

fischer elektronik

to cool to protect to connect



f.case.e 14/15

Cases

19" technology



ISO 9001
ISO 14001
ISO 27001

Test equipment

Alphanumerical product list

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GB 23	N 71	GR D 2	N 70	KO L 2	M 15	PL H 12 UL	N 2
GB 27 3	N 75	GR D 3 ME	N 70	KO LL 2	M 17	PL H 18 UL	N 2
GB 27 3 G	N 75	GR D 4	N 70	KO N 2	M 13	PL H 24 UL	N 2
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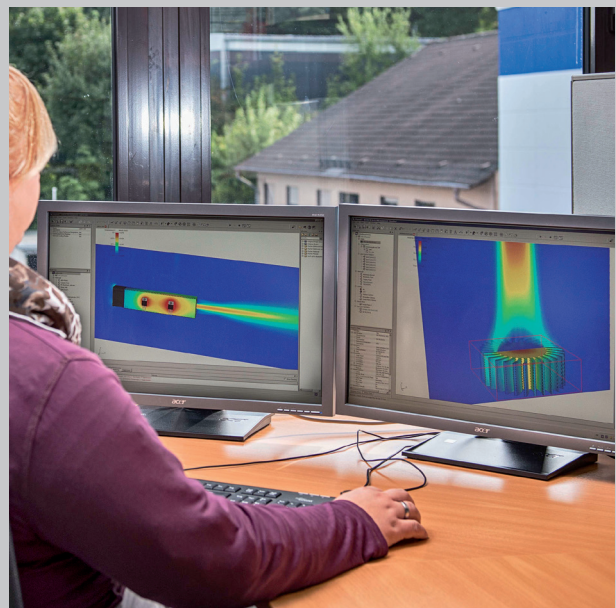
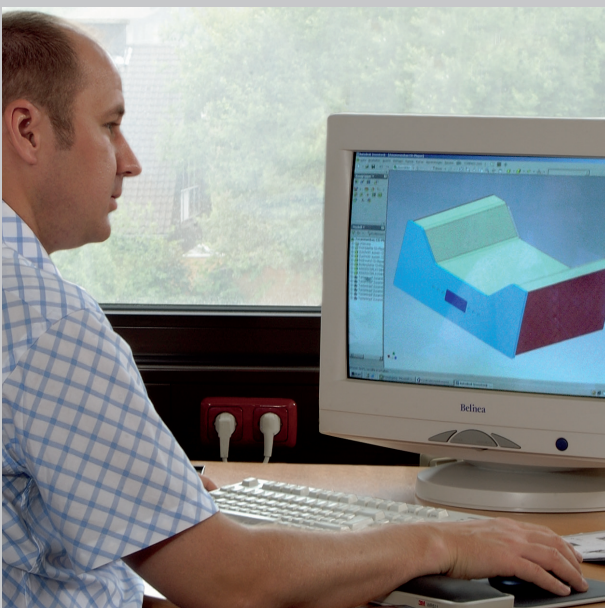
foyer of the company



motivated employees

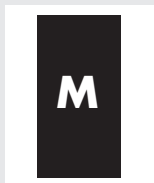


engaged field staff



innovative product development

Explanations – references – printings



... index area:
shows topics/categories

“current”



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SA = black anodised
AL = degreased aluminium
ME = clear anodised
TP = chrome-free transp. passivated



... index area:
shows topics/categories

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... 19" construction 482.6 mm

... height unit 44.45 mm

... width unit 5.08 mm

... insertion depth

... length in mm

Imprinting of cardholders - Your and our time is expensive

An order for imprinting must state the font, the font size and the exact position of the imprint with dimensions, taking due account of countersunk holes etc.. When placing the first order, the company logo must be supplied as a vector file. If these conditions are not complied with, the order for imprinting may have to be turned down, or additional costs will have to be charged.

Compliance with the following criteria ensures smooth handling:

Adobe Illustrator (.ai)

CorelDraw (.cdr)

Macromedia FreeHand (.fh)

QuarkXPress (.qxd)

without half-tone images, fonts transformed into paths or supplied

all fonts enclosed; half-tone images colour-separated (full-tone or scale colours) and with correct resolution (300 dpi colour, black / white 600 dpi), no RGB

All this takes additional time and consequently incurs extra costs. The usability must be checked by our printing shop:

In most cases, Adobe Acrobat (.pdf); screen formats (.jpg, .gif, .png) and paper copies, stickers and the like are not suitable for preparing printer's copies!

Copies that definitely cannot be used:

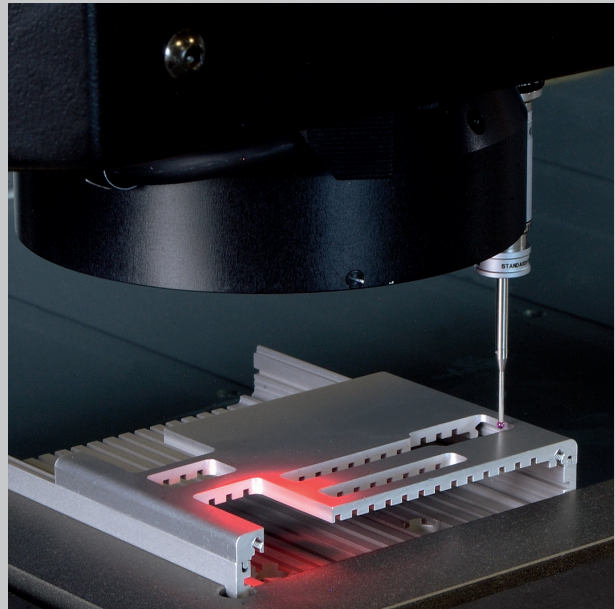
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Please always add dimensional drawings (.dxf) to the parts to be imprinted! Please note as a general rule:

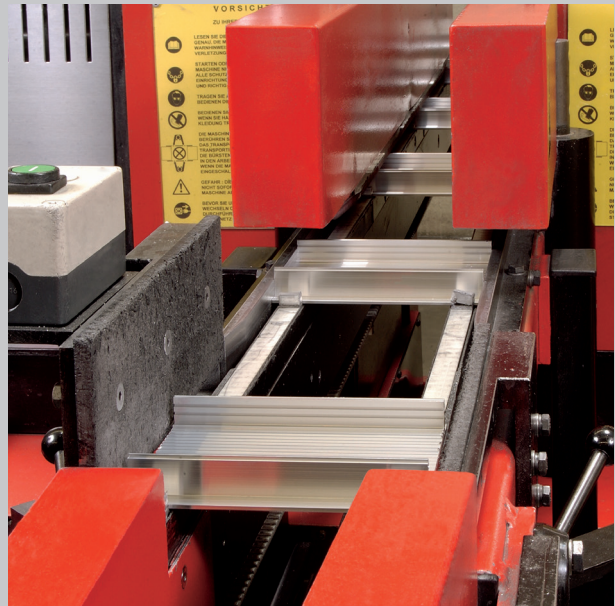
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certified quality management




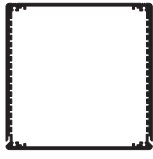
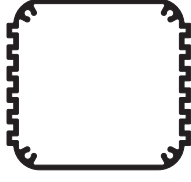
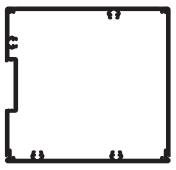









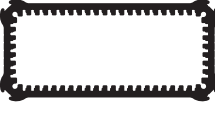

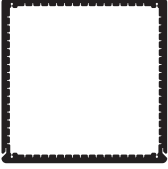


reliable deburring technology







high manufacturing depth




Tube profiles

TUG 03 M 23 	TUG 05 M 23 M 47 	TUG 09 M 23 	TUG 17 M 23 M 47 	GP 211 M 20 	GB 50 M 19 
GP 213 M 21 M 43 	GP 217 M 21 M 43 	GP 214 M 21 M 43 	GP 216 M 22 M 43 	GP 215 M 22 M 43 	GP 218 M 21 M 43 
GP 219 M 21 M 43 	GP 220 M 21 M 43 	GB 87 M 25 M 42 	GB 88 M 25 M 42 	TUG V 09 M 24 	TUG V 17 M 24 








Profiles for cases with slide-in cover panel

GB 81 M 6 	GB 82 M 6 	GB 83 M 6 	GB 84 M 6 
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Profiles for design case „Frame“ with integrated heatsink

GB 89 M 44 	GB 90 M 44 	GB 91 M 44 
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Side panel profiles

GB 36 M 9 	GB 38 M 9 	GB 76 M 7 M 45 	GB 77 M 7 M 45 	GB 78 M 7 M 45 	GB 79 M 7 M 45 
G 118 M 35 					







Profiles for subracks

GB 29 N 15 N 30 N 74 	GB 30 N 15 N 30 N 74 	GB 31 N 74 	GB 32 N 74 	GB 33 N 74 	GB 34 N 74 
GB 5 N 74 	GB 20 N 74 	GB 27 N 75 	GB 35 N 15 N 73 	GB 37 N 75 	






Profiles for part front panels

GL 7 N 60 N 76 	GB 14 N 76 
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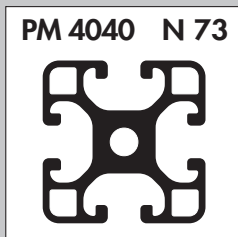
Profiles for 19" plug-in boxes

GB 18 N 6 N 71 	GB 19 N 6 N 71 	GB 21 N 71 	GB 22 N 8 N 71 	GB 23 N 8 N 10 N 71 	GB 52 M 4 
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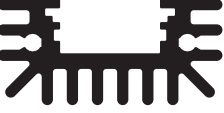
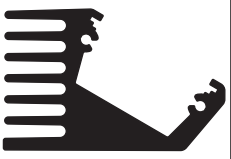
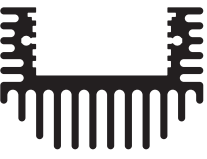
Profiles for 19" front panels

GB 28 N 7 N 10 N 72	GB 40 N 7 N 72	GB 41 N 7 N 72	GB 54 N 7 N 72	GB 55 N 7 N 72
				
















Profiles for mechanical engineering



Profiles for case with cooling fins

GB 56 M 32	KRH 6 M 36	KOS 5 M 36	GB 53 M 37 N 73	SK 61 M 34
				
SK LED 1 M 38	SK LED 2 M 38	SK LED 3 M 38		
				

Profiles for insert modules

<p>GP 190 N 39 N 77</p> 	<p>GP 191 N 36 N 77</p> 	<p>GP 192 N 36 N 37 N 77</p> 	<p>GP 193 N 37 N 38 N 77</p> 	<p>GP 195 N 41 N 42 N 80</p> 	<p>GP 196 N 41 N 80</p> 
<p>GP 197 N 42 N 43 N 80</p> 	<p>GP 199 N 48 N 76</p> 	<p>GP 200 N 38 N 78</p> 	<p>GP 201 N 38 N 78</p> 	<p>GP 202 N 38 N 78</p> 	<p>GP 206 N 40 N 79</p> 
<p>GP 207 N 40 N 79</p> 	<p>GP 208 N 40 N 79</p> 	<p>GP 209 N 40 N 79</p> 			



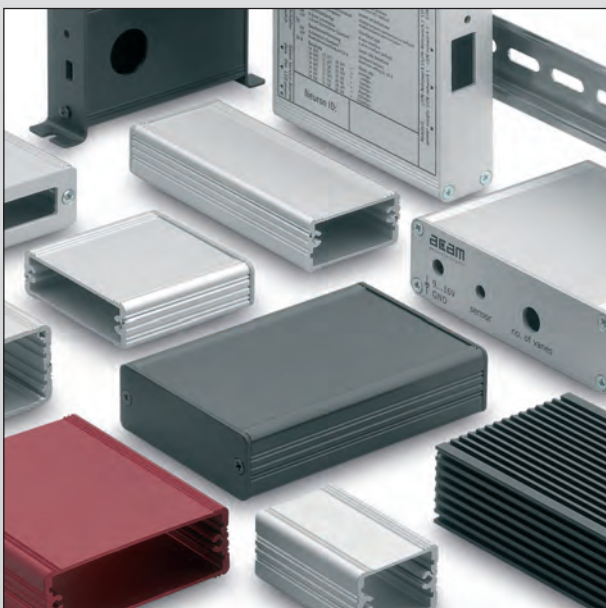
Desk consoles and shell cases

- wide product range of flexible designed desk consoles and shell cases made of aluminium
- for non-standardised components, printed circuit boards and components
- with integrated guide slots in grid spacing 1 HP
- customised front panel printings
- special dimensions, machinings and surface treatments acc. to your demand



Combination- and tube cases

- for all common Eurocard formats with various combination possibilities
- use like bench case or for fastening of mounting rails
- wall or ceiling mounting by permanently installed fixing mounting brackets
- suitable version for EMC by means of electrical conductive surfaces and seals
- EMC compliant design by electrical conductive surfaces and sealings



Miniature aluminium cases

- case as tube or half shell profile with spring and groove
- with integrated cooling fins
- integrated guide slots for carrying PCB or mounting plates
- D-Sub connectors can be mounted without front panel
- cut outs, special lengths and surface treatments according to customer's request

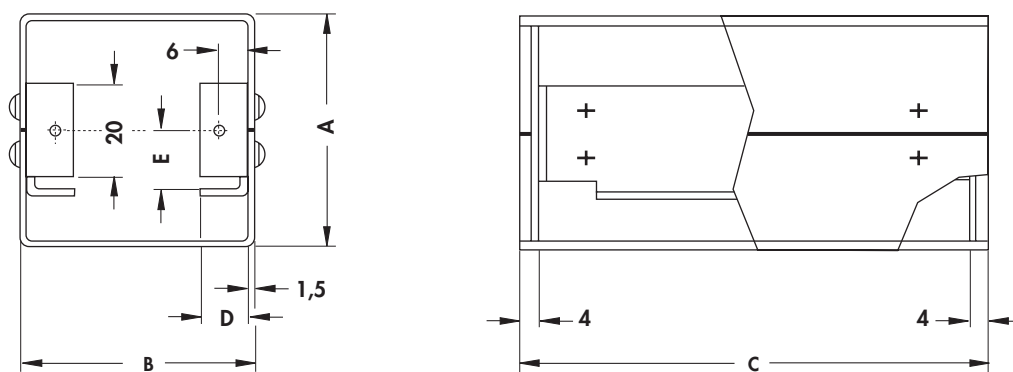


Cooling cases

- solid cooling cases made of aluminium
- excellent thermal efficiency by means of integrated cooling fins
- inner guide rail for application of 100 mm Eurocards or non standardised components
- additional machinings, modifications and surface treatments for your particular specifications

Shell cases


- completely made of aluminium
- material thickness 1.5 mm on all sides
- shell panels lacquered black (**RAL 9005**), cover panels clear anodised
- special dimensions, treatments and surfaces on request
- supplied as a demounted kit including cover panels and mounting material



art. no.	dim. [mm]				
	A	B	C	E	D
SG 202 S	25	75	75	—	—
SG 203 S	25	100	75	—	—
SG 205 S	25	75	100	—	—
SG 206 S	25	100	100	—	—
SG 209 S	50	150	100	12.5	10
SG 215 S	75	150	150	25.0	10
SG 216 S	75	200	150	25.0	10

Extruded assembled cases
Desk consoles
Euro case
Cooling case

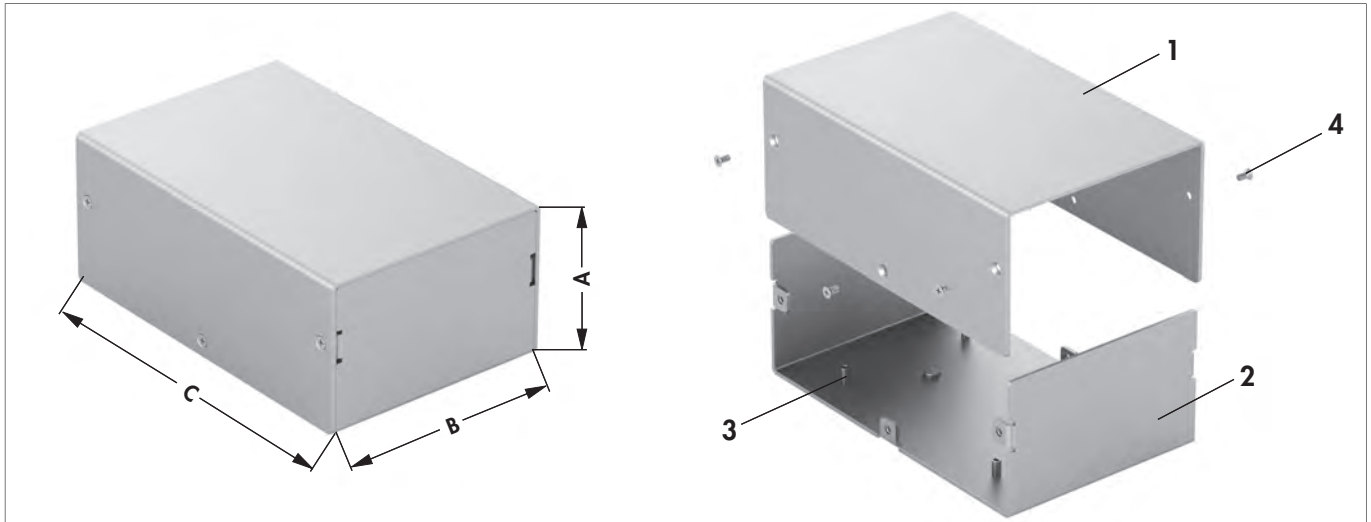
→ **M 5 – 7**
 → **M 8**
 → **M 9**
 → **M 35 – 39**

Combination cases
Tube cases
Miniature aluminium case
Design case

→ **M 11 – 17**
 → **M 21 – 25**
 → **M 27 – 33**
 → **M 42 – 47**

M 2

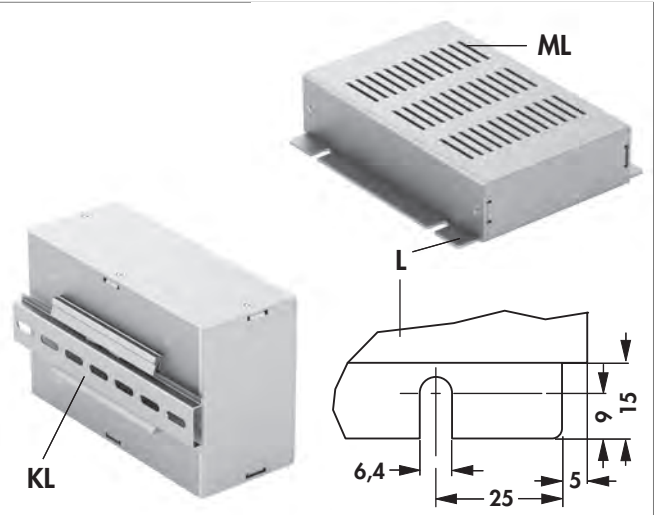
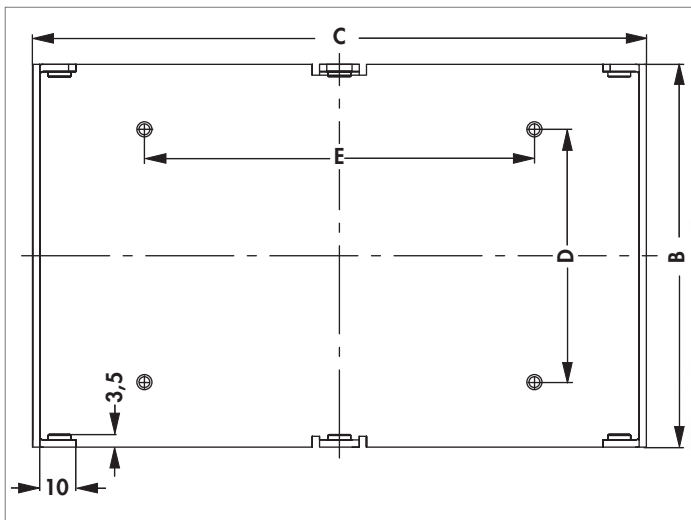
Shell cases variable



Contents of delivery:

1 = upper shell; **2** = lower shell; **3** = 4 x M3-thread nut steel, zinc-plated for PCB mounting; **4** = mounting material

- universal shell case with variable dimensions
- easy and fast mounting
- insertion of non-standardised PCBs and devices
- material thickness of the half shells 2 mm, other material thicknesses on request
- special treatments, surfaces and labelings acc. to customer specifications



possible dimensions:

art. no.	dim. [mm]					
	A	B	C	D	E	thread sleeve height
SGV ...	max. 150	max. 250	max. 300	max. 238	max. 286	6/8/10/12/14/20

please indicate with your order:

art. no.	dim. [mm]					
	A	B	C	D	E	thread sleeve height
SGV ...						

please indicate:

... surface

- SA = black anodised
- ME = natural colour anodised
- TP = transparent passivated

... fixing of mounting rail (optional)

- KL = fixing of mounting rail

... fixing tab (optional)

- L = fixing tab

... ventilation slots (optional)

- ML = ventilation slots

M 3

Extruded assembled cases
Desk consoles
Euro case
Cooling case

→ M 5 - 7
→ M 8
→ M 9
→ M 35 - 39

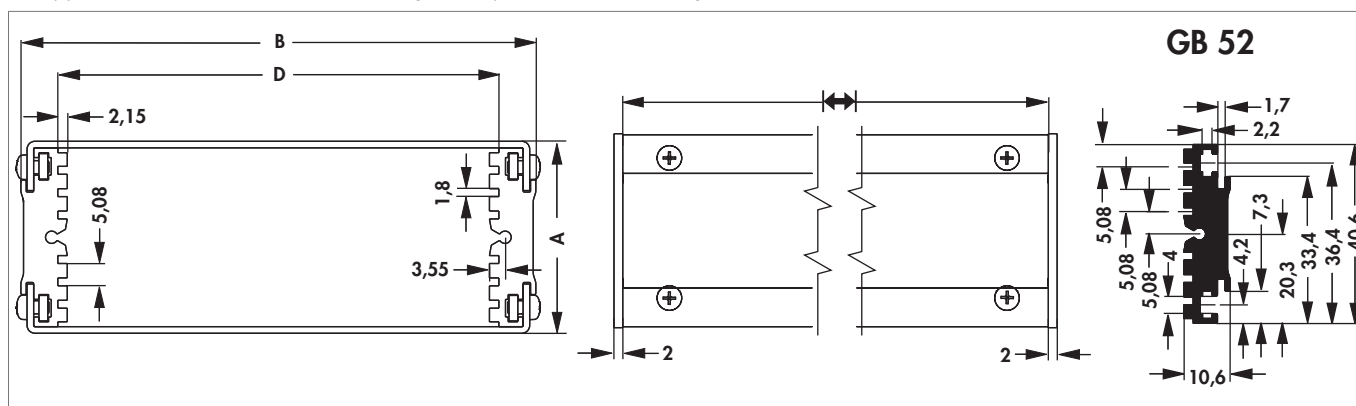
Combination cases
Tube cases
Miniature aluminium case
Design case

→ M 11 - 17
→ M 21 - 25
→ M 27 - 33
→ M 42 - 47

Shell cases with side panel profile



- flexible shell case for different dimensions
- side panel profile with integrated guide slots in 5.08 mm grid spacing (1 HP)
- for insertion of non-standard components or printed circuit boards
- outer shell texture lacquered
- cover panels and side panel profiles clear anodised
- special dimensions, drillings and surface treatments upon request
- supplied as a demounted kit, including cover panels and mounting material



art. no.	dim. [mm]				
		A	B	D	U
SGP 101 ...	160	43.6	117.2	100.3	1
SGP 103 ...	100	43.6	250.6	233.7	1
SGP 105 ...	220	43.6	250.6	233.7	1
SGP 201 ...	160	84.3	117.2	100.3	2
SGP 204 ...	160	84.3	250.6	233.7	2
SGP 205 ...	220	84.3	250.6	233.7	2

please indicate: ... colour of the half shells
SA = black anodised
LG = light grey (RAL 7035)

Profile in metre lengths → M 10

Extruded assembled cases
Desk consoles
Euro case
Cooling case

→ M 5 - 7
 → M 8
 → M 9
 → M 35 - 39

Combination cases
Tube cases
Miniature aluminium case
Design case

→ M 11 - 17
 → M 21 - 25
 → M 27 - 33
 → M 42 - 47

M 4

A

B

C

D

E

F

G

H

I

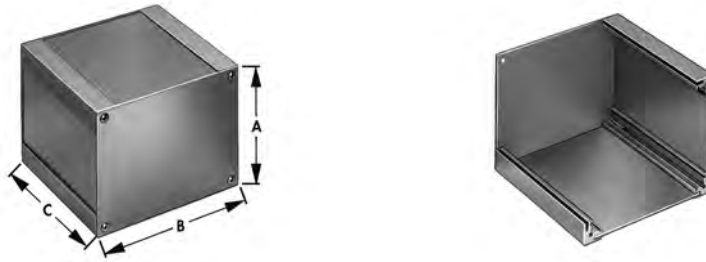
K

L

M

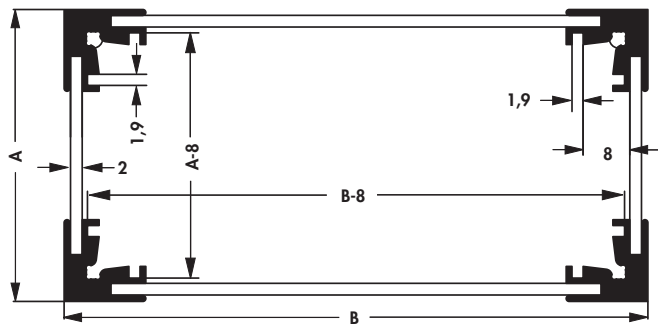
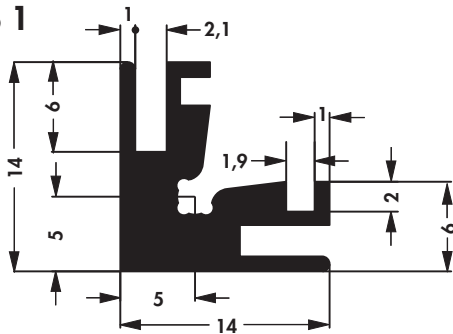
N

Extruded assembled cases



- the profiles have internal guide slots for insertion of PCBs or similar components
- supplied as a demounted kit, incl. cover panels and mounting material
- **assembly time:** 1-2 minutes
- **material:** aluminium profile and sheet (thickness 2 mm)
- special dimensions, drillings and surface treatments upon request

GB 1



art. no.	for Eurocards [mm]	dim. [mm]		
		A	B	C
G 100 ...	—	50	100	154.0
G 101 ...	—	60	100	104.0
G 102 ...	—	60	100	154.0
G 103 ...	—	70	100	154.0
G 104 ...	—	80	100	104.0
G 105 ...	—	80	100	154.0
G 106 ...	—	100	100	204.0
G 107 ...	—	100	200	204.0
G 108 ...	—	100	200	304.0
G 109 ...	—	100	300	204.0
G 110 ...	—	100	300	404.0
G 111 ...	—	150	200	304.0
G 112 ...	—	150	300	404.0
G 113 ...	—	80	200	304.0
G 114 ...	—	80	200	204.0
G 115 ...	160 x 100	60	168	108.0
G 116 ...	100 x 160	80	108	168.0
G 117 ...	160 x 233.5	80	168	241.5

please indicate: ... surface
SA = black anodised
ME = natural colour anodised

Profile in metre lengths → M 10

M 5

Shell cases
 Desk consoles
 Euro case
 Combination cases

→ M 2 - 4
 → M 8
 → M 9
 → M 11 - 17

Design case
 Tube cases
 Miniature aluminium case
 Cooling case

→ M 42 - 47
 → M 21 - 25
 → M 27 - 33
 → M 35 - 39

Case with slide-in cover panel



- versatile usable case with integrated guide slot for inserting non standardized components or PCBs
- slide-in cover panel in various metal sheet thicknesses: 1.5/2 mm (**GB 81 - 83**); 2/2.5 mm (**GB 84**)
- integration possibility for front foils or foil keypads
- special dimensions, treatments and surfaces possible according to your demand

art. no.	GB 81	
GD 82 34 ...		
art. no.	GB 82	
GD 105 44 ...		
art. no.	GB 83	
GD 135 38 ...		
art. no.	GB 84	
GD 165 59 ...		
please indicate:	... 100 120 160 200 220 234 mm	... surface SA = black anodised ME = natural colour anodised

Profile in metre lengths → M 10

Shell cases
Desk consoles
Euro case
Combination cases

→ M 2 - 4
→ M 8
→ M 9
→ M 11 - 17

Design case
Tube cases
Miniature aluminium case
Cooling case

→ M 42 - 47
→ M 21 - 25
→ M 27 - 33
→ M 35 - 39

M 6

A

B

C

D

E

F

G

H

I

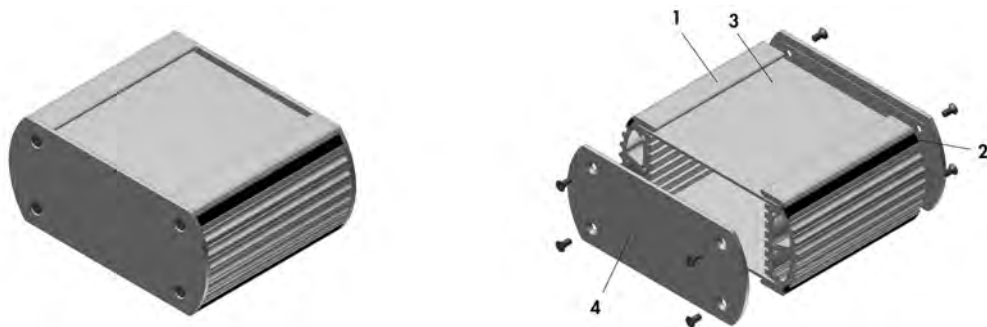
K

L

M

N

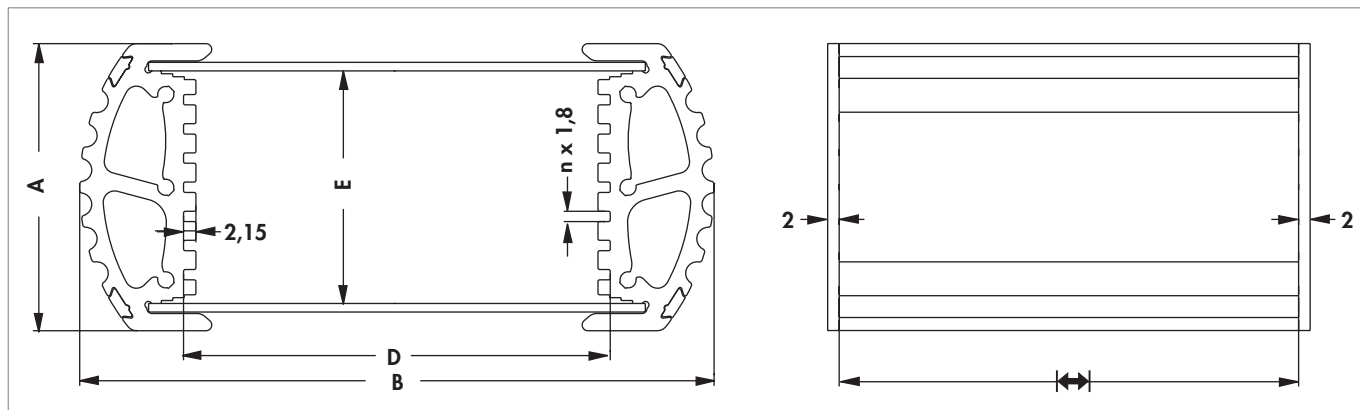
Extruded assembled cases



Scope of supply:

1 = 2 x side panel profile (**GB 76** for **GV 35 ...**, **GB 77** for **GV 50 ...**, **GB 78** for **GV 60 ...**, **GB 79** for **GV 70 ...**);
2 = 4 x side panel rail (**RAL 3000**); **3** = 2 x cover plate (1.5 mm); **4** = 2 x cover panel (2 mm); mounting material

- variable case by utilization of aluminium sheets and extruded profiles in four different heights
- integrated guide grooves in the side panel profile for receiving PCBs
- the cover plates can be varied by 1.5-3mm
- other plate thicknesses, special productions, treatments and modifications according to your demands
- further case widths and lengths on demand



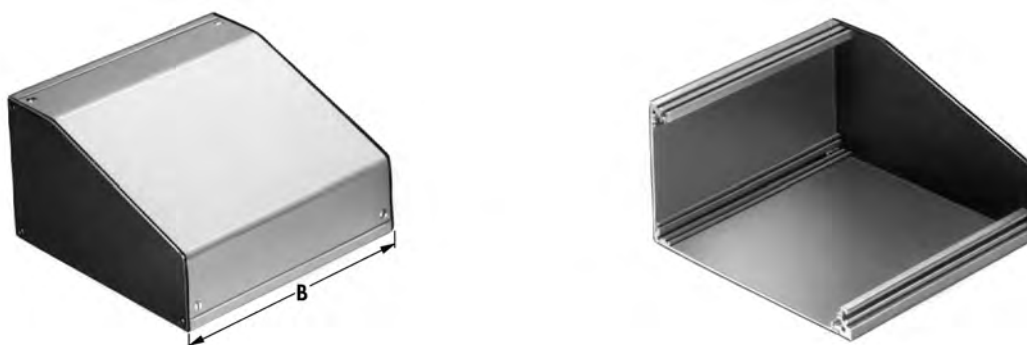
art. no.	dim. [mm]					art. no.	dim. [mm]				
	A	B	E	D	n		A	B	E	D	n
GV 35 51 ...	35	84.2	25.5	51.0	4	GV 60 85 ...	60	123.2	50.5	85.0	9
GV 35 67 ...	35	100.5	25.5	67.3	4	GV 60 100 ...	60	138.5	50.5	100.3	9
GV 35 85 ...	35	118.2	25.5	85.0	4	GV 60 116 ...	60	154.2	50.5	116.0	9
GV 35 100 ...	35	133.5	25.5	100.3	4	GV 60 130 ...	60	168.2	50.5	130.0	9
GV 35 116 ...	35	149.2	25.5	116.0	4	GV 60 160 ...	60	198.5	50.5	160.3	9
GV 35 130 ...	35	163.2	25.5	130.0	4	GV 60 200 ...	60	238.2	50.5	200.0	9
GV 35 160 ...	35	193.5	25.5	160.3	4	GV 60 233 ...	60	271.6	50.5	233.4	9
GV 50 85 ...	50	121.2	40.5	85.0	7	GV 70 85 ...	70	125.2	60.5	85.0	11
GV 50 100 ...	50	136.5	40.5	100.3	7	GV 70 100 ...	70	140.5	60.5	100.3	11
GV 50 116 ...	50	152.2	40.5	116.0	7	GV 70 116 ...	70	156.2	60.5	116.0	11
GV 50 130 ...	50	166.2	40.5	130.0	7	GV 70 130 ...	70	170.2	60.5	130.0	11
GV 50 160 ...	50	196.5	40.5	160.3	7	GV 70 160 ...	70	200.5	60.5	160.3	11
GV 50 200 ...	50	236.2	40.5	200.0	7	GV 70 200 ...	70	240.2	60.5	200.0	11
GV 50 233 ...	50	269.6	40.5	233.4	7	GV 70 233 ...	70	273.6	60.5	233.4	11

please indicate: ... $\leftarrow \rightarrow$ 85 100 120 160 200 220 mm

... surface
SA = black anodised
ME = natural colour anodised

Profile in metre lengths → M 10

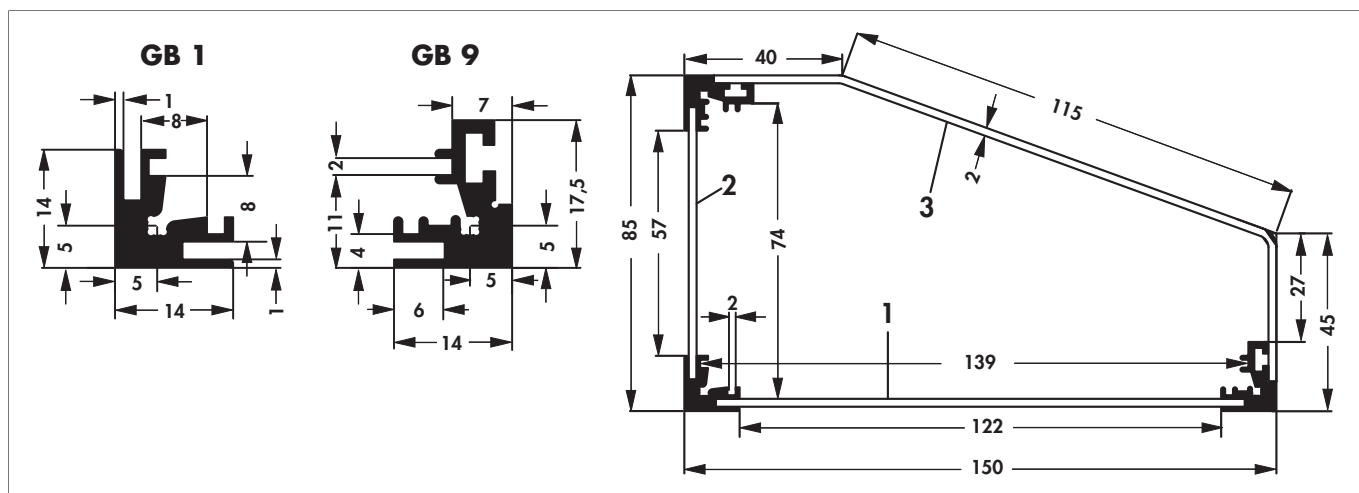
Desk consoles



- the profiles have internal guide slots for inserting the PCBs or similar components
- supplied as demounted kit incl. cover plates and mounting material
- **assembly time:** 1-2 minutes
- **material:** aluminium profile and sheet (thickness 2 mm)
- special dimensions, drillings and surface treatments upon request

contents of delivery:

- bottom panel clear anodised (1)
- rear panel clear anodised (2)
- front panel clear anodised (3)
- 2 side panels black anodised
- 2 struts extrusion with guide slots and T-grooves for M 3
- 1 strut corner extrusion, screws, nuts



art. no.	dim. [mm]	
	B	
PG 150 SME	150	
PG 200 SME	200	
PG 250 SME	250	
PG 300 SME	300	

Profile in metre lengths → M 10

Shell cases

Extruded assembled cases

Euro case

Combination cases

→ M 2 - 4

→ M 5 - 7

→ M 9

→ M 11 - 17

Tube cases

Miniature aluminium case

Cooling case

Design case

→ M 21 - 25

→ M 27 - 33

→ M 35 - 39

→ M 42 - 47

M 8

A

B

C

D

E

F

G

H

I

K

L

M

N

Euro cases

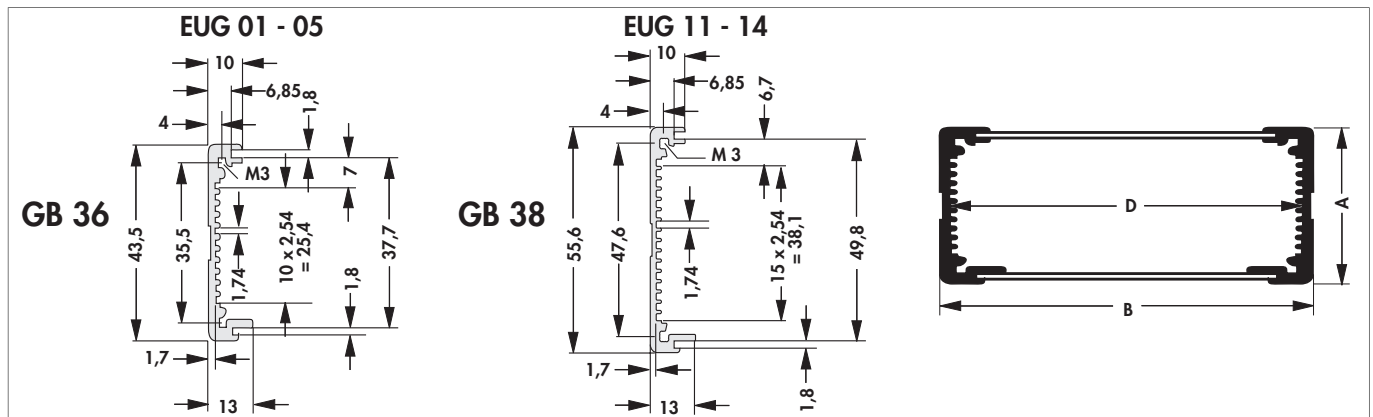


EUG 01 - 04
EUG 11 - 14



EUG 05

- aluminium profile with internal guide rails for inserting PCBs or other component combinations
- supplied as demounted kit, incl. 1.5 mm cover panels and mounting material
- special dimensions, drillings and surface treatments upon request



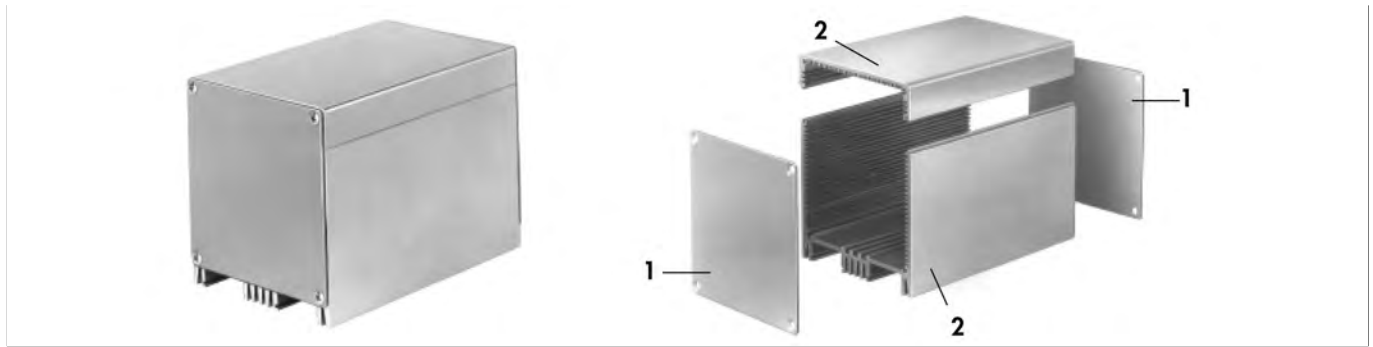
art. no.	for Eurocards [mm]	H	dim. [mm]			
			A	B	D	U
EUG 01	100 x 160	160	43.5	104.0	100.0	1.00
EUG 02	100 x 220	220	43.5	104.0	100.0	1.00
EUG 03	233.4 x 160	160	43.5	237.4	233.4	1.00
EUG 04	233.4 x 220	220	43.5	237.4	233.4	1.00
EUG 05	116 x 152 (3,5")	152	43.5	120.0	116.0	1.00
EUG 11	100 x 160	160	55.6	104.0	100.0	1.25
EUG 12	100 x 220	220	55.6	104.0	100.0	1.25
EUG 13	233.4 x 160	160	55.6	237.4	233.4	1.25
EUG 14	233.4 x 220	220	55.6	237.4	233.4	1.25
surface:		natural colour anodised				

Profile in metre lengths → M 10

Profile in meter lengths

art. no.	dim. [mm] lengths	suitable for	page
GB 1 1000 ...	1000	G ... PG ... SME	5 8
GB 9 1000 ...	1000	PG ... SME	8
GB 36 1000 ...	1000	EUG ...	9
GB 38 1000 ...	1000	EUG ...	9
GB 52 1000 ...	1000	SGP ...	4
GB 76 1000 ...	1000	GV ...	7
GB 77 1000 ...	1000	GV ...	7
GB 78 1000 ...	1000	GV ...	7
GB 79 1000 ...	1000	GV ...	7
GB 81 1000 ...	1000	GD 82 34 ...	6
GB 82 1000 ...	1000	GD 105 44 ...	6
GB 83 1000 ...	1000	GD 135 38 ...	6
GB 84 1000 ...	1000	GD 165 59 ...	6
please indicate:	... surface SA = black anodised ME = natural colour anodised		

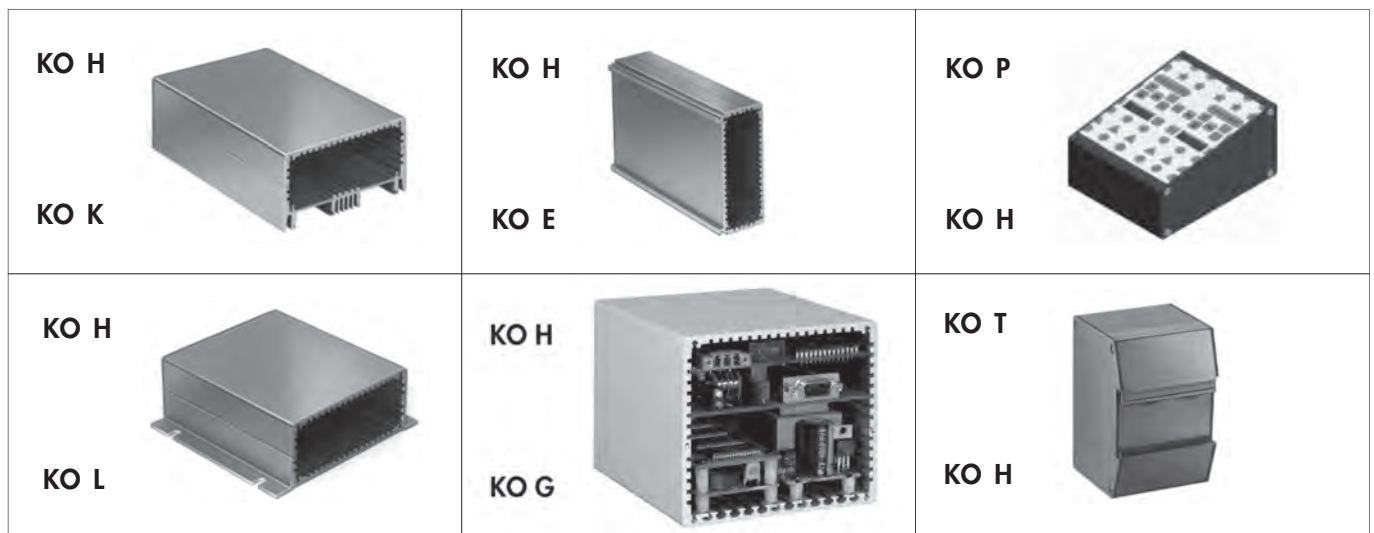
Combination cases



1 cover plate; **2** aluminium profile

- case for 100 mm Eurocards with various combination possibilities
- integrated guide slots in 5,08 mm grid spacing (1 HP)
- suitable version for EMC by means of electrical conductive surface treatments (**TP**) and additional conductive seals (protection class IP 54 achievable) **EDKO** → M 49
- the **KO** series profiles can be combined with each other as well as with profiles of module design **HB**
- profile **KO T** for 35 mm DIN-mounting rail

Examples of KO-cases



profile versions:

- KO H** = cover
- KO E** = 19" insert module
- KO K** = cooling fins
- KO L** = screw strap
- KO W** = cooling case
- KO N** = slot for sliding nut M 4
- KO T** = with integrated fixing clamp for 35 mm DIN-mounting rail
- KO P** = desk cover with the possibility to integrate front foils or foil keyboards
- KO F** = with THFU mounting possibility
- KO R** = fin cover
- KO G** = threaded rails, square nut

M 11

Tube cases
Order example KO H-Profile
Cooling case
Miniature aluminium case

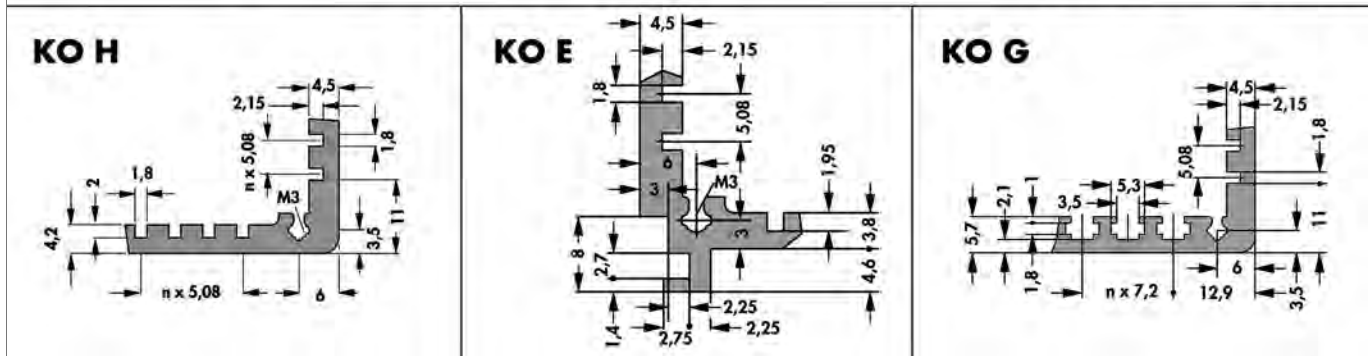
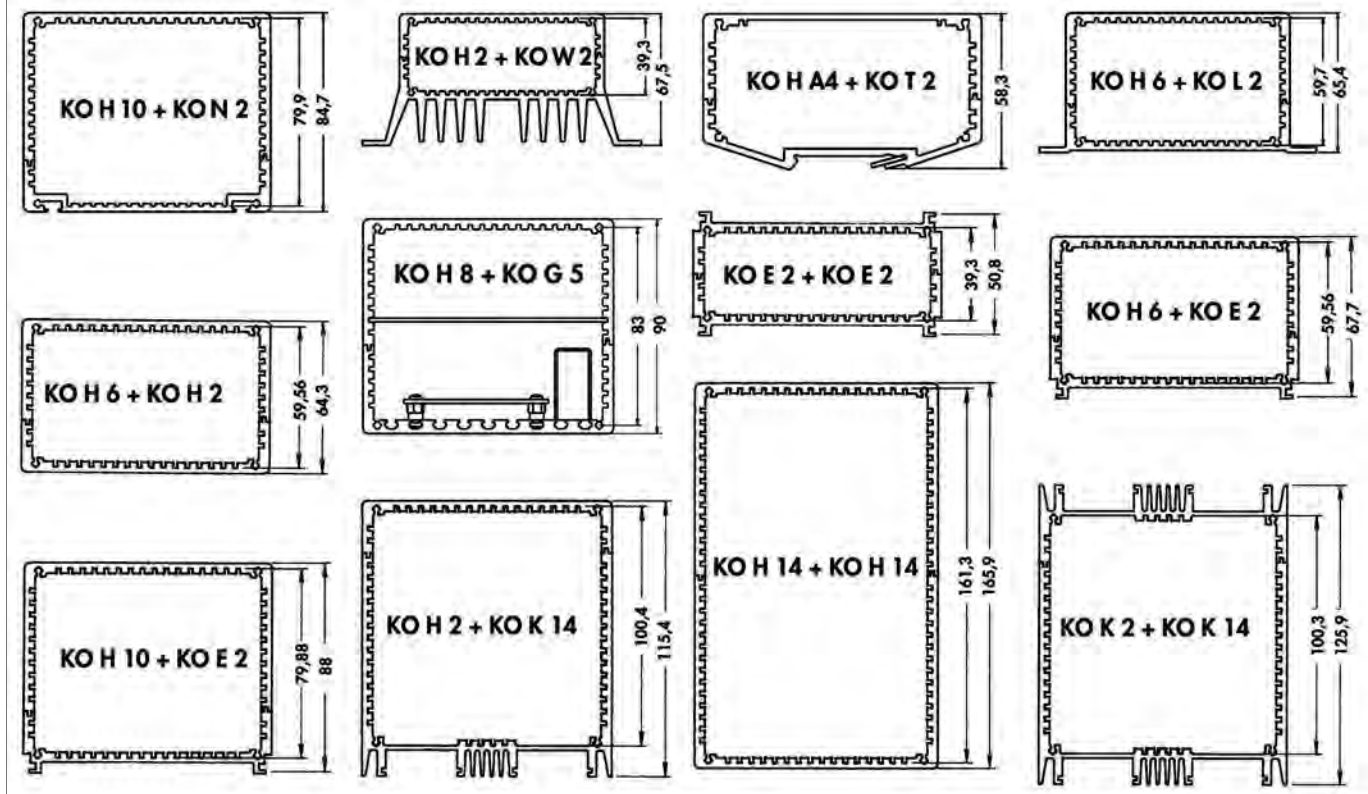
→ **M 21 – 25**
 → **M 12**
 → **M 35 – 36**
 → **M 27 – 33**

Design case Secco
Design case Frame
Design case Chac
Design case Eurotainer

→ **M 42**
 → **M 43 – 44**
 → **M 45**
 → **M 46**

Combination cases

Complete cases / Combination possibilities



Order example

KO K 2	KO H 10	160	MS
first profile	second profile	available lengths (internal dimension): 100, 120, 160, 200, 220, 234 mm	requested surface finish: SA = complete case black anodised ME = complete case clear anodised MS = case profile black anodised, cover panels clear anodised TP = complete case chrome-free transparent passivated
further surfaces upon request			
please order cover plates separately			

Combination cases

<p align="center">art. no.</p> <p align="center">KO H 0</p>	<p align="center">art. no.</p> <p align="center">KO H 1</p>
<p align="center">art. no.</p> <p align="center">KO N 2</p>	<p align="center">art. no.</p> <p align="center">KO H 2</p>
<p align="center">art. no.</p> <p align="center">KO E 2</p>	<p align="center">art. no.</p> <p align="center">KO T 2</p>
<p align="center">art. no.</p> <p align="center">KO T 3</p>	<p align="center">art. no.</p> <p align="center">KO R 2</p>
<p align="center">art. no.</p> <p align="center">KO H 4 A</p>	<p align="center">art. no.</p> <p align="center">KO K 2</p>

* slide nut SM 4 fitting to KO N ...

Profile in metre lengths → M 18

M 13

Tube cases
Order example KO H-Profile
Cooling case
Miniature aluminium case

→ M 21 - 25
→ M 12
→ M 35 - 36
→ M 27 - 33

Design case Secco
Design case Frame
Design case Chac
Design case Eurotainer

→ M 42
→ M 43 - 44
→ M 45
→ M 46

	<p>BFSLP</p>
<p>art. no.</p>	<p>art. no.</p>
<p>KO P 2</p>	<p>KO G 5</p>
<p>art. no.</p>	<p>art. no.</p>
<p>KO H 6</p>	<p>KO H 7</p>
<p>art. no.</p>	<p>art. no.</p>
<p>KO F 3</p>	<p>KO H 8</p>
<p>art. no.</p>	<p>art. no.</p>
<p>KO H 10</p>	<p>KO H 14</p>

* mounting set **BFSLP** suitable for **KO G 5**

Profile in metre lengths → M 18

Order example **KO H-Profile**
Tube cases
Miniature aluminium case
Cooling case

→ M 12
 → M 21 – 25
 → M 27 – 33
 → M 35 – 39

Design case Secco
Design case Chac
Design case Frame
Design case Eurotainer

→ M 42
 → M 45
 → M 43 – 44
 → M 46

M 14

A

B

C

D

E

F

G

H

I

K

L

M

N

Combination cases

art. no.	art. no.
KO E 14	KO K 14
art. no.	
KO W 2	
art. no.	art. no.
KO L 1	KO L 2
art. no.	art. no.
BFSLP	SM 4

* fixing slots KO L 1, KO L 2

Profile in metre lengths → M 18

M 15

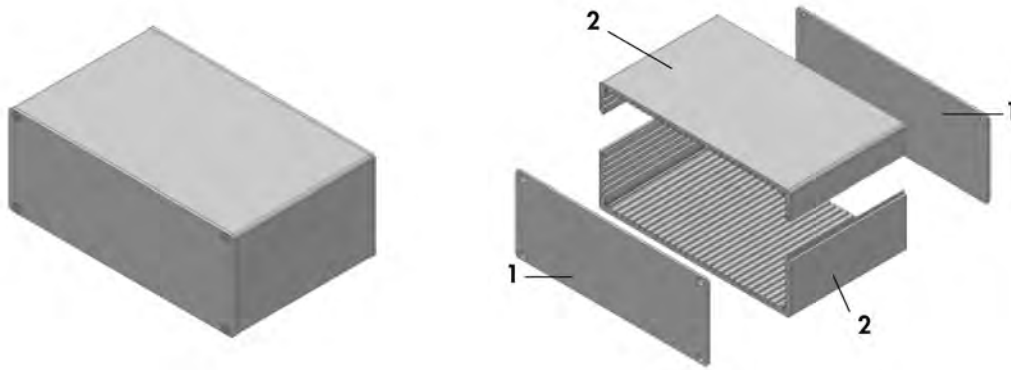
Order example KO H-Profile
 Tube cases
 Cooling case
 Miniature aluminium case

→ M 12
 → M 21 – 25
 → M 35 – 39
 → M 27 – 33

Design case Secco
 Design case Frame
 Design case Chac
 Design case Eurotainer

→ M 42
 → M 43 – 44
 → M 45
 → M 46

Combination cases



1 = cover plate 2 mm; 2 = aluminium profile

- case for 160 mm Eurocards with various combination possibilities
- integrated guide slots in 5.08 mm grid spacing (1 HP), 2 mm standard cover panels
- EMC compatible version by means of electrical conductive surfaces (TP) and additional conductive seals (results also in proof specification IP 52) **EDKOL** → M 50
- EMC and IP 52 can only be achieved in combination with 3 mm thick cover plates

art. no.	art. no.
KO HL 0	KO HL 1
art. no.	art. no.
KO HL 2	KO HL 4
art. no.	art. no.
KO HL 6	KO HL 10

Profile in metre lengths → M 18

Design case Secco
Design case Eurotainer
Design case Chac
Design case Frame

→ M 42
→ M 46
→ M 45
→ M 43 - 44

Order example KO H-Profile
Tube cases
Miniature aluminium case
Cooling case

→ M 12
→ M 21 - 25
→ M 27 - 33
→ M 35 - 39

M 16

A

B

C

D

E

F

G

H

I

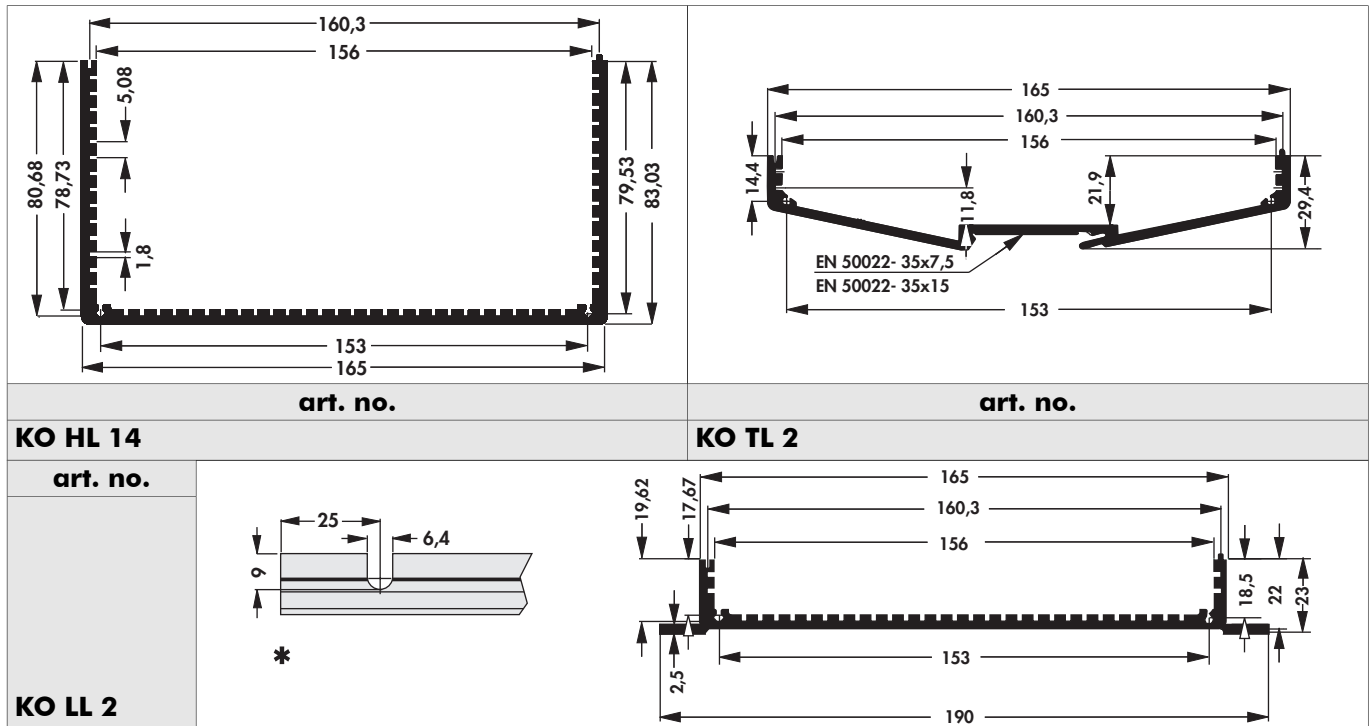
K

L

M

N

Combination cases



* fixing slot KO LL 2

Profile in metre lengths → M 18

Order example

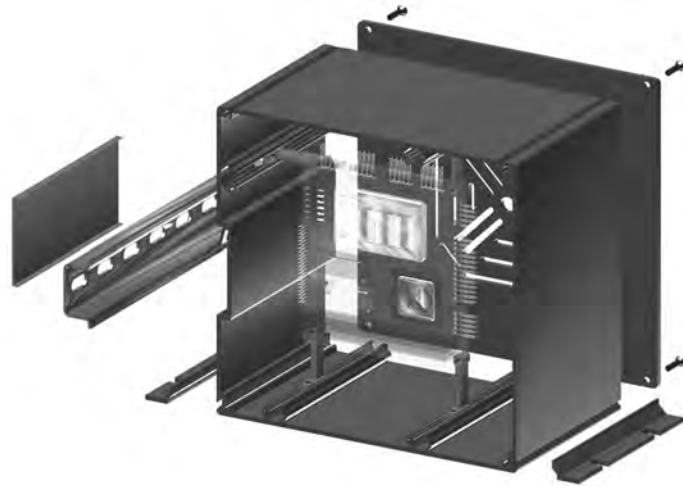
KO HL 2	KO HL 6	160	MS
first profile	second profile	available lengths (internal dimension): 100, 120, 160, 200, 220, 234 mm	requested surface finish: SA = complete case black anodised ME = complete case clear anodised MS = case profile black anodised, cover panels clear anodised TP = complete case chrome-free transparent passivated
please order cover plates separately			

Profile in meter lengths

art. no.	dim. [mm] lengths	suitable for	page
KO E 14 1000 ...	1000	KO E 14	15
KO E 2 1000 ...	1000	KO E 2	13
KO F 3 1000 ...	1000	KO F 3	14
KO G 5 1000 ...	1000	KO G 5	14
KO H 0 1000 ...	1000	KO H 0	13
KO H 1 1000 ...	1000	KO H 1	13
KO H 2 1000 ...	1000	KO H 2	13
KO H 4 A 1000 ...	1000	KO H 4 A	13
KO H 6 1000 ...	1000	KO H 6	14
KO H 7 1000 ...	1000	KO H 7	14
KO H 8 1000 ...	1000	KO H 8	14
KO H 10 1000 ...	1000	KO H 10	14
KO H 14 1000 ...	1000	KO H 14	14
KO HL 0 1000 ...	1000	KO HL 0	16
KO HL 1 1000 ...	1000	KO HL 1	16
KO HL 2 1000 ...	1000	KO HL 2	16
KO HL 4 1000 ...	1000	KO HL 4	16
KO HL 6 1000 ...	1000	KO HL 6	16
KO HL 10 1000 ...	1000	KO HL 10	16
KO HL 14 1000 ...	1000	KO HL 14	17
KO K 14 1000 ...	1000	KO K 14	15
KO K 2 1000 ...	1000	KO K 2	13
KO L 1 1000 ...	1000	KO L 1	15
KO L 2 1000 ...	1000	KO L 2	15
KO LL 2 1000 ...	1000	KO LL 2	17
KO N 2 1000 ...	1000	KO N 2	13
KO P 2 1000 ...	1000	KO P 2	14
KO R 2 1000 ...	1000	KO R 2	13
KO T 2 1000 ...	1000	KO T 2	13
KO TL 2 1000 ...	1000	KO TL 2	17
KO W 2 1000 ...	1000	KO W 2	15
please indicate:	... surface SA = black anodised ME = natural colour anodised		

Tube cases

PC/104 cases



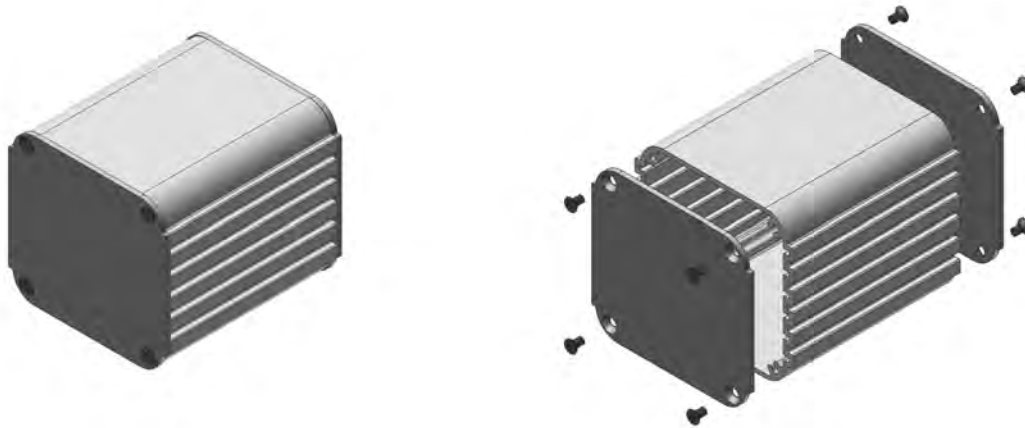
- used to mount PC/104 cards
- ideal for industrial applications in rough environment
- EMC compatible version due to chrome-free transparent passivated (electrically conductive) surface
- available for fixing of mounting rail according to DIN EN 50 022
- with or without fixing strap (B)
- cover plates 3 mm thick with ventilation slots
- supplied as a demounted kit, including PC board holder (K), cover plates and mounting material

art. no.			
PCG ...		GB 50	
please indicate:	... 50 75 100 125 150 175 mm ... fixing tab (optional) L = fixing tab	... fixing of mounting rail (optional) KL = fixing of mounting rail	... surface SA = black anodised MS = case profile SA, cover panels ME LP = exterior black lacquered, inside chrome-free transp. passivated

Profile in metre lengths → M 26

Tube cases

Universal tube case




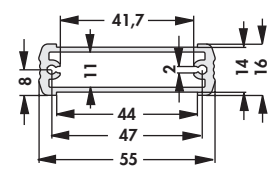

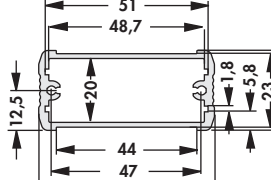
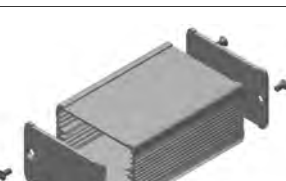
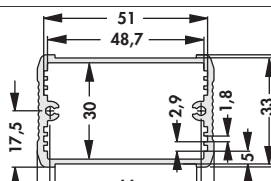
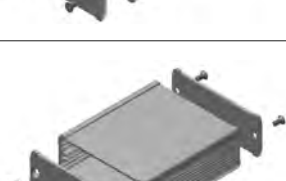
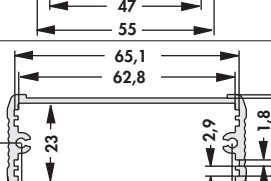

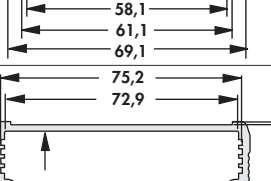

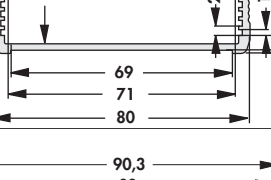

- universal tube case for non-standardised devices or PC boards with a width of 67 mm
- EMC compatible version due to chrome-free transparent passivated (electrically conductive) surface
- the 2 mm thick covers can be machined and printed according to your requirements
- supplied as demounted kit, including cover plates and mounting material
- special dimensions and surface treatments upon request

art. no.	GP 211	
UTG 7166 ...		
please indicate:	... 75 100 150 mm	... surface SA = black anodised MS = case profile SA, cover panels ME LP = exterior black lacquered, inside chrome-free transp. passivated

Profile in metre lengths → M 26

Tube cases

- universal tube case with integrated guide slots for insertion of non standardised circuit boards
- EMC compatible version due to electrical conductive surfaces (**TP**) and additional conductive seals **EDKO** → M 49
- integration possibilities of front foils or foil keypads
- the 2 mm covers panels can be perforated or imprinted to your specifications
- supplied as demounted kit, incl. cover plates and mounting material

art. no.		GP 218	
TUF 55 16 ...			
art. no.		GP 213	
TUF 55 25 ...			
art. no.		GP 217	
TUF 55 35 ...			
art. no.		GP 219	
TUF 69 28 ...			
art. no.		GP 214	
TUF 80 42 ...			
art. no.		GP 220	
TUF 94 32 ...			
please indicate:	...  50 80 100 120 160 200 220 mm		... surface SA = black anodised ME = natural colour anodised MS = case profile SA, cover panels ME

Profile in metre lengths → M 26

M 21

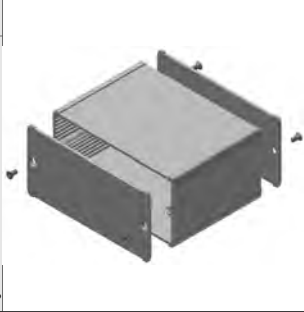
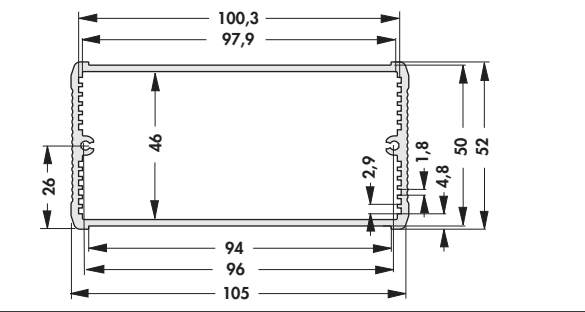

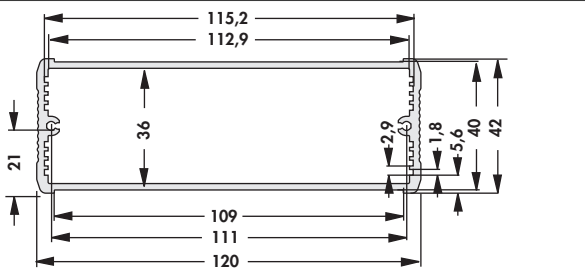

Extruded assembled cases
Combination cases
Case for HF-technology
Design case Chac

→ M 5 - 7
→ M 11 - 17
→ M 48
→ M 45

Design case Rail
Design case Eurotainer
Design case Frame
Design case Secco

→ M 47
→ M 46
→ M 43 - 44
→ M 42

Tube cases

<p>art. no.</p>  <p>TUF 105 52 ...</p>	<p>GP 216</p>	
<p>art. no.</p>  <p>TUF 120 42 ...</p>	<p>GP 215</p>	
<p>please indicate: ...  50 80 100 120 160 200 220 mm</p>		<p>... surface SA = black anodised ME = natural colour anodised MS = case profile SA, cover panels ME</p>

Profile in metre lengths → M 26

Extruded assembled cases
 Combination cases
 Case for HF-technology
 Design case Chac

→ M 5 - 7
 → M 11 - 17
 → M 48
 → M 45

Design case Rail
 Design case Eurotainer
 Design case Frame
 Design case Secco

→ M 47
 → M 46
 → M 43 - 44
 → M 42

M 22

A

B

C

D

E

F

G

H

I

K


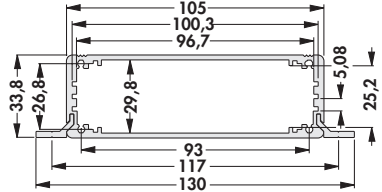

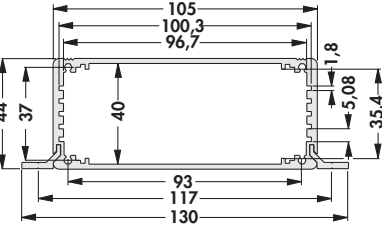

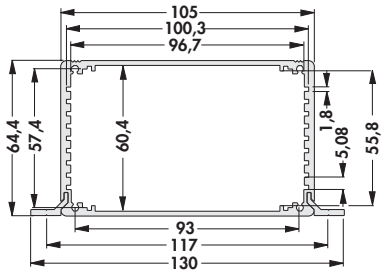

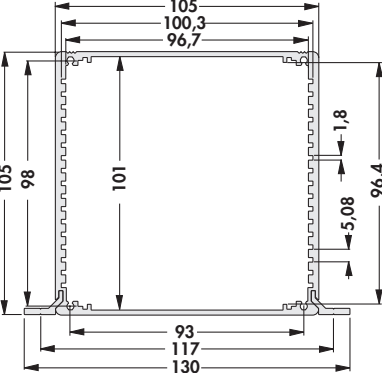

L

M

N

Tube case with horizontal guide grooves

- case for 100 mm Eurocards with integrated guide slots in 5.08 mm grid spacing (1 HP)
- EMC compatible version due to chromefree transparent passivated (electrically conductive) surface and additional sealing **EDKO**
- mounting of the fixing straps without screws
- case available up to IP 54 by using seals **EDKO** → M 49
- the 3 mm thick covers can be machined and printed according to your requirements
- supplied as a demounted kit, including cover plates and mounting material

art. no.		
TUG 03 ...		
art. no.		
TUG 05 ...		
art. no.		
TUG 09 ...		
art. no.		
TUG 17 ...		
please indicate:	<p>...  100 120 160 200 220 mm</p> <p>... surface</p> <p>SA = black anodised</p> <p>MS = case profile SA, cover panels ME</p> <p>LP = exterior black lacquered, inside chrome-free transp. passivated</p>	<p>... fixing tab (optional)</p> <p>L = fixing tab</p>

Profile in metre lengths → M 26

*1 detailed view; *2 fixing slots



M 23	Design case Secco	→ M 42	Design case Chac	→ M 45
	Design case Rail	→ M 47	Case for HF-technology	→ M 48
	Design case Eurotainer	→ M 46	Extruded assembled cases	→ M 5 - 7
	Design case Frame	→ M 43 - 44	Combination cases	→ M 11 - 17

Tube cases with horizontal and vertical guide grooves

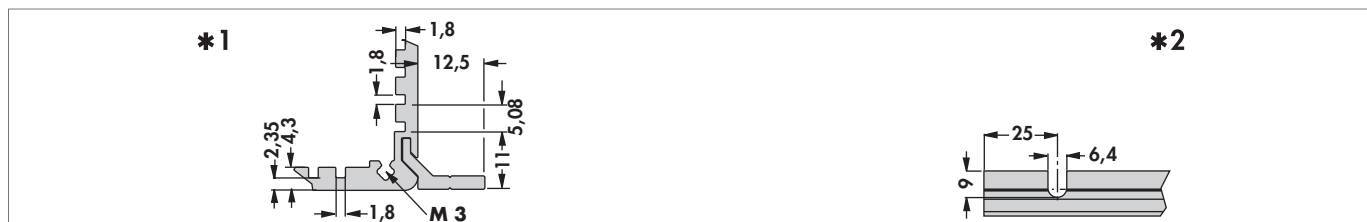


- tube case with horizontal and vertical integrated guide slots in 5.08 mm grid spacing (1 HP) for inserting 100 mm Eurocards and non standard PCBs
- EMC compatible version due to chrome-free transparent passivated (electrically conductive) surface and additional sealing **EDKO**
- mounting of the fixing straps without screws; case available up to IP 54 by using seals **EDKO** → M 49
- the 3 mm thick covers and the tube profiles can be machined and printed according to your requirements
- tube profile with M 3 fastening screw thread for cover panels, other dimensions and surfaces upon request
- supplied as a demounted kit, including cover plates and mounting material

art. no.	
TUG V 09 ...	
art. no.	
TUG V 17 ...	
please indicate:	<p>... 100 120 160 200 220 mm</p> <p>... fixing tab (optional) L = fixing tab</p> <p>... surface SA = black anodised ME = natural colour anodised MS = case profile SA, cover panels ME</p>

Profile in metre lengths → M 26

*1 detailed cut-out; *2 fixing slots



Design case Secco
Design case Rail
Design case Eurotainer
Design case Frame

→ M 42
→ M 47
→ M 46
→ M 43 - 44

Design case Chac
Case for HF-technology
Extruded assembled cases
Combination cases

→ M 45
→ M 48
→ M 5 - 7
→ M 11 - 17

M 24

A

B

C

D

E

F

G

H

I

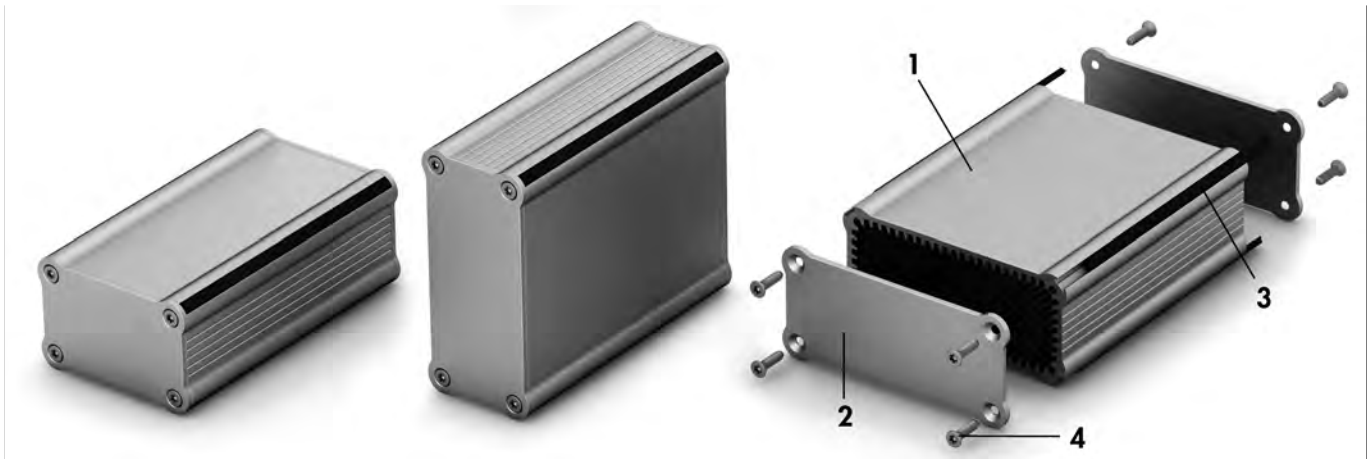
K

L

M

N

Tube cases



contents of delivery:

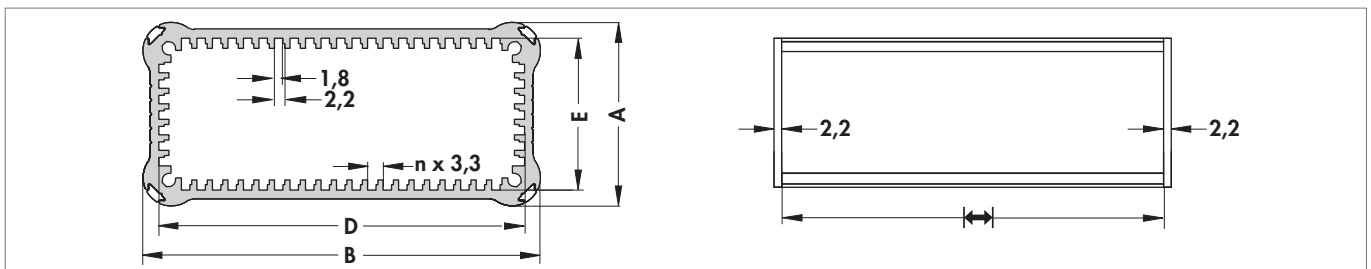
1 = 1 x basic profile (**GB 87** for **TUS 58 39 ...**, **GB 88** for **TUS 84 39 ...**)

2 = 2 x cover plate (2 mm)

3 = 4 x plastic design bar (similar to **RAL 3002**)

4 = mounting material

- universal aluminium tube case with integrated guide slots for insertion of non-standardised components or circuit boards
- horizontal or vertical insertion possibility of PCB's in 1.6 or 2 mm material thickness
- ergonomic shape due to special outer contour
- EMC compatible version due to electrically conductive surfaces (**TP**) and additionally conductive sealings **EDKO "TUS"** → M 51
- special designs, treatments, modifications and versions according to customer specifications
- further colours of the design bar and surface treatments upon request



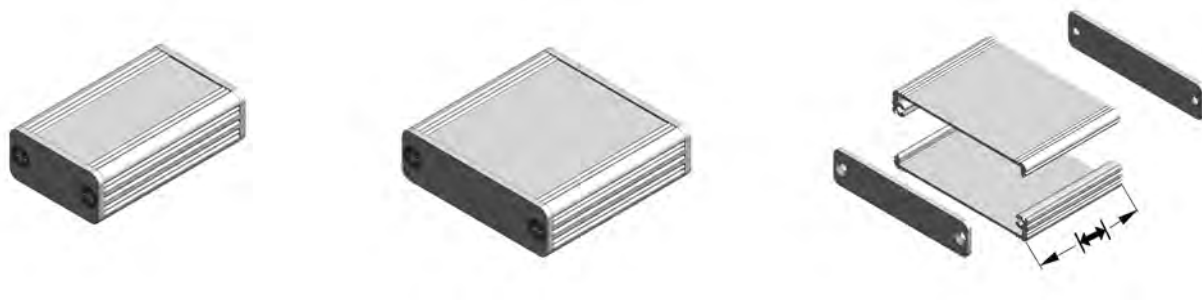
art. no.	dim. [mm]			
	A	B	D	E
TUS 58 39 ...	39	58.9	52.2	32.3
TUS 84 39 ...	39	84.5	77.8	32.3
please indicate:	... $\left[\right]$ 50 80 100 120 160 200 220 mm		... surface SA = black anodised ME = natural colour anodised MS = case profile SA, cover panels ME	

Profile in metre lengths → M 26

Profile in meter lengths

art. no.	dim. [mm] lengths	suitable for	page
GB 50 1000 ...	1000	PCG ...	19
GB 87 1000 ...	1000	TUS 58 39 ...	25
GB 88 1000 ...	1000	TUS 84 39 ...	25
GP 211 1000 ...	1000	UTG ...	20
GP 213 1000 ...	1000	TUF 55 25 ...	21
GP 214 1000 ...	1000	TUF 80 42 ...	21
GP 215 1000 ...	1000	TUF 120 42 ...	22
GP 216 1000 ...	1000	TUF 105 52 ...	22
GP 217 1000 ...	1000	TUF 55 35 ...	21
GP 218 1000 ...	1000	TUF 55 16 ...	21
GP 219 1000 ...	1000	TUF 69 28 ...	21
GP 220 1000 ...	1000	TUF 94 32 ...	21
TUG 03 1000 ...	1000	TUG 03 ...	23
TUG 05 1000 ...	1000	TUG 05 ...	23
TUG 09 1000 ...	1000	TUG 09 ...	23
TUG 17 1000 ...	1000	TUG 17 ...	23
TUG V 09 1000 ...	1000	TUG 03 ...	24
TUG V 17 1000 ...	1000	TUG 17 ...	24
please indicate:	... surface SA = black anodised ME = natural colour anodised		

Miniature aluminium casing also for D-Sub



- casing tubes made of aluminium sections which are slotted into each other and screwed together
- the tubes form a guide groove in the centre for insertion of a printed circuit board or installation plate with a thickness of 1.8 mm, lateral in the profile until 1.6 mm
- while using the corresponding case D-Sub connectors can be mounted without front panel
- supplied as demounted kit incl. 2 mm cover plates and mounting material
- cutouts, special lengths and surface treatments upon request

<p>D-Sub 9-pin → f.con "I"</p>	<p>art. no.</p>	<p>art. no.</p>
<p>AKG 33 16 ...</p>	<p>AKG 33 20 ...</p>	<p>AKG 33 24 ...</p>
<p>D-Sub 15-pin → f.con "I"</p>	<p>art. no.</p>	<p>art. no.</p>
<p>AKG 41 16 ...</p>	<p>AKG 41 20 ...</p>	<p>AKG 41 24 ...</p>
<p>D-Sub 25-pin → f.con "I"</p>	<p>art. no.</p>	<p>art. no.</p>
<p>AKG 55 16 ...</p>	<p>AKG 55 20 ...</p>	<p>AKG 55 24 ...</p>
<p>please indicate: ... 50 80 100 mm</p>		<p>... surface SA = black anodised ME = natural colour anodised</p>

Profile in metre lengths → M 34

M 27

EMC-seals
Combination cases
Cooling case
Tube cases

→ M 49 - 51 Design case Secco
→ M 11 - 17 Design case Rail
→ M 35 - 39 Design case Frame
→ M 21 - 25 Design case Eurotainer

→ M 42
→ M 47
→ M 43 - 44
→ M 46

Miniature aluminium casing also for D-Sub

art. no.	art. no.	
AKG 55 28 ...	AKG 55 32 ...	
art. no.	art. no.	art. no.
AKG 55 20 L ...	AKG 55 24 L ...	AKG 55 28 L ...
	<p>D-Sub 50-pin → f.con "I"</p>	
art. no.	art. no.	art. no.
AKG 69 16 ...	AKG 69 20 ...	AKG 69 24 ...
art. no.	art. no.	
AKG 69 28 ...	AKG 69 32 ...	
<p>please indicate: ... 50 80 100 mm</p>		<p>... surface SA = black anodised ME = natural colour anodised</p>

Profile in metre lengths → M 34

Design case Secco
Design case Eurotainer
Design case Chac
EMC-seals

→ M 42
→ M 46
→ M 45
→ M 49 – 51

Design case Frame
Cooling case
Tube cases
Combination cases

→ M 43 – 44
→ M 35 – 39
→ M 21 – 25
→ M 11 – 17

M 28

A

B

C

D

E

F

G

H

I

K

L

M

N

Miniature aluminium cases

<p>D-Sub 37-pin → f.con "I"</p>			
<p>art. no.</p> <p>AKG 71 16 ...</p>	<p>art. no.</p> <p>AKG 71 20 ...</p>	<p>art. no.</p> <p>AKG 71 24 ...</p>	
<p>art. no.</p> <p>AKG 71 28 ...</p>	<p>art. no.</p> <p>AKG 71 32 ...</p>		
<p>please indicate: ... 50 80 100 mm</p>			<p>... surface SA = black anodised ME = natural colour anodised</p>

Profile in metre lengths → M 34

Miniature aluminium casing for eurocards



- case with internal guide rails for insertion of 100 mm Eurocards
- case tube made of aluminium sections which are slotted into each other and screwed together
- with **M 3** fixing threads for cover panels; further dimensions and surface treatments upon request
- supplied as demounted kit, incl. 2 mm cover panels and mounting material

<p style="text-align: center;">art. no.</p>	<p style="text-align: center;">art. no.</p>
<p>AKG 105 22 ...</p>	<p>AKG 105 26 ...</p>
<p style="text-align: center;">art. no.</p>	<p style="text-align: center;">art. no.</p>
<p>AKG 105 30 ...</p>	<p>AKG 105 34 ...</p>
<p style="text-align: center;">art. no.</p>	<p style="text-align: center;">art. no.</p>
<p>AKG 105 38 ...</p>	<p>AKG 105 46 ...</p>
<p>please indicate:</p> <p style="text-align: center;">80 100 120 160 200 220 mm</p>	<p>... surface</p> <p style="text-align: center;">SA = black anodised</p> <p style="text-align: center;">ME = natural colour anodised</p>

Profile in metre lengths → M 34

Miniature aluminium casing, anti-slip



- tube case consisting of AL-profiles which are slotted into each other and screwed together
- anti-slip and save application as a bench case due to revolving sealing, cobalt blue (similar to **RAL 5013**)
- guiding groove for insertion of non-standardized PCBs or mounting plates with a thickness of 1.6-1.8 mm
- special designs and treatments, modifications and options according to your requests
- different colours of the sealing and surface upon request

<p>art. no. AKG D 33 24 ...</p>	<p>art. no. AKG D 41 24 ...</p>	<p>art. no. AKG D 55 24 ...</p>
<p>art. no. AKG D 69 24 ...</p>	<p>art. no. AKG D 71 24 ...</p>	
<p>please indicate: ... \square 50 80 100 mm</p>		<p>... surface SA = black anodised ME = natural colour anodised</p>
<p>art. no. AKG D 105 26 ...</p>	<p>art. no. AKG D 105 30 ...</p>	
<p>please indicate: ... \square 50 80 100 120 160 200 220 mm</p>		<p>... surface SA = black anodised ME = natural colour anodised</p>

Profile in metre lengths → M 34

M 31

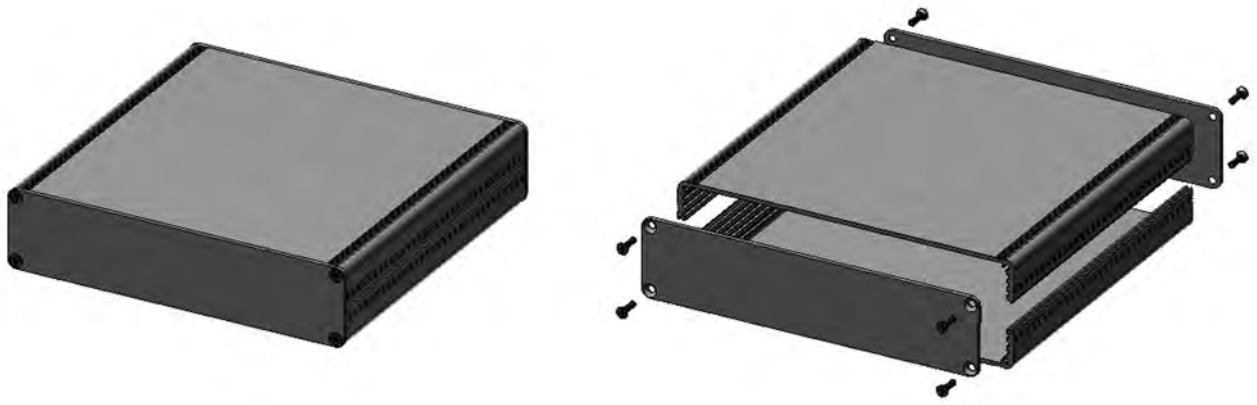
Design case Secco
Design case Frame
Design case Chac
Design case Eurotainer

→ M 42
→ M 43 - 44
→ M 45
→ M 46

EMC-seals
Combination cases
Tube cases
Cooling case

→ M 49 - 51
→ M 11 - 17
→ M 21 - 51
→ M 35 - 39

Miniature aluminium casing for 160 mm eurocards



- combination case with internal guide rails for inserting 160 mm Eurocards with a thickness of 1.6 mm
- casing tube made of aluminium profiles which are slotted into each other and screwed together
- with **M 3** fixing threads for cover panels; further dimensions and surfaces upon request
- supplied as a demounted kit, incl. 2 mm cover panels and mounting material

<p>art. no.</p> <p>AKG 165 38 ...</p>	
<p>art. no.</p> <p>AKG 165 42 ...</p>	
<p>art. no.</p> <p>AKG 165 46 ...</p>	
<p>please indicate:</p>	<p>... ... surface</p> <p>100 120 160 200 220 234 mm</p> <p>SA = black anodised ME = natural colour anodised</p>

Profile in metre lengths → M 34

EMC-seals
Combination cases
Cooling case
Tube cases

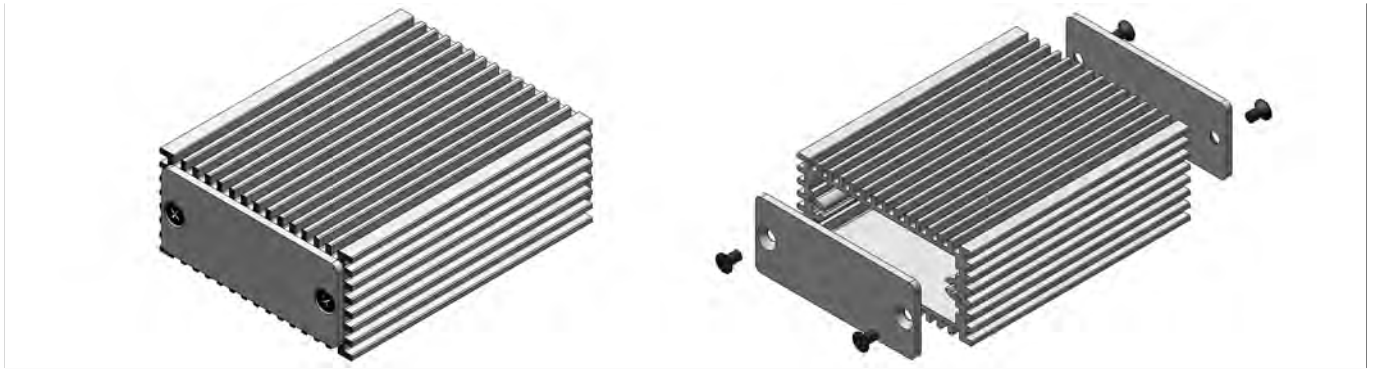
→ M 49 - 51 Design case Secco
→ M 11 - 17 Design case Frame
→ M 35 - 39 Design case Chac
→ M 21 - 25 Design case Eurotainer

→ M 42
→ M 43 - 44
→ M 45
→ M 46


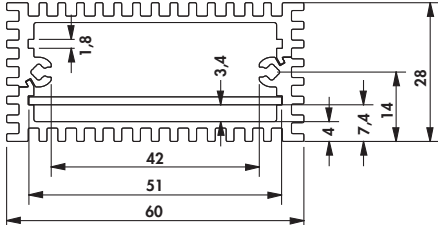
M 32

A
B
C
D
E
F
G
H
I
K
L
M
N

Miniature aluminium casing with cooling fins



- with integrated cooling fins; casing tubes made of aluminium sections which are slotted into each other and screwed together
- the tubes form a guide groove in the centre for insertion of a printed circuit board or installation plate with a thickness of 1.5 to 1.6 mm and a width of 44 mm
- D-Sub connector, 25-way, can be mounted → **f.con "I"**
- profile can also be combined with the profiles of case AKG 55 (**GB 39** and **GB 46**)
- supplied as demounted kit, incl. 2 mm cover panels and mounting material
- cutouts, special lengths and surface treatments upon request

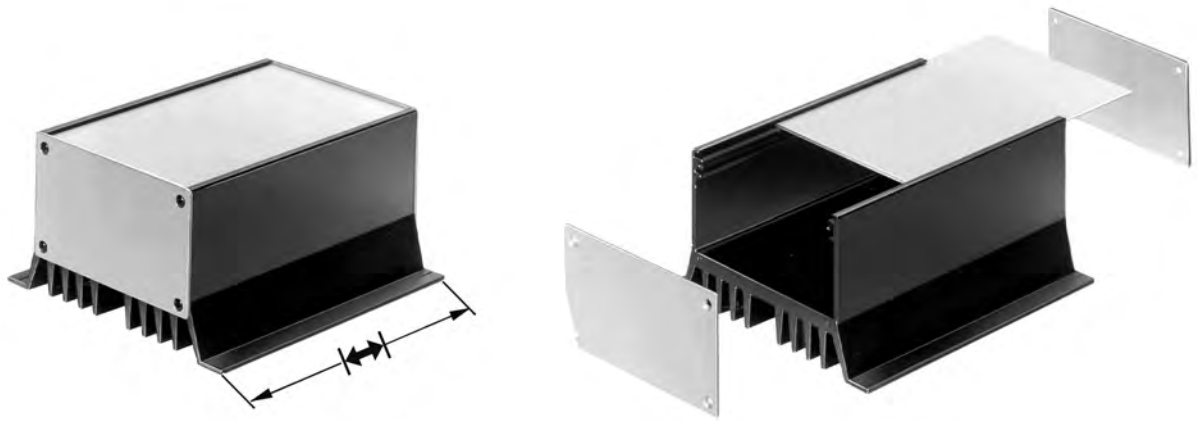
art. no.	 <p>GB 56</p>	
KRK 60 28 ...		
please indicate:	... $\left[\right]$ 50 80 100 mm	... surface SA = black anodised ME = natural colour anodised

Profile in metre lengths → M 34

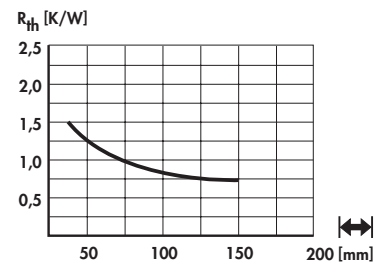
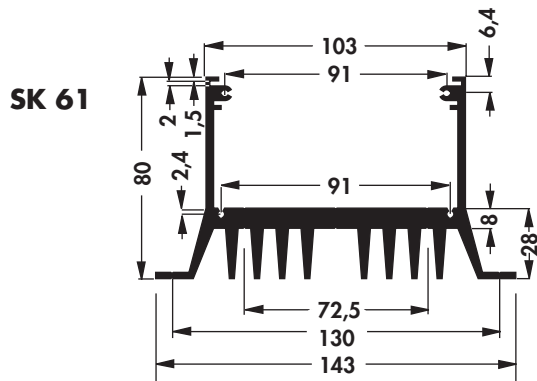
Profile in meter lengths

art. no.	dim. [mm] lengths	suitable for	page
GB 39 1000 ...	1000	AKG 55 20 ...	27
		AKG 55 16 ...	27
		AKG 55 20 L ...	28
GB 46 1000 ...	1000	AKG 55 24 ...	27
		AKG 55 20 ...	27
		AKG 55 24 L ...	28
		AKG 55 28 ...	28
		AKG D 55 24 ...	31
GB 48 1000 ...	1000	AKG 105 30 ...	30
		AKG 105 38 ...	30
		AKG 105 26 ...	30
		AKG D 105 26 ...	31
		AKG D 105 30 ...	31
GB 49 1000 ...	1000	AKG 105 22 ...	30
		AKG 105 34 ...	30
		AKG 105 26 ...	30
		AKG D 105 26 ...	31
GB 56 1000 ...	1000	KRK 60 28 ...	33
GB 57 1000 ...	1000	AKG 33 16 ...	27
		AKG 33 20 ...	27
GB 58 1000 ...	1000	AKG 33 20 ...	27
		AKG 33 24 ...	27
		AKG D 33 24 ...	31
GB 59 1000 ...	1000	AKG 41 20 ...	27
		AKG 41 16 ...	27
GB 60 1000 ...	1000	AKG 41 24 ...	27
		AKG 41 20 ...	27
		AKG D 41 24 ...	31
GB 61 1000 ...	1000	AKG 71 16 ...	29
		AKG 71 20 ...	29
GB 62 1000 ...	1000	AKG 69 16 ...	28
		AKG 69 20 ...	28
GB 63 1000 ...	1000	AKG 71 20 ...	29
		AKG 71 24 ...	29
		AKG D 71 24 ...	31
GB 64 1000 ...	1000	AKG 69 20 ...	28
		AKG 69 24 ...	28
		AKG D 69 24 ...	31
GB 73 1000 ...	1000	AKG 105 34 ...	30
		AKG 105 38 ...	30
		AKG 105 46 ...	30
GB 74 1000 ...	1000	AKG 55 20 L ...	28
		AKG 55 24 L ...	28
		AKG 55 28 L ...	28
GB 80 1000 ...	1000	AKG 55 28 ...	28
		AKG 55 32 ...	28
		AKG 55 28 L ...	28
GB 85 1000 ...	1000	AKG 165 46 ...	32
		AKG 165 42 ...	32
GB 86 1000 ...	1000	AKG 165 38 ...	32
		AKG 165 42 ...	32
please indicate: ... surface SA = black anodised ME = natural colour anodised			

Heat dissipating case



- solid profile case with integrated cooling fins; extendable cover panel and screwmounted 2 mm cover panels
- further dimensions and surface treatments upon request



art. no.	dim. [mm]
	< >
WAG 100 ...	100
WAG 120 ...	120
WAG 160 ...	160
WAG 200 ...	200
WAG 220 ...	220
<p>please indicate: ... surface</p> <p> SA = black anodised</p> <p> ME = natural colour anodised</p> <p> MS = case profile SA, cover panels ME</p>	

Profile in metre lengths → M 40

Heat dissipating case

Side panel profile for heat dissipation case



- solid side panel profile for assembly of cooling cases with cooling profiles
- integrated guide slots in 5.08 mm grid spacing (1 HP)
- with **M 3** fixing threads for cover panels
- special dimensions, drillings and surface treatments upon request

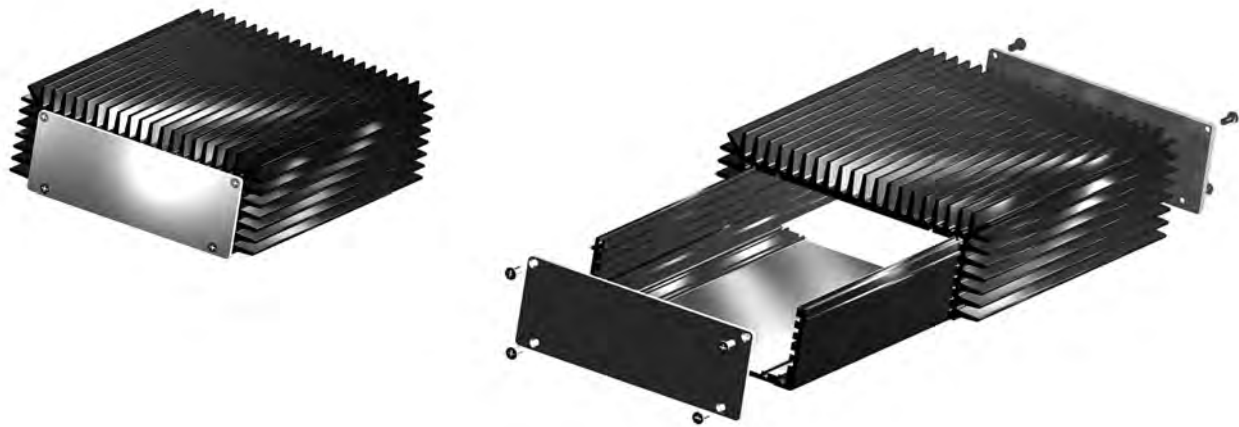
- suitable for:

- SK 42, SK 94, SK 113, SK 118, SK 119, SK 132, SK 136, SK 198, SK 421, SK 439, SK 166, SK 410, SK 463 ... u. a.**
- the cooling profiles can also be cut in fin direction, thus the cases are available in different widths

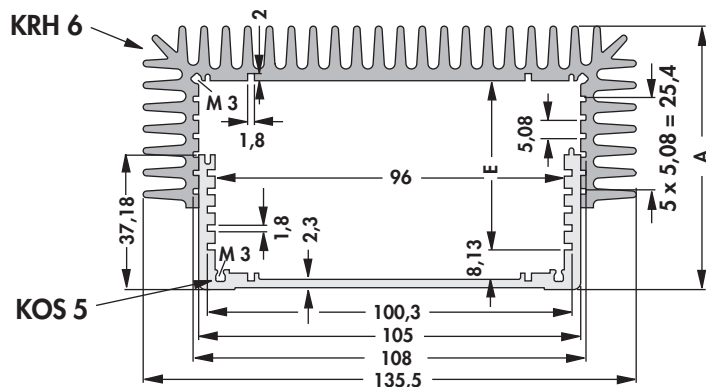
art. no.	G 118	
G 118 ...		
please indicate:	... 100 150 200 mm	... surface SA = black anodised ME = natural colour anodised

Profile in metre lengths → M 40

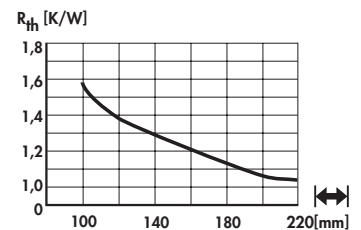
Case with cooling fins



- stable profile case for 100 mm Eurocards with integrated cooling fins
- can be inserted in 6 different heights (**HV**); integrated guide slots in 5.08 mm grid spacing (1 HP)
- the 2 mm thick AL-covers can be machined and printed according to your requirements
- with **M 3** fixing threads for covers
- supplied as a demounted kit, incl. cover plates and mounting material
- profile **KOS 5** can also be combined with **KO ...**
- further dimensions and surface treatments upon request



KRH 6 ...



art. no.	HV	dim. [mm]	
		A	E
KRH 6 KOS 5 1 ...	1	52.18	26.25
KRH 6 KOS 5 2 ...	2	57.26	31.33
KRH 6 KOS 5 3 ...	3	62.34	36.41
KRH 6 KOS 5 4 ...	4	67.42	41.49
KRH 6 KOS 5 5 ...	5	72.50	46.57
KRH 6 KOS 5 6 ...	6	77.58	51.56

please indicate: ... \leftrightarrow 100 120 160 200 220 mm

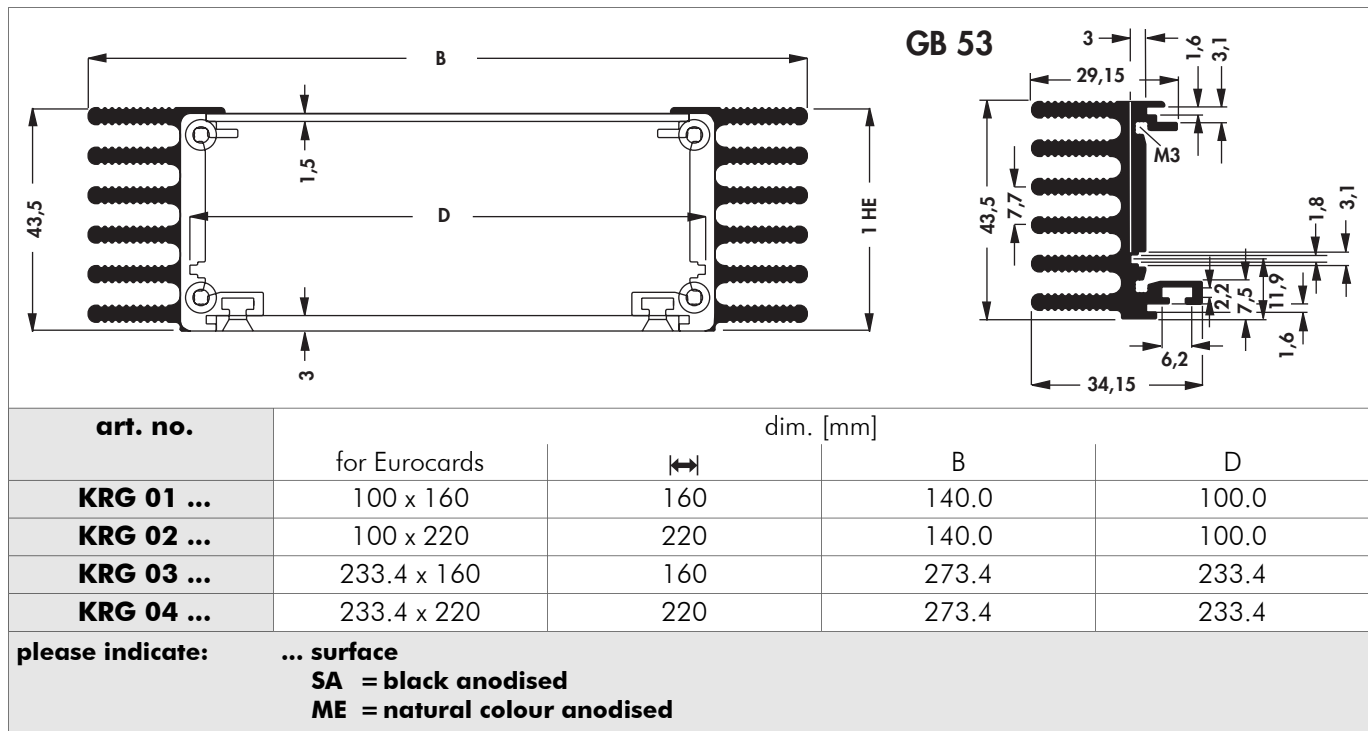
... surface
SA = black anodised
MS = case profile SA, cover panels ME

Profile in metre lengths → M 40

Case with cooling fins




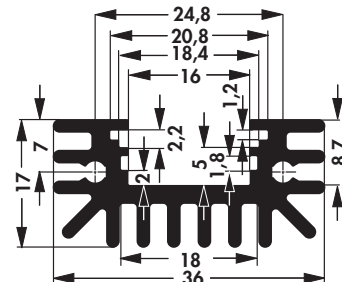
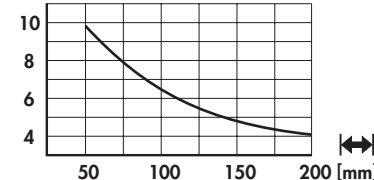

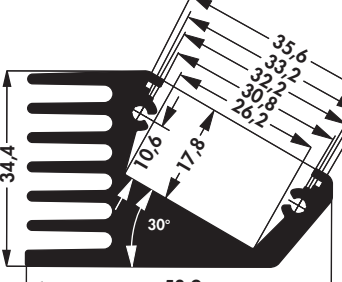
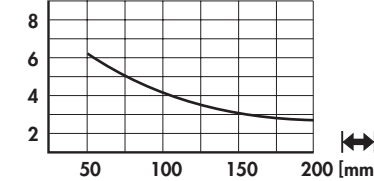

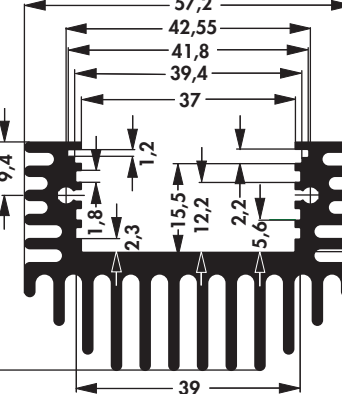

- with integrated guide rails for application of Eurocards or other components
- the 2.5 mm thick covers can be machined and printed according to your requirements
- with **M 3** fixing threads for covers
- supplied as kit, incl. cover plates and mounting material
- special dimensions and surface treatments upon request



Profile in metre lengths → M 40

Cases for LED-module

- aluminium case with cooling fins for mounting flexible and fixed LED Line Modules
- insertion possibility of metal sheets and sheets of Plexiglas
- customer specified designs, lengths and treatments upon request
- delivery as demounted kit including 2 mm cover panels and mounting material

art. no. G LED 1 ...			SK LED 1 R_{th} [K/W] 
art. no. G LED 2 ...			SK LED 2 R_{th} [K/W] 
art. no. G LED 3 ...			SK LED 3 R_{th} [K/W] 
<p>please indicate: ... $\left[\text{mm} \right]$... cover plate (optional) ... surface</p> <p>50 80 100 mm A1 = 1 mm plate thickness SA = black anodised A2 = 2 mm plate thickness ME = natural colour anodised</p>			

Profile in metre lengths → M 40

M 39

cable bushings → M 52
 Ventilation-frames → M 53
 Combination cases → M 11 - 17
 19" plug-in boxes with cooling fins → N 12

Design case Frame → M 43 - 44
 Design case Secco → M 42
 Design case Chac → M 45
 Design case Eurotainer → M 46

Heat dissipating case
Profile in meter lengths

art. no.	dim. [mm] lengths	suitable for	page
G 118 1000 ...	1000	G 118 ...	36
GB 53 1000 ...	1000	KRG ...	38
KOS 5 1000 ...	1000	KRH 6 KOS 5 ...	37
KRH 6 1000 ...	1000	KRH 6 KOS 5 ...	37
SK 61 1000 ...	1000	WAG ...	35
SK LED 1	1000	G LED 1 ...	39
SK LED 2	1000	G LED 2 ...	39
SK LED 3	1000	G LED 3 ...	39
please indicate:	... surface SA = black anodised ME = natural colour anodised		



SECCO

- unique, elegant design with shockproof plastic covers and integrated sealings
- revolving guide grooves for the application of non-standardized PCBs in thicknesses of 1.6 or 2 mm
- IP protection class 67 achievable without the use of additional sealings
- integration possibility for front foils or foil keypads
- customized modifications/colours upon request



FRAME

- use as bench case in combination with a shock proof plastic frame and seal
- integrated guide slots for application of guide rails or non-standardized components
- electrically conductive surfaces and seals as EMC compatible versions on request
- special designs, treatments, modifications and individual colour scheme of the plastic covers



CHA3

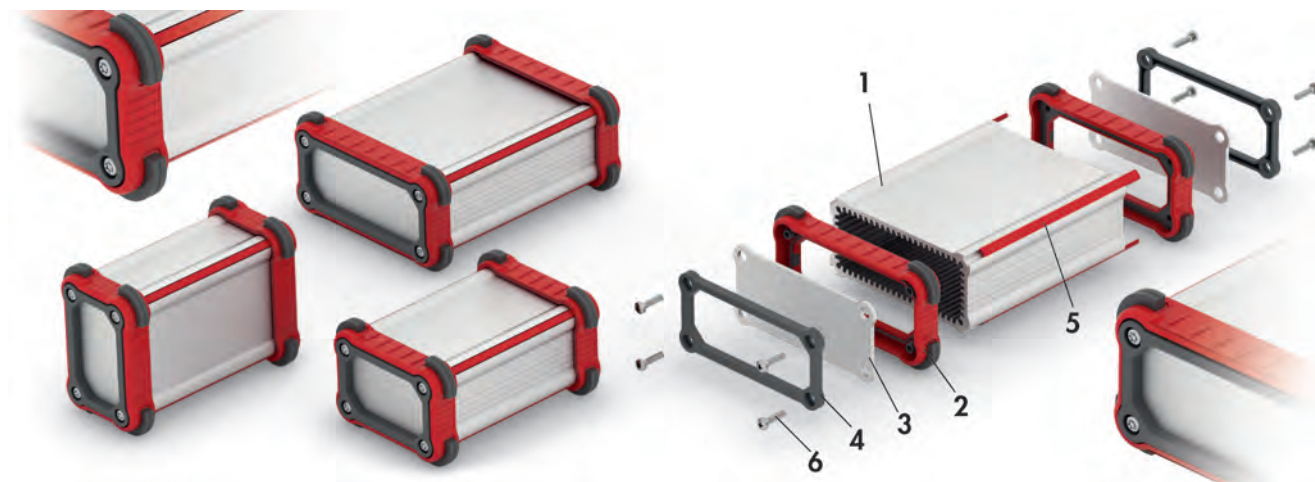
- modern case design in combination with shock proof plastic frames & integrated skid resistant standing feet
- horizontal and vertical variable aluminium case with integrated guide slots for application of any PCB and components
- EMC compatible version due to electrical conductive surfaces and round cables
- realisation of customised special versions



Euroainer Rail

- aluminium case for 100 mm Eurocards with integrated guide slots in 5.08 mm grid spacing (1 HP)
- interchangeable assembly possibilities (also stackable) of the cases by means of solid plastic frame
- ergonomic case rail suitable for mobile operation or as a bench case
- EMC compatible version by means of electrically conductive surfaces (TP) and conductive seals (EDKO)
- special treatments and versions according to customer's requirements

Design cases

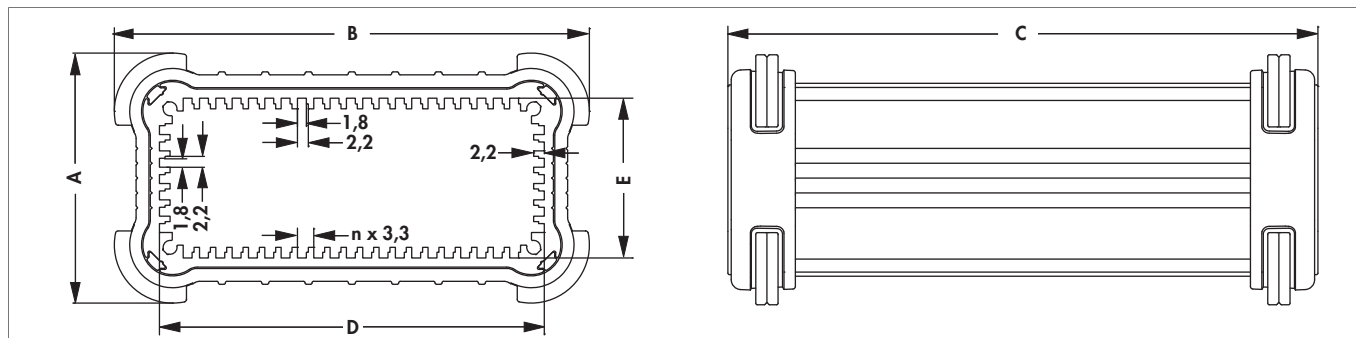


contents of delivery:

- 1 = 1 x basic profile
- 2 = 2 x plastic exterior frame (similar RAL 3002)
- 3 = 2 x cover panel (2 mm)
- 4 = 2 x plastic pressed on frame (similar RAL 7012)
- 5 = 4 x plastic design strip
- 6 = mounting material

- multi-purpose tube case made of aluminium with integrated guide slots for mounting non-standard PCBs or devices
- unique, elegant design with shock-proof plastic covers and integrated sealing
- horizontal or vertical mounting possibility of the PCB with 1.6 or 2 mm thickness
- protection class IP 67 achievable without using additional sealings
- integration possibility of front foils or front keypads
- special designs and treatments, modifications and versions possible according to your demand
- other colours and surfaces upon request

C = deliverable inside length +19 mm



art. no.	dim. [mm]				
	A	B	D	E	n
SEC 58 39 ...	50.5	70.4	52.2	32.3	13
SEC 84 39 ...	50.5	96.0	77.8	32.3	21
please indicate:	... $\left \right \left \right $... surface		
	50 80 100 120 160 200 220 mm		SA = black anodised ME = natural colour anodised MS = case profile SA, cover panels ME		

Euro case
Combination cases
Tube cases
Cooling case

→ M 9
→ M 11 - 17
→ M 21 - 25
→ M 35 - 39

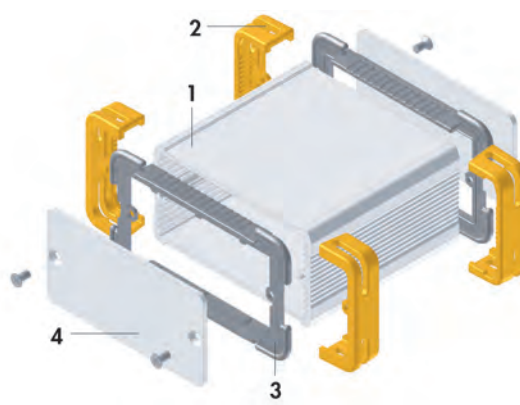
Miniature aluminium case
Extruded assembled cases
Desk consoles
Shell cases

→ M 27 - 33
→ M 5 - 7
→ M 8
→ M 2 - 4

M 42

A
B
C
D
E
F
G
H
I
K
L
M
N

Design case „Frame“

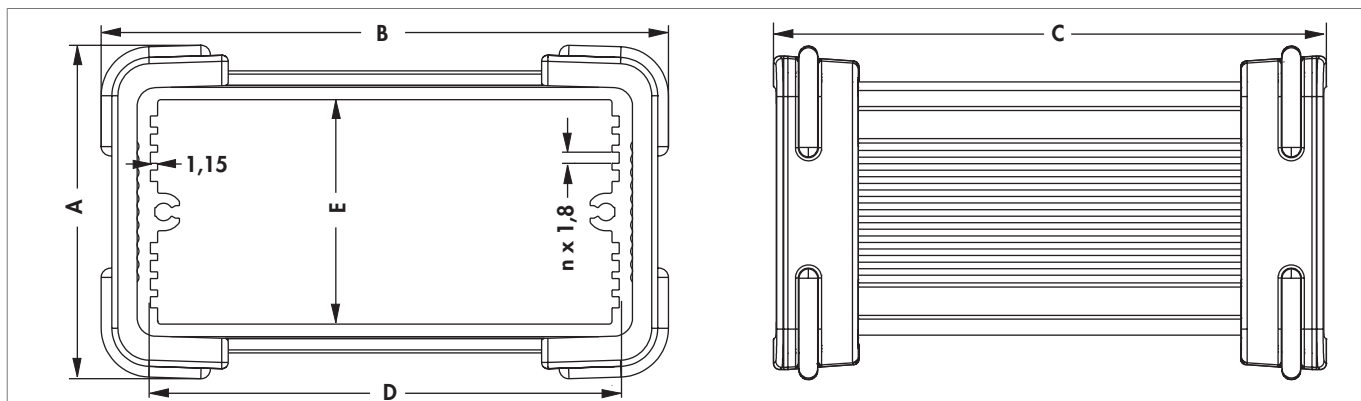


contents of delivery:

- 1 = 1 x basic profile
- 2 = 4 x plastic frame (similar RAL 1007)
- 3 = 2 x seal (similar RAL 7005, no EMC)
- 4 = 2 x cover plate (2 mm); mounting material

- universal aluminium tube case with integrated guide slots for application of non-standardised components or printed circuit boards
- modern design in combination with a shock proof plastic cover and sealing for the use as desk case
- insertion possibilities for front foils or foil keypads
- EMC compliant version due to electrically conductive surfaces and sealings upon request
- special designs and treatments, modifications and versions due to customers specifications
- other colours and surface treatments upon request

C = available internal lengths + 14 mm



art. no.	dim. [mm]					art. no.	dim. [mm]				
	A	B	D	E	n		A	B	D	E	n
FR 55 16 ...	24.0	63.6	43.1	11	1	FR 80 42 ...	53.5	91.0	75.2	36	9
FR 55 25 ...	33.0	63.6	51.0	20	3	FR 94 32 ...	40.0	102.9	90.3	27	7
FR 55 35 ...	43.0	63.6	51.0	30	7	FR 105 52 ...	63.5	116.0	100.3	46	13
FR 69 28 ...	36.0	77.7	65.1	23	5	FR 120 42 ...	53.5	131.0	115.2	36	9

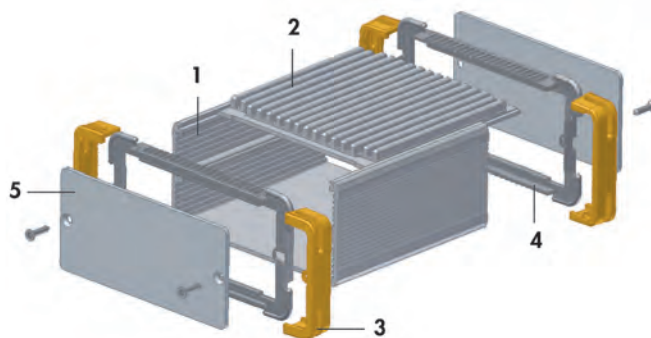
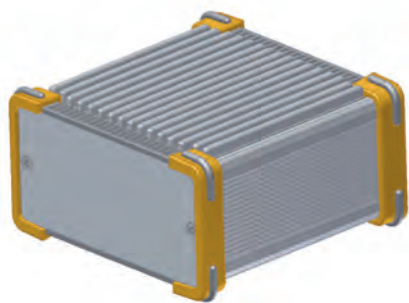
please indicate: ... \leftrightarrow 50 80 100 120 160 200 220 mm

... surface
 SA = black anodised
 ME = natural colour anodised
 MS = case profile SA, cover panels ME

In addition to our standard colours (similar to RAL 1007) the plastic covers are also available in the colours beige (similar to RAL 1001), ivory (similar to RAL 1014), sulphur yellow (similar to RAL 1016), blood orange (similar to RAL 2002), pure orange (similar to RAL 2004), flame red (similar to RAL 3000), traffic red (similar to RAL 3020), red violet (similar to RAL 4002), signal blue (similar to RAL 5005), pigeon blue (similar to RAL 5014), azure (similar to RAL 5015), moss-green (similar to RAL 6005), traffic green (similar to RAL 6024), chocolate brown (similar to RAL 8017) and deep black (similar to RAL).

M 43	Euro case	→ M 9	Miniature aluminium case	→ M 27 - 33
	Combination cases	→ M 11 - 17	Extruded assembled cases	→ M 5 - 7
	Tube cases	→ M 21 - 25	Desk consoles	→ M 8
	Cooling case	→ M 35 - 39	Shell cases	→ M 2 - 4

Design case „Frame“ with integrated heatsink

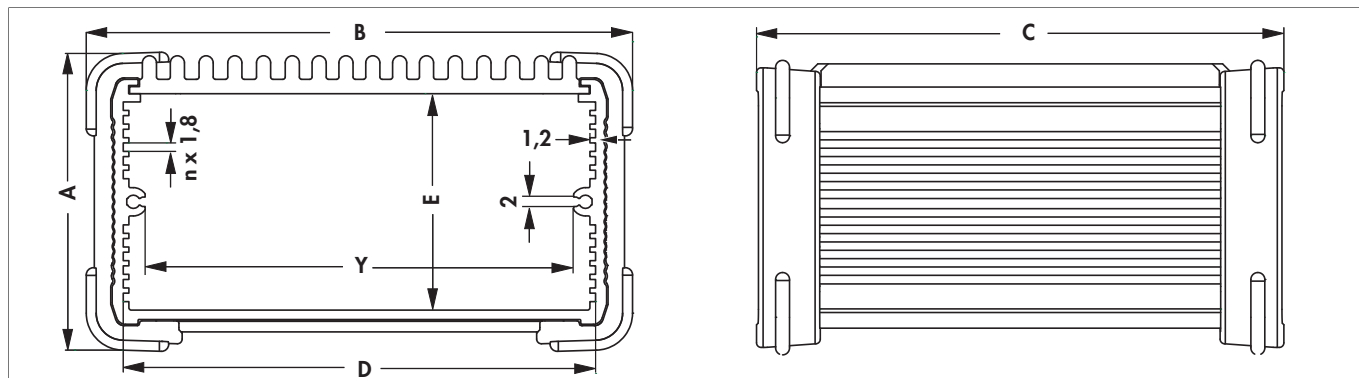


contents of delivery:

- 1** = 1 x basic profile
- 2** = heatsink (SK 601 machined)
- 3** = 4 x plastic cover (similar RAL 1007)
- 4** = 2 x sealing (similar RAL 7005)
- 5** = 2 x cover panel (2 mm); mounting material

- universal case made of aluminium with integrated guide slots for mounting non-standard PCBs or devices
- modern design in combination with a shock-proof plastic cover and sealing for the use as a desk case
- integrated heatsink for dissipating big heat flow volumes
- EMC compliant versions by means of electrically conductive surfaces and sealings upon request
- special designs and treatments, modifications and versions according to your demand
- other colours and surfaces upon request

C = deliverable inside length + 14 mm



art. no.	dim. [mm]					
	A	B	D	E	Y	n
FR K 80 42 ...	53.5	91	75.2	35.9	66	9
FR K 105 52 ...	63.5	116	100.3	45.9	91	13
FR K 120 42 ...	53.5	131	115.2	35.9	106	9
please indicate:	... $\left[\right]$ 50 80 100 120 160 200 220 mm			... surface SA = black anodised ME = natural colour anodised		

Euro case
Combination cases
Tube cases
Cooling case

→ M 9
→ M 11 - 17
→ M 21 - 25
→ M 35 - 39

Miniature aluminium case
Extruded assembled cases
Desk consoles
Shell cases

→ M 27 - 33
→ M 5 - 7
→ M 8
→ M 2 - 4

M 44

A

B

C

D

E

F

G

H

I

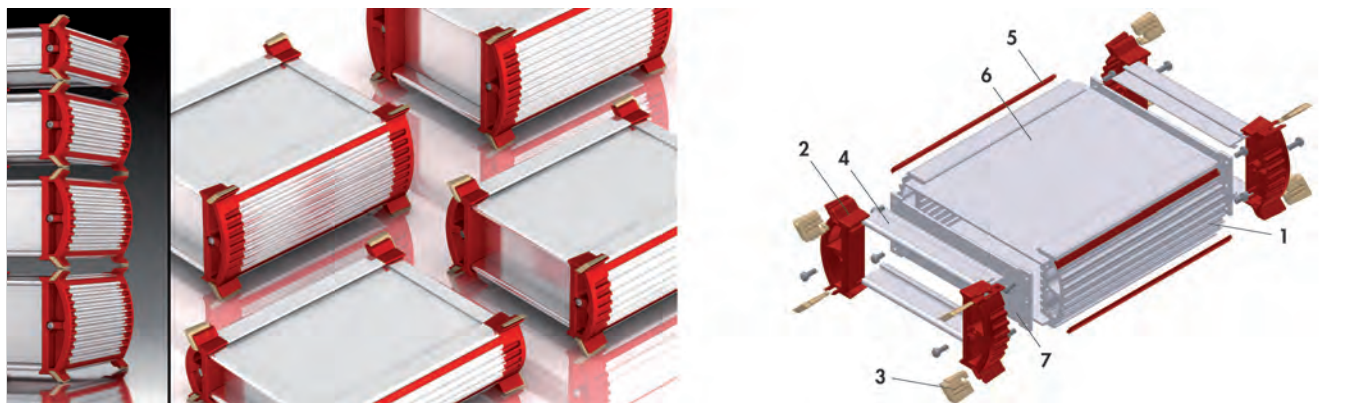
K

L

M

N

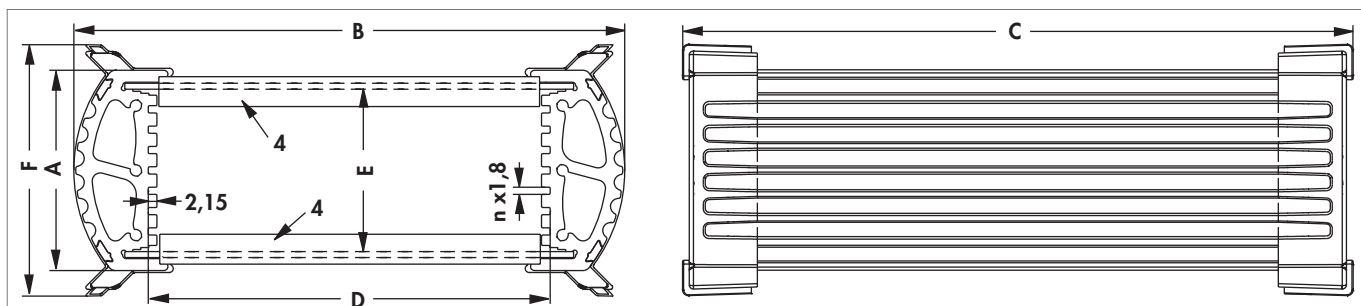
Design case „CHAC“



contents of delivery: **1** = 2 x side panel profile; **2** = 4 x plastic frame (RAL 3000); **3** = 8 x skid resistant standing feet (RAL 1001); **4** = 4 x reinforcing profiles; **5** = 4 x plastic side panel; **6** = 2 x cover panel (1.5 mm); **7** = 2 x cover plate (2 mm); mounting material

- modern design case in combination with shock proof plastic cover and integrated, skid resistant standing feet
- variable case by using 2 mm aluminium panels, 1.5 mm thick cover panels as well as extrusion profiles in four different heights
- side panel profiles with integrated guide slots used for inserting any PCB and component
- EMC compatible version due to electrically conductive surface treatment (TP) and round cords (Art. No. LSS 10)
- further material thicknesses, special designs, colours and treatments as well as modifications upon request
- further case widths and lengths upon request

C = available internal lengths +38 mm



art. no.	dim. [mm]						art. no.	dim. [mm]					
	A	B	D	E	F	n		A	B	D	E	F	n
CC 35 51 ...	35	84.2	51.0	25.5	47.7	4	CC 60 85 ...	60	123.2	85.0	50.5	72.7	9
CC 35 67 ...	35	100.5	67.3	25.5	47.7	4	CC 60 100 ...	60	138.5	100.3	50.5	72.7	9
CC 35 85 ...	35	118.2	85.0	25.5	47.7	4	CC 60 116 ...	60	154.2	116.0	50.5	72.7	9
CC 35 100 ...	35	133.5	100.3	25.5	47.7	4	CC 60 130 ...	60	168.2	130.0	50.5	72.7	9
CC 35 116 ...	35	149.2	116.0	25.5	47.7	4	CC 60 160 ...	60	198.5	160.3	50.5	72.7	9
CC 35 130 ...	35	163.2	130.0	25.5	47.7	4	CC 60 200 ...	60	238.2	200.0	50.5	72.7	9
CC 35 160 ...	35	193.5	160.3	25.5	47.7	4	CC 60 233 ...	60	271.6	233.4	50.5	72.7	9
CC 50 85 ...	50	121.2	85.0	40.5	62.7	7	CC 70 85 ...	70	125.2	85.0	60.5	82.7	11
CC 50 100 ...	50	136.5	100.3	40.5	62.7	7	CC 70 100 ...	70	140.5	100.3	60.5	82.7	11
CC 50 116 ...	50	152.2	116.0	40.5	62.7	7	CC 70 116 ...	70	156.2	116.0	60.5	82.7	11
CC 50 130 ...	50	166.2	130.0	40.5	62.7	7	CC 70 130 ...	70	170.2	130.0	60.5	82.7	11
CC 50 160 ...	50	196.5	160.3	40.5	62.7	7	CC 70 160 ...	70	200.5	160.3	60.5	82.7	11
CC 50 200 ...	50	236.2	200.0	40.5	62.7	7	CC 70 200 ...	70	240.2	200.0	60.5	82.7	11
CC 50 233 ...	50	269.6	233.4	40.5	62.7	7	CC 70 233 ...	70	273.6	233.4	60.5	82.7	11

please indicate: ... $\left[\right]$
85 100 120 160 200 220 mm

... surface
SA = black anodised
ME = natural colour anodised
LP = exterior black lacquered, inside chrome-free transp. passivated

M 45

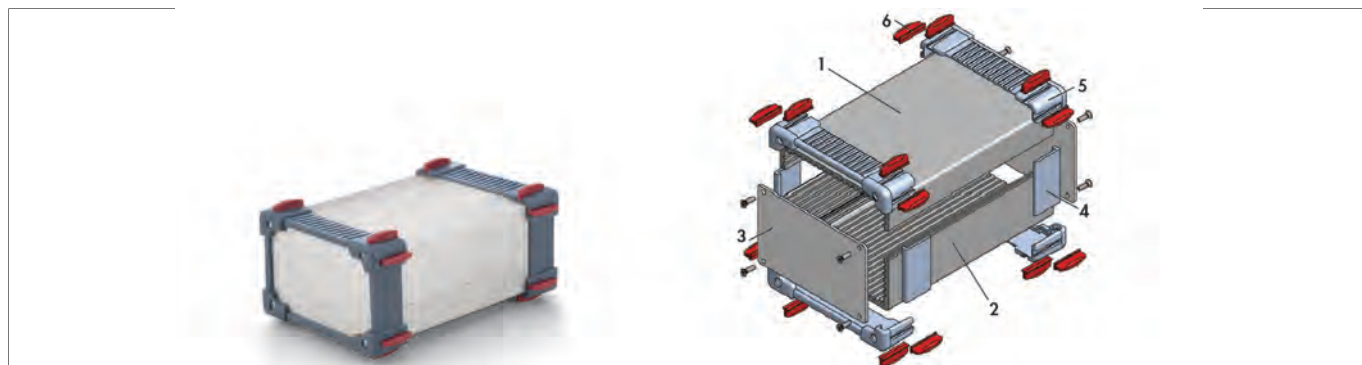
Euro case
Combination cases
Tube cases
Cooling case

→ M 9
→ M 11 - 17
→ M 21 - 25
→ M 35 - 39

Miniature aluminium case
Extruded assembled cases
Desk consoles
Shell cases

→ M 27 - 33
→ M 5 - 7
→ M 8
→ M 2 - 4

Design case "Eurotainer"

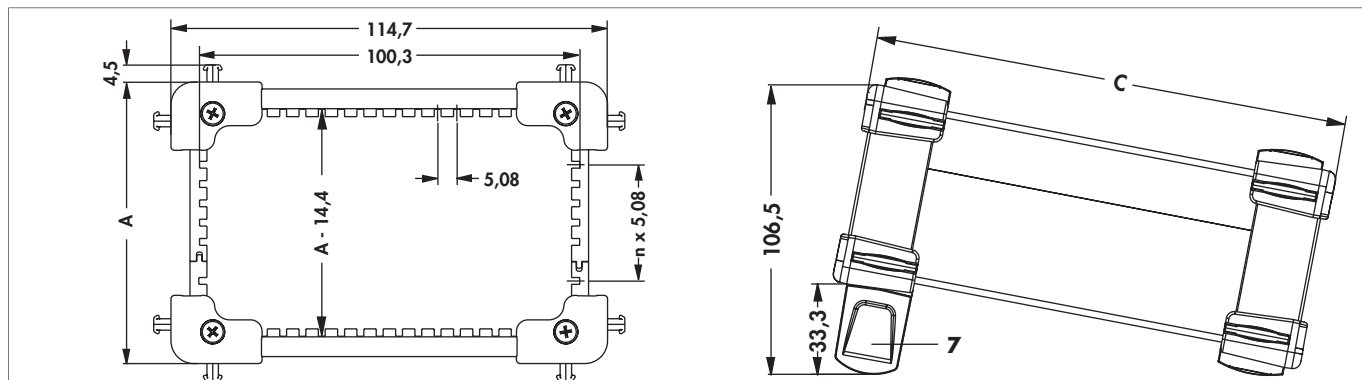


contents of delivery:

- 1 = 1 x case upper part; 2 = 1 x case lower part; 3 = 2 x cover plate (2 mm); 4 = 4 x side panel profile;
- 5 = 4 x plastic frame (RAL 5014 pigeon blue); 6 = 16 x standing feet small (RAL 4002 red violet);
- 7 = 2 x standing feet large (RAL 4002 red violet), mounting material

- multi-purpose aluminium case for 100 mm Eurocards with integrated guide slots with a modular spacing of 5,08 mm (1 HP)
- horizontal and vertical connection possibility (stackable) due to a robust plastic frame
- EMC compliant design achieved by electrical conductive surface treatment and additional conductive seals EDKO → M 49
- insertion possibility for front foils or foil keypads
- protection class IP 54 achievable by use of seals EDKO → M 49
- cover panels can be perforated or imprinted to your specifications
- further surface treatments upon request

C= available internal length +15 mm



art. no.	dim. [mm]		art. no.	dim. [mm]	
	A	n		A	n
ET 02 00 ...	38.40	2	ET 10 02 ...	94.40	12
ET 01 01 ...	43.50	2	ET 14 00 ...	99.43	14
ET 02 01 ...	48.60	3	ET 10 04 ...	104.50	14
ET 02 02 ...	53.70	4	ET 14 01 ...	109.60	15
ET 04 01 ...	58.70	5	ET 14 02 ...	114.70	16
ET 04 02 ...	63.80	6	ET 14 04 ...	124.80	18
ET 06 01 ...	69.00	7	ET 14 06 ...	135.10	20
ET 06 02 ...	74.10	8	ET 14 08 ...	145.20	22
ET 10 00 ...	79.13	10	ET 14 10 ...	155.40	24
ET 06 04 ...	84.20	10	ET 14 14 ...	175.70	28
ET 10 01 ...	89.30	11			

please indicate: ... $\left[\right]$ 100 120 160 200 220 mm

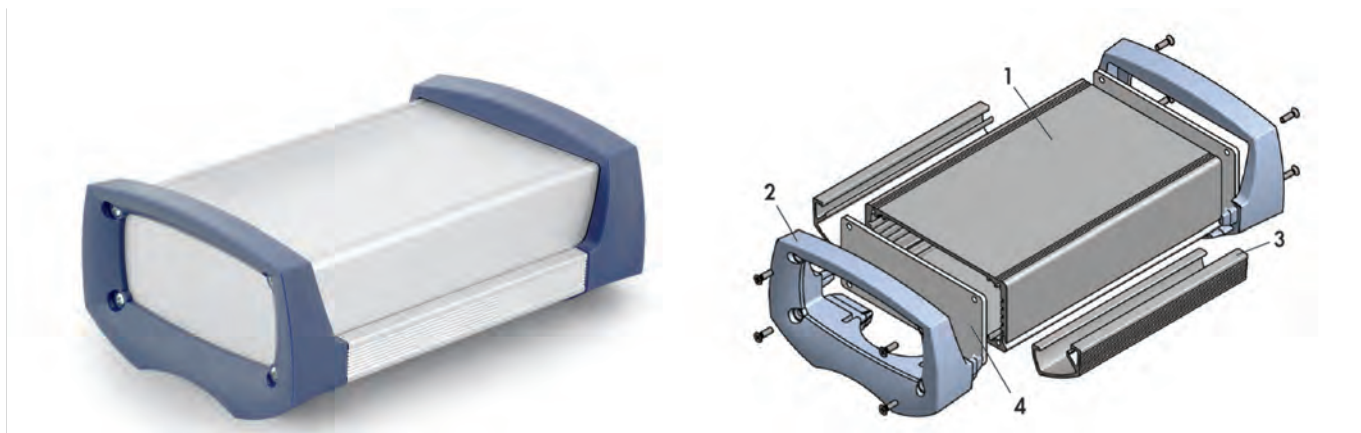
... surface
 SA = black anodised
 ME = natural colour anodised
 MS = case profile SA, cover panels ME
 LP = exterior black lacquered, inside chrome-free transp. passivated

- Euro case → M 9
- Combination cases → M 11 - 17
- Tube cases → M 21 - 25
- Cooling case → M 35 - 39
- Miniature aluminium case → M 27 - 33
- Extruded assembled cases → M 5 - 7
- Desk consoles → M 8
- Shell cases → M 2 - 4

M 46

A
B
C
D
E
F
G
H
I
K
L
M
N

Design case „Rail“

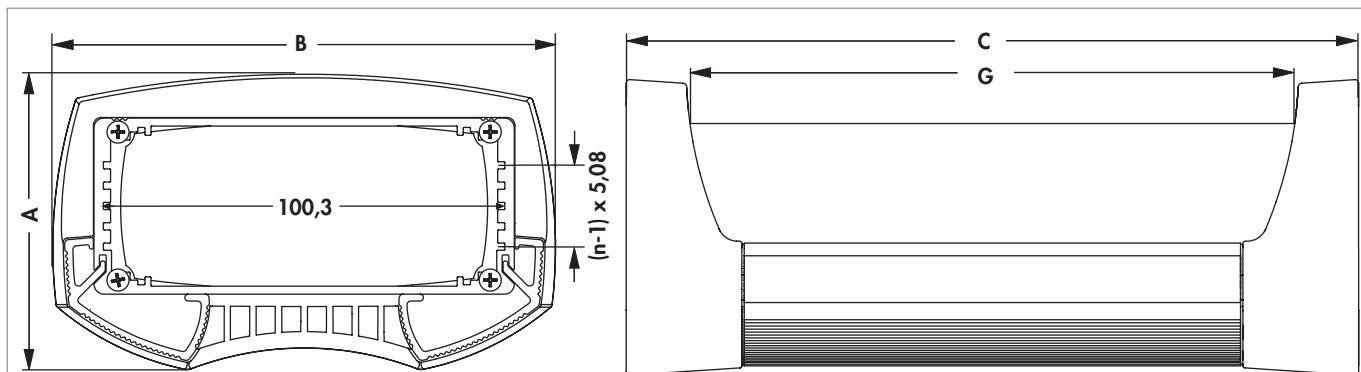


contents of delivery:

1 = 1 x basic profile; **2** = 2 x plastic frame (**RAL 5014** pigeon blue oder **RAL 9005** deep black);
3 = 2 x handle profile; **4** = 2 x cover plate (3 mm); mounting material

- ergonomic aluminium case, suitable for portable use or as a bench case
 - insertion possibility for 100 mm Eurocards with a grid spacing of 5.08 mm (1 HP)
 - EMC compatible design achieved by means of electrically conductive surface treatment and additional conductive seals **EDKO** → M 49
 - the special shape combined with convenient handling profiles enables safe handling, also for mobile applications
 - shock-proof plastic cover
 - integration possibility for front foils or foil keypads
 - protection class IP 65 achievable by use of seals **IDKO** → M 50
 - the cover plates can be perforated or imprinted according to your specifications
 - further colours and surface treatments upon request
 - combined with the seals **EDKO** → M 49 and **IDKO** → M 50 longer handle profiles are required
- Please indicate with your order!**

C = available internals lengths +23 mm



art. no.	dim. [mm]					art. no.	dim. [mm]				
	A	B	C	G	n		A	B	C	G	n
RL 05 100 ...	73.5	125	123	91	5	RL 17 100 ...	135.0	127	123	93	17
RL 05 120 ...	73.5	125	143	111	5	RL 17 120 ...	135.0	127	143	113	17
RL 05 160 ...	73.5	125	183	151	5	RL 17 160 ...	135.0	127	183	153	17
RL 05 200 ...	73.5	125	223	191	5	RL 17 200 ...	135.0	127	223	193	17
RL 05 220 ...	73.5	125	243	211	5	RL 17 220 ...	135.0	127	243	213	17

please indicate: ... colour of plastic cover
B = pigeon blue (RAL 5014)
S = deep black (RAL 9005)

... surface
SA = black anodised
ME = natural colour anodised
MS = case profile SA, cover panels ME
LP = exterior black lacquered, inside chrome-free transp. passivated

M 47

Euro case
 Combination cases
 Tube cases
 Cooling case

→ M 9
 → M 11 - 17
 → M 21 - 25
 → M 35 - 39

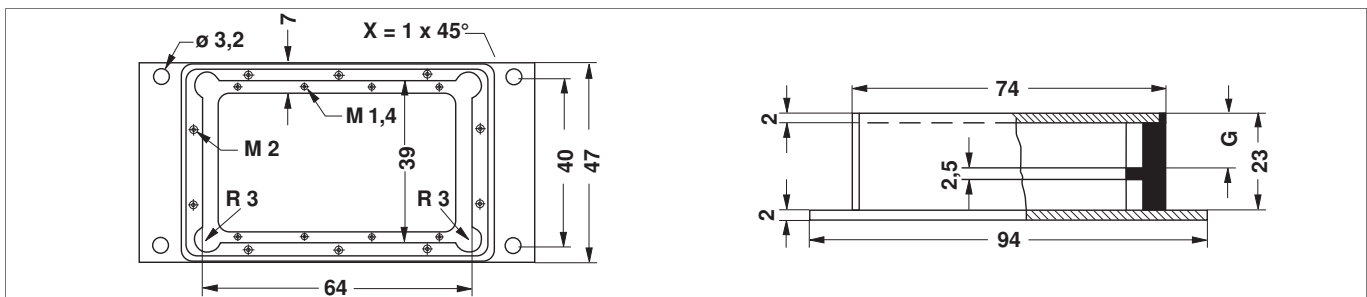
Miniature aluminium case
 Extruded assembled cases
 Desk consoles
 Shell cases

→ M 27 - 33
 → M 5 - 7
 → M 8
 → M 2 - 4



- the case series GHF is especially suitable for the use of devices and electronic components in the branch of high frequency technology
- the cases are made of a special aluminium alloy (AlMg 4.5 Mn) and they are milled from a solid block
- the precision angular and plane-parallel millings guarantee an optimal fit of the cover, reproducible housing geometry for precision-fit installation of the HF-components as well as excellent adaptability of flange and carrier elements
- an electrically conductive layer can be applied as a surface treatment for the cases
- aluminium in the raw or polished state as well as other surface treatments are carried out according to customer's requirements
- high-frequency cases without drilling pattern for connectors upon request
- further mechanical processing such as cut-outs, contour millings, threads and threaded inserts etc. as well as dimensional changes and special cases, are carried out according to customer's requirements

X = Fase



art. no.	dim. [mm]
	G
GHFN E 1	13
GHFN E 2	17

Customised case with top and bottom panel



Miniature aluminium case
Shell cases
Case with cooling fins
Cooling case

→ M 27 - 33
→ M 2 - 4
→ M 37 - 38
→ M 35 - 39

Combination cases
Tube cases
Design case Eurotainer
Design case Rail

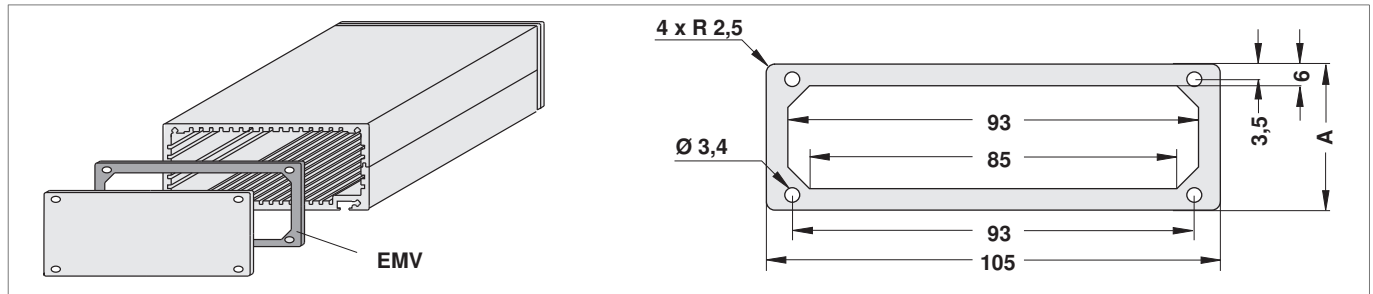
→ M 11 - 17
→ M 21 - 25
→ M 46
→ M 47

M 48

Accessories for cases

EMC seals for combination cases, Eurotainer, Rail and TUG

- consisting of 0.8 mm thick electrically conductive rubber silicone
- placed between housing profiles and covers, additionally the protection class IP 54 is achievable
- the protection, respectively the sealing of the housing halves in the longitudinal groove can also be effected with the help of an EMC-silicone-hose
- for achieving a EMC shield the case is to be ordered with an electrically conductive finish:
- **TP** = chrome-free transparent passivated/on request additional lacquering of the exterior surfaces
- **EMC silicone hose:** core $\varnothing = 0.5$ mm; outside $\varnothing = 1.4$ mm
- **art. no. LSS 10 ...** (please specify requested length in m)



art. no.	for Eurotainer	for Rail	for TUG	suitable for combination cases	VPE	dim. [mm] A
EDKO 33	ET 01 01 ...	—	TUG 03 ...	KO H 1+KO H 1	6 pcs.	33
EDKO 38	ET 02 01 ...	—	—	KO W 2+KO H 1/ KO E 2+KO H 1/ KO H 1+KO H 2/ KO L 2+KO H 1	6 pcs.	38
EDKO 44	ET 02 02 ...	RL 05 ...	TUG 05 ...	KO E 2+KO H 2/ KO L 2+KO H 2/ KO H 2+KO H 2/ KO W 2+KO H 2	6 pcs.	44
EDKO 57 T	—	—	—	KO T 2+KO H 4 A	6 pcs.	57
EDKO 49	ET 04 01 ...	—	—	KO H 1+KO H 4 A	4 pcs.	49
EDKO 54	ET 04 02 ...	—	—	KO H 2+KO H 4 A/ KO W 2+KO H 4 A/ KO L 2+KO H 4 A/ KO E 2+KO H 4 A	4 pcs.	54
EDKO 59	ET 06 01 ...	—	—	KO H 1+KO H 6	4 pcs.	59
EDKO 64	ET 06 02 ...	—	TUG 09 ...	KO W 2+KO H 6/ KO E 2+KO H 6/ KO H 2+KO H 6/ KO L 2+KO H 6	4 pcs.	64
EDKO 79	ET 10 01 ...	—	—	KO H 1+KO H 10	4 pcs.	79
EDKO 84	ET 10 02 ...	—	—	KO L 2+KO H 10/ KO H 6+KO H 6/ KO W 2+KO H 10/ KO H 10+KO H 2	4 pcs.	84
EDKO 100	ET 14 01 ...	—	—	KO H 1+KO H 14	2 pcs.	100
EDKO 105	ET 14 02 ...	RL 17 ...	TUG 17 ...	KO H 2+KO H 14/ KO W 2+KO H 14/ KO L 2+KO H 14/ KO E 2+KO H 14	2 pcs.	105
EDKO 125	ET 14 06 ...	—	—	KO H 14+KO H 6/ KO H 10+KO H 10	2 pcs.	125
EDKO 145	ET 14 10 ...	—	—	KO H 14+KO H 10	2 pcs.	145
EDKO 165	ET 14 14 ...	—	—	KO H 14+KO H 14	2 pcs.	165
temperature range:			-55 °C ... +200 °C			
material:			conductive rubber silicone, 0.8 mm thick			

M 49

Combination cases
Tube cases
Design case Eurotainer
Design case Rail

→ M 11 – 17
→ M 21 – 25
→ M 46
→ M 47

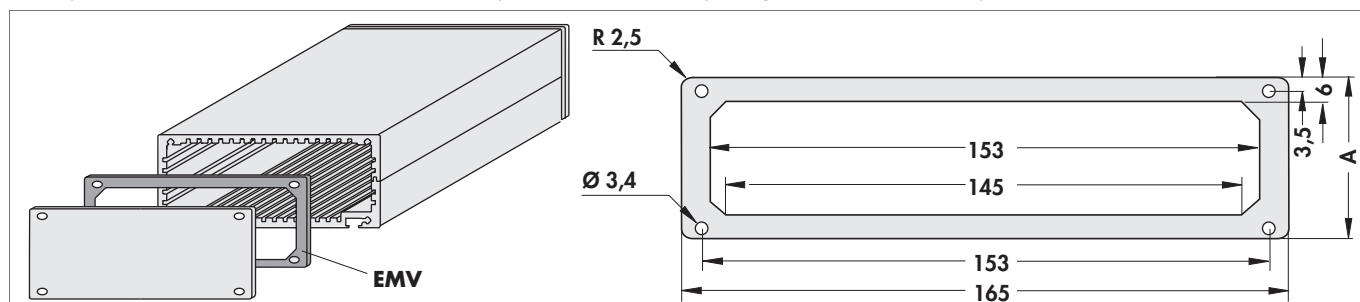
Design case Secco
Design case Chac
Euro case
Extruded assembled cases

→ M 42
→ M 45
→ M 9
→ M 5 – 7

Accessories for cases

EMC - IP seals

– the protection class IP 52 is achievable for the profiles **KO HL ...** by using a 3mm thick cover plate



art. no.	suitable for combination cases	VPE	dim. [mm]
			A
EDKOL 23	KO HL 0+KO HL 1	6 pcs.	23.6
EDKOL 28	KO HL 0+KO LL 2/ KO HL 0+KO HL 2	6 pcs.	28.7
EDKOL 33	KO HL 1+KO HL 1	6 pcs.	33.8
EDKOL 38	KO HL 1+KO LL 2/ KO HL 1+KO HL 2	6 pcs.	38.9
EDKOL 44	KO HL 2+KO LL 2/ KO HL 2+KO HL 2	6 pcs.	44.0
EDKOL 49	KO HL 1+KO HL 4/ KO HL 6+KO HL 0	4 pcs.	49.0
EDKOL 54	KO LL 2+KO HL 4/ KO HL 2+KO HL 4	4 pcs.	54.1
EDKOL 59	KO HL 1+KO HL 6	4 pcs.	59.3
EDKOL 64	KO HL 2+KO HL 6/ KO HL 4+KO HL 4/ KO LL 2+KO HL 6	4 pcs.	64.4
EDKOL 69	KO HL 0+KO HL 10	4 pcs.	69.4
EDKOL 74	KO HL 4+KO HL 6	2 pcs.	74.5
EDKOL 79	KO HL 1+KO HL 10	2 pcs.	79.6
EDKOL 84	KO HL 2+KO HL 10/ KO LL 2+KO HL 10/ KO HL 6+KO HL 6	2 pcs.	84.7
EDKOL 89	KO HL 0+KO HL 14	2 pcs.	89.7
EDKOL 94	KO HL 4+KO HL 10	2 pcs.	94.8
EDKOL 100	KO HL 1+KO HL 14	2 pcs.	99.9
EDKOL 105	KO HL 2+KO HL 14/ KO LL 2+KO HL 14/ KO HL 6+KO HL 10	2 pcs.	105.0
EDKOL 115	KO HL 4+KO HL 14	2 pcs.	115.1
EDKOL 125	KO HL 10+KO HL 10/ KO HL 6+KO HL 14	2 pcs.	125.4
EDKOL 145	KO HL 10+KO HL 14	1 pcs.	145.7
EDKOL 166	KO HL 14+KO HL 14	1 pcs.	166.0
temperature range:		-55 °C ... +200 °C	
material:		conductive rubber silicone, 0.8 mm thick	

IP seals for Rail

– combined with the seals **EDKO** → M 49 and **IDKO** → M 50 longer handle profiles are required

please indicate with order

art. no.	for Rail	VPE	dim. [mm]
			A
IDKO 044	RL 05 ...	6 pcs.	44
IDKO 105	RL 17 ...	2 pcs.	105
temperature range:		-30 °C ... +100 °C	
material:		chloroprene, 0.8 mm thick	

Combination cases
Tube cases
Design case Eurotainer
Design case Rail

→ M 11 – 17
→ M 21 – 25
→ M 46
→ M 47

Design case Secco
Design case Chac
Euro case
Extruded assembled cases

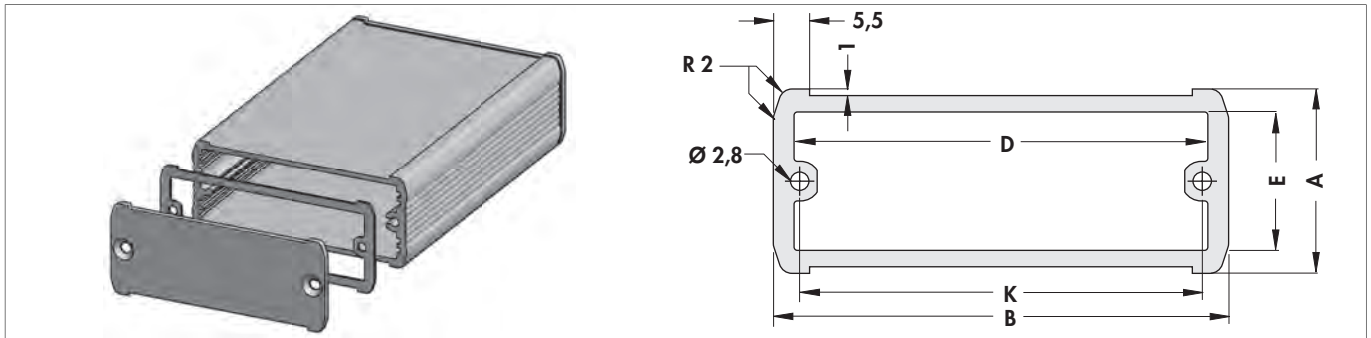
→ M 42
→ M 45
→ M 9
→ M 5 – 7

M 50

Accessories for cases

EMC seals for TUF

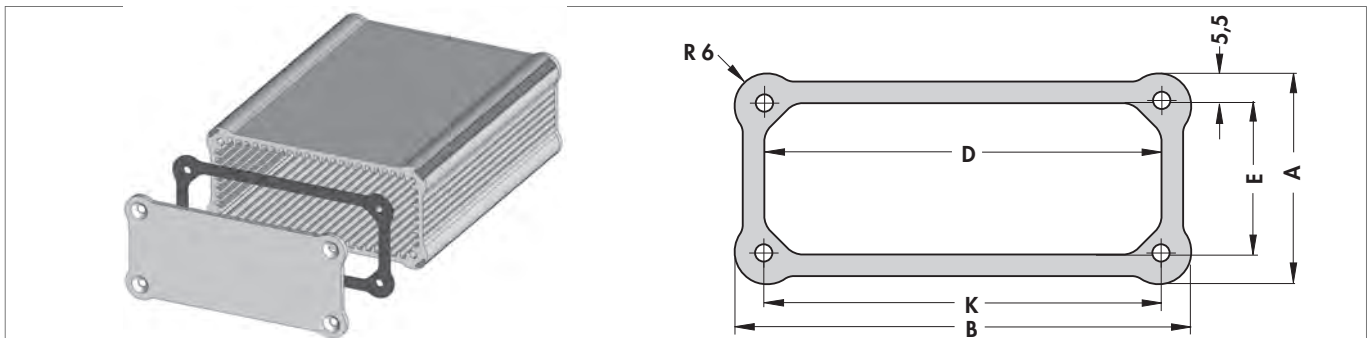
- consisting of 0.8 mm thick electrically conductive rubber silicone
- placed between housing profiles and covers
- in order to achieve a EMC screening the **TUF cases** have to be ordered with an electrically conductive surface: **TP** = chrome-free transparent passivated/on request additional lacquering of the exterior surfaces



art. no.	for TUF	VPE	dim. [mm]				
			A	B	D	E	K
EDKO 55 16	TUF 55 16 ...	6 pcs.	16	55.0	48.7	9	47.00
EDKO 55 25	TUF 55 25 ...	6 pcs.	25	55.0	48.7	18	47.00
EDKO 55 35	TUF 55 35 ...	6 pcs.	35	55.0	48.7	28	47.00
EDKO 69 28	TUF 69 28 ...	6 pcs.	28	69.1	62.8	21	61.10
EDKO 80 42	TUF 80 42 ...	6 pcs.	42	80.0	72.9	34	71.00
EDKO 094 32	TUF 94 32 ...	4 pcs.	32	94.3	88.0	25	86.30
EDKO 105 52	TUF 105 52 ...	4 pcs.	52	105.0	97.9	44	96.00
EDKO 120 42	TUF 120 42 ...	4 pcs.	42	120.0	112.9	34	110.95
temperature range:			-55 °C ... +200 °C				
material:			conductive rubber silicone, 0.8 mm thick				


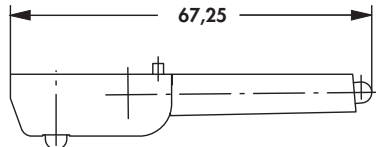
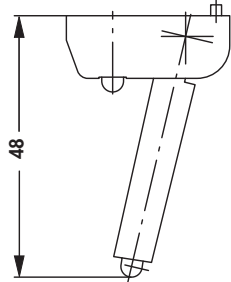
EMC seals for TUS

- consisting of 0.8 mm thick conductive rubber silicone
- placed between housing profiles and covers
- in order to achieve a EMC screening the **TUF cases** have to be ordered with an electrically conductive surface: **TP** = chrome-free transparent passivated/on request additional lacquering of the exterior surfaces


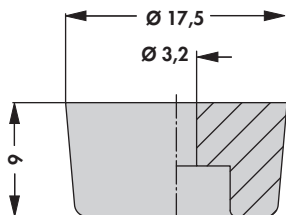

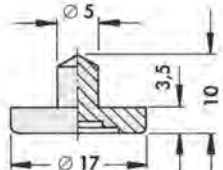


art. no.	for TUS	VPE	dim. [mm]				
			A	B	D	E	K
EDKO 58 39	TUS 58 39 ...	6 pcs.	39	58.9	47.9	28	47.9
EDKO 84 39	TUS 84 39 ...	6 pcs.	39	84.5	73.5	28	73.5
temperature range:			-55 °C ... +200 °C				
material:			conductive rubber silicone, 0.8 mm thick				


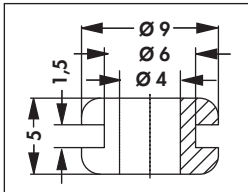
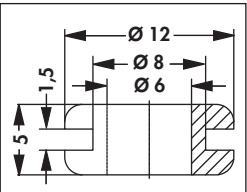
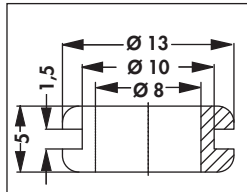
Tilt foot

		
art. no.	mounting	type of delivery
AF 1	by screws	set (2 pcs. with tilt bracket / 2 pcs. without tilt bracket + assembly material)
colour:	black	
material:	glass fibre filled polyamide with rubber insert (skid and scratch resistant)	

Feet

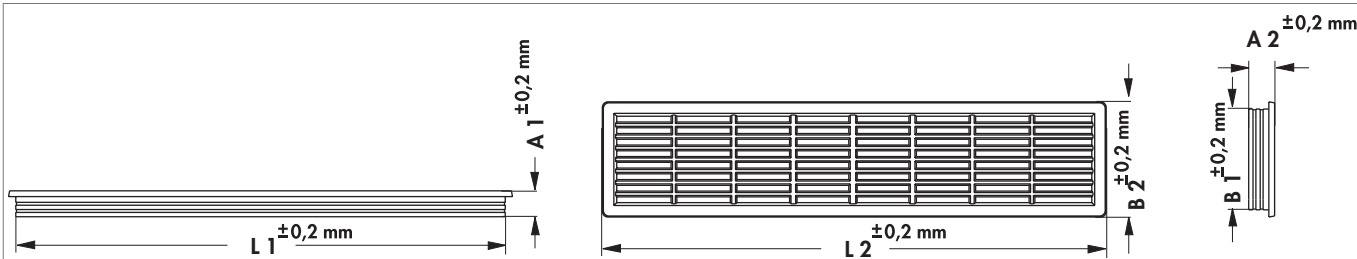
		
art. no.	mounting	
GF 1759	by screws	
		
art. no.	mounting	
GF 1710	by pressing into the chassis drilling	
colour:	black	
heat resistance:	max. 80° C	
material:	PVC	

Bushings

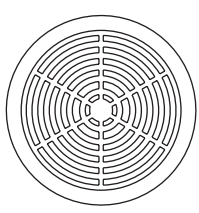
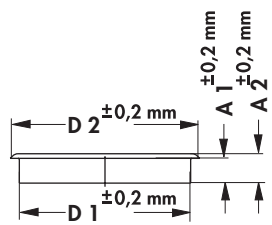
			
	KDF 49	KDF 612	KDF 813
art. no.	mounting		
KDF 49	by pressing into the chassis drilling		
KDF 612	by pressing into the chassis drilling		
KDF 813	by pressing into the chassis drilling		

Accessories for cases

Ventilation-frames

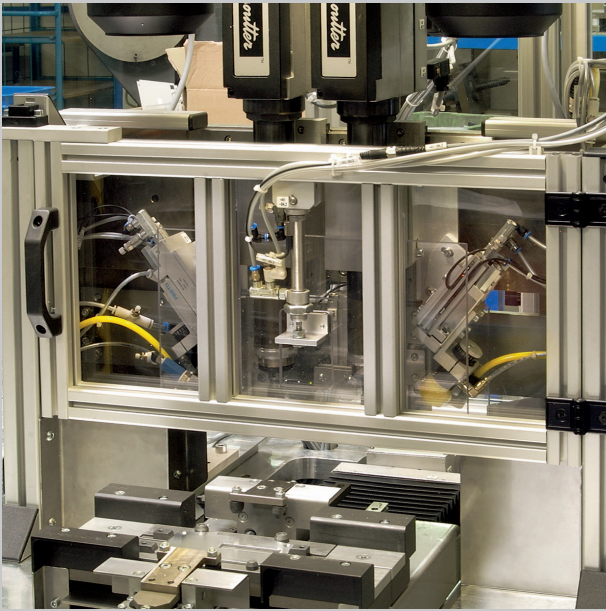


art. no.	mounting	dim. [mm]					
		L 1	L 2	A 1	A 2	B 1	B 2
LB 15040 SW	for fixing a plastic-gue is suitable	144.5	149.0	6.5	8.2	35	40.0
LB 22565 SW	for fixing a plastic-gue is suitable	220.0	226.0	7.0	9.5	60	65.5
LB 225121 SW	for fixing a plastic-gue is suitable	220.0	226.5	7.0	9.7	116	122.0



art. no.	mounting	dim. [mm]			
		A 1	A 2	Ø D 1	Ø D 2
LB 489 SW	for fixing a plastic-gue is suitable	7.0	9.0	43	47.5
LB 659 SW	for fixing a plastic-gue is suitable	8.5	10.5	60	66.0

colour:	black
material:	impact proof polystyrene (tri-soluble)



efficient special machines



modern sheet processing

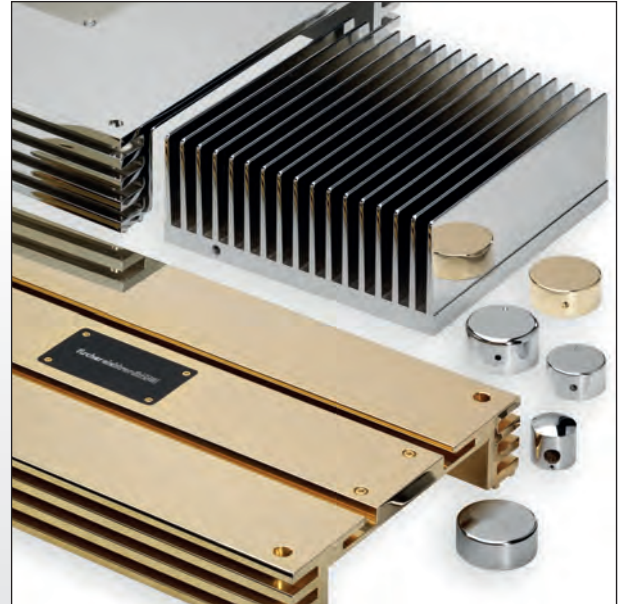


burr-avoiding cutting technology



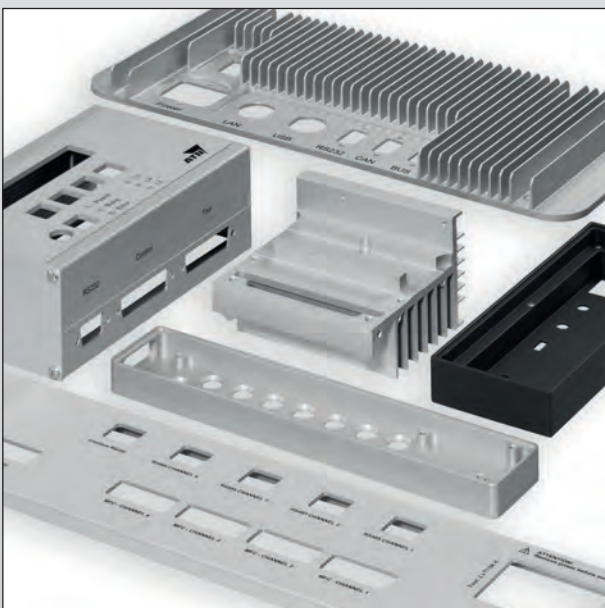
Development and construction

- competent partner with experience of more than 40 year
- innovative product development, product-specific support by means of application engineers
- design assistance, feasibility analyses and product optimizations
- construction support and preparation of drawings



Chromium and gold plating

- chromium plating and gold plating of front panels, extruded profiles and construction parts
- qualitative constant and reproducible, high quality surfaces
- various gloss levels by means of different polishing processes
- processing of brass, aluminium and steel



Decorative aluminium milled parts

- high quality, very precise milled decorative aluminium parts
- exact radii and sharp-edged cutouts by using most modern CNC machining centers
- precision ground surfaces
- natural colour and black anodized



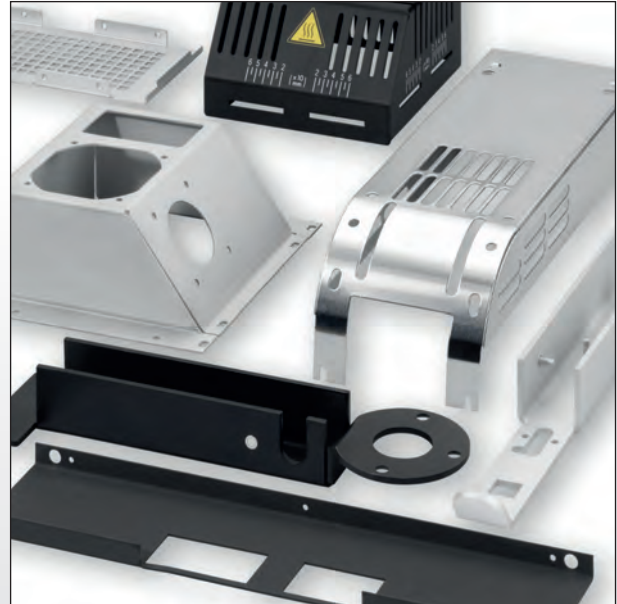
19" construction system

- 19" inserts with side panels made of extruded profiles
- standard insert cassettes with ventilation slots and integrated heatsink for Europe- and double Europe cards
- 19" Rack Case with various part front panels TFP
- transparent passivated, conductive surfaces for EMC-applications
- individual colour according to customer specifications



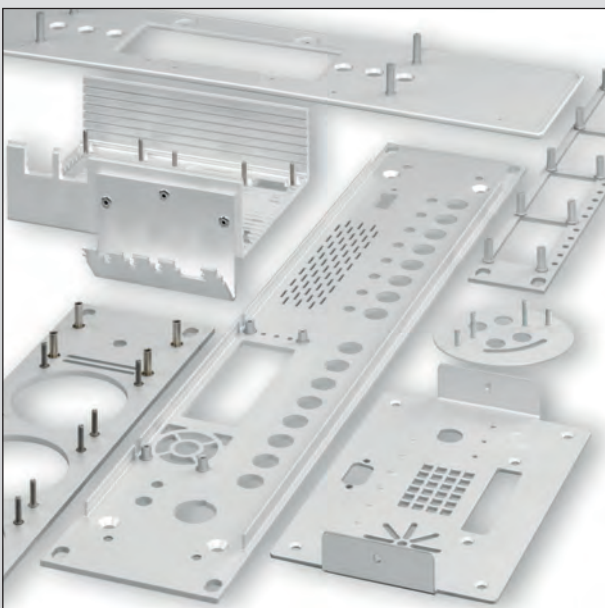
Front plates for the cases and 19" technology

- manufactured from aluminium, steel or stainless steel sheets
- front plates pre-assembled on standard cases according to your requests
- black and clear or special anodised surfaces on customer's request
- lacquer in all current RAL-colours
- EMC screened front plates by means of electrically conductive surfaces



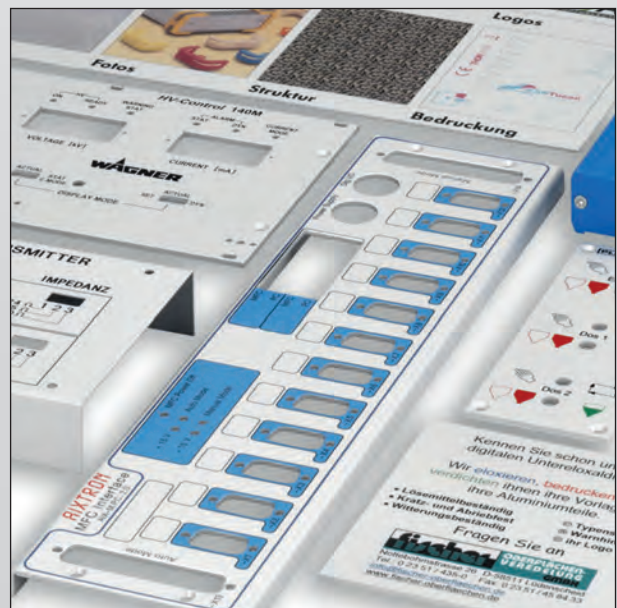
Sheet metal forming

- fast and efficient sheet metal forming according to customer's request by means of modern CNC pressing- and bending machines
- for highest quality requirements milled cut-outs and outline contours
- easy data exchange by means of CAD-CAM design- and program systems of the latest generation
- prototype construction, small batches



Additional treatment possibilities

- force fitting or welding of threaded pins, thread nuts and flat plugs
- sand blasting for homogeneous surfaces by means of automatic blasting plants
- unidirectional grinding according to customised grid size
- high-definition, exact engraved fonts
- individual treatment possibilities



Printing

- permanent screenprinting in all standard RAL-, HKS- and Pantone colours made in-house screen printing plant
- pad printing for contour parts
- digital sub-eloal printing in high-resolution quality, photo-realistic and tamper proof
- printing of aluminium, plexiglas, standard plastics etc.
- issue of artwork by own repro department



19" system cases

- modular design made of aluminium profiles- and sheets for different case positions
- same external dimensions like subracks therefore also suitable for installation in 19" cabinets
- possibility to mount any part front panel and circuit board on front- and backside
- all dimensions, dividing possibilities and colours changeable acc. to customer specifications



19" subracks

- for standard and EMC application
- integrated module rails with positioning aid for application of guide rails
- designs with subdivision in different height units
- wide range of accessories and modifications
- subrack with all expansion possibilities individual for your application purpose



19" plug-in box

- installation from horizontal mounted circuit cards or non-standardized components
- 1-6 U, with or without handles
- side panels are made out of aluminium panels or extruded profiles
- multif. versions with removable cover and bottom panels
- permanent screen printing in all current RAL colours
- customised drillings and profile treatments



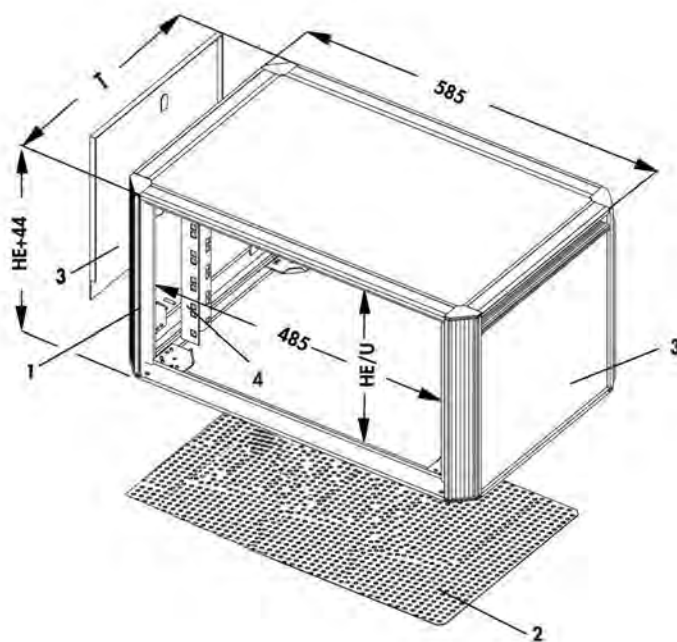
19" insert modules

- integrated T-nuts for insulation strips, threaded rails or square nuts
- EMC-shielded application due to electrical conductive surfaces and sealings
- with internal guide for PC-boards in mounting grid 1 HP
- external screw channels for avoiding short-circuits due to screw splinters
- realisation of special customised versions

19" cases "Plusline"

- basic case with modular rails 19" variable in depth for application of built-in parts, colour **ultramarine blue (RAL 5002)**
- bench case with recessed grips
- electronic cabinet for floor installation with/without levelling feet or double rollers
- wall mounting case by means of suitable mounting material
- side panels detachable
- optional extras for basic case: roof cap, rear panel ventilated/non-ventilated, full-vision door or frame door with square lock baseboard with bottom plate, active rear panel ventilation
- possibility to mount shelves, intermediate shelves with/without telescopic rails
- suitable for steady-state use
- additional payload max. 100 kg
- 19" assembly dimensions according to IEC 297-1 (DIN 41494)
- all accessories available on request
- **contents of delivery:** basic case, assembled

1 = basic case; **2** = bottom with ventilation slots (**option BL**); **3** = firmly mounted side panel (**PL H**); **4** = 19" grid struts



art. no.	U	dim. [mm]
		T
PL H 03 ... UL ...	3	320/ 380
PL H 04 ... UL ...	4	320/ 380
PL H 06 ... UL ...	6	320/ 380/ 440
PL H 09 ... UL ...	9	380/ 440
PL H 12 ... UL ...	12	380/ 440/ 500
PL H 18 ... UL ...	18	440/ 500/ 600
PL H 24 ... UL ...	24	500/ 600

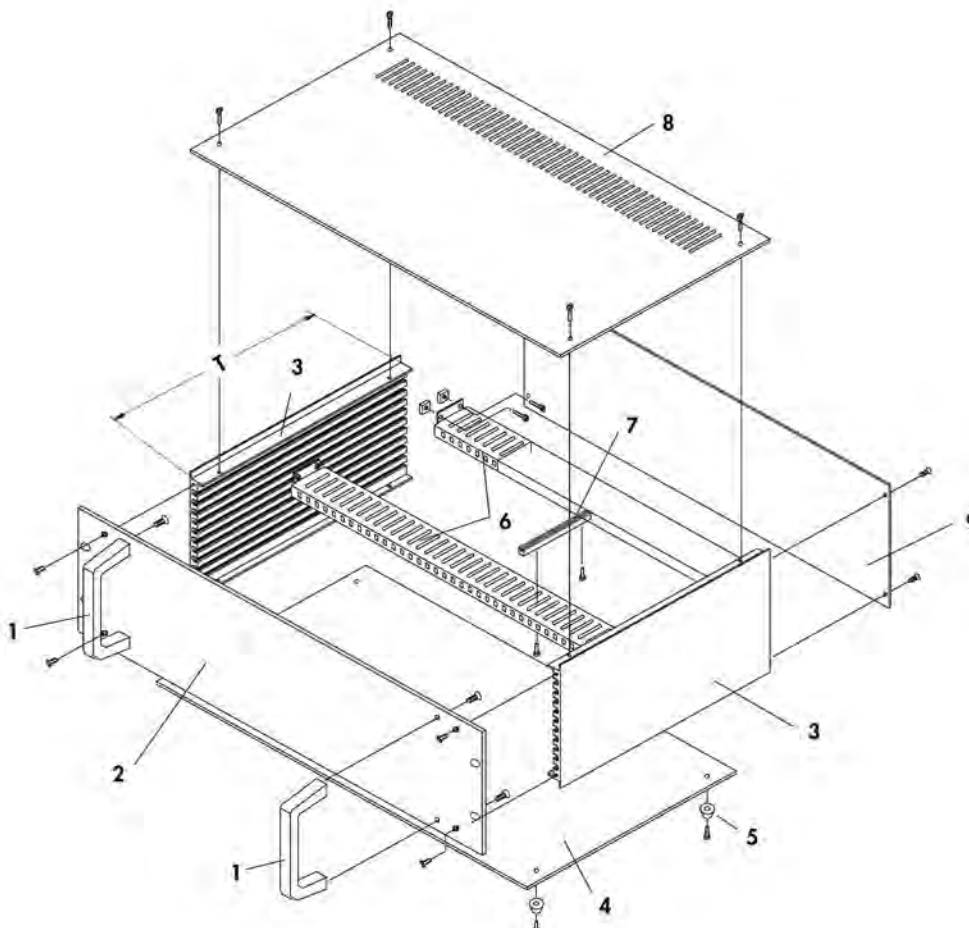
please indicate: ... Tiefe 320 380 440 500 600 mm ... accessory (optional) BL = bottom panel with ventilation slots

19" plug-in chassis



- with mounting possibility for PCB's
- closed version
- with side panels of slotted aluminium profile for insertion of carrier rails **TS CE**
- mounting rails with oval hole cutouts for **M 3** both above and on the sides featuring 2 HP spacing
- oval hole cutouts for mounting of e.g. modules or guide rails **FS 6**
- with removable cover and bottom panels, by means of guide rails **FS 6** additional PCBs can be mounted
- cover with 1 row of ventilation slots, bottom panel closed
- **contents of delivery:** front panel with handles; 2 x aluminium profile side panels
1 x bottom and cover plate; 1 x rear panel; fixing material

1 = handle; **2** = front plate (4mm); **3** = side panel profile; **4** = bottom panel; **5** = foot
6 = carrier rail **TS CE**; **7** = guide rail; **8** = cover panel; **9** = rear panel (3 mm)



art. no.	dim. [mm] T	art. no.	dim. [mm] T
CE 3 260	260	CE 3 360	360
surface:		front panel and handles are clear anodised/ side panels, cover panels and rear panels transparent passivated	

N 3

19" handles
19" front panels
19" system case "RackCase"
Fixing material

→ **N 68 - 70**
→ **N 67**
→ **N 14 - 16**
→ **N 65 - 66**


19" plug-in boxes with cooling fins
19" case "Plusline"
19" plug-in boxes
19" system case "RackCase"

→ **N 12**
→ **N 2**
→ **N 5 - 12**
→ **N 14 - 16**

19" plug-in chassis

Mounting rails

- used to fasten modules or guide-rails
- mounting rail is perforated in 2 HP spacing, width 3.2 mm over the whole length

art. no.		
TS CE		
surface:	chrome-free transparent passivated	

Threaded rails

- the threaded rails are inserted into the side panel profiles to fasten the mounting rails. (6 x 2 ; M 3)
- dimensioned drawing of the side panel profile **GB 21** → N 71

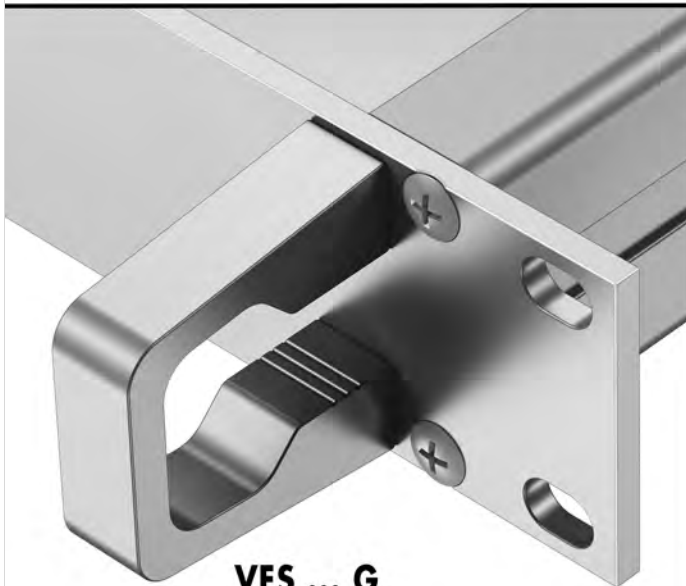


art. no.	dim. [mm]	art. no.	dim. [mm]
	T		T
GS 260	260	GS 360	360

19" plug-in boxes



VES ...



VES ... G

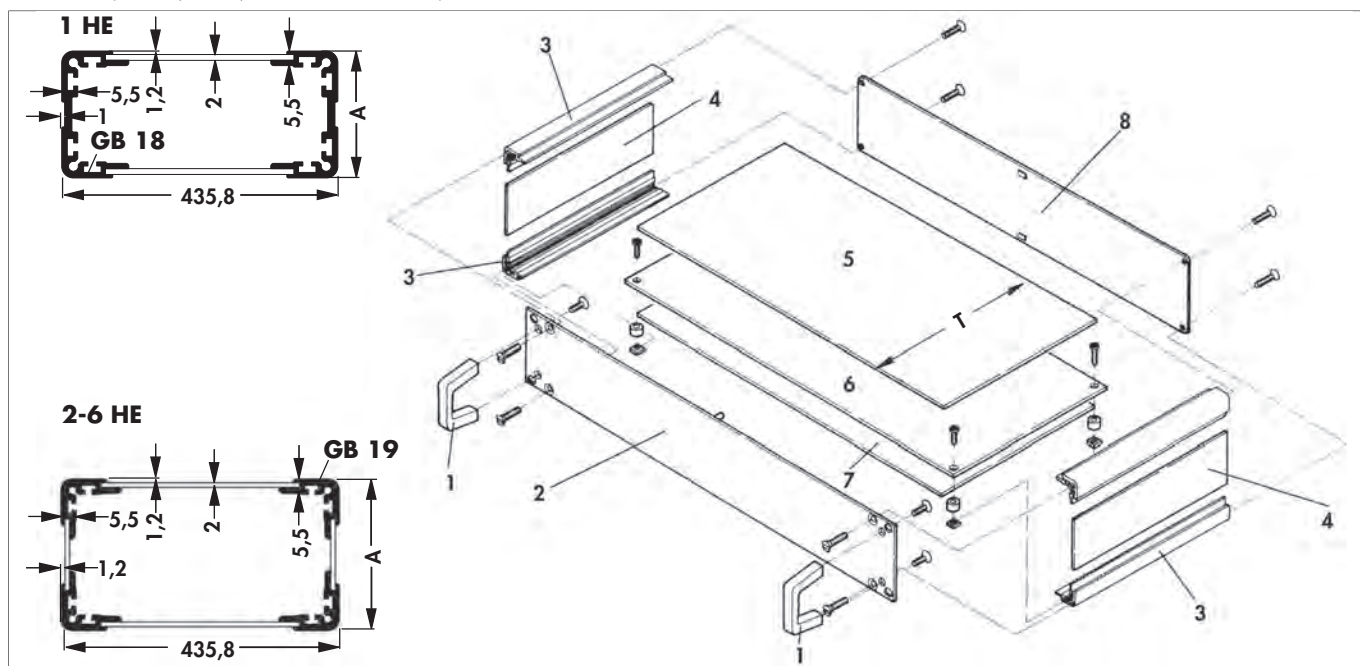


VES ... L

- 19" plug-in box **VES** for insertion of non-standardised components or circuit boards
- side panels in 1 U version made of side panel profile **GB 18**
- side panels in 2-6 U version made of edge profiles **GB 19** with inserted side panels
- sliding-screw channel in the profiles is used for insertion of the mounting- or chassis panel **MPW**; hence no perforation needed in the bottom panel
- support element on the front panel and back panel avoid deflection of cover and bottom panel
- special mechanical treatments, other dimensions and surfaces are possible according to customer's request
- **material thickness:** front panel 4 mm, back panel 2 mm
- **contents of delivery:** front panel, side panels, edge and/or side profiles, rear panel, cover and bottom panel
- dimensioned drawing of the side panel profile **GB 18/19** → N 71

19" plug-in boxes

1 = handles; 2 = front panel (4 mm); 3 = edge profile; 4 = side panel; 5 = cover panel; 6 = mounting panel; 7 = bottom panel; 8 = back panel (2 mm); ET = insertion depth



art. no.	dim. [mm]				art. no.	dim. [mm]			
	A	B	T	ET		A	B	T	ET
VES 1 260 ...	43.5	435.8	260	262	VES 1 300 ...	43.5	435.8	300	302
VES 2 260 ...	88.1	435.8	260	262	VES 2 300 ...	88.1	435.8	300	302
VES 3 260 ...	132.5	435.8	260	262	VES 3 300 ...	132.5	435.8	300	302
VES 4 260 ...	177.0	435.8	260	262	VES 4 300 ...	177.0	435.8	300	302
VES 5 260 ...	221.4	435.8	260	262	VES 5 300...	221.4	435.8	300	302
VES 6 260 ...	265.9	435.8	260	262	VES 6 300 ...	265.9	435.8	300	302
VES 1 280 ...	43.5	435.8	280	282	VES 1 360 ...	43.5	435.8	360	362
VES 2 280 ...	88.1	435.8	280	282	VES 2 360 ...	88.1	435.8	360	362
VES 3 280 ...	132.5	435.8	280	282	VES 3 360 ...	132.5	435.8	360	362
VES 4 280 ...	177.0	435.8	280	282	VES 4 360 ...	177.0	435.8	360	362
VES 5 280 ...	221.4	435.8	280	282	VES 5 360 ...	221.4	435.8	360	362
VES 6 280 ...	265.9	435.8	280	282	VES 6 360 ...	265.9	435.8	360	362

please indicate: ... accessory (optional)
G = handles
DL = cover panel with ventilation slots
L = cover and bottom panels with ventilation slots

surface: natural colour anodised

Mounting plate

– perforations in the bottom panel are avoided by fixing devices on the mounting plate

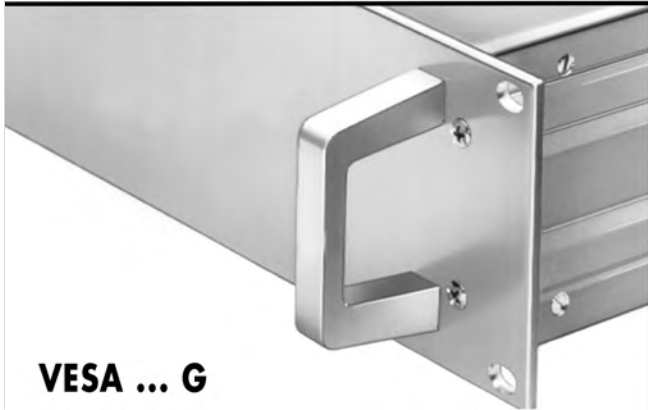


art. no.	dim. [mm]	art. no.	dim. [mm]
	T		T
MPW 260	260	MPW 300	300
MPW 280	280	MPW 360	360

19" plug-in box with removable cover panel



VESA ...



VESA ... G



VESA ... V

- 19" plug-in box **VESA** for insertion of non-standardised components or circuit boards
- cover and bottom panels are screwed together laterally with edge profiles
- side panel at 1 U version made of side panel profile **GB 23**
- 2-6 U version with edge profiles **GB 22** and side panels
- front and rear panel from 1 to 3 U made of **AL-profile** → **N 72**
- front and rear panel for 4 U and more made from AL-plate
- guide grooves in the profile are used for the insertion of the mounting- or chassis panels **MPH**
- sliding-screw channel in the edge profiles used for mounting the carrier rail **TS CE**
- **contents of delivery:** front panel, side panels, edge profiles, rear panel, cover and bottom plate

N 7

19" front panels
19" handles
Profiles
Guide rail

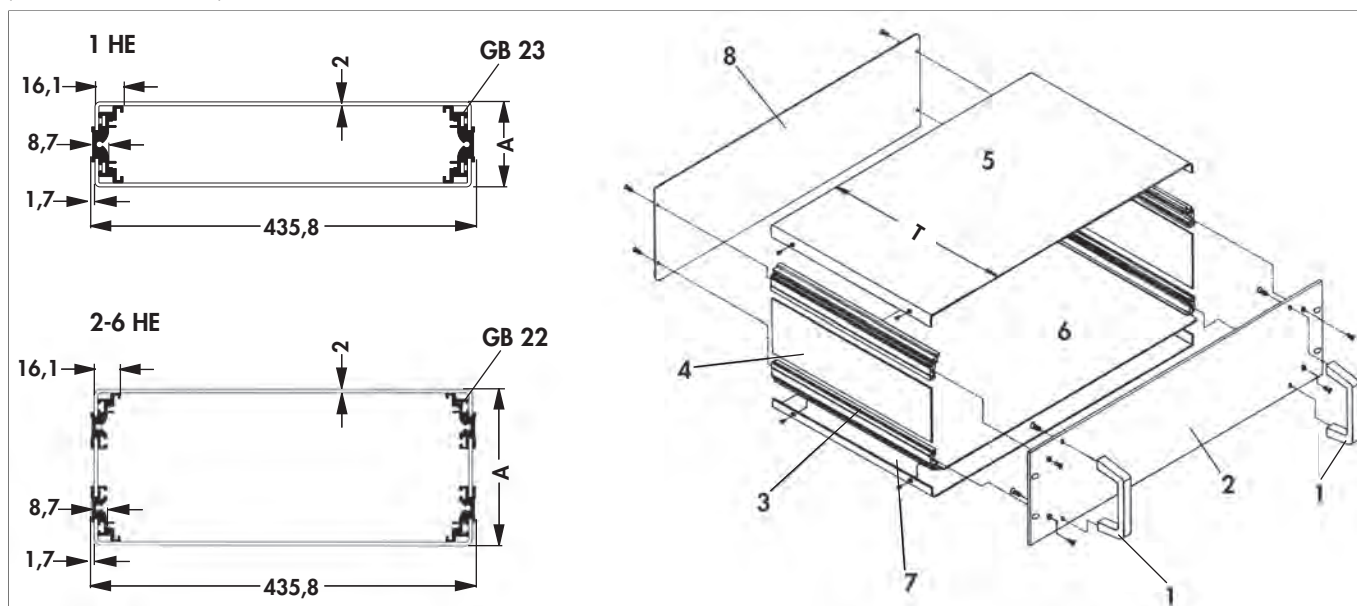
→ **N 67**
 → **N 68 – 70**
 → **N 71 – 80**
 → **N 27 – 28**

Variable guide rails
Reinforced guide rails
Profiles for 19" plug-in boxes
19" plug-in boxes with cooling fins

→ **N 28**
 → **N 28**
 → **N 72 – 73**
 → **N 12**

19" plug-in box with removable cover panel

1 = handles; 2 = front panel; 3 = edge profile; 4 = side panel, 5 = cover panel; 6 = mounting panel; 7 = bottom panel; 8 = rear panel; ET= insert depth



art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	T	ET		A	T	ET
VESA 1 260 ...	43.8	260	263	VESA 1 300 ...	43.8	300	303
VESA 2 260 ...	86.2	260	262	VESA 2 300 ...	86.2	300	302
VESA 3 260 ...	130.6	260	262	VESA 3 300 ...	130.6	300	302
VESA 4 260 ...	175.0	260	262	VESA 4 300 ...	175.0	300	302
VESA 5 260 ...	219.4	260	262	VESA 5 300 ...	219.4	300	302
VESA 6 260 ...	264.0	260	262	VESA 6 300 ...	264.0	300	302
VESA 1 280 ...	43.8	280	283	VESA 1 360 ...	43.8	360	363
VESA 2 280 ...	86.2	280	282	VESA 2 360 ...	86.2	360	362
VESA 3 280 ...	130.6	280	282	VESA 3 360 ...	130.6	360	362
VESA 4 280 ...	175.0	280	282	VESA 4 360 ...	175.0	360	362
VESA 5 280 ...	219.4	280	282	VESA 5 360 ...	219.4	360	362
VESA 6 280 ...	264.0	280	282	VESA 6 360 ...	264.0	360	362

please indicate: ... accessory (optional)
G = handles
V = locking device
DL = cover panel with ventilation slots
BL = bottom panel with ventilation slots
L = cover and bottom panels with ventilation slots

surface: natural colour anodised

19" Plug-in box with removable cover panel

Mounting plate

– perforations in the bottom panel are avoided by fixing devices on the mounting plate



art. no.	dim. [mm]	art. no.	dim. [mm]
	T		T
MPH 260	260	MPH 300	300
MPH 280	280	MPH 360	360
surface:		natural colour anodised	

Mounting rail

– used for mounting devices or guide-rails
 – the mounting rail is perforated in 2 HP spacing over the whole length



surface:		natural colour anodised	
-----------------	--	-------------------------	--

Threaded rail

– the threaded rail **M3** is to be inserted into the side panel profile for fastening the support rail **TS CE**

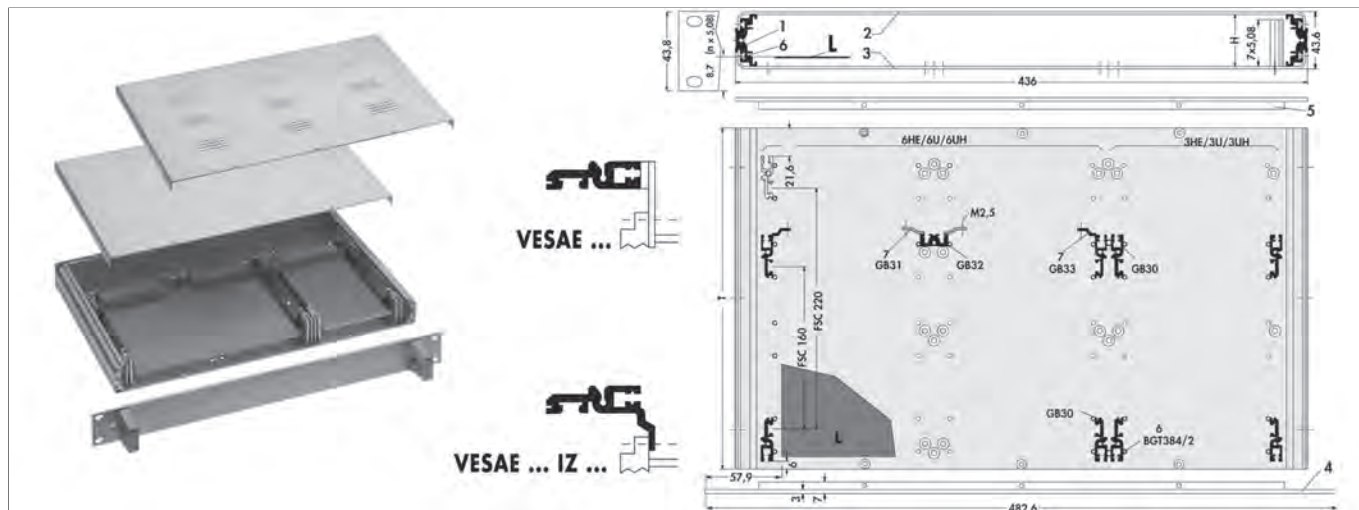


art. no.	dim. [mm]	art. no.	dim. [mm]
	T		T
GS 260	260	GS 300	300
GS 280	280	GS 360	360

19" plug-in box for horizontal installation of PCBs

- 19" plug-in box, 1 U, with removable aluminium cover and bottom panel
- edge profile, front and rear panel made of aluminium profile
- fully transparent passivated to insulate against electromagnetic interference
- installation of 3, 6 or 9 U Eurocards, with a horizontal depth of 160 or 220 mm
- mounting height of the module rails 7 HP; other dimensions on request

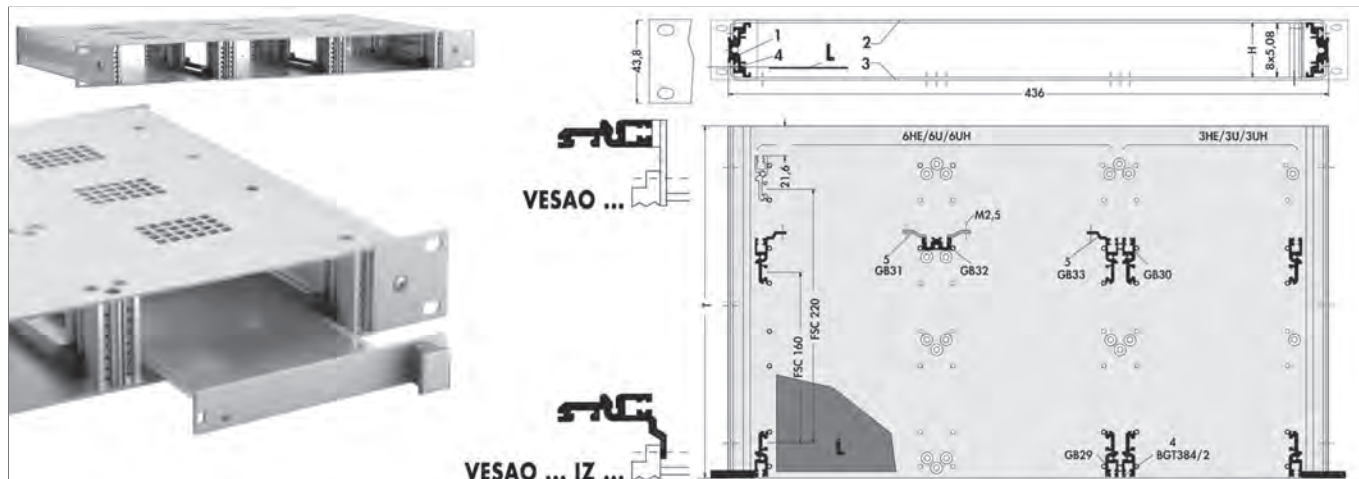
contents of delivery: **1** = edge profile **GB 23**; **2** = cover panel (2 mm); **3** = bottom panel (2 mm); **4** = front profile **GB 28**; **5** = rear profile **GB 28**; **6** = threaded rail; **7** = module rails 7 HP; **L** = PCB



art. no.	for Eurocards (U)	dim. [mm] T	art. no.	for Eurocards (U)	dim. [mm] T
VESAE 1 260 009 ...	1 x 9	260	VESAE 1 260 333 ...	3 x 3	260
VESAE 1 260 063 ...	1 x 6/ 1 x 3	260			

- mounting height of the module rails 8 HP; other dimensions on request

contents of delivery: **1** = edge profile **GB 23**; **2** = cover panel (1.5 mm); **3** = bottom panel (1.5 mm); **4** = threaded rail; **5** = module rails 8 HP; **L** = PCB



art. no.	for Eurocards (U)	dim. [mm] T	art. no.	for Eurocards (U)	dim. [mm] T
VESAO 1 260 009 ...	1 x 9	260	VESAO 1 260 333 ...	3 x 3	260
VESAO 1 260 063 ...	1 x 6/ 1 x 3	260			

please indicate: ... rear module rail (optional)
IZ = integrated Z-rail

... accessory (optional)
G = handles
DL = cover panel with ventilation slots
BL = bottom panel with ventilation slots
L = cover and bottom panels with ventilation slots

19" front panels
19" handles
Profiles
Guide rail

→ N 67
→ N 68 - 70
→ N 71 - 80
→ N 27 - 28

Variable guide rails
Reinforced guide rails
Profiles for 19" plug-in boxes
19" plug-in boxes with cooling fins

→ N 28
→ N 28
→ N 72 - 73
→ N 12

N 10

A

B

C

D

E

F

G

H

I

K

L

M

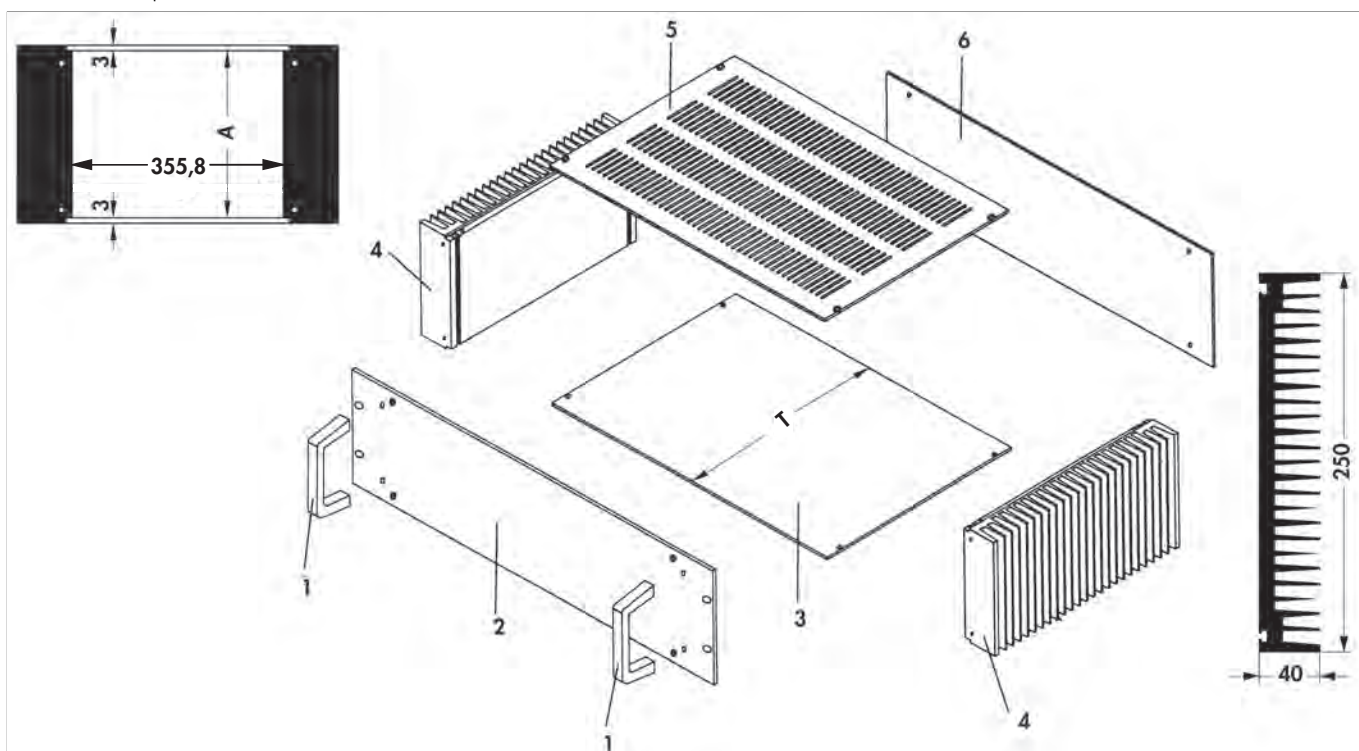
N

19" plug-in box with integrated cooling fins



- 19" plug-in box **SKE** for insertion of non-standardised components
- with side panels made of extruded heatsink **SK 91/ SK 93**, CNC-machined upon request
- sliding-screw channels in the profiles permit the insertion of a mounting panel
- cover panel equipped with ventilation slots as a standard feature, bottom panel closed
- all plug-in boxes equipped with handles as a standard
- particularly stable design
- side panel profile: **SKE ... 250 (SK 91); SKE ... 400 (SK 93)**
- **contents of delivery:** front panel (4 mm) with handles, 2 side panels consisting of extruded heatsinks, bottom and cover plate (3 mm), rear panel (3 mm)

1 = handle; **2** = front panel (4 mm); **3** = bottom panel; **4** = side panel profile; **5** = cover panel; **6** = rear panel (3 mm); design;
ET = insert depth



art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	T	ET		A	T	ET
SKE 1 250	37.6	250	253	SKE 1 400	37.6	400	403
SKE 2 250	82.1	250	253	SKE 2 400	82.1	400	403
SKE 3 250	126.5	250	253	SKE 3 400	126.5	400	403
SKE 4 250	171.0	250	253	SKE 4 400	171.0	400	403
SKE 5 250	215.4	250	253	SKE 5 400	215.4	400	403
SKE 6 250	259.9	250	253	SKE 6 400	259.9	400	403

surface:

front panel and handles are clear anodised/ side panel profile, cover and bottom plate as well as the rear panel are black anodised

19" plug-in box with cooling fins

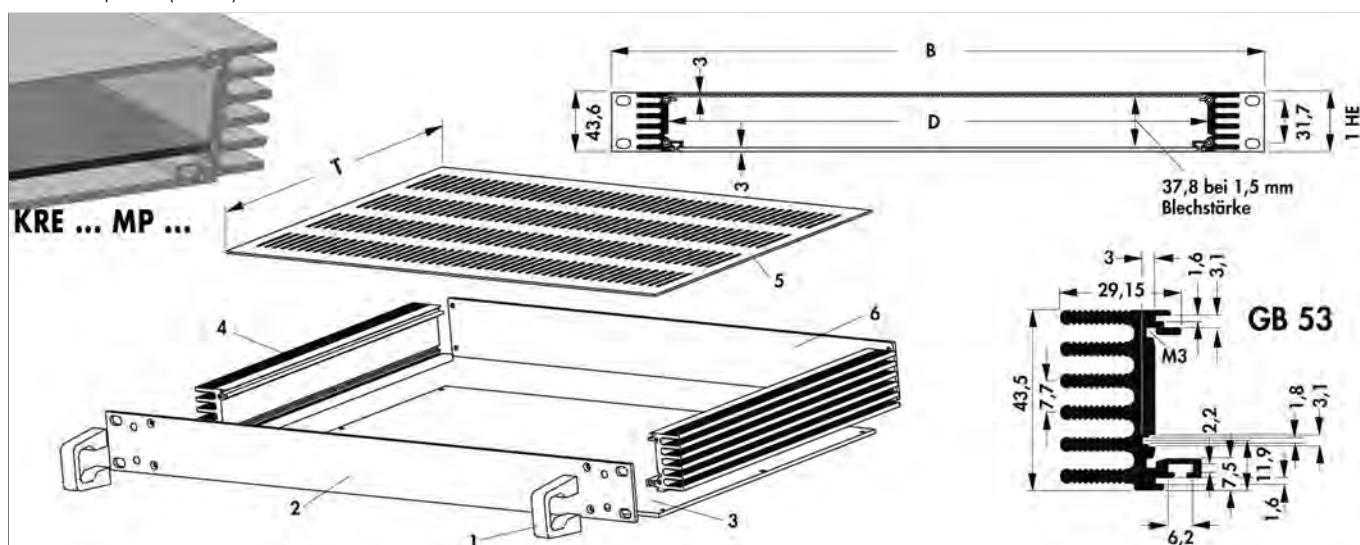


- space-saving 1 U 19" plug-in box for insertion of non-standardised components or circuit boards
- with side panels made of extruded cooling fin profiles with removable top and bottom panel made of aluminium
- integrated sliding-screw channels in the profiles permit the insertion of a mounting panel
- **contents of delivery:** front panel (3 mm), two side panels made of aluminium profile, bottom plate (3 mm), cover plate (3 mm), rear panel (3 mm), mounting material

ET = insert depth

1 = handles; **2** = front plate (3 mm); **3** = bottom panel (3 mm); **4** = side panel profile; **5** = cover panel (3 mm);

6 = rear panel (3 mm)



art. no.	dim. [mm]					art. no.	dim. [mm]				
	B	D	T	HP	ET		B	D	T	HP	ET
KRE 1 42 260 ...	269.2	185.9	260	42	263	KRE 1 42 360 ...	269.2	185.9	360	42	363
KRE 1 63 260 ...	375.9	292.6	260	63	263	KRE 1 63 360 ...	375.9	292.6	360	63	363
KRE 1 84 260 ...	482.6	399.3	260	84	263	KRE 1 84 360 ...	482.6	399.3	360	84	363

please indicate:

... accessory (optional)

- G** = handles
- DL** = cover panel with ventilation slots
- BL** = bottom panel with ventilation slots
- L** = cover and bottom panels with ventilation slots

surface: natural colour anodised

Mounting plate (MP)

- by fixing components to the mounting plate, perforations in the bottom panel are avoided

art. no.	dim. [mm]		art. no.	dim. [mm]	
	T	HP		T	HP
KRE 42 MP 260	260	42	KRE 42 MP 360	360	42
KRE 63 MP 260	260	63	KRE 63 MP 360	360	63
KRE 84 MP 260	260	84	KRE 84 MP 360	360	84



19" system case Rack Case

- case serie Rack Case consisting of extruded aluminium profiles and sheets
- modular assembly for different case construction stages
- suitable for EMC applications by means of electrical conductive surfaces and EMC extension sets
- modern design and colours
- customised versions and modifications



Customised 19" system case Rack Case

- all dimensions modifiable according to customer's request
- for highest quality standards milled cut-outs and contours
- individual colour schemes according to your specifications
- permanent screenprinting in all current RAL- HKS and Pantone colours
- wide range of accessories



19" bench case Rack Case

- front- and backside assembly of standardised BUS backplane and extender cards
- cover-, bottom- or side panels with ventilation slots
- wide range of rack handles
- dividing possibility in various height units by optional add-on kits

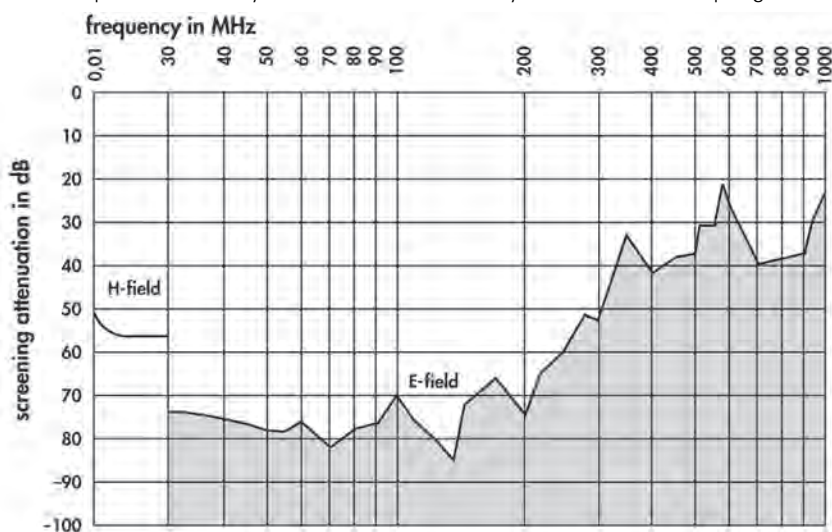


System case Rack Case for 19" cabinet assembly

- external dimensions as subracks, hence also suitable for 19" cabinet assembly
- 19" cabinet fastening by means of solid aluminium angles
- integrated module rails for application of guide rails for Eurocards
- use of standard part front panels TFP as a front- and back cover

19" system cases for EMC application

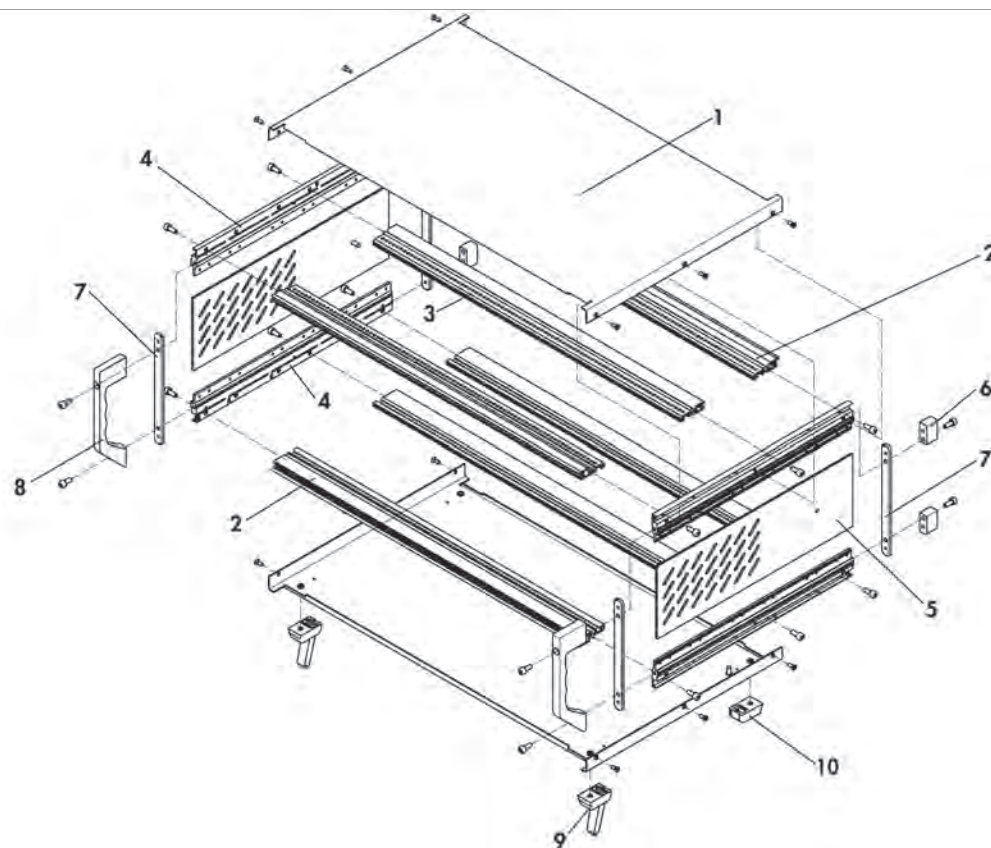
- the system case Rack Case is suitable for EMC applications
- all metallically conductive contact surfaces are transparent passivated
- **test procedure:** in conformity with VG norm 95373, Part 15
- **article tested:** system case RackCase, 3 U, 84 HP, 280 mm deep, with closed rear and front panel and ventilation slots in the cover and bottom panel; rear and front panel electrically connected to the sides by means of contact springs



19" system cases "Rack Case", constructional design

- 19" system case consisting of extruded aluminium profiles and plates (apart from the support feet)
- hence all dimensions can be altered as per customer's request
- standard cover and bottom panels are silver grey (RAL 7001) lacquered, the other covering parts as required
- colours can also be adapted to individual design requirements
- the aluminium profiles and the inner surfaces of the covering panels are transparent passivated and thus electrically conductive
- EMC-screening by means of the extension set **RAC E** and the EMC-front panels **EGT F** → N 30

1 = cover panel; **2** = module rail for part front panels and rear panels; **3** = centre module rail;
4 = side profile; **5** = side panel; **6** = foot; **7** = rear closing panel; **8** = handle; **9** = fan unit; **10** = screwed foot



19" EMC subracks
 19" case "Plusline"
 19" plug-in boxes
 19" subracks

→ N 29 - 34
 → N 2
 → N 5 - 12
 → N 18 - 24

19" EMC subracks
 Insert modules 19"
 Part front panels
 Profiles

→ N 29 - 34
 → N 36 - 45
 → N 52 - 57
 → N 71 - 80

N 14

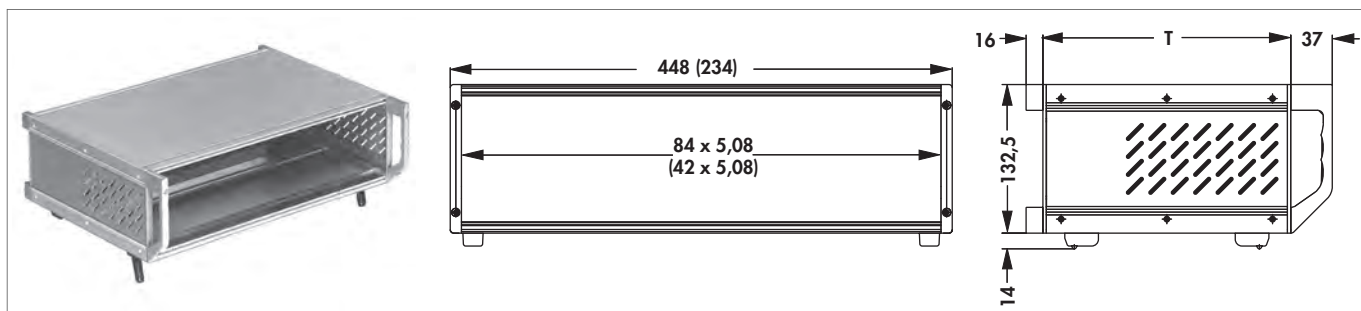
N

19" system cases "Rack Case"

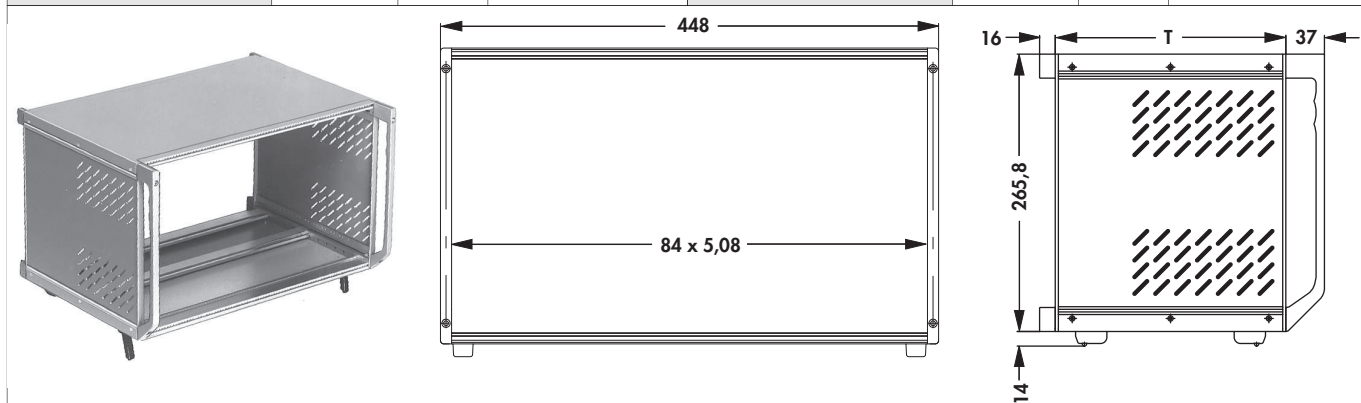
- further part units **HP** on request
- standard lacquered cover-and bottom panels silver-grey (**RAL 7001**)

contents of delivery:

4 x module rails **GB 29**, 2 x module rails **GB 30**, 6 x threaded rails, 4 x side profiles **GB 35**, 2 x handles, 1 x bottom panel, 1 x cover panel, 2 x side panels, 4 x side covers, 4 x rear panel feet, 2 x screw-on feet, 2 x tilt feet, mounting material



art. no.	HP	U	dim. [mm] T	art. no.	HP	U	dim. [mm] T
RAC 342 220 ...	42	3	220	RAC 384 220 ...	84	3	220
RAC 342 280 ...	42	3	280	RAC 384 280 ...	84	3	280
RAC 342 380 ...	42	3	380	RAC 384 380 ...	84	3	380
RAC 342 480 ...	42	3	480	RAC 384 480 ...	84	3	480



art. no.	HP	U	dim. [mm] T	art. no.	HP	U	dim. [mm] T
RAC 6 220 ...	84	6	220	RAC 6 380 ...	84	6	380
RAC 6 280 ...	84	6	280	RAC 6 480 ...	84	6	480

please indicate:

- ... colour of side panels and handles**
 - TB** = turquoise blue (RAL 5018)
 - NB** = night blue (RAL 5022)
 - GO** = opal green (RAL 6026)
 - S** = black (RAL 9005)
- ... closed side panel (optional)**
 - O** = closed
- ... ventilation slots (optional)**
 - BL** = in bottom panel
 - DL** = in top panel
 - L** = in top- and bottom panel

A
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N

Accessories for 19" system cases

Expansion kit

– for double-Eurocards, with rear connector socket

art. no.
RAC 684 GB



EMC expansion kit

– creates an electrically conductive connection of the profiles and the covering parts
 – suitable EMC front panels **EGT F** → N 30

contents of delivery:

4 x contact plates, 2 x earthing wire, 8 x contact springs with 10 contacts for 3 U, 16 x contact springs with 10 contacts for 6 U



art. no.	suitable for type	art. no.	suitable for type
RAC E 3	RAC 3	RAC E 6	RAC 6

19" Fixing part

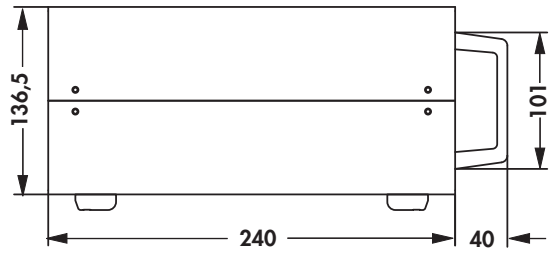
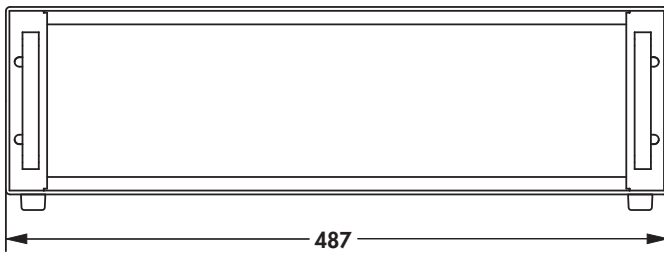


art. no.	suitable for type	art. no.	suitable for type
RAC B 2 x 3	RAC V/ RAC 2 x 384	RAC B 6	RAC 6
RAC B 3	RAC 3		

19" bench cases



- simple 19" bench case, easy assembly
- with folding legs and robust handles
- construction: two cover sheets and a rear panel are screwed to the standard subrack
- cover panels laquered
- version **IZ**: rear module guide rail of the subrack is equipped with integrated Z-rails for VG connectors, DIN 41612



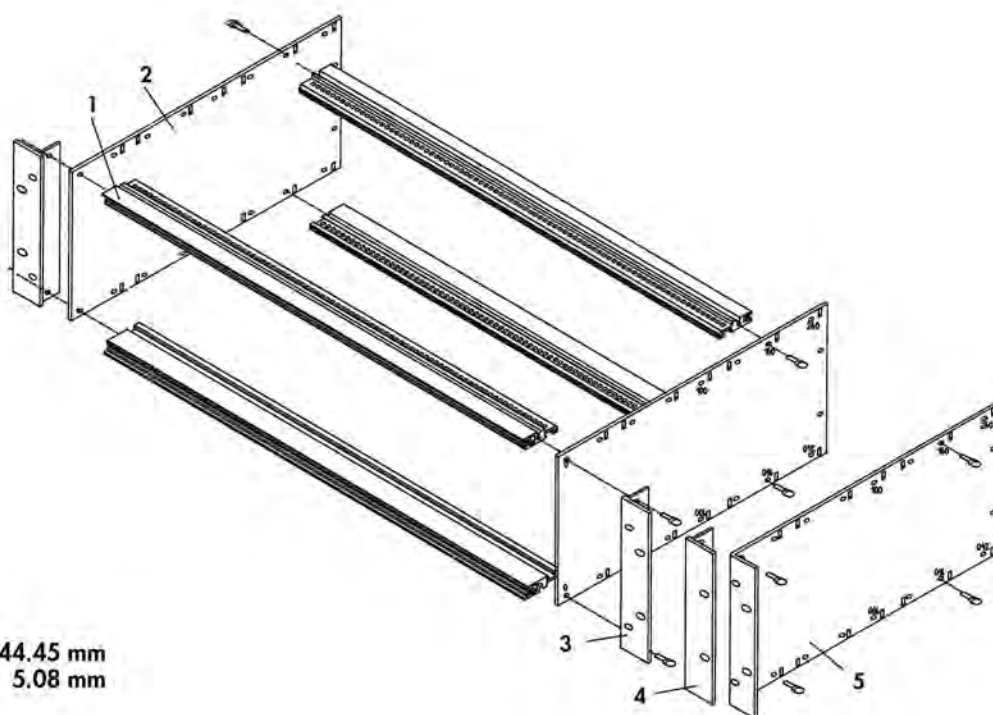
art. no.	for Eurocards [mm]
TG 384 1 S	100 x 160
colour of cover panel:	deep black (RAL 9005)

19" subracks

- side panels made from aluminium sheet thickness 2 mm, with inserted twist protection for the module rails
- module rails from extruded aluminium with printing for easier positioning of these guide rails
- reallocation of the module rails in grid without further machining of the side panels
- marks for correct mounting of the module rails are embossed
- 19" fixing angles can be mounted at front and rear side optionally
- all surfaces clear anodised; electrically conductive surface treatments on request
- special heights, depths and HPs available on request

basic unit:

1 = module rail; **2** = side panels; **3** = fixing angle with handle perforation (**BGTG**); **4** = fixing angle; without handle perforation (**BGTO**); **5** = angled side panel (**BGT**)



19" insert modules accessory
19" EMC subracks
Part front panels
Handles for part front panels

→ N 25 – 28
→ N 29 – 35
→ N 52 – 57
→ N 60

Insert modules 19"
Fixing material
19" front panels
Profiles

→ N 36 – 45
→ N 65 – 66
→ N 67
→ N 71 – 80

N 18

A

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C

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F

G

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I

K

L

M

N

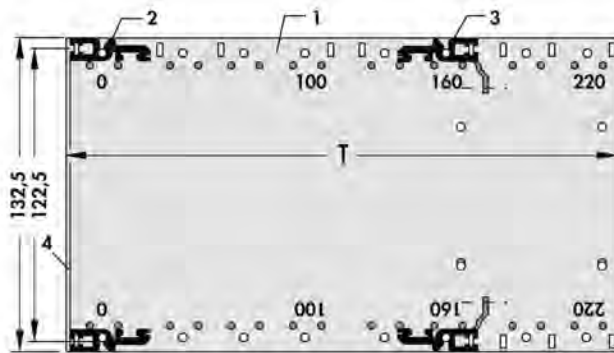
19" subracks

3 U subracks



basic unit:

1 = 2 x side panels; **2** = 2 x front module rail; **3** = 2 x rear module rail;
4 = 2 x fixing angles (only **BGTO** and **BGTG**); mounting material



art. no.	fixing part	dim. [mm] T
BGT 384 180 ...	angled side panel	175.5
BGT 384 240 ...	angled side panel	235.5
BGT 384 300 ...	angled side panel	295.5
BGTG 384 180 ...	fixing angle with handle perforation	175.5
BGTG 384 240 ...	fixing angle with handle perforation	235.5
BGTG 384 300 ...	fixing angle with handle perforation	295.5
BGTO 384 180 ...	fixing angle without handle perforation	175.5
BGTO 384 240 ...	fixing angle without handle perforation	235.5
BGTO 384 300 ...	fixing angle without handle perforation	295.5
please indicate: ... rear module rail (optional)		
IZ = integrated Z-rail		

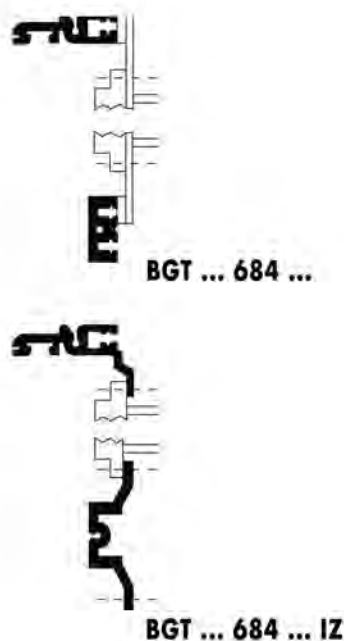
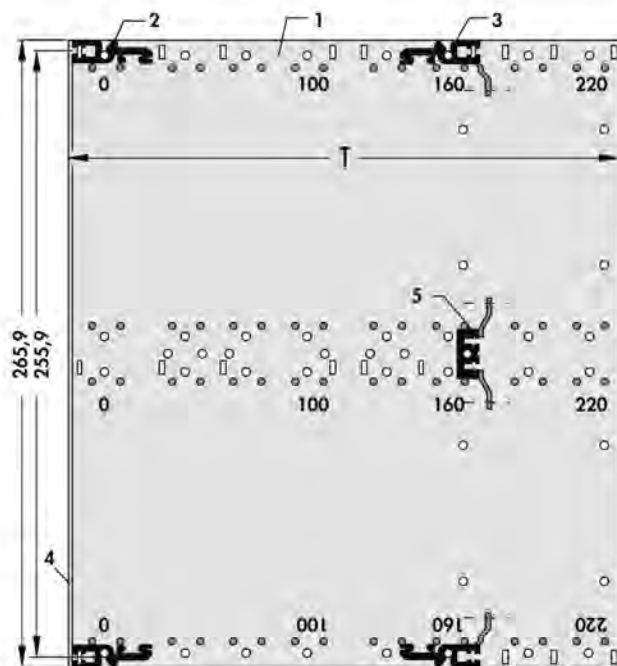
19" subracks

6 U subracks for double eurocards



basic unit:

1 = 2 x side panels; 2 = 2 x front module rail; 3 = 2 x rear module rail;
 4 = 2 x fixing angles (only **BGTO** and **BGTG**); 5 = 1 x middle connector carrier;
 mounting material



art. no.	fixing part	dim. [mm] T
BGT 684 180 ...	angled side panel	175.5
BGT 684 240 ...	angled side panel	235.5
BGT 684 300 ...	angled side panel	295.5
BGTG 684 180 ...	fixing angle with handle perforation	175.5
BGTG 684 240 ...	fixing angle with handle perforation	235.5
BGTG 684 300 ...	fixing angle with handle perforation	295.5
BGTO 684 180 ...	fixing angle without handle perforation	175.5
BGTO 684 240 ...	fixing angle without handle perforation	235.5
BGTO 684 300 ...	fixing angle without handle perforation	295.5
please indicate:	... rear module rail (optional) IZ = integrated Z-rail	

19" insert modules accessory
 19" EMC subracks
 Part front panels
 Handles for part front panels

→ N 25 - 28
 → N 29 - 35
 → N 52 - 57
 → N 60

Insert modules 19"
 Fixing material
 19" front panels
 Profiles

→ N 36 - 45
 → N 65 - 66
 → N 67
 → N 71 - 80

N 20

A
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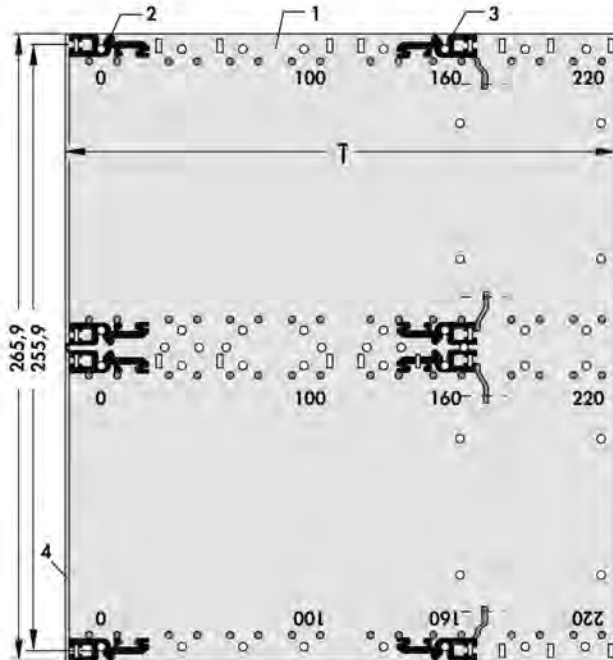
19" subracks

6 U subracks with subdivision 2 x 3 U



basic unit:

1 = 2 x side panels; **2** = 4 x front module rails; **3** = 4 x rear module rails;
4 = 2 x fixing angles (only **BGTO** and **BGTG**); mounting material



art. no.	fixing part	dim. [mm] T
BGT 2 x 384 180 ...	angled side panel	175.5
BGT 2 x 384 240 ...	angled side panel	235.5
BGT 2 x 384 300 ...	angled side panel	295.5
BGTG 2 x 384 180 ...	fixing angle with handle perforation	175.5
BGTG 2 x 384 240 ...	fixing angle with handle perforation	235.5
BGTG 2 x 384 300 ...	fixing angle with handle perforation	295.5
BGTO 2 x 384 180 ...	fixing angle without handle perforation	175.5
BGTO 2 x 384 240 ...	fixing angle without handle perforation	235.5
BGTO 2 x 384 300 ...	fixing angle without handle perforation	295.5
please indicate: ... rear module rail (optional) IZ = integrated Z-rail		

6 U subracks with subdivision for Eurocards and Double-Eurocards

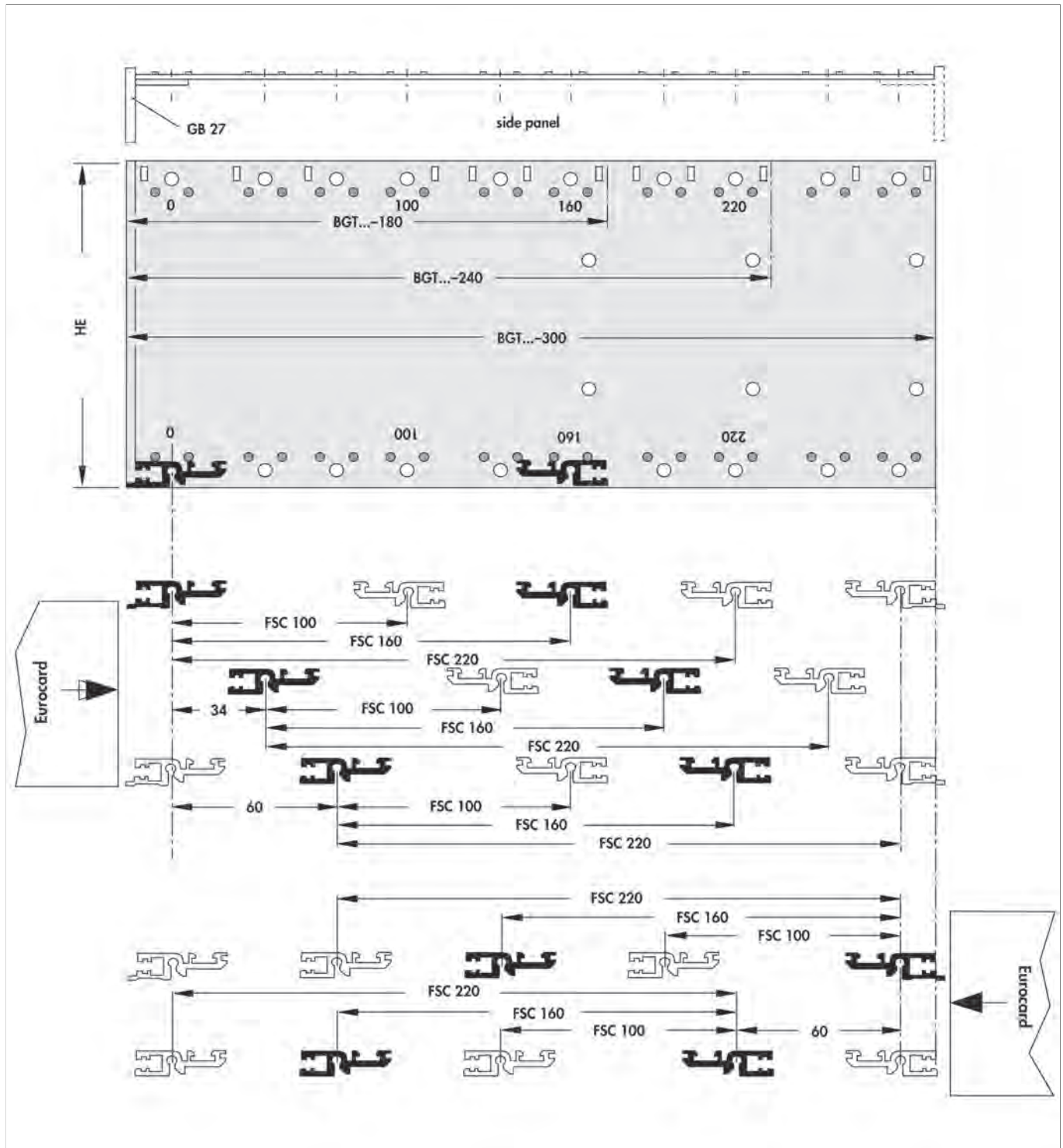
basic unit:

1 = 2 x side panels; **2** = 4 x front module rails; **3** = 4 x rear module rails;

4 = 2 x fixing angles (only **BGTO** and **BGTG**); **5** = 1 x middle connector carrier; **6** = 2 x vertical supports; mounting material

art. no.	fixing part	dim. [mm] T
BGT V ... 180 ...	angled side panel	175.5
BGT V ... 240 ...	angled side panel	235.5
BGT V ... 300 ...	angled side panel	295.5
BGTG V ... 180 ...	fixing angle with handle perforation	175.5
BGTG V ... 240 ...	fixing angle with handle perforation	235.5
BGTG V ... 300 ...	fixing angle with handle perforation	295.5
BGTO V ... 180 ...	fixing angle without handle perforation	175.5
BGTO V ... 240 ...	fixing angle without handle perforation	235.5
BGTO V ... 300 ...	fixing angle without handle perforation	295.5
please indicate:	... subdivision 621 = 21 62 HP 642 = 42 41 HP 663 = 63 20 HP	... rear module rail (optional) IZ = integrated Z-rail

Mounting options of the guide rails FSC



art. no.	for Eurocards [mm]
BGT ... 180	100 x 100/ 100 x 160/ 233.5 x 100/ 233.5 x 160
BGT ... 240	100 x 100/ 100 x 160/ 100 x 220/ 233.5 x 100/ 233.5 x 160/ 233.5 x 220
BGT ... 300	100 x 100/ 100 x 160/ 100 x 220/ 100 x 280/ 233.5 x 100/ 233.5 x 160/ 233.5 x 280/ 233.5 x 220
please indicate:	... position module rail 100 = for FSC 100 160 = for FSC 160 220 = for FSC 220

- | | | | | |
|-------------|-------------------------------|-------------|--------------------|-------------|
| N 23 | 19" insert modules accessory | → N 25 – 28 | Insert modules 19" | → N 36 – 45 |
| | 19" EMC subracks | → N 29 – 35 | Fixing material | → N 65 – 66 |
| | Part front panels | → N 52 – 57 | 19" front panels | → N 67 |
| | Handles for part front panels | → N 60 | Profiles | → N 71 – 80 |

Special subracks

- we are able to supply subracks with potential for expansion individually designed for your application
- upon request, we are in a position to supply the subracks completely mounted as well as equipped with guide rails or DIN connectors

- 1** = customised subrack 94 HP
- 2** = special subrack 4 U
- 3** = special construction
- 4** = carrier module acc. to customer's request
- 5** = up to 12 U made of one piece



19" insert modules accessory
 19" EMC subracks
 Part front panels
 Handles for part front panels

→ N 25 - 28 Insert modules 19"
 → N 29 - 35 Fixing material
 → N 52 - 57 19" front panels
 → N 60 Profiles

→ N 36 - 45
 → N 65 - 66
 → N 67
 → N 71 - 80

N 24

A

B

C

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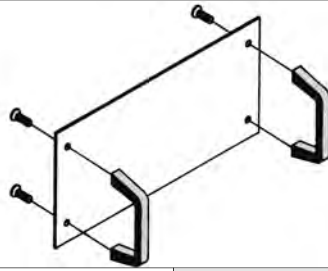
M

N

Accessories for 19" subracks

Rack handles

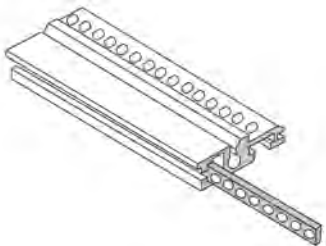
- very stable version made of solid aluminium, 1 set comprises 2 handles incl. mounting material
- further sizes **G** → N 68



art. no.	suitable for subracks	art. no.	suitable for subracks
BGT 0384 7ME	3 U	BGT 0684 7ME	6 U

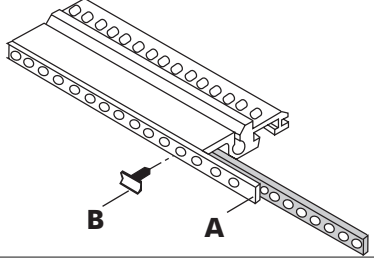
Threaded rails

- threaded rails with M 2.5 threads for mounting of fixing rails and front panels
- 1 set contains 4 threaded rails

art. no.	
BGT 384 2	

Insulation strip (A)

- for rear module rail
- is used for isolation of the BUS-backplane
- with the isolating strips the standard insert depth for the plug-in module in the subrack will be established

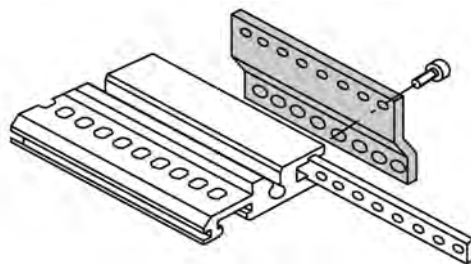
art. no.	
IST 84	
class of flammability:	UL 94 V-0
material:	PBT, self-extinguishing

Clips (B)

- for simple mounting of insulation strips into the threaded rails

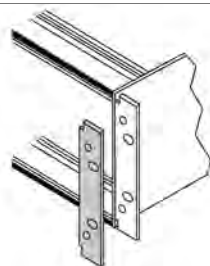
art. no.	packing unit
FC	100 pieces
class of flammability:	UL 94 V-0
material:	noryl, red

Z-rails for connectors



art. no.	packing unit
GB 5 L	1 set contains 2 Z-rails for connectors with 32/48/64/96 contacts to DIN 41612
GB 20 L	1 set contains 2 Z-rails for connectors with 31 contacts according to DIN 41617

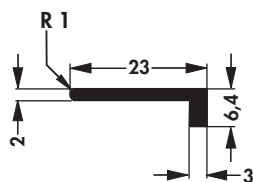
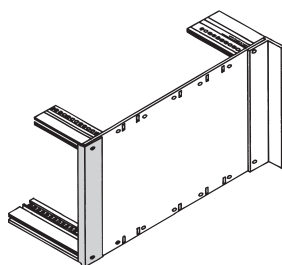
Cover panels



art. no.	handle perforation	suitable for subracks
BGTG 384 6	with	3 U
BGTG 684 6	with	6 U
BGTG 2 x 384 6	with	BGTG 2 x 384/ BGTO 2 x 384
BGTO 384 6	without	3 U
BGTO 684 6	without	6 U
BGTO 2 x 384 6	without	BGTG 2 x 384/ BGTO 2 x 384

Rear terminal profile

– 2 pieces cover the 2.54 mm gap between the part front panel and side panel

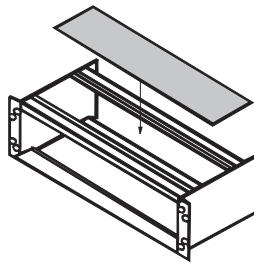


GB 37

art. no.	suitable for subracks	art. no.	suitable for subracks
RA 3	3 U	RA 6	6 U
surface:		natural colour anodised	

Accessories for 19" subracks

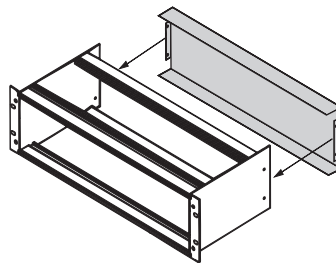
Perforated cover panel



art. no.	depth of PCB [mm]	art. no.	depth of PCB [mm]
AB 211	160	AB 271	220

Backpanel protective cover

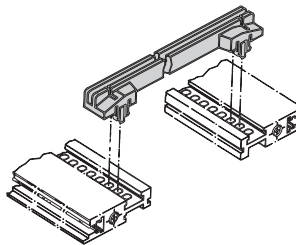
- with side panel depth of 240 and 300 mm gives mechanical and antistatic protection
- delivery incl. mounting material



art. no.	suitable for subracks	art. no.	suitable for subracks
RV 3 240	3 U	RV 6 240	6 U

Guide-rails

- with advanced mounting pins and locking neeps for easy mounting

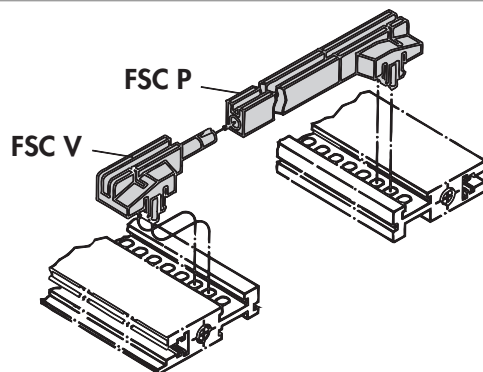


art. no.	for Eurocards [mm]	art. no.	for Eurocards [mm]
FSC 100	100 x 100/ 233.5 x 100	FSC 220	100 x 220/ 233.5 x 220
FSC 160	100 x 160/ 233.5 x 160		

Accessories for 19" subracks

Variable guide-rails

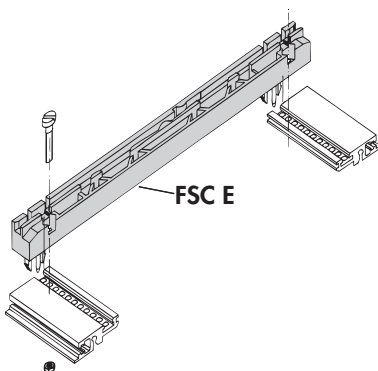
- contains 1 pair of head pieces and 1 profile
- head pieces (1 pair): art. no. **FSC V**; profile (in running meters) art. no. **FSC P**
- further profile lengths upon request



art. no.		art. no.	
FSC P		FSC V	

Reinforced guide rails

- easy and fast to mounting by using clips
- can also be screwed into the module rails (M 2.5 x 12)
- high rigidity
- centred with spring-loaded strut
- good ventilation due to lattice work
- assembly option for one contact spring for advanced earthing to the module rails and front cover using conductor on the printed circuit board



art. no.	for Eurocards [mm]	art. no.	for Eurocards [mm]
FSCE 160	100 x 160/ 233.5 x 160	FSCE 220	100 x 220/ 233.5 x 220

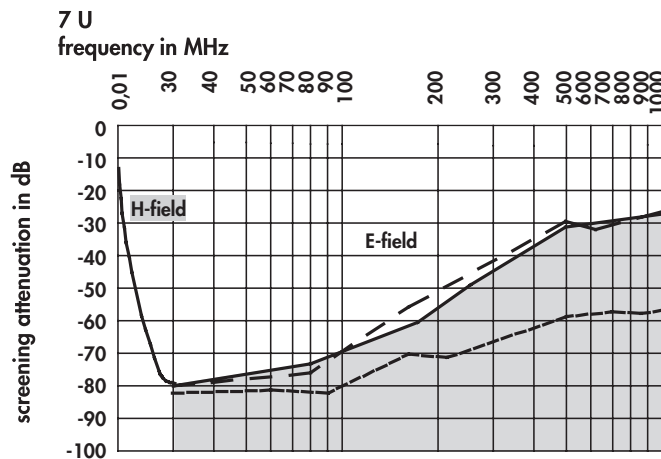
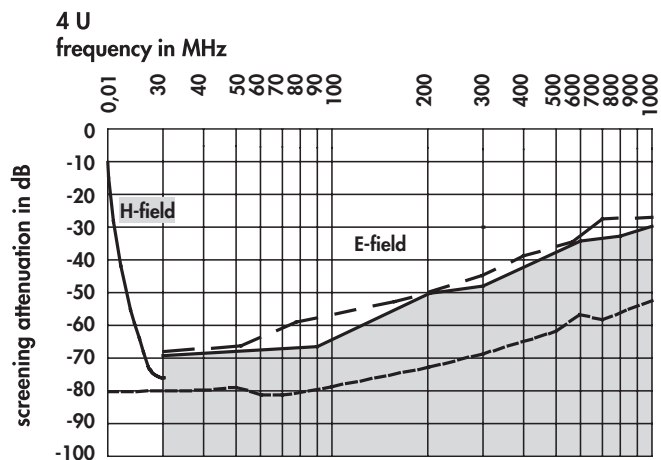
19" EMC subracks



- completely closed subrack EGT for use in environments with electro-magnetic interference
- subrack is sealed by EMC-shielded part front panels or 84 HP front panel respectively hinged front panel
- all parts chrome-free transparent passivated
- **K** = contact spring

Screening against electromagnetic interference

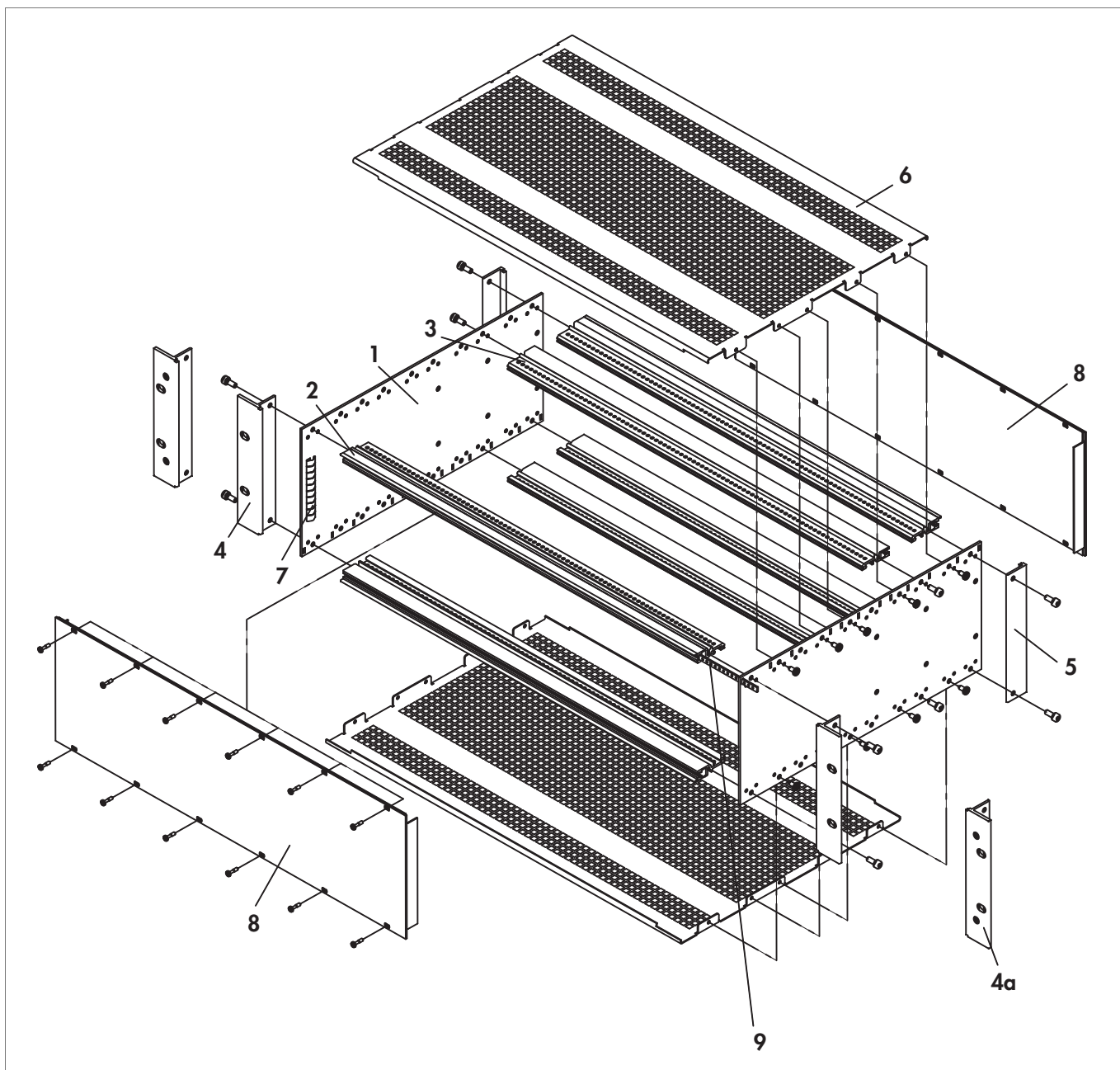
- test procedure: in conformity with VG standard 95373, part 15
- article tested: subrack 84 HP, depth 280 mm, with closed rear and front panel:
 - ——— closed cover panel
 - - - - cover panel with ventilation slots
 - - - - closed cover panel, additionally equipped with contact spring strips
- back and front panel electrically connected to side panel by means of contact springs
- without contact spring strips, the average shielding amounts to: approx. 50 dB if frequency is between 30 and 100 MHz approx. 40 dB between 100 and 300 MHz and approx. 20 dB for more than 400 MHz
- with contact spring strips: approx. 80 dB between 30 and 100 MHz approx. 65 dB between 100 and 300 MHz approx. 50 dB for more than 400 MHz



19" EMC subracks

– assembly of the subracks also with different positioning of the module rails (dimension l = 60 mm) upon request

1 = side panel; **2** = front module rail **GB 29**; **3** = rear module rail **GB 30**; **4** = 19" fixing angle **EGTO**;
4a = 19" fixing angle **EGTG**; **5** = rear terminal profile **GB 37**; **6** = cover (**OL** or **ML**); **7** = contact spring; **8** = front plate **EGT F 384**;
9 = threaded rail **BGT 384/2** (please order separately)



Rear panel heatsink for EMC-subracks → N 35
 Fixing material → N 65 – 66
 19" front panels → N 67
 19" subracks → N 18 – 24

19" EMC subracks → N 29 – 34
 Insert modules 19" → N 36 – 45
 Part front panels → N 52 – 57
 Profiles → N 71 – 80

N 30

A

B

C

D

E

F

G

H

I

K

L

M

N

19" EMC subracks

3 U rack subrack

basic unit: **1** = 2 x side panels; **2** = 4 x front module rails; **3** = 2 x rear module rails; **4** = 2 x fixing angles (**EGT O** and **EGT G**); **5** = 2 x rear terminal profiles; **7** = 2 x covers (**OL** or **ML**); **8** = contact springs; mounting material
please order separately: **9** = front-/rear panel art.no. **EGT F 384**; **10** = hinged front panel art. no. **EGT S 384**

art. no.	fixing part	dim. [mm]		
		depth of PCB	T	H
EGTG 384 240 ...	fixing angle with handle perforation	160	235.5	172.2
EGTG 384 300 ...	fixing angle with handle perforation	220	295.5	232.2
EGTO 384 240 ...	fixing angle without handle perforation	160	235.5	172.5
EGTO 384 300 ...	fixing angle without handle perforation	220	295.5	232.2

please indicate: ... rear module rail (optional)
IZ = integrated Z-rail

... covers
OL = without ventilation slots
ML = with ventilation slots

6 U subracks for Double-Eurocards

basic unit: **1** = 2 x side panels; **2** = 4 x front module rails; **3** = 2 x rear module rails; **4** = 1 x middle connector carrier; **5** = 2 x fixing angles (**EGT O** and **EGT G**); **6** = 2 x rear terminal profiles; **7** = 2 x covers (**OL** or **ML**); **8** = 8 x contact springs, mounting material
please order separately: **9** = front-/rear panel art.no. **EGT F 684**; **10** = hinged front panel art. no. **EGT S 684**

art. no.	fixing part	dim. [mm]		
		depth of PCB	T	H
EGTG 684 240 ...	fixing angle with handle perforation	160	235.5	172.2
EGTG 684 300 ...	fixing angle with handle perforation	220	295.5	232.2
EGTO 684 240 ...	fixing angle without handle perforation	160	235.5	172.2
EGTO 684 300 ...	fixing angle without handle perforation	220	295.5	232.2

please indicate: ... rear module rail (optional)
IZ = integrated Z-rail

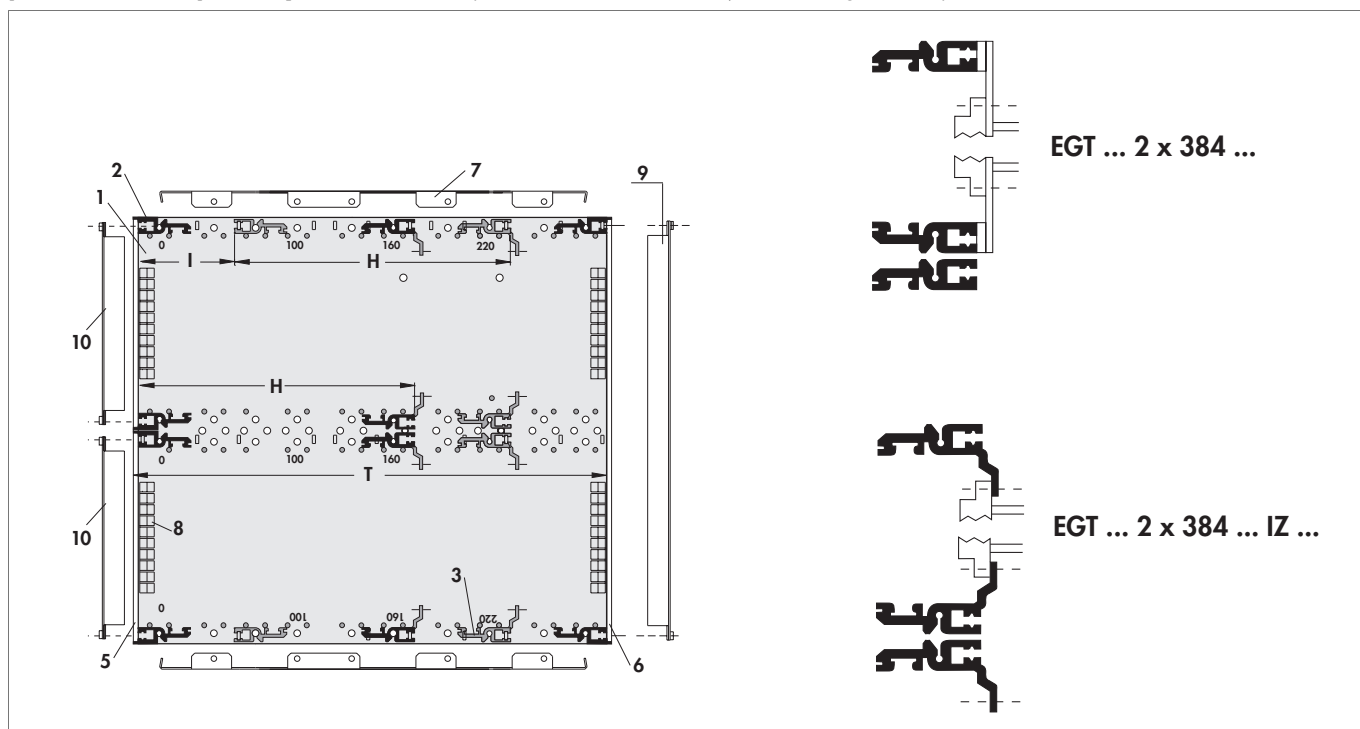
... covers
OL = without ventilation slots
ML = with ventilation slots

19" EMC subracks

6 U subracks with sub-division 2 x 3 U



basic unit: **1** = 2 x side panels; **2** = 6 x front module rails; **3** = 4 x rear module rails; **5** = 2 x fixing angles (**EGT O** and **EGT G**)
6 = 2 x rear terminal profiles; **7** = 2 x covers (**OL** or **ML**); **8** = 8 x contact springs; mounting material
please order separately: **9** = front-/rear panel art.no. **EGT F 684**; **10** = hinged front panel art. no. **EGT F 384**



art. no.	fixing part	dim. [mm]		
		depth of PCB	T	H
EGTG 2 x 384 240 ...	fixing angle with handle perforation	160	235.5	172.2
EGTG 2 x 384 300 ...	fixing angle with handle perforation	220	295.5	232.2
EGTO 2 x 384 240 ...	fixing angle without handle perforation	160	235.5	172.2
EGTO 2 x 384 300 ...	fixing angle without handle perforation	220	295.5	232.2
please indicate:	... rear module rail (optional) IZ = integrated Z-rail	... covers OL = without ventilation slots ML = with ventilation slots		

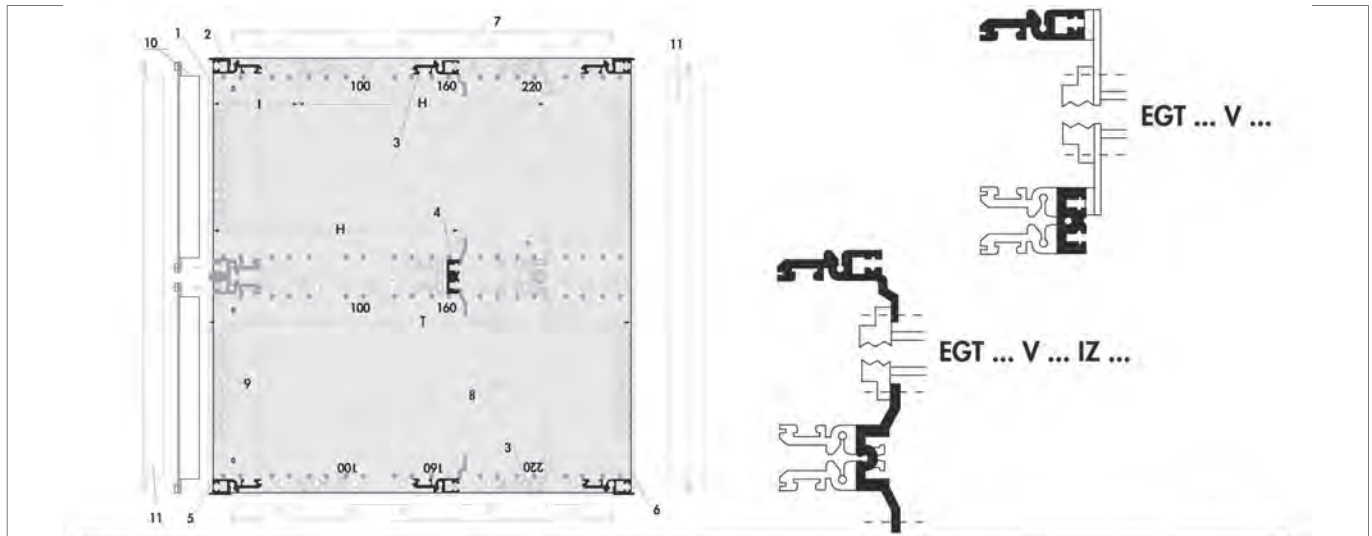
19" EMC subracks

6 U subracks with subdivision for Eurocards and double-Eurocards



basic unit: **1** = 2 x side panels; **2** = 6 x front module rails; **3** = 4 x rear module rails; **4** = 1 x middle connector carrier
5 = 2 x fixing angles (**EGT O** and **EGT G**); **6** = 2 x back end profile; **7** = 2 x cover (**OL** or **ML**); **8** = vertical supports; **9** = 12 x contact springs; mounting material

please order separately: **10/11** = front-/rear panel art. no. **EGT F 684/ ... F 3 .../ ... F 6 ...**



21	62	HP	... 621 ...
----	----	----	-------------

42	41	HP	... 642 ...
----	----	----	-------------

63	20	HP	... 663 ...
----	----	----	-------------


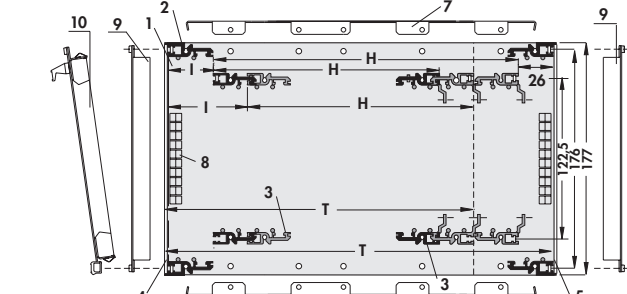


art. no.	fixing part	dim. [mm]		
		depth of PCB	T	H
EGTG V ... 240 ...	fixing angle with handle perforation	160	235.5	172.2
EGTG V ... 300 ...	fixing angle with handle perforation	220	295.5	232.2
EGTO V ... 240 ...	fixing angle without handle perforation	160	235.5	172.2
EGTO V ... 300 ...	fixing angle without handle perforation	220	295.5	232.2
please indicate:	... subdivision 621 = 21 62 HP 642 = 42 41 HP 663 = 63 20 HP			
	... rear module rail (optional) IZ = integrated Z-rail			
	... covers OL = without ventilation slots ML = with ventilation slots			

19" EMC subracks

4 U subracks

basic unit: **1** = 2 x side panels; **2** = 4 x front module rails; **3** = 4 x rear module rails; **4** = 2 x fixing angles (**EGT O** and **EGT G**); **5** = 2 x rear terminal profiles; **7** = 2 x covers (**OL** or **ML**); **8** = 4 x contact springs; mounting material

please order separately: **9** = front-/rear panel art. no. **EGT F 484**; **10** = hinged front panel art. no. **EGT S 484**


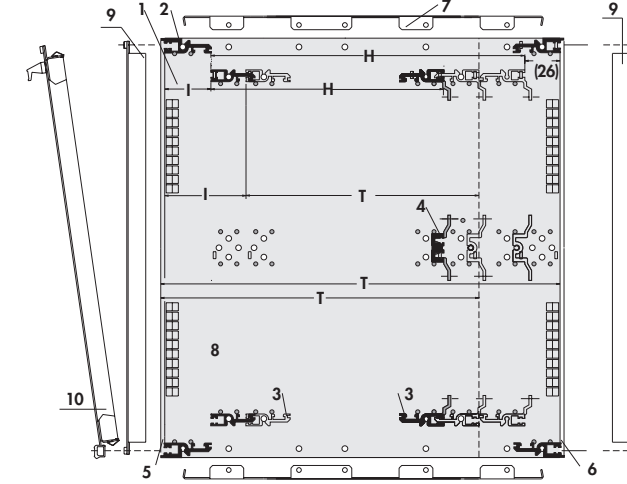


		 EGT ... 484 ...	 EGT ... 484 ... IZ ...																															
				<table border="1"> <thead> <tr> <th rowspan="2">art. no.</th> <th rowspan="2">fixing part</th> <th colspan="4">dim. [mm]</th> </tr> <tr> <th>depth of PCB</th> <th>T</th> <th>H</th> <th>I</th> </tr> </thead> <tbody> <tr> <td>EGTG 484 240 ...</td> <td>fixing angle with handle perforation</td> <td>160</td> <td>235.5</td> <td>172.2</td> <td>34</td> </tr> <tr> <td>EGTG 484 300 ...</td> <td>fixing angle with handle perforation</td> <td>220</td> <td>295.5</td> <td>232.2</td> <td>34</td> </tr> <tr> <td>EGTO 484 240 ...</td> <td>fixing angle without handle perforation</td> <td>160</td> <td>235.5</td> <td>172.2</td> <td>34</td> </tr> <tr> <td>EGTO 484 300 ...</td> <td>fixing angle without handle perforation</td> <td>220</td> <td>295.5</td> <td>232.2</td> <td>34</td> </tr> </tbody> </table>	art. no.	fixing part	dim. [mm]				depth of PCB	T	H	I	EGTG 484 240 ...	fixing angle with handle perforation	160	235.5	172.2	34	EGTG 484 300 ...	fixing angle with handle perforation	220	295.5	232.2	34	EGTO 484 240 ...	fixing angle without handle perforation	160	235.5	172.2	34	EGTO 484 300 ...	fixing angle without handle perforation
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<p>please indicate: ... rear module rail (optional) IZ = integrated Z-rail</p>		<p>... covers OL = without ventilation slots ML = with ventilation slots</p>																																

7 U subracks for double-Eurocards

basic unit consists of:

1 = 2 x side panels; **2** = 4 x front module rails; **3** = 4 x rear module rails; **4** = 1 x middle connector carrier; **5** = 2 x fixing angles (**EGT O** and **EGT G**); **6** = 2 x rear terminal profiles; **7** = 2 x covers (**OL** or **ML**); **8** = 8 x contact springs; mounting material

please order separately: **9** = front-/rear panel art. no. **EGT F 784**; **10** = hinged front panel art. no. **EGT S 784**

		 EGT ... 784 ...	 EGT ... 784 ... IZ ...																															
				<table border="1"> <thead> <tr> <th rowspan="2">art. no.</th> <th rowspan="2">fixing part</th> <th colspan="4">dim. [mm]</th> </tr> <tr> <th>depth of PCB</th> <th>T</th> <th>H</th> <th>I</th> </tr> </thead> <tbody> <tr> <td>EGTG 784 240 ...</td> <td>fixing angle with handle perforation</td> <td>160</td> <td>235.5</td> <td>172.2</td> <td>34</td> </tr> <tr> <td>EGTG 784 300 ...</td> <td>fixing angle with handle perforation</td> <td>220</td> <td>295.5</td> <td>232.2</td> <td>34</td> </tr> <tr> <td>EGTO 784 240 ...</td> <td>fixing angle without handle perforation</td> <td>160</td> <td>235.5</td> <td>172.2</td> <td>34</td> </tr> <tr> <td>EGTO 784 300 ...</td> <td>fixing angle without handle perforation</td> <td>220</td> <td>295.5</td> <td>232.2</td> <td>34</td> </tr> </tbody> </table>	art. no.	fixing part	dim. [mm]				depth of PCB	T	H	I	EGTG 784 240 ...	fixing angle with handle perforation	160	235.5	172.2	34	EGTG 784 300 ...	fixing angle with handle perforation	220	295.5	232.2	34	EGTO 784 240 ...	fixing angle without handle perforation	160	235.5	172.2	34	EGTO 784 300 ...	fixing angle without handle perforation
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<p>please indicate: ... rear module rail (optional) IZ = integrated Z-rail</p>		<p>... covers OL = without ventilation slots ML = with ventilation slots</p>																																

Rear panel heatsink for EMC-subracks → N 35

Fixing material → N 65 – 66

19" front panels → N 67

19" subracks → N 18 – 24

19" EMC subracks

Insert modules 19"

Part front panels

Profiles

→ N 29 – 34

→ N 36 – 45

→ N 52 – 57

→ N 71 – 80

N 34

A

B

C

D

E

F

G

H

I

K

L

M

N

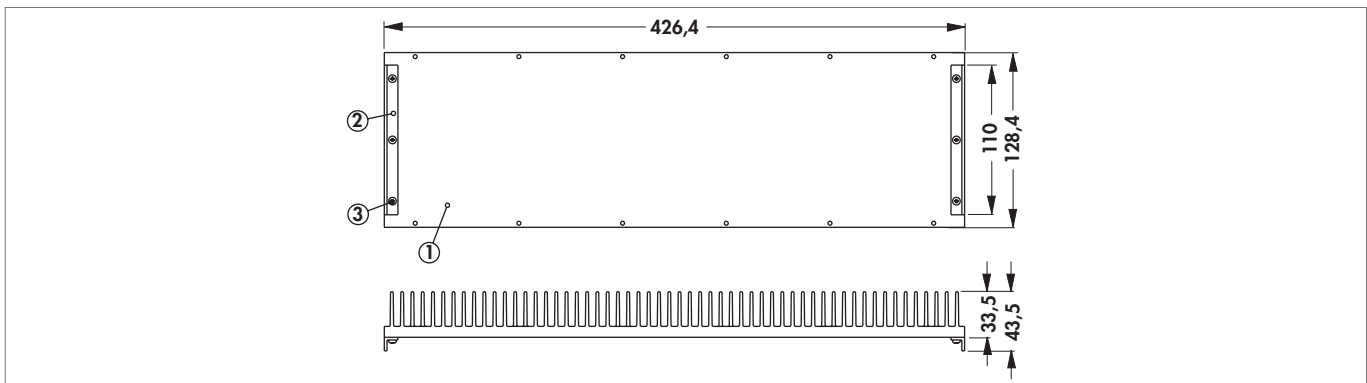
Rear panel heatsink for EMC-subracks



- dissipation of large heat volumes
- ex post mounting possibility into a subrack
- modifications and additional machining possible to customer's requirements

form of delivery:

1 = heatsink; **2** = contact angle; **3** = mounting material



art. no.

RSK 335 384

surface:

chrome-free transparent passivated

A
B
C
D
E
F
G
H
I
K
L
M
N

N 35

19" front panels
Extractors
Insert modules 19"
Accessories for 19" subracks

→ **N 67**
→ **N 64**
→ **N 36 – 45**
→ **N 25 – 28**

Part front panels
19" subracks
19" EMC subracks
Part front panels with handle

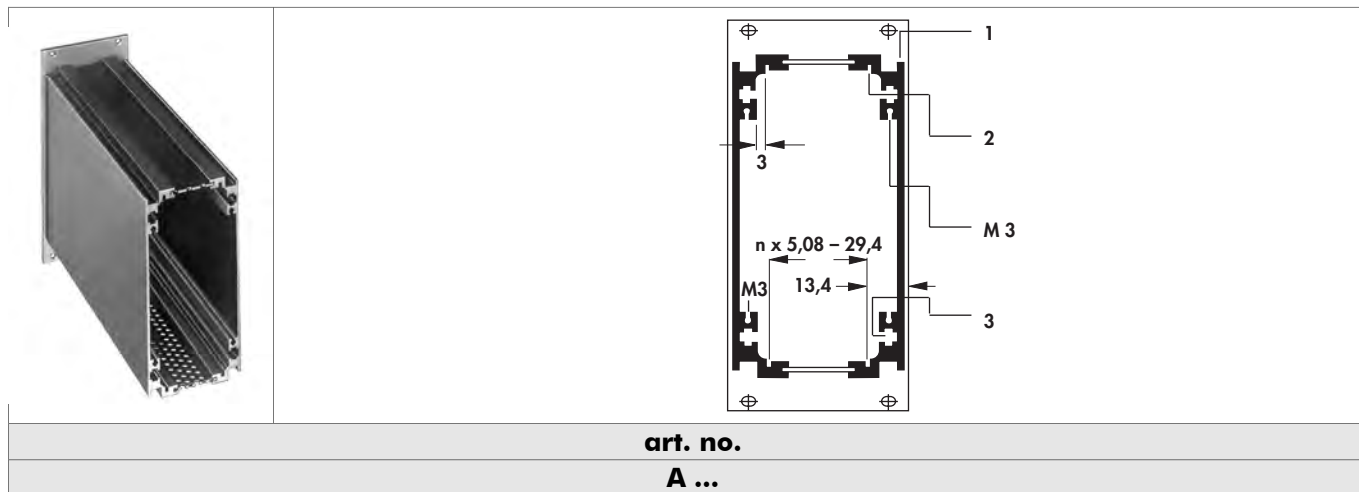
→ **N 52 – 57**
→ **N 18 – 24**
→ **N 29 – 34**
→ **N 53**

Insert modules for 19" subracks, 3 U

Design A

- standard insert module, with T-grooves for threaded rails, slide nuts or screw head
- rear view without end plate
- dimensioned drawing of the side panel profile **GP 191** → N 77

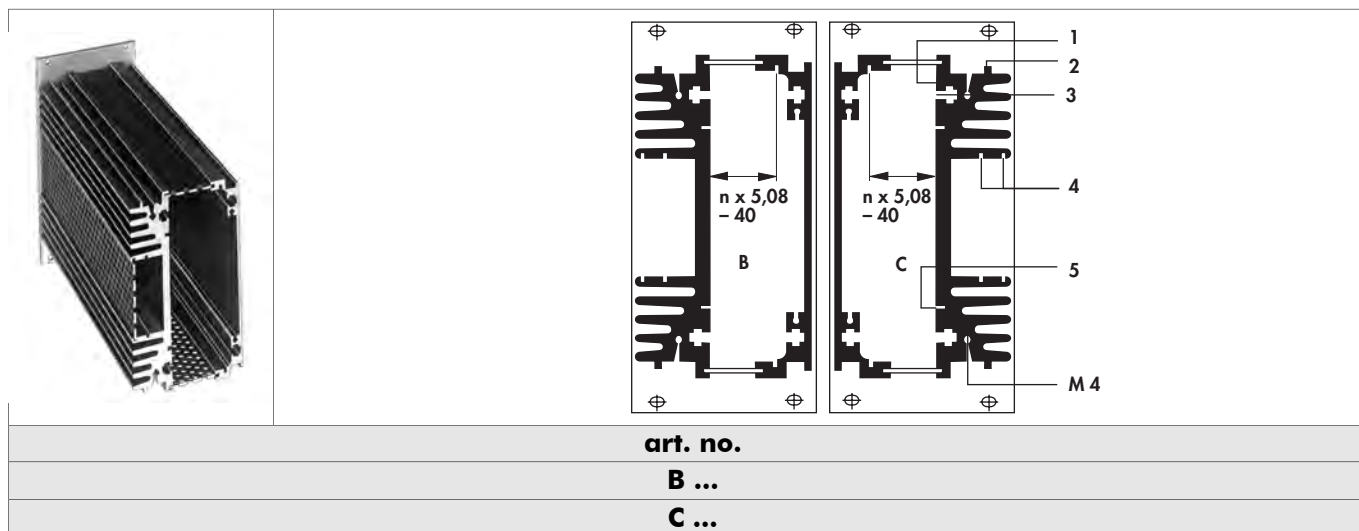
1 = guide ridge for 19" case; **2** = slot for Eurocard: distance to guide ridge 2 width-units: 2 x 5.08 mm;
3 = slot for threaded rails, hexagon screws respectively screw nuts M 3



Design B + C

- with T-grooves for threaded strips, slide nuts M 3 or screw heads
- each side of the insert module with heatsink, incl. guide rails for the cover panels or PCBs
- the guide slots of the outer fins fit into 19" subracks
- upon request the side panel profile can be drilled to all common used transistor pin layouts
- rear view without end plate
- dimensioned drawing of the side panel profile **GP 191/192** → N 77

1 = guide ridge for 19" case; **2** = slots for outer plates, cover panels and perforated sheets;
3 = slots for threaded rails, square nuts M 3 and hexagon screws; **4** = slots for integrated circuits, cover panels and perforated sheets;
5 = slots for application of chassis plates, separating plates or PCBs



19" case "Plusline"
19" subracks

Extractors
Heatsink insert modules

→ N 2
→ N 18 - 24
→ N 64
→ N 48 - 49

Part front panels
19" EMC subracks
PCB holder
Profiles

→ N 52 - 57
→ N 29 - 34
→ N 61 - 62
→ N 71 - 80

N 36

A

B

C

D

E

F

G

H

I

K

L

M

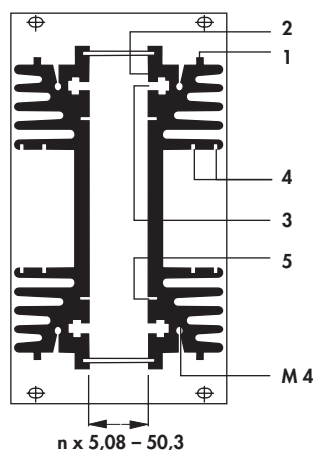
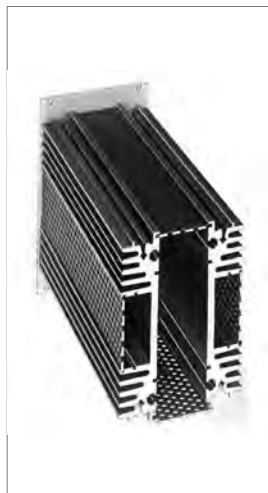
N

Insert modules for 19" subracks, 3 U

Design D

- with T-grooves for threaded strips, slide nuts or screw heads
- both sides of the insert module are with heatsinks including slots for the insertion of cover plates or PCBs
- the guide ridges of the outer fins fit into 19" subracks
- upon request the side panel profile can be drilled to all common used transistor pin layouts
- rear view without end plate
- dimensioned drawing of the side panel profile **GP 192** → N 77

- 1** = guide ridge for 19" case; **2** = slot for outer plates, cover panels and perforated sheets;
3 = slots for threaded rails, sliding nuts M 3 and hexagon screws; **4** = slots for printed circuits, cover panels and perforated sheets;
5 = slots for the insertion of chassis plates, separating plates and PCB's



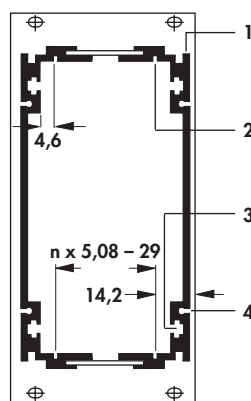
art. no.

D ...

Design E

- standard insert module, with T-grooves for threaded strips, slide nuts M 3 or screw heads
- external screw channels prevent short-circuiting by screw cuttings
- rear view without end plate
- dimensioned drawing of the side panel profile **GP 193** → N 77

- 1** = guide ridge for 19" case; **2** = slot for Eurocard; **3** = slot for threaded rails, hexagon screws respectively screw nuts M 3;
4 = external screw channel M 3



art. no.

E ...

N 37

19" case "Plusline"
 19" subracks
 Extractors
 Heatsink insert modules

→ N 2
 → N 18 - 24
 → N 64
 → N 48 - 49

Part front panels
 19" EMC subracks
 PCB holder
 Profiles

→ N 52 - 57
 → N 29 - 34
 → N 61 - 62
 → N 71 - 80

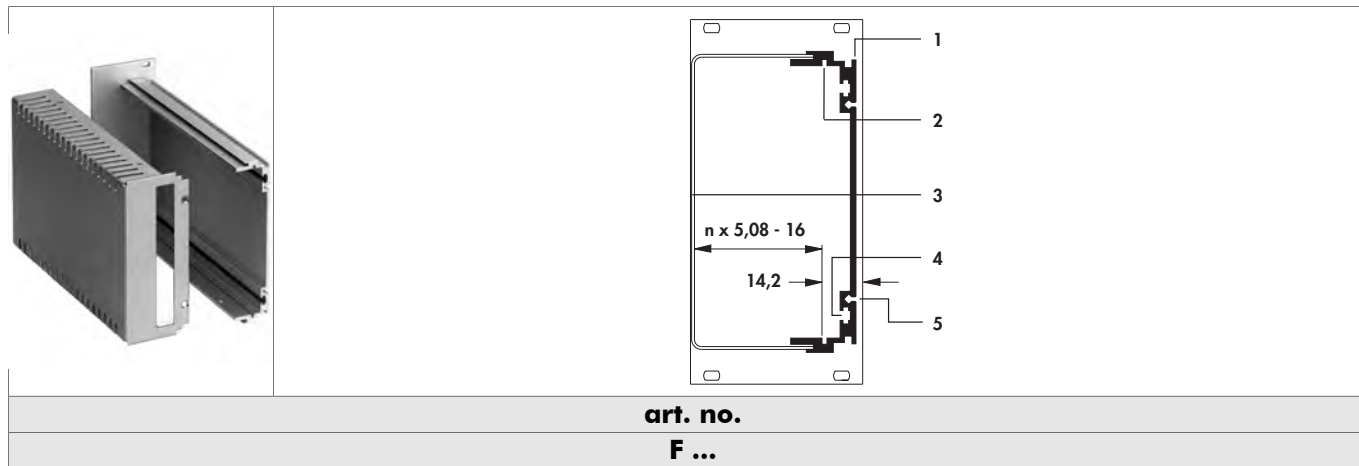
Insert modules for 19" subracks, 3 U

Design F

- with T-grooves for chassis plates, threaded rails for slide nuts or screw heads
- the insert module according to design F consists of one profile type **GP 193** (with external screw channel), one front panel and one cover plate
- the cover plate has ventilation slots
- rear view
- dimensioned drawing of the side panel profile **GP 193** → N 77

1 = guide ridge for 19" subrack; **2** = slot for Eurocard; **3** = cover plate;

4 = slot for threaded rails, hexagon screws respectively screw nuts M 3; **5** = external screw channel M 3

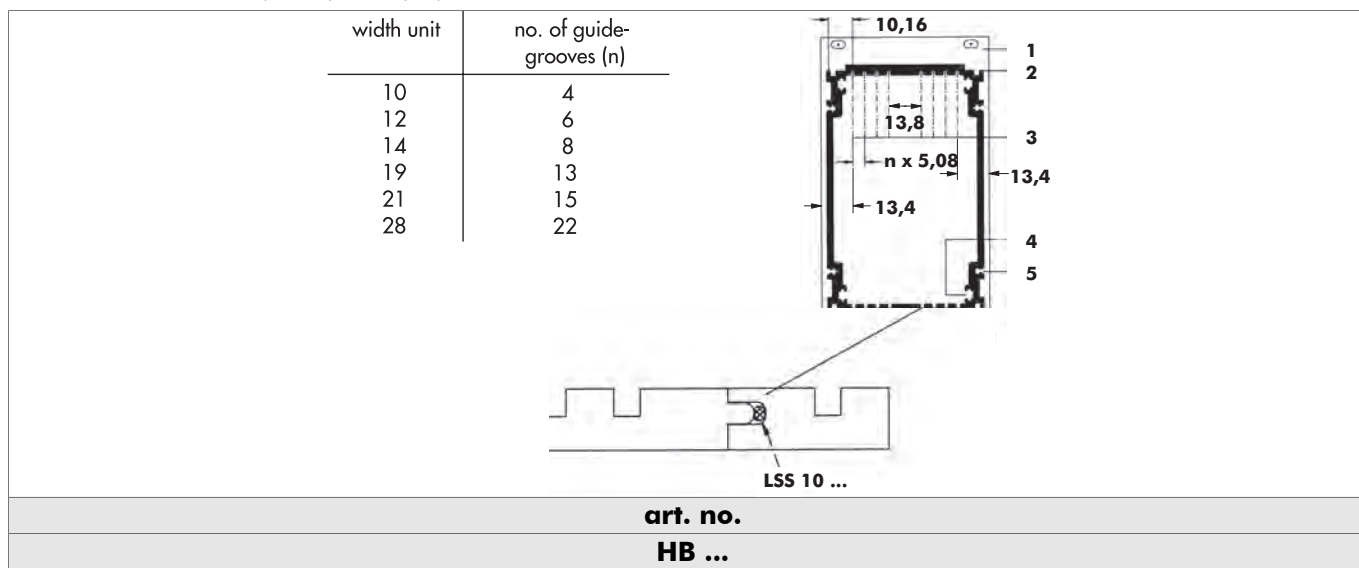


Design HB

- HF-shielded insert module with integrated card guide
- with T-grooves for threaded strips or M 2.5 square nuts
- the insert module HB consists of two aluminium profiles, which are assembled to a tubus, as well as front panel and rear panel
- upon request the profiles of the module can be combined with the profiles of our case series **KO**
- guide grooves in the aluminium profile allow parallel placing of several Eurocards
- if **TP** (chrome-free transparent passivated) is chosen as surface treatment the module can shield high-frequency radiation
- improvement of the shielding by means of insertion of conductive silicone tubes in the longitudinal groove art. no. **LSS 10**
- dimensioned drawing of the side panel profile **GP 200/201/202** → N 78

1 = front plate; **2** = guide ridge for 19" subrack; **3** = slot for Eurocard;

4 = slot for threaded strips, respectively square nuts M 2.5; **5** = external screw channel M 3

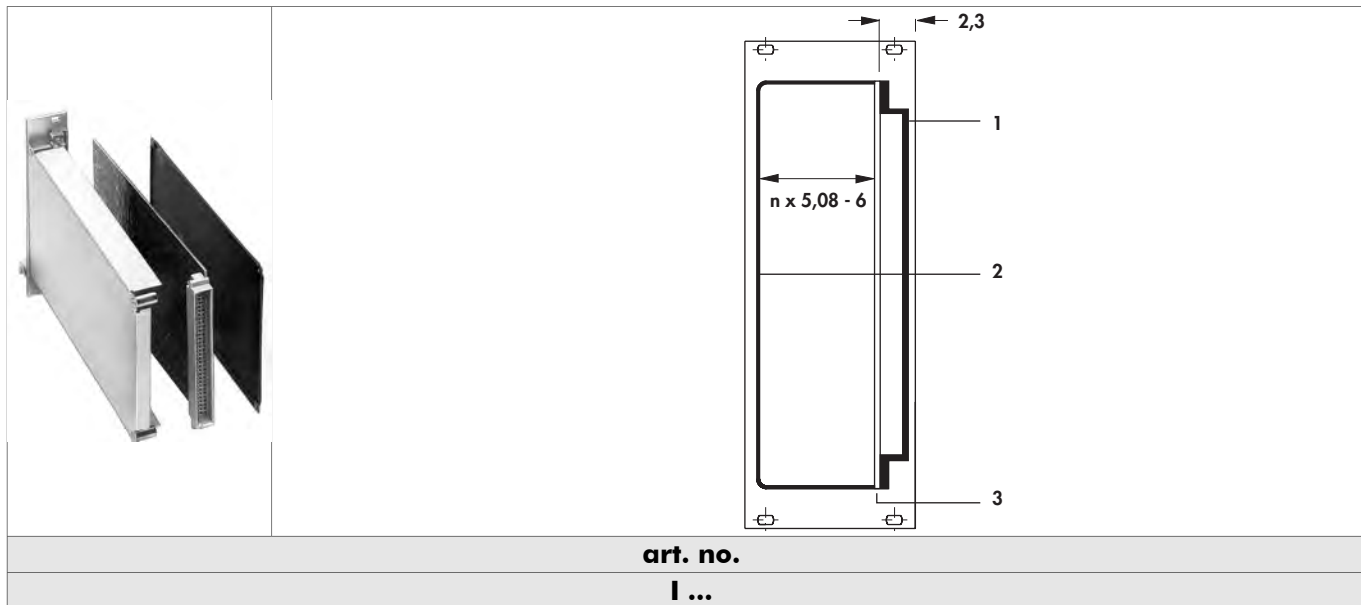


Insert modules for 19" subracks, 3 U

Design I

- shielding panel made of aluminium for your 100 x 160 mm Eurocard
- compatible PCB cover made of plastic and front panels
- rear view

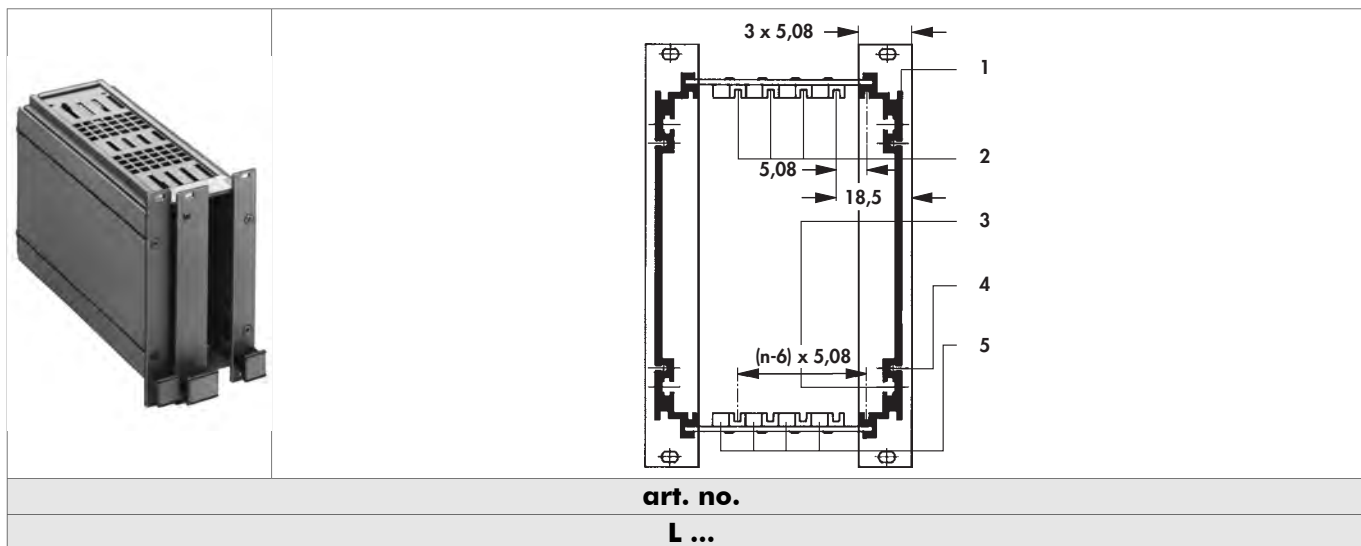
1 = PCB cover; **2** = shielding panel; **3** = Eurocard



Design L

- with T-grooves for threaded strips, slide nuts M 3 or screw heads
- external screw channels prevent short-circuiting by screw cuttings
- perforated cover panel for ventilation and for insertion of guide rails **FSB KW 160** → N 51
- several eurocards with mounted part front panel **TFP KG R 3** can be put together as one functional block
- by using the rear panel **R 5** several female connectors can be mounted for the internal wiring of the cards
- dimensioned drawing of the side panel profile **GP 190** → N 77

1 = guide ridge for 19" case; **2** = slot for Eurocard; **3** = slot for hole spacing strips, hexagon screws respectively screw nuts M 3
4 = external screw channel M 3; **5** = guide rails for mounting in the perforated cover panel



N 39

19" case "Plusline"
 19" subracks
 Extractors
 Heatsink insert modules

→ N 2
 → N 18 - 24
 → N 64
 → N 48 - 49

Part front panels
 19" EMC subracks
 PCB holder
 Profiles

→ N 52 - 57
 → N 29 - 34
 → N 61 - 62
 → N 71 - 80

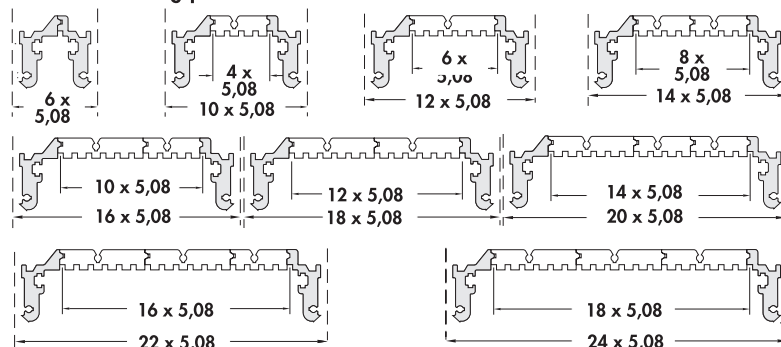
Insert modules for 19" subracks, 3 U

Design N

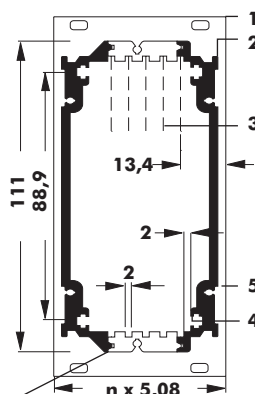
- grid spacing module consisting of left and right aluminium side profiles and aluminium intermediate profiles acc. to the spacing widths (HP)
- standardised insertion on the left and right side into guide rails
- continuous installation grid space of 1 HP (5.08 mm)
- specially designed for BUS-PCB wiring
- good EMC screening due to narrow screw grid space to the rear and front panels as well as chrome-free transparent passivated surface
- improvement of screening features by insertion of a conductive silicon tube art. no. **LSS 10** into the longitudinal groove
- front panel with continuous aluminium (**AG**) or plastic (**KG**) handle (≥ 16 HP = 2 plastic handles)
- rear panel cut-out **R 2 - R 5** up from 10 HP possible
- dimensioned drawing of the side panel profile **GP 206/207/208/209** → N 79

1 = front panel; **2** = guide ridge for 19" subrack; **3** = slot for Eurocard guide; **4** = slot for threaded rails respectively square nut M 2.5; **5** = external screw channel M 3

Various mounting possibilities for the different HP



width unit	no. of guide-grooves (n)
6	1
10	5
12	7
14	9
16	11
18	13
20	15
22	17
24	19



LSS 10 ...

art. no.

N ...

19" case "Plusline"
19" subracks

Extractors

Heatsink insert modules

→ N 2

→ N 18 - 24

→ N 64

→ N 48 - 49

Part front panels

19" EMC subracks

PCB holder

Profiles

→ N 52 - 57

→ N 29 - 34

→ N 61 - 62

→ N 71 - 80

N 40

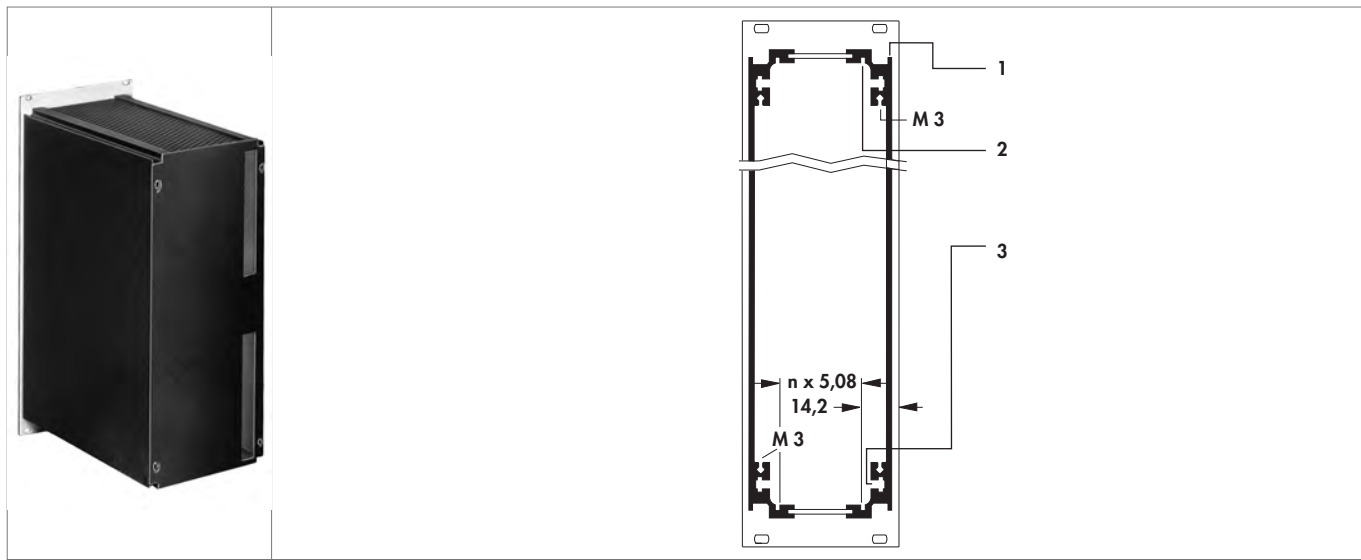
N

Insert modules for 19" subracks, 6 U

Design S

- 6 U counterpart to design A
- with T-grooves for threaded rails, insertion screws M 3 or screw nuts
- the rear plate consists of one continuous sheet without cutout for rear module rails
- rear view with rear plate
- dimensioned drawing of the side panel profile **GP 196** → N 80

1 = guide ridge for 19" case; **2** = slot for Eurocard; **3** = slot for threaded rails, hexagon screws respectively screw nuts M 3

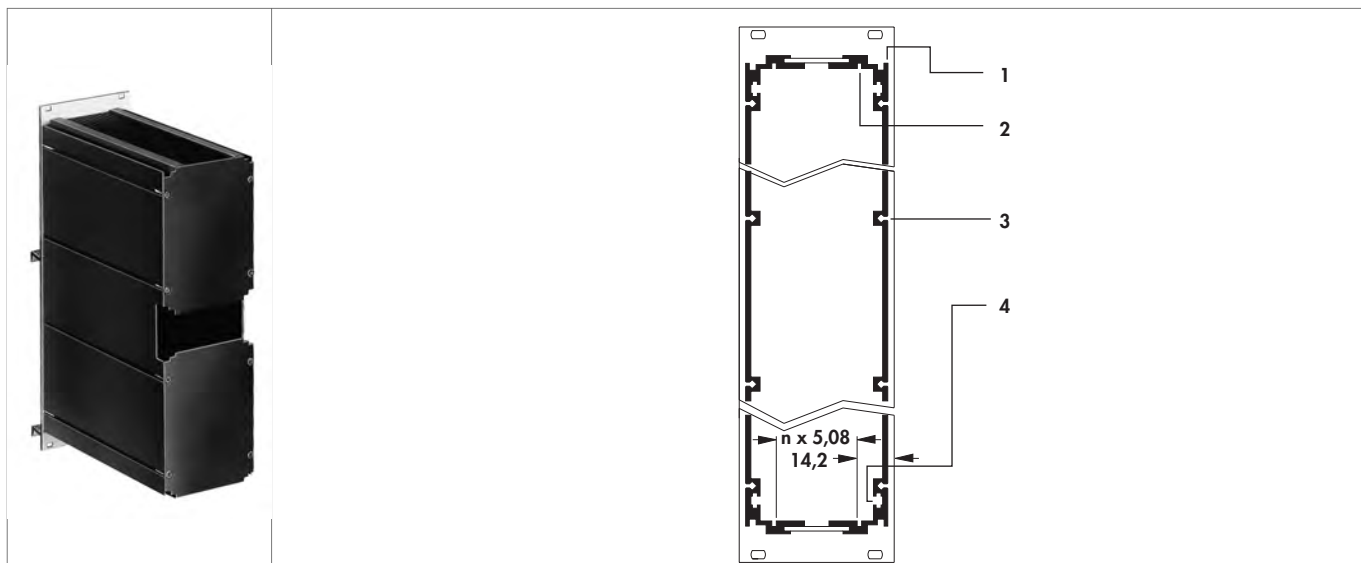


art. no.
S ...

Design T

- 6 U counterpart to design E
- with T-grooves for threaded rails, slide nuts M 3 or screw heads
- external screw channels prevent shortcircuits by screw cuttings
- with space for middle connector carrier
- rear view with rear plate
- dimensioned drawing of the side panel profile **GP 195** → N 80

1 = guide ridge for 19" case; **2** = slot for Eurocard; **3** = external screw channel M 3; **4** = slot for threaded rails, hexagon screws respectively screw nuts M 3



art. no.
T ...

N 41

19" case "Plusline"
19" subracks
Extractors
Heatsink insert modules

→ N 2
→ N 18 - 24
→ N 64
→ N 48 - 49

Part front panels
19" EMC subracks
PCB holder
Profiles

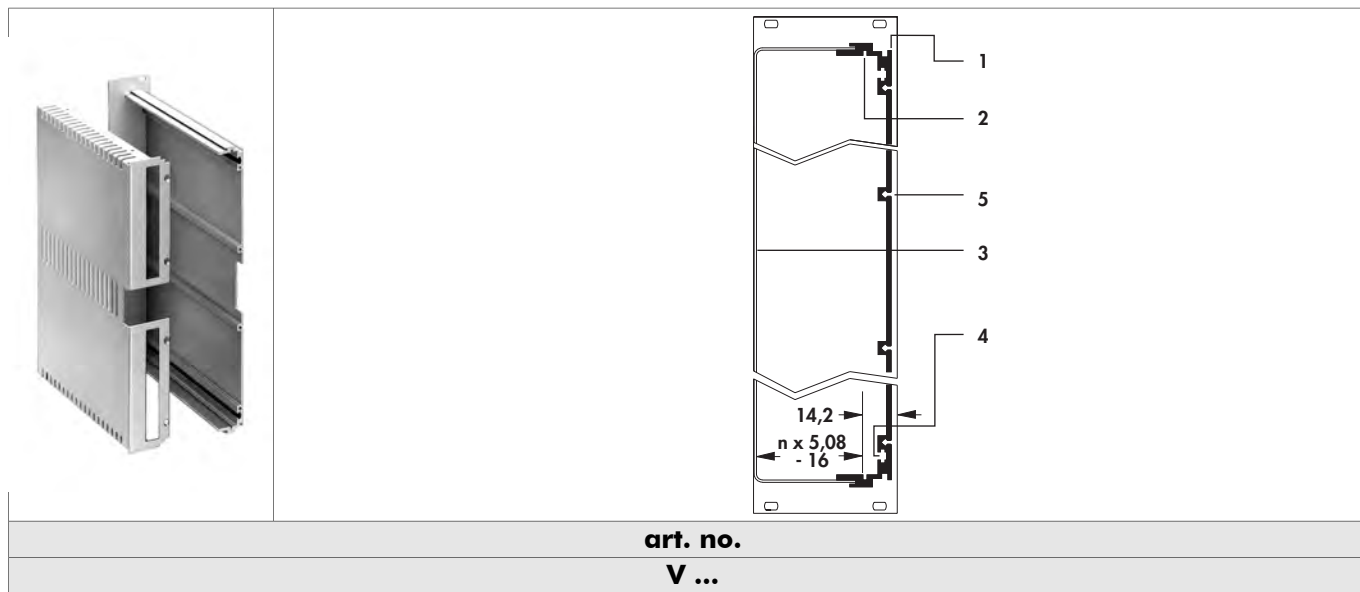
→ N 52 - 57
→ N 29 - 34
→ N 61 - 62
→ N 71 - 80

Insert modules for 19" subracks, 6 U

Design V

- the design V forms the 6 U counterpart to design F
- with T-grooves for threaded strips, slide nuts M 3 or screw heads
- the insert module according to design V consists of one profile type **GP 195** (with external screw channel), one front panel and one cover panel
- the cover has ventilation slots
- the insert module is in correspondence to DIN 41494
- the design is provided with space for fixing elements of the subrack
- rear view with rear plate
- dimensioned drawing of the side panel profile **GP 195** → N 80

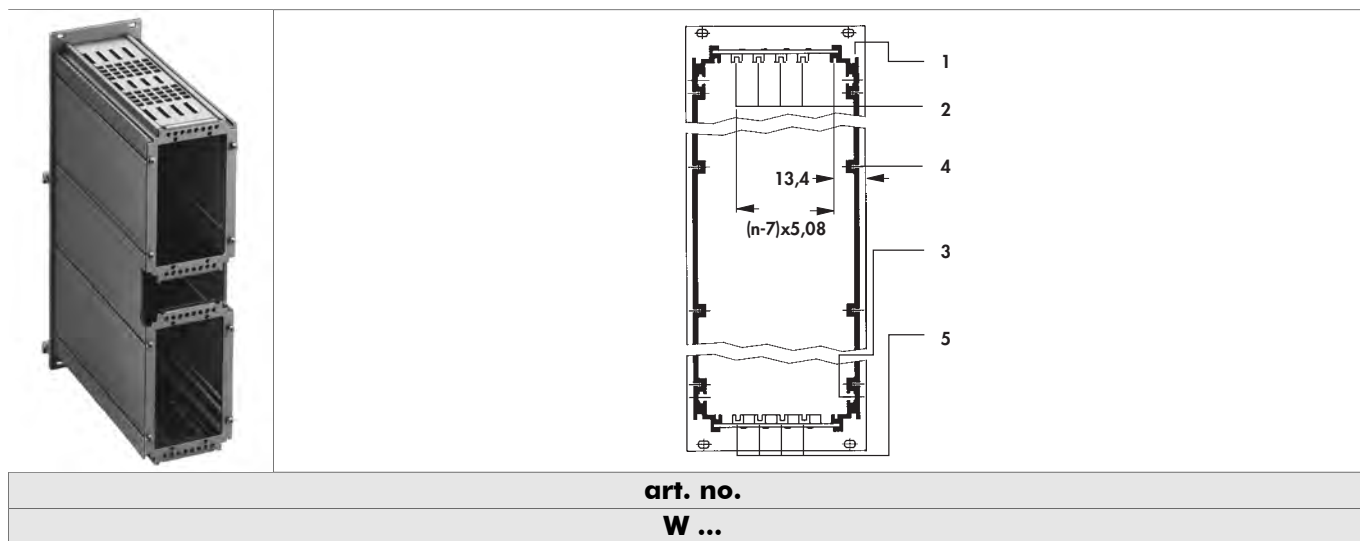
1 = guide ridge for 19" subrack; **2** = slot for Eurocard; **3** = cover plate;
4 = slot for threaded rails, hexagon screws respectively screw nuts M 3; **5** = external screw channel M 3



Design W

- external screw channels prevent short-circuiting by screw cuttings
- on one hand the perforation in the cover panels provide a vertical ventilation of the module and on the other hand for mounting additional Eurocards via guide rails **FSB KW 160** → N 51
- several female connectors can be mounted to the rear panel to enable interwiring of Eurocards
- rear view with end plate
- dimensioned drawing of the side panel profile **GP 197** → N 80

1 = guide ridge for 19" case; **2** = slot for Eurocard; **3** = slot for hole spacing strips, hexagon screws resp. screw nuts M 3;
4 = external screw channel M 3; **5** = guide rails for mounting in the perforated cover panel



19" case "Plusline"
19" subracks

Extractors
Heatsink insert modules

→ N 2

→ N 18 - 24

→ N 64

→ N 48 - 49

Part front panels

19" EMC subracks

PCB holder

Profiles

→ N 52 - 57

→ N 29 - 34

→ N 61 - 62

→ N 71 - 80

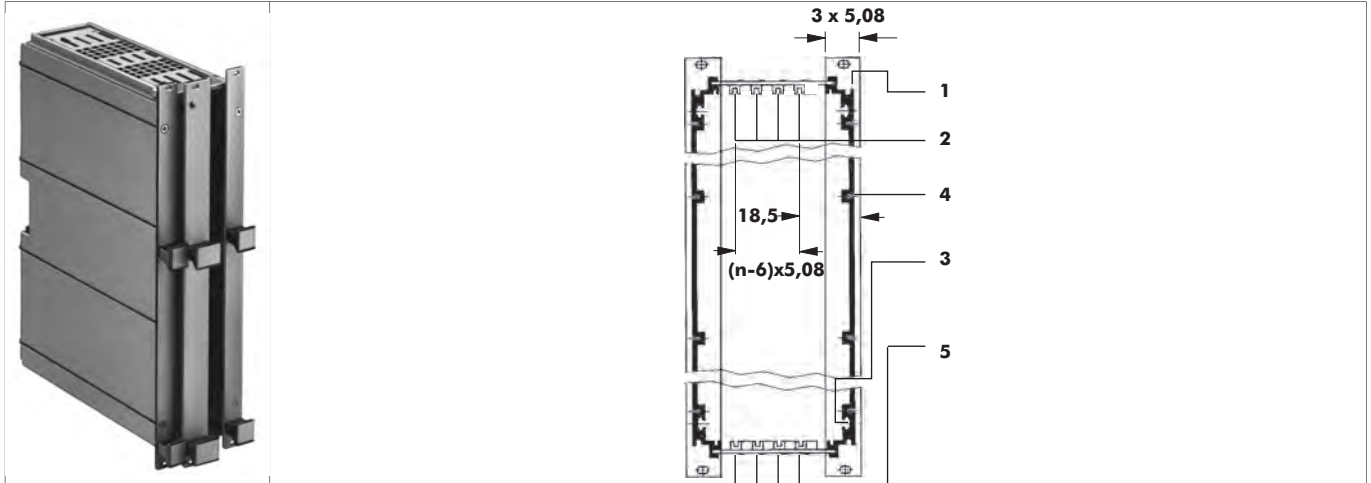
N 42

Insert modules for 19" subracks, 6 U

Design X

- the design X forms the 6 U counterpart to design L
- external screw channels prevent short-circuiting by screw cuttings
- perforated cover panel for ventilation and for insertion of guide rails **FSB KW 160** → N 51
- several Eurocards (also with mounted part front panel) can be put together as one functional block
- female connectors can be mounted to the rear panel for the internal wiring of the cards
- dimensioned drawing of the side panel profile **GP 197** → N 80

1 = guide ridge for 19" case; **2** = slot for Eurocard; **3** = slot for hole spacing strips, hexagon screws respectively screw nuts M 3
4 = external screw channel M 3; **5** = guide rails for mounting in the perforated cover panel



art. no.

X ...

N 43

19" case "Plusline"
 19" subracks
 Extractors
 Heatsink insert modules

→ N 2
 → N 18 - 24
 → N 64
 → N 48 - 49

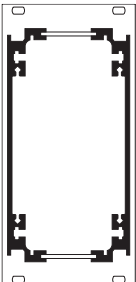


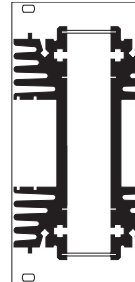

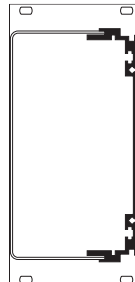

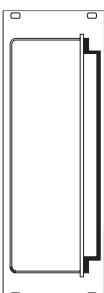
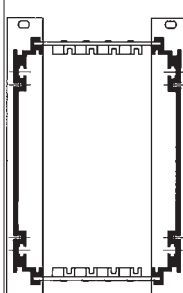
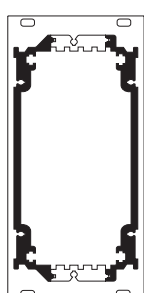
Part front panels
 19" EMC subracks
 PCB holder
 Profiles

→ N 52 - 57
 → N 29 - 34
 → N 61 - 62
 → N 71 - 80

Insert modules for 19" subracks

3 U insert module designs

– available width units

						
A	B	C	D	E	F	HB
8 9 10 12 14 16 20 21 24 28 42	9 10 12 14 16 20 21 24 28 42	9 10 12 14 16 20 21 24 28 42	12 14 16 20 21 24 28 42	10 12 14 16 20 21 24 28 42	6 7 8 9 10 12 14	10 12 14 19 21 28
						
I	L	N				
4 5 6 7 8 9 10	14 21 24 26 28 42	6 10 12 14 16 18 20 22 24				

19" case "Plusline"
19" subracks
Extractors
Heatsink insert modules

→ N 2
→ N 18 – 24
→ N 64
→ N 48 – 49
Part front panels
19" EMC subracks
PCB holder
Profiles

→ N 52 – 57
→ N 29 – 34
→ N 61 – 62
→ N 71 – 80

N 44

A

B

C

D

E

F

G

H

I

K

L


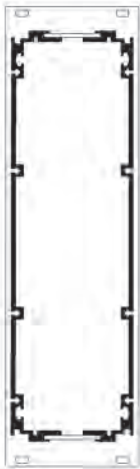



M

N

Insert modules for 19" subracks

6 U insert module designs

– available width units

				
S	T	V	W	X
8		6 7 8 9 10		
12 14	12 14		14	14
21 24 28 42	21 24 28 42		21 28 42	21 28 42

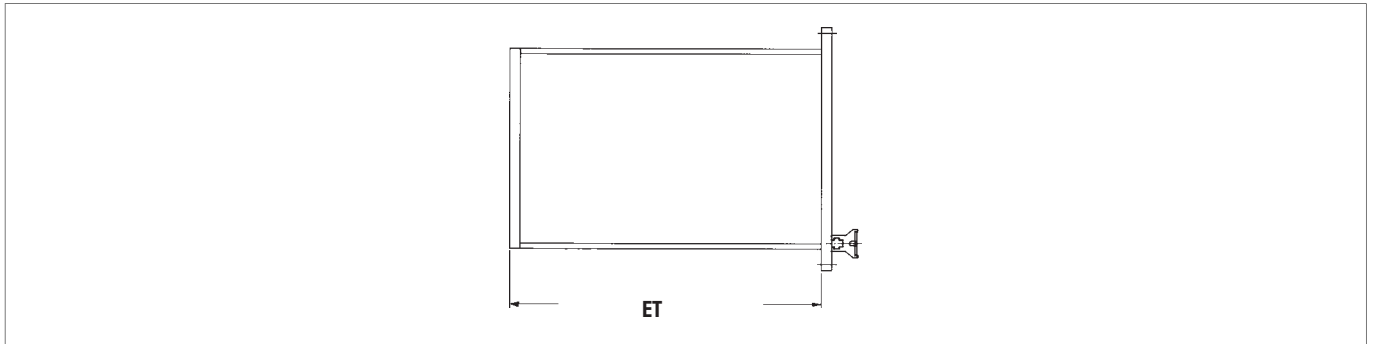
Order example

T	ME	10	220	R 4	L	AG
required design	required width unit table		insert depth	rear panel cut out table		handle (indicate only if requested)
required surface finish:					perforated cover panel (for module design A-E, G, S, T)	
ME = front panel, profiles and rear panel clear anodised					(indicate only if requested, otherwise plain cover panel will be delivered)	
SA = front panel clear anodised, profiles and rear panel black anodised						
TP = front panel, profiles and rear panel transparent passivated						
other surface finish or finish combinations on request						

Insert modules for 19" subracks

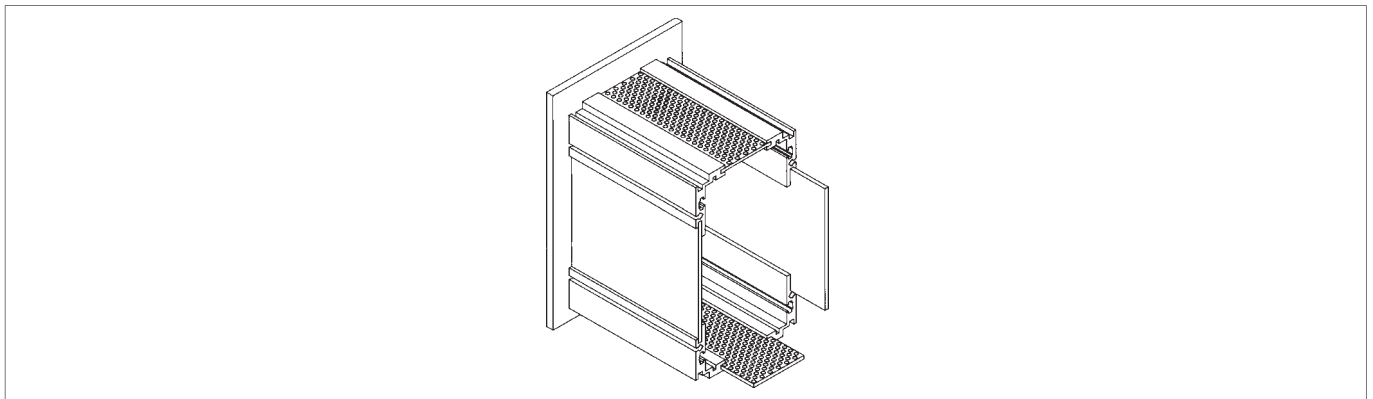
Insert depth (ET)

- **160** = insert depth $168^{+0,5}$ mm, suitable for Eurocards 100×160 mm / 233.4×160 mm
- **220** = insert depth $228^{+0,5}$ mm, suitable for Eurocards 100×220 mm / 233.4×220 mm



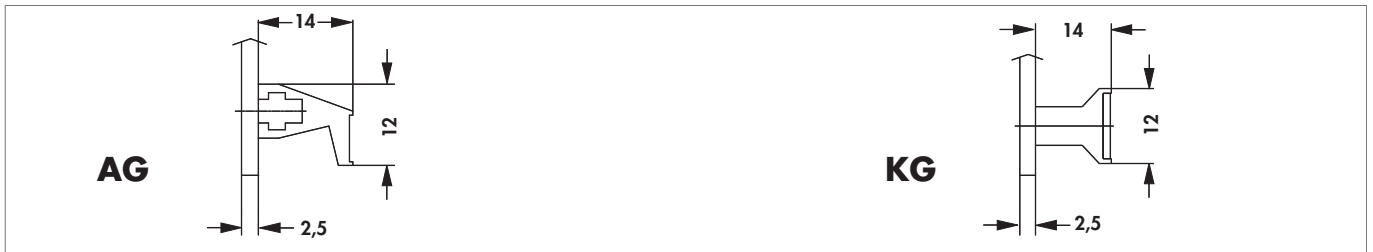
Perforated cover panel

- hole diameter 3.2 mm only for designs **A, B, C, D, E, S** and **T**



Handles

- **AG** = front panel with anodised aluminium-handle and fixing material
- **KG** = front panel with plastic-handle, anodised aluminium-insert strip and fixing material



Heatsink insert modules



KSK 3 421 8



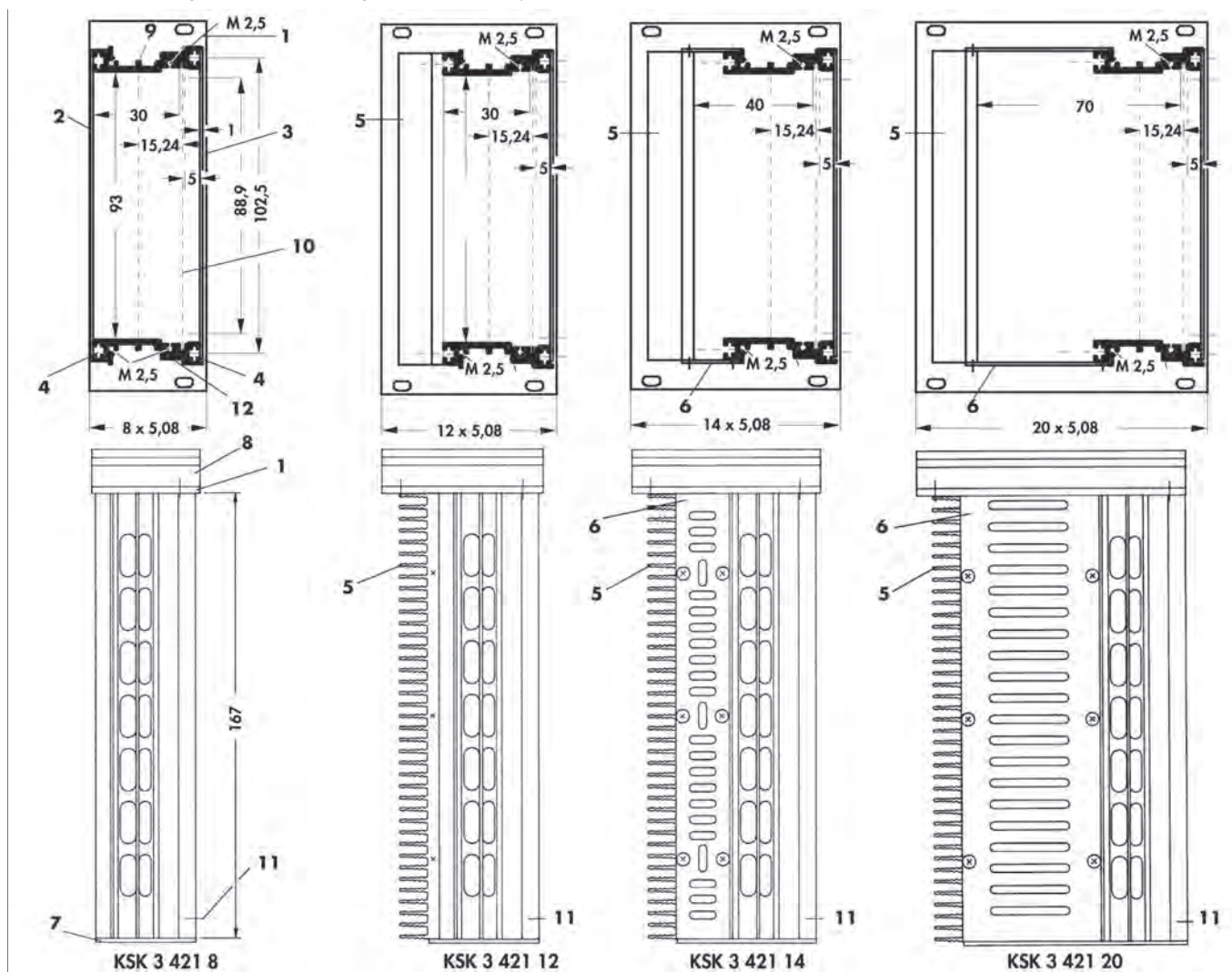
KSK 3 421 12



KSK 3 421 14/20

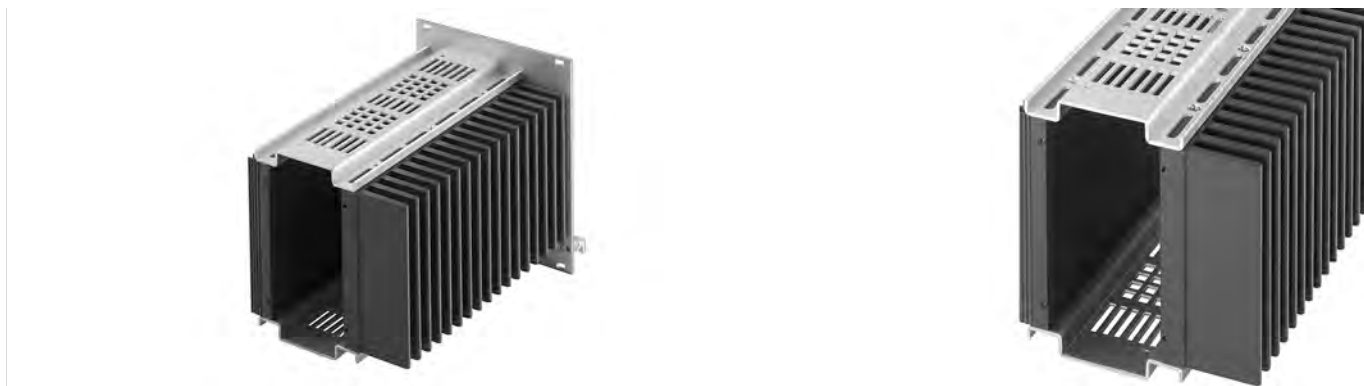
- 3 U insert modules with side panels made of heatsink profile, optimal heat dissipation due to fluted cooling fins
- profiles with ventilation slots and internal guiding ridges
- rear panel cut-out for connectors DIN 41612 designs B, C, D, F and H
- front panel treatments, further heights or HPs on request
- front panel, rear panel and profile natural colour anodized, heatsink black anodised

1 = front panel; **2** = screening plate, right side; **3** = screening plate, left side; **4** = for threaded rail or nut M 2,5;
5 = heatsink **SK 421**; **6** = tab, perforated; **7** = rear panel; **8** = plastic handle **GLK**; **9** = guiding ridge in the subrack;
10 = internal card guide; **11** = drilling for card; **12** = profile **GP 199** → N 76



art. no.	HP	art. no.	HP
KSK 3 421 8	8	KSK 3 421 14	14
KSK 3 421 12	12	KSK 3 421 20	20

Heatsink insert modules

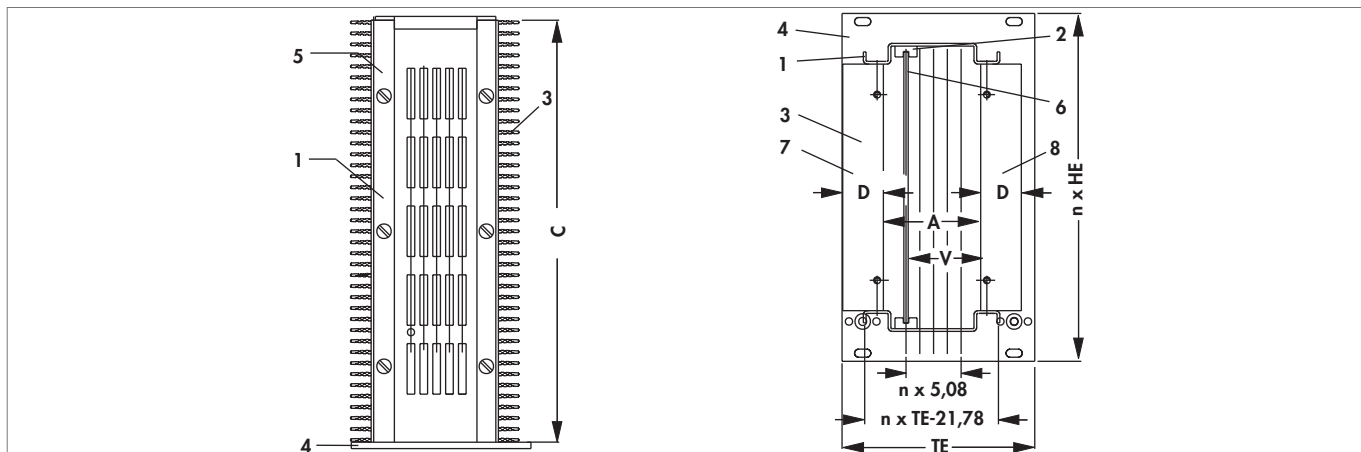


- the profile KP allows the assembly of the 19" insert modules with heatsinks as side panels
- treatment of the heatsinks, front plate and rear panel according to your requests
- hole matrix provides ventilation as well as an application of internal guide rails **FSB KW 160** → N 51
- height units arbitrary
- depth until 300 mm
- heatsink black anodised

choice of heatsinks:

SK 56 ($C_{max} = 300$ mm, $D = 40$ mm, $R_{th} = 0.4$ K/W) ; **SK 113** ($C_{max} = 200$ mm, $D = 20$ mm, $R_{th} = 1$ K/W)
SK 136 ($C_{max} = 200$ mm, $D = 15$ mm, $R_{th} = 1$ K/W) ; **SK 168** ($C_{max} = 226.5$ mm, $D = 40$ mm, $R_{th} = 0.7$ K/W)
SK 198 ($C_{max} = 300$ mm, $D = 15$ mm, $R_{th} = 0.8$ K/W) ; **SK 421** ($C_{max} = 167$ mm, $D = 15$ mm, $R_{th} = 1.4$ K/W)

1 = sheet profile; **2** = guide rail **FSB KW 160**; **3** = heatsink SK ...; **4** = front plate; **5** = rear panel; **6** = printed board;
7 = heatsink left side; **8** = heatsink right side



art. no.	dim. [mm]					
	A	TE / D = 15	TE / D = 20	TE / D = 40	n	V
KP 14 ...	35.90	14	16	24	4	26.57
KP 16 ...	46.06	16	18	26	6	36.91
KP 18 ...	56.22	18	20	28	8	47.07
KP 20 ...	66.38	20	22	30	10	57.23
KP 22 ...	76.54	22	24	32	12	67.39
KP 24 ...	86.70	24	26	34	14	77.55
KP 26 ...	96.86	26	28	36	16	87.71
KP 28 ...	107.02	28	30	38	18	97.87

please indicate:

... heatsink left side

1 = SK 421
2 = SK 136
3 = SK 198
4 = SK 113
5 = SK 168
6 = SK 56

... heatsink right side

1 = SK 421
2 = SK 136
3 = SK 198
4 = SK 113
5 = SK 168
6 = SK 56

Fixing tab

	BFL 30	BFL 42
	art. no. suitable for type BFL 30 insert modules design A, B, C BFL 42 insert modules design E, F	

Fixing set

- for vibration-free fixing of PCBs within insert modules
- a distance sleeve provides an isolation and prevents deflection
- **VPE**: packing unit

	BFS 1	BFS 2
	art. no. suitable for type BFS 1 insert modules design A, B, C, S BFS 2 insert modules design E, F, T, V	VPE

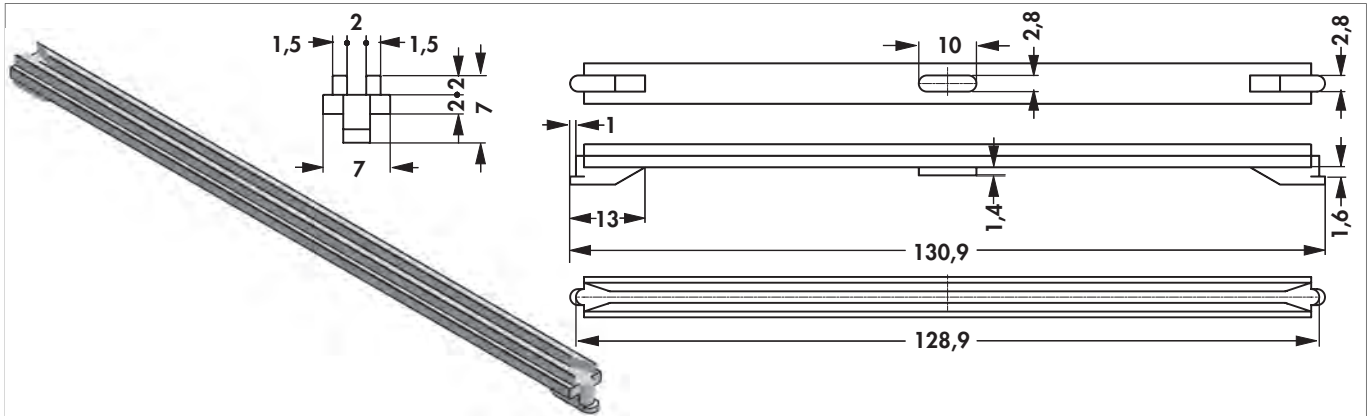
Fixing angle

1 = rear panel **R 5** → N 46; **2** = fixing angle **BWF R 5**; **3** = cheese head screw M 2.5 x 5; **5** = spring washer; **6** = fixing angle **BWM R 5**; **7** = cheese head screw M 2.5 x 3; **8** = guide rail **FSB KW 160**

	suitable for type	
	BWF R 5	female connectors on the rear panel R 5 for the insert module design HB, L, W and X
	BWM R 5	male connectors on the rear panel R 5 for the insert module design HB, L, W and X

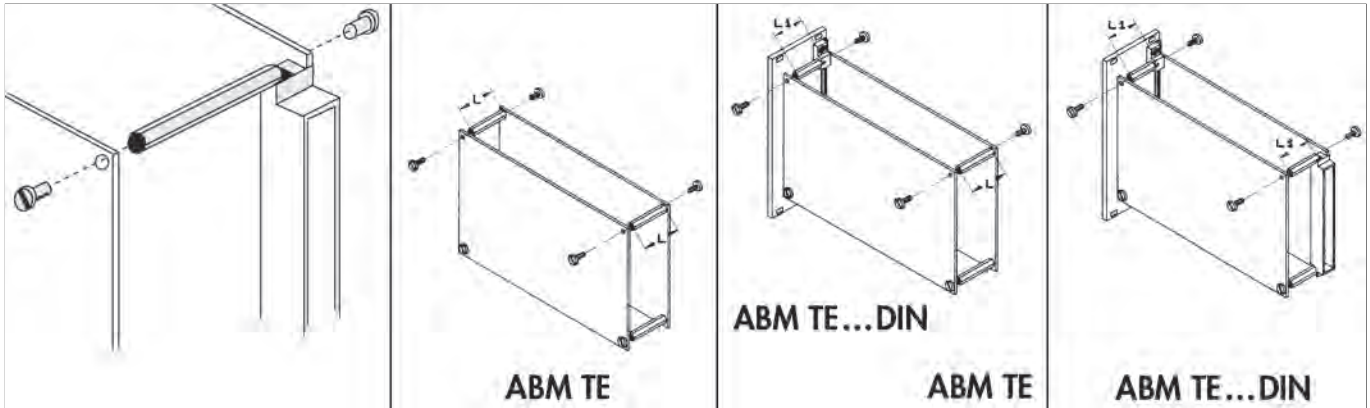
Accessories for insert modules

Guide rail



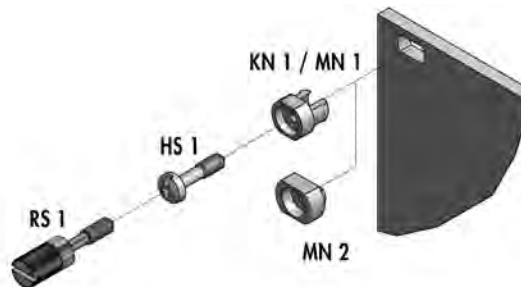
art. no.	suitable for type	dim. [mm]
FSB KW 160	the perforated cover plate of insert module designs KP, L, W and X	130
colour:	grey	
material:	PBT, self-extinguishing	

– distance sleeves for PCB's in HP grid → **f.cool ABM ...**



Mounting material

- for locking insert modules and part front panels into the subrack
- **KN 1**: plastic sleeves for clipping in
- **MN 1**: metal sleeves / **MN 2**: metal sleeves for pressing in; fixed connection to the front panel
- **HS 1**: captive screw, brass nickel plated / **RS 1**: knurled screw with slot, brass nickel plated
- **VPE**: packing unit

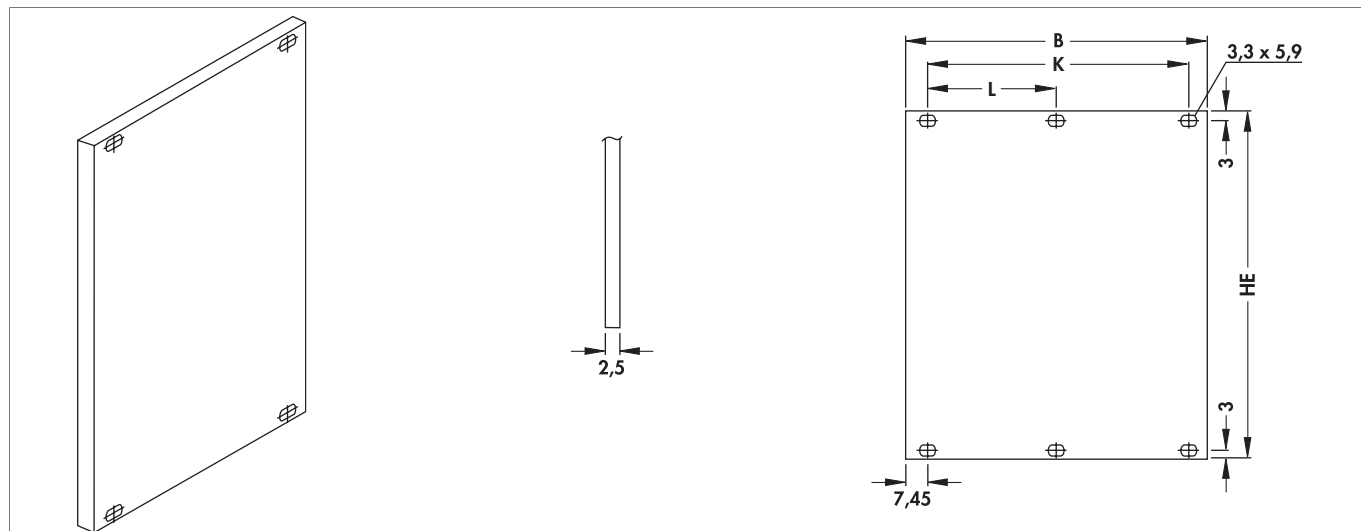


art. no.	VPE	art. no.	VPE	art. no.	VPE
HS 1	100 pcs./bag	MN 1	10 pcs./bag	RS 1	100 pcs./bag
KN 1	100 pcs./bag	MN 2	10 pcs./bag		

	HS 1 / MN 1+2 / RS 1	KN 1
material	brass, nickel plated	polyamide

Part front panels

- 3 HE: H = 128.4 mm
- 6 HE: H = 261.8 mm
- **HP** = width unit = 5.08 mm
- **U** = height unit = 44.45 mm



art. no.	HP	dim. [mm]		
		B	K	L
TFP ... 3 ...	3	14.9	—	—
TFP ... 4 ...	4	20.0	—	—
TFP ... 5 ...	5	25.1	—	—
TFP ... 6 ...	6	30.2	—	—
TFP ... 7 ...	7	35.3	—	—
TFP ... 8 ...	8	40.3	—	—
TFP ... 9 ...	9	45.4	—	—
TFP ... 10 ...	10	50.5	35.6	—
TFP ... 12 ...	12	60.7	45.7	—
TFP ... 14 ...	14	70.8	55.9	—
TFP ... 16 ...	16	81.0	66.0	—
TFP ... 18 ...	18	91.1	76.2	—
TFP ... 20 ...	20	101.3	86.4	—
TFP ... 21 ...	21	106.4	91.4	—
TFP ... 24 ...	24	121.6	106.7	—
TFP ... 28 ...	28	141.9	127.0	—
TFP ... 40 ...	40	202.9	188.0	—
TFP ... 42 ...	42	213.1	198.1	96.5
TFP ... 60 ...	60	304.5	289.6	147.3
TFP ... 63 ...	63	319.7	304.8	152.4
TFP ... 84 ...	84	426.4	411.5	203.2

please indicate:

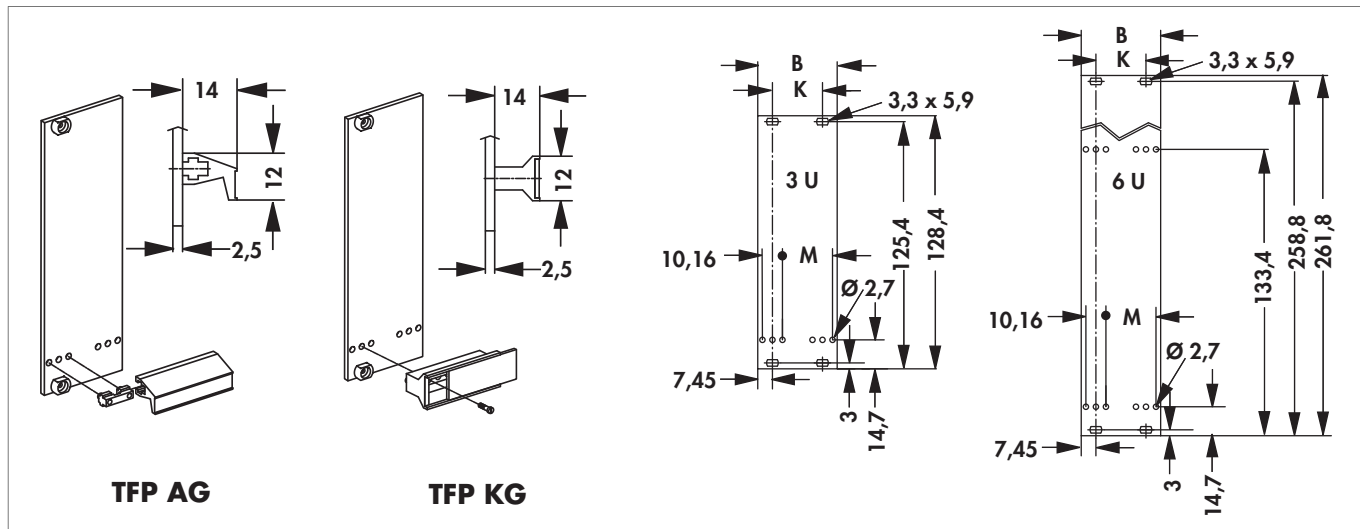
- ... height unit
3 6
- ... metal nipples (optional)
MN 2 = pressed in

surface: natural colour anodised

Part front panels

Part front panel with handle

- **TFP OG** part front panel without handle with handle perforation
- **TFP AG** part front panel with anodised aluminium handle and fixing material
- **TFP KG** part front panel with plastic-handle, anodised insert strip and fixing material
- **TFP KG ...** only 3-8 and 10-14
- **HP** = width unit = 5.08 mm; **U** = height unit = 44.45 mm



TFP AG

TFP KG

art. no.	HP	dim. [mm]		
		B	K	M
TFP ... 3 ...	3	14.9	—	—
TFP ... 4 ...	4	20.0	—	5.08
TFP ... 5 ...	5	25.1	—	10.16
TFP ... 6 ...	6	30.2	—	15.24
TFP ... 7 ...	7	35.3	—	20.32
TFP ... 8 ...	8	40.3	—	25.40
TFP ... 9 ...	9	45.4	—	30.50
TFP ... 10 ...	10	50.5	35.6	35.60
TFP ... 12 ...	12	60.7	45.7	45.70
TFP ... 14 ...	14	70.8	55.9	55.90
TFP ... 16 ...	16	81.0	66.0	66.00
TFP ... 18 ...	18	91.1	76.2	76.20
TFP ... 20 ...	20	101.3	86.4	86.40
TFP ... 21 ...	21	106.4	91.4	91.40
TFP ... 24 ...	24	121.6	106.7	106.70
TFP ... 28 ...	28	141.9	127.0	127.00

please indicate:

- ... front panels (optional)
 - KG** = with plastic-handle, anodised insert strip and fixing material
 - AG** = with anodised aluminium handle and fixing material
 - OG** = without handle with handle perforation

- ... height unit
 - 3
 - 6

- ... metal nipples (optional)
 - MN 2** = pressed in

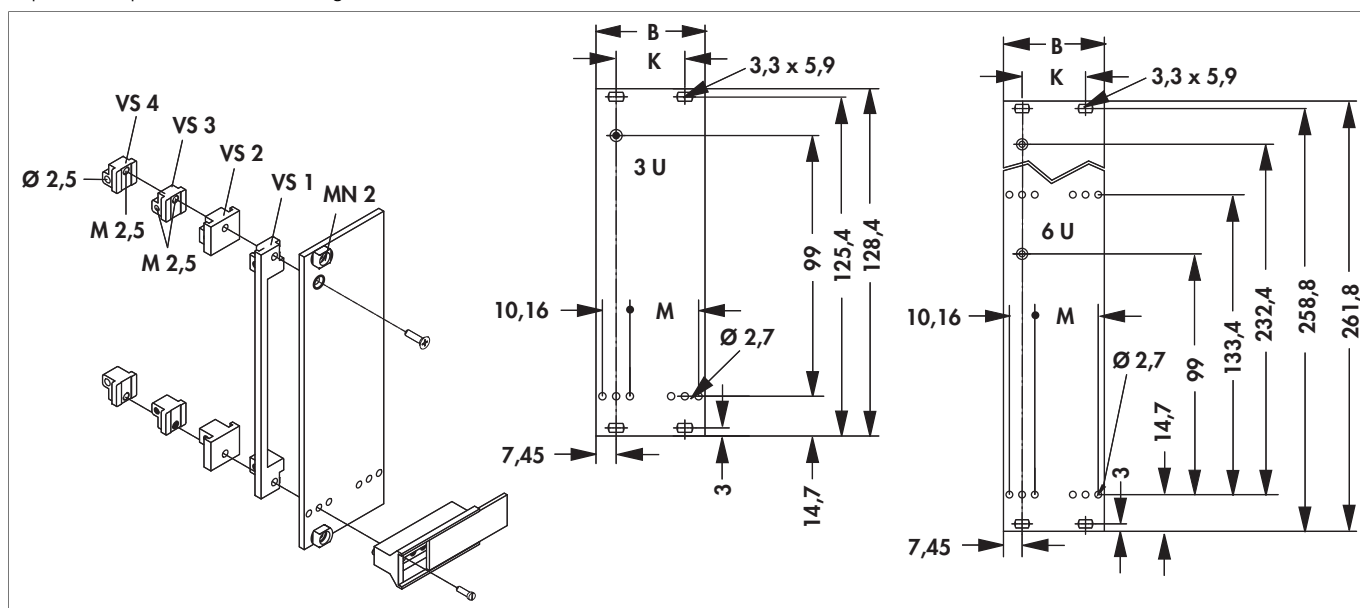
surface:

natural colour anodised

Part front panels

Part front panels with plastic handle and bracket

- HP = width unit = 5.08 mm
- U = height unit = 44.45 mm
- PCB holder VS 1-4 → N 61
- part front panels incl. mounting material



art. no.	HP	dim. [mm]		
		B	K	M
TFP KG ... 4 ...	4	20.0	—	5.08
TFP KG ... 5 ...	5	25.1	—	10.16
TFP KG ... 6 ...	6	30.2	—	15.24
TFP KG ... 7 ...	7	35.3	—	20.32
TFP KG ... 8 ...	8	40.3	—	25.40
TFP KG ... 10 ...	10	50.5	35.6	35.60
TFP KG ... 12 ...	12	60.7	45.7	45.70
TFP KG ... 14 ...	14	70.8	55.9	55.90

please indicate:

... front panels (optional)

KG = with plastic-handle, anodised insert strip and fixing material

AG = with anodised aluminium handle and fixing material

OG = without handle with handle perforation

... PCB holder

VS 1 = for 3 U Eurocards

VS 2 = for PCBs in any size

VS 3 = with M2.5 thread

VS 4 = with M2.5 thread and through-hole

... height unit

3 6

... metal nipples (optional)

MN 2 = pressed in

surface:

natural colour anodised

Part front panels with handle → N 53 - 57

Part front panels with PCB holder → N 54 - 55

Part front panels with SMD-brackets → N 56

Insert modules 19" → N 36 - 45

Handles for part front panels → N 60

Part front panels with extractors → N 57

Heatsink insert modules → N 48 - 49

PCB holder → N 61 - 62

N 54

A

B

C

D

E

F

G

H

I

K

L

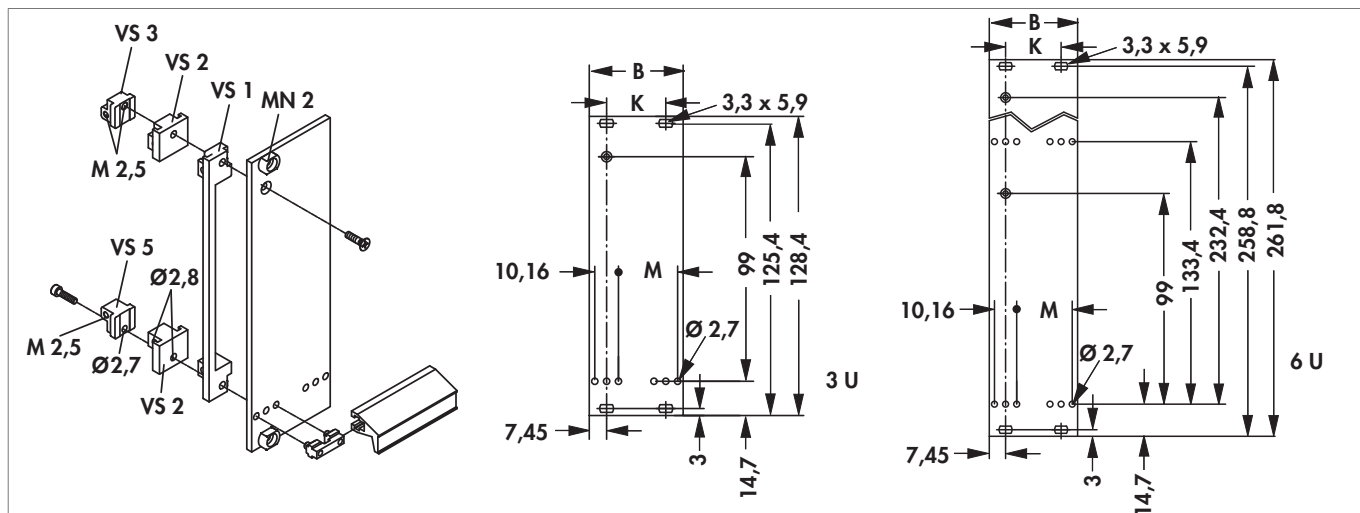
M

N

Part front panels

Part front panels with aluminium handle and bracket

- HP = width unit = 5.08 mm
- U = heights unit = 44.45 mm
- PCB holder VS ... → N 61
- part front panel incl. mounting material



art. no.	HP	dim. [mm]		
		B	K	M
TFP AG ... 3 ...	3	14.9	—	—
TFP AG ... 4 ...	4	20.0	—	5.08
TFP AG ... 5 ...	5	25.1	—	10.16
TFP AG ... 6 ...	6	30.2	—	15.24
TFP AG ... 7 ...	7	35.3	—	20.32
TFP AG ... 8 ...	8	40.3	—	25.40
TFP AG ... 9 ...	9	45.4	—	30.50
TFP AG ... 10 ...	10	50.5	35.6	35.60
TFP AG ... 12 ...	12	60.7	45.7	45.70
TFP AG ... 14 ...	14	70.8	55.9	55.90
TFP AG ... 16 ...	16	81.0	66.0	66.00
TFP AG ... 18 ...	18	91.1	76.2	76.20
TFP AG ... 20 ...	20	101.3	86.4	86.40
TFP AG ... 21 ...	21	106.4	91.4	91.40
TFP AG ... 24 ...	24	121.6	106.7	106.70
TFP AG ... 28 ...	28	141.9	127.0	127.00

please indicate:

- ... PCB holder
 - VS 1 = for 3 U Eurocards
 - VS 2 = for PCBs in any size
 - VS 35 = (VS 3/VS 5) with M2.5 threads for front panel and circuit board mounting
- ... height unit
 - 3 6
- ... metal nipples (optional)
 - MN 2 = pressed in

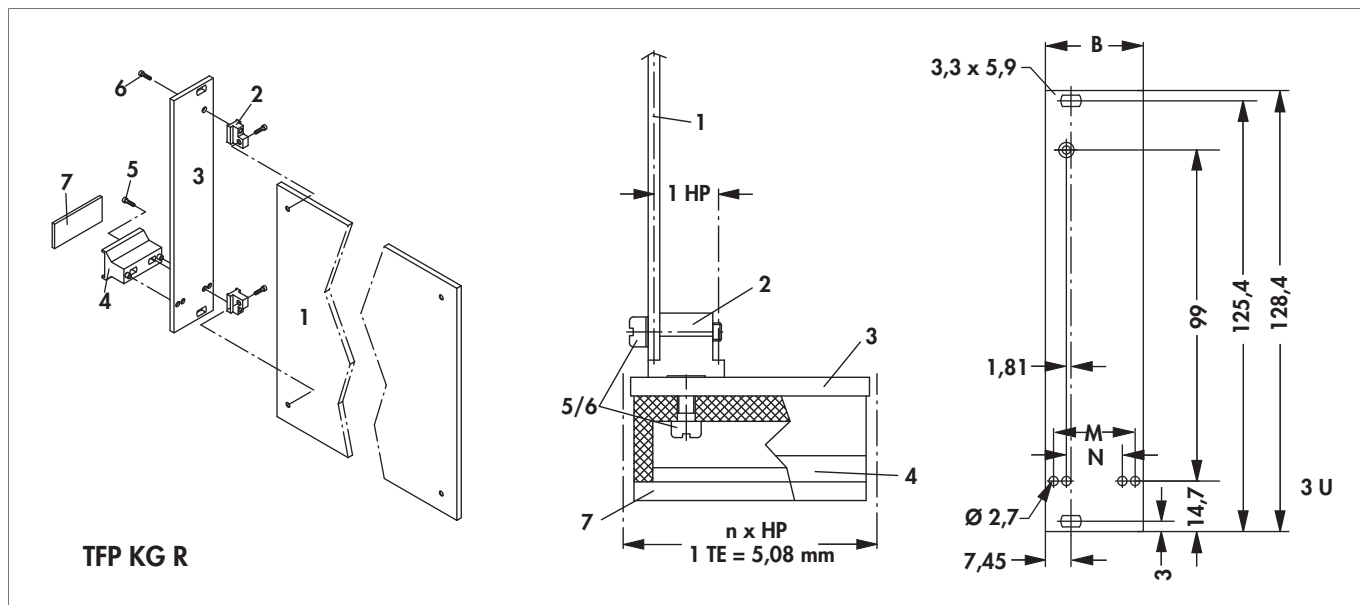
surface: natural colour anodised

Part front panels

Part front panels 3 U with PC-board holder SMD

- part front panel with plastic handle, anodised insert strip, PC-board holder made of zinc diecast and mounting material
- PC-board holder for the double-sided assembly of circuit boards in grid of 1 HP
- particularly suited for SMD technology as the circuit board is usable for double-sided insertion
- **HP** = width unit = 5.08
- **U** = height unit = 44.45
- PCB holder **VS 6/7** → N 62
- part front panel incl. mounting material

1 = PC-board; **2** = PC-board holder VS 6 (VS 7); **3** = front panel; **4** = plastic handle **GLK**; **5** = cheese head screw M 2.5 x 12;
6 = vertical lens screw M 2.5 x 8; **7** = insert strip



art. no.	HP	dim. [mm]		
		B	M	N
TFP KG R ... 3 4 ...	4	20.0	15.24	8.70
TFP KG R ... 3 5 ...	5	25.1	20.32	13.78
TFP KG R ... 3 6 ...	6	30.2	25.40	18.86
TFP KG R ... 3 7 ...	7	35.3	30.50	23.90
TFP KG R ... 3 8 ...	8	40.3	35.60	29.00
TFP KG R ... 3 10 ...	10	50.5	45.70	39.20
TFP KG R ... 3 12 ...	12	60.7	55.90	49.30
TFP KG R ... 3 14 ...	14	70.8	66.00	59.50

please indicate:

- ... PCB holder
 - VS 6 = with M2.5 thread
 - VS 7 = with M2.5 thread and through-hole
- ... metal nipples (optional)
 - MN 2 = pressed in

surface: natural colour anodised

Part front panels with handle → N 53 – 57
 Part front panels with PCB holder → N 54 – 55
 Part front panels with SMD-brackets → N 56
 Insert modules 19" → N 36 – 45

Handles for part front panels → N 60
 Part front panels with extractors → N 57
 Heatsink insert modules → N 48 – 49
 PCB holder → N 61 – 62

N 56

A

B

C

D

E

F

G

H

I

K

L

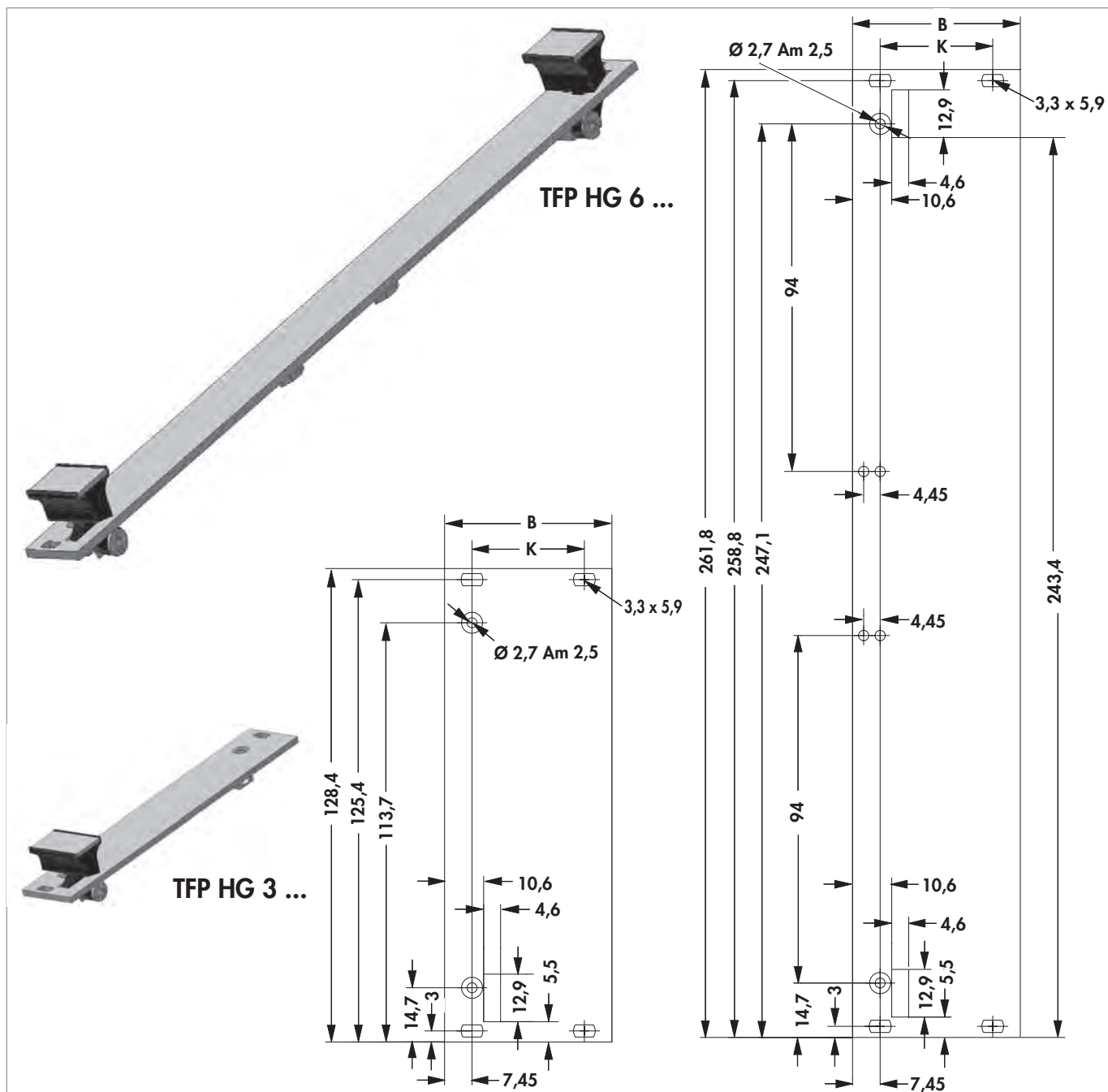
M

N

Part front panels

Part front panels with extractors

- part front panels with plastic cover for easy traction of PCBs with multi-pole connectors
- **handle colour:** black
- supplied as kit incl. mounting material



art. no.	HP	dim. [mm]		art. no.	HP	dim. [mm]	
		B	K			B	K
TFP HG ... 4 ...	4	20.0	—	TFP HG ... 8 ...	8	40.3	—
TFP HG ... 5 ...	5	25.1	—	TFP HG ... 9 ...	9	45.4	30.5
TFP HG ... 6 ...	6	30.2	—	TFP HG ... 10 ...	10	50.5	35.6
TFP HG ... 7 ...	7	35.3	—	TFP HG ... 12 ...	12	60.7	47.7

please indicate: ... height unit **3 6** ... metal nipples (optional) **MN 2 = pressed in**

surface: natural colour anodised

N 57

Part front panels with handle → N 53 – 57
 Part front panels with PCB holder → N 54 – 55
 Part front panels with SMD-brackets → N 56
 Insert modules 19" → N 36 – 45

Handles for part front panels → N 60
 Part front panels with extractors → N 57
 Heatsink insert modules → N 48 – 49
 PCB holder → N 61 – 62



Matelec, Madrid, Parque Ferial Juan Carlos I.

I



Automaticon, Warsaw

PL



Expotronica, Moscow

RU



Nepcon, Bangkok

TH



Ineltec, Basel

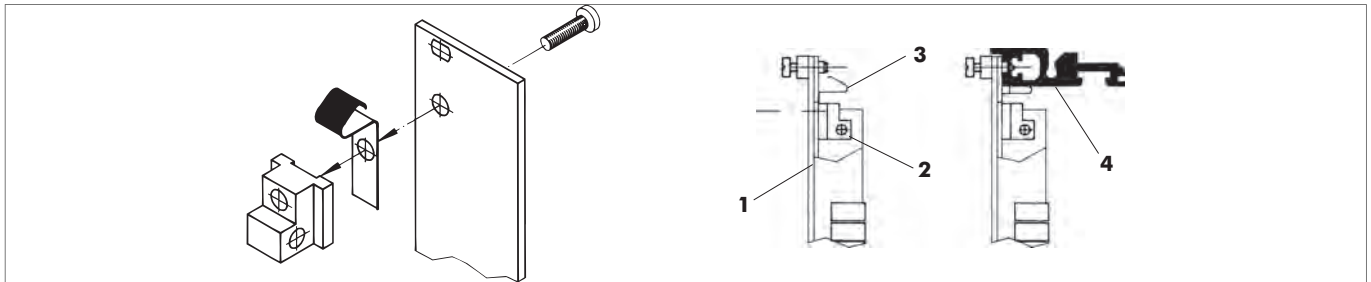
CH

Accessories for part front panels

Contact spring

- made of phosphorus bronze is mounted between die-cast PC-bracket **VS 3-7** → N 62 and electrically conductive front panel
- serves as capacitive contact as well as for electrostatic discharge **ESD**
- electrical contact is achieved by conductive (chrome-free transparent passivated) module rails

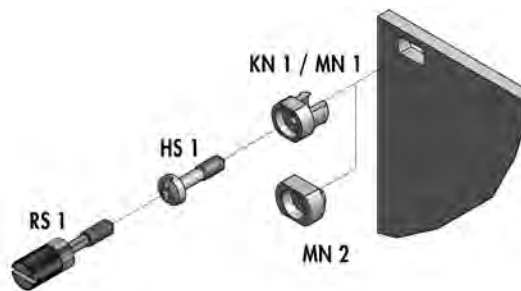
1 = front panel; **2** = bracket; **3** = contact spring; **4** = module rail



art. no.
FEK 1

Mounting material

- for locking insert modules and part front panels into the subrack
- **KN 1**: plastic sleeves for clipping in
- **MN 1**: metal sleeves / **MN 2**: metal sleeves for pressing in; fixed connection to the front panel
- **HS 1**: captive screw, brass nickel plated / **RS 1**: knurled screw with slot, brass nickel plated
- **VPE**: packing unit

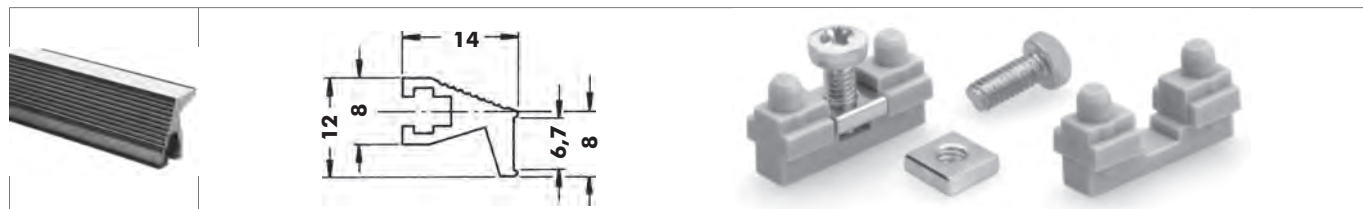


art. no.	VPE
HS 1	100 pcs./bag
KN 1	100 pcs./bag
MN 1	10 pcs./bag
MN 2	10 pcs./bag
RS 1	100 pcs./bag

	HS 1/ MN 1+2/ RS 1	KN 1
material	brass, nickel plated	polyamide

Handles for part front panels

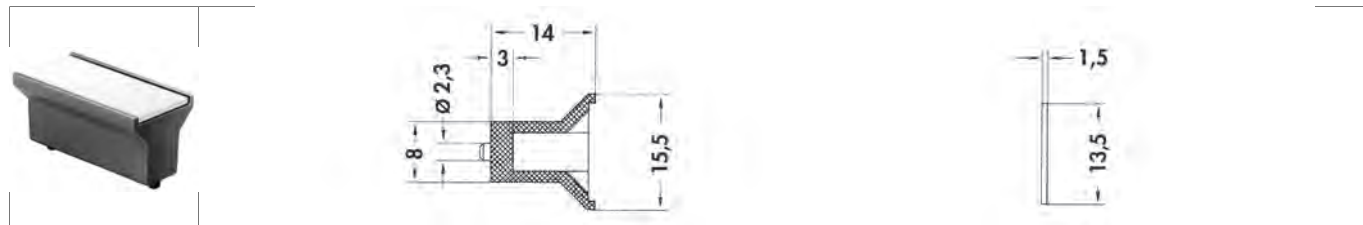
- handles made of material EN AW 6060 T66 (Al Mg Si 0.5), set of mounting material please order separately
- further colours on request
- set of fixing material consists of:
 - **GLBZ** = fixing piece, nut M 2.5 and cross drive cheese head screw
 - **GLBS** = fixing piece, nut M 2.5 and countersink screw
- **packing unit (VPE)**: 50 set/bag
- dimensioned drawing of profile **GL 7** → N 76



art. no.	number of fixing pieces	HP	dim. [mm]	art. no.	number of fixing pieces	HP	dim. [mm]
			↕				↕
GLA ... 03	1	3	14.7	GLA ... 14	2	14	70.6
GLA ... 04	1	4	19.8	GLA ... 16	2	16	80.8
GLA ... 05	1	5	24.9	GLA ... 20	2	20	101.1
GLA ... 06	1	6	30.0	GLA ... 21	2	21	106.2
GLA ... 07	1	7	35.1	GLA ... 24	2	24	121.4
GLA ... 08	2	8	40.1	GLA ... 28	2	28	141.7
GLA ... 09	2	9	45.2	GLA ... 40	3	40	202.7
GLA ... 10	2	10	50.3	GLA ... 84	3	84	426.2
GLA ... 12	2	12	60.5				

please indicate: ... surface
SA = black anodised
ME = natural colour anodised

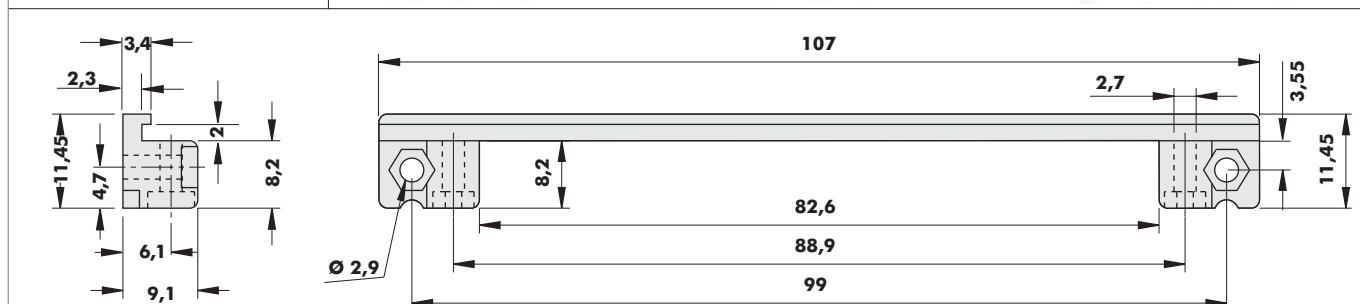
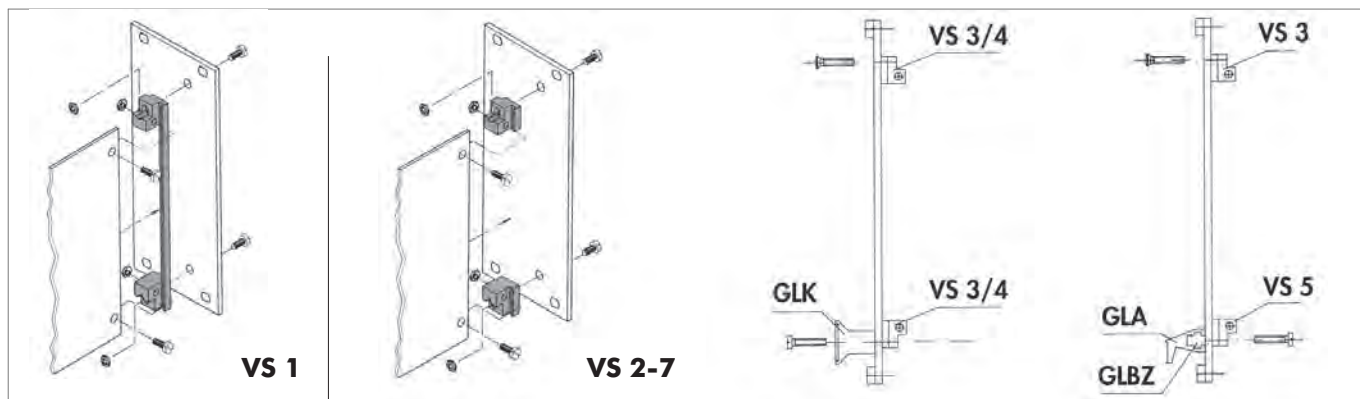
- handles made of grey polyamide with a silvermatt anodised insert strip
- in order to ensure good fixing, the handles are made with positioning studs
- incl. mounting material
- **HP** = width unit = 5.08 mm



art. no.	HP	dim. [mm]	art. no.	HP	dim. [mm]
		↕			↕
GLK 03	3	14.0	GLK 08	8	39.2
GLK 04	4	19.1	GLK 10	10	49.4
GLK 05	5	24.1	GLK 12	12	59.6
GLK 06	6	29.2	GLK 14	14	69.8
GLK 07	7	34.2			

PC-board holder

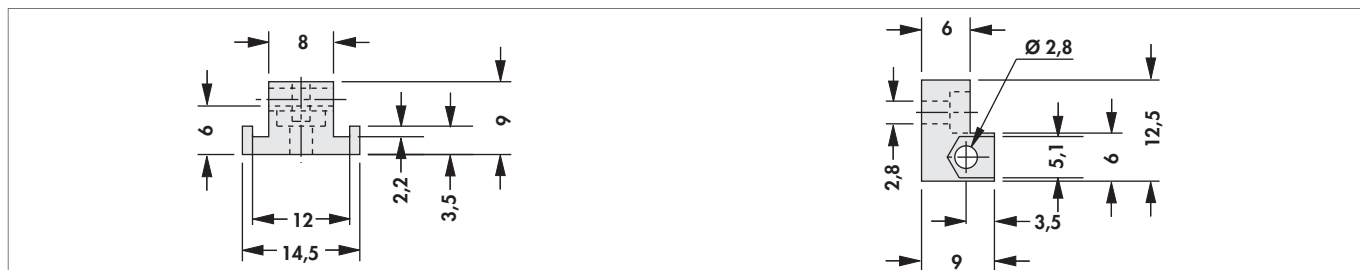
– for 3 U eurocards incl. mounting material



art. no.
VS 1

class of flammability:	UL 94 V-0
material:	polyamid GV

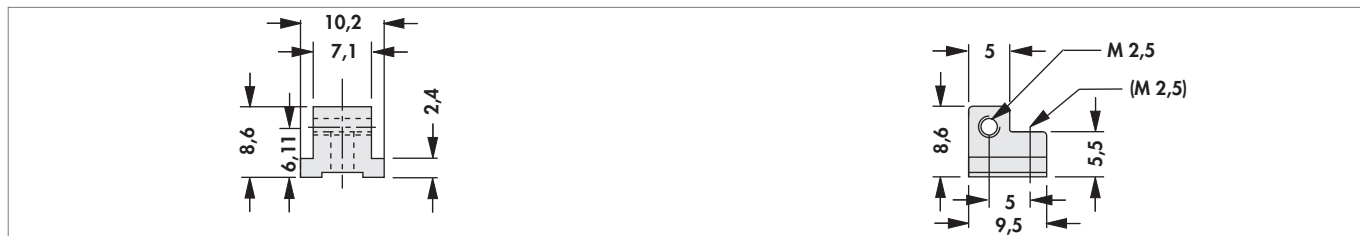
– for PCBs in any size incl. mounting material
– 1 set = 2 pcs.



art. no.
VS 2

class of flammability:	UL 94 V-0
material:	polyamid GV

– with M 2.5 threads for front panel and circuit board mounting




art. no.
VS 3

material:	zinc die-casting
------------------	------------------

PC-board holder


– with M 2.5 threads for front panel mounting and through-hole for circuit board mounting



art. no.
VS 4

material: zinc die-casting


– with M 2.5 threads for PC-board mounting and through-hole for front panel mounting (using an aluminium handle)



art. no.
VS 5

material: zinc die-casting

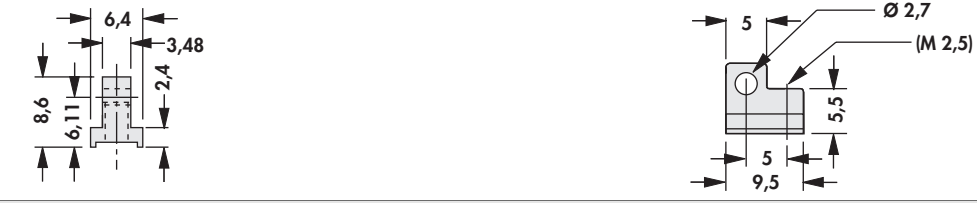
– for the double-sided assembly of circuit boards in grid of 1 HP
– part front panel requires special drilling
– with M 2.5 threads for front panel and circuit board mounting



art. no.
VS 6

material: zinc die-casting

– for the double-sided assembly of circuit boards in grid of 1 HP
– part front panel requires special drilling
– with M 2.5 threads for front panel mounting and through-hole for circuit board mounting



art. no.
VS 7

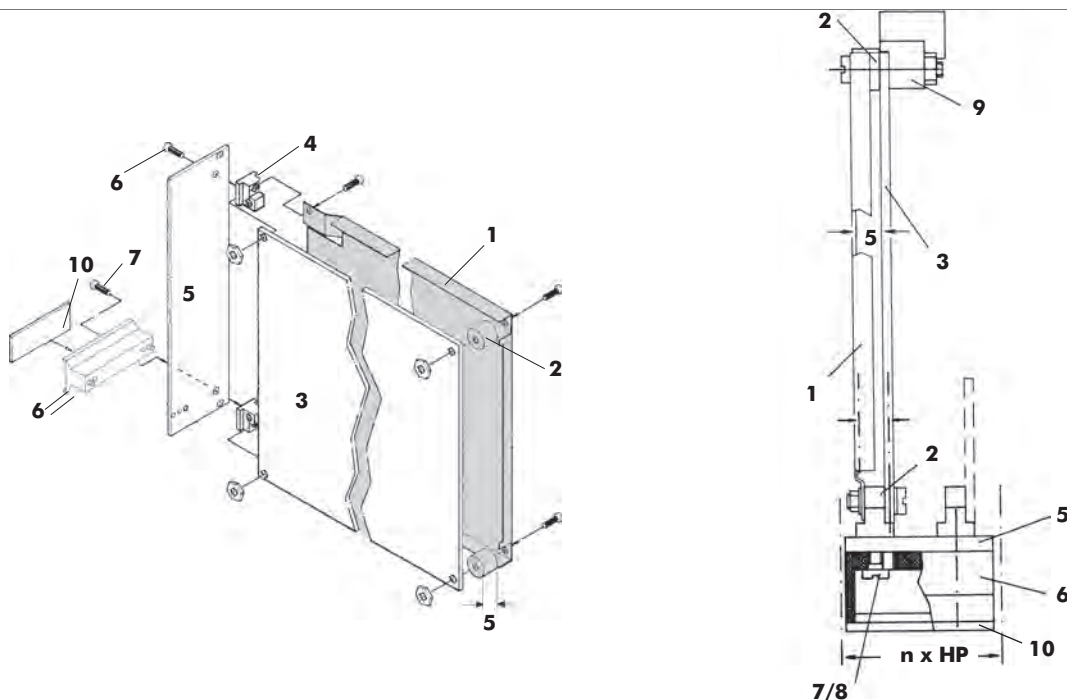
material: zinc die-casting

PCB cover 3 U

PCB cover made of aluminium

- suitable for part front panels with SMD card brackets **TFP KG R** and for all part front panels with printed circuit brackets **VS 7**
- for mechanical protection and electrical screening of components

1 = PCB cover; **2** = spacer; **3** = PC-board; **4** = PCB holder **VS 7**; **5** = front plate; **6** = plastic handle **GLK**
7 = cheese head screw M 2.5 x 12; **8** = vertical lens screw M 2.5 x 8; **9** = header; **10** = insert strip

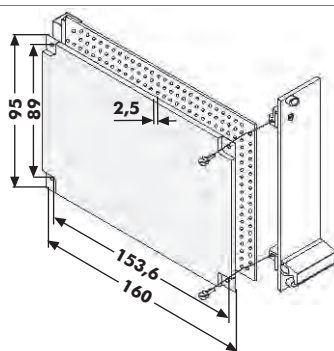


art. no.
LD 3 160

surface:	natural colour anodised
material:	aluminium
material thickness:	1 mm

PCB cover made of plastic

- mechanical protection of soldered side
- für Eurocards 100 x 160 mm
- suitable for all brackets



art. no.	version	for Eurocards [mm]
LDK 3 160	without coating	100 x 160
LDK 3 160 E	with conductive outer coating	100 x 160
class of flammability:	UL 94 V-0	
dielectric strength:	20 kV	
material:	plastic	
heat disortion:	130 °C	
material thickness:	1 mm	

N 63

19" subracks
 19" EMC subracks
 Guide rail
 Heatsink insert modules

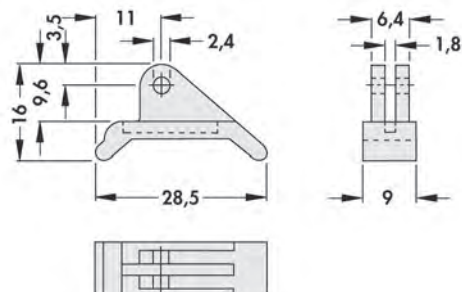
→ N 18 - 24
 → N 29 - 34
 → N 27 - 28
 → N 48 - 49

PCB holder
 Part front panels
 Insert modules 19"
 Extractors

→ N 61 - 62
 → N 52 - 57
 → N 36 - 45
 → N 64

Extractors

- the extractors allow easy removal of PCBs from subracks without damaging the connector pins
- wobbling out damages the connector
- the different colours avoid incorrect insertion
- the extractor is fastened to the PCB by using of a fixing pin
- **minimum order quantity:** 10 sets
- further packing units on request
- 1 Set of 1 pc. AHG red, 1 pc. AHG black, 2 pcs. spring pins 2 x 6 mm



art. no.

AHG 12 S

material:

PBT, self-extinguishing

Mounting accessories

Lens screw M 6

– suitable for KM 6

art. no.

LM 6



Cage nut M 6

– adjusted to 19" grid

art. no.

KM 6



plastic grommet for LM 6

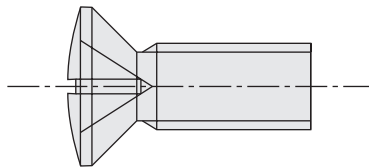
art. no.

KU 6



Cross drive raised head screws DIN 966 / EN ISO 7047

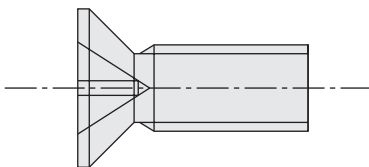
– with cross slot, form H; grade of resistance 4.8



art. no.	VPE	dim. [mm] screw	art. no.	VPE	dim. [mm] screw
SLS 25 08	100 pcs./bag	M 2.5 x 8	SLS 30 10	100 pcs./bag	M 3 x 10
SLS 25 16	100 pcs./bag	M 2.5 x 16	SLS 40 10	100 pcs./bag	M 4 x 10
SLS 30 05	100 pcs./bag	M 3 x 5			
surface:		zinc-galvanized			

Cross drive countersunk screws DIN 965 / EN ISO 7046

– with cross slot, form H; grade of resistance 4.8



art. no.	VPE	dim. [mm] screw	art. no.	VPE	dim. [mm] screw
SSE 20 05	100 pcs./bag	M 2 x 5	SSE 30 50	100 pcs./bag	M 3 x 50
SSE 20 08	100 pcs./bag	M 2 x 8	SSE 30 60	100 pcs./bag	M 3 x 60
SSE 25 04	100 pcs./bag	M 2.5 x 4	SSE 40 06	100 pcs./bag	M 4 x 6
SSE 25 06	100 pcs./bag	M 2.5 x 6	SSE 40 08	100 pcs./bag	M 4 x 8
SSE 25 08	100 pcs./bag	M 2.5 x 8	SSE 40 10	100 pcs./bag	M 4 x 10
SSE 25 10	100 pcs./bag	M 2.5 x 10	SSE 40 12	100 pcs./bag	M 4 x 12
SSE 30 04	100 pcs./bag	M 3 x 4	SSE 40 25	100 pcs./bag	M 4 x 25
SSE 30 06	100 pcs./bag	M 3 x 6	SSE 40 30	100 pcs./bag	M 4 x 30
SSE 30 08	100 pcs./bag	M 3 x 8	SSE 40 50	100 pcs./bag	M 4 x 50
SSE 30 10	100 pcs./bag	M 3 x 10	SSE 50 10	100 pcs./bag	M 5 x 10
SSE 30 40	100 pcs./bag	M 3 x 40			
surface:		zinc-galvanized			

N 65

19" plug-in chassis
19" plug-in boxes
19" subracks
19" EMC subracks

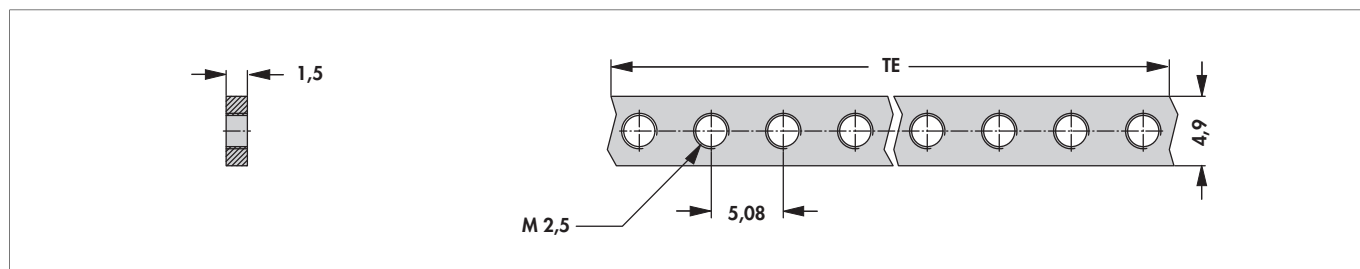
→ N 3 – 4
→ N 5 – 12
→ N 18 – 24
→ N 29 – 34

19" system case "RackCase"
19" front panels
Heatsink insert modules
Insert modules 19"

→ N 14 – 16
→ N 67
→ N 48 – 49
→ N 36 – 45

Threaded rails M 2.5

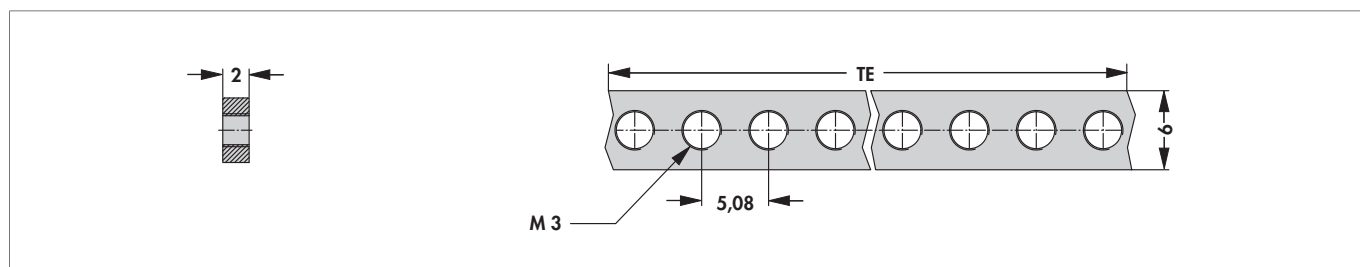
- threaded rails tapped to M 2.5 for mounting of fixing rails and front panels
- 1 set contains 4 threaded rails
- **HP** = width unit = 5.08 mm



art. no.	HP	dim. [mm]	art. no.	HP	dim. [mm]
		↔			↔
BGT 302 2	2	10.2	BGT 342 2	42	213.4
BGT 308 2	8	40.6	BGT 355 2	55	279.4
BGT 310 2	10	50.8	BGT 360 2	60	304.8
BGT 332 2	32	162.6	BGT 384 2	—	—
BGT 341 2	41	208.3			
material:		steel, galvanic zinc plated			

Threaded rails M 3

- threaded rails tapped to M 3; for mounting of fixing rails and front panels
- 1 set contains 4 threaded rails
- **HP** = 5.08 mm

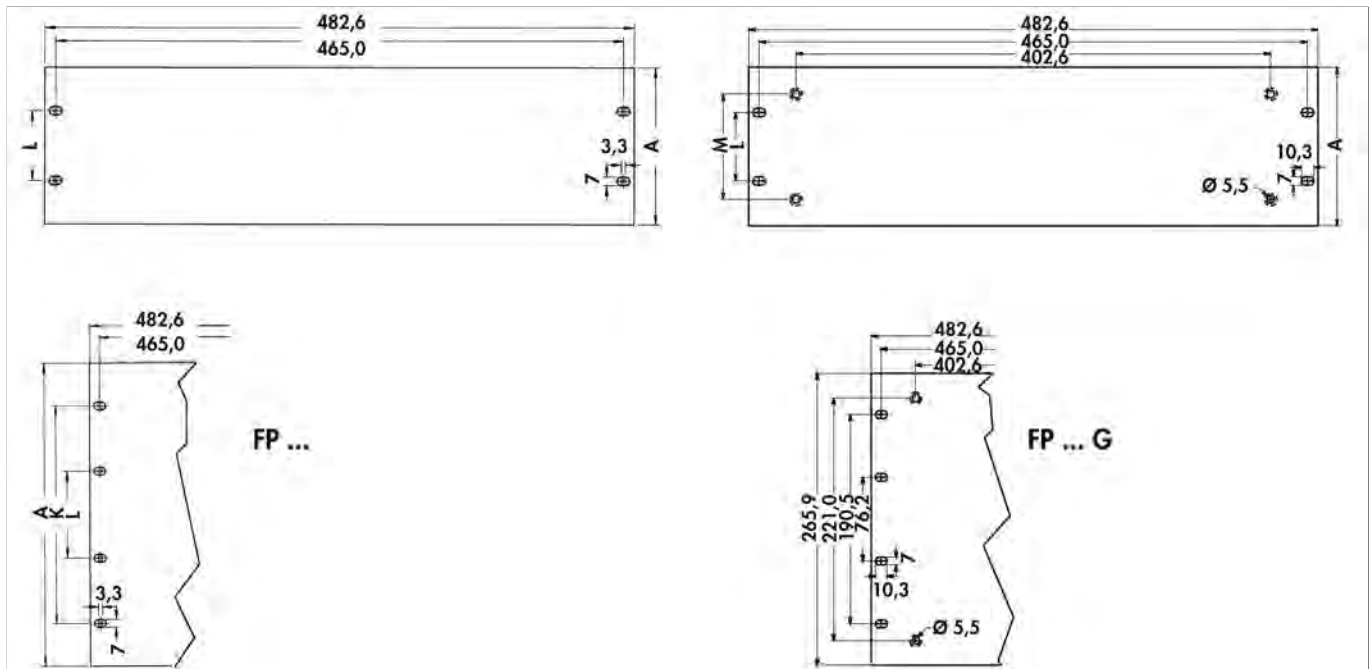


art. no.	HP	dim. [mm]	art. no.	HP	dim. [mm]
		↔			↔
BGT 302 9	2	10.2	BGT 336 9	36	182.9
BGT 304 9	4	20.3	BGT 340 9	40	203.2
BGT 308 9	8	40.6	BGT 346 9	46	233.7
BGT 318 9	18	91.4	BGT 381 9	81	411.5
BGT 328 9	28	142.2	BGT 384 9	84	426.7
material:		steel, galvanic zinc plated			

19" front panels



- the 19" front panels are available with and without perforation for handle
- please order suitable handle separately
- **FP ...** = front panel without perforated handle
- **FP ... G** = front panel with perforated handle

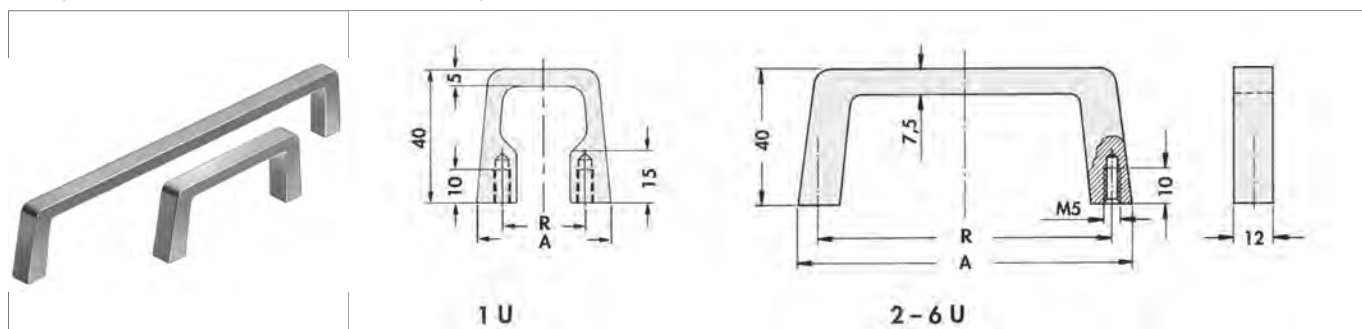


art. no.	art. no. suitable handle	dim. [mm]			
		A	K	L	M
FP 01 ...	BGT 0184 7 ME	43.6	—	31.70	25
FP 02 ...	BGT 0284 7 ME	88.1	—	76.15	55
FP 03 ...	BGT 0384 7 ME	132.5	—	57.15	88
FP 04 ...	BGT 0484 7 ME	177.0	—	101.65	120
FP 06 ...	BGT 0684 7 ME	265.9	190.5	76.20	221
FP 09	—	399.2	323.8	120.60	—

please indicate:	... 19" front panel (optional) G = with handle perforation
surface:	natural colour anodised
material:	aluminium
material thickness:	4 mm

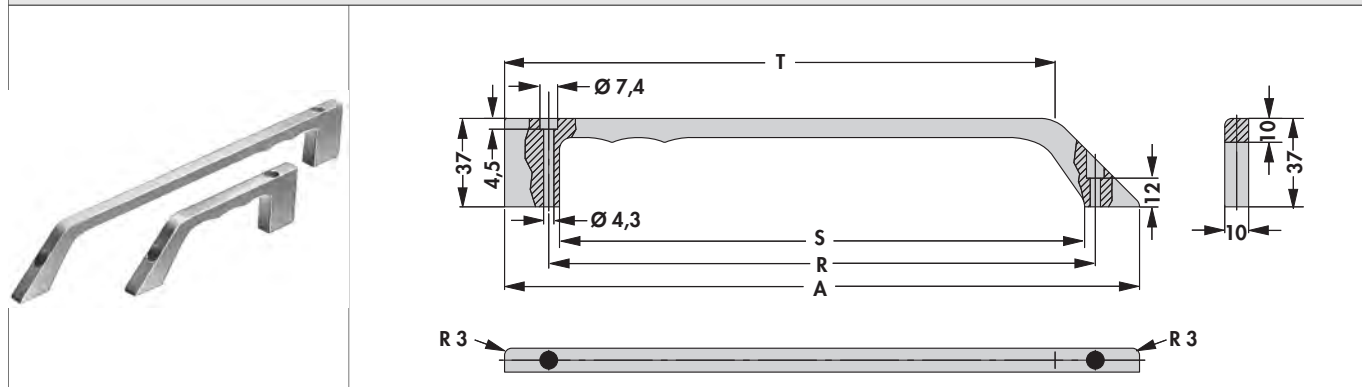
19" rack handles

- rack handles for 19" subracks, bench cases and other cases
- very robust version made of solid aluminium profile



art. no.	dim. [mm]	
	A	R
BGT 0184 7 ...	41	25
BGT 0284 7 ...	69	55
BGT 0384 7 ...	101	88
BGT 0484 7 ...	134	120
BGT 0584 7 ...	194	180
BGT 0684 7 ...	234	221

please indicate: ... surface
SA = black anodised
ME = natural colour anodised

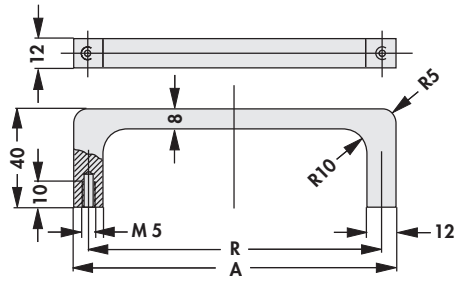


art. no.	dim. [mm]			
	A	R	S	T
RAC G 3 SA	132.5	95.5	86.5	97.2
RAC G 4 SA	177.0	140.0	131.0	141.7
RAC G 6 SA	265.8	228.8	219.8	230.5
RAC G 7 SA	310.2	273.2	264.2	274.9

surface: black anodised
material: EN AW 6060 T66 (Al Mg Si 0.5)

19" rack handles

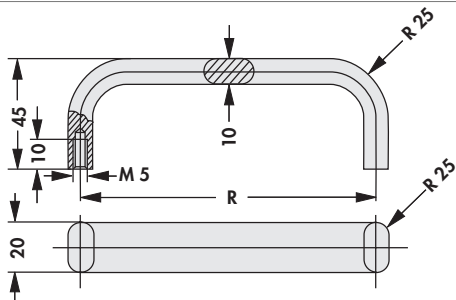
- rack handles for 19" Subracks, bench cases and further cases
- very robust version made from solid aluminium profile (EN AW 6000)



art. no.	suitable 19" front panel	dim. [mm]	
		A	R
GR A 2 ...	FP 2 G	67	55
GR A 4 ...	FP 4 G	132	120

please indicate: ... surface
SA = black anodised
ME = natural colour anodised

- flat oval profile aluminium EN AW 6000


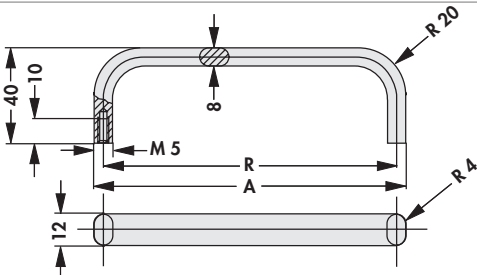


art. no.	suitable 19" front panel	dim. [mm]
		R
GR C 4 ...	FP 4 G	120

please indicate: ... surface
SA = black anodised
ME = natural colour anodised


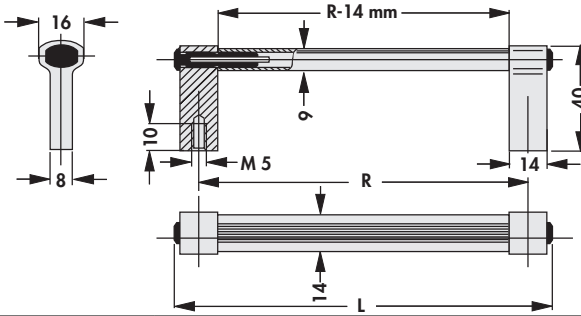
19" rack handles

– oval aluminium


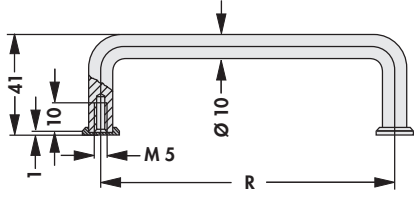
			
art. no.	suitable 19" front panel	dim. [mm]	
		A	R
GR D 2 ...	FP 2 G	63	55
GR D 3 ME	FP 3 G	96	88
GR D 4 ...	FP 4 G	128	120
GR D 5 ...	FP 5 G	188	180
please indicate:	... surface SA = black anodised ME = natural colour anodised		

– handle blade and bar made of aluminium profile EN AW 6000

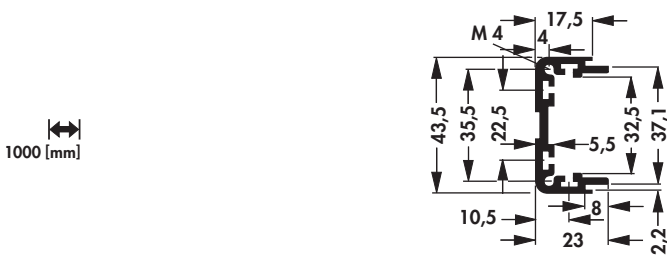
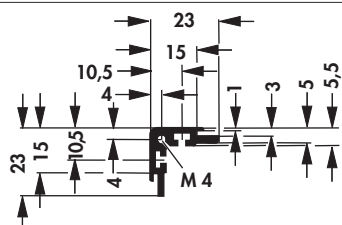
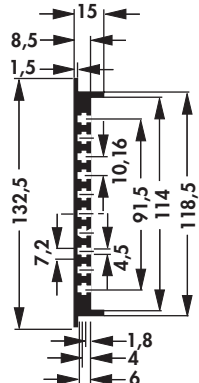
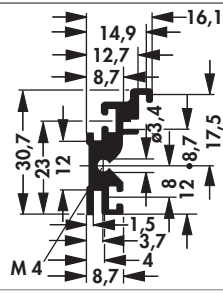
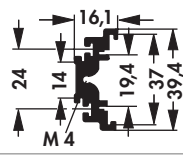
– moulded articles for connection made of black polyamide with high-grade steel pin

			
art. no.	suitable 19" front panel	dim. [mm]	
		L	R
GR F 2 ...	FP 2 G	73	55
please indicate:	... surface SA = black anodised ME = natural colour anodised		

– round steel Ø 10 mm

			
art. no.	suitable 19" front panel	dim. [mm]	
		R	
GR G 2 ME	FP 2 G	55	
GR G 3 ME	FP 3 G	88	
GR G 4 ME	FP 4 G	120	
GR G 5 ME	FP 5 G	180	
surface:	high-gloss chromated		






Profiles for 19" plug-in boxes

art. no.	
GB 18 ...	 <p>side panel profile for 1 U insert modules</p>
art. no.	
GB 19 ...	 <p>edge profile for construction of insert modules in all height units as well as further cases</p>
art. no.	
GB 21 ...	 <p>profile for construction of 19" plug-in-chassis</p>
art. no.	
GB 22 ...	 <p>edge profile for construction of insert modules in all standard unit sizes and further cases</p>
art. no.	
GB 23 ...	 <p>profile for 1 U insert modules with removable cover panel</p>
<p>please indicate: ... surface SA = black anodised ME = natural colour anodised AL = raw degreased aluminium</p>	


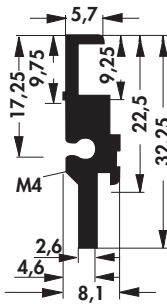

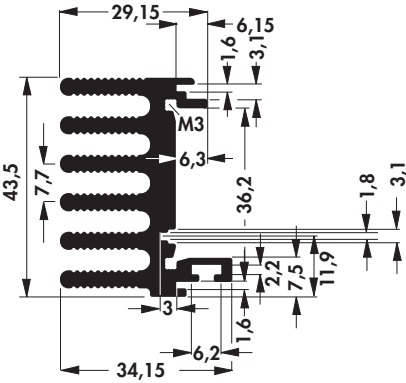
A
B
C
D
E
F
G
H
I
K
L
M
N

N 71

- | | | | |
|-------------------|-------------|-------------------------|-------------|
| 19" front panels | → N 67 | Insert modules 19" | → N 36 - 45 |
| 19" subracks | → N 18 - 24 | Heatsink insert modules | → N 48 - 49 |
| 19" EMC subracks | → N 29 - 34 | Part front panels | → N 52 - 57 |
| 19" plug-in boxes | → N 5 - 12 | Fixing material | → N 65 - 66 |

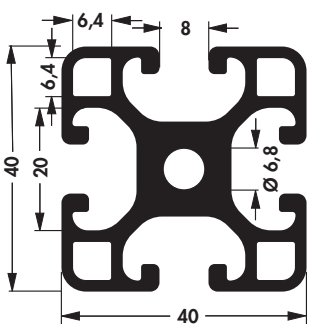
art. no. GB 28 ...		
profile for 1 U front panels, rear panel profile for insert VESA 1		
art. no. GB 40 ...		
profile for 2 U front panels, front panel profile for insert VESA 2		
art. no. GB 41 ...		
rear panel profile for insert VESA 2		
art. no. GB 54 ...		
profile for 3 U front panels, front panel profile for insert VESA 3		
art. no. GB 55 ...		
rear panel profile for insert VESA 3		
please indicate: ... surface SA = black anodised ME = natural colour anodised AL = raw degreased aluminium		

Profiles for plug-in boxes and cases


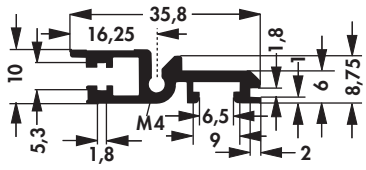

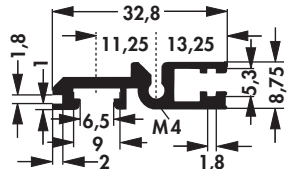

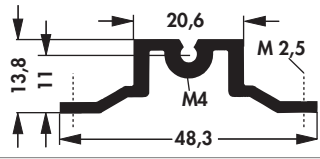

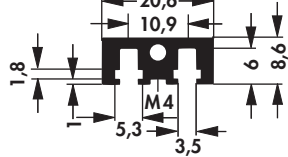

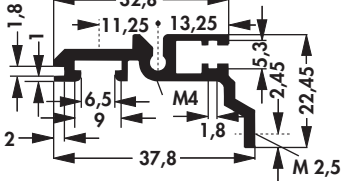

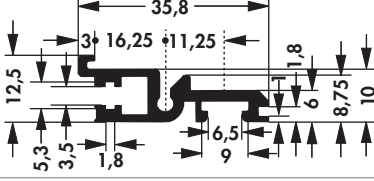

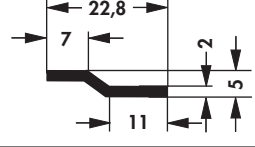

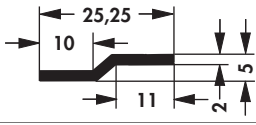
art. no.			
GB 35 ...	side profile with screw hole channel for Rack Case		
art. no.			
GB 53 ...	side profile for 1 U cooling fin cases, side profile for 1 U cooling fin plug-in boxes		
please indicate: ... surface SA = black anodised ME = natural colour anodised AL = raw degreased aluminium			

Profile for mechanical engineering

- robust extruded profile made of highly stressable aluminium
- for the production of basic frames for mechanical engineering
- allows the production of frames for absorption of forces and mounting of surface elements
- easy assembly with suitable accessories
- **on request:** each length up to 3000 mm, surface treatment such as anodising, lacquering etc., mechanical treatment of single components and mountings, special versions according to customer's requirement
- **tolerances:** DIN EN 12020

art. no.		
PM 4040 ...		
please indicate: ... surface SA = black anodised ME = natural colour anodised AL = raw degreased aluminium		
material:	EN AW 6060 T66 (Al Mg Si 0.5)	

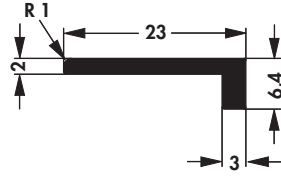
Profiles for 19" subracks

art. no. <div style="text-align: center;">  431,8 [mm] </div>	
GB 29 L ...	front module rail, perforated
art. no. <div style="text-align: center;">  431,8 [mm] </div>	
GB 30 L ...	rear module rail, perforated
art. no. <div style="text-align: center;">  431,8 [mm] </div>	
GB 31 L ...	middle connector carrier with integrated Z-rail, perforated
art. no. <div style="text-align: center;">  431,8 [mm] </div>	
GB 32 L ...	middle connector carrier
art. no. <div style="text-align: center;">  431,8 [mm] </div>	
GB 33 L ...	rear module rail with integrated Z-rail, completely perforated
art. no. <div style="text-align: center;">  431,8 [mm] </div>	
GB 34 L ...	front module rail for panel mounting, perforated
art. no. <div style="text-align: center;">  426,7 [mm] </div>	
GB 5 L ...	set Z-rails, perforated, for connector DIN 41612
art. no. <div style="text-align: center;">  426,7 [mm] </div>	
GB 20 L ...	set Z-rails, perforated, for connector DIN 41617
please indicate: ... surface ME = natural colour anodised TP = transparent passivated	

Profiles for 19" subracks

RA 3

132,5 [mm]



RA 6

265,9 [mm]

art. no.

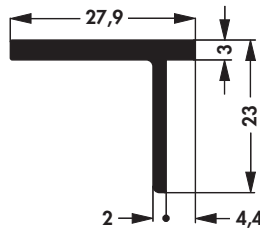
GB 37 ...

please indicate: ... surface
ME = natural colour anodised
TP = transparent passivated

- **GB 27 3 ... / GB 27 6 ...** fixing angle 3/6 U without handle perforation
- **GB 27 3 G ... / GB 27 6 G ...** fixing angle 3/6 U with handle perforation

GB 27 3
 GB 27 3 G

132,5 [mm]



GB 27 3
 GB 27 3 G

265,9 [mm]

art. no.

art. no.

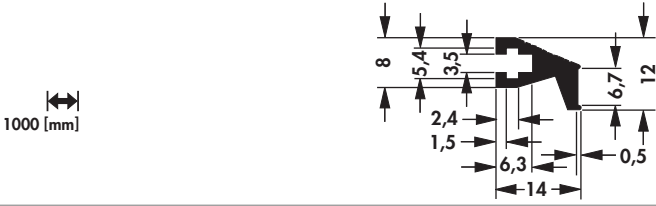
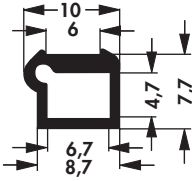
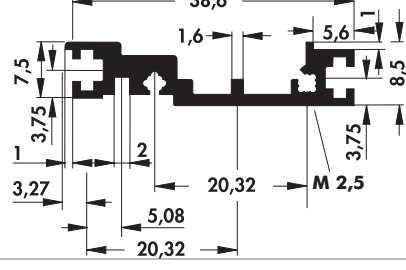
GB 27 3 ...

GB 27 6 ...

GB 27 3 G ...

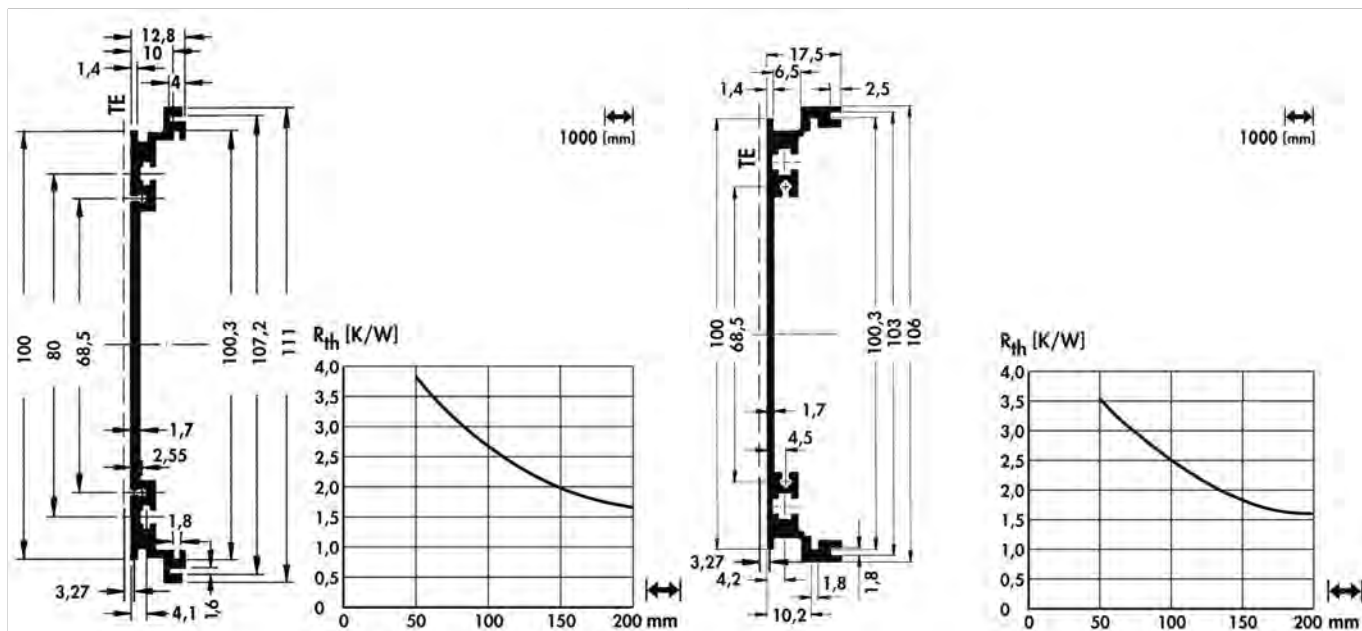
GB 27 6 G ...

please indicate: ... surface
ME = natural colour anodised
TP = transparent passivated

<p>art. no.</p>	
<p>GL 7 ...</p>	<p>handle profile</p>
<p>please indicate: ... surface</p> <p>SA = black anodised</p> <p>ME = natural colour anodised</p> <p>TP = transparent passivated</p> <p>AL = raw degreased aluminium</p>	
<p>art. no.</p>	
<p>GB 14 ...</p>	<p>profile for hinged part front panels</p>
<p>art. no.</p>	
<p>GP 199 ...</p>	<p>profile for heatsink insert modules</p>
<p>please indicate: ... surface</p> <p>SA = black anodised</p> <p>ME = natural colour anodised</p> <p>TP = transparent passivated</p> <p>AL = raw degreased aluminium</p>	

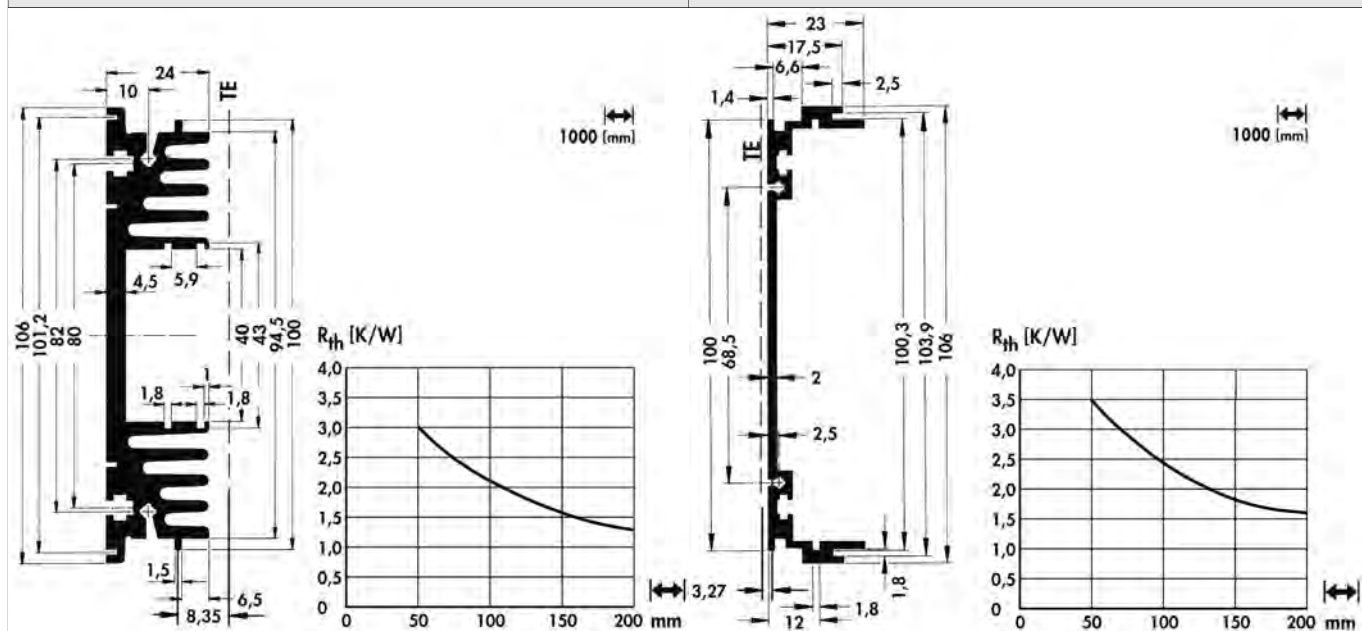
Profiles for insert modules, 3 U

TE: grid line



art. no.
GP 190 ...

art. no.
GP 191 ...



art. no.
GP 192 ...

art. no.
GP 193 ...

please indicate:

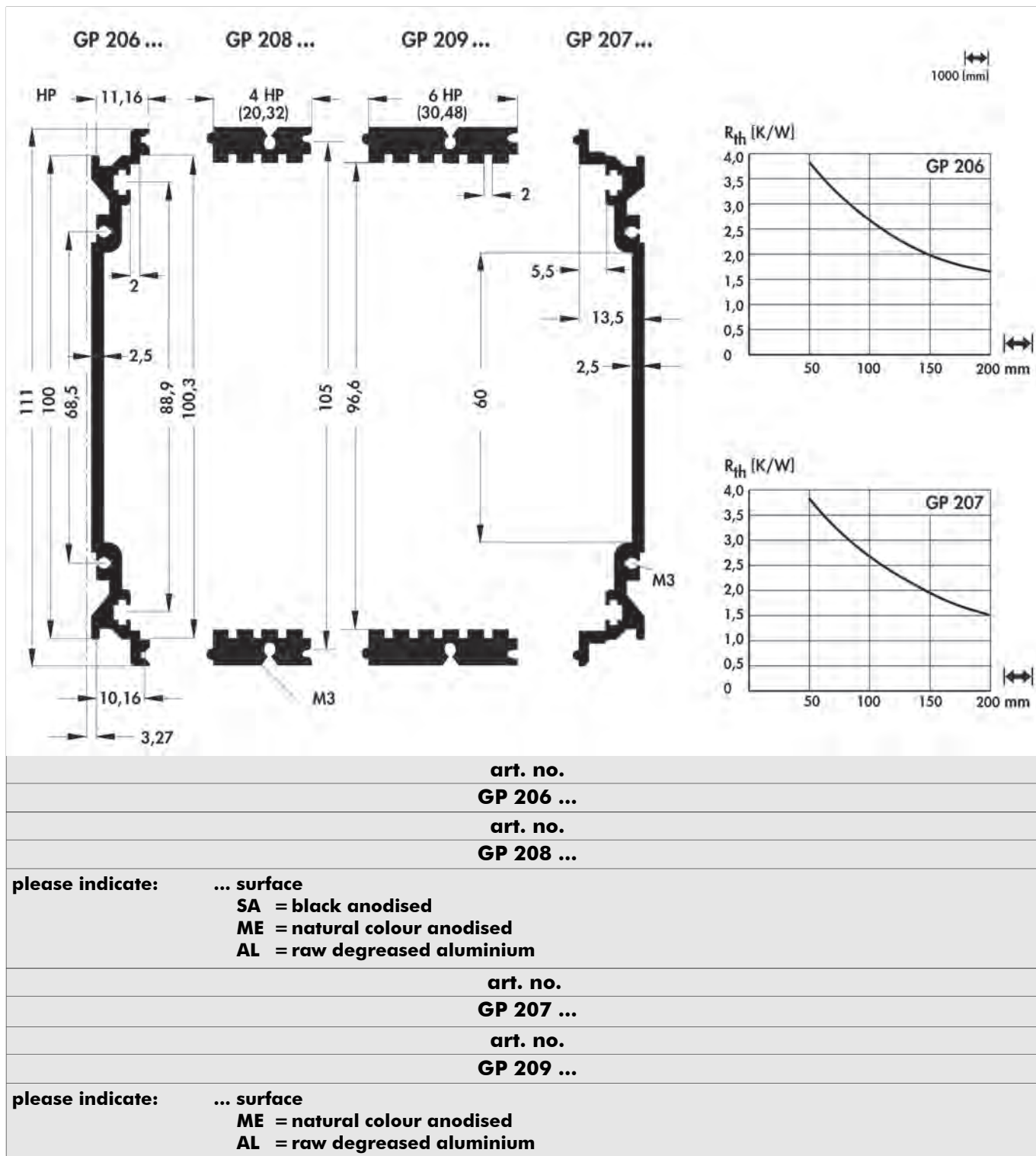
- ... surface
- SA = black anodised
- ME = natural colour anodised
- AL = raw degreased aluminium

– HP: grid line

<p>art. no.</p> <p>GP 200 ...</p>		
<p>art. no.</p> <p>GP 201 ...</p>		
<p>art. no.</p> <p>GP 202 ...</p>		
<p>please indicate:</p> <p>... surface</p> <ul style="list-style-type: none"> SA = black anodised ME = natural colour anodised AL = raw degreased aluminium 		

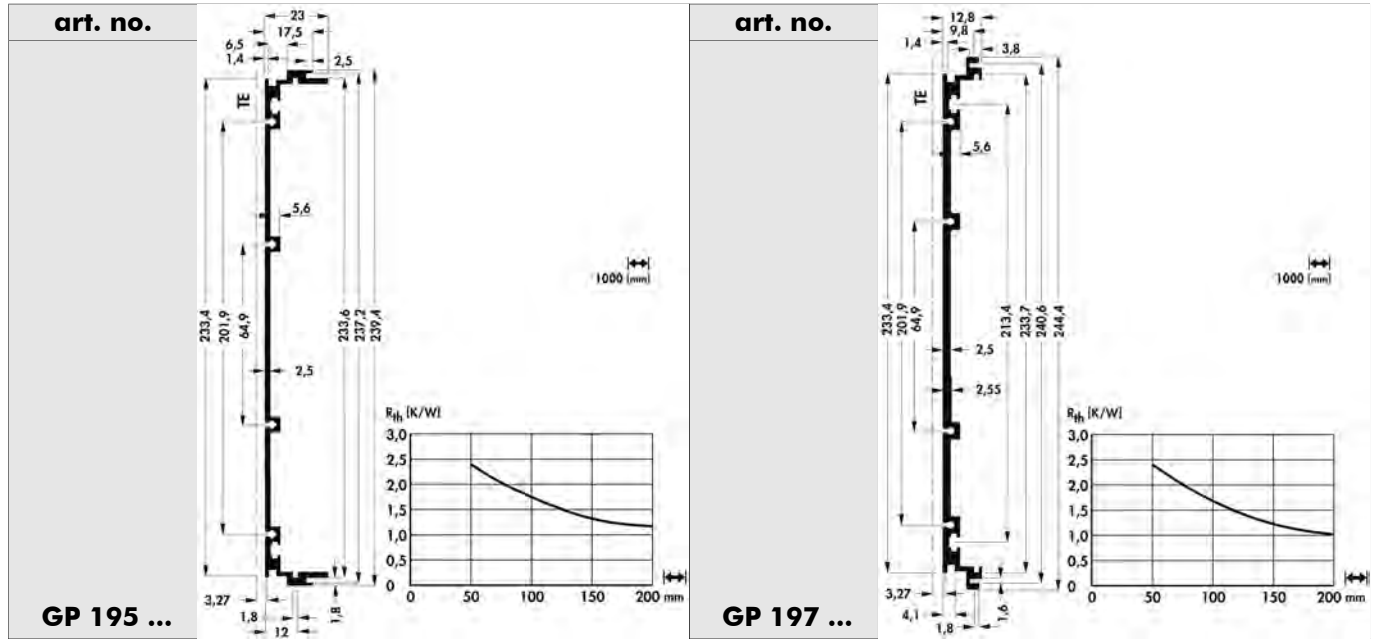
Profiles for insert modules and part front panels

– HP: grid line

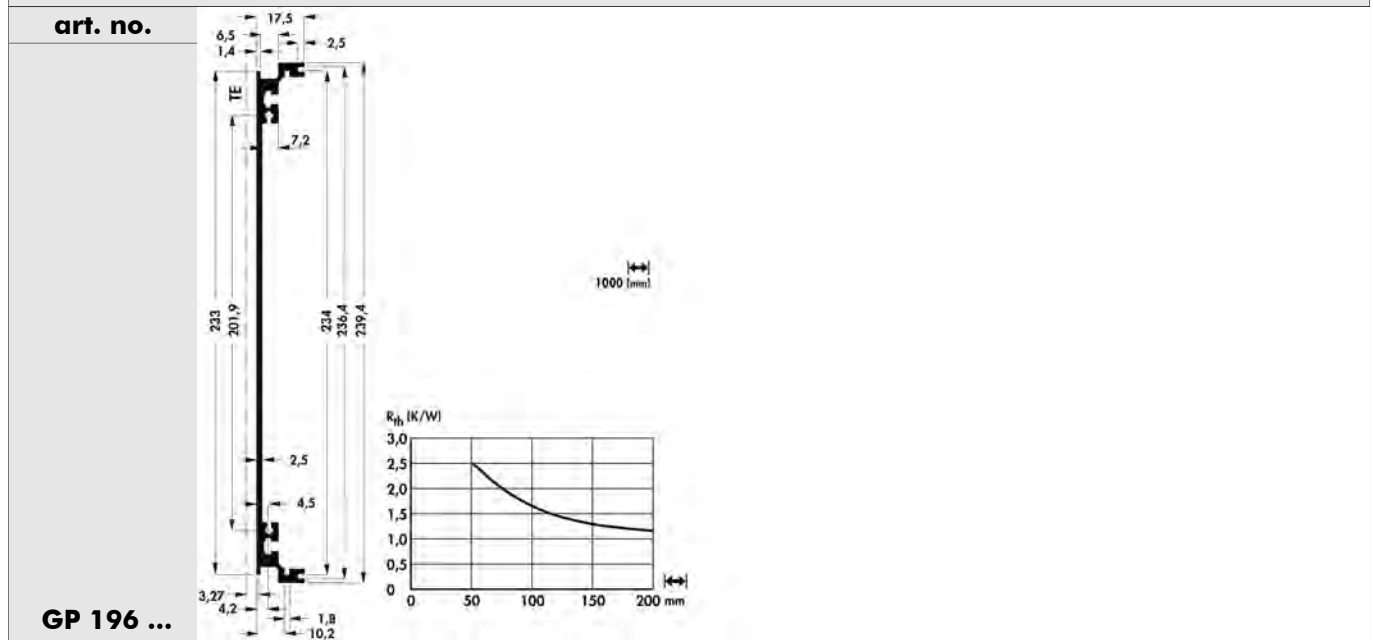


Profiles for insert modules, 6 U

– HP: grid line



please indicate: ... surface
SA = black anodised
ME = natural colour anodised
AL = raw degreased aluminium



please indicate: ... surface
ME = natural colour anodised
AL = raw degreased aluminium