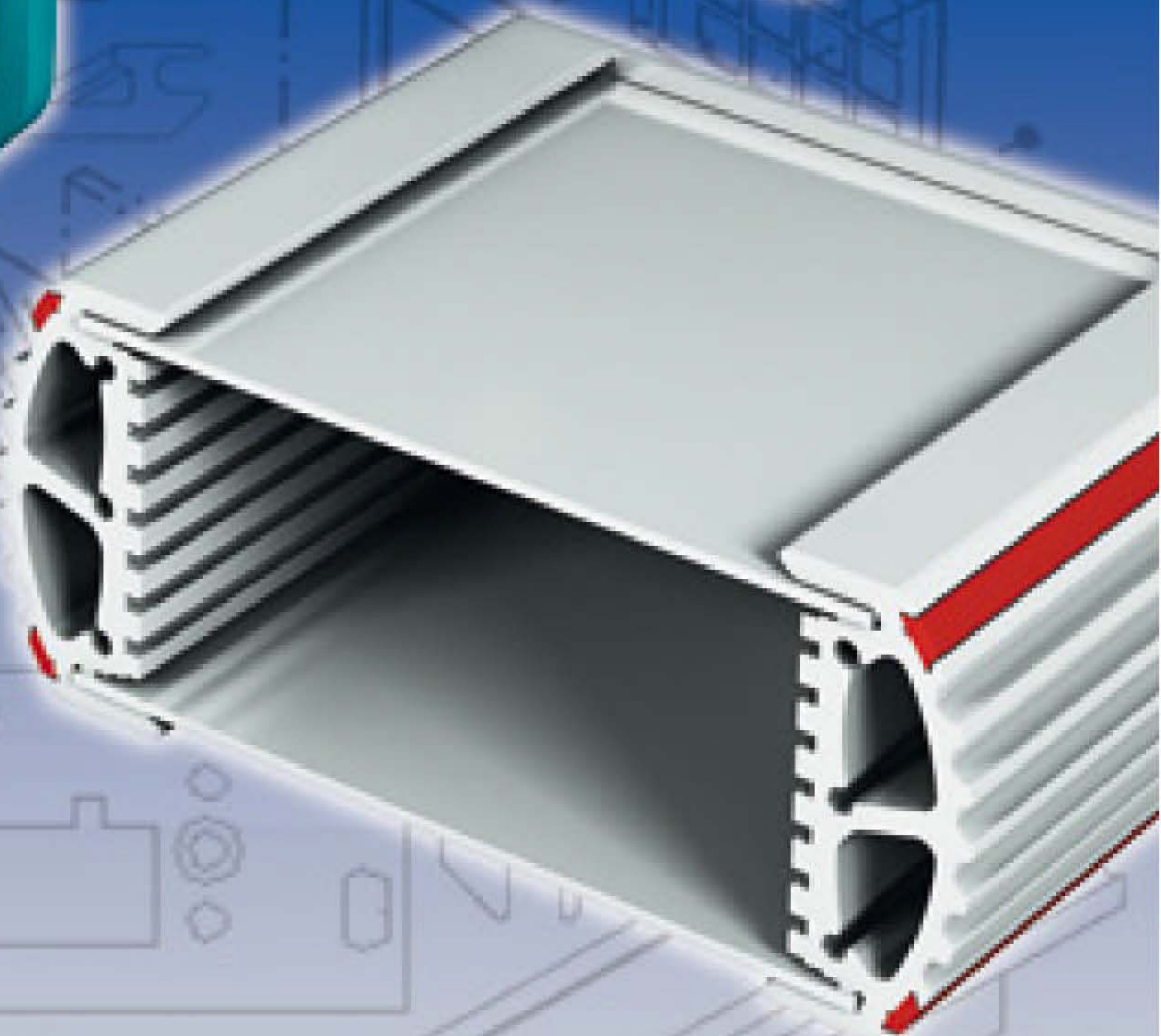
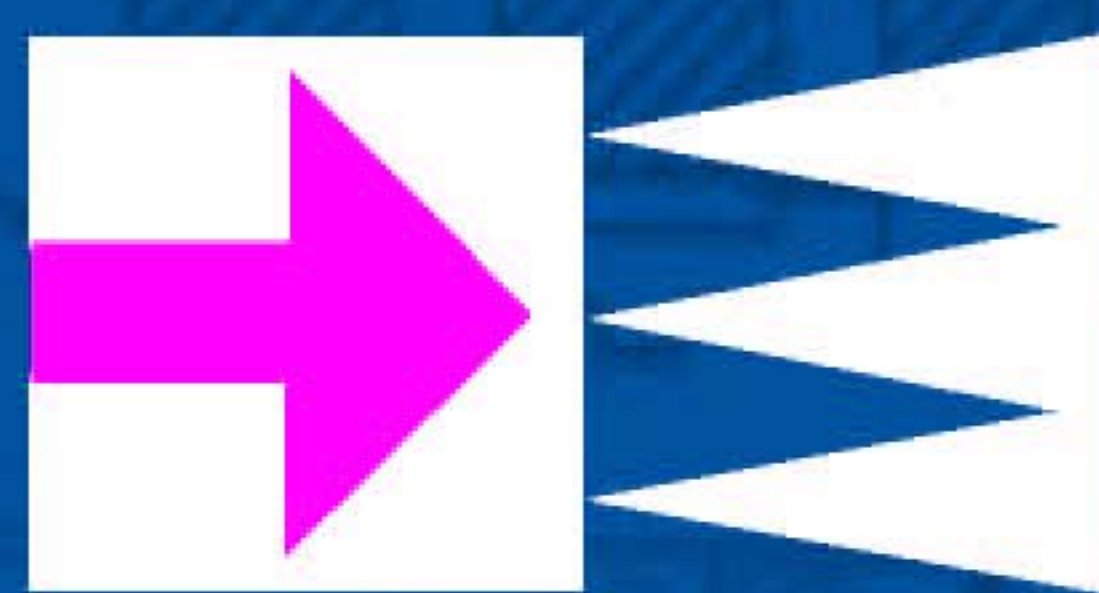


fischer

elektronik



f.case

made
in
Germany

TÜV
ISO 14001



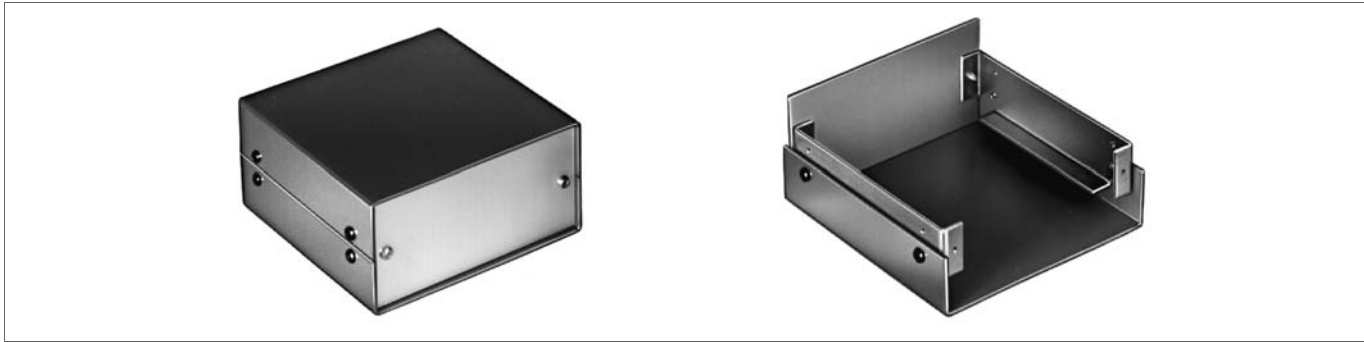
TÜV
CERT
ISO 9001



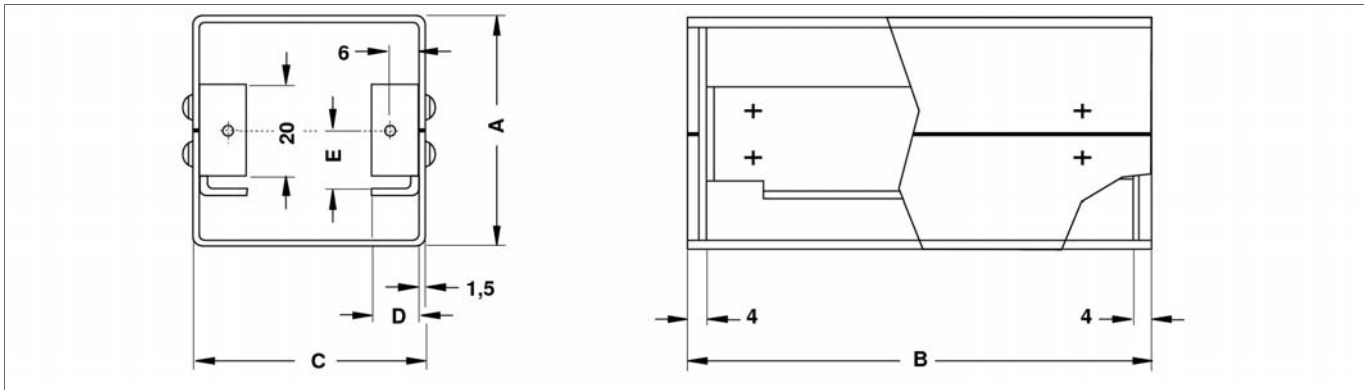
Alphanumerical product list

art. no.	page	art. no.	page	art. no.	page	art. no.	page
A ...	N 36	EGT ... 784 ...	N 34	GR F ...	N 70	PG ... SME	M 8
AB 211	N 27	EGT ... 784 ... IZ ...		GR G ...	N 70	PL H ... UL ...	N 2
AB 271		EGT ... V ...	N 33	GS ...	N 4	PM 4040 ...	N 73
AF 1	M 46	EGT ... V ... IZ ...		GS 260	N 8	RA 3	N 26
AHG 12 S	N 60	ESR ...	N 60	GS 360		RA 6	
AKG 105 22 ...	M 27	ET ...	M 40	GV ...	M 7	RAC 342 ...	N 15
AKG 105 26 ...	M 27	EUG ...	M 9	HB ...	N 38	RAC 384 ...	
AKG 105 30 ...	M 27	F ...	N 38	HS 1	N 51	RAC 6 ...	N 15
AKG 105 34 ...	M 27	FC	N 25	KN 1		RAC 684 GB	N 16
AKG 105 38 ...	M 27	FEK 1	N 59	MN 1		RAC B ...	N 16
AKG 105 46 ...	M 27	FP ...	N 67	MN 2		RAC E ...	N 16
AKG 33 16 ...	M 25	FP ... G		RS 1		RAC G ...	N 68
AKG 33 20 ...	M 25	FR ...	M 39	HS 1	N 59	RL 05 ... / RL 17 ...	M 41
AKG 33 24 ...	M 25	FSB KW 160	N 51	KN 1		RSK 335 384	N 35
AKG 41 16 ...	M 25	FSC ...	N 27	MN 1		RV 3 240	N 27
AKG 41 20 ...	M 25	FSC P	N 28	MN 2		RV 6 240	
AKG 41 24 ...	M 25	FSC V		RS 1		S ...	N 41
AKG 55 16 ...	M 25	FSCE 160	N 28	I ...	N 39	SG ...	M 3
AKG 55 20 ...	M 25	FSCE 220		IDKO ...	M 45	SGP ...	M 4
AKG 55 20 L ...	M 26	G 100 -117 ...	M 5	IST 84	N 25	SKE ... 250	N 10
AKG 55 24 ...	M 25	G 118 ...	M 32	KDF ...	M 46	SKE ... 400	
AKG 55 24 L ...	M 26	GB 13 ...	N 76	KFCE 1	N 28	SLS ...	N 65
AKG 55 28 ...	M 26	GB 14 ...	N 76	KM 6	N 65	SM 4 (KO N 2)	M 15
AKG 55 28 L ...	M 26	GB 18 ...	N 71	KO E 14	M 14	SSE ...	N 65
AKG 55 32 ...	M 26	GB 19 ...	N 71	KO E 2	M 13	T ...	N 41
AKG 69 16 ...	M 26	GB 20 L ...	N 74	KO F 3	M 14	TFP ...	N 52
AKG 69 20 ...	M 26	GB 21 ...	N 71	KO G 5	M 14	TFP AG ...	N 53
AKG 69 24 ...	M 26	GB 22 ...	N 71	KO H 0	M 13	TFP KG ...	
AKG 71 16 ...	M 26	GB 23 ...	N 71	KO H 1	M 13	TFP OG	
AKG 71 20 ...	M 26	GB 27 ...	N 75	KO H 10	M 14	TFP AG ... 3 ...	N 55
AKG 71 24 ...	M 26	GB 28 ...	N 72	KO H 14	M 14	TFP AG ... 6 ...	
AKG D 105 26 ...	M 28	GB 29 L ...	N 74	KO H 2	M 13	TFP HG ...	N 58
AKG D 105 30 ...	M 28	GB 30 L ...	N 74	KO H 4 A	M 13	TFP KG ... 3 ...	N 54
AKG D 33 24 ...	M 28	GB 31 L ...	N 74	KO H 6	M 14	TFP KG ... 6 ...	
AKG D 41 24 ...	M 28	GB 32 L ...	N 74	KO H 7	M 14	TFP KG R ...	N 57
AKG D 55 24 ...	M 28	GB 33 L ...	N 74	KO H 8	M 14	TFP TP ... VS ...	N 56
AKG D 69 24 ...	M 28	GB 34 L ...	N 74	KO HL 0	M 16	TG 384 1 S	N 17
AKG D 71 24 ...	M 28	GB 35 ...	N 73	KO HL 1	M 16	TG 384 IZ 1 S	
B ... + C ...	N 36	GB 37 ...	N 75	KO HL 10	M 16	TS CE	N 8
BFL ...	N 50	GB 40 ...	N 72	KO HL 14	M 17	TS CE	N 4
BFS ...	N 50	GB 41 ...	N 72	KO HL 2	M 16	TUF 105 52 ...	M 22
BFSLP (KO G 5)	M 15	GB 5 L	N 26	KO HL 4	M 16	TUF 120 42 ...	M 22
BGT ...	N 23	GB 20 L		KO HL 6	M 16	TUF 55 16 ...	M 21
BGT ... 2	N 66	GB 5 L ...	N 74	KO K 14	M 15	TUF 55 25 ...	M 21
BGT ... 2 x 384 ...	N 21	GB 53 ...	N 73	KO K 2	M 13	TUF 55 35 ...	M 21
BGT ... 2 x 384 ... IZ		GB 54 ...	N 72	KO L 1	M 15	TUF 69 28 ...	M 21
BGT ... 384 ...	N 19	GB 55 ...	N 72	KO L 2	M 15	TUF 80 42 ...	M 21
BGT ... 384 ... IZ		GD 105 44 ...	M 6	KO LL 2	M 17	TUF 94 32 ...	M 21
BGT ... 684 ...	N 22	GD 135 38 ...	M 6	KO N 2	M 13	TUG 03 ...	M 23
BGT ... 684 ... IZ		GD 165 59 ...	M 6	KO P 2	M 13	TUG 05 ...	M 23
BGT ... 684 ...	N 20	GD 82 34 ...	M 6	KO R 2	M 13	TUG 09 ...	M 23
BGT ... 684 ... IZ		GF 1710	M 46	KO T 2	M 13	TUG 17 ...	M 23
BGT ... 9	N 66	GF 1759	M 46	KO TL 2	M 17	UTG ...	M 20
BGT 0... 7 ME	N 68	GHFN E ...	M 42	KO W 2	M 15	V ...	N 42
BGT 0... 7 SA		GL 7 ...	N 76	KP ...	N 49	VES ... 260 ...	N 5
BGT 0384 7ME	N 25	GLA	N 61	KRE ... MP 260	N 11	VES ... 360 ...	
BGT 0684 7ME		GLK ...	N 61	KRE ... MP 360		VESA ... 260 ...	N 7
BGT 384 2 (1 set)	N 25	GP 190 ...	N 77	KRE 1 ... 260 ...	N 11	VESA ... 360 ...	
BGTO ...	N 26	GP 191 ...		KRE 1 ... 360 ...		VESAE 1 260 ...	N 9
BGTG ...		GP 192 ...	N 77	KRG ...	M 34	VESAO 1 260 ...	N 9
BWF R 5	N 50	GP 193 ...		KRH 6 KOS 5 ...	M 33	VS 1	N 63
BWM R 5		GP 195 ...	N 80	KRK 60 28 ...	M 29	VS 2	N 63
CC ...	M 38	GP 197 ...		KSK 3 421 ...	N 48	VS 3	N 63
CE 3 ...	N 3	GP 196 ...	N 80	KU 6	N 65	VS 4	N 64
D ...	N 37	GP 199 ...	N 76	L ...	N 39	VS 5	N 64
E ...	N 37	GP 200 ...	N 78	LB ... SW	M 47	VS 6	N 64
EDKO ...	M 43	GP 201 ...	N 78	LB 489 SW	M 47	VS 7	N 64
EDKOL ...	M 45	GP 202 ...	N 78	LB 659 SW		W ...	N 42
EGT ... 2 x 384 ...	N 32	GP 206 ...	N 79	LD 3 160	N 62	WAG ...	M 31
EGT ... 2 x 384 ... IZ ...		GP 208 ...		LDK 3 160	N 62	X ...	N 43
EGT ... 384 ...	N 31	GP 207 ...	N 79	LDK 3 160 E			
EGT ... 384 ... IZ ...		GP 209 ...		LM 6	N 65		
EGT ... 484 ...	N 34	GR A ...	N 69	MPH ...	N 8		
EGT ... 484 ... IZ ...		GR B 3 ME	N 69	MPW ...	N 6		
EGT ... 684 ...	N 31	GR C ...	N 69	N ...	N 40		
EGT ... 684 ... IZ ...		GR D ...	N 70	PCG ...	M 19		

Shell cases



- completely made of aluminium
- material thickness 1,5 mm on all sides
- shell panels lacquered, cover panels clear anodised



art. no.	dim. [mm]				
	A	B	C	D	E
SG 202 ...	25	75	75	–	–
SG 203 ...	25	75	100	–	–
SG 205 ...	25	100	75	–	–
SG 206 ...	25	100	100	–	–
SG 207 ...	50	100	50	10	–
SG 208 ...	50	100	100	10	12.5
SG 209 ...	50	100	150	10	12.5
SG 210 ...	50	100	200	10	12.5
SG 215 ...	75	150	150	10	25.0
SG 216 ...	75	150	200	10	25.0
SG 217 ...	75	150	250	10	25.0
SG 218 ...	75	150	300	10	25.0

please indicate:

... colour of half shells

NB =night blue (RAL 5022)

TB =turquoise blue (RAL 5018)

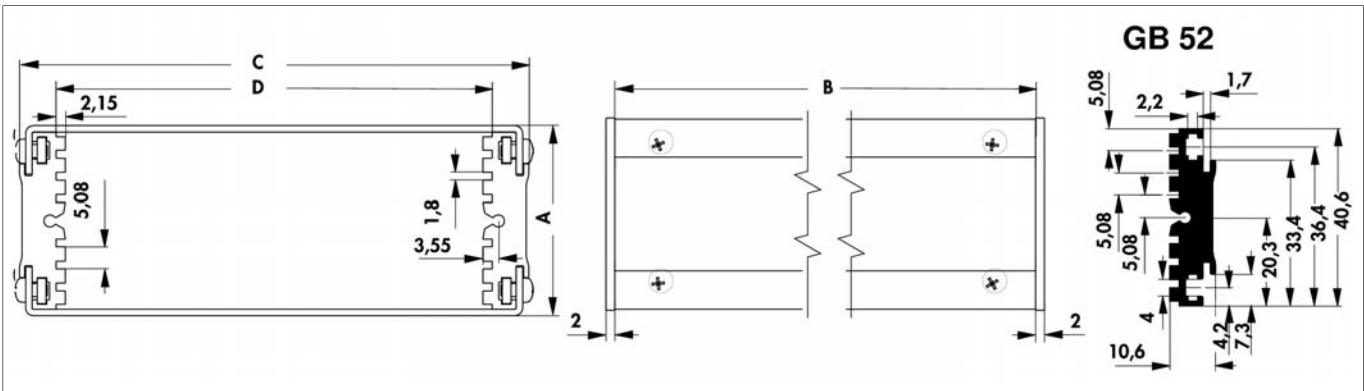
GO=opal green (RAL 6026)

S =black (RAL 9005)

Shell cases



- flexible shell case for different dimensions
- side panel profile with integrated guide slots in 5.08 mm grid spacing (1 HP)
- for application 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 kit, including cover panels and mounting material



art. no.	U	dim. [mm]			
		A	B	C	D
SGP 100 ...	1	43.6	100	117.2	100.3
SGP 101 ...	1	43.6	160	117.2	100.3
SGP 102 ...	1	43.6	220	117.2	100.3
SGP 103 ...	1	43.6	100	250.6	233.7
SGP 104 ...	1	43.6	160	250.6	233.7
SGP 105 ...	1	43.6	220	250.6	233.7
SGP 200 ...	2	84.3	100	117.2	100.3
SGP 201 ...	2	84.3	160	117.2	100.3
SGP 202 ...	2	84.3	220	117.2	100.3
SGP 203 ...	2	84.3	100	250.6	233.7
SGP 204 ...	2	84.3	160	250.6	233.7
SGP 205 ...	2	84.3	220	250.6	233.7

please indicate: ... colour of half shells
SA=black anodised
TB=turquoise blue (RAL 5018)
UL=ultramarine blue (RAL 5002)
LG=light grey (RAL 7035)

profiles in meter lengths 1000 mm → M 10

Tube cases
Miniature aluminium case
Tilt foot and feet
Universal tube cases

→ M 21 – 23
→ M 25 – 29
→ M 46
→ M 20

Design case Frame → M 39
Design case Eurotainer → M 40
Decorative surfaces → M 43
Front plates acc.to custom.requirem. → M 44

M 4

A

B

C

D

E

F

G

H

I

K

L

M

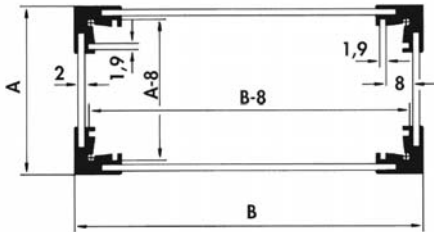
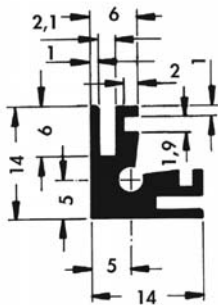
N

Extruded assembled cases



- the profiles have internal guide slots for application of PCBs or similar components
- supplied as 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 on 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 ME	–	60	100	154.0
G 103 ...	–	70	100	154.0
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=clear anodised

profiles in meter lengths 1000 mm → M 10

M 5

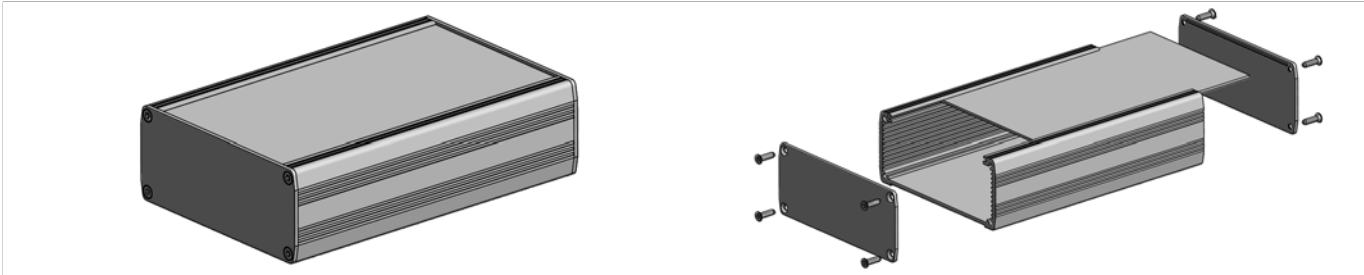
Fixing material
EMC-seals
Case for DIN-mounting rail
Tube cases

→ N 65
→ M 43 – 45
→ M 13 – 17
→ M 21

Cooling case
Case with cooling fins
Euro case
PC/104 cases

→ M 31 – 34
→ M 34
→ M 9
→ M 19

Case with slide-in cover panel



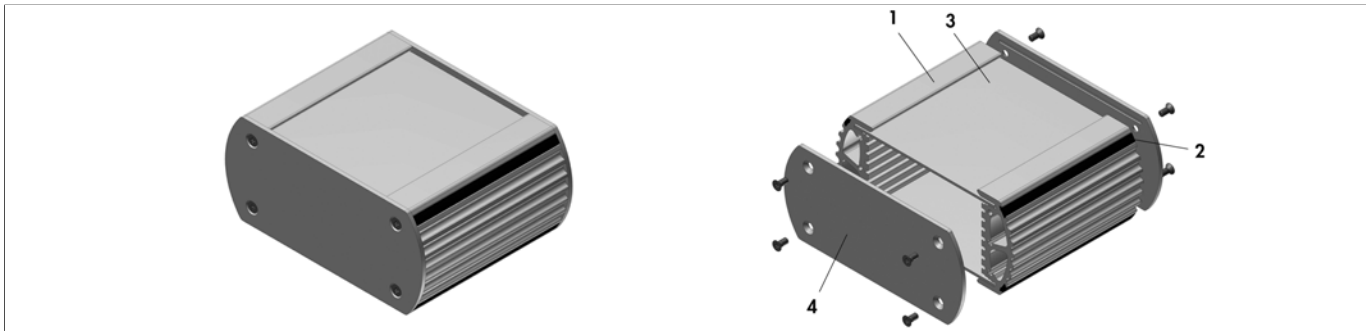
- versatile insertable case with integrated guide slot for acceptance of non standardized components or PCBs
- slide-in cover panel in various metal sheet thicknesses: 1.5/2 mm (GB 81 - 83); 2/2.5 mm (GB 84)
- integration possibility for front foils or keypads
- special dimensions, treatments and surfaces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

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:		
... lengths		
100 120 160 200 220 234 mm		
... surface		
SA =black anodised		
ME=clear anodised		

profiles in meter lengths 1000 mm → M 10

Fixing material	→ N 65	Cooling case	→ M 31 – 34
EMC-seals	→ M 43 – 45	Case with cooling fins	→ M 34
Case for DIN-mounting rail	→ M 13 – 17	Euro case	→ M 9
Tube cases	→ M 21	PC/104 cases	→ M 19

Extruded assembled cases

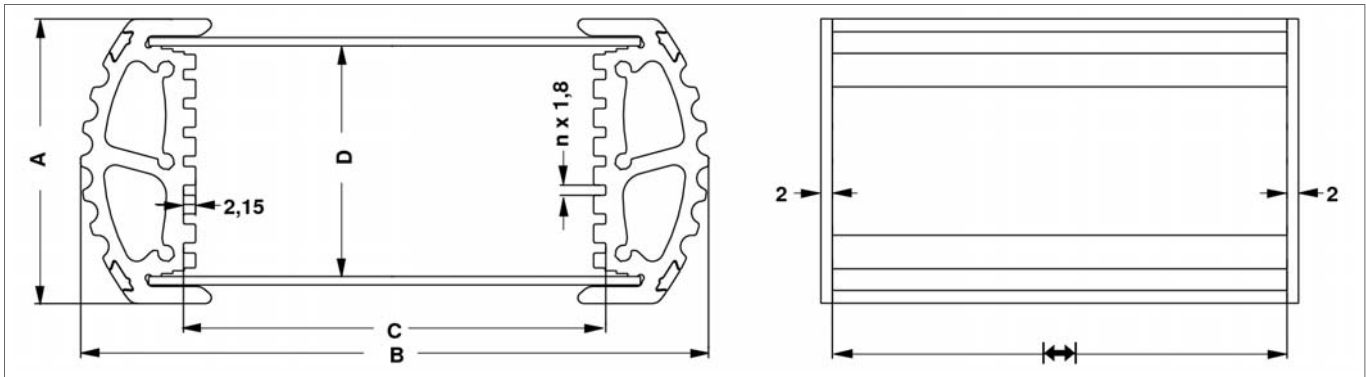


Scope of supply:

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

Extruded assembled cases

- 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	C	D	n		A	B	C	D	n
GV 35 51 ...	35	84.2	51.0	25.5	4	GV 60 85 ...	60	123.2	85.0	50.5	9
GV 35 67 ...	35	100.5	67.3	25.5	4	GV 60 100 ...	60	138.5	100.3	50.5	9
GV 35 85 ...	35	118.2	85.0	25.5	4	GV 60 116 ...	60	154.2	116.0	50.5	9
GV 35 100 ...	35	133.5	100.3	25.5	4	GV 60 130 ...	60	168.2	130.0	50.5	9
GV 35 116 ...	35	149.2	116.0	25.5	4	GV 60 160 ...	60	198.5	160.3	50.5	9
GV 35 130 ...	35	163.2	130.0	25.5	4	GV 60 200 ...	60	238.2	200.0	50.5	9
GV 35 160 ...	35	193.5	160.3	25.5	4	GV 60 233 ...	60	271.6	233.4	50.5	9
GV 50 85 ...	50	121.2	85.0	40.5	7	GV 70 85 ...	70	125.2	85.0	60.5	11
GV 50 100 ...	50	136.5	100.3	40.5	7	GV 70 100 ...	70	140.5	100.3	60.5	11
GV 50 116 ...	50	152.2	116.0	40.5	7	GV 70 116 ...	70	156.2	116.0	60.5	11
GV 50 130 ...	50	166.2	130.0	40.5	7	GV 70 130 ...	70	170.2	130.0	60.5	11
GV 50 160 ...	50	196.5	160.3	40.5	7	GV 70 160 ...	70	200.5	160.3	60.5	11
GV 50 200 ...	50	236.2	200.0	40.5	7	GV 70 200 ...	70	240.2	200.0	60.5	11
GV 50 233 ...	50	269.6	233.4	40.5	7	GV 70 233 ...	70	273.6	233.4	60.5	11
please indicate: ... lengths 85 100 120 160 200 220 mm ... surface SA =black anodised ME=clear anodised											

profiles in meter lengths 1000 mm → M 10

M 7

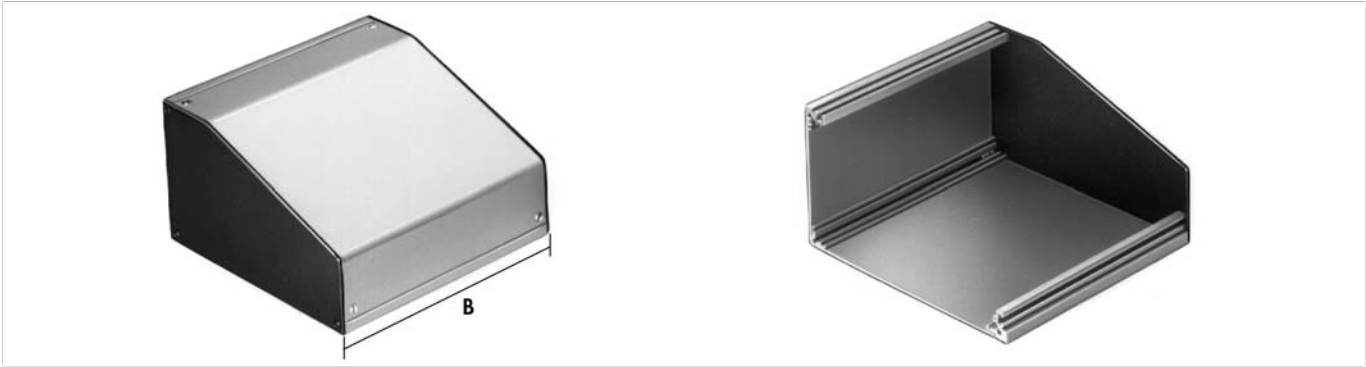
Fixing material
EMC-seals
Case for DIN-mounting rail
Tube cases

→ N 65
→ M 43 – 45
→ M 13 – 17
→ M 21

Cooling case
Case with cooling fins
Euro case
PC/104 cases

→ M 31 – 34
→ M 34
→ M 9
→ M 19

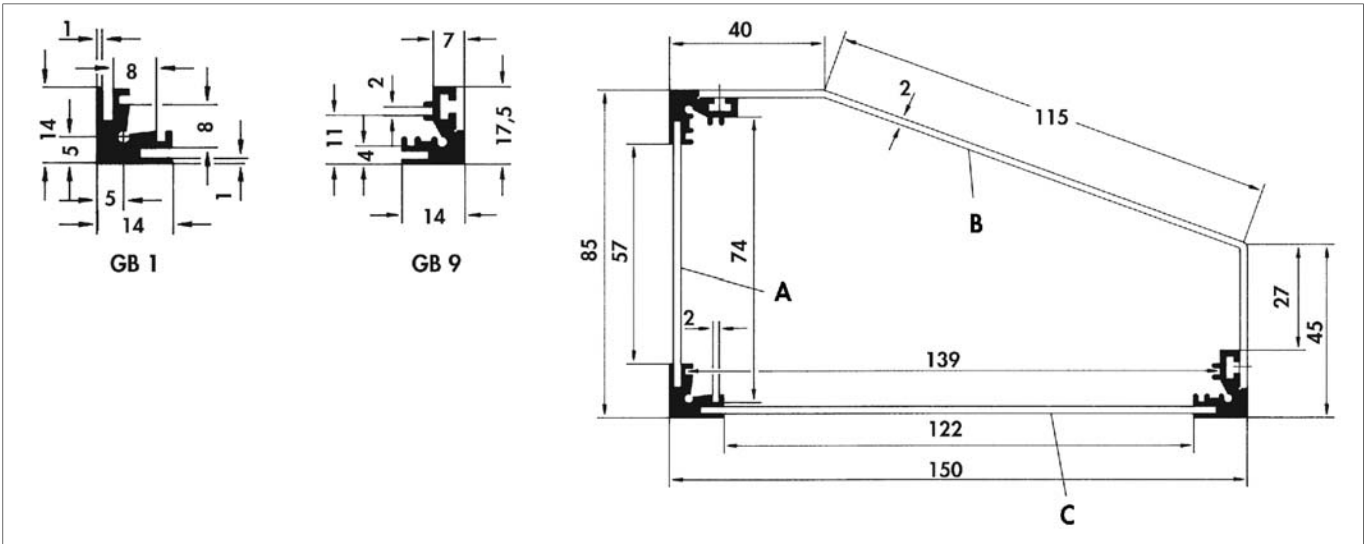
Desk consoles



- the profiles have internal guide slots for application of PCBs or similar components
- supplied as 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 plate clear anodised (C)
- rear panel clear anodised (A)
- front panel clear anodised (B)
- 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

profiles in meter lengths 1000 mm → M 10

General devices
Extruded assembled cases
Shell cases
Case for DIN-mounting rail

→ M 2
→ M 5
→ M 3 – 4
→ M 13 – 17

Combination cases
Tube cases
Miniature aluminium case
Cooling case

→ M 11 – 17
→ M 21
→ M 25 – 29
→ M 31 – 34

M 8

A

B

C

D

E

F

G

H

I

K

L

M

N

Eurocase



- aluminium profile with internal guide rails for application of PCBs or other component combinations
- surface natural colour anodised
- supplied as kit, incl. cover panels and mounting material
- special dimensions, drillings and surface treatments upon request

EUG 01 - 05						
EUG 11 - 14						
GB 36						
GB 38						
dim. [mm]						
art. no.	for Eurocards [mm]	U	A	B	C	D
EUG 01	100 x 160	1	160	104.0	100.0	43.5
EUG 02	100 x 220	1	220	104.0	100.0	43.5
EUG 03	233.4 x 160	1	160	237.4	233.4	43.5
EUG 04	233.4 x 220	1	220	237.4	233.4	43.5
EUG 05	116 x 152 (3.5")	1	152	120.0	116.0	43.5
EUG 11	100 x 160	1,25	160	104.0	100.0	55.6
EUG 12	100 x 220	1,25	220	104.0	100.0	55.6
EUG 13	233.4 x 160	1,25	160	237.4	233.4	55.6
EUG 14	233.4 x 220	1,25	220	237.4	233.4	55.6

profiles in meter lengths 1000 mm → M 10

Profile in meter lengths

art. no.	dim. [mm] lengths	suitable for	page
GB 1 1000 ...	1000	G 100 -117 ... 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=clear anodised			

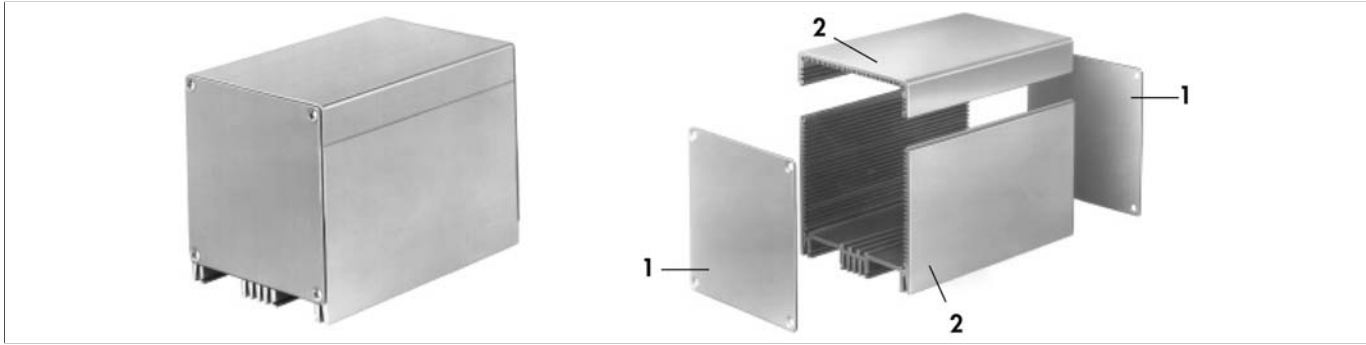
Tilt foot and feet
cable bushings
Combination cases
Miniature aliminium case

→ M 46
→ M 46
→ M 11 – 17
→ M 25 – 29

Cooling case
Case with cooling fins
Tube cases with Eurocards
Fixing material

→ M 31 – 34
→ M 34
→ M 23
→ N 65



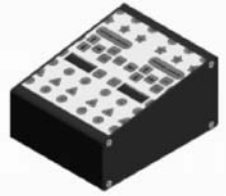



Combination cases



1 cover plate; 2 aluminium profile

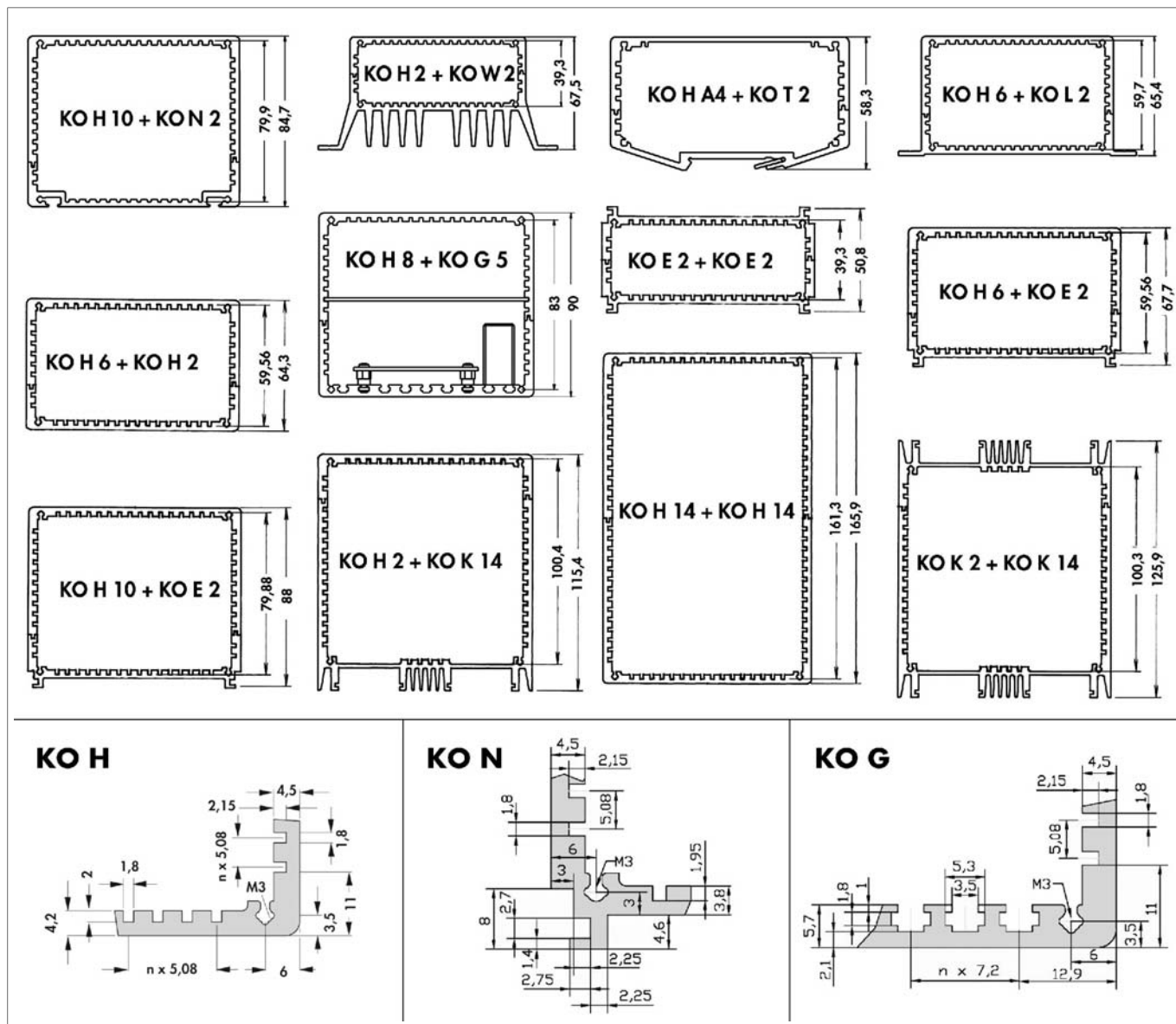
- case for 100 mm Eurocards with various combination possibilities
- integrated guide slots in 5.08 mm grid spacing (1 HP)
- suitable version for EMC by means of electrical conductive surface treatments (TP) and additional conductive seals (protection class IP 54 achievable) **EDKO** → M 43
- the **KO** 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

<p>KO H</p>  <p>KO K</p>	<p>KO H</p>  <p>KO E</p>	<p>KO P</p>  <p>KO H</p>
<p>KO H</p>  <p>KO L</p>	<p>KO H</p>  <p>KO G</p>	<p>KO T</p>  <p>KO H</p>

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 foils on front or foil keyboards
- KO F** = with THFU installation possibility
- KO R** = fin panel
- KO G** = threaded rails, square nut



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

art. no.	art. no.
KO H 0	KO H 1
art. no.	art. no.
KO N 2	KO H 2
art. no.	art. no.
KO E 2	KO T 2
art. no.	art. no.
KO R 2	KO H 4 A
art. no.	art. no.
KO K 2	KO P 2

* slide nut SM 4 suitable for KO N ...


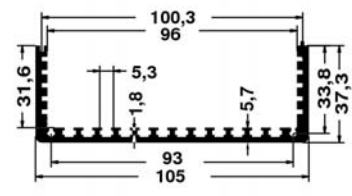
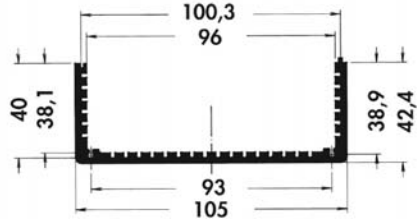
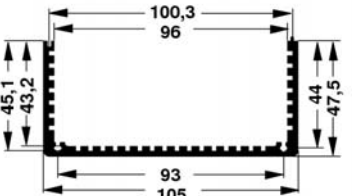
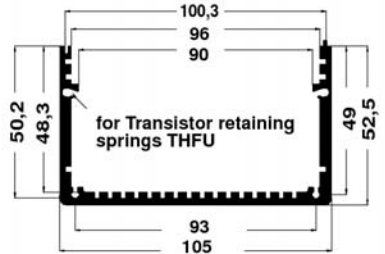
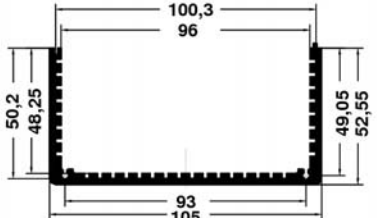
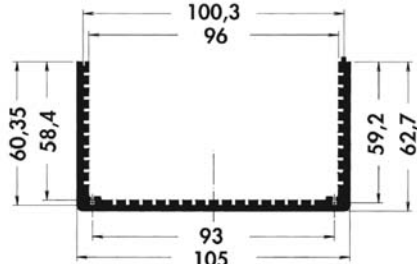
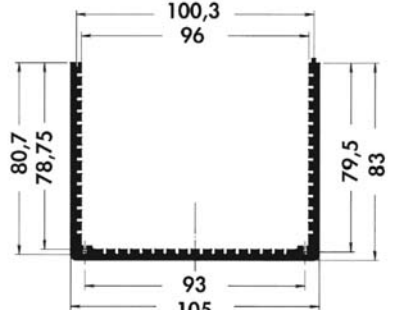
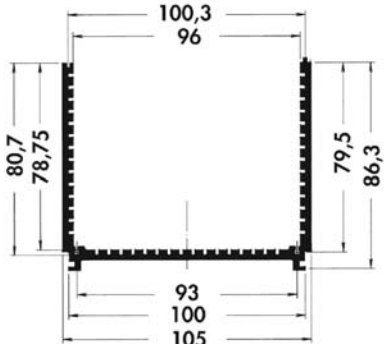
profiles in meter lengths 1000 mm → M 18

M 13

Fixing material
Heatsink insert modules
EMC-seals
IP-seals

→ N 65
→ N 48 - 49
→ M 43 - 45
→ M 45

Case for HF-technology
Sheet metal construction
Decorative surfaces
Front plates acc. to custom. requirem. → M 42
→ M 44
→ M 43
→ M 44

<div><div><div>BFSLP</div><div></div></div><div><p>100,3 96 31,6 5,3 1,8 5,7 33,8 37,3 93 105</p></div></div>	<div><p>100,3 96 40 38,1 93 105 38,9 42,4</p></div>
art. no.	art. no.
KO G 5	KO H 6
<div><p>100,3 96 45,1 43,2 93 105 44 47,5</p></div>	<div><p>100,3 96 90 50,2 48,3 93 105 49 52,5 for Transistor retaining springs THFU</p></div>
art. no.	art. no.
KO H 7	KO F 3
<div><p>100,3 96 50,2 48,25 93 105 49,05 52,55</p></div>	<div><p>100,3 96 60,35 58,4 93 105 59,2 62,7</p></div>
art. no.	art. no.
KO H 8	KO H 10
<div><p>100,3 96 80,7 78,75 93 105 79,5 83</p></div>	<div><p>100,3 96 80,7 78,75 93 100 105 79,5 86,3</p></div>
art. no.	art. no.
KO H 14	KO E 14

* fixing slot BFSLP suitable for KO G 5

profiles in meter lengths 1000 mm → M 18

Order example KO H-Profile → M 12
Case for DIN-mounting rail → M 13 – 17
Combination profiles (meter length) → M 17
Euro case → M 9

Desk consoles → M 8
Tube cases with Eurocards → M 23
Miniature aluminium case → M 25
Case with cooling fins → M 29

M 14

A

B

C

D

E

F

G

H

I

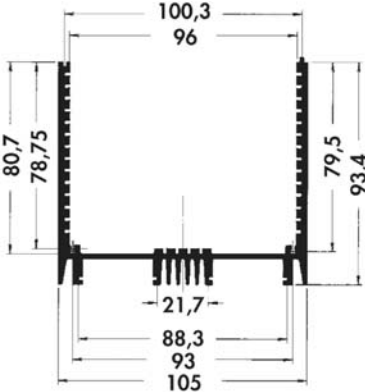
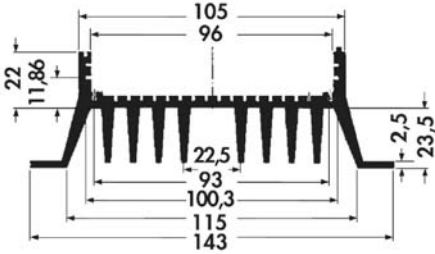
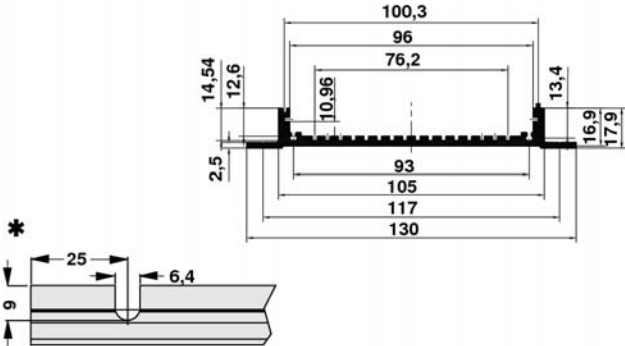
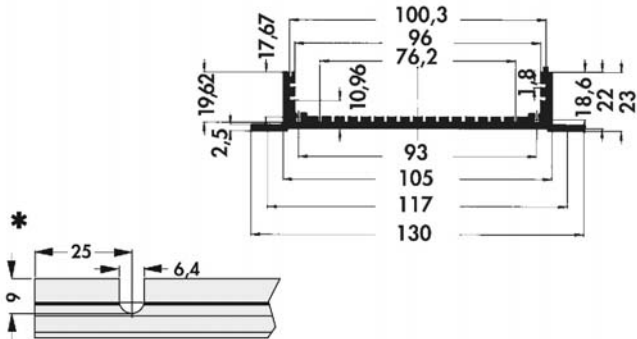

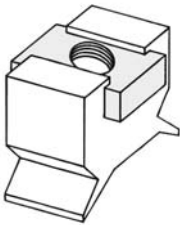
K

L

M

N

Combination cases

	
art. no.	art. no.
KO K 14	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

profiles in meter lengths 1000 mm → M 18

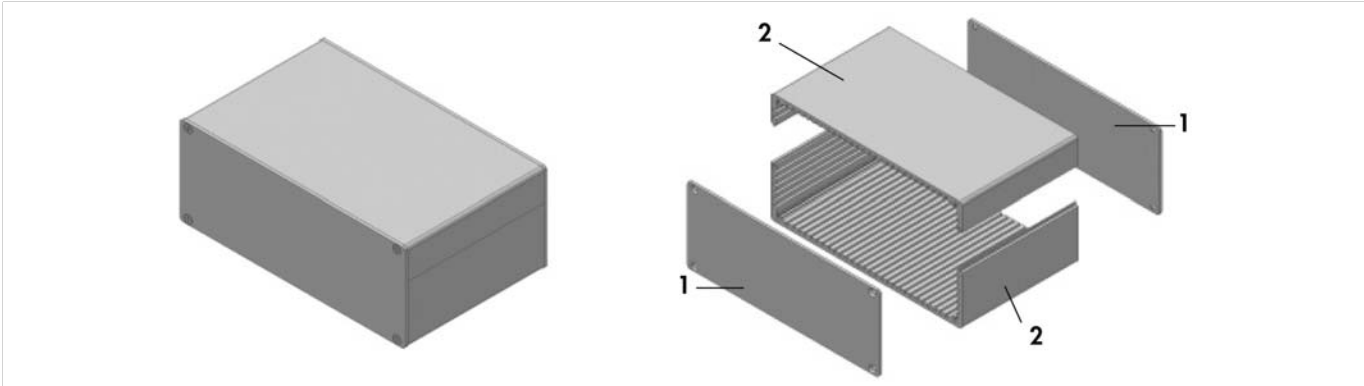
M 15

Fixing material
Tilt foot and feet
PC/104 cases
Tube cases

→ N 65
→ M 46
→ M 19
→ M 21

Case for DIN-mounting rail
Extruded assembled cases
Shell cases
Cooling case

→ M 13 – 17
→ M 5
→ M 3 – 3
→ M 31 – 34



1 cover plate 2 mm; 2 aluminium profile

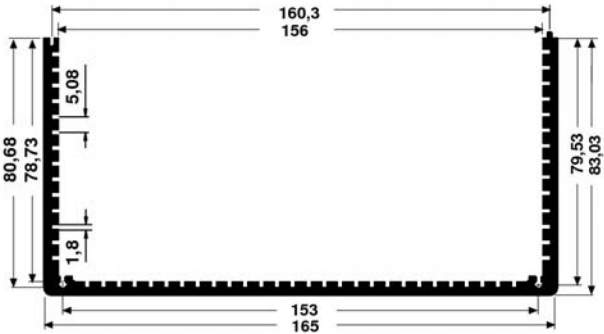
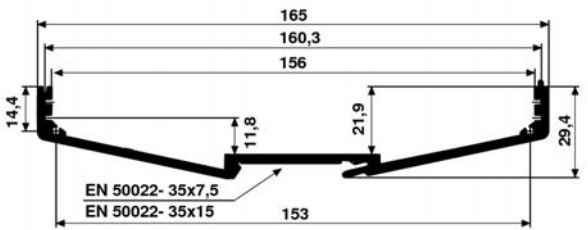
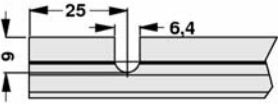
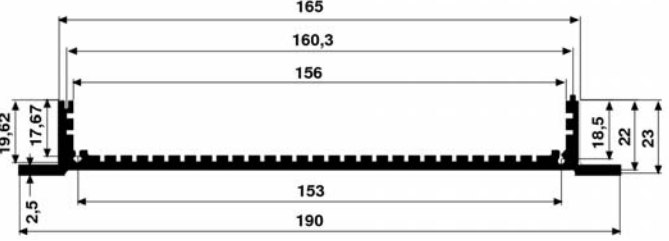
- case for 160 mm Eurocards with various combination possibilities
- integrated guide slots in 5.08 mm grid spacing (1 HP)
- EMC compatible version by means of electrical conductive surfaces (TP) and additional conductive seals (results also in proof specification IP 54) **EDKOL** → M 45
- EMC and IP 52 only in combination with 3 mm 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

profiles in meter lengths 1000 mm → M 18

Tube cases with Eurocards	→ M 23	Design case Chac	→ M 38
Universal tube cases	→ M 20	Design case Frame	→ M 39
Fixing material	→ N 65	Design case Eurotainer	→ M 40
Case with cooling fins	→ M 34	Design case Rail	→ M 41

Combination cases

			
art. no.		art. no.	
KO HL 14		KO TL 2	
art. no.			
KO LL 2			

* fixing slot KO LL 2

profiles in meter lengths 1000 mm → 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			

M 17

EMC-seals
IP-seals
cable bushings
Case for HF-technology

→ M 43 – 45
→ M 45
→ M 46
→ M 42

Case with cooling fins
Euro case
PCB holder
Ventilation-frames

→ M 34
→ M 9
→ N 63 – 64
→ M 47

Profile in meter lengths

art. no.	dim. [mm] lengths	suitable for	page
KO E 14 1000 ...	1000	KO E 14	14
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	13
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=clear anodised			

Tilt foot and feet
cable bushings
Combination cases
Miniature aliminium case

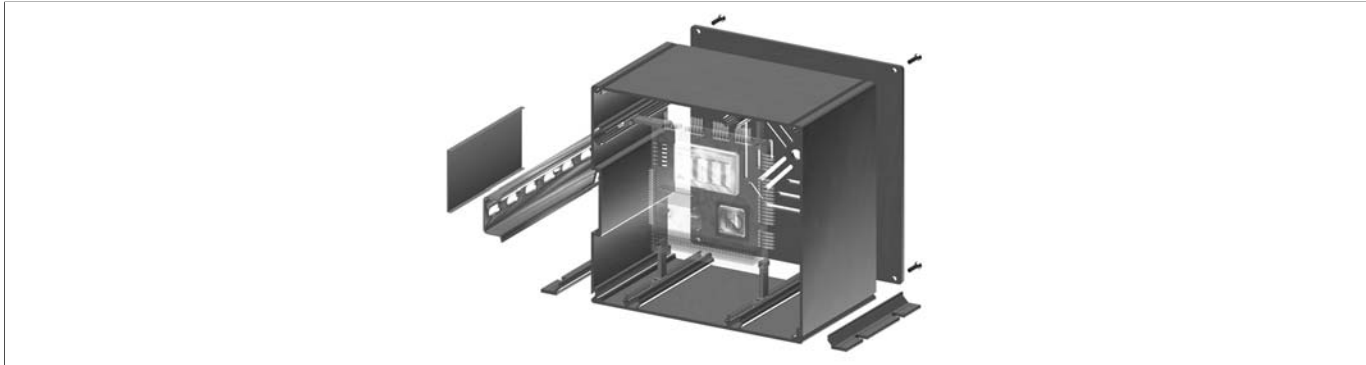
→ M 46
→ M 46
→ M 11 – 17
→ M 25 – 29

Cooling case
Case with cooling fins
Tube cases with Eurocards
Fixing material

→ M 31 – 34
→ M 34
→ M 23
→ N 65

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 kit, including PC board holder **(K)**, cover plates and mounting material

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

profiles in meter lengths 1000 mm → M 24

M 19

General devices
Universal tube cases
Tube cases with Eurocards
Design case Chac

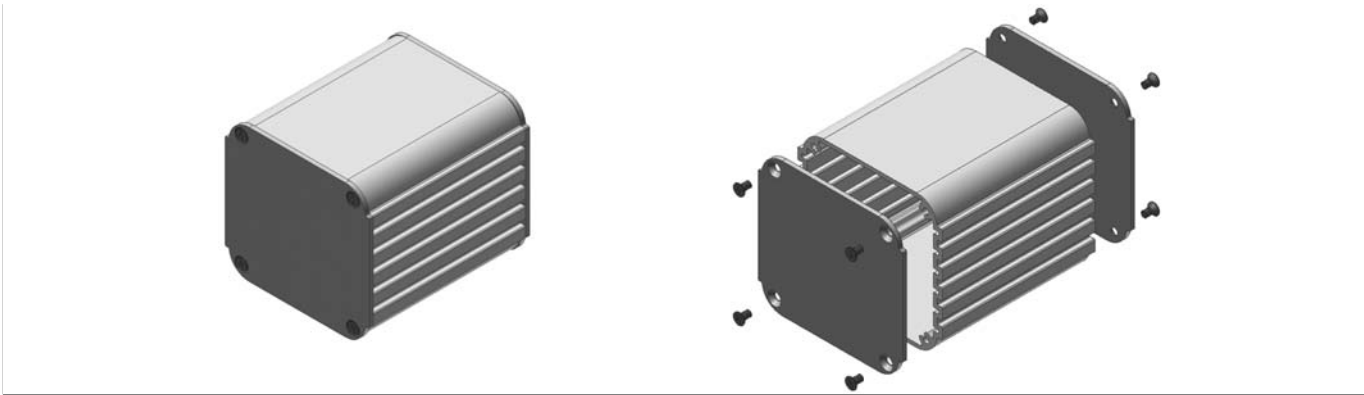
→ M 2
→ M 20
→ M 23
→ M 38

Design case Frame
Design case Rail
Design case Eurotainer
Case for HF-technology

→ M 39
→ M 41
→ M 40
→ M 42

Tube cases

Universal tube case



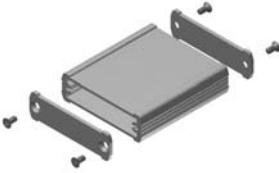
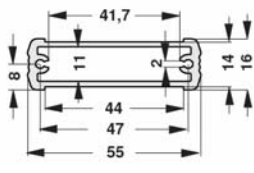

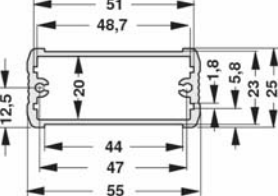
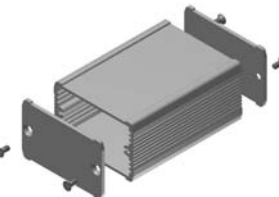
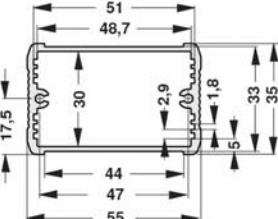

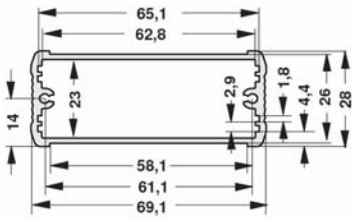

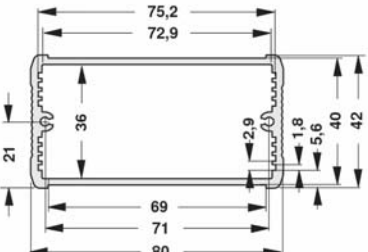
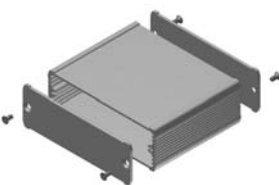
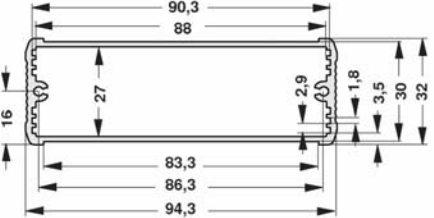
- universal tube case for non standardised components or PC boards of 67 mm width
- EMC compatible version due to chrome-free transparent passivated (electrically conductive) surface
- the 2 mm thick covers can be machined and printed according to your requirements
- supplied as kit, including cover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

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

profiles in meter lengths 1000 mm → M 24

Tube cases

- universal tube case with integrated guide slots for application of non standardised circuit boards
- EMC compatible version due to electrical conductive surfaces (**TP**) and additional conductive seals (**EDKO**)
- integration possibilities of front foils or key pads
- protection class IP 54 achieved by the use of seals **EDKO** → M 43
- the 2 mm covers panels can be perforated or imprinted to your specifications
- supplied as 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 ...			

profiles in meter lengths 1000 mm → M 24

M 21


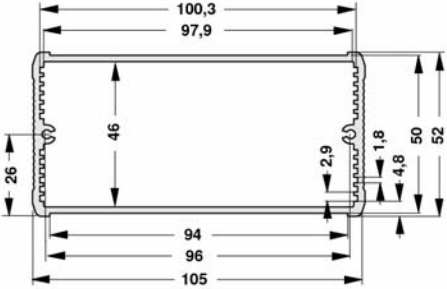

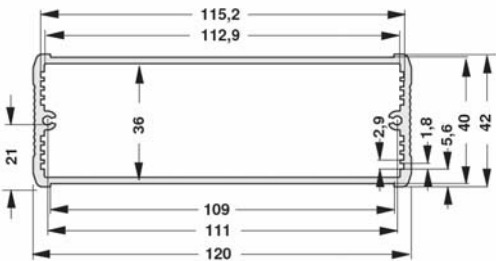
Decorative surfaces
EMC-seals
IP-seals
Design case Chac

→ M 43
→ M 43 – 45
→ M 45
→ M 38

Design case Rail
Design case Eurotainer
Design case Frame

→ M 41
→ M 40
→ M 39

Tube cases

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

profiles in meter lengths 1000 mm → M 24

Decorative surfaces
EMC-seals
IP-seals
Design case Chac

→ M 43
→ M 43 – 45
→ M 45
→ M 38

Design case Rail
Design case Eurotainer
Design case Frame

→ M 41
→ M 40
→ M 39

M 22

A

B

C

D

E

F

G

H

I

K

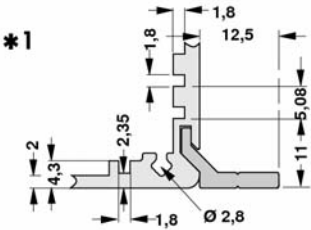
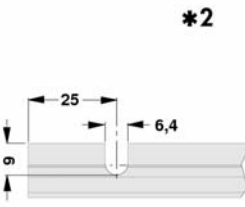

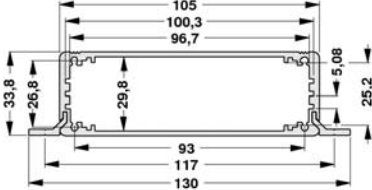



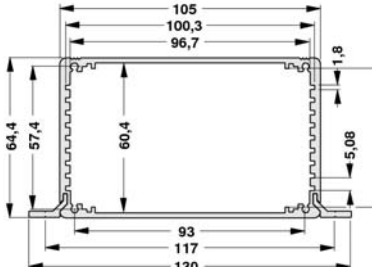

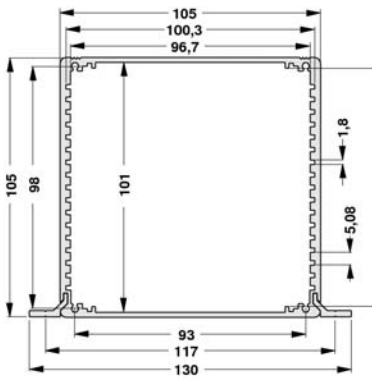
L

M

N

Tube cases

- 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
- mounting of the fixing straps without screws, case available up to IP 54 by using seals **EDKO** → M 43
- the 3 mm thick covers can be machined and printed according to your requirements
- supplied as kit, including cover plates and mounting material; *1 detailed cut-out; *2 fixing slots

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

profiles in meter lengths 1000 mm → M 24

M 23

EMC-seals
IP-seals
Design case Chac
Design case Rail

→ M 43 – 45
→ M 45
→ M 38
→ M 41

Design case Frame
Design case Eurotainer

→ M 39
→ M 40

Tube cases

Profile in meter lengths

art. no.	dim. [mm] lengths	suitable for	page
GB 50 1000 ...	1000	PCG ...	19
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
please indicate: ... surface SA =black anodised ME=clear anodised			

Tilt foot and feet
cable bushings
Combination cases
Miniature aliminium case

→ M 46
→ M 46
→ M 11 – 17
→ M 25 – 29

Cooling case
Case with cooling fins
Tube cases with Eurocards
Fixing material

→ M 31 – 34
→ M 34
→ M 23
→ N 65

Miniature aluminium casing also for D-Sub

art. no. AKG 55 28 ...	art. no. AKG 55 32 ...	
art. no. AKG 55 20 L ...	art. no. AKG 55 24 L ...	art. no. AKG 55 28 L ...
art. no. AKG 69 16 ...	art. no. AKG 69 20 ...	art. no. AKG 69 24 ...
art. no. AKG 71 16 ...	art. no. AKG 71 20 ...	art. no. AKG 71 24 ...
please indicate: ... lengths 50 80 100 mm ... surface SA =black anodised ME=clear anodised		

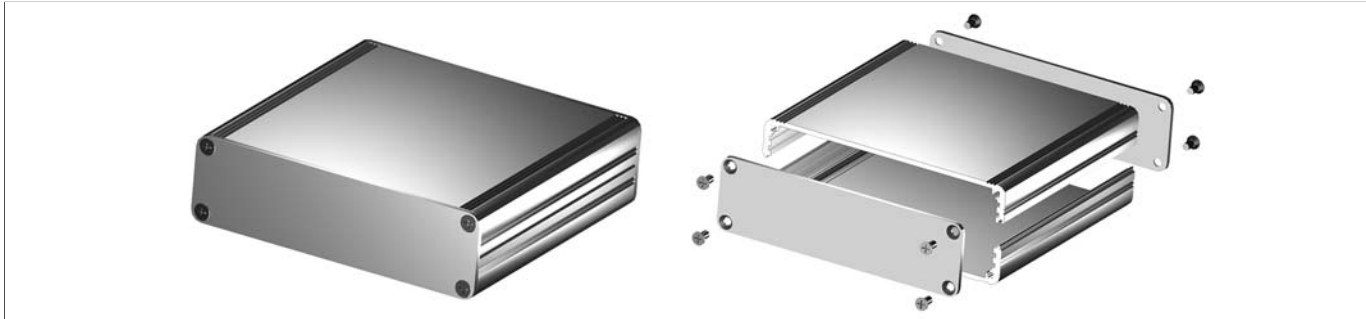
profiles in meter lengths 1000 mm -> M 30

- Tilt foot and feet
Fixing material
Universal tube cases
EMC-seals

-> M 46
-> N 65
-> M 20
-> M 43 - 45
- Design case Rail
Shell cases
Tube cases with Eurocards
Case with cooling fins

-> M 41
-> M 3 - 4
-> M 23
-> M 34

Miniature aluminium casing for eurocards



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

art. no.	art. no.
AKG 105 22 ...	AKG 105 26 ...
art. no.	art. no.
AKG 105 30 ...	AKG 105 34 ...
art. no.	art. no.
AKG 105 38 ...	AKG 105 46 ...
please indicate:	... surface
... lengths	SA =black anodised
80 100 120 160 200 220 mm	ME=clear anodised

profiles in meter lengths 1000 mm → M 30

M 27	Shell cases → M 3 - 4	Tube cases with Eurocards → M 23
Extruded assembled cases → M 5	Case with cooling fins → M 34	
Desk consoles → M 8	Design case Chac → M 38	
Euro case → M 9	Design case Frame → M 39	

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>Technical drawing of a rectangular anodized aluminum profile. Dimensions: top width 29,3, bottom width 25, left height 33, right height 37, internal width 1,6, internal height 3,4, distance from bottom to internal height 1,8, overall height 20, 24, 28. Features: M3 screw, GB 58.</p>	<p>Technical drawing of a rectangular anodized aluminum profile. Dimensions: top width 37,6, bottom width 33,3, left height 41,3, right height 45, internal width 1,6, internal height 3,4, distance from bottom to internal height 1,8, overall height 20, 24, 28. Features: M3 screw, GB 60.</p>	<p>Technical drawing of a rectangular anodized aluminum profile. Dimensions: top width 51,3, bottom width 47, left height 55, right height 59, internal width 1,6, internal height 3,4, distance from bottom to internal height 1,8, overall height 20, 24, 28. Features: M3 screw, GB 46.</p>
art. no.	art. no.	art. no.
AKG D 33 24 ...	AKG D 41 24 ...	AKG D 55 24 ...
<p>Technical drawing of a rectangular anodized aluminum profile. Dimensions: top width 65,4, bottom width 61,1, left height 69,1, right height 73, internal width 1,6, internal height 3,4, distance from bottom to internal height 1,8, overall height 20, 24, 28. Features: M3 screw, GB 64.</p>	<p>Technical drawing of a rectangular anodized aluminum profile. Dimensions: top width 67,8, bottom width 63,5, left height 71,5, right height 75, internal width 1,6, internal height 3,4, distance from bottom to internal height 1,8, overall height 20, 24, 28. Features: M3 screw, GB 63.</p>	
art. no.	art. no.	
AKG D 69 24 ...	AKG D 71 24 ...	
<p>Technical drawing of a rectangular anodized aluminum profile. Dimensions: top width 109, bottom width 105, left height 100,3, right height 98, internal width 1,6, internal height 7, distance from bottom to internal height 5, distance from bottom to internal height 4, distance from bottom to internal height 1,8, overall height 22, 26, 30. Features: M3 screw, GB 48/49.</p>	<p>Technical drawing of a rectangular anodized aluminum profile. Dimensions: top width 109, bottom width 105, left height 100,3, right height 98, internal width 1,6, internal height 7, distance from bottom to internal height 5, distance from bottom to internal height 4, distance from bottom to internal height 1,8, overall height 26, 30, 34. Features: M3 screw, GB 48.</p>	
art. no.	art. no.	
AKG D 105 26 ...	AKG D 105 30 ...	
please indicate:	... surface	
... lengths	ME=clear anodised	
50 80 100 mm	SA =black anodised	

profiles in meter lengths 1000 mm → M 30

Tube cases	→ M 21	Cooling case	→ M 31 – 34
Design case Chac	→ M 38	Fixing material	→ N 65
Design case Frame	→ M 39	EMC-seals	→ M 43 – 45
IP-seals	→ M 45	Case with cooling fins	→ M 34

M 28

A

B

C

D

E

F

G

H

I

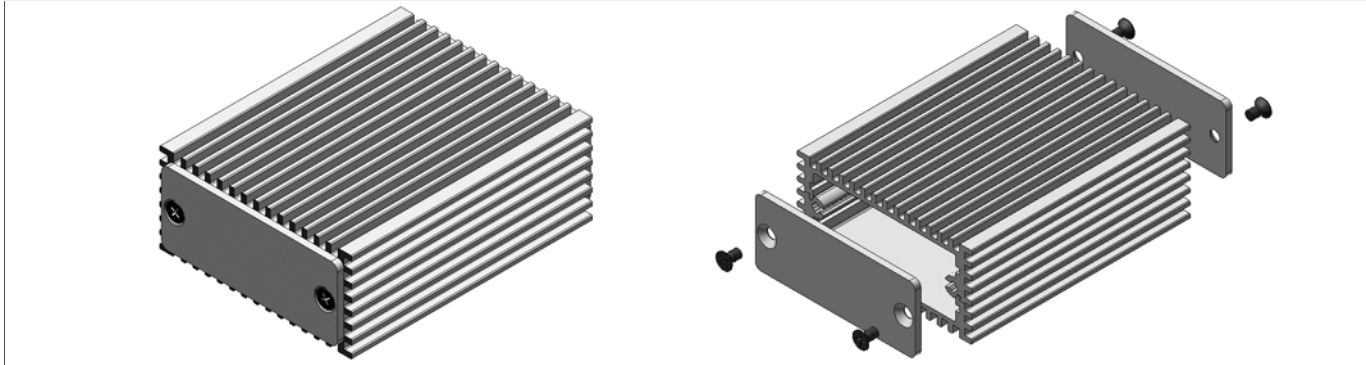
K

L

M

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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 application 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 kit, incl. 2 mm cover panels and mounting material
- cutouts, special lengths and surface treatments upon request

art. no.		
	GB 56	
KRK 60 28 ...		
please indicate:	... lengths 50 80 100 mm	... surface SA = black anodised ME = clear anodised

profiles in meter lengths 1000 mm → M 30

M 29

Cooling case
Case for DIN-mounting rail
Tube cases
Fixing material

→ M 31 – 34
→ M 13 – 17
→ M 21
→ N 65

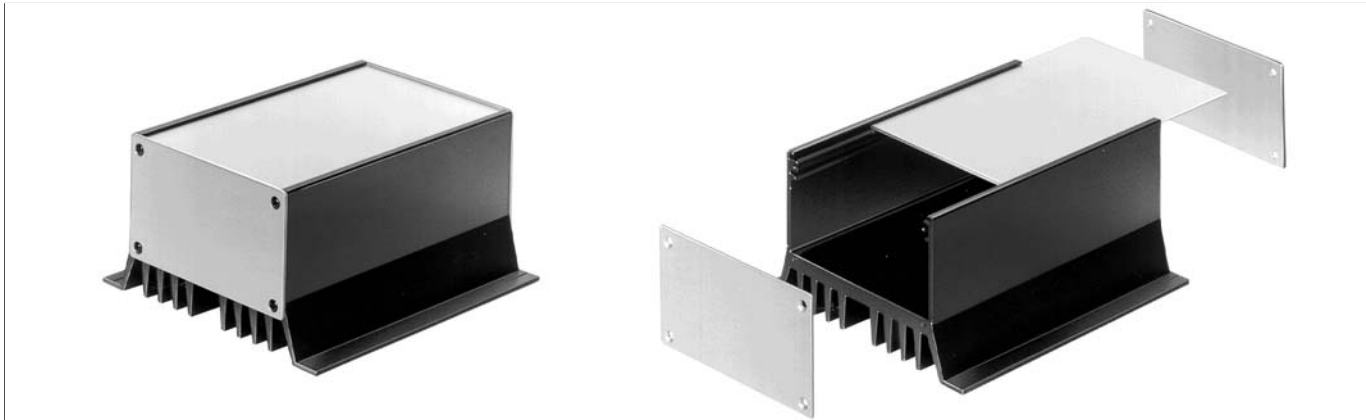
Case for DIN-mounting rail
Design case Eurotainer
Design case Rail
Combination cases

→ M 13 – 17
→ M 40
→ M 41
→ M 11 – 17

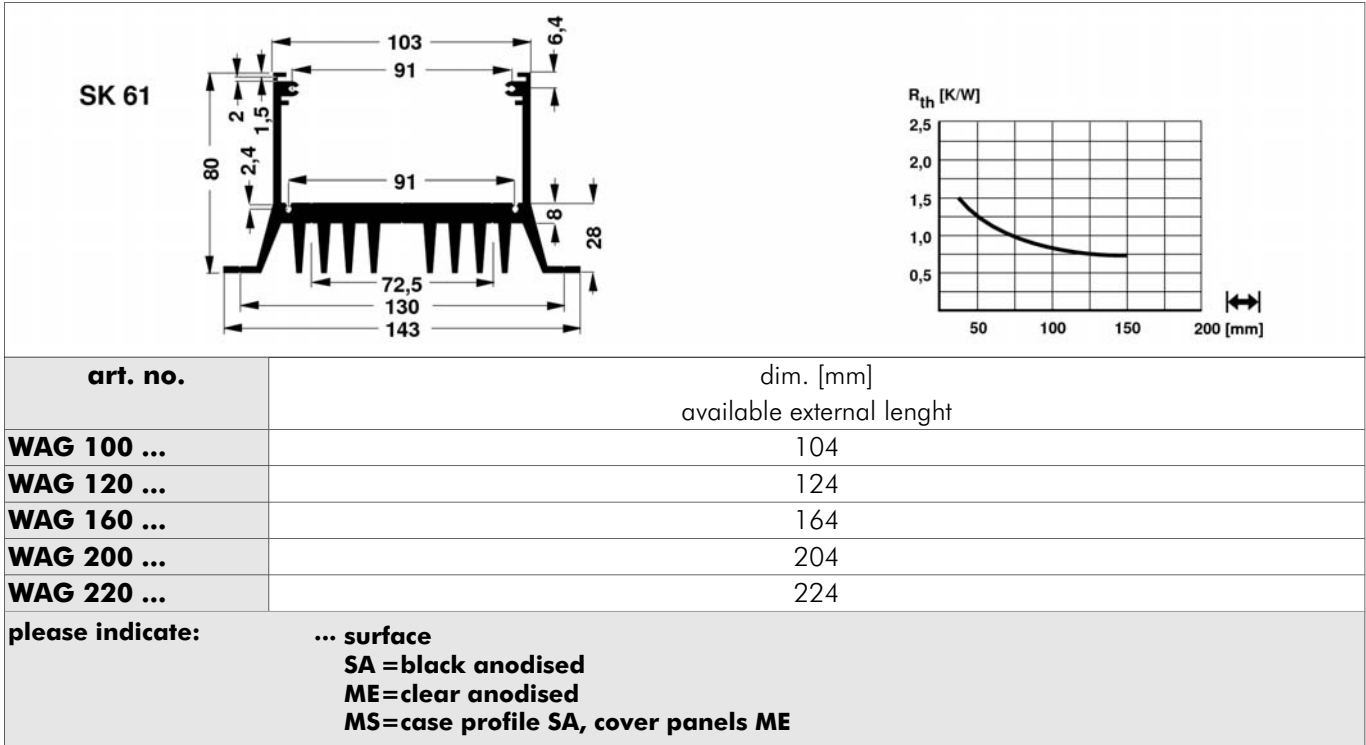
Profile in meter lengths

art. no.	dim. [mm] lengths	suitable for	page
GB 39 1000 ...	1000	AKG 55 16 ...	25
		AKG 55 20 ...	25
		AKG 55 20 L ...	26
GB 46 1000 ...	1000	AKG D 55 24 ...	28
		AKG 55 20 ...	25
		AKG 55 24 ...	25
		AKG 55 24 L ...	26
		AKG 55 28 ...	26
GB 48 1000 ...	1000	AKG D 105 26 ...	28
		AKG D 105 30 ...	28
		AKG 105 26 ...	27
		AKG 105 30 ...	27
		AKG 105 38 ...	27
GB 49 1000 ...	1000	AKG D 105 26 ...	28
		AKG 105 22 ...	27
		AKG 105 26 ...	27
		AKG 105 34 ...	27
GB 56 1000 ...	1000	KRK 60 28 ...	29
GB 57 1000 ...	1000	AKG 33 16 ...	25
		AKG 33 20 ...	25
GB 58 1000 ...	1000	AKG D 33 24 ...	28
		AKG 33 20 ...	25
		AKG 33 24 ...	25
GB 59 1000 ...	1000	AKG 41 16 ...	25
		AKG 41 20 ...	25
GB 60 1000 ...	1000	AKG D 41 24 ...	28
		AKG 41 20 ...	25
		AKG 41 24 ...	25
GB 61 1000 ...	1000	AKG 71 16 ...	26
		AKG 71 20 ...	26
GB 62 1000 ...	1000	AKG 69 16 ...	26
		AKG 69 20 ...	26
GB 63 1000 ...	1000	AKG D 71 24 ...	28
		AKG 71 20 ...	26
		AKG 71 24 ...	26
GB 64 1000 ...	1000	AKG D 69 24 ...	28
		AKG 69 20 ...	26
		AKG 69 24 ...	26
GB 73 1000 ...	1000	AKG 105 34 ...	27
		AKG 105 38 ...	27
		AKG 105 46 ...	27
GB 74 1000 ...	1000	AKG 55 20 L ...	26
		AKG 55 24 L ...	26
		AKG 55 28 L ...	26
GB 80 1000 ...	1000	AKG 55 28 ...	26
		AKG 55 28 L ...	26
		AKG 55 32 ...	26
please indicate: ... surface SA =black anodised ME=clear anodised			

Cooling cases



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



profiles in meter lengths 1000 mm → M 35

M 31

Cooling case
Case with cooling fins
Desk consoles
Euro case

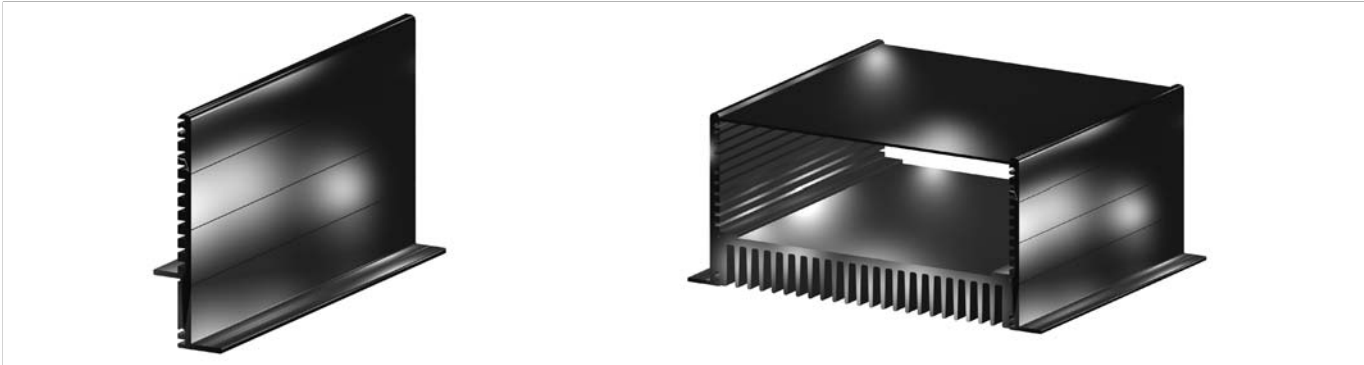
→ M 31 – 34
→ M 34
→ M 8
→ M 9

Miniature aliminium case
cable bushings
Design case Chac
Design case Frame

→ M 25 – 29
→ M 46
→ M 38
→ M 39

Cooling cases

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

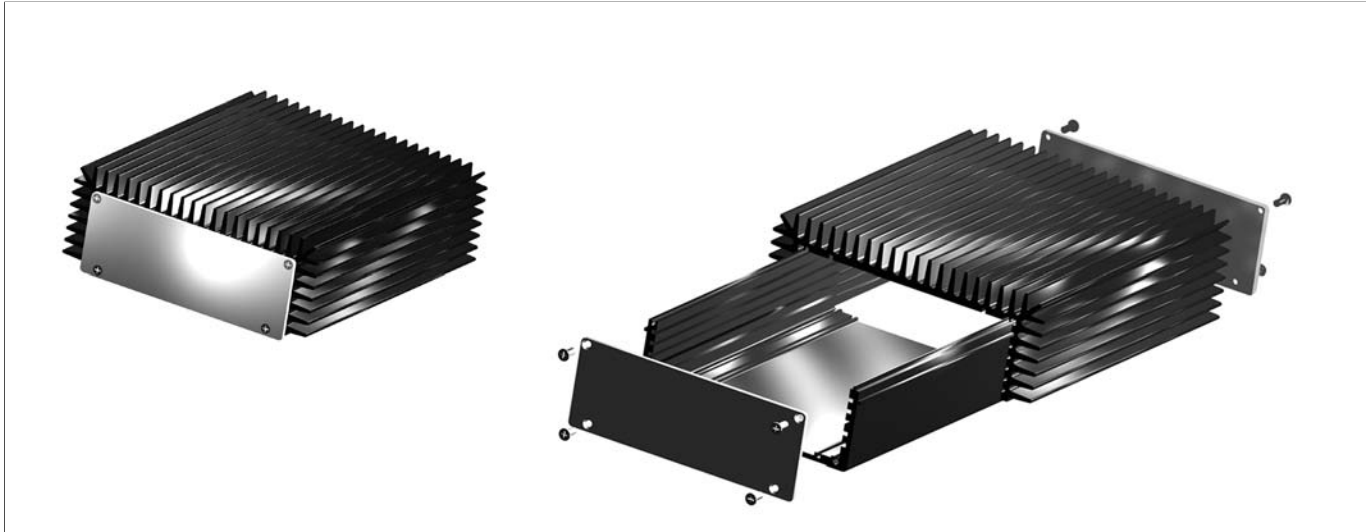
suitable for:
SK 42, SK 94, SK 113, SK 118, SK 119, SK 132, SK 136, SK 198, SK 421, SK 439, SK 166, SK 410, SK 463 ... u. a.
The cooling profiles can also be cut in fin direction. Thus the cases are available in different widths.

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

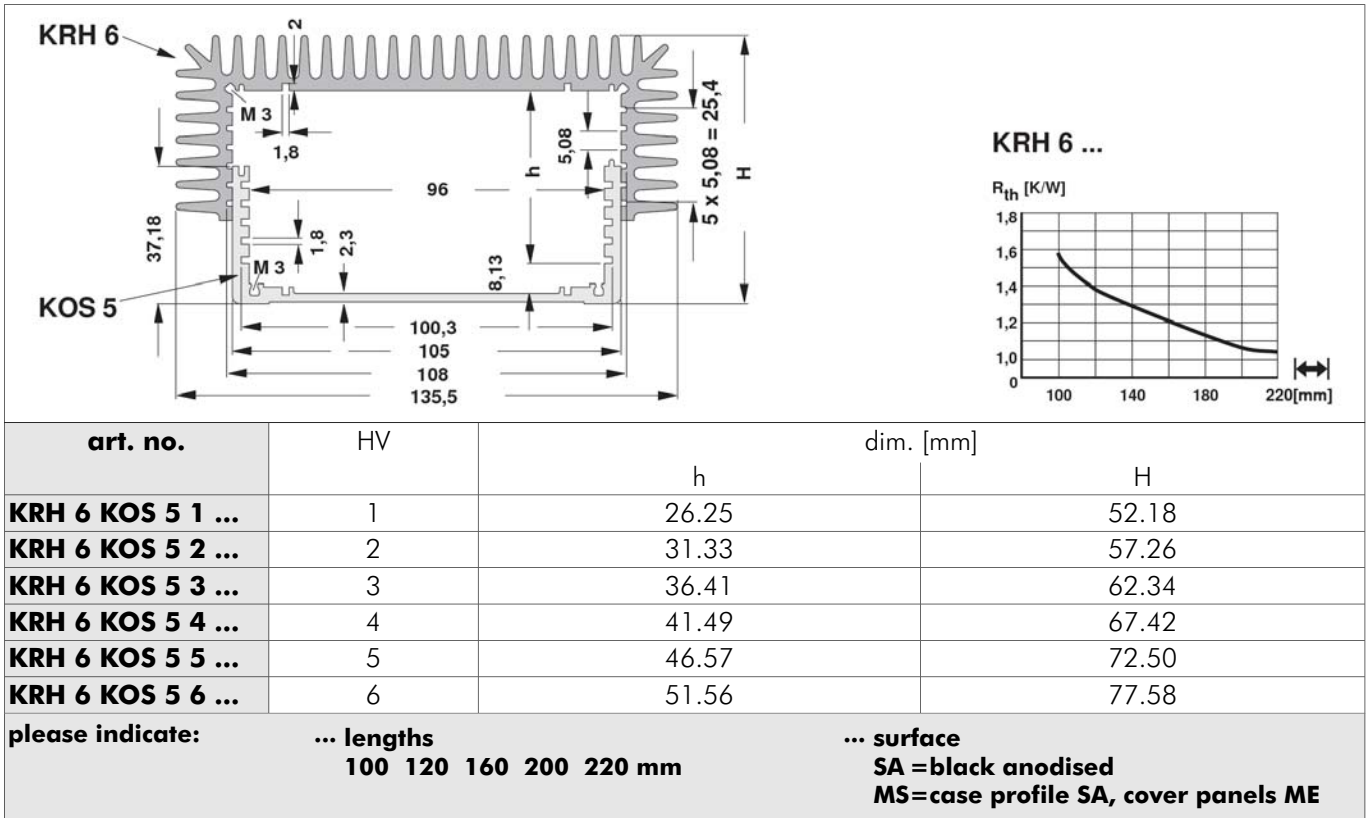
profiles in meter lengths 1000 mm → M 35

Cooling cases

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 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
- profile **KOS 5** can also be combined with **KO ...**
- further dimensions and surface treatments upon request



profiles in meter lengths 1000 mm → M 35

M 33

Heatsink insert modules
Euro case
Fixing material
Design case Eurotainer

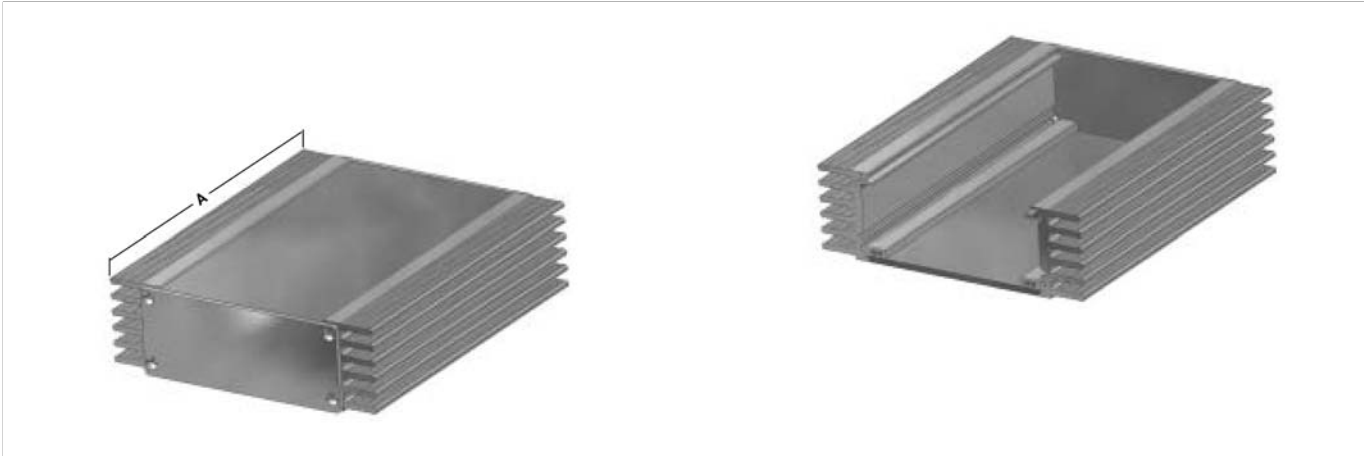
→ N 48 – 49
→ M 9
→ N 65
→ M 40

Design case Rail
EMC-seals
IP-seals
PCB holder

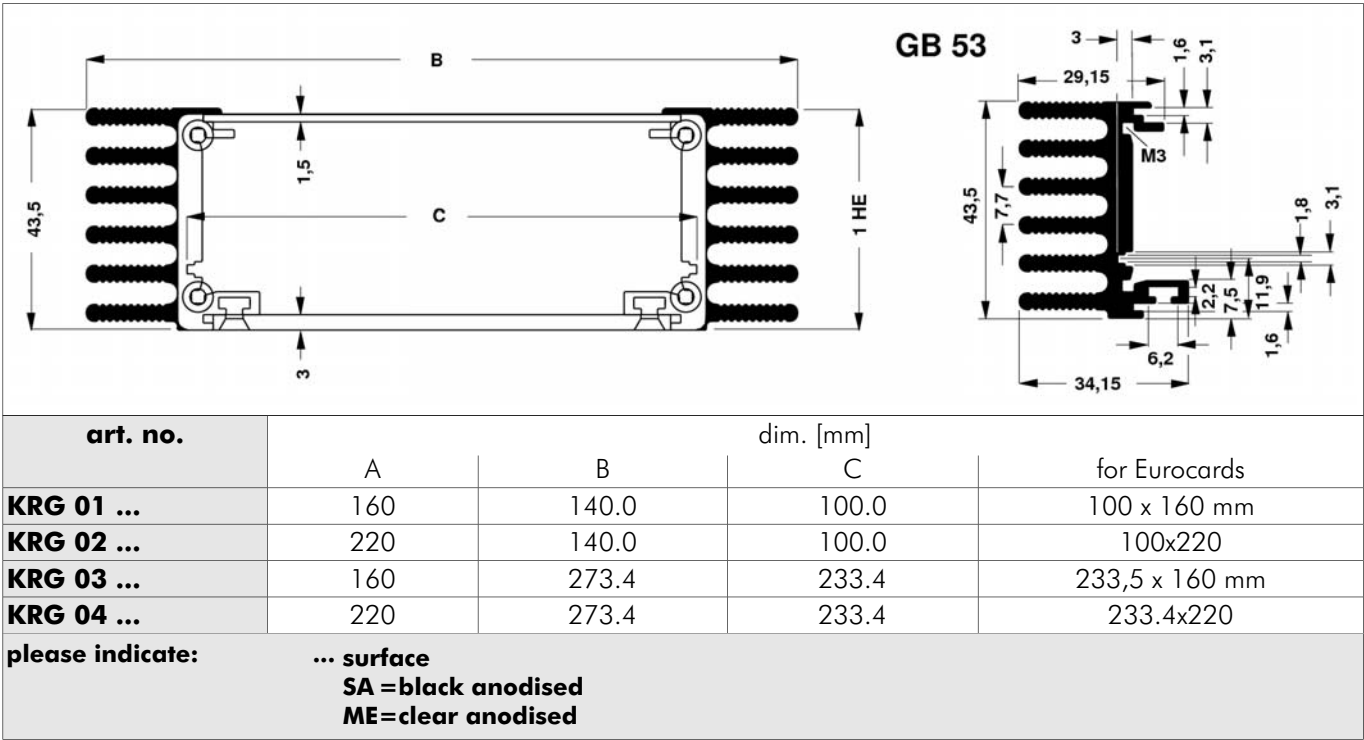
→ M 41
→ M 43 – 45
→ M 45
→ N 63 – 64

Cooling cases

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



profiles in meter lengths 1000 mm → M 35

Heatsink insert modules
Euro case
Fixing material
Design case Eurotainer

→ N 48 – 49
→ M 9
→ N 65
→ M 40

Design case Rail
EMC-seals
IP-seals
PCB holder

→ M 41
→ M 43 – 45
→ M 45
→ N 63 – 64

M 34

A

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Cooling cases

Profile in meter lengths

art. no.	dim. [mm] lengths	suitable for	page
G 118 1000 ...	1000	G 118 ...	32
GB 53 1000 ...	1000	KRG ...	34
KOS 5 1000 ...	1000	KRH 6 KOS 5 ...	33
KRH 6 1000 ...	1000	KRH 6 KOS 5 ...	33
SK 61 1000 ...	1000	WAG ...	31
please indicate: ... surface SA =black anodised ME=clear anodised			

Design case „CHAC“

Empty page

A

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M

N

A



Design case „CHAC“

B

Empty page

C

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M

N

M 37

Design case Frame
Design case Eurotainer
Combination cases
Design case Rail

→ M 39
→ M 40
→ M 11 – 17
→ M 41

Miniature aliminium case
Euro case
Tube cases with Eurocards
Tube cases

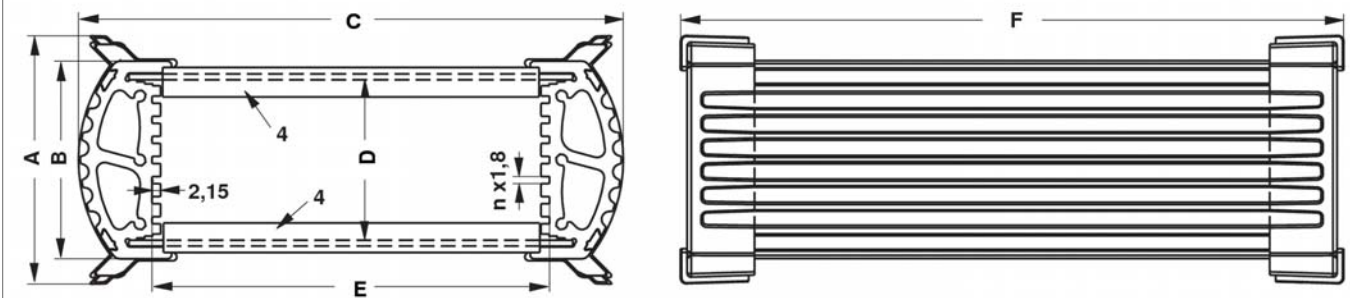
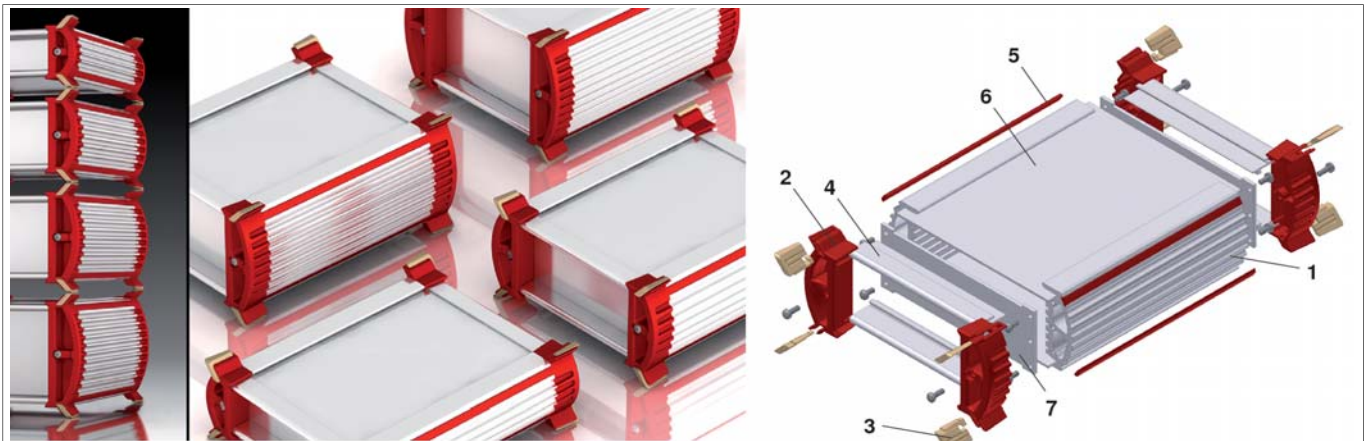
→ M 25 – 29
→ M 9
→ M 23
→ M 21

Design case „CHAC“

- modern design case in combination with shock proof plastic cover and integrated, skid resistant standing feet
- variable case due to using 2 mm aluminium panels and extrusion profiles in four different heights
- side panel with integrated guide slots used for application of any guide rail 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, surface treatments and colours upon request

F = available internal lengths +38 mm

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 profiles; 5 = 4 x plastic side panel; 6 = 2 x cover panel (1.5 mm); 7 = 2 x cover plate (2 mm); mounting material



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

please indicate: ... lengths
85 100 120 160 200 220 mm

... surface
SA = complete case black anodised
ME = complete case clear anodised
LP = exterior black lacquered, inside
chrome-free transp. passivated

Design case Frame
Design case Eurotainer
Combination cases
Design case Rail

→ M 39
→ M 40
→ M 11 – 17
→ M 41

Miniature aluminium case
Euro case
Tube cases with Eurocards
Tube cases

→ M 25 – 29
→ M 9
→ M 23
→ M 21

M 38

A

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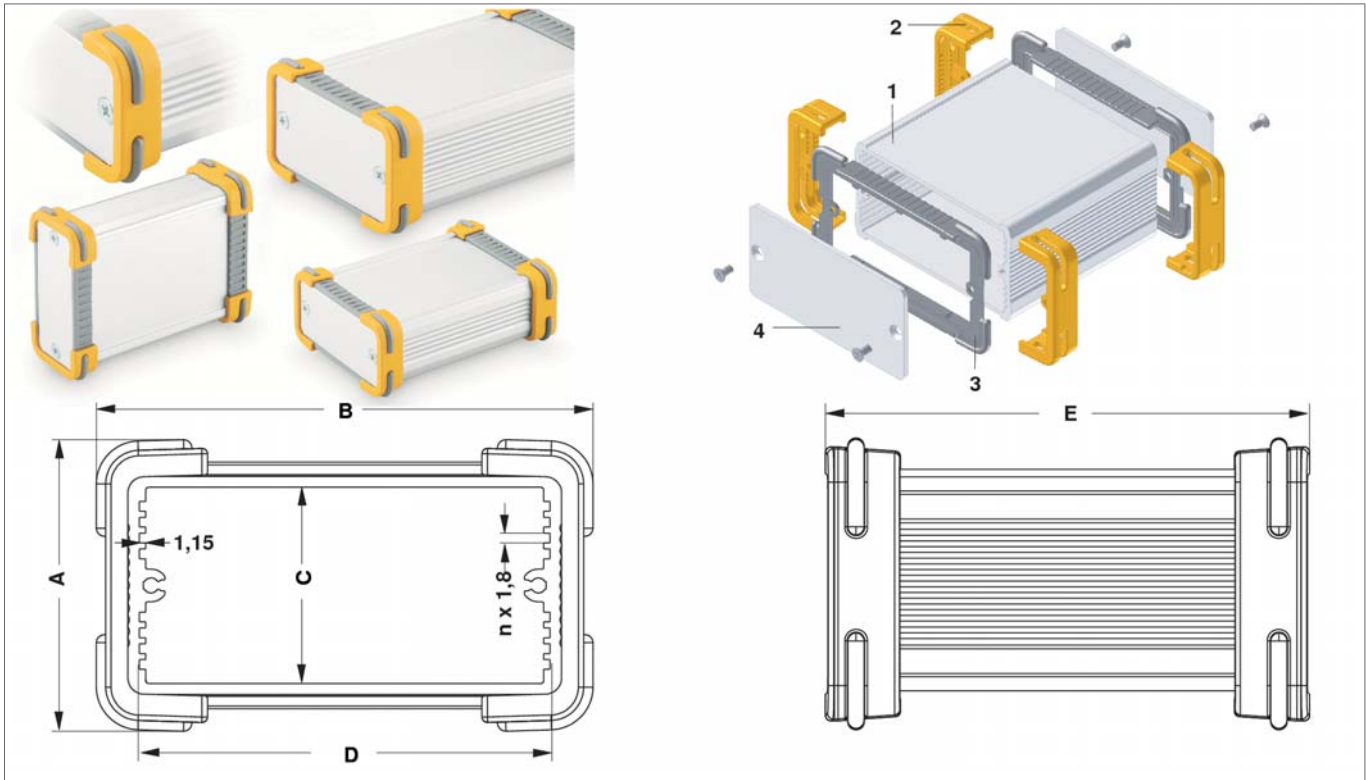
Design case „Frame“

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

E = available internal lengths + 14 mm

contents of delivery:

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



art. no.	dim. [mm]				
	A	B	C	D	n
FR 55 16 ...	24.0	63.6	11	43.1	1
FR 55 25 ...	33.0	63.6	20	51.0	3
FR 55 35 ...	43.0	63.6	30	51.0	7
FR 69 28 ...	36.0	77.7	23	65.1	5
FR 80 42 ...	53.5	91.0	36	75.2	9
FR 94 32 ...	40.0	102.9	27	90.3	7
FR 105 52 ...	63.5	116.0	46	100.3	13
FR 120 42 ...	53.5	131.0	36	115.2	9
please indicate:					
		... lengths		... surface	
		50 80 100 120 160 200 220 mm		SA =complete case black anodised	
				ME=complete case clear anodised	
				MS=case profile SA, cover panels ME	

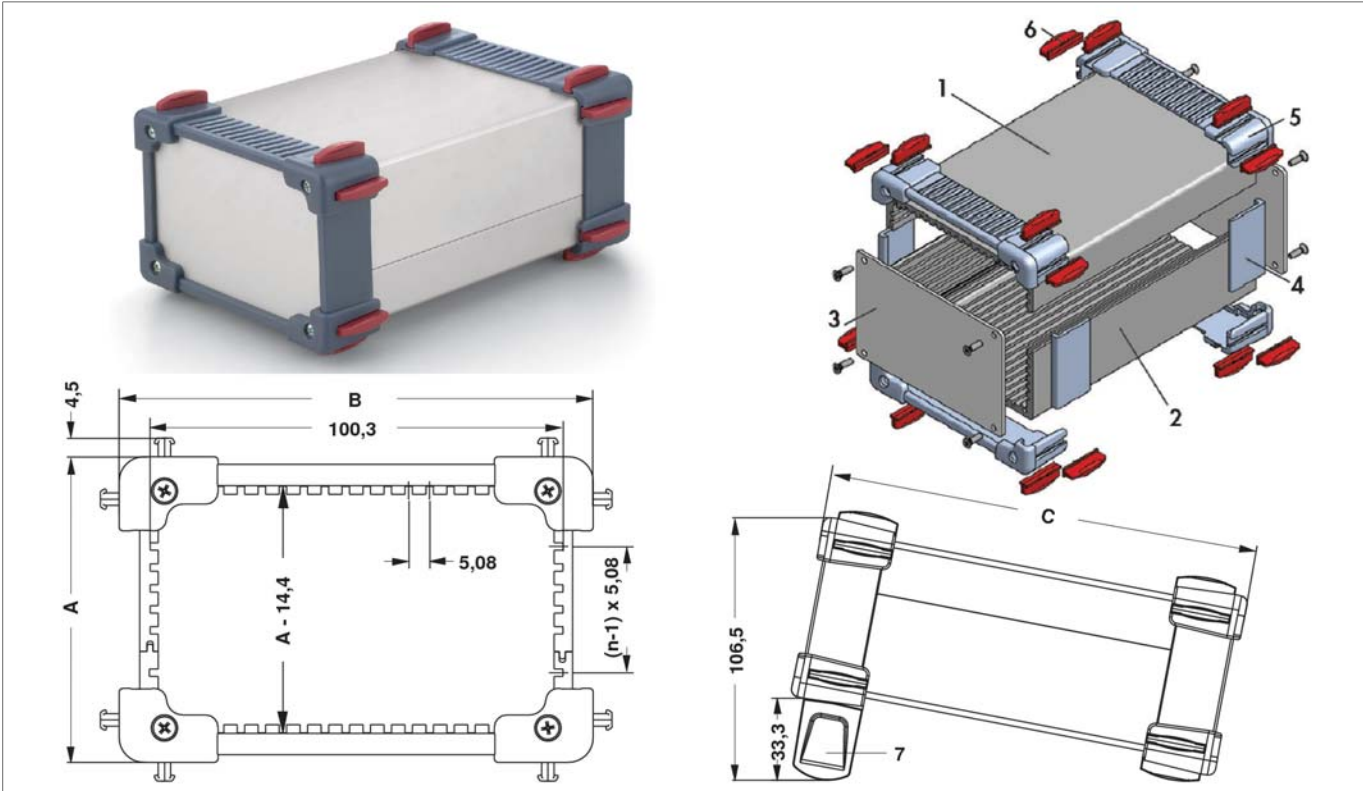
Design case "Eurotainer"

- 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-design achieved by electrical conductive surface treatment and additional conductive seals **EDKO** → M 43
- application possibility for front foils or key pads
- protection class IP 54 achieved by use of seals **EDKO** → M 43
- cover panels can be perforated or imprinted to your specifications, further surface treatments upon request

C= available internal length + 15 mm

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



art. no.	dim. [mm]			art. no.	dim. [mm]		
	A	B	n		A	B	n
ET 02 00 ...	38.40	114.7	2	ET 10 02 ...	94.40	114.7	12
ET 01 01 ...	43.50	114.7	2	ET 14 00 ...	99.43	114.7	14
ET 02 01 ...	48.60	114.7	3	ET 10 04 ...	104.50	114.7	14
ET 02 02 ...	53.70	114.7	4	ET 14 01 ...	109.60	114.7	15
ET 04 01 ...	58.70	114.7	5	ET 14 02 ...	114.70	114.7	16
ET 04 02 ...	63.80	114.7	6	ET 14 04 ...	124.80	114.7	18
ET 06 01 ...	69.00	114.7	7	ET 14 06 ...	135.10	114.7	20
ET 06 02 ...	74.10	114.7	8	ET 14 08 ...	145.20	114.7	22
ET 10 00 ...	79.13	114.7	10	ET 14 10 ...	155.40	114.7	24
ET 06 04 ...	84.20	114.7	10	ET 14 14 ...	175.70	114.7	28
ET 10 01 ...	89.30	114.7	11				

please indicate:

... lengths

100 120 160 200 220 mm

... surface

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

Decorative surfaces
Combination cases
Order example KO H-Profile
Euro case

→ M 43
→ M 11 – 17
→ M 12
→ M 9

EMC-seals
IP-seals
Tilt foot and feet
Fixing material

→ M 43 – 45
→ M 45
→ M 46
→ N 65

M 40

A

B

C

D

E

F

G

H

I

K

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M

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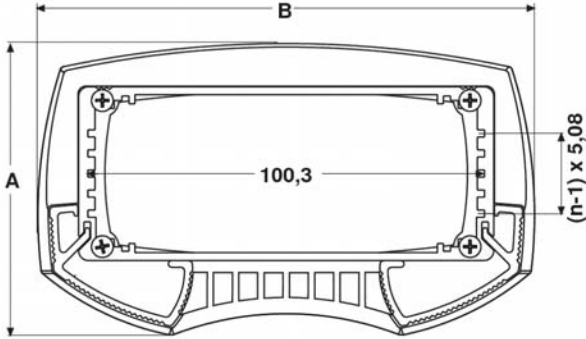
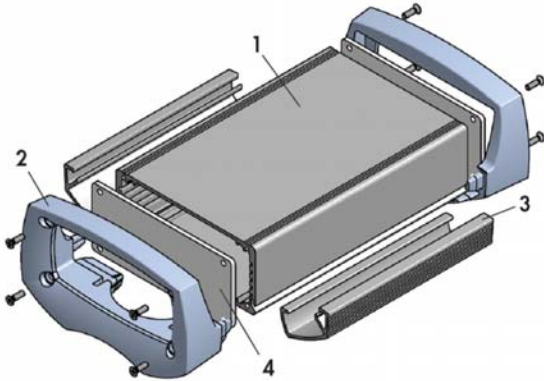

Design case „Rail“

- ergonomic aluminium case, suitable for portable use or as a bench case
- application possibility for 100 mm Eurocards with a grid spacing of 5.08 mm (1 HP)
- EMC design achieved by means of electrically conductive surface treatment and additional conductive seals **EDKO** → M 43
- the special shape combined with convenient handling profiles enables safe handling, also for mobile applications
- integration possibility for front foils or key pads
- protection class IP 65 achieved by use of seals **IDKO** → M 45
- the cover plates can be perforated or imprinted according to your specifications
- further colours and surface treatments upon request

C = available internals lengths +23 mm

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



art. no.	dim. [mm]					art. no.	dim. [mm]				
	A	B	C	D	n		A	B	C	D	n
RL 05 100 ...	73.5	125	123	91	5	RL 17 100 ...	135	127	123	93	17
RL 05 120 ...	73.5	125	143	111	5	RL 17 120 ...	135	127	143	113	17
RL 05 160 ...	73.5	125	183	151	5	RL 17 160 ...	135	127	183	153	17
RL 05 200 ...	73.5	125	223	191	5	RL 17 200 ...	135	127	223	193	17
RL 05 220 ...	73.5	125	243	211	5	RL 17 220 ...	135	127	243	213	17

please indicate:

... colour of plastic cover

B=pigeon blue (**RAL 5014**)

S=deep black (**RAL 9005**)

... surface

SA =complete case black anodised

ME=complete case clear anodised

MS=case profile **SA**, cover panels **ME**

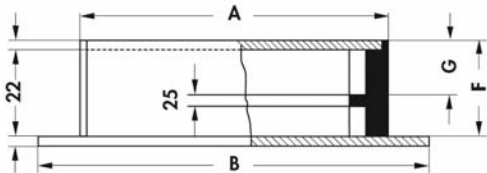
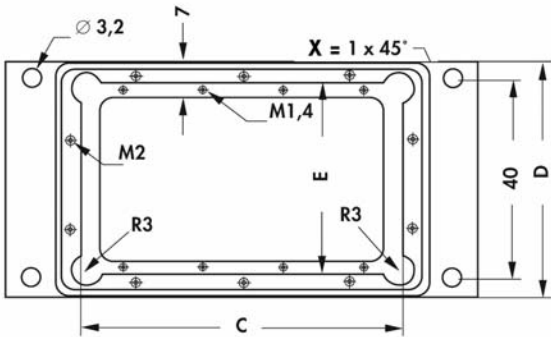
LP =exterior black lacquered, inside chrome-free transp. passivated

Combined with the seals **EDKO** → M 43 und **IDKO** → M 45 longer handling profiles are required. Please indicate with your order.



- 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 milling guarantees an optimal fit of the cover, reproducible housing geometry for precision-fit installation of the HF-components as well as excellent adaptability to flange and carrier elements
- an electrically conductive layer can be applied as a surface treatment for the cases
- aluminium in the rough 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 milling, 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]						
	A	B	C	D	E	F	G
GHFN E 1	74.0	94.0	64.0	47.0	39.0	23	13
GHFN E 2	74.0	94.0	64.0	47.0	39.0	23	17
GHFN E 3	74.0	94.0	64.0	47.0	39.0	28	12
GHFN E 4	137.6	157.6	127.6	47.0	39.0	23	13
GHFN E 5	137.6	157.6	127.6	47.0	39.0	23	17
GHFN E 6	137.6	157.6	127.6	47.0	39.0	28	12
GHFN E 7	170.2	190.2	160.2	108.2	100.2	23	13
GHFN E 8	170.2	190.2	160.2	108.2	100.2	23	17
GHFN E 9	170.2	190.2	160.2	108.2	100.2	28	12

Customised case with top and bottom panel



cable bushings
Case with cooling fins
Cooling case
Fixing material

→ M 46
→ M 34
→ M 31 – 34
→ N 65

Miniature aliminium case
Ventilation-frames
Case with cooling fins
Tilt foot and feet

→ M 25 – 29
→ M 47
→ M 34
→ M 46

M 42

A

B

C

D

E

F

G

H

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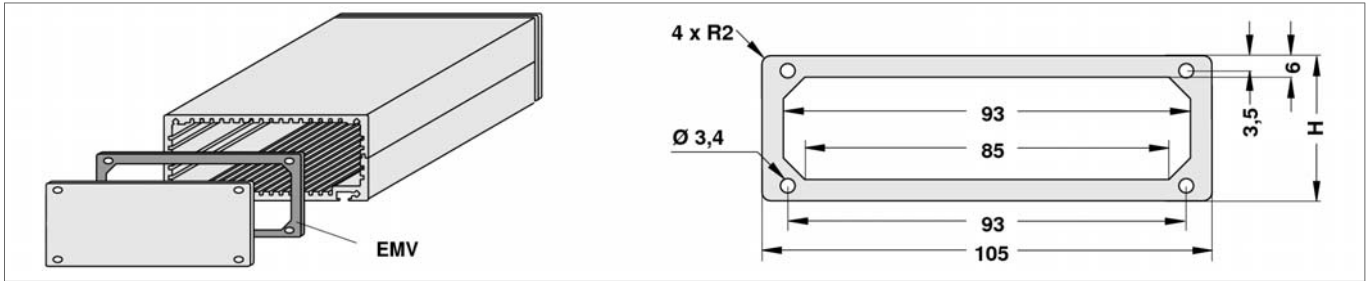
M

N

Accessories for cases

EMC seals

- consisting of 0.8 mm thick 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 of the housing halves in the longitudinal groove can also be effected with the help of an EMC-silicone-hose; dimensions of the EDKO-seals for **TUF profile contour** → M 21
 - in order to completely insulate the housings an electrically conductive finish should be ordered: **TP** = chrome-free transparent passivated/on request additional lacquering of the exterior surfaces; **EMC silicone hose:** core Ø = 0.5 mm; outside Ø = 1.4 mm;
- art. no. LSS 10 ...** (please specify desired length in m)



M 43

Combination cases
Tube cases
Design case Eurotainer
Design case Rail

→ M 11 – 17
→ M 21
→ M 40
→ M 41

Order example KO H-Profile
Tube cases with Eurocards
Universal tube cases
Euro case

→ M 12
→ M 23
→ M 20
→ M 9

Accessories for cases

art. no.	for TUG	for Rail	for Eurotainer	for TUF	suitable for combination cases	H [mm]	packing unit
EDKO 33	TUG 03 ...		ET 01 01 ...		KO H 1+KO H 1	33	6 pcs.
EDKO 38			ET 02 01 ...		KO E 2+KO H 1/ KO W 2+KO H 1/ KO H 1+KO H 2/ KO L 2+KO H 1	38	6 pcs.
EDKO 44	TUG 05 ...	RL 05 ... / RL 17 ...	ET 02 02 ...		KO W 2+KO H 2/ KO E 2+KO H 2/ KO L 2+KO H 2/ KO H 2+KO H 2	44	6 pcs.
EDKO 57 T					KO T 2+KO H 4 A	57	6 pcs.
EDKO 49			ET 04 01 ...		KO H 1+KO H 4 A	49	4 pcs.
EDKO 54			ET 04 02 ...		KO H 2+KO H 4 A/ KO L 2+KO H 4 A/ KO E 2+KO H 4 A/ KO W 2+KO H 4 A	54	4 pcs.
EDKO 55 25				TUF 55 25 ...	–	25	6 pcs.
EDKO 55 35				TUF 55 25 ...	–	35	6 pcs.
EDKO 59			ET 06 01 ...		KO H 1+KO H 6	59	4 pcs.
EDKO 64	TUG 09 ...		ET 06 02 ...		KO H 2+KO H 6/ KO L 2+KO H 6/ KO E 2+KO H 6/ KO W 2+KO H 6	64	4 pcs.
EDKO 79			ET 10 01 ...		KO H 1+KO H 10	79	4 pcs.
EDKO 80 42				TUF 80 42 ...	–	42	6 pcs.
EDKO 84			ET 10 02 ...		KO H 6+KO H 6/ KO L 2+KO H 10/ KO W 2+KO H 10/ KO H 10+KO H 2	84	4 pcs.
EDKO 100			ET 14 01 ...		KO H 1+KO H 14	100	2 pcs.
EDKO 105	TUG 17 ...		ET 14 02 ...		KO H 2+KO H 14/ KO L 2+KO H 14/ KO E 2+KO H 14/ KO W 2+KO H 14/ KO H 1+KO H 14	105	2 pcs.
EDKO 105 52				TUF 105 52 ...	–	52	6 pcs.
EDKO 120 42				TUF 120 42 ...	–	42	4 pcs.
EDKO 125			ET 14 06 ...		KO H 14+KO H 6/ KO H 10+KO H 10	125	2 pcs.
EDKO 145			ET 14 10 ...		KO H 14+KO H 10	145	2 pcs.
EDKO 165			ET 14 14 ...		KO H 14+KO H 14	165	2 pcs.

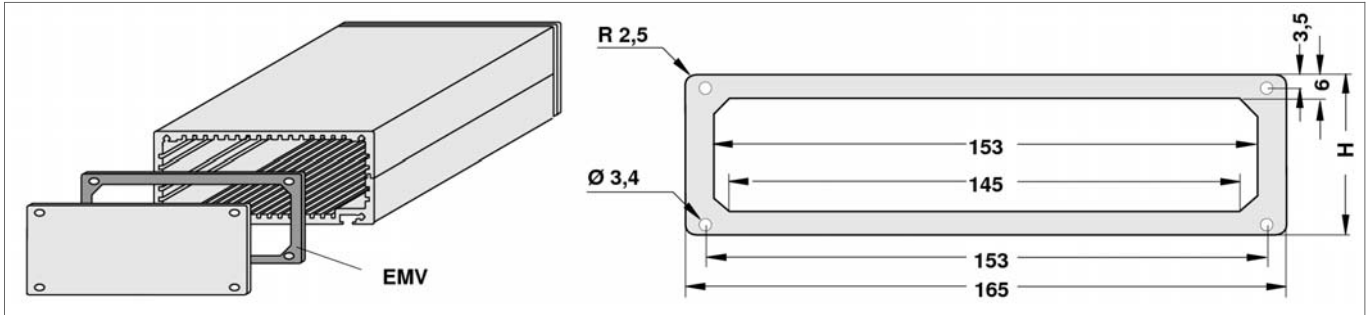
technical data

temperature range: -55 °C ... +200 °C
material: conductive rubber silicone, 0.8 mm thick

Accessories for cases

EMC - IP seals

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



art. no.	suitable for combination cases	H [mm]	packing unit
EDKOL 23	KO HL 0+KO HL 1	23.6	6 pcs.
EDKOL 28	KO HL 0+KO HL 2/ KO HL 0+KO LL 2	28.7	6 pcs.
EDKOL 33	KO HL 1+KO HL 1	33.8	6 pcs.
EDKOL 38	KO HL 1+KO HL 2/ KO HL 1+KO LL 2/ KO HL 0+KO HL 4	38.9	6 pcs.
EDKOL 44	KO HL 2+KO HL 2/ KO HL 2+KO LL 2	44.0	6 pcs.
EDKOL 49	KO HL 1+KO HL 4/ KO HL 6+KO HL 0	49.0	4 pcs.
EDKOL 54	KO LL 2+KO HL 4/ KO HL 2+KO HL 4	54.1	4 pcs.
EDKOL 59	KO HL 1+KO HL 6	59.3	4 pcs.
EDKOL 64	KO HL 2+KO HL 6/ KO LL 2+KO HL 6/ KO HL 4+KO HL 4	64.4	4 pcs.
EDKOL 69	KO HL 0+KO HL 10	69.4	4 pcs.
EDKOL 74	KO HL 4+KO HL 6	74.5	2 pcs.
EDKOL 79	KO HL 1+KO HL 10	79.6	2 pcs.
EDKOL 84	KO HL 2+KO HL 10/ KO LL 2+KO HL 10/ KO HL 6+KO HL 6	84.7	2 pcs.
EDKOL 89	KO HL 0+KO HL 14	89.7	2 pcs.
EDKOL 94	KO HL 4+KO HL 10	94.8	2 pcs.
EDKOL 100	KO HL 1+KO HL 14	99.9	2 pcs.
EDKOL 105	KO HL 2+KO HL 14/ KO LL 2+KO HL 14/ KO HL 6+KO HL 10	105.0	2 pcs.
EDKOL 115	KO HL 4+KO HL 14	115.1	2 pcs.
EDKOL 125	KO HL 6+KO HL 14/ KO HL 10+KO HL 10	125.4	2 pcs.
EDKOL 145	KO HL 10+KO HL 14	145.7	1 pcs.
EDKOL 166	KO HL 14+KO HL 14	166.0	1 pcs.

technical data

temperature range: -55 °C ... +200 °C
material: conductive rubber silicone, 0.8 mm thick

IP seals for Rail

art. no.	for Rail	packing unit
IDKO 044	RL 05 ... / RL 17 ...	6 pcs.
IDKO 105		2 pcs.

Combined with the seals **EDKO** → M 43 und **IDKO** → M 45 longer handling profiles are required. Please indicate with order.

technical data

temperature range: -30 °C ... +100 °C
material: chloroprene, 0.8 mm thick

M 45


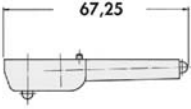
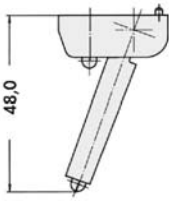
Shell cases
Extruded assembled cases
Desk consoles
Euro case

→ M 3 – 4
→ M 5
→ M 8
→ M 9

Combination cases
Case for DIN-mounting rail
Tube cases
Design case Eurotainer

→ M 11 – 17
→ M 13 – 17
→ M 21
→ M 40


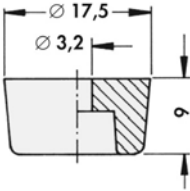

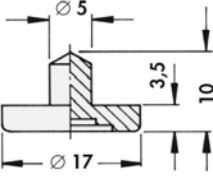
Tilt foot

		
art. no.	mounting	type of packing
AF 1	by screws	set (2 pcs. with tilt bracket / 2 pcs. without tilt bracket + assembly material)

technical data

colour: black
material: glass fibre filled polyamide with rubber insert (skid and scratch resistant)


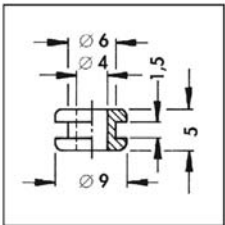
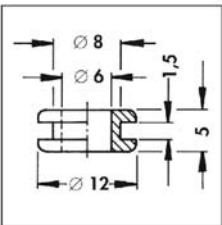
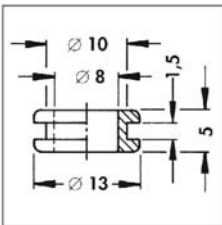
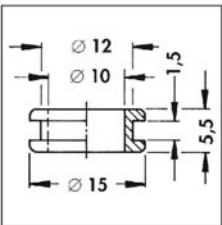
Feet

	
art. no.	mounting
GF 1759	by screws
	
art. no.	mounting
GF 1710	by pressing into the chassis drilling

technical data

heat resistance: max. 80° C
colour: black
material: soft PVC

Bushings

				
	KDF 49	KDF 612	KDF 813	KDF 1015
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			
KDF 1015	by pressing into the chassis drilling			

Shell cases
Extruded assembled cases
Desk consoles
Euro case

→ M 3 – 4
→ M 5
→ M 8
→ M 9

Combination cases
Case for DIN-mounting rail
Tube cases
Design case Eurotainer

→ M 11 – 17
→ M 13 – 17
→ M 21
→ M 40

M 46

A

B

C

D

E

F

G

H

I

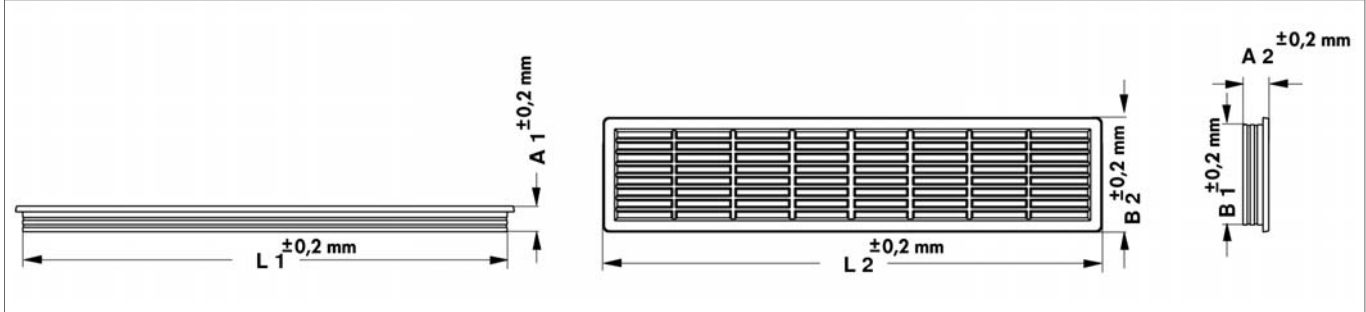
K

L

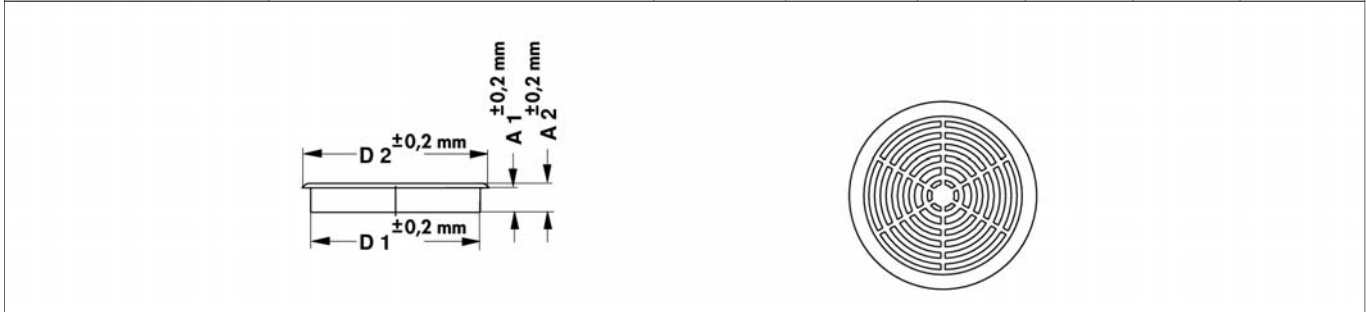
M

N

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-glue is suitable	144.5	149.0	6.5	8.2	35	40.0
LB 22565 SW	for fixing a plastic-glue is suitable	220.0	226.0	7.0	9.5	60	65.5
LB 225121 SW	for fixing a plastic-glue is suitable	220.0	226.5	7.0	9.7	116	122.0



art. no.	mounting	dim. [mm]			
		Ø D1	Ø D 2	A 1	A 2
LB 489 SW	for fixing a plastic-glue is suitable	43	47.5	7.0	9.0
LB 659 SW	for fixing a plastic-glue is suitable	60	66.0	8.5	10.5

technical data

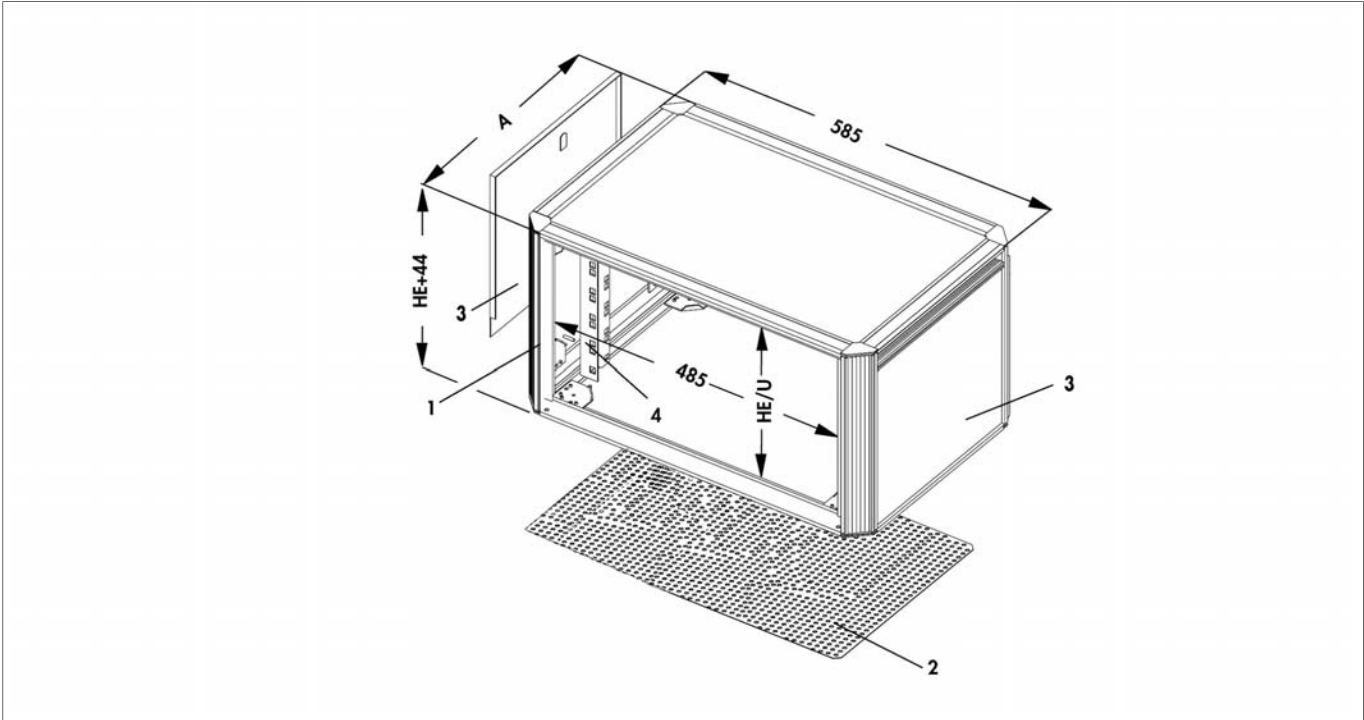
colour: black
material: impact proof polystyrene (tri-soluble)

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" modular rails



art. no.	U	dim. [mm] A	Rear wall, not ventilated	Rear wall, ventilated	Frame door
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: ... A 320 380 440 500 600 mm ... accessory (optional) BL=bottom with ventilation slots					

19" plug-in chassis
19" plug-in boxes
19" front panels
19" system case "RackCase"

→ N 3 – 4
→ N 5 – 9
→ N 67
→ N 14 – 16

Heatsink insert modules
19" benchtop cases
19" subbracks
PCB holder

→ N 48 – 49
→ N 17
→ N 19 – 23
→ N 63 – 64

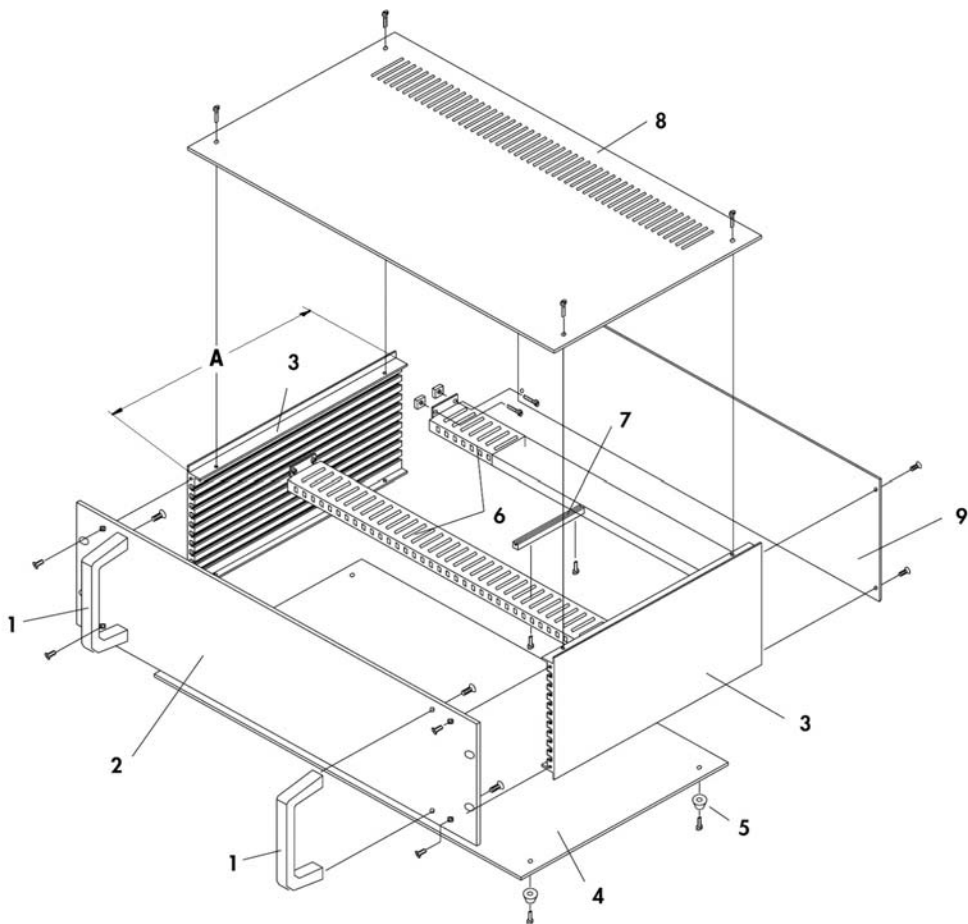
19" plug-in chassis



- with mounting facility for PCB's
- closed version
- with side panels of slotted aluminium profile for application of carrier rails TSCE
- carrier rails with oval hole cutouts for M 3 both above and on the sides featuring 2 HP spacing
- oval hole cutouts for mounting 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 installed
- cover with 1 row of ventilation slots, bottom panel closed
- **surfaces:** front panels and handles clear anodised; side panels, cover panels and rear panels transparent passivated

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 **TSCE**; **7** = guide rail; **8** = cover panel; **9** = rear panel (3 mm)



art. no.	U	dim. [mm] A	art. no.	U	dim. [mm] A
CE 3 260	3	260	CE 3 360	3	360

N 3

19" handles
Profiles for 19" front panels
Fixing accessories
Front plates acc.to custom. requirem.

→ N 68 – 70
→ N 72
→ N 66
→ M 44

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

→ N 2
→ N 5 – 9
→ N 10 – 11
→ N 14 – 16

19" plug-in chassis

Mounting rails

- used to fasten modules or guide-rails
- mounting rail is perforated over the whole length in 2 HP spacing, width 3.2 mm
- **surface:** chrome-free transparent passivated

art. no.

TS CE

Threaded rails

- the threaded rails are inserted into the side panel profiles to fasten the supportrails. (6 x 2 ; M 3)

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

dimensioned drawing of the side panel profile **GB 21** → N 71

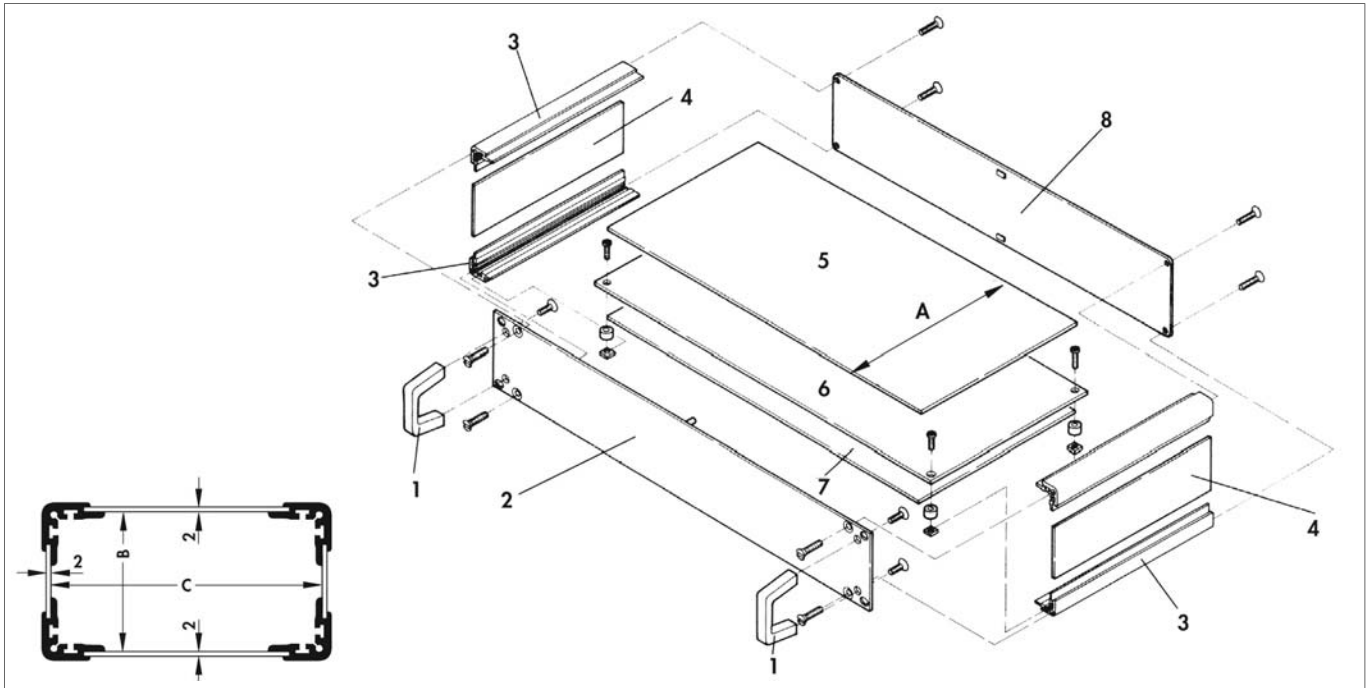
19" plug-in boxes



- 19" plug-in box **VES** for application 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 application of the mounting or chassis panel **MPW**; hence no perforation needed in the bottom panel

contents of delivery: front panel, side panels, edge and/or side profiles, rear panel, cover and bottom panel clear anodised

1 = handles; **2** = front panel (4 mm); **3** = edge profile ; **4** = side panel; **5** = cover panel; **6** = mounting panel; **7** = bottom panel; **8** = rear panel (2 mm)



art. no.	U	dim. [mm]				art. no.	U	dim. [mm]			
		A	B	C	ET			A	B	C	ET
VES 1 260 ...	1	260	37.2	429.4	262	VES 1 360 ...	1	360	37.2	429.4	362
VES 2 260 ...	2	260	81.7	429.4	262	VES 2 360 ...	2	360	81.7	429.4	362
VES 3 260 ...	3	260	126.1	429.4	262	VES 3 360 ...	3	360	126.1	429.4	362
VES 4 260 ...	4	260	170.6	429.4	262	VES 4 360 ...	4	360	170.6	429.4	362
VES 5 260 ...	5	260	215.0	429.4	262	VES 5 360 ...	5	360	215.0	429.4	362
VES 6 260 ...	6	260	259.5	429.4	262	VES 6 360 ...	6	360	259.5	429.4	362

please indicate:

... accessory (optional)
G =handles
DL=1 cover/bottom panels with ventilation slots; **1** cover/bottom panels without ventilation slots
L =cover and bottom panels with ventilation slots

ET = insert depth
dimensioned drawing of the side panel profile **GB 18/19** → N 71

N 5

19" front panels
19" handles
Profiles for 19" plug-in boxes
Unitized 19" sub racks

→ N 67
→ N 68 – 70
→ N 73
→ N 21 – 22

Profiles for 19" front panels
Guide rail
Variable guide rails
Reinforced guide rails

→ N 72 – 73
→ N 27
→ N 28
→ N 28

Mounting plate

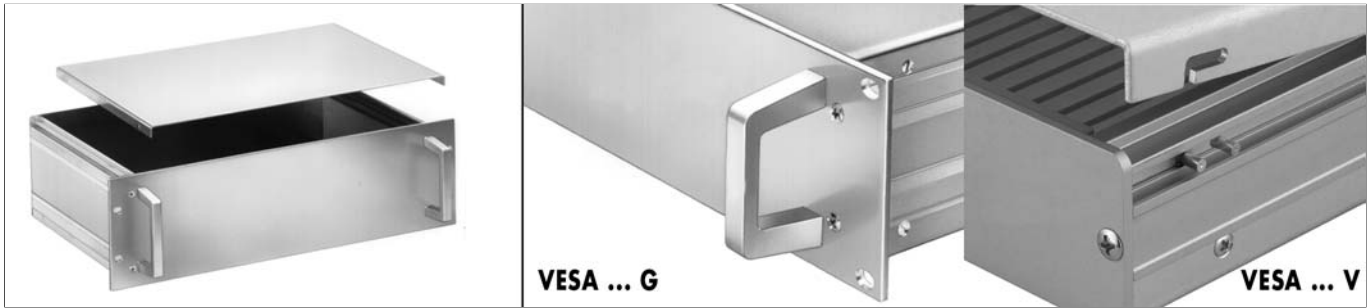
– perforations in the bottom panel are avoided by fixing components to this mounting plate



art. no.	dim. [mm] depth	art. no.	dim. [mm] depth
MPW 260	260	MPW 360	360

dimensioned drawing of the side panel profile **GB 18/19** → N 71

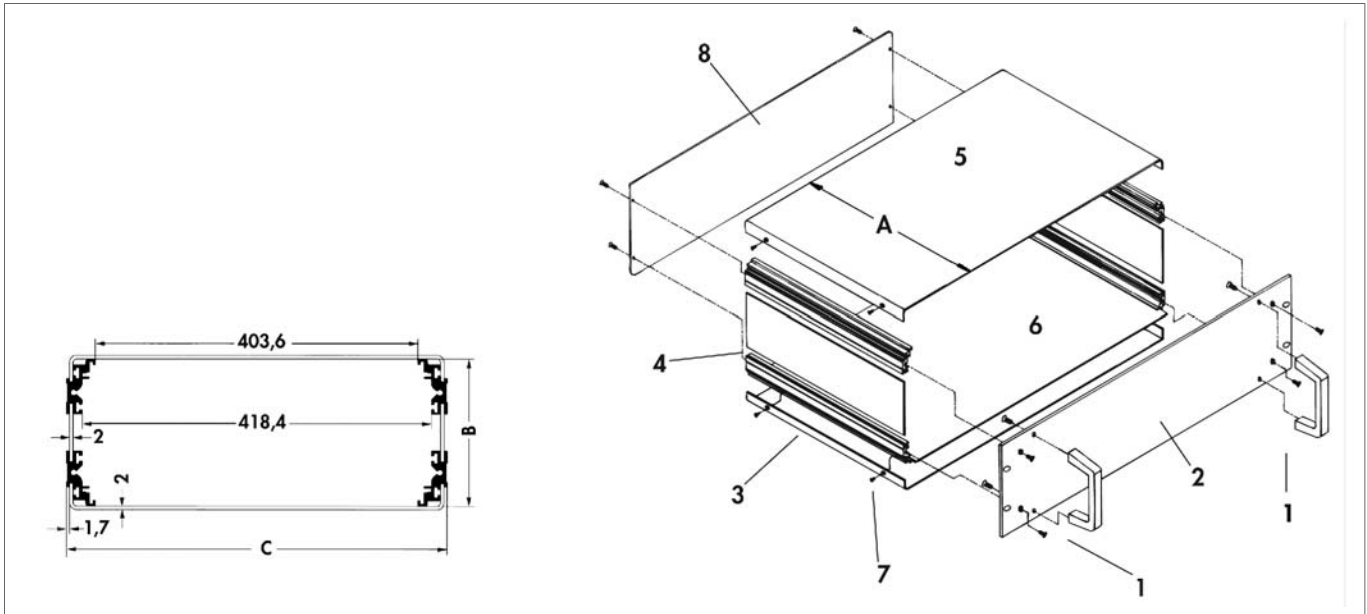
19" plug-in box with removable cover panel



- 19" plug-in box **VESA** for application of non-standardised components or circuit boards
- cover and bottom panels are screwed together laterally with edge profiles
- 1 U version with 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
- slide screw channels in the profiles used for application of the mounting or chassis panels **MPH** or **MPV**
- sliding-screw channel in the edge profiles used for mounting the carrier rail **TSCE**

contents of delivery: front panel, side panels, edge profiles, rear panel, cover and bottom plate clear anodised

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



art. no.	U	dim. [mm]				ET	art. no.	U	dim. [mm]				ET
		A	B	C	ET				A	B	C	ET	
VESA 1 260 ...	1	260	39.6	435.8	263		VESA 1 360 ...	1	360	39.6	435.8	363	
VESA 2 260 ...	2	260	82.1	435.8	262		VESA 2 360 ...	2	360	82.1	435.8	362	
VESA 3 260 ...	3	260	126.5	435.8	262		VESA 3 360 ...	3	360	126.5	435.8	362	
VESA 4 260 ...	4	260	171.0	435.8	262		VESA 4 360 ...	4	360	171.0	435.8	362	
VESA 5 260 ...	5	260	215.4	435.8	262		VESA 5 360 ...	5	360	215.4	435.8	362	
VESA 6 260 ...	6	260	259.9	435.8	262		VESA 6 360 ...	6	360	259.9	435.8	362	

please indicate:

- ... accessory (optional)**
- G** =handles
- V** =locking device
- DL**=cover panels with ventilation slots
- BL**=bottom panel with ventilation slots (only in connection with "V")
- L** =cover and bottom panels with ventilation slots

ET = insert depth

N 7

19" case "Plusline"
19" system case "RackCase"
Fixing material
Accessory for part front panels

→ N 2
→ N 14 – 16
→ N 65
→ N 51

Profiles for 19" front panels
Profiles for 19" plug-in boxes
19" front panels

→ N 72 – 73
→ N 73
→ N 67

19" plug-in box with removable cover panel

Mounting plate

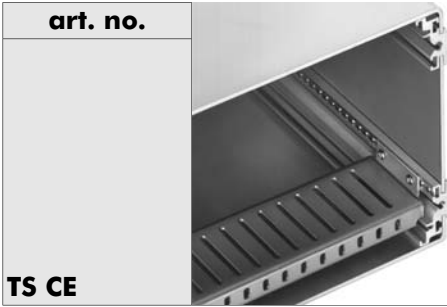
- perforations in the bottom panel are avoided by fixing components to this mounting plate
- **surface:** clear anodised



art. no.	dim. [mm] depth	art. no.	dim. [mm] depth
MPH 260	260	MPH 360	360

Mounting rail

- used for fastening modules or guide-rails
- the mounting rail is perforated over the whole length in 2 HP spacing
- **surface:** clear anodised



Threaded rail

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

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

19" case "Plusline"
19" system case "RackCase"
Fixing material
Accessory for part front panels

→ N 2
→ N 14 – 16
→ N 65
→ N 51

Profiles for 19" front panels
Profiles for 19" plug-in boxes
19" front panels

→ N 72 – 73
→ N 73
→ N 67

N 8

A

B

C

D

E

F

G

H

I

K

L

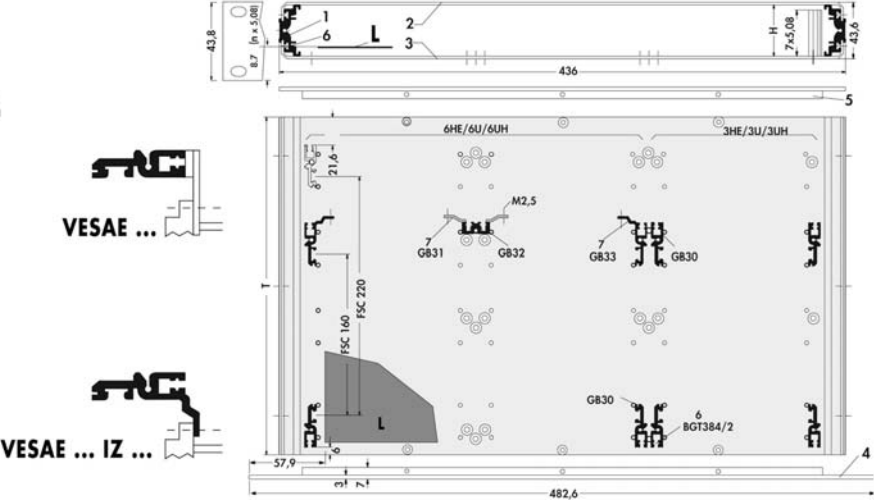

M

N

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 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; **L** = PCB

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

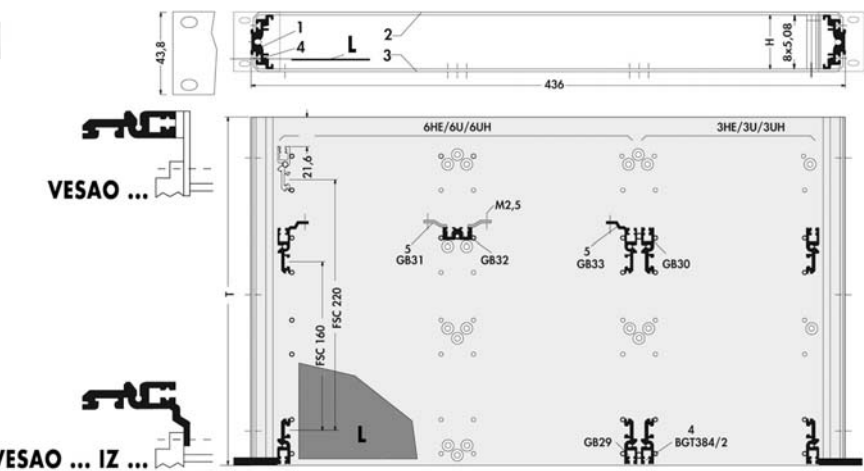



VESAE ...

VESAE ... IZ ...

art. no.	for Eurocards (U)	art. no.	for Eurocards (U)
VESAE 1 260 009 ...	1 x 9	VESAE 1 260 333 ...	3 x 3
VESAE 1 260 063 ...	1 x 3/ 1 x 6		

- mounting height of the module rails 8 HP; other dimensions on request; **L** = PCB
- 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



VESAO ...

VESAO ... IZ ...

art. no.	for Eurocards (U)	art. no.	for Eurocards (U)
VESAO 1 260 009 ...	1 x 9	VESAO 1 260 333 ...	3 x 3
VESAO 1 260 063 ...	1 x 3/ 1 x 6		

please indicate:

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

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

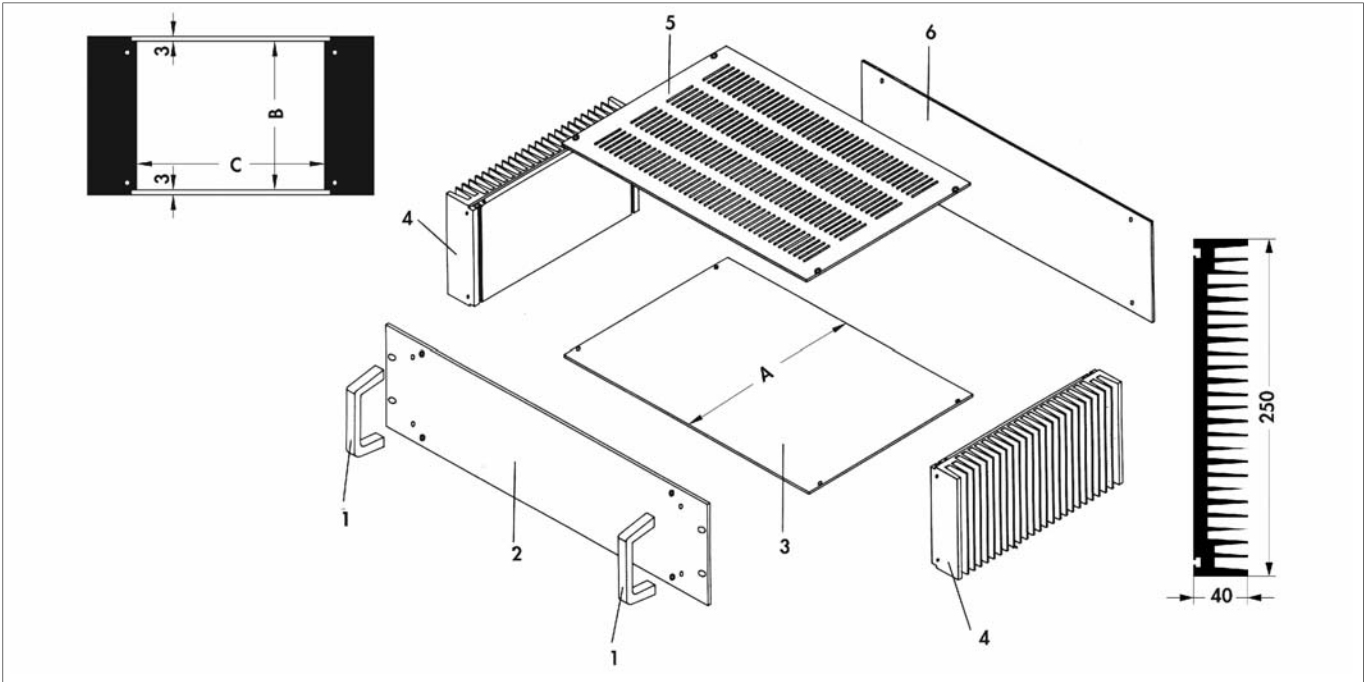
19" Plug-in box with integrated cooling fins



- 19" plug-in box **SKE** for application of non-standardised components
- with side panels of extruded heatsink **SK 91**, CNC-machined on request
- sliding-screw channels in the profiles permit the application of a mounting panel
- cover panel equipped with ventilation slots as a standard feature, bottom panel closed
- all plug-in boxes equipped with handles
- particularly stable design
- **surface:** front panel and handle are clear anodised; side panel profile, cover and bottom plate as well as the rear panel are black anodised

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)



art. no.	U	dim. [mm]				art. no.	U	dim. [mm]			
		A	B	C	ET			A	B	C	ET
SKE 1 250	1	250	37.6	355.8	253	SKE 1 400	1	400	37.6	355.8	403
SKE 2 250	2	250	82.1	355.8	253	SKE 2 400	2	400	82.1	355.8	403
SKE 3 250	3	250	126.5	355.8	253	SKE 3 400	3	400	126.5	355.8	403
SKE 4 250	4	250	171.0	355.8	253	SKE 4 400	4	400	171.0	355.8	403
SKE 5 250	5	250	215.4	355.8	253	SKE 5 400	5	400	215.4	355.8	403
SKE 6 250	6	250	259.9	355.8	253	SKE 6 400	6	400	259.9	355.8	403

ET = plug-in depth
side panel profile: **SKE ... 250 (SK 91); SKE ... 400 (SK 93)**

Profiles for 19" plug-in boxes
Profiles for 19" front panels
Profile for mechanical engineering
19" front panels

→ N 73
→ N 72 – 73
→ N 73
→ N 67

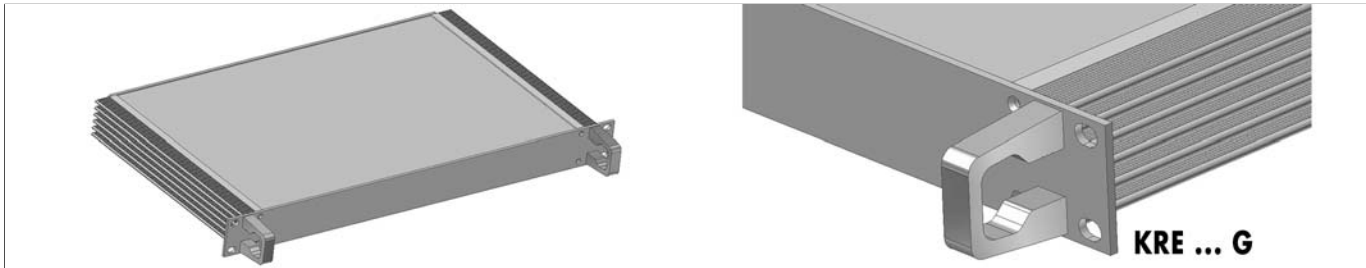
Profiles for case construction
EMC-extensions "RackCase"
Unitized 19" sub racks
19" benchtop cases

→ N 73
→ N 16
→ N 21 – 22
→ N 17

N 10

N

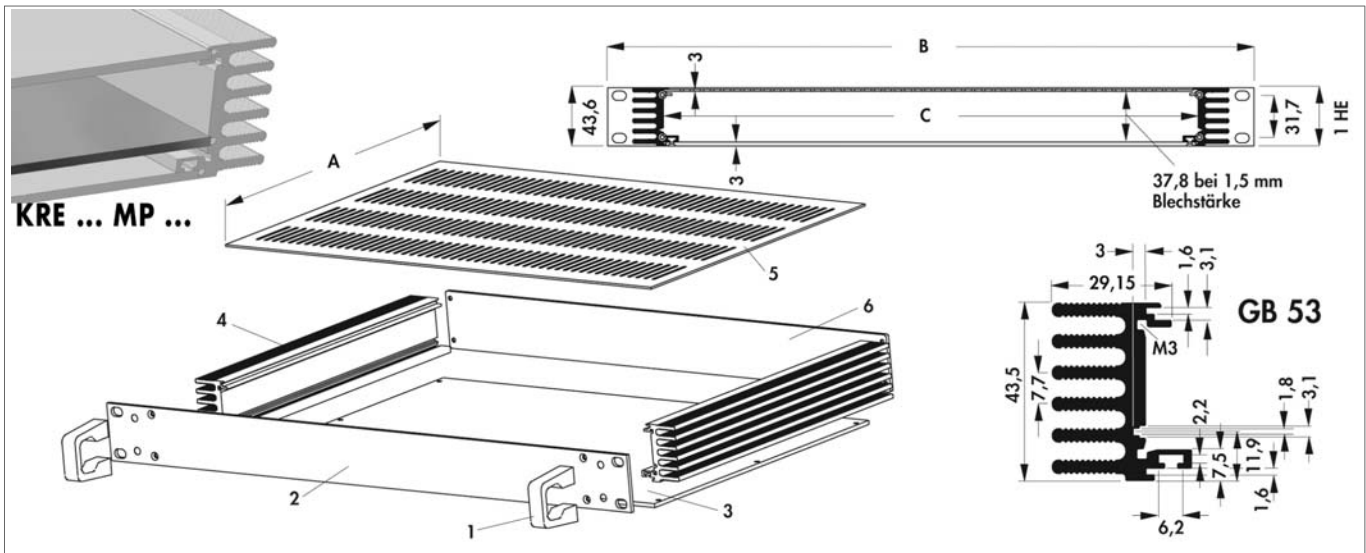
19" plug-in box with cooling fins



- space-saving 1 U 19" plug-in box for application of non-standardised components or circuit boards
- with side panels made of extruded coolingfin profiles with removable cover panels of aluminium
- integrated sliding-screw channels in the profiles permit the application of a mounting panel
- **surfaces:** clear anodised

contents of delivery: front panel (3 mm), two side panels of aluminium profile, bottom plate (3 mm), cover plate (3 mm), rear panel (3 mm), mounting material

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]				
	A	B	C	ET	HP		A	B	C	ET	HP
KRE 1 42 260 ...	260	269.2	185.9	263	42	KRE 1 42 360 ...	360	269.2	185.9	363	42
KRE 1 63 260 ...	260	375.9	292.6	263	63	KRE 1 63 360 ...	360	375.9	292.6	363	63
KRE 1 84 260 ...	260	482.6	399.3	263	84	KRE 1 84 360 ...	360	482.6	399.3	363	84

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

ET = insert depth

Mounting plate (MP)

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

art. no.	dim. [mm]		art. no.	dim. [mm]	
	depth	HP		depth	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

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A

B

C

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E

F

G

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I

K

L

M

A

19" plug-in box with cooling fins

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L

M

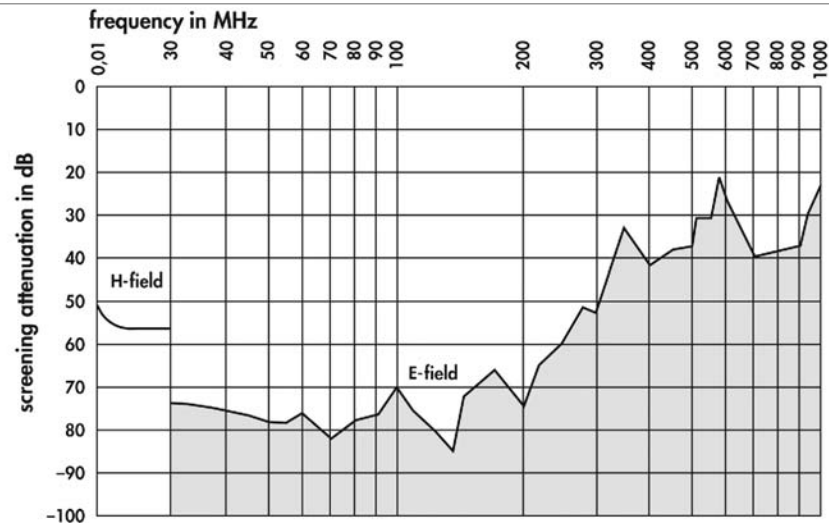
N

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

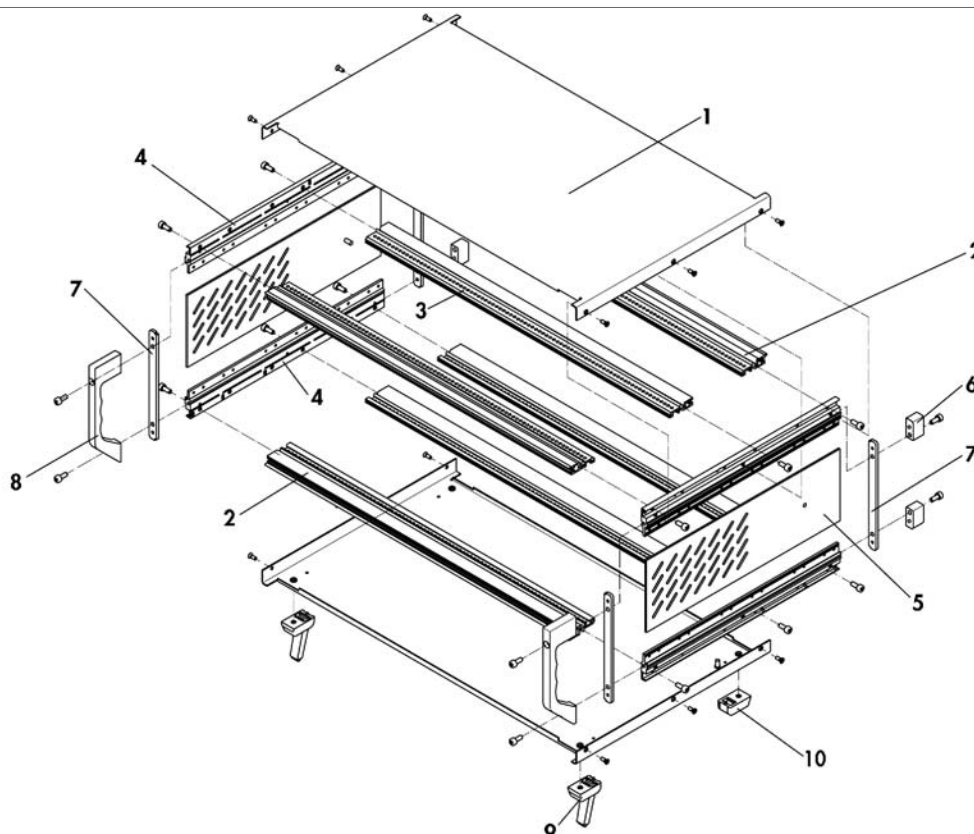


19" system cases "Rack Case", construction

- 19" system case consisting of extruded aluminium profiles and panels (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 panels are transparent passivated and thus electrically conductive
- EMC-screening by means of the extension set **RAC E** and the part front panels **TFP E**

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** = end diaphragm; **8** = handle; **9** = tilt feet; **10** = screw-on feet



EMC subracks
Accessory for part front panels
EMC-extensions "RackCase"

→ N 29 – 34
→ N 51
→ N 16

BGT for EMC-applications
Insert modules
Heatsink insert modules
Fixing accessories

→ N 18 – 24
→ N 36 – 47
→ N 48 – 49
→ N 66

N 14

A

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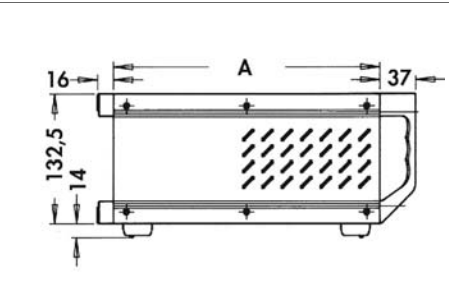
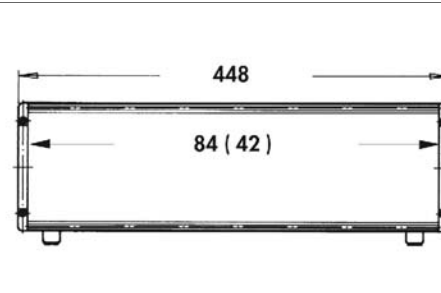

N

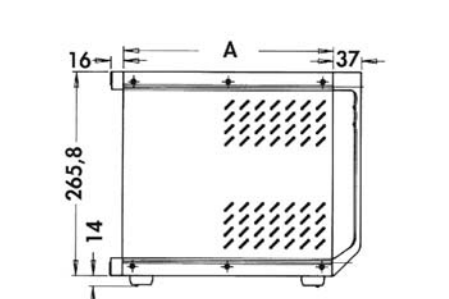
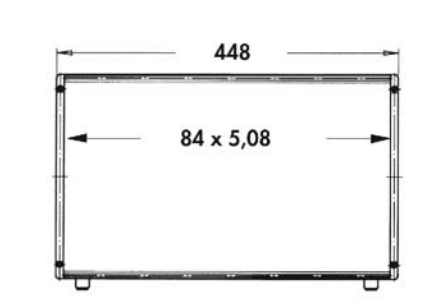

19" system cases "Rack Case"

- further **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

<div></div>			
art. no.	HP	U	dim. [mm] A
RAC 342 220 ...	42	3	220
RAC 342 280 ...	42	3	280
RAC 342 380 ...	42	3	380
RAC 342 480 ...	42	3	480
RAC 384 220 ...	84	3	220
RAC 384 280 ...	84	3	280
RAC 384 380 ...	84	3	380
RAC 384 480 ...	84	3	480

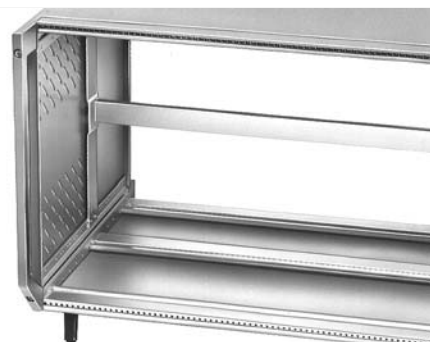
<div></div>			
art. no.	U	dim. [mm] A	
RAC 6 220 ...	6	220	
RAC 6 280 ...	6	280	
RAC 6 380 ...	6	380	
RAC 6 480 ...	6	480	

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

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 cladding parts
- the use of part front panels for the EMC-application (art. no. **TFPE**) is necessary for the shielding of the front and back sides

contents of delivery:

4 x connecting 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	art. no.	suitable for
RAC E 3	RAC 3	RAC E 6	RAC 6

suitable EMC part front panels **TFPE KG R** → N ? and EMC front panels **EGTF** → N 30

19" Fixing part



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

Insert modules 3 U
Heatsink insert modules
Guide rail
Variable guide rails

- N 36 – 47
- N 48 – 49
- N 27
- N 28

Reinforced guide rails
Handles for part front panels
Extractor for part front panels
Part front panels

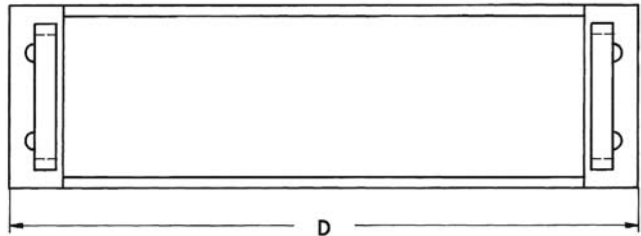
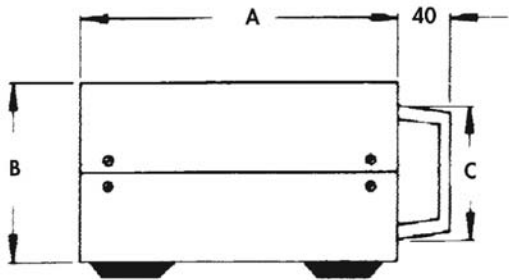
- N 28
- N 61
- N 60
- N 52 – 58

N 16

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 of the subrack is equipped with integrated Z-rails for connectors, DIN 41612
- colour of cover panel deep black (**RAL 9005**)

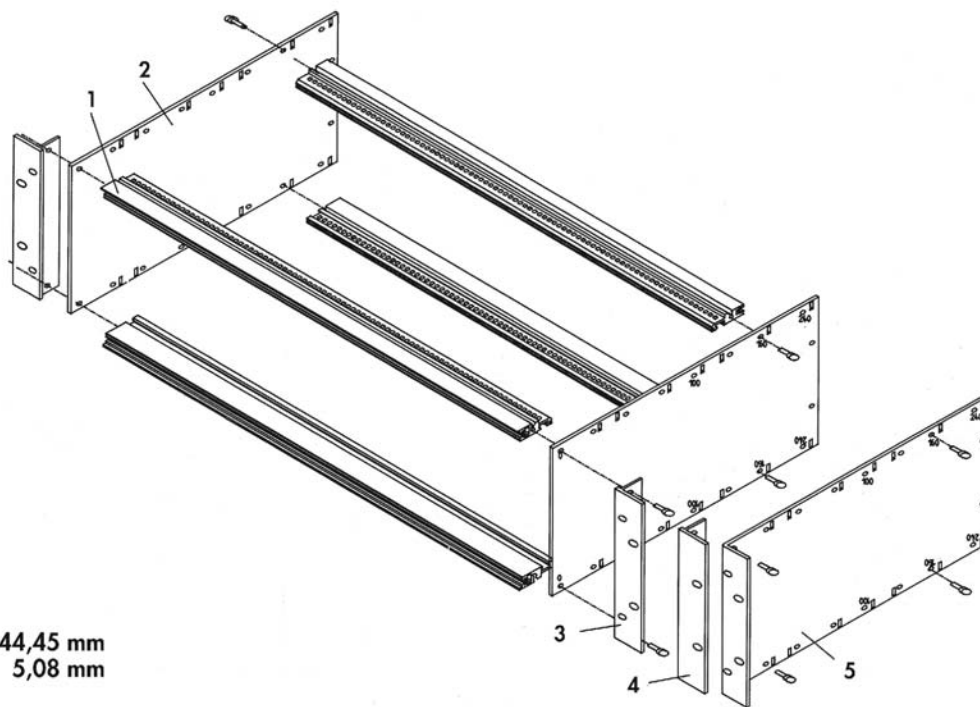


art. no.	for Eurocards [mm]	dim. [mm]			
		A	B	C	D
TG 384 1 S	100 x 160	240	136.5	101	487
TG 384 IZ 1 S	100 x 160	240	136.5	101	487

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 as desired
- 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" instert modules accessory
Guide rail
Part front panels
Reinforced guide rails

→ N 25 – 28
→ N 27
→ N 52 – 58
→ N 28

Insert modules
Insert modules 6 U
Handles for part front panels
Extractor for part front panels

→ N 36 – 40
→ N 41 – 43
→ N 61
→ N 60

N 18

A

B

C

D

E

F

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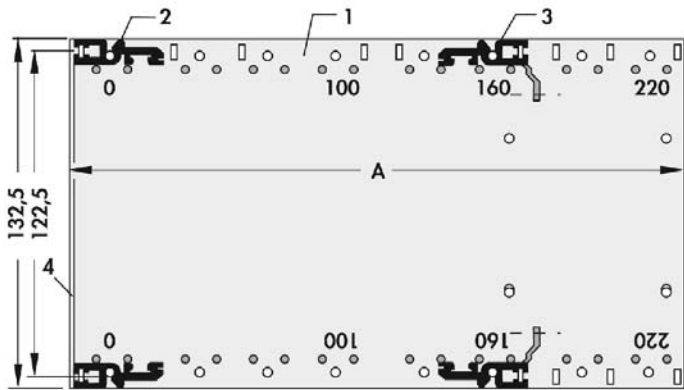
M

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



BGT ... 384 ...



BGT ... 384 ... IZ

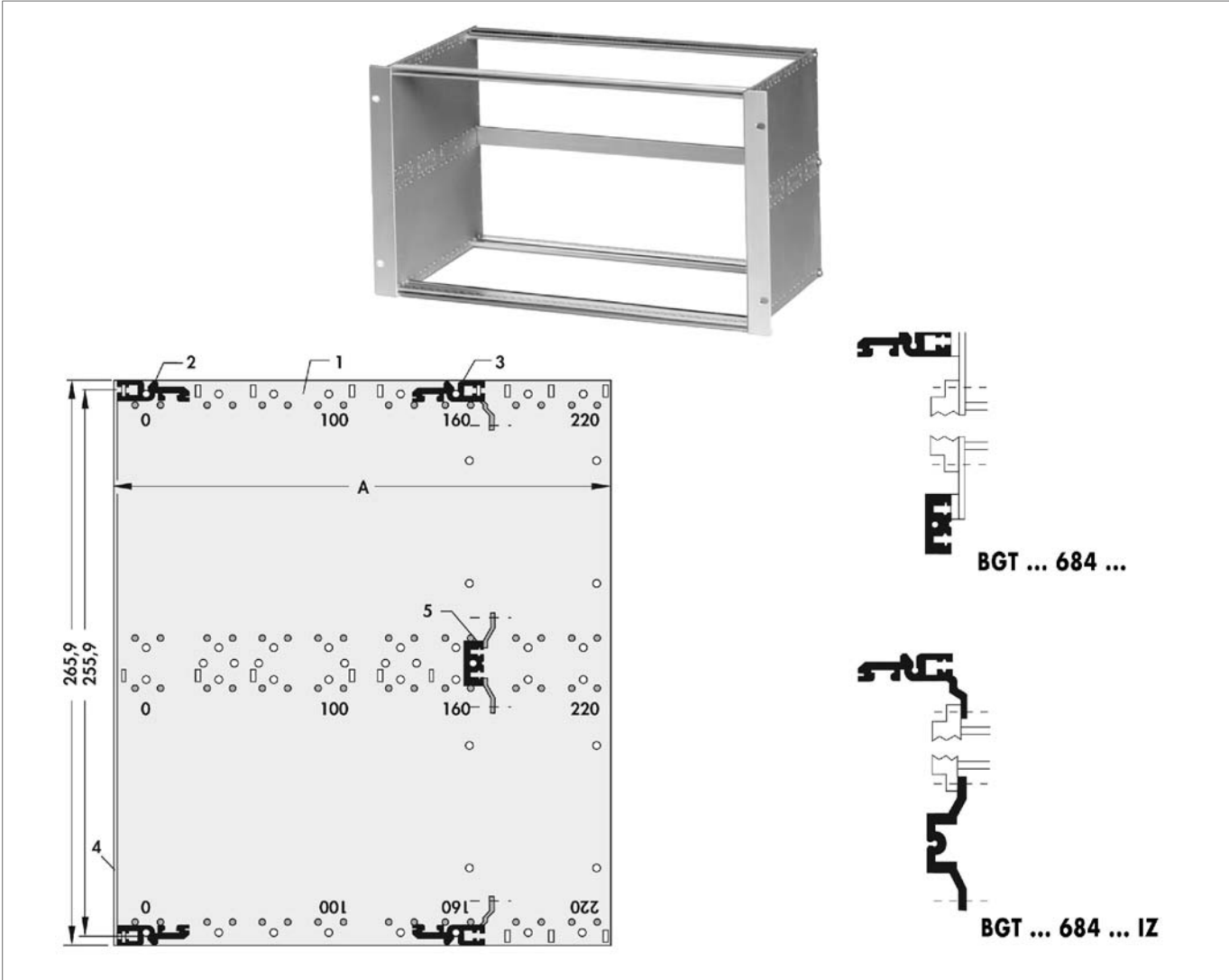
art. no.	19" fixing part	dim. [mm] A
BGT 384 180 ...	angled side panel	175.5
BGT 384 240 ...	angled side panel	235.5
BGT 384 300 ...	angled side panel	295.5
BGTG 384 180 ...	fixing angle with handle perforation	175.5
BGTG 384 240 ...	fixing angle with handle perforation	235.5
BGTG 384 300 ...	fixing 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

basis 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.	19" fixing part	dim. [mm] A
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
Guide rail
Part front panels
Reinforced guide rails

→ N 25 – 28
→ N 27
→ N 52 – 58
→ N 28

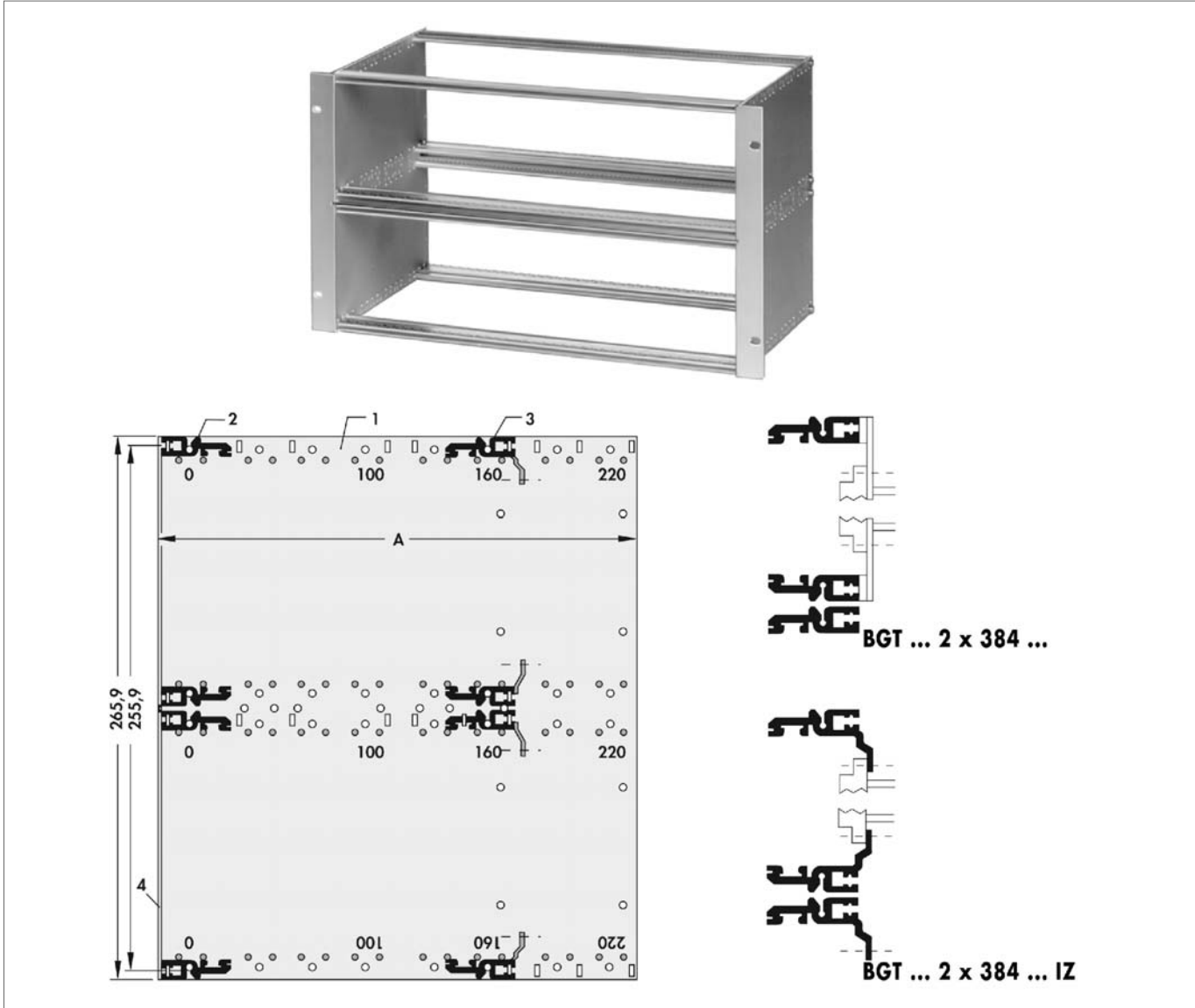
Insert modules
Insert modules 6 U
Handles for part front panels
Extractor for part front panels

→ N 36 – 40
→ N 41 – 43
→ N 61
→ N 60

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

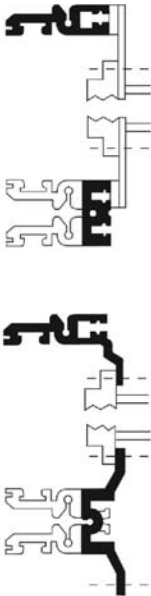
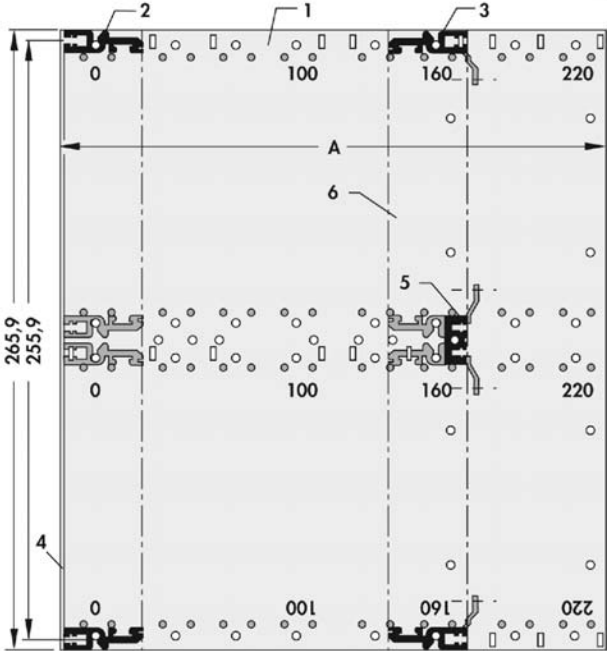
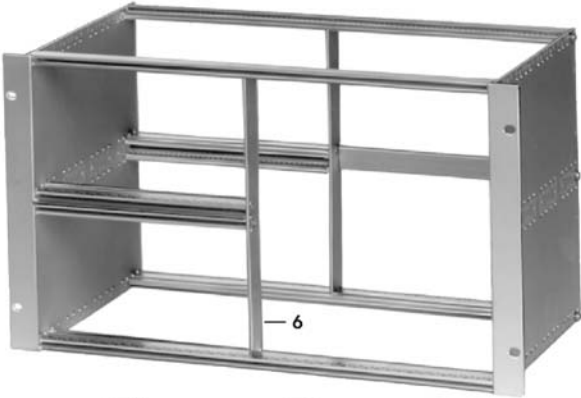


art. no.	19" fixing part	dim. [mm] A
BGT 2 x 384 180 ...	angled side panel	175.5
BGT 2 x 384 240 ...	angled side panel	235.5
BGT 2 x 384 300 ...	angled side panel	295.5
BGTG 2 x 384 180 ...	fixing angle with handle perforation	175.5
BGTG 2 x 384 240 ...	fixing angle with handle perforation	235.5
BGTG 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		

19" subracks

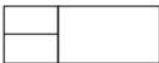
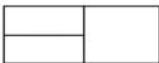
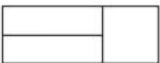
6 U subracks with subdivision for Eurocards and Double-Eurocards

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



BGT ... V ...

BGT ... V ... IZ

		
21 62 HP ... 621 ...	42 41 HP ... 642 ...	63 20 HP ... 663 ...

art. no.	19" fixing part	dim. [mm]
		A
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

19" insert modules accessory
Guide rail
Part front panels
Reinforced guide rails

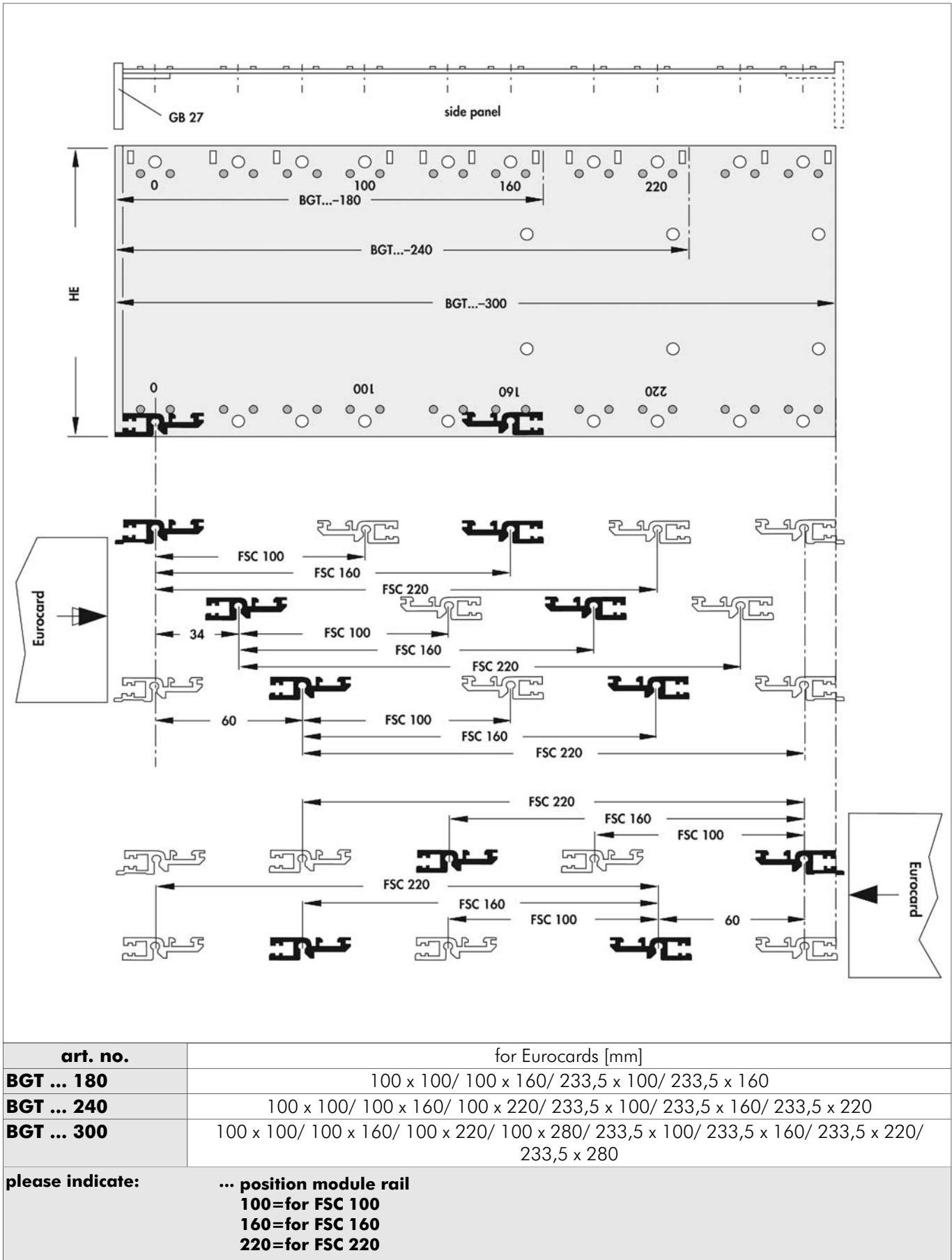
→ N 25 – 28
→ N 27
→ N 52 – 58
→ N 28

Insert modules
Insert modules 6 U
Handles for part front panels
Extractor for part front panels

→ N 36 – 40
→ N 41 – 43
→ N 61
→ N 60

19" subracks

Mounting options of the guide rails FSC



19" subracks

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" instert modules accessory
Guide rail
Part front panels
Reinforced guide rails

→ N 25 – 28
→ N 27
→ N 52 – 58
→ N 28

Insert modules
Insert modules 6 U
Handles for part front panels
Extractor for part front panels

→ N 36 – 40
→ N 41 – 43
→ N 61
→ N 60

N 24

A

B

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D

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F

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H

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L

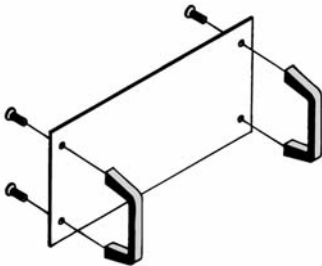
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N

Accessories for 19" subracks

Rack handles

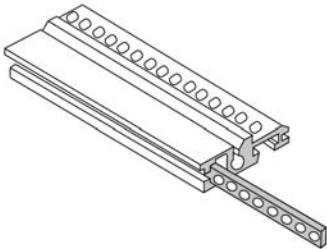
- very stable version made of solid aluminium, 1 set comprises 2 handles incl. mounting material
- further sizes **G** → N 47



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

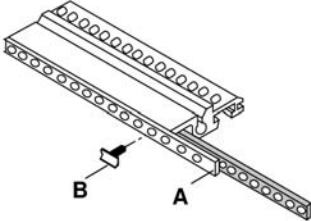
Threaded rails

- 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	

insulationg 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	

technical data

class of flammibility: UL 94 V-O
 material: PBT, self-extinguishing

Clips (B)

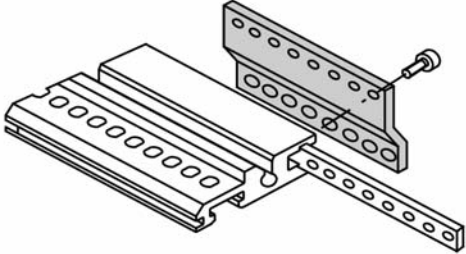
- for simple fastening of insulation strips into the threaded rails

art. no.	packing unit
FC	100 pieces

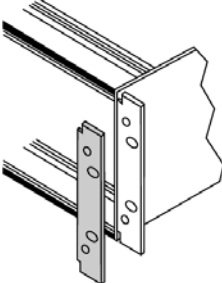
technical data

class of flammibility: UL 94 V-O
 material: noryl, red

Z-rails for connectors

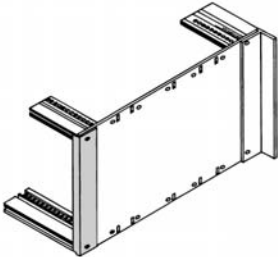
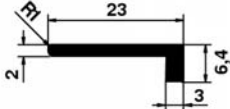
	
art. no.	packing unit
GB 5 L	1 set contains 2 Z-rails for connectors with 32/48/64/96 contacts to DIN 41612
GB 20 L	1 set contains 2 Z-rails for connectors with 31 contacts according to DIN 41617

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	BGTO 2 x 384/ BGTG 2 x 384
BGTO 384 6	without	3 U
BGTO 684 6	without	6 U
BGTO 2 x 384 6	without	BGTO 2 x 384/ BGTG 2 x 384

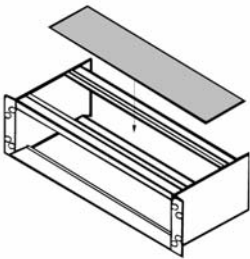
Rear terminal profile

- 2 pieces cover the 2.54 mm gap between the part front panel and side panel
- **surface:** clear anodised

 	
GB 37	
art. no.	suitable for subracks
RA 3	3 U
RA 6	6 U

Accessories for 19" subracks

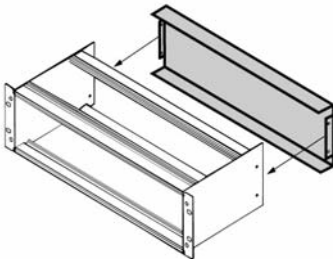
Perforated cover panel



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

Backpanel protective cover

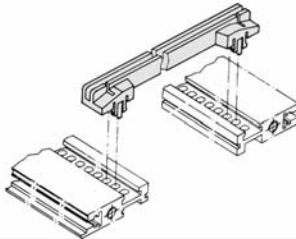
- with side panel depth of 240 and 300 mm gives mechanical and antistatic protection
- delivery incl. mounting material



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

Guide-rails

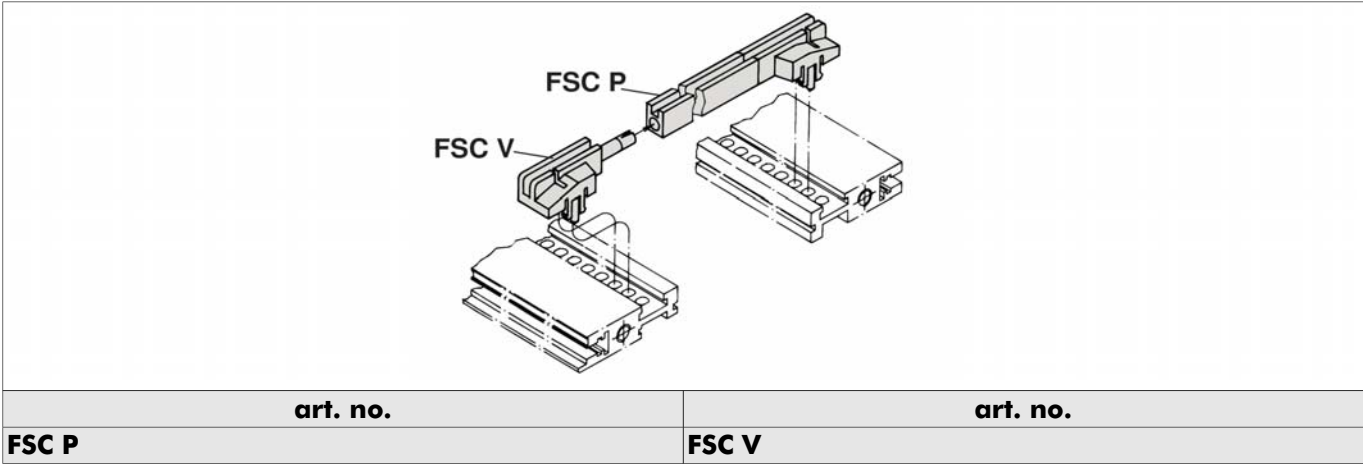
- with advanced mounting pins and locking neeps for easy mounting



art. no.	for Eurocards [mm]
FSC 100	100 x 100/ 233,5 x 100
FSC 160	100 x 160/ 233,5 x 160
FSC 220	100 x 220/ 233,5 x 220

Variable guide-rails

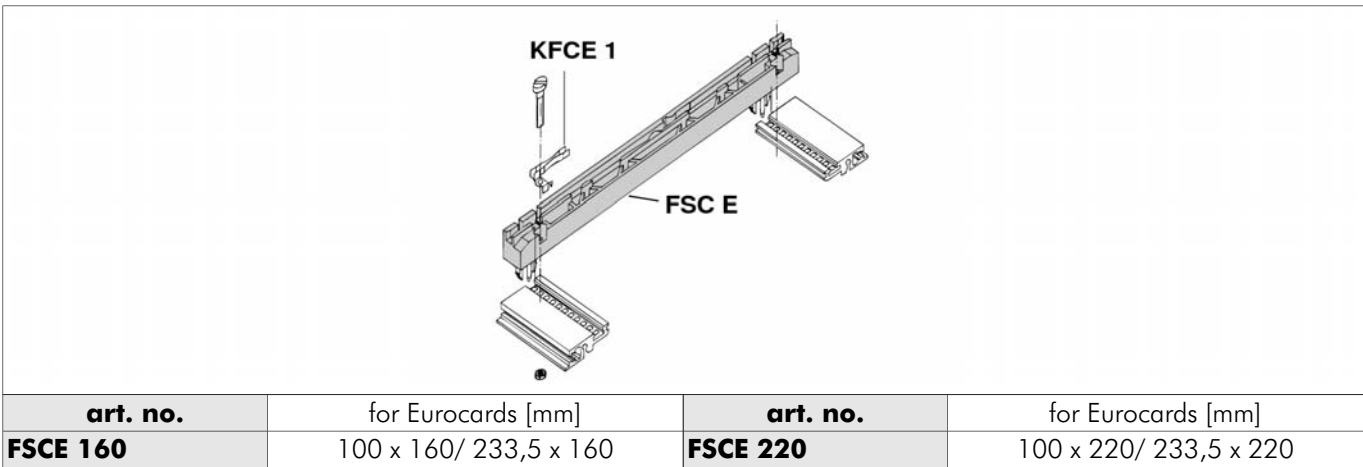
- contains 1 pair of heads and 1 profile
- head pieces (1 pair): art. no. **FSC V**; profile (in running meters) art. no. **FSC P**
- further profile lengths upon request



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

Reinforced guide rails

- easy and fast to install by the use of 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

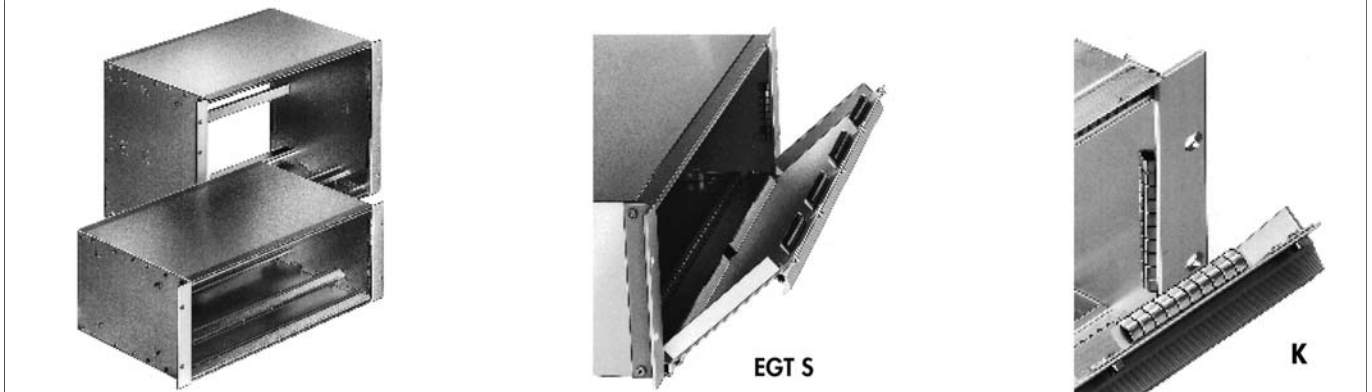
contact spring please order separately:

art. no.
KFCE 1

19" EMC subracks

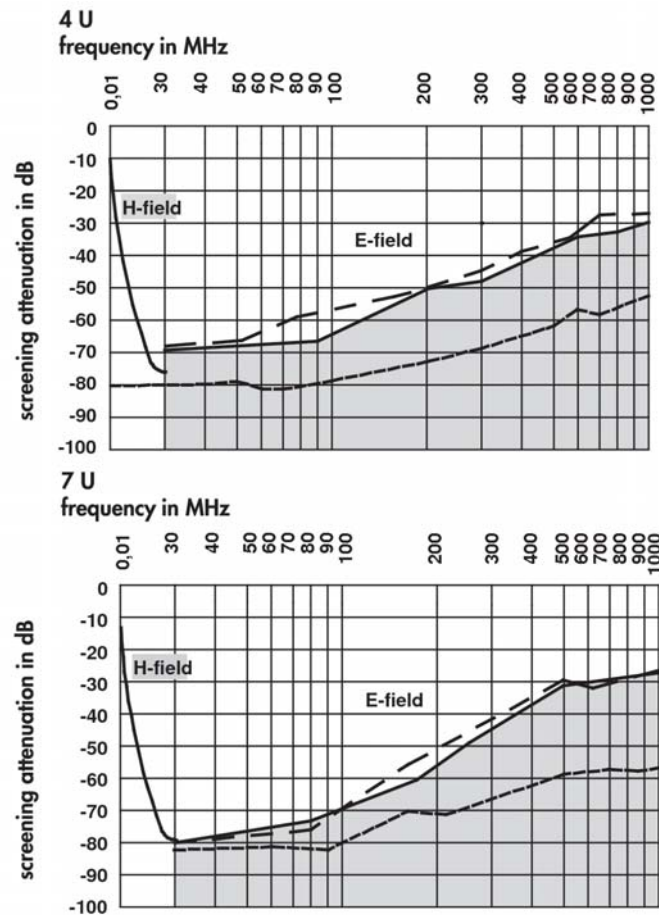
- completely closed subracks for use in environments with electro-magnetic radiation
- subrack is sealed by 84 HP EMCshielding front panel or fold-out front panel
- all parts chrome-free transparent passivated

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
- rear and front panel electrically connected to side panel by means of contact springs
- without contact spring strips, the average shielding amounts to: app. 50 dB if frequency is between 30 and 100 MHz app. 40 dB between 100 and 300 MHz and app. 20 dB for more than 400 MHz
- with contact spring strips: app. 80 dB between 30 and 100 MHz app. 65 dB between 100 and 300 MHz app. 50 dB for more than 400 MHz



N 29

Fixing material
Variable guide rails
Reinforced guide rails
EMC-extensions "RackCase"

→ N 65
→ N 28
→ N 28
→ N 16

Insert modules 3 U
3 U insert module designs
PCB covers
19" front panels

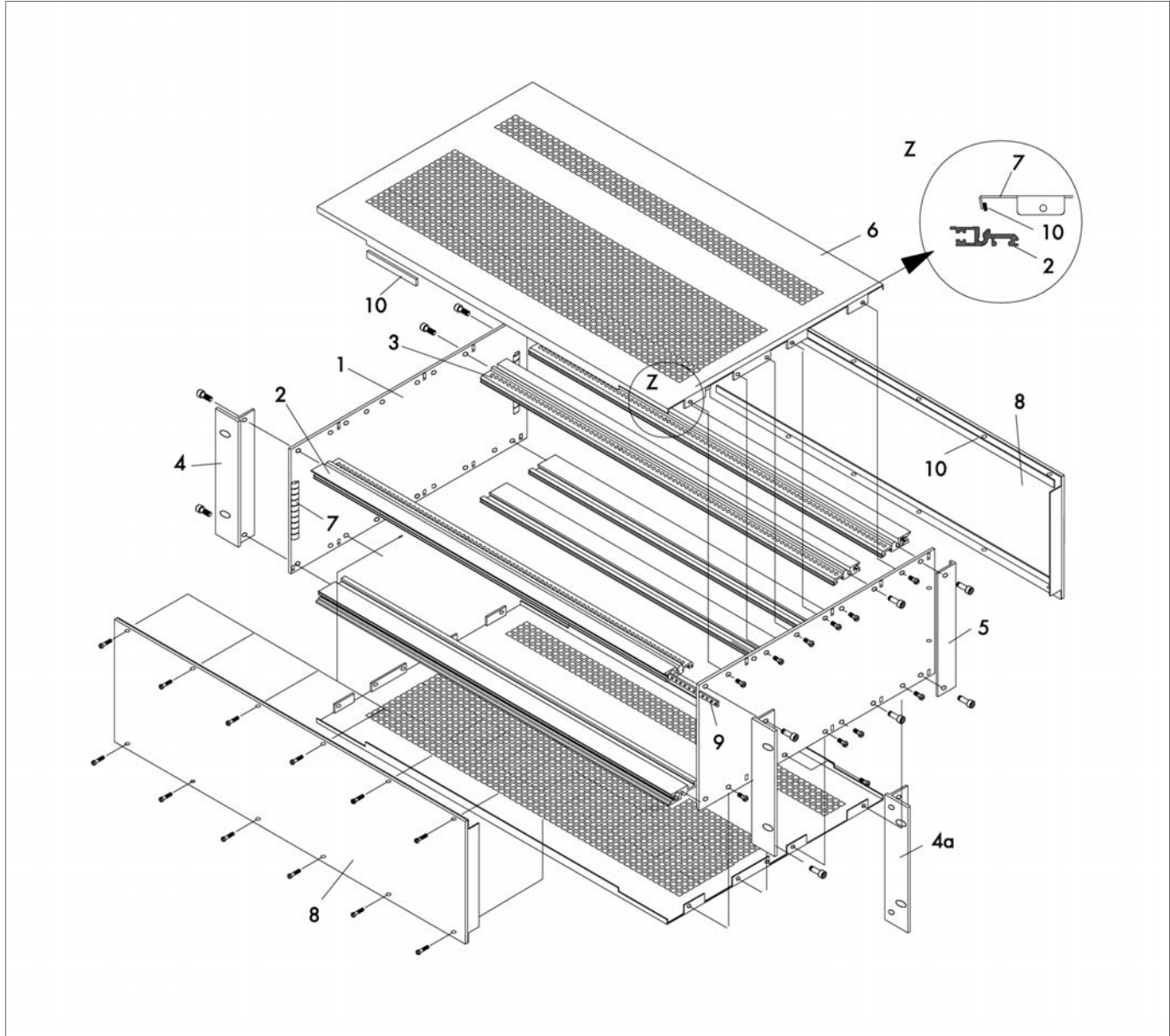
→ N 36 – 41
→ N 44
→ N 62
→ N 67

19" EMC subracks

– assembly of the subracks also with different positioning of the module rails (C = 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)

only if required: **10** = screening seal 5 x 1 mm art. no. **ASD 51 ...** (please indicate requested number of meters)



Fixing material
 Variable guide rails
 Reinforced guide rails
 EMC-extensions "RackCase"

→ N 65
 → N 28
 → N 28
 → N 16

Insert modules 3 U
 3 U insert module designs
 PCB covers
 19" front panels

→ N 36 – 41
 → N 44
 → N 62
 → N 67

N 30

A

B

C

D

E

F

G

H

I

K

L

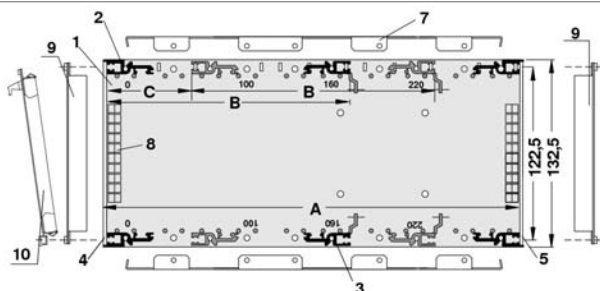
M

N

19" EMC subracks

3 U rack modulaire

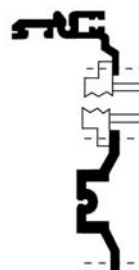
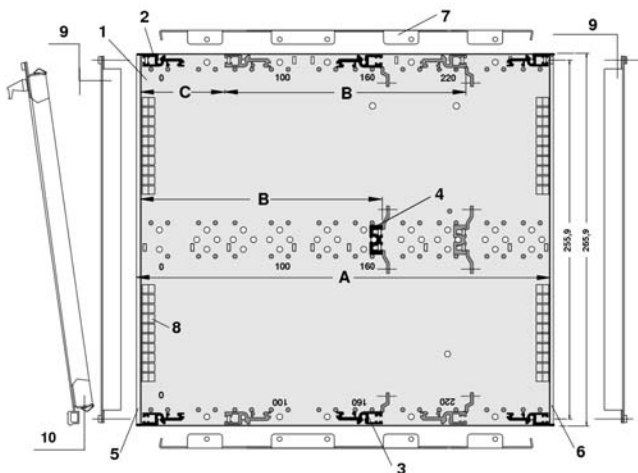
basic unit: 1 = 2 x side panels; **2** = 2 x front module rails; **3** = 2 x rear module rails; **4** = 2 x fixing angles (**EGT O** and **EGT G**)
5 = 2 x rear terminal profiles; **7** = 2 x covers (**OL** or **ML**); **8** = contact springs; mounting material
please order separately: 9 = front-/rear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



art. no.	19" fixing part	dim. [mm]		
		A	B	depth of PCB
EGTG 384 240 ...	fixing angle with handle perforation	235.5	172.2	160
EGTG 384 300 ...	fixing angle with handle perforation	295.5	232.2	220
EGTO 384 240 ...	fixing angle without handle perforation	235.5	172.2	160
EGTO 384 300 ...	fixing angle without handle perforation	295.5	232.2	220
please indicate: <div> <div> ... rear module rail (optional) IZ=integrated Z-rail </div> <div> ... covers ML=with ventilation slots OL=without ventilation slots </div> </div>				

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**

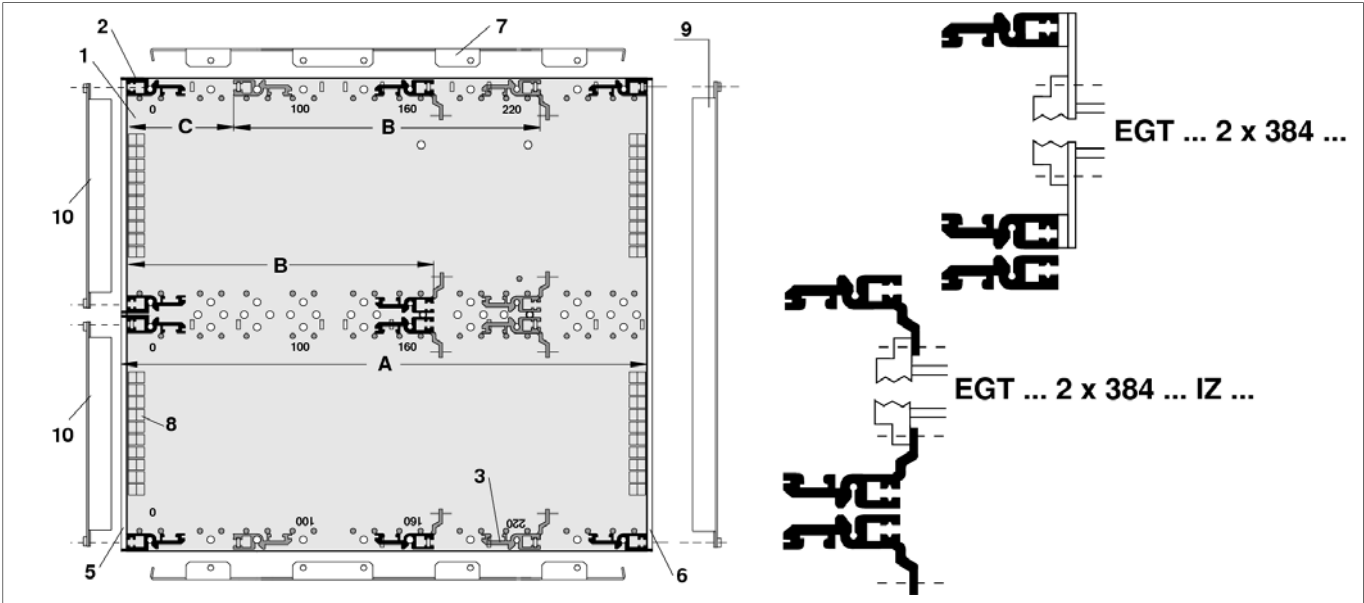


art. no.	19" fixing part	dim. [mm]		
		A	B	depth of PCB
EGTG 684 240 ...	fixing angle with handle perforation	235.5	172.2	160
EGTG 684 300 ...	fixing angle with handle perforation	295.5	232.2	220
EGTO 684 240 ...	fixing angle without handle perforation	235.5	172.2	160
EGTO 684 300 ...	fixing angle without handle perforation	295.5	232.2	220
<p>please indicate:</p> <div> <div> ... rear module rail (optional) IZ=integrated Z-rail </div> <div> ... covers ML=with ventilation slots OL=without ventilation slots </div> </div>				



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



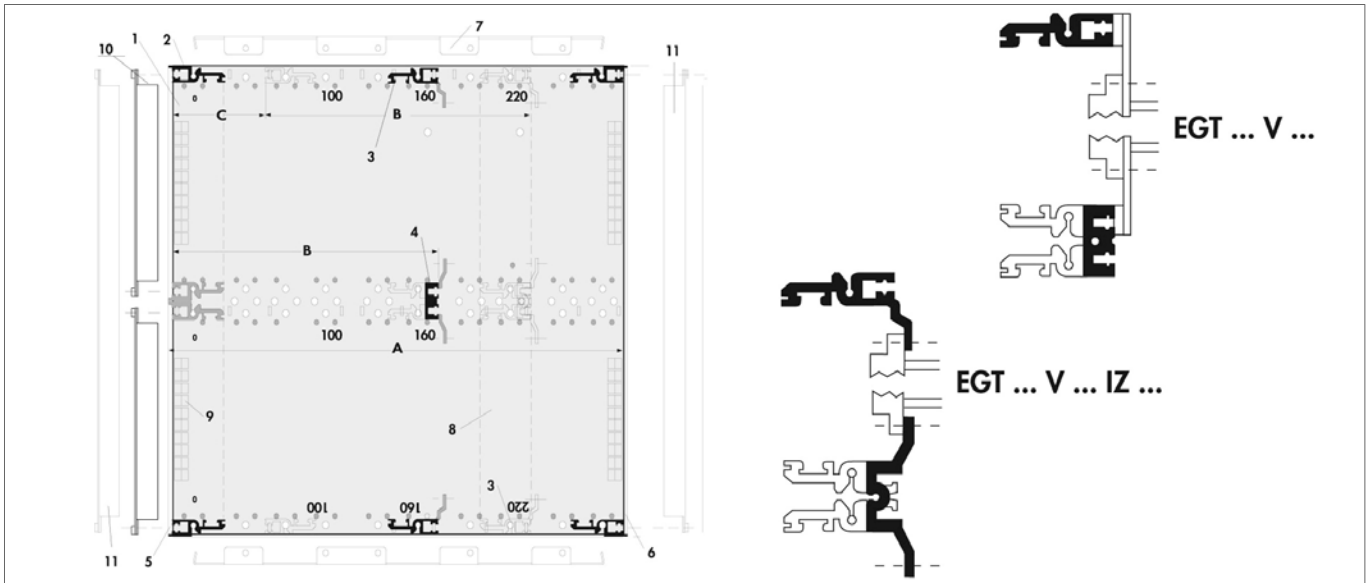
art. no.	19" fixing part	dim. [mm]		
		A	B	depth of PCB
EGTG 2 x 384 240 ...	fixing angle with handle perforation	235.5	172.2	160
EGTG 2 x 384 300 ...	fixing angle with handle perforation	295.5	232.2	220
EGTO 2 x 384 240 ...	fixing angle without handle perforation	235.5	172.2	160
EGTO 2 x 384 300 ...	fixing angle without handle perforation	295.5	232.2	220
please indicate:		... covers		
		ML=with ventilation slots		
		OL=without 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 fixing angles; 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 ...

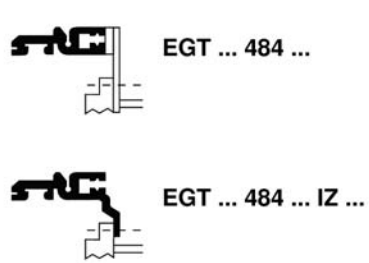
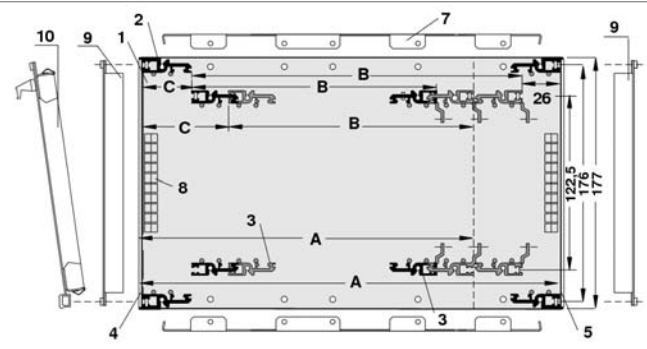



21 62 HP ... 621 ...		42 41 HP ... 642 ...		63 20 HP ... 663 ...	
art. no.	19" fixing part	dim. [mm]			depth of PCB
		A	B		
EGTG V ... 240 ...	fixing angle with handle perforation	235.5	172.2		160
EGTG V ... 300 ...	fixing angle with handle perforation	295.5	232.2		220
EGTO V ... 240 ...	fixing angle without handle perforation	235.5	172.2		160
EGTO V ... 300 ...	fixing angle without handle perforation	295.5	232.2		220
please indicate:					
... subdivision		... rear module rail (optional)			
621=21 62 HP		IZ=integrated Z-rail			
642=42 41 HP					
663=63 20 HP					
... covers					
ML=with ventilation slots					
OL=without ventilation slots					

19" EMC subracks

4 U subracks

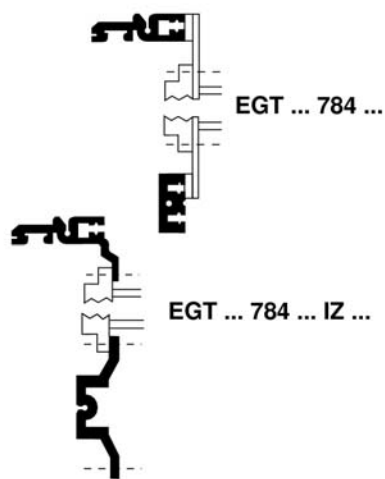
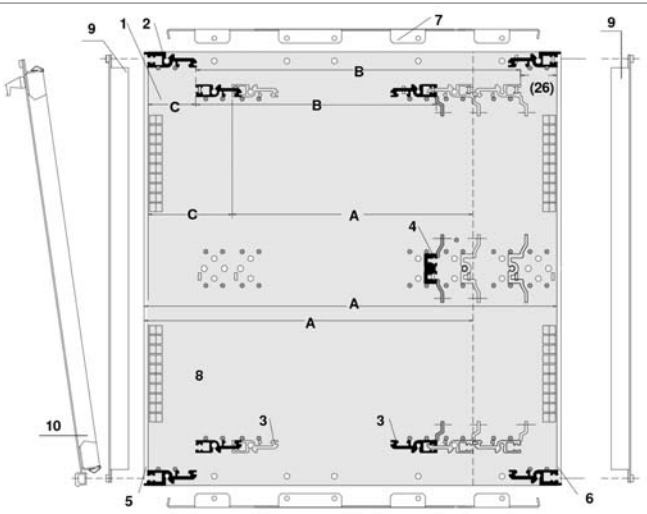

basic unit: **1** = 2 x side panels; **2** = 4 x front module rails; **3** = 4 x rear module rails; **4** = 2 x fixing angles (**EGT O** and **EGT G**); **5** = 2 x rear terminal profiles; **7** = 2 x covers (**OL** or **ML**); **8** = 4 x contact springs; mounting material
please order separately: **9** = front-/rear panel art. no. **EGT F 484**; **10** = hinged front panel art. no. **EGT S 484**



art. no.	19" fixing part	dim. [mm]			
		A	B	C	depth of PCB
EGTG 484 240 ...	fixing angle with handle perforation	235.5	172.2	34	160
EGTG 484 300 ...	fixing angle with handle perforation	295.5	232.2	34	220
EGTO 484 240 ...	fixing angle without handle perforation	235.5	172.2	34	160
EGTO 484 300 ...	fixing angle without handle perforation	295.5	232.2	34	220
please indicate:		... covers			
... rear module rail (optional) IZ=integrated Z-rail		ML=with ventilation slots OL=without ventilation slots			

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**



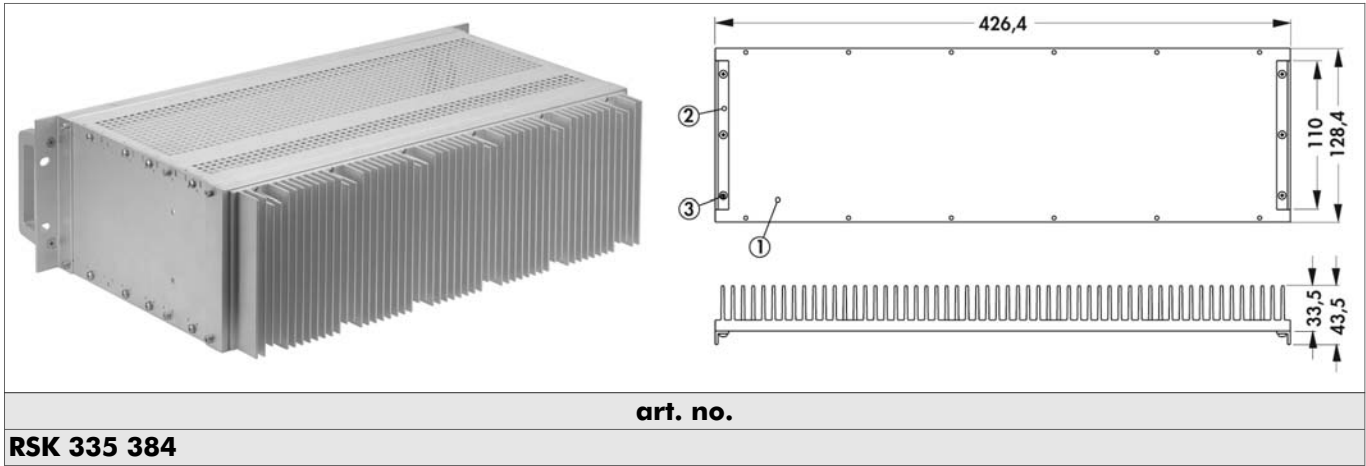
art. no.	19" fixing part	dim. [mm]			
		A	B	C	depth of PCB
EGTG 784 240 ...	fixing angle with handle perforation	235.5	172.2	34	160
EGTG 784 300 ...	fixing angle with handle perforation	295.5	232.2	34	220
EGTO 784 240 ...	fixing angle without handle perforation	235.5	172.2	34	160
EGTO 784 300 ...	fixing angle without handle perforation	295.5	232.2	34	220
please indicate:		... covers			
... rear module rail (optional) IZ=integrated Z-rail		ML=with ventilation slots OL=without ventilation slots			

CEM racks modulaires 19", accessories

Rear panel heatsink for EMC-subracks

- conduction of large heat volume
- backfitting possibility into a subrack
- modifications and additional machining possible to customer's requirements
- **surface:** chrome-free transparent passivated

contents of delivery: **1** = heatsink; **2** = contact angle; **3** = mounting material



N 35

19" front panels → N 67
Accessory for part front panels → N 51
19" handles → N 68
Part front panels with SMD-brackets → N 57

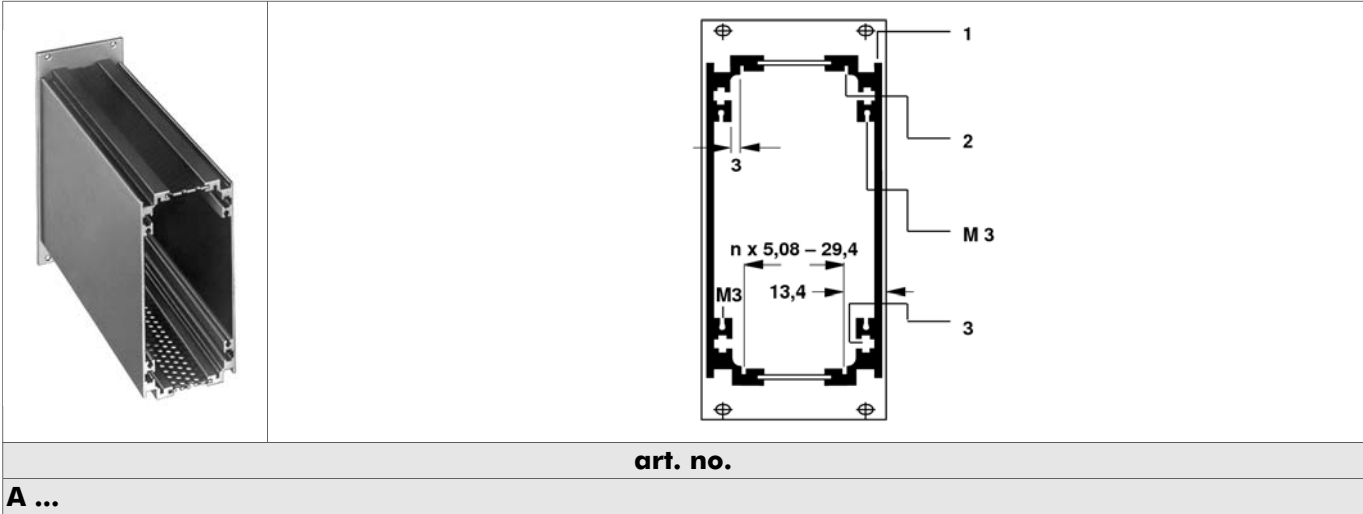
Part front panels → N 52 – 58
Part front panels with PCB holder → N 54 – 55
Part front panels with handle → N 53

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

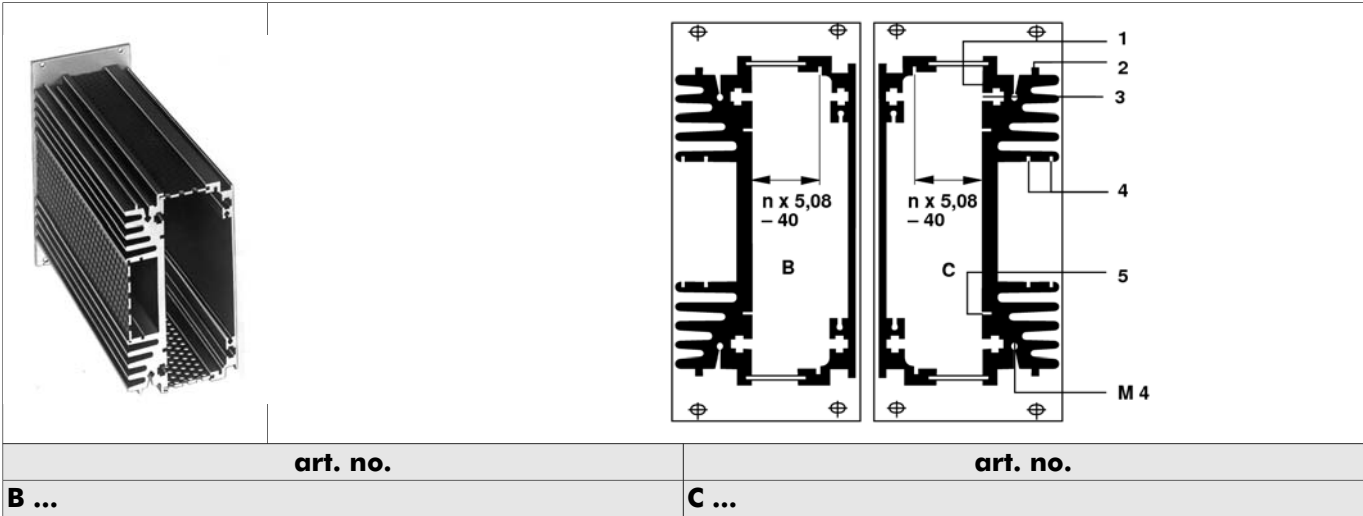
1 = guide ridge for 19" rack; **2** = slot for Eurocard: distance to guide ridge 2 width-units: 2 x 5.08 mm;
3 = slot for threaded rails, hexagon screws resp. screw nuts M 3



Design B + C

- with T-grooves for threaded strips, slide nuts M 3 or screw heads
- respectively one 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" racks
- 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" cases; **2** = slot for outer plates, cover panels and perforated sheets; **3** = slot for threaded rails, square nuts M 3 and hexagon screws and screw; **4** = slot for integrated circuits, cover panels and perforated sheets; **5** = slot for application of chassis plates, separating plates and PCBs



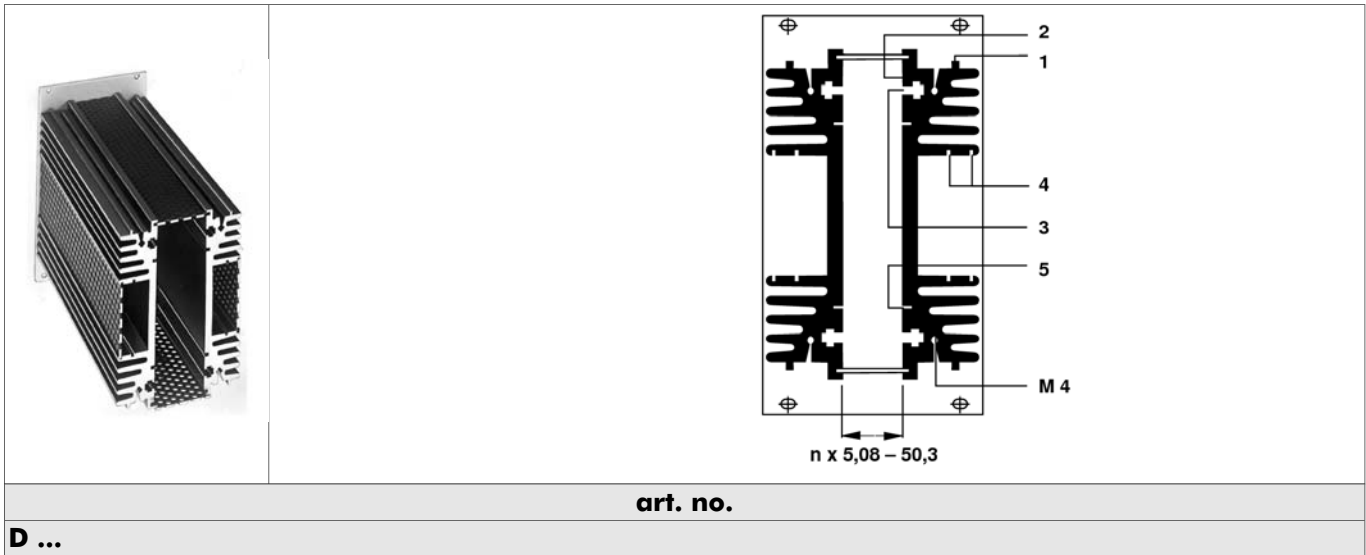
19" case "Plusline"	→ N 2	Case with cooling fins	→ M 34
19" subracks	→ N 19 – 23	Cooling case	→ M 31 – 34
Part front panels with handle	→ N 53	Handles for part front panels	→ N 61
Part front panels with SMD-brackets	→ N 57	Extractor for part front panels	→ N 60

Insert modules for 19" subracks, 3 U

Design D

- with T-grooves for threaded strips, slide nuts M 3 or screw heads
- both sides of the insert module are heatsinks, internal fins with slots for the insertion of cover plates or PCBs
- the guide slots of the outer fins fit into 19" racks
- 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

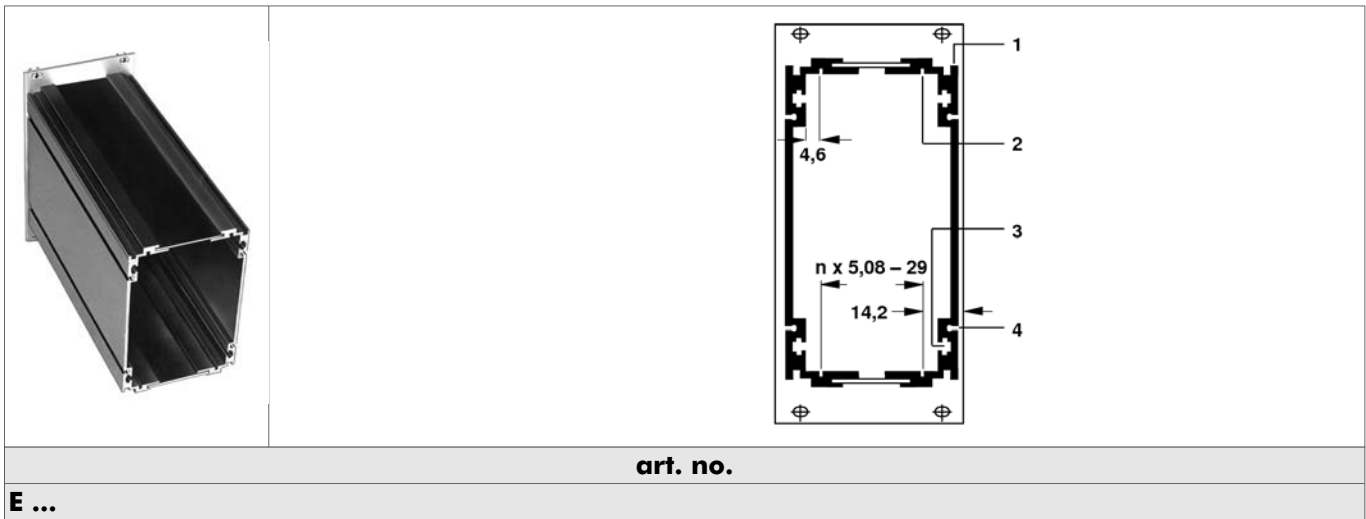
1 = guide ridge for 19" cases; **2** = slot for outer plates, cover panels and perforated sheets; **3** = slot for threaded rails, square nuts M 3 and hexagon screws and screw; **4** = slot for integrated circuits, cover panels and perforated sheets; **5** = slots for application of chassis plates, separating plates and PCB's



Design E

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

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



N 37

19" case "Plusline"

19" subracks

Part front panels with handle

Part front panels with SMD-brackets

→ N 2

→ N 19 - 23

→ N 53

→ N 57

Case with cooling fins

Cooling case

Handles for part front panels

Extractor for part front panels

→ M 34

→ M 31 - 34

→ N 61

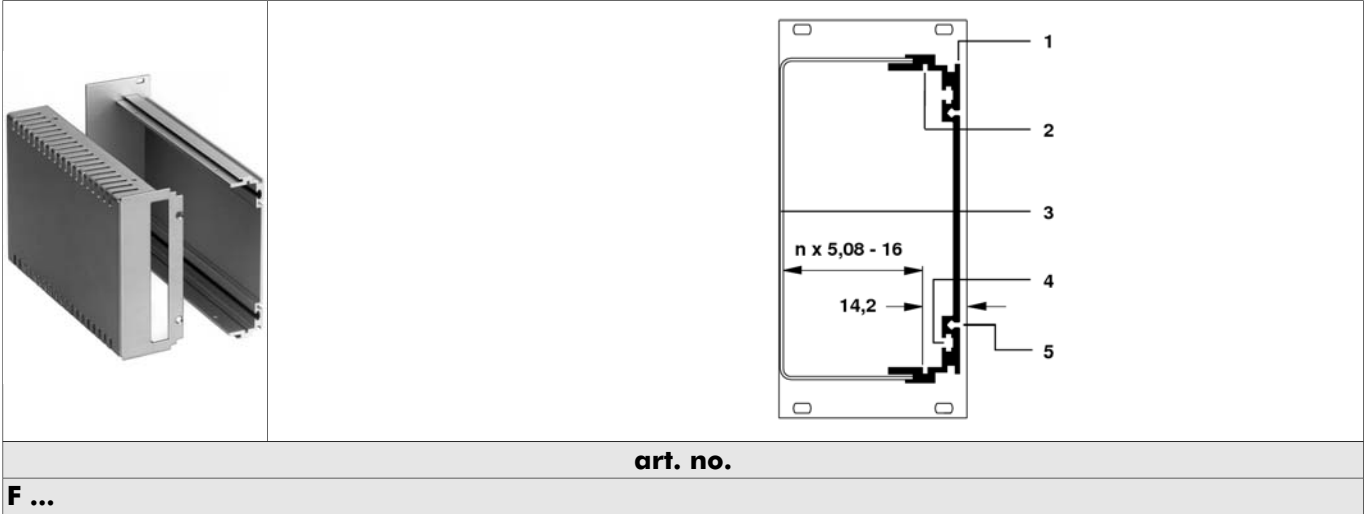
→ N 60

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 channels), one front panel and one cover plate
- the cover plate has cut-outs for cooling
- rear view
- dimensioned drawing of the side panel profile **GP 193** → N 77

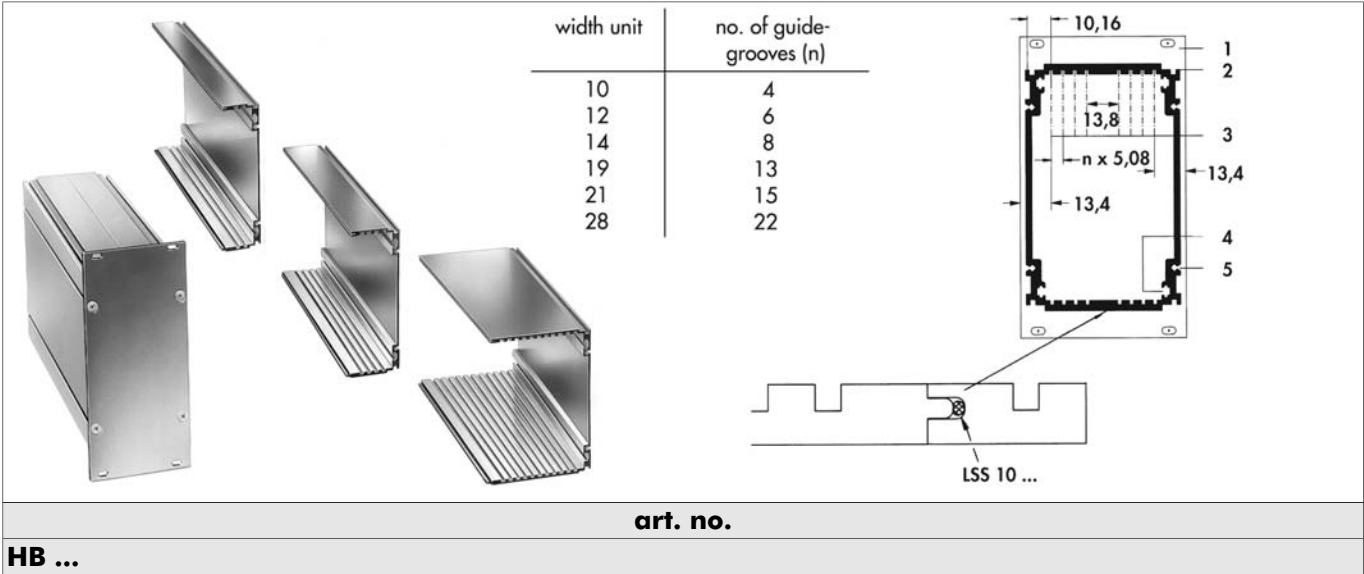
1 = guide ridge for 19" subrack; **2** = slot for Eurocard; **3** = cover plate;
4 = slot for threaded rails, hexagon screws resp. screw nuts M 3; **5** = external screw channel M 3



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
- on 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
- better shielding by means of insertion of conductive silicone tubes in the nuts 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, resp. square nuts M 2.5; **5** = external screw channel M 3



19" case "Plusline"

→ N 2

19" subracks

→ N 19 – 23

Part front panels with handle

→ N 53

Part front panels with SMD-brackets

→ N 57

Case with cooling fins

→ M 34

Cooling case

→ M 31 – 34

Handles for part front panels

→ N 61

Extractor for part front panels

→ N 60

N 38

A

B

C

D

E

F

G

H

I

K

L

M

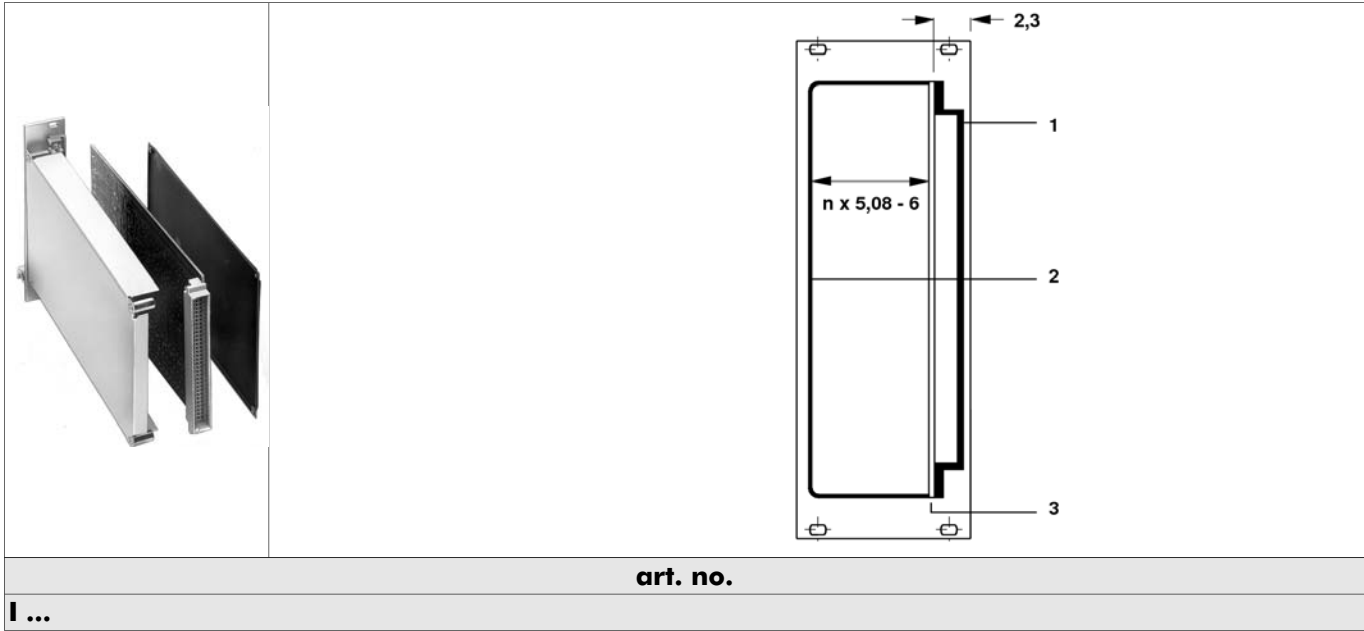
N

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

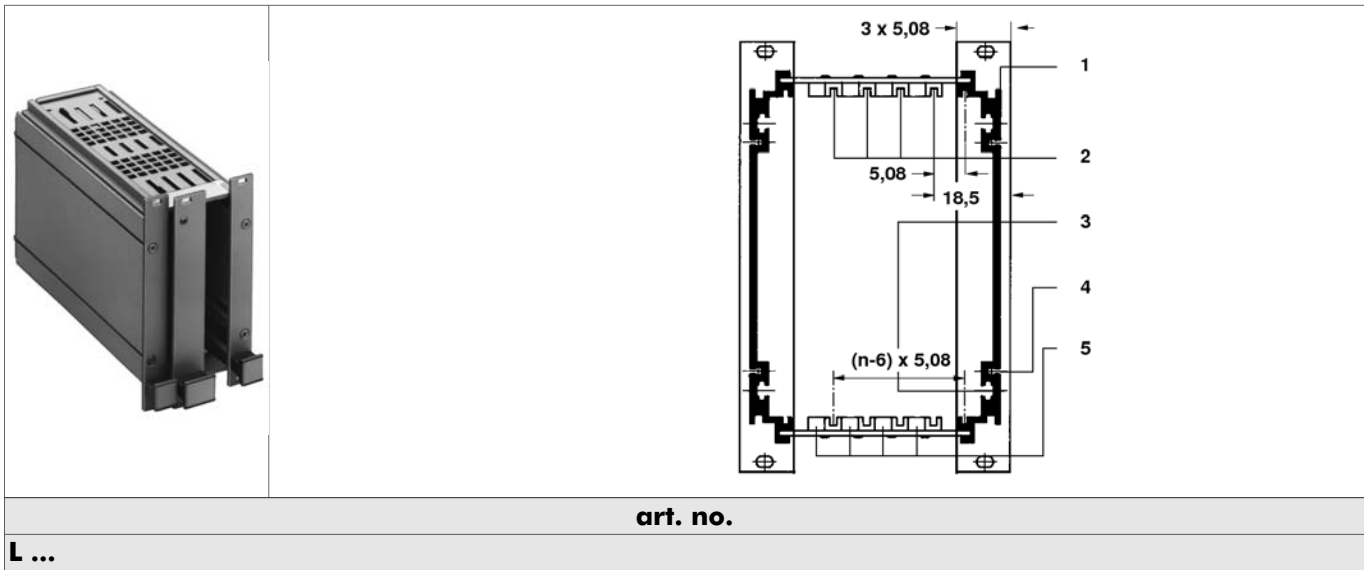
1 = PCB cover; 2 = shielding panel; 3 = Eurocard



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 application 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

1 = guide ridge for 19" subrack; 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
 dimensioned drawing of the side panel profile **GP 190** → N 77



N 39

19" case "Plusline" → N 2
 19" subracks → N 19 – 23
 Part front panels with handle → N 53
 Part front panels with SMD-brackets → N 57

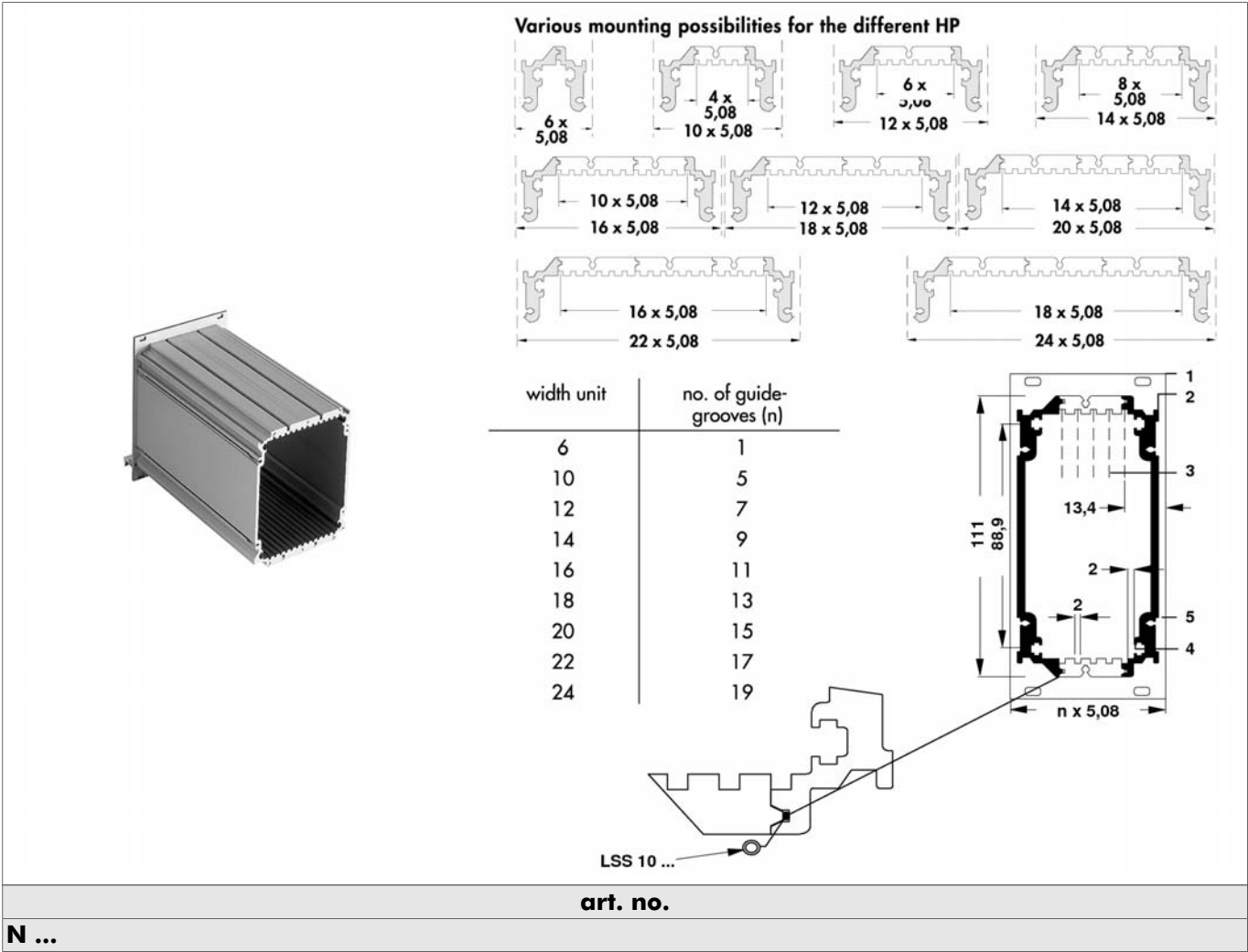
Case with cooling fins → M 34
 Cooling case → M 31 – 34
 Handles for part front panels → N 61
 Extractor for part front panels → N 60

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
- enhancement of screening features by insertion of a conductive silicon tube Art. no. **LSS 10** into the longitudinal slot
- 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 resp. square nut M 2.5; **5** = external screw channel M 3



19" case "Plusline" → N 2
19" subracks → N 19 - 23
Part front panels with handle → N 53
Part front panels with SMD-brackets → N 57

Case with cooling fins → M 34
Cooling case → M 31 - 34
Handles for part front panels → N 61
Extractor for part front panels → N 60

N 40

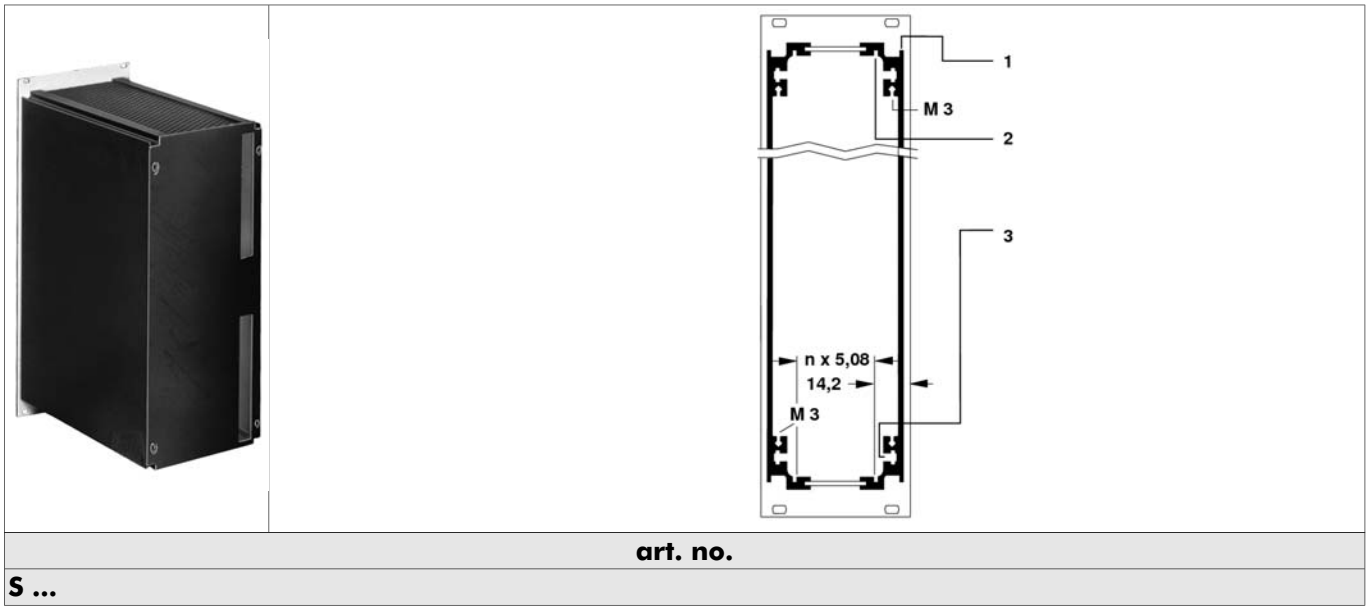
N

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 sheet without cutout for rear module rails
- rear view with rear plate
- dimensioned drawing of the side panel profile **GP 196** → N 80

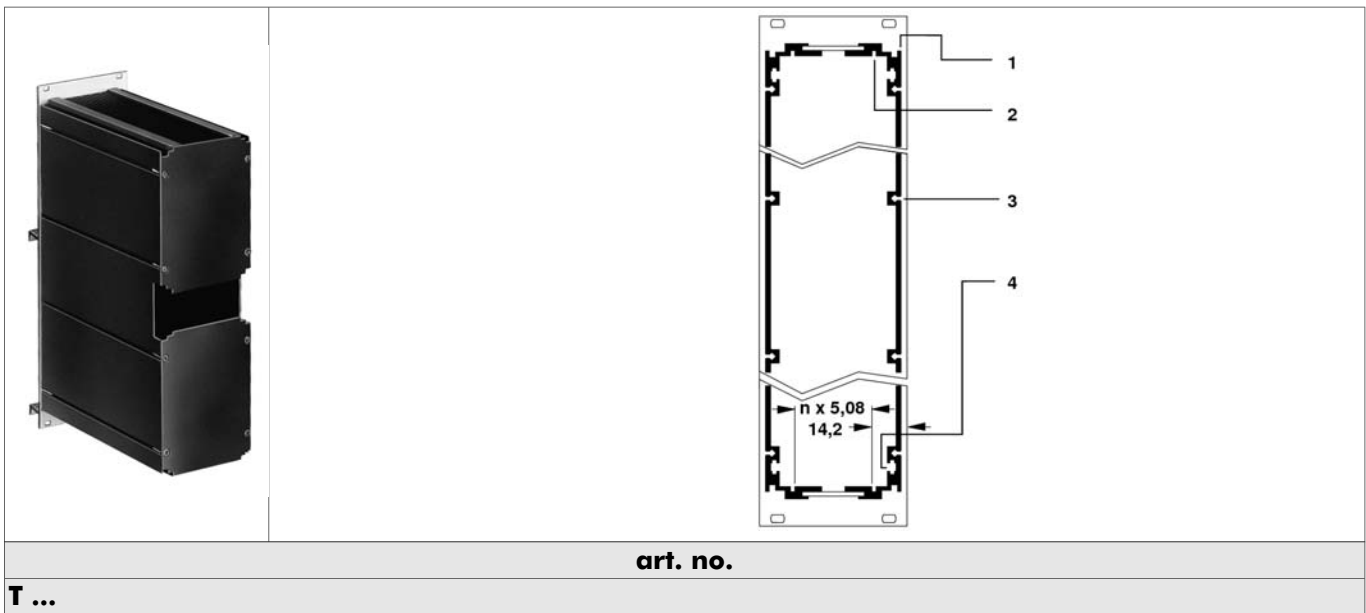
1 = guide ridge for 19" rack; **2** = slot for Eurocard; **3** = slot for threaded rails, hexagon screws resp. screw nuts M 3



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" rack; **2** = slot for Eurocard; **3** = external screw channel M 3; **4** = slot for threaded rails, hexagon screws resp. screw nuts M 3



N 41

Fixing accessories
Fixing material
19" front panels
Part front panels

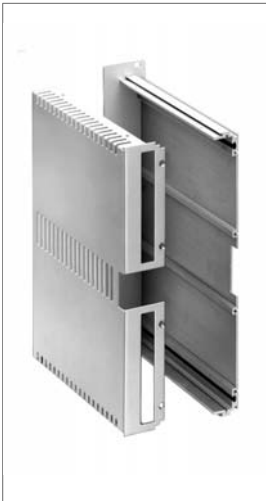
→ N 66
→ N 65
→ N 67
→ N 52 – 58

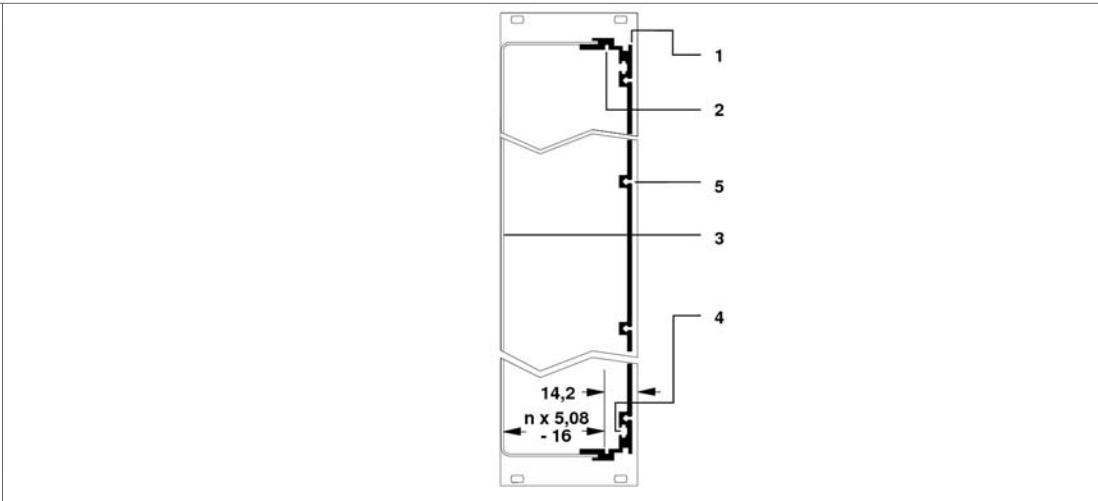
Part front panels with SMD-brackets → N 57
Order example insert moduels → N 45
19" benchtop cases → N 17

Design V

- the design V forms the 6 U counterpart to design E
- 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 cut-outs for cooling
- 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 resp. screw nuts M 3; 5 = external screw channel M 3






art. no.

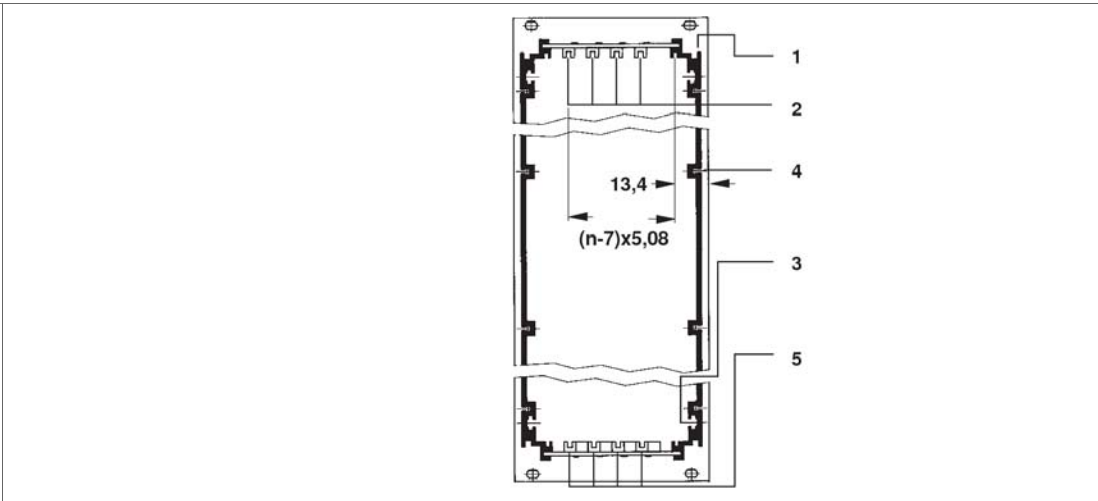
V ...

Design W

- external screw channels prevent short-circuiting by screw cuttings
- on one hand the perforations 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" subrack; 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





art. no.

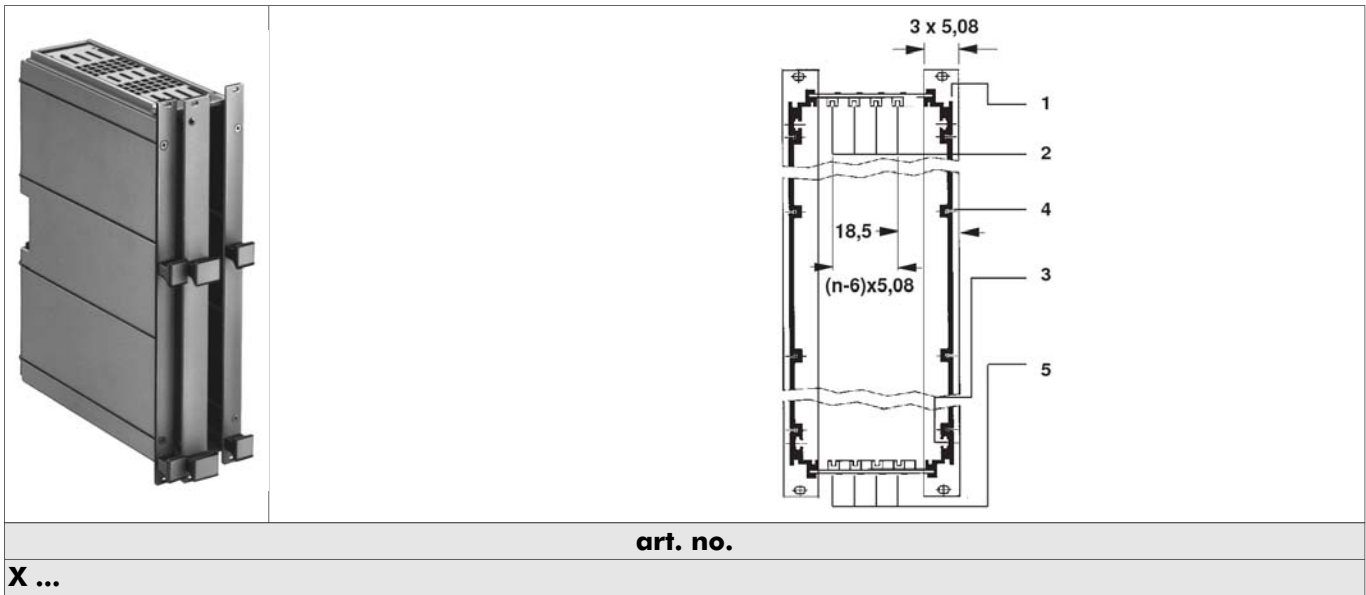
W ...

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 application 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" subrack; **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



N 43

Fixing accessories
Fixing material
19" front panels
Part front panels

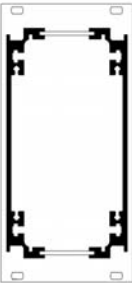
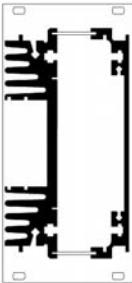






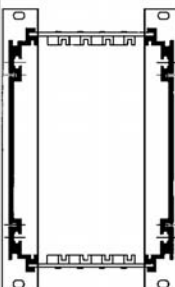
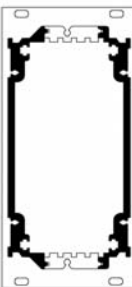
→ N 66
→ N 65
→ N 67
→ N 52 – 58

Part front panels with SMD-brackets → N 57
Order example insert moduels → N 45
19" benchtop cases → N 17

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" front panels
19" handles
Fixing accessories
Fixing material

→ N 67
→ N 68 – 70
→ N 66
→ N 65

PCB covers
Profiles for insert modules 3 U
Profiles for insert modules 6 U
Profiles for subracks

→ N 62
→ N 77 – 79
→ N 80
→ N 74 – 75

N 44

A

B

C

D

E

F

G

H

I

K

L

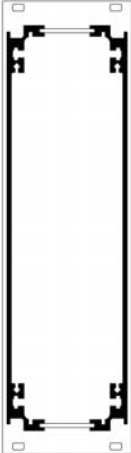
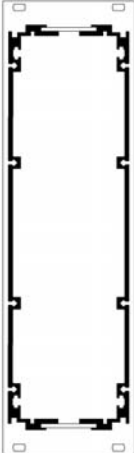

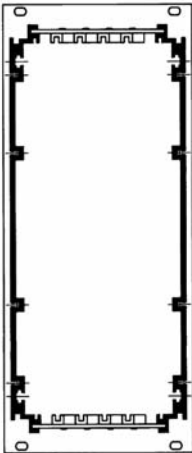
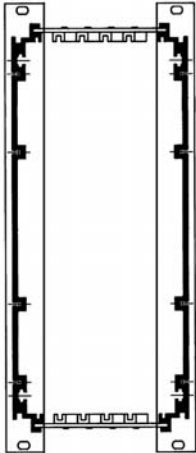
M

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: ME = front panel, profiles and rear panel clear anodised SA = front panel clear anodised, profiles and rear panel black anodised TP = front panel, profiles and rear panel transparent passivated					perforated cover panel (for module design A-E, G, S, T) (indicate only if requested, otherwise plain cover panel will be delivered)	
other surface finish or finish combinations on request						

N 45

19" front panels
19" handles
Fixing accessories
Fixing material

→ N 67
→ N 68 – 70
→ N 66
→ N 65

PCB covers
Profiles for insert modules 3 U
Profiles for insert modules 6 U
Profiles for subracks

→ N 62
→ N 77 – 79
→ N 80
→ N 74 – 75

Insert modules for 19" subracks

Available rear panels

– when viewed from the rear, the male and female connector cut-outs are located on the right hand side

1 = no. for order example; 2 = dimensioned drawing; 3 = suitable for connectors

1	2	3
R 1		
R 2		<div>DIN 41612</div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div><div>DIN 41617</div><div></div></div> <div>B 64 C 64 (32) C 96 D 32 H 11 M 31-contacts</div>
R 3		<div>DIN 41612</div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div>B 64 C 64 (32) C 96 D 32 F 48 (32) F 24/H 7 H 15</div>
R 4		<div>DIN 41612</div> <div></div> <div></div> <div></div> <div>G 64 E 48 E 160</div>
R 5		<div>suitable for all connectors complying to DIN 41612 and for insert modules L, W, X</div>

19" front panels
19" handles
Fixing accessories
Fixing material

→ N 67
→ N 68 – 70
→ N 66
→ N 65

PCB covers
Profiles for insert modules 3 U
Profiles for insert modules 6 U
Profiles for subracks

→ N 62
→ N 77 – 79
→ N 80
→ N 74 – 75

N 46

A

B

C

D

E

F

G

H

I

K

L

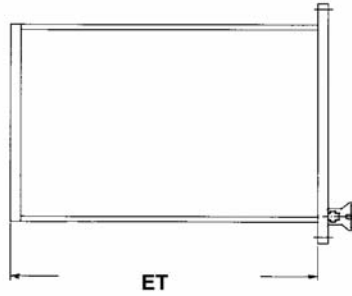
M

N

Insert modules for 19" subracks

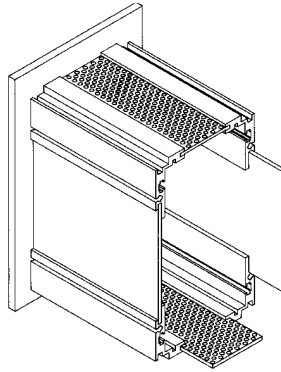
Insert depth (ET)

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



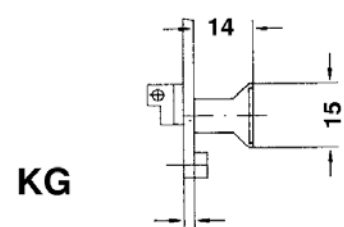
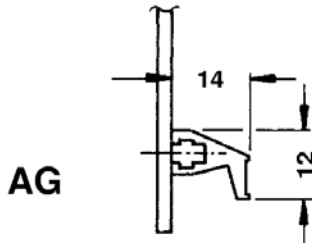
Perforated cover panel

- 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

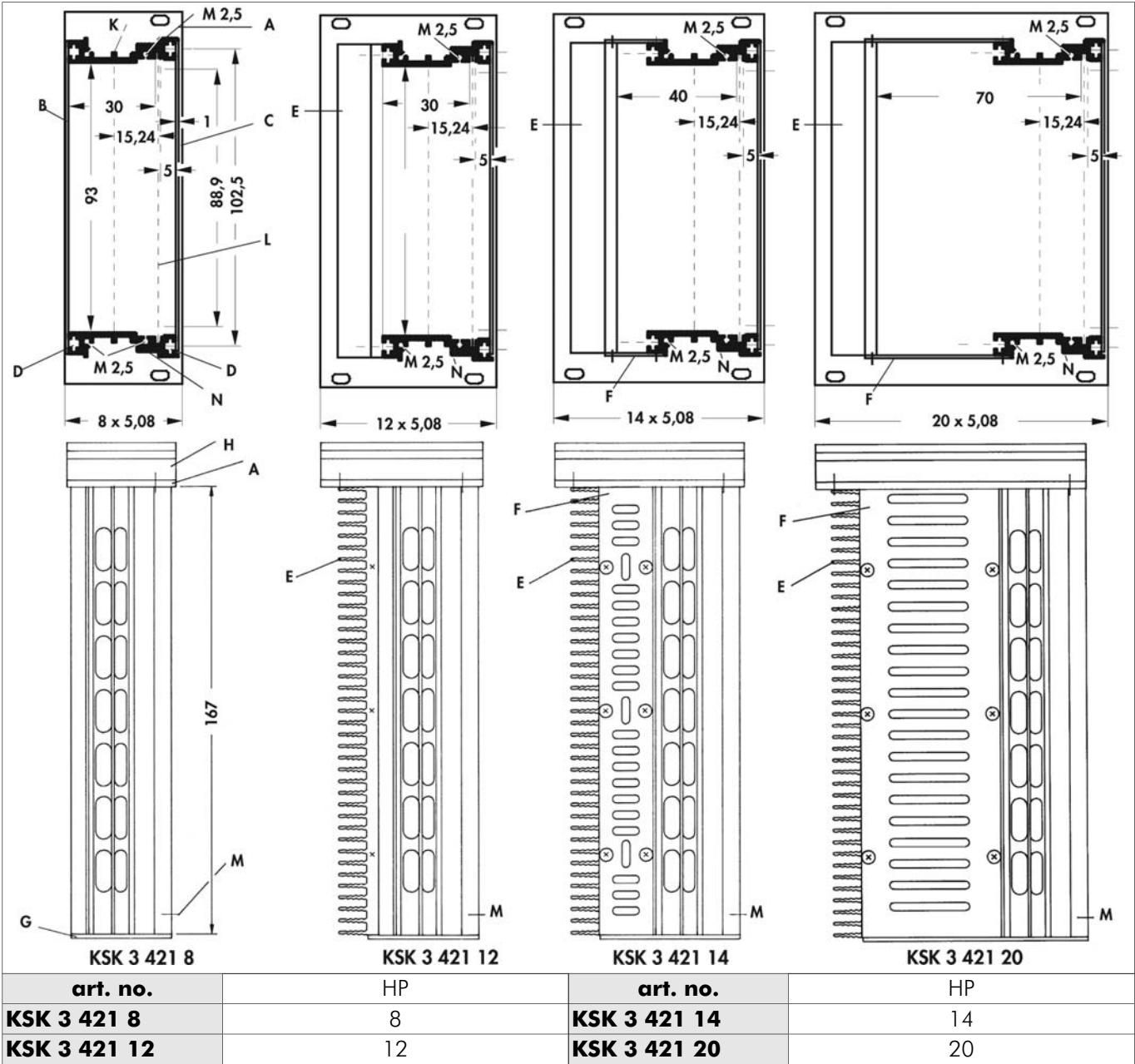


Heatsink insert modules



- 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 HP's on request
- front panel, rear panel and profile transparent passivated, heatsink black anodised

A = front panel; **B** = screening plate, right side; **C** = screening plate, left side; **D** = for threaded rail or nut M 2.5; **E** = heatsink **SK 421**; **F** = tab, perforated; **G** = rear panel; **H** = plastic cover **GLK**; **K** = guiding ridge in the subrack; **L** = internal card guide; **M** = drilling for card; **N** = 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

19" subracks
19" front panels
Special subracks
19" instert modules accessory

→ N 19 – 23
→ N 67
→ N 24
→ N 25 – 28

Part front panels
Part front panels with SMD-brackets
Guide rail
Profiles for insert modules 6 U

→ N 52 – 58
→ N 57
→ N 27
→ N 80

N 48

A

B

C

D

E

F

G

H

I

K

L

M

N

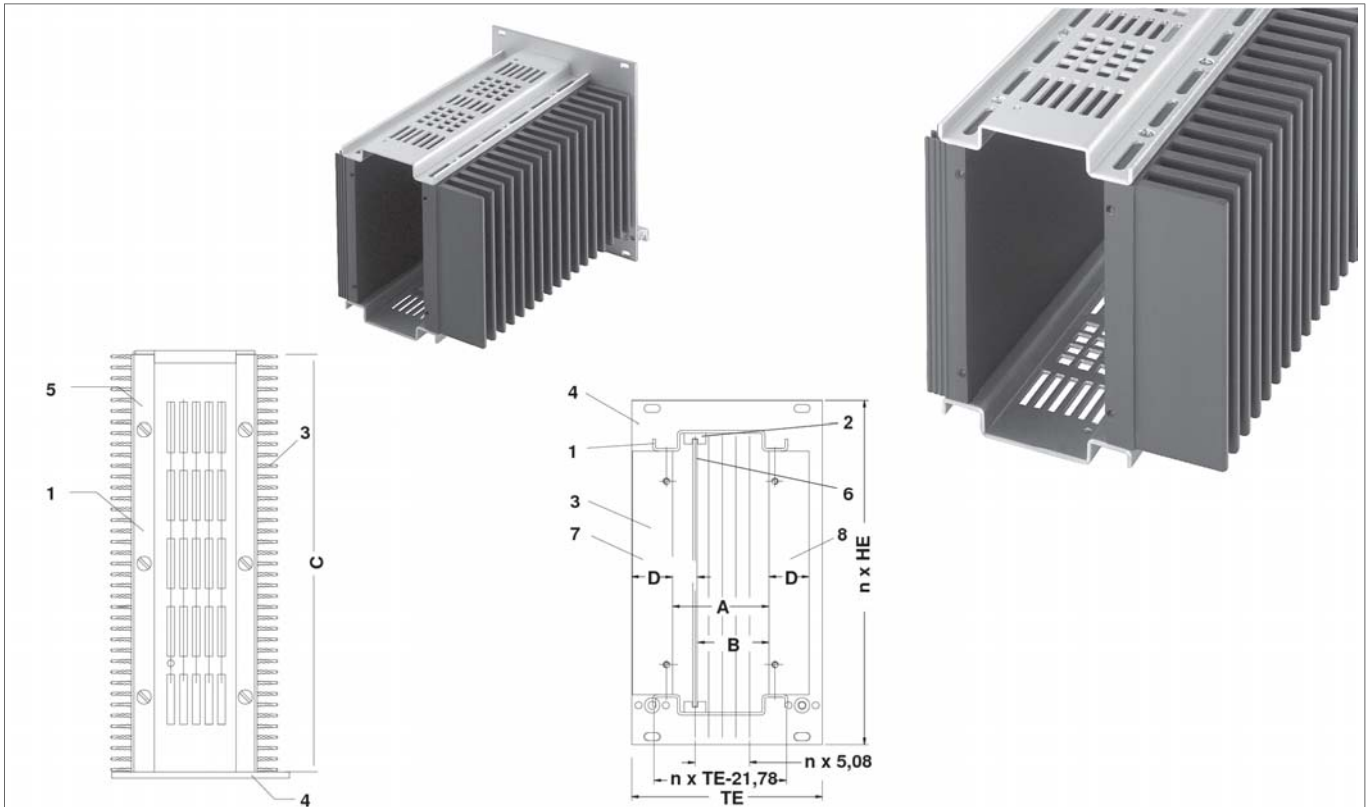
Heatsink insert modules

- the profile KP allows the assembly of the 19" insert modules with heatsinks as side plates
- treatment of the heatsinks, front plate and rear panel according to your requests
- breadboard 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, $R_{th} = 1.0$ k/W)
SK 136 ($C_{max} = 200$ mm, $D = 15$ mm, $R_{th} = 1.0$ 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	B	TE / D = 15	TE / D = 20	TE / D = 40	n
KP 14 ...	35.90	26.57	14	16	24	4
KP 16 ...	46.06	36.91	16	18	26	6
KP 18 ...	56.22	47.07	18	20	28	8
KP 20 ...	66.38	57.23	20	22	30	10
KP 22 ...	76.54	67.39	22	24	32	12
KP 24 ...	86.70	77.55	24	26	34	14
KP 26 ...	96.86	87.71	26	28	36	16
KP 28 ...	107.02	97.87	28	30	38	18
please indicate:	<div><div>... heatsink left side</div><div>1=SK 421 2=SK 136 3=SK 198 4=SK 113 5=SK 168 6=SK 56</div></div> <div><div>... heatsink right side</div><div>1=SK 421 2=SK 136 3=SK 198 4=SK 113 5=SK 168 6=SK 56</div></div>					

Fixing tab

art. no.	suitable for
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 insulation and prevents deflection

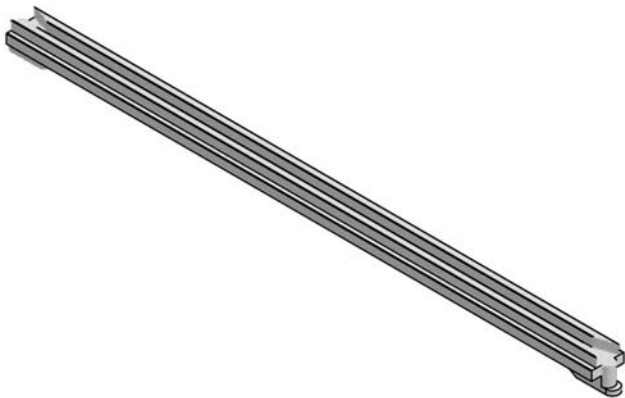
art. no.	suitable for	packing unit
BFS 1	insert modules design A, B, C, S	1 set = 4 pieces
BFS 2	insert modules design E, F, T, U, V	1 set = 4 pieces

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**

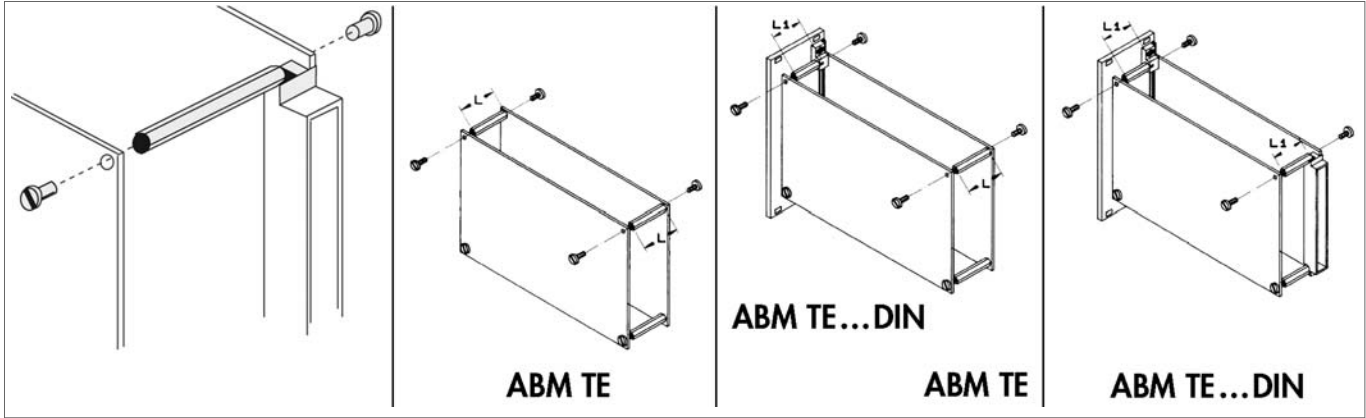
art. no.	suitable for
BWF R 5	female connectors on the rear panel R 5 for the insert module design HB, L, W and X
BWM R 5	male connectors on the rear panel R 5 for the insert module design HB, L, W and X

Guide rail



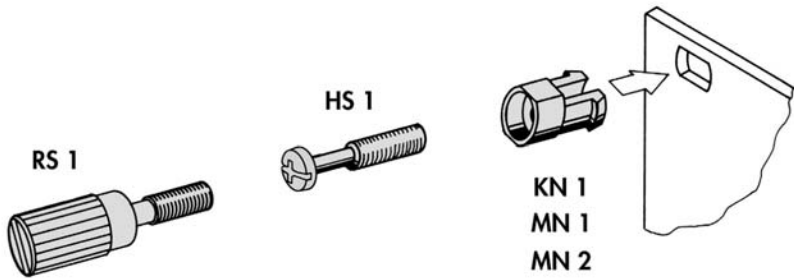
art. no.	suitable for	colour	material	dim. [mm] lengths
FSB KW 160	the perforated cover plate of insert module designs KP, L, W and X	grey	PBT	130

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



Mounting material

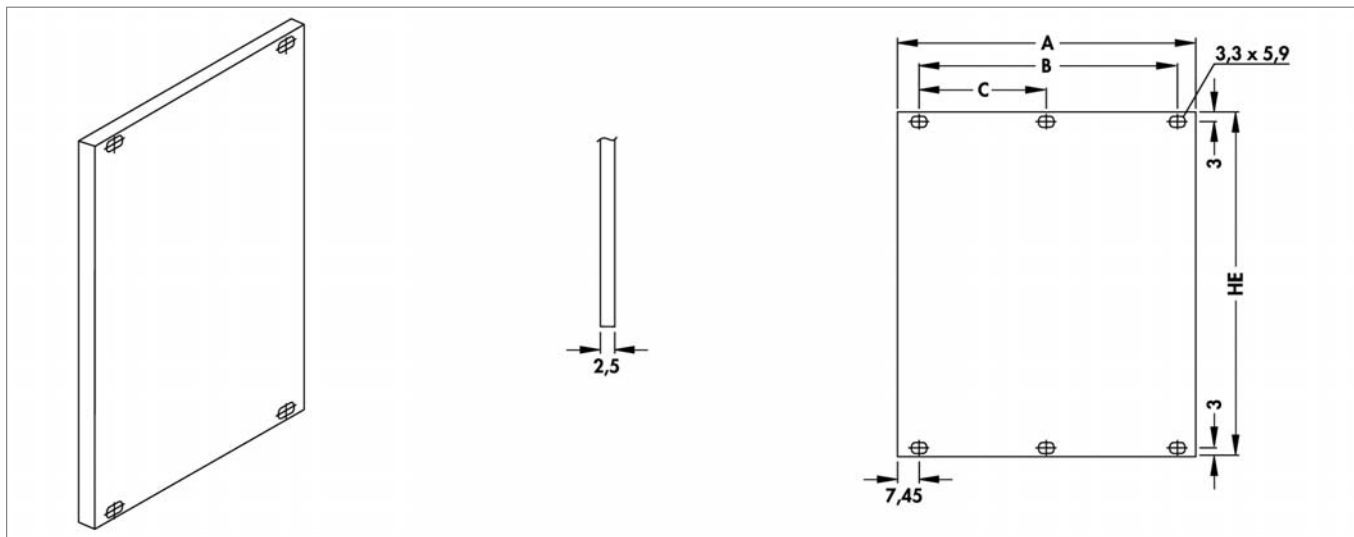
- for locking insert modules and part front panels into the subrack
- **KN 1**: plastic sleeves for clipping in / **MN 1 + 2**: metal sleeves for pressing in



art. no.	packing unit	material
HS 1	100 pcs./bag	brass, nickel plated
KN 1	100 pcs./bag	polyamid
MN 1	10 pcs./bag	brass, nickel plated
MN 2	10 pcs./bag	brass, nickel plated
RS 1	100 pcs./bag	brass, nickel plated

Part front panels

- part front panels clear anodised
- HP = width unit = 5.08
- U = height unit = 44.45

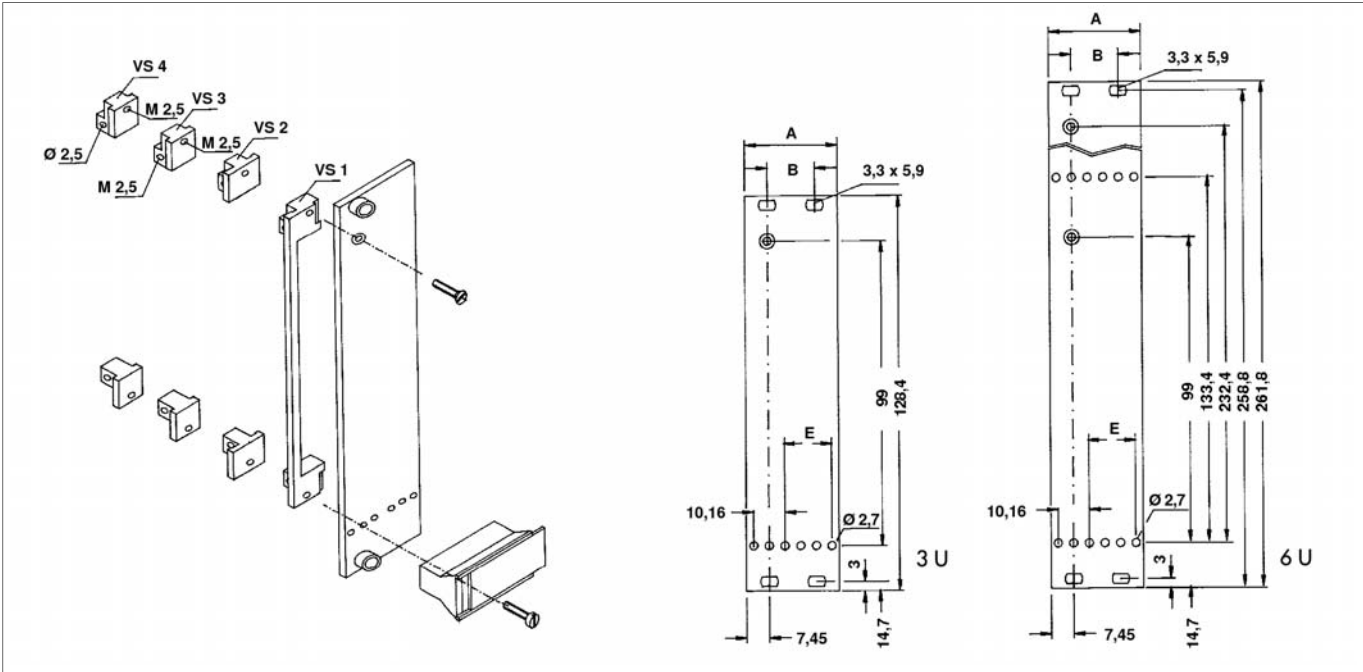


art. no.	HP	dim. [mm]		
		A	B	C
TFP ... 3 ...	3	14.9	—	—
TFP ... 4 ...	4	20.0	—	—
TFP ... 5 ...	5	25.1	—	—
TFP ... 6 ...	6	30.2	—	—
TFP ... 7 ...	7	35.3	—	—
TFP ... 8 ...	8	40.3	—	—
TFP ... 9 ...	9	45.4	—	—
TFP ... 10 ...	10	50.5	35.6	—
TFP ... 12 ...	12	60.7	45.7	—
TFP ... 14 ...	14	70.8	55.9	—
TFP ... 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: <div> <div> ... height unit 3=3 U 6=6 U </div> <div> ... metal nipples (optional) MN 2=press-in </div> </div>				

Part front panels

Part front panels with plastic handle and bracket

- part front panels clear anodised
- **HP** = width unit = 5.08
- **U** = heigh unit = 44.45
- PCB holder **VS 1-4** → N 63
- part front panels incl. mounting material

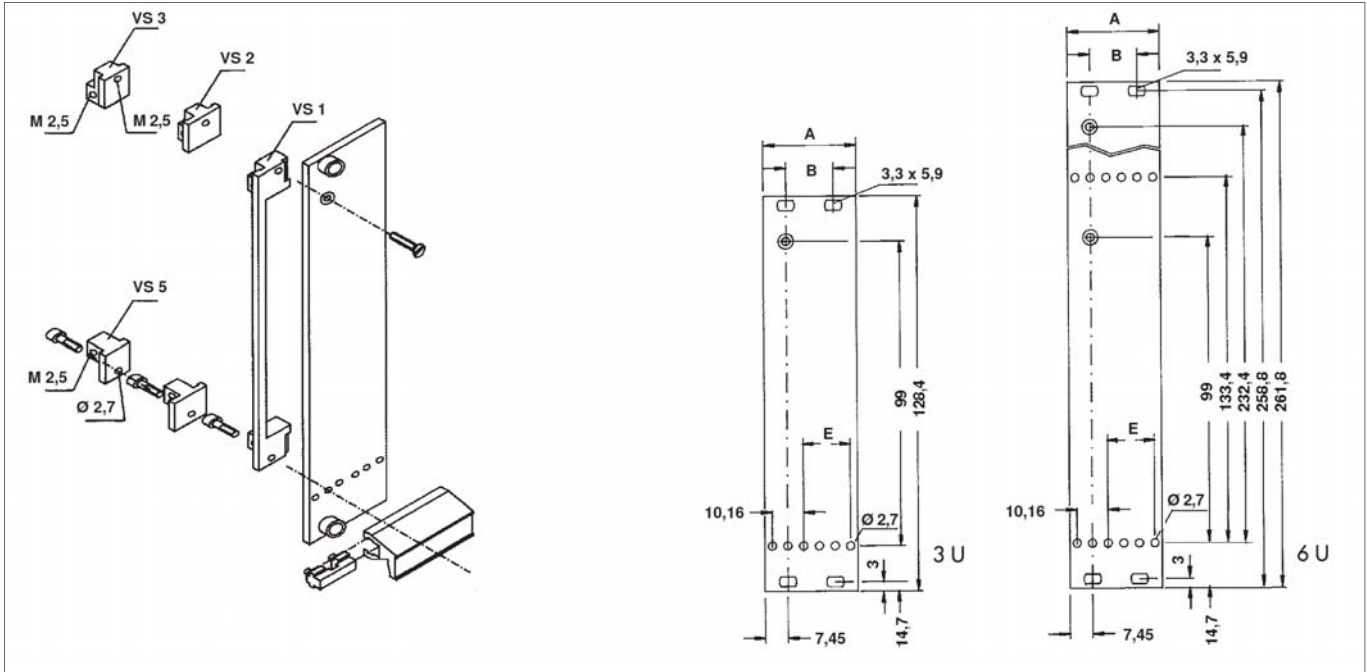


art. no.	HP	dim. [mm]		
		A	B	E
TFP KG ... 4 ...	4	20.0	–	5.08
TFP KG ... 5 ...	5	25.1	–	10.16
TFP KG ... 6 ...	6	30.2	–	15.24
TFP KG ... 7 ...	7	35.3	–	20.32
TFP KG ... 8 ...	8	40.3	–	25.40
TFP KG ... 10 ...	10	50.5	35.6	35.60
TFP KG ... 12 ...	12	60.7	45.7	45.70
TFP KG ... 14 ...	14	70.8	55.9	55.90
please indicate:				
		... PCB holder		
		VS 1=for 3 U Eurocards		
		VS 2=for PCBs in any size		
		VS 3=with M 2.5 thread		
		VS 4=with M 2.5 thread and through-hole		
		... height unit		
		3=3 U		
		6=6 U		
		... metal nipples (optional)		
		MN 2=press-in		

Part front panels

Part front panels with aluminium handle and bracket

- part front panels clear anodised
- **HP** = width unit = 5.08
- **U** = heights unit = 44.45
- PCB holder **VS ...** → N 63
- part front panel incl. mounting material



art. no.	HP	dim. [mm]		
		A	B	E
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 M 2.5 threads for front panel and circuit board mounting

... metal nipples (optional)

MN 2=press-in

... height unit

3=3 U

6=6 U

N 55

Part front panels with handle

→ N 53

Part front panels with PCB holder

→ N 54 – 55

Part front panels with SMD-brackets

→ N 57

Insert modules

→ N 36 – 47

Handles for part front panels

→ N 61

Extractor for part front panels

→ N 60

Profiles for 19" front panels

→ N 72 – 73

Part front panels

Part front panels with transparent passivated rear side

- **TFP TP AG VS** part front panel with aluminium handle, PCB-bracket from zinc die-casting and mounting material
- **TFP TP KG VS** part front panel with plastic handle, anodised insert strip, PCB-bracket from zinc die-casting and mounting material
- **3 U:** F = 99 mm, H = 128.4 mm
- **6 U:** C = 133.4 mm, F = 232.4 mm, H = 261.8 mm
- **surface:** front side clear anodised, rear side conductive chrome-free transparent passivated
- **HP** = width unit = 5.08
- **U** = heigth unit = 44.45
- PCB holder **VS ...** → N 63
- part front panels incl. mounting material

TFP TP AG VS **TFP TP KG VS**

art. no.	HP	dim. [mm]		
		A	B	E
TFP TP ... 4 ...	4	20.0	—	5.08
TFP TP ... 5 ...	5	25.1	—	10.16
TFP TP ... 6 ...	6	30.2	—	15.24
TFP TP ... 7 ...	7	35.3	—	20.32
TFP TP ... 8 ...	8	40.3	—	25.40
TFP TP ... 9 ...	9	45.4	—	30.50
TFP TP ... 10 ...	10	50.5	35.6	35.60
TFP TP ... 12 ...	12	60.7	45.7	45.70
TFP TP ... 14 ...	14	70.8	55.9	55.90

please indicate:

... part front panel (optional)
AG VS=with aluminium handle,
PCB-bracket from zinc
die-casting
KG VS=with plastic handle, anodised
insert strip, PCB-bracket from
zinc die-casting

... metal nipples (optional)
MN 2=press-in

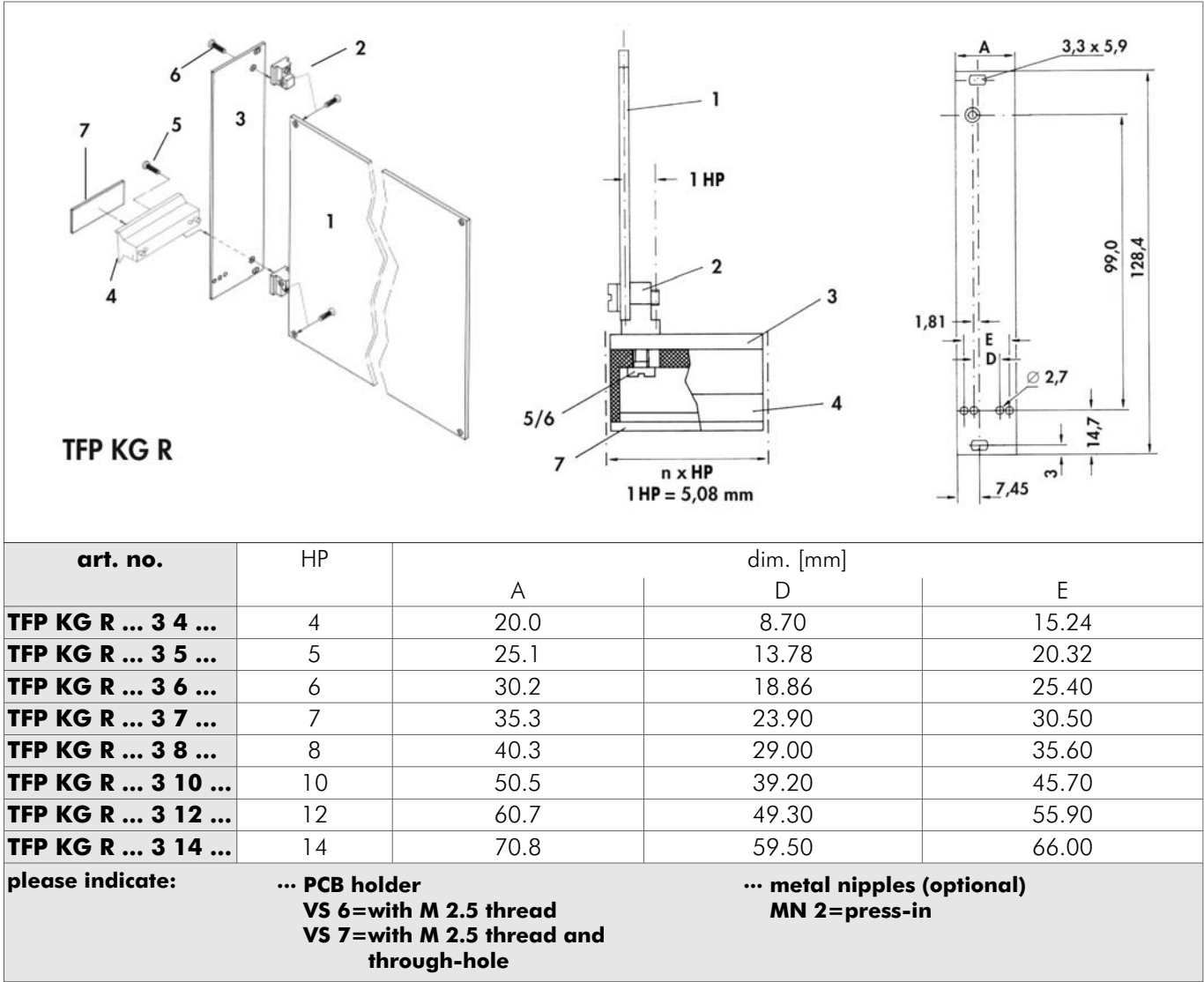
... height unit
3=3 U
6=6 U

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
- **surface**: clear anodised
- part front panel clear anodised
- **HP** = width unit = 5.08
- **U** = height unit = 44.45
- PCB holder **VS 6/7** → N 64
- part front panel incl. mounting material

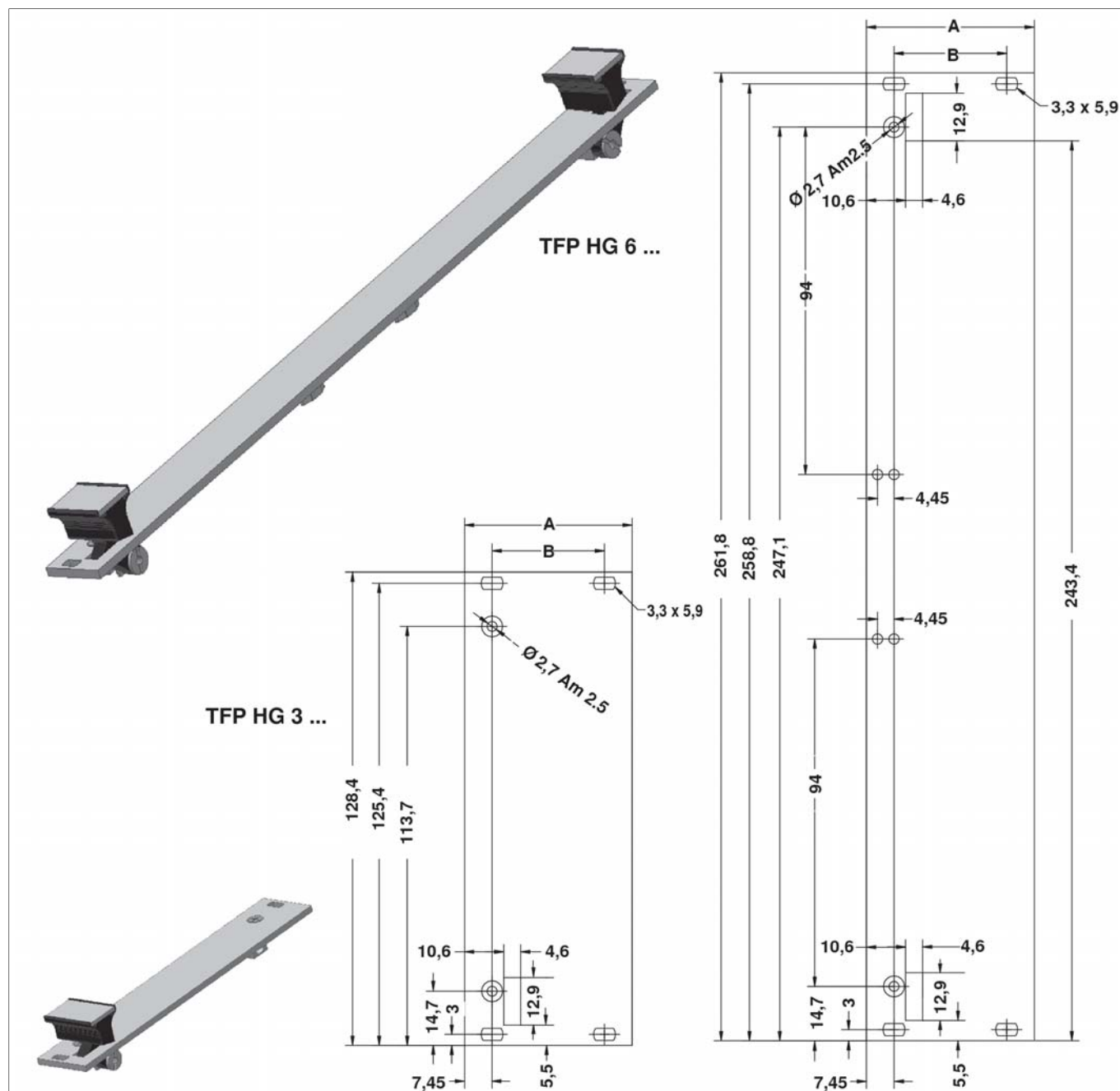
1 = PC-board; **2** = PC-board holder VS 6 (VS 7); **3** = front panel; **4** = plastic handle **GLK**; **5** = cheese head screw M 2.5 x 12;
6 = vertical lens screw M 2.5 x 8; **7** = insert strip



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
- **surface:** part front panel clear anodised
- supplied as kit incl. mounting material



art. no.	HP	dim. [mm] A	art. no.	HP	dim. [mm] A B	
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	45.7
please indicate: <div> <div> ... height unit 3=3 U 6=6 U </div> <div> ... metal nipples (optional) MN 2=press-in </div> </div>						

Accessories for part front panels

Contact spring

- made of phosphorus bronze is mounted between die-cast PC-bracket **VS 3-7**→ N 64 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 + 2**: metal sleeves for pressing in

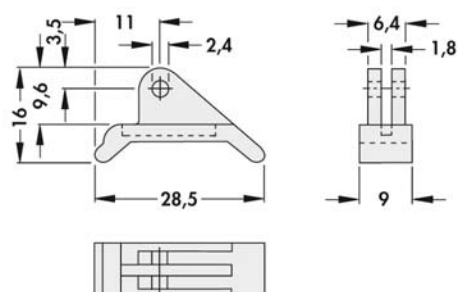
art. no.	packing unit	material
HS 1	100 pcs./bag	brass, nickel plated
KN 1	100 pcs./bag	polyamid
MN 1	10 pcs./bag	brass, nickel plated
MN 2	10 pcs./bag	brass, nickel plated
RS 1	100 pcs./bag	brass, nickel plated

B

C

- D

E

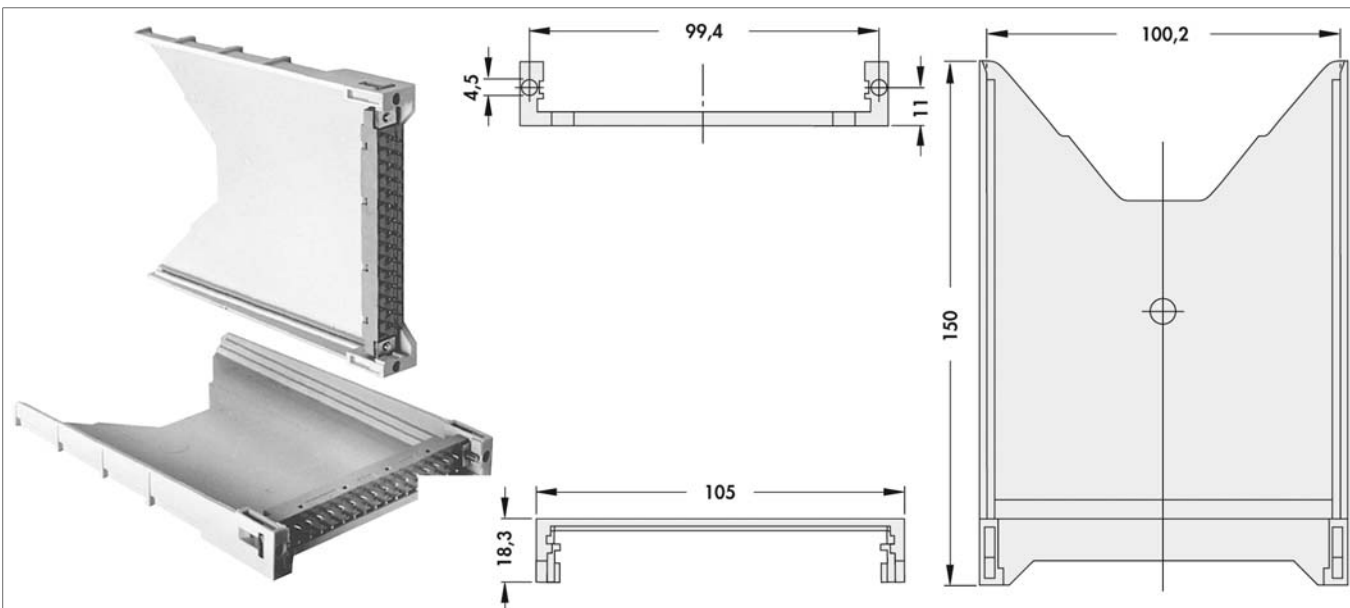


F

G

H

- 1



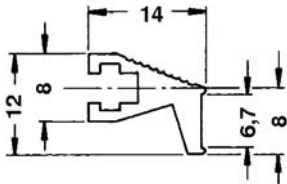
K

L

N 60

Handles for part front panels

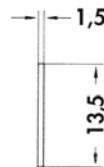
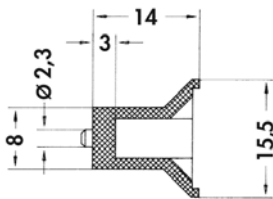
- handles of material EN AW 6060 T66 (Al Mg Si 0.5), set of mounting material please order separately
- further colours on request
- set of fixing material consists of:
 - **GLBZ** = fixing piece, nut M 2.5 and cross drive cheese head screw
 - **GLBS** = fixing piece, nut M 2.5 and countersink screw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



art. no.	number of fixing pieces	HP	dim. [mm] lengths	art. no.	number of fixing pieces	HP	dim. [mm] lengths
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=clear anodised							

dimensioned drawing of profile **GL 7** → N 76

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

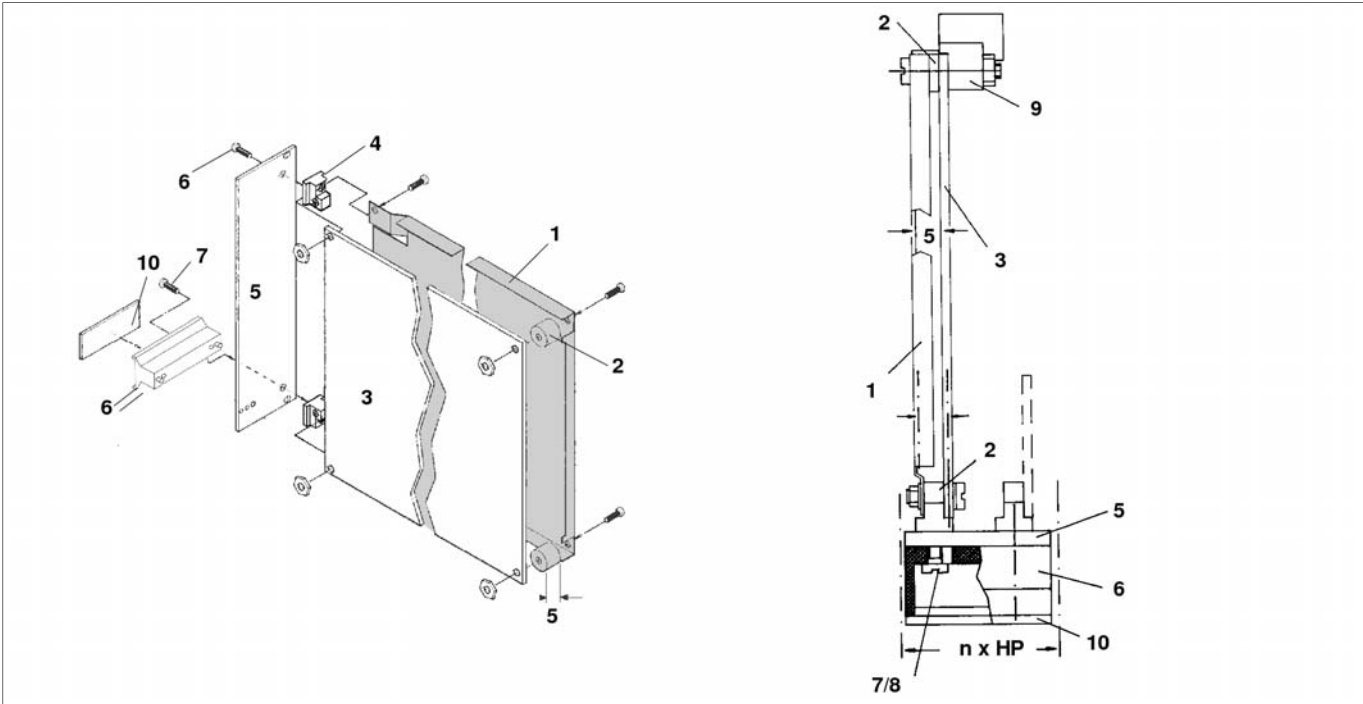


art. no.	HP	dim. [mm] lengths	art. no.	HP	dim. [mm] lengths
GLK 03	3	14.0	GLK 08	8	39.2
GLK 04	4	19.1	GLK 10	10	49.4
GLK 05	5	24.1	GLK 12	12	59.6
GLK 06	6	29.2	GLK 14	14	69.8
GLK 07	7	34.2			

PCB cover 3 U

- 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
- **material:** 1 mm sheet aluminium, clear anodised

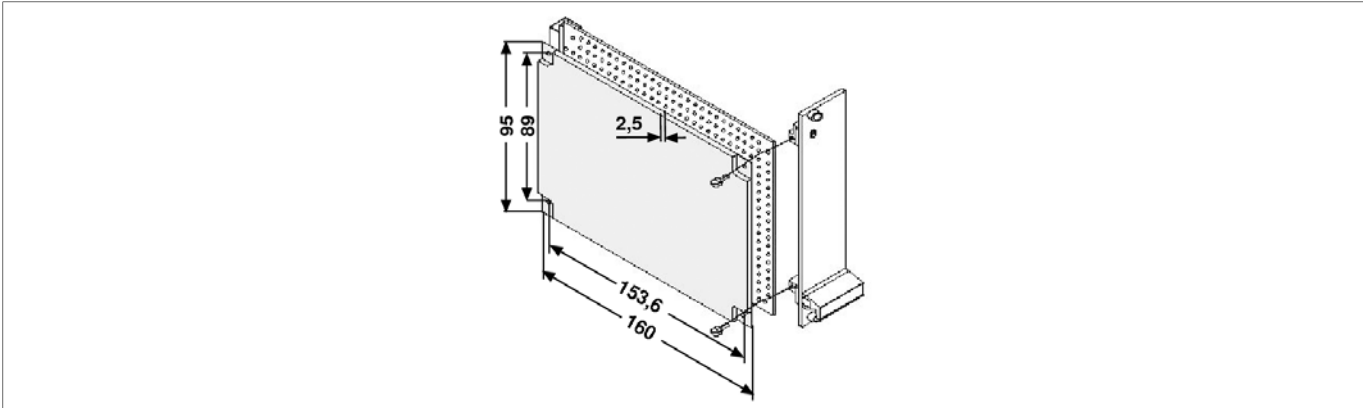
1 = PCB cover; **2** = spacer; **3** = PC-board; **4** = PCB holder **VS 7**; **5** = front plate; **6** = plastic handle **GLK**;
7 = cheese head screw M 2.5 x 12; **8** = vertical lens screw M 2.5 x 8; **9** = header; **10** = insert strip



art. no.
LD 3 160

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]	material
LDK 3 160	without coating	100 x 160 mm	plastic, 1 mm, black, UL 94 V-0
LDK 3 160 E	with conductive outer coating	100 x 160 mm	plastic, 1 mm, black, UL 94 V-0

technical data

dielectric strength: 20 kV
heat disortion: 130 °C

Cooling case
Tube cases with Eurocards
BGT for EMC-applications
Unitized 19" subracks

→ M 31 – 34
→ M 23
→ N 18 – 24
→ N 21 – 22

Guide rail
Variable guide rails
Reinforced guide rails
Extractor for part front panels

→ N 27
→ N 28
→ N 28
→ N 60

N 62

A

B

C

D

E

F

G

H

I

K

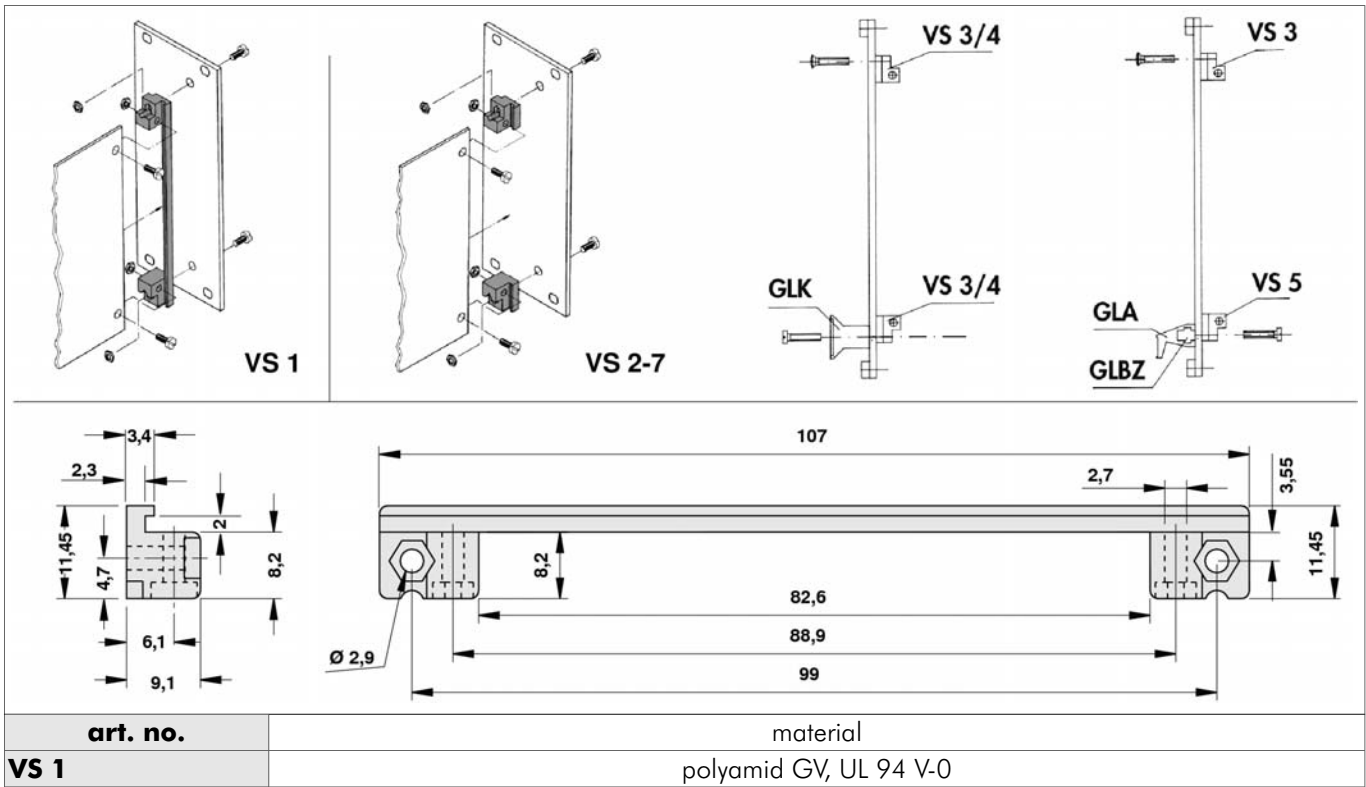
L

M

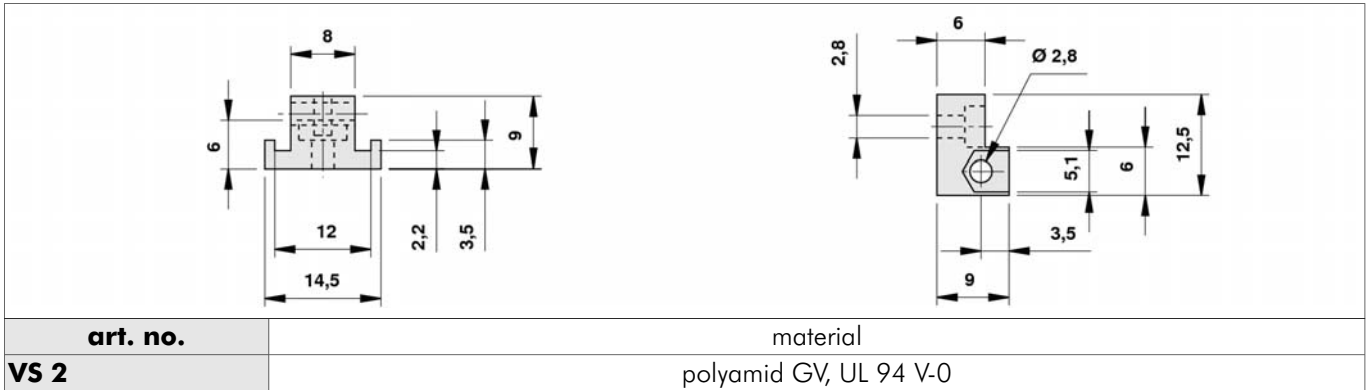
N

PC-board holder

– for 3 U eurocards incl. mounting material



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




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




PC-board holder

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

	
art. no.	material
VS 4	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.	material
VS 5	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.	material
VS 6	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.	material
VS 7	zinc die-casting

Fixing material	→ N 65	Heatsink insert modules	→ N 48 – 49
Insert modules	→ N 36 – 47	Insert modules 3 U	→ N 36 – 40
Order example insert moduels	→ N 45	Insert modules 6 U	→ N 41 – 43
General devices	→ M 2	3 U insert module designs	→ N 44

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



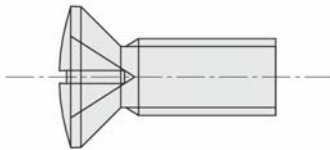
plastic grommet for LM 6

art. no.
KU 6



Cross drive raised head screws DIN 966 / EN ISO 7047

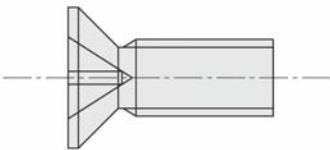
– with cross slot, form H; grade of resistance 4.8; **surface**: zinc-galvanized



art. no.	packing unit	dim. [mm] screw	art. no.	packing unit	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			

Cross drive countersunk screws DIN 965 / EN ISO 7046

– with cross slot, form H; grade of resistance 4.8; **surface**: zinc-galvanized



art. no.	packing unit	dim. [mm] screw	art. no.	packing unit	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			

N 65

19" case "Plusline"
19" plug-in chassis
19" plug-in boxes
19" plug-in box with cooling fins

→ N 2
→ N 3 – 4
→ N 5 – 9
→ N 10 – 11

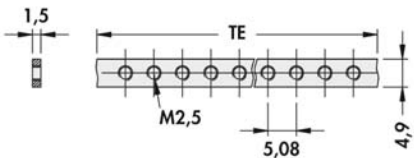
19" system case "RackCase"
19" benchtop cases
19" sub racks
Insert modules

→ N 14 – 16
→ N 17
→ N 19 – 23
→ N 36 – 47

Mounting accessories

Threaded rails M 2.5

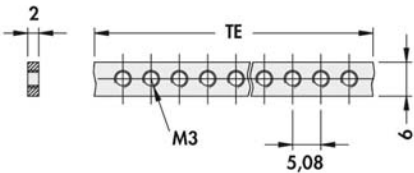
- threaded rails tapped to M 2.5 for mounting of fixing rails and front panels
- 1 set contains 4 threaded rails
- **material:** steel, zinc plated
- **HP** = width unit = 5.08 mm



art. no.	HP	dim. [mm] lengths	art. no.	HP	dim. [mm] lengths
BGT 302 2	2	10.2	BGT 340 2	40	203.2
BGT 304 2	4	20.3	BGT 341 2	41	208.3
BGT 308 2	8	40.6	BGT 342 2	42	213.4
BGT 310 2	10	50.8	BGT 346 2	46	233.7
BGT 318 2	18	91.4	BGT 355 2	55	279.4
BGT 321 2	21	106.7	BGT 360 2	60	304.8
BGT 328 2	28	142.2	BGT 363 2	63	320.0
BGT 332 2	32	162.6	BGT 381 2	81	411.5
BGT 336 2	36	182.9	BGT 384 2	84	426.7

Threaded rails M 3

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



art. no.	HP	dim. [mm] lengths	art. no.	HP	dim. [mm] lengths
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 342 9	42	213.4
BGT 310 9	10	50.8	BGT 346 9	46	233.7
BGT 318 9	18	91.4	BGT 363 9	63	320.0
BGT 321 9	21	106.7	BGT 381 9	81	411.5
BGT 327 9	27	137.2	BGT 384 9	84	426.7
BGT 328 9	28	142.2			

19" case "Plusline"
19" plug-in chassis
19" plug-in boxes
19" plug-in box with cooling fins

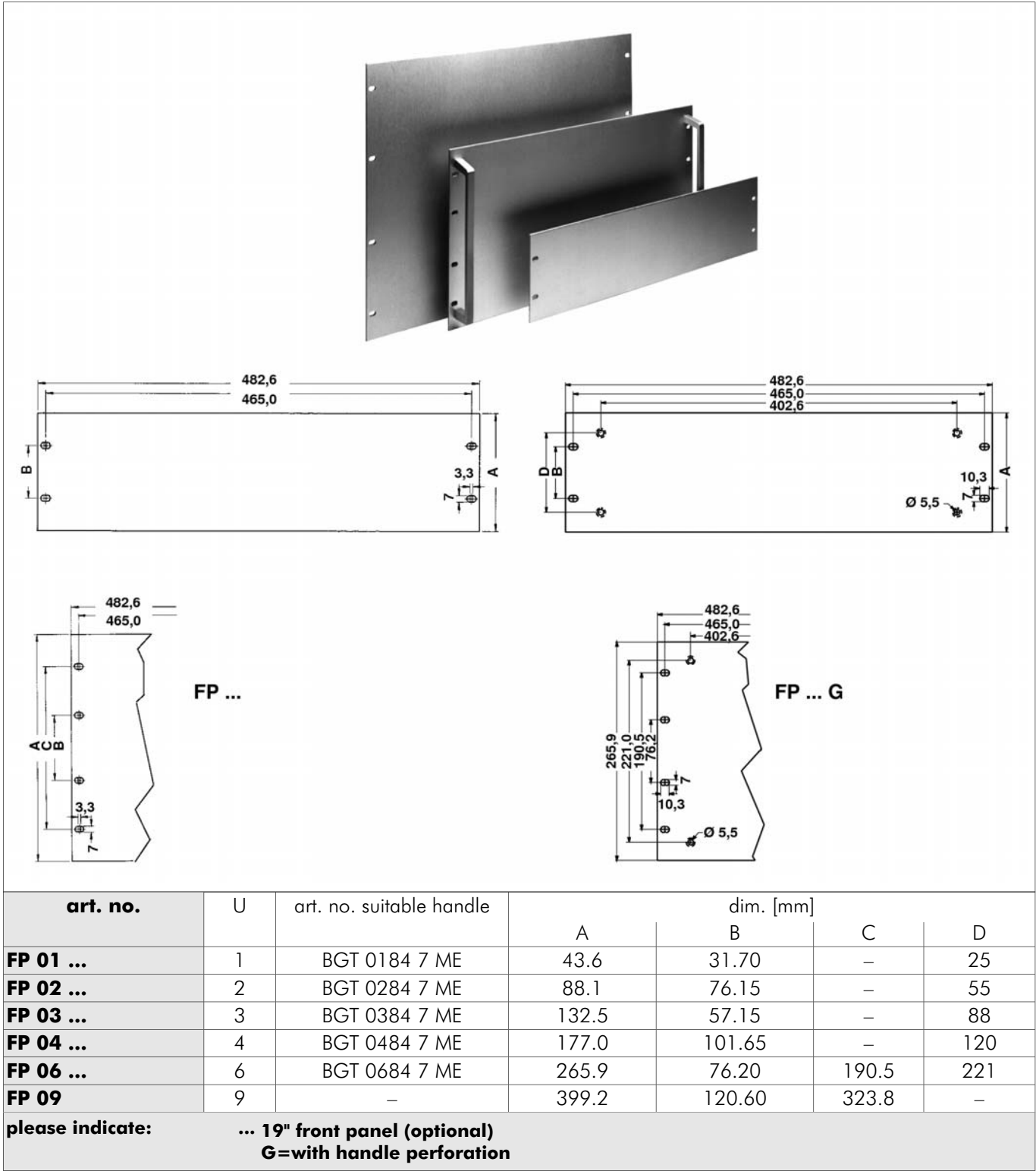
→ N 2
→ N 3 – 4
→ N 5 – 9
→ N 10 – 11

19" system case "RackCase"
19" benchtop cases
19" sub racks
Insert modules

→ N 14 – 16
→ N 17
→ N 19 – 23
→ N 36 – 47


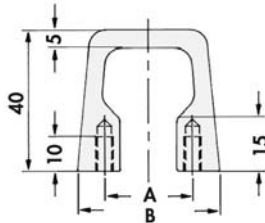
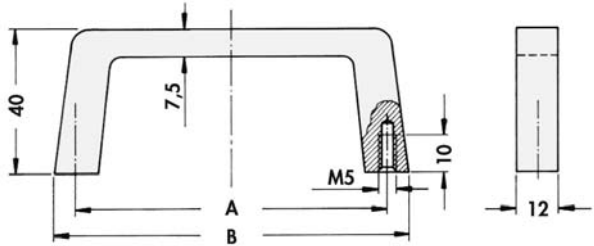
19" front panels


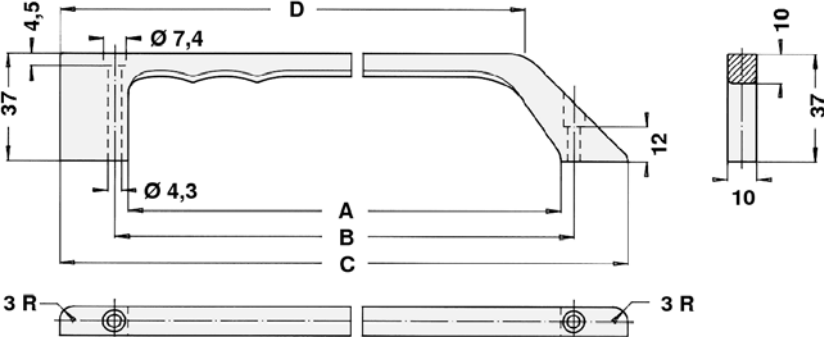
- the 19" front panels are available with and without perforation for handle
- suitable handle please order separately
- **material:** 4 mm aluminium, clear anodised
- **FP ...** = front panel without perforated handle
- **FP ... G** = front panel with perforated handle



19" rack handles

- rack handles for 19" subracks, bench cases and other cases
- very robust version made of solid aluminium profile
- **material:** EN AW 6060 T66 (Al Mg Si 0.5)

				
	1 U		2 - 6 U	
art. no.	U	dim. [mm]		
		A	B	
BGT 0184 7 ...	1	25	41	
BGT 0284 7 ...	2	55	69	
BGT 0384 7 ...	3	88	101	
BGT 0484 7 ...	4	120	134	
BGT 0584 7 ...	5	180	194	
BGT 0684 7 ...	6	221	234	
please indicate: ... surface				
SA =black anodised				
ME=clear anodised				

					
	3 R				
art. no.	U	dim. [mm]			
RAC G 3 ...	3	A	B	C	D
RAC G 4 ...	4	86.5	95.5	132.5	97.2
RAC G 6 ...	6	131.0	140.0	177.0	141.7
RAC G 7 ...	7	219.8	228.8	265.8	230.5
RAC G 7 ...	7	264.2	273.2	310.2	274.9
please indicate: ... surface SA = black anodised ME = clear anodised TB = turquoise blue lacquered					

19" benchtop cases
19" subracks
19" front panels
Special subracks

→ N 17
→ N 19 - 23
→ N 67
→ N 24

EMC subracks
Insert modules
Order example insert moduels
Part front panels

→ N 29 - 34
→ N 36 - 47
→ N 45
→ N 52 - 58

N 68

A

B

C

D

E

F

G

H

I

K


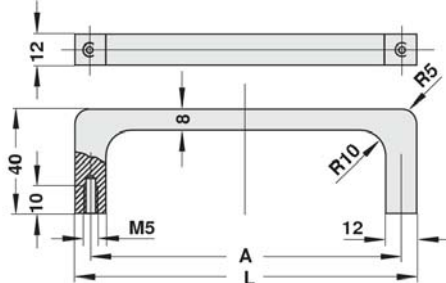
L

M


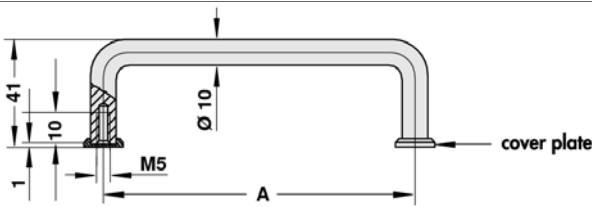
N

19" rack handles


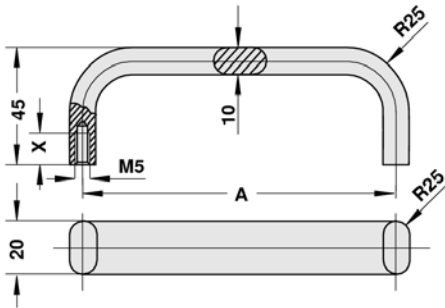
- rack handles for 19" subracks, benchtop cases and further cases
- very robust version made from solid aluminium profile EN AW 6000

				
art. no.	U	suitable 19" front panel	dim. [mm]	
			A	L
GR A 2 ...	2	FP 2 G	55	67
GR A 4 ...	4	FP 4 G	120	132
please indicate:				
... surface				
SA =black anodised				
ME=clear anodised				

- round aluminium Ø 10 mm


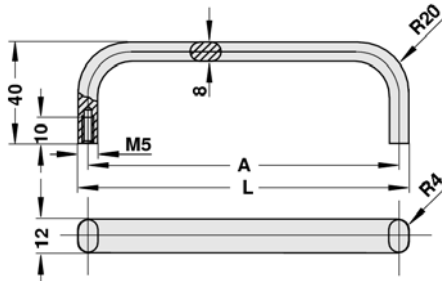
									
art. no.		U	suitable 19" front panel	dim. [mm]		A			
GR B 3 ME		3	FP 3 G			88			

- flat oval profile aluminium EN AW 6000


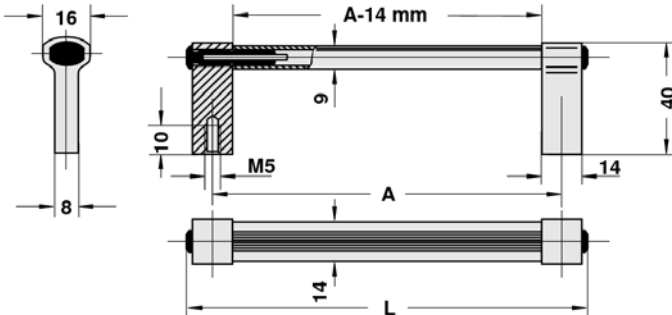
				
art. no.	U	suitable 19" front panel	dim. [mm]	
GR C 4 ...	4	FP 4 G	A	X
please indicate:			... surface SA =black anodised ME=clear anodised	

19" rack handles


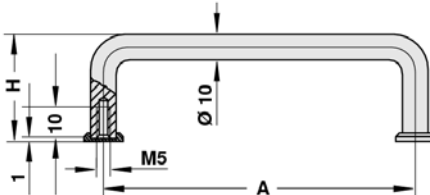
– oval aluminium

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


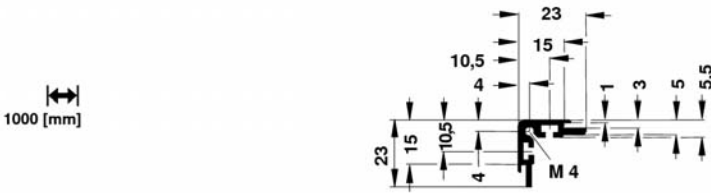
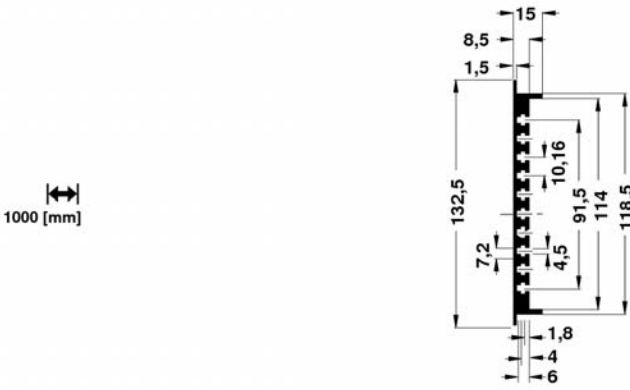


- handle blade and bar made of aluminium profile EN AW 6000
- moulded articles for connection made of black polyamide with high-grade steel pin

					
art. no.	U	suitable 19" front panel	dim. [mm]		
GR F 2 ...	2	FP 2 G	A	L	
please indicate:		... surface SA =black anodised ME=clear anodised			

- round steel Ø 10 mm
- **surface:** high polish chromium-plated

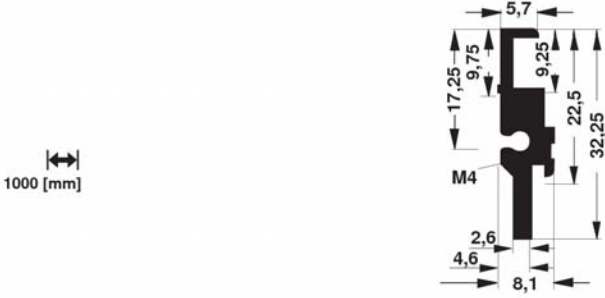
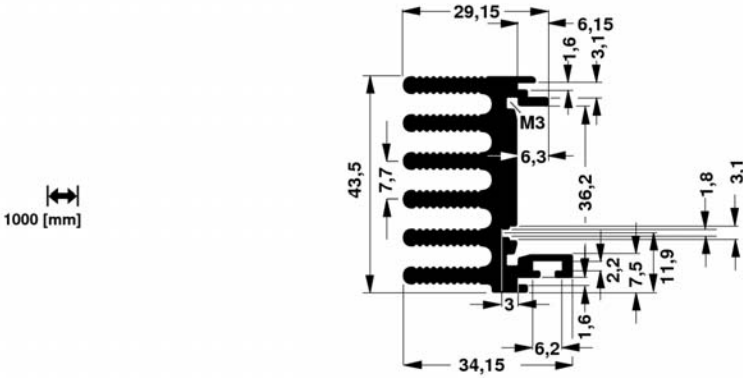
									
art. no.	U	suitable 19" front panel	dim. [mm]		art. no.	U	suitable 19" front panel	dim. [mm]	
			A	H				A	H
GR G 2 ME	2	FP 2 G	55	41	GR G 4 ME	4	FP 4 G	120	41
GR G 3 ME	3	FP 3 G	88	41	GR G 5 ME	5	FP 5 G	180	41

Profiles for 19" plug-in boxes

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

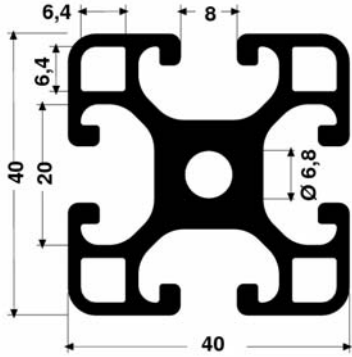
Profiles for 19" front panels and plug-in boxes

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=clear anodised AL =raw degreased aluminium	

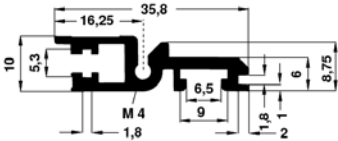
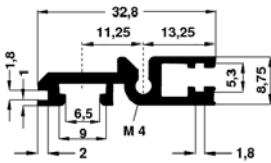
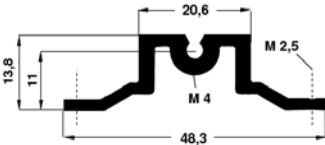
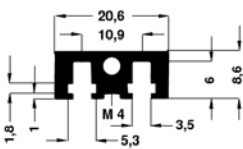
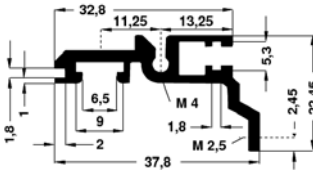
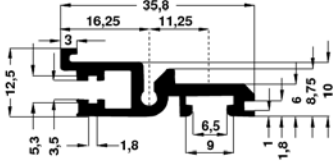
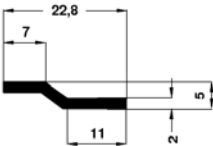
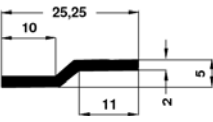
art. no.	
GB 35 ...	side profile with screw hole channel for Rack Case
art. no.	
GB 53 ...	side profile for 1 U cooling fin cases, side profile for 1 U cooling fin plug-in boxes
please indicate: ... surface SA =black anodised ME=clear anodised AL =raw degreased aluminium	

Profile for mechanical engineering


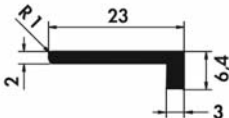

- robust extruded profile made of highly stressable aluminium
- for the production of basic frames for mechanical engineering
- allows the production of frames for absorption of forces and mounting of surface elements
- easy assembly with suitable accessories
- **on request:** each length up to 3000 mm, surface treatment such as anodising, lacquering etc., mechanical treatment of single components and mountings, special versions according to customer's requirement
- **material:** aluminium alloy EN AW 6063 T66
- **tolerances:** DIN EN 12020

	
art. no.	
PM 4040 ...	
please indicate:	<div>... surface</div> <div>SA =black anodised</div> <div>ME=clear anodised</div> <div>AL =raw degreased aluminium</div>


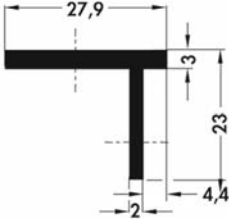

Profiles for 19" subracks

art. no.		
GB 29 L ...	front module rail, perforated	
art. no.		
GB 30 L ...	rear module rail, perforated	
art. no.		
GB 31 L ...	middle connector carrier with integrated Z-rail, perforated	
art. no.		
GB 32 L ...	middle connector carrier	
art. no.		
GB 33 L ...	rear module rail with integrated Z-rail, completely perforated	
art. no.		
GB 34 L ...	front module rail for panel mounting, perforated	
art. no.		
GB 5 L ...	set Z-rails, perforated, for connector DIN 41612	
art. no.		
GB 20 L ...	set Z-rails, perforated, for connector DIN 41617	
please indicate:	... surface ME=clear 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=clear 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

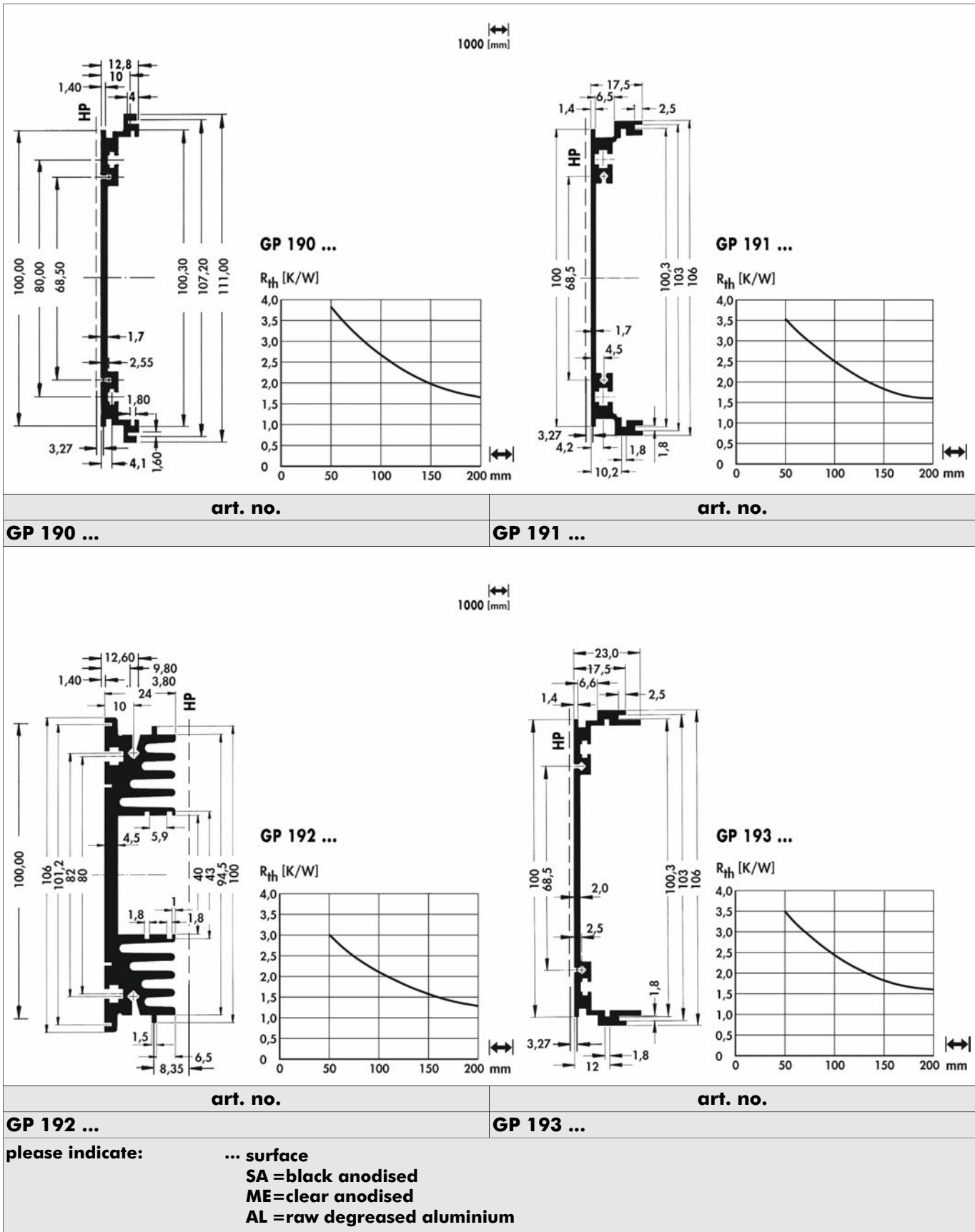
GB 27 3 ... GB 27 3 G ...  132,5 [mm]		GB 27 6 ... GB 27 6 G ...  265,9 [mm]
art. no.	art. no.	
GB 27 3 ...	GB 27 6 ...	
GB 27 3 G ...	GB 27 6 G ...	
please indicate: ... surface ME=clear anodised TP =transparent passivated		

Profiles for insert modules and part front panels

art. no.	
GL 7 ...	handle profile
please indicate: ... surface SA =black anodised ME=clear anodised TP =transparent passivated AL =raw degreased aluminium	
art. no.	
GB 13 ...	profile for hinged part front panels
please indicate: ... surface ME=clear anodised TP =transparent passivated AL =raw degreased aluminium	
art. no.	
GB 14 ...	profile for hinged part front panels
art. no.	
GP 199 ...	profile for heatsink insert modules
please indicate: ... surface SA =black anodised ME=clear anodised TP =transparent passivated AL =raw degreased aluminium	

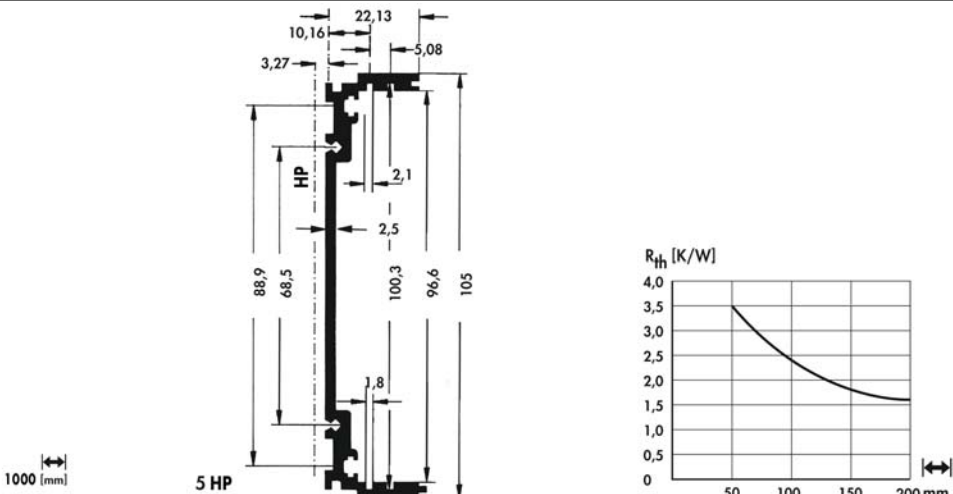
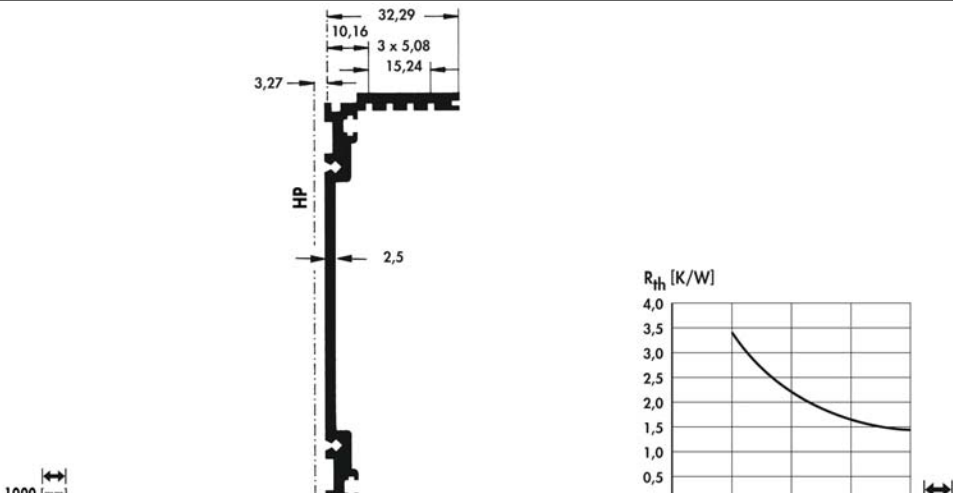
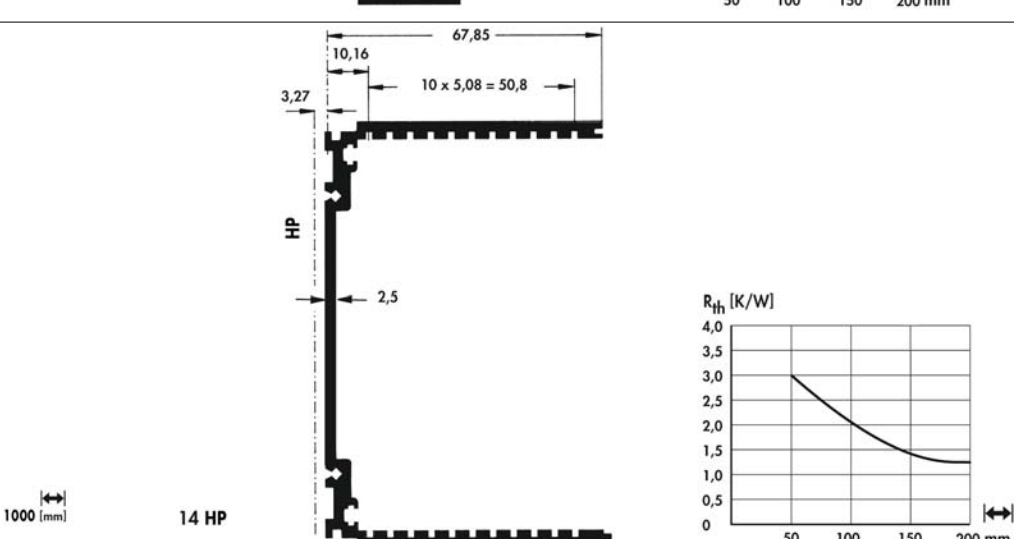
Profiles for insert modules, 3 U

– HP: grid line



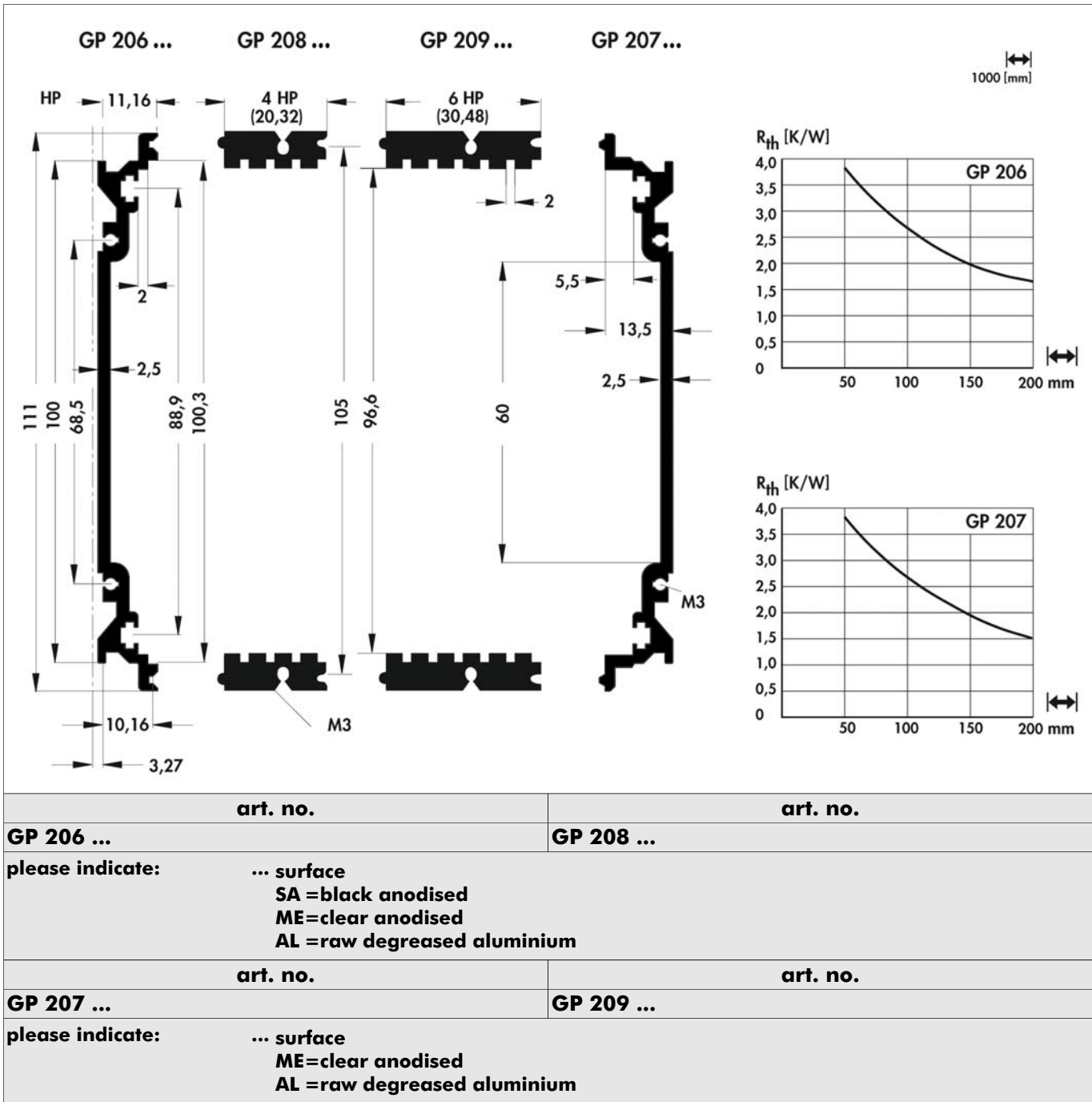
Profiles for insert modules, 3 U

– HP: grid line

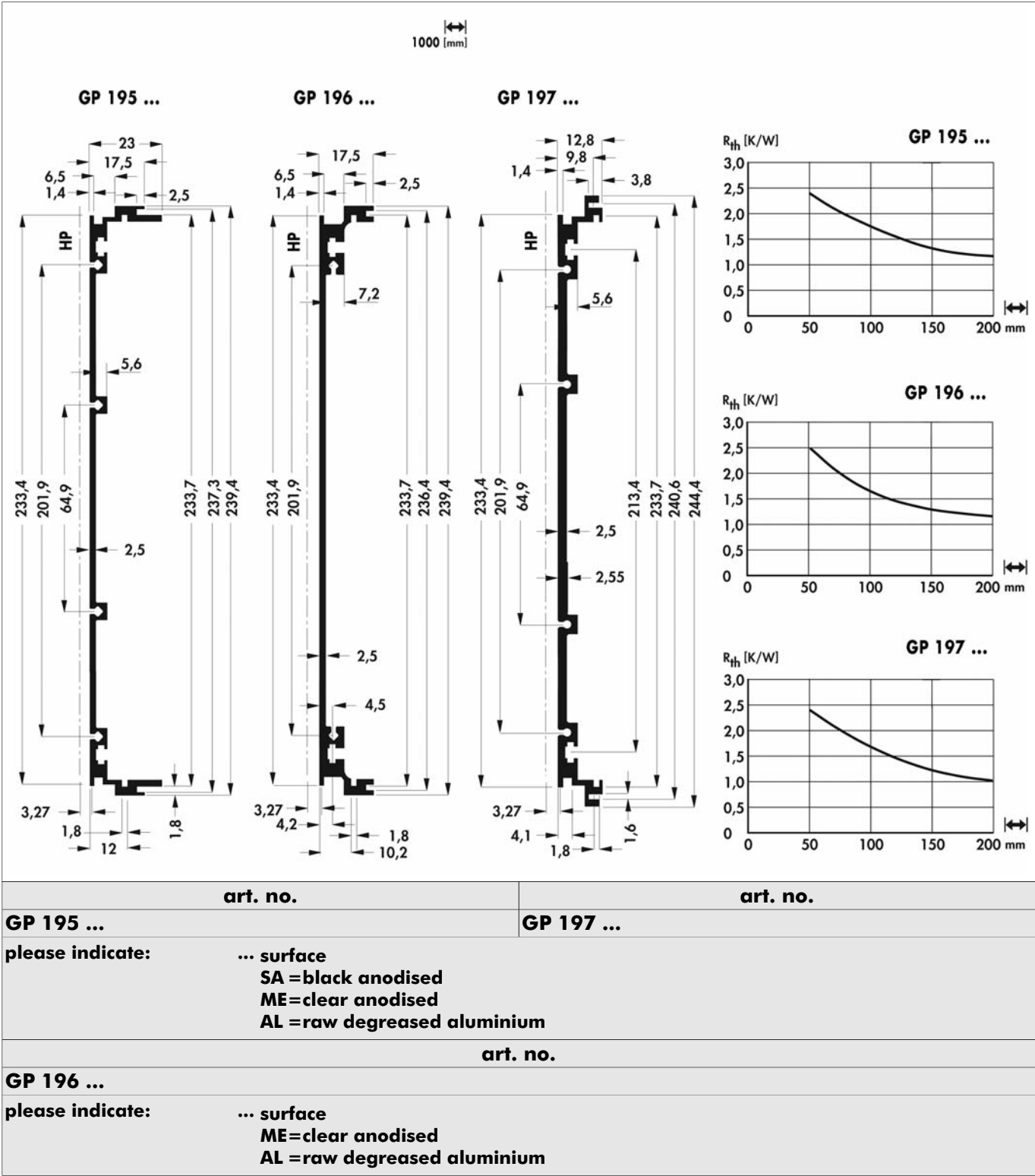
art. no.	
GP 200 ...	5 HP
art. no.	
GP 201 ...	7 HP
art. no.	
GP 202 ...	14 HP
please indicate: ... surface SA =black anodised ME=clear anodised AL =raw degreased aluminium	

Profiles for insert modules, 3 U

– HP: grid line



– HP: grid line



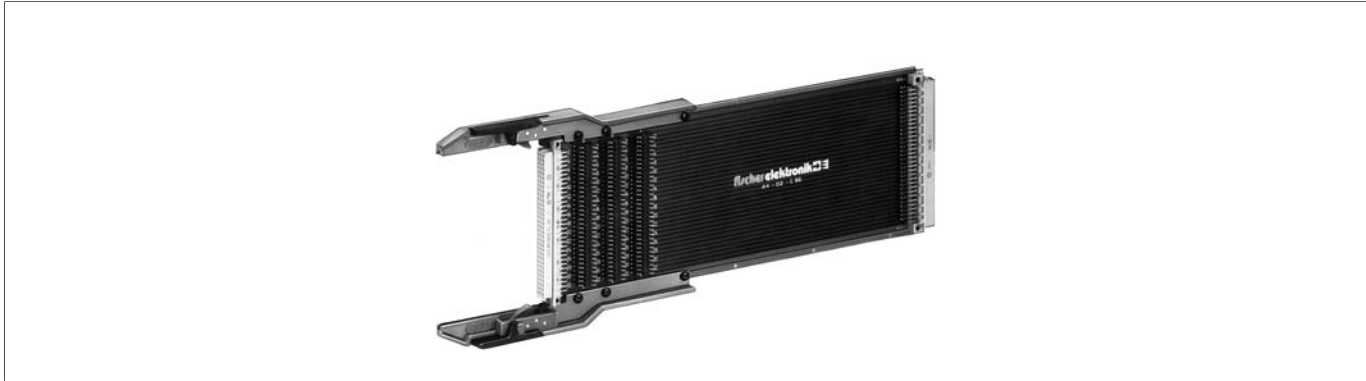
B

Extender cards with connector DIN 41612

C

technical characteristics:

- D
- E
- **base material of PCB:** glass fibre filled epoxy FR 4, thickness 1.6 mm
 - **copper laminate:** one side or double sided 35 µm Cu or 70 µm Cu
 - **galvanised:** plated through holes, tracks Sn/Pb reflowed or partially tinned; according to technical requirement
 - **surface of PCB:** both sides laid-on multiple-component solder masking lacquer, or dry film solder masking lacquer (foil)
 - **marking print:** clear arrangement of specific connector marking on the test point equipment, by plain printed position
 - **guide rails:** solid version with integral draw-in mechanism, mechanical extractor lever and locking device
 - **material:** glass fibre reinforced polyamide



F

special extender cards:

We take care of development and production of special extender cards according to your requirements.

G

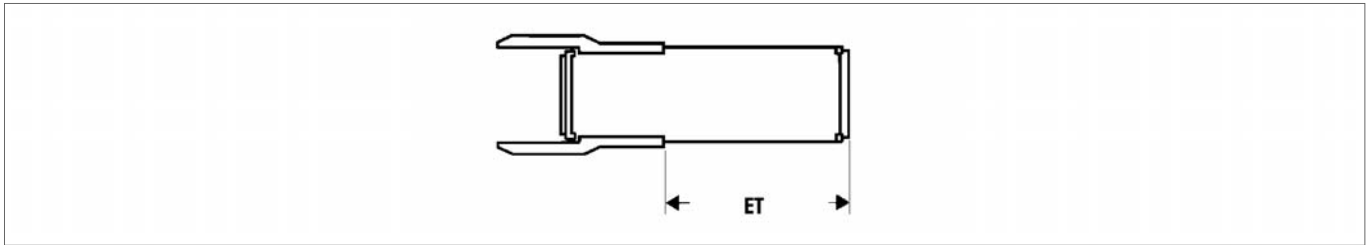
Connector equipment

connector DIN 41612	no. for order example	no. of poles/ equipped	also applicate to:
	B 64	64 a + b	B 32 poles, a or a + b equipped
	C 64	64 a + c	C 32 poles, a or a + c equipped
	C 96	96 a + b + c	–
	D 32	32 a + c	–
	F 48	48 z + b + d	F 32 poles, z + b or z + d equipped

H

Insert depth (ET)

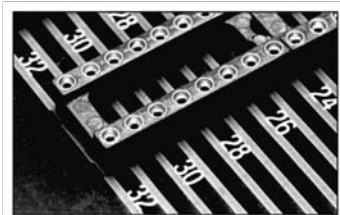
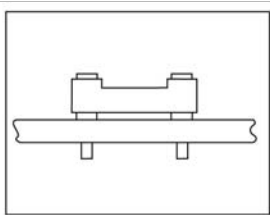
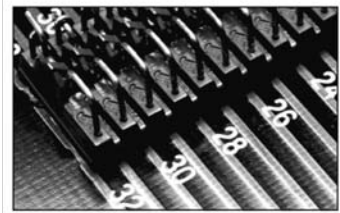
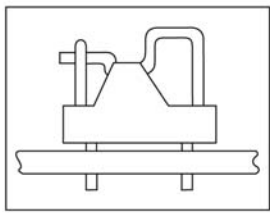
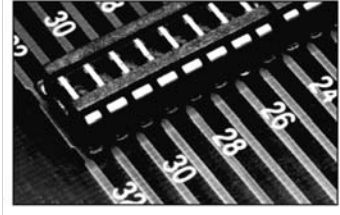
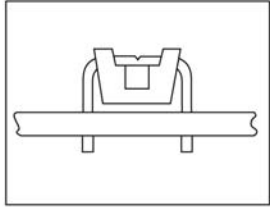

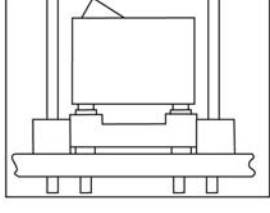

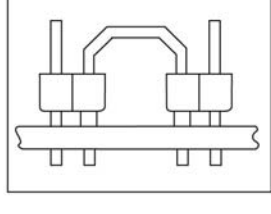
- I
- insert depth 175 mm: suitable for eurocards 160 mm
 - insert depth 235 mm: suitable for eurocards 220 mm



Extender cards with connector DIN 41612

Extender cards, test point equipment

- 1. DIL-sockets with precision contacts, please order suitable interconnections separately
- 2. wire bridge switch
- 3. soldered-in programmable header
- 4. DIL-switches, plugged on high precision sockets with 2 measuring posts for each track
- 5. removable jumpers and 2 measuring posts for each track

	1.	
	2.	
	3.	
	4.	
	5.	

connector equipment → N 81

Order example

AK	02	C 96	4
Type	01 = Eurocards insert depth: 235 mm	Connector equipment: 0 = without connector	Test point equipmentsee above 0 = without equipment (Conductor lines not through connected) Special equipment on request
	02 = Eurocards insert depth: 175 mm		

Handles for part front panels → N 61
Extractor for part front panels → N 60
19" case "Plusline" → N 2
Order example extender cards → N 82

PCB covers → N 62
19" front panels → N 67
Profiles for 19" plug-in boxes → N 73

N 82

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Part front panels for EMC	N 35
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Profiles for insert modules and part front panels	N 76 – 80
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Tube cases	M 19 – 23

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