible directly behind the front panel. It can be used on the upper and/or lower profile.

The card lever and the card securing device can also be used at slot 1.
Note:
Can only be used together with guide rail for accessories. Minimum clearance of the guide rail: 3 TE.

KH/M

KS/M

Z-2901892

2.6

51.8

ø 2.8

5.55

3.57

Z-29011892

*Not suitable for combining with 19" DIN EN 60297-3-101 system parts on pages 214-219.

Coding block

Order designation

Model	Order no.	Quantity	Material	Description
COBU/M	86021100	1 piece	PBT UL 94 V-O red	Coding block (lower)

Coding prevents the use of components in slots for which they are not intended. It can only be used with the release lever (IEEE 1101.10). Please send for our separate "part of the red" catalogue.

The coding block is inserted into the profile and placed in front of a card guide (for coding block). The coding pegs can be inserted into this coding block.
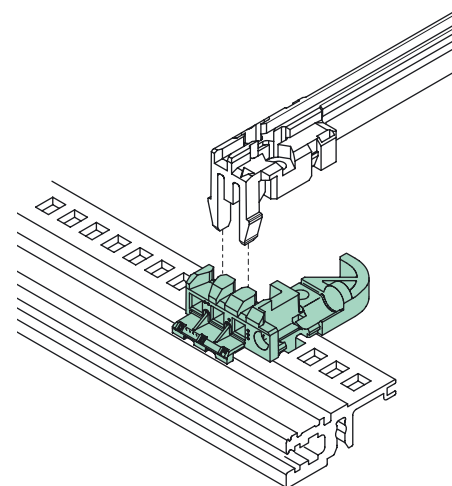
A 3 HE slot-in front panel and 3 coding compartments (only 1 coding block) each with 4 slot-in positions, provide 64 coding possibilities for each card guide.

Note:
Minimum clearance of the guide rail: 4 TE.

For coding on a 3 HE slot-in front panel with release lever you need at least the lower coding block.

Z-2901825

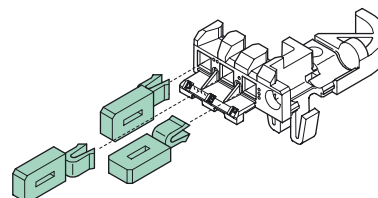---

Coding pegs

Order designation

Model	Order no.	Quantity	Material
COK/M	86021300	100 pcs	PBT UL 94 V-O grey, similar to RAL 7035

Up to 6 coding pegs can be used in the coding block.

Z-2901986

To install your modular components, you also require:

– IEEE 1101.10 release lever
– IEEE 1101.10 part front panel
– part front panels
– slot-in front panels
– cassettes
– swivelling or hinged front panels

Please send for our separate "part of the red" catalogue.

We supply mechanical processing and printing in accordance with your instructions.
We can also offer you membranes or membrane keypads. Further information can be found on page 564 ff.

All dimensions in mm. Please refer to technical data.