PROTEC-
TION CLASS
UP TO IP 65

ROBUST-BOXES

ROBUST-BOXES

YOUR ADVANTAGE

- Two standard materials: ABS – approved as a terminal mounting case or as polycarbonate – a solid and robust case, with high heat resistance for use in adverse environments.

- Easy-assembly construction. The case shells can be used as either top or base section.

- Solid and sealed up to IP 65.

- The cover fixings are outside of the sealed area. The fixing screws are rust proof and captured in the cover.

- There is an area recessed by min. 0.8 mm for the mounting of membrane keyboards.

- Colourful cover strips for coding (as an alternative to the standard version in light grey).

- Variable. 11 basic dimensions in 2 and / or 3 different heights.

- Applicable as desk top case and wall-mounting case.

- Large variety of accessories, e.g. case feet, wall-mounting brackets, PCB support etc.
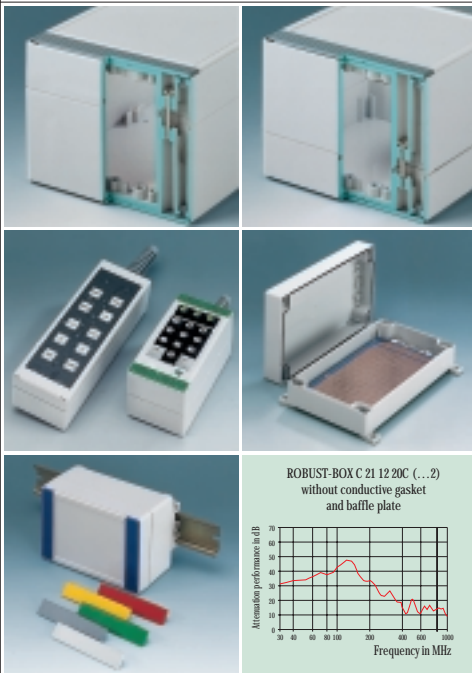
ROBUST-BOX C 21 12 20C (…2)
without conductive gasket
and baffle plate

Attenuation performance in dB / Frequency in MHz
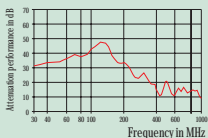
SEALED, ROBUST, CONVINCING DESIGN.

Two case ranges available in ABS and polycarbonate with the same easy-assembly construction and a wide range of applications.

The construction, using cover strips in the screw areas, gives the user various identification options. This means that by using different coloured cover strips, the user can code his equipment, e.g. installation cases for ventilation with blue cover strips, for heating with red cover strips etc.

APPLICATIONS

This case system is especially suitable for a wide range of electric installations, e.g. heating, climate, ventilation, machine building and construction units. The system is also ideal for many electronic applications.

Further applications are control units, machine controller, internal and external sensors, hand-held control units etc.

EMC

Cases marked with ⚡ are available with aluminium metallization on demand. The shielding effect amounts to approx 30-35 dB (please refer to diagram). The bonding can be improved by contact strips. See pages 207-209.

MODIFICATIONS AS PER CUSTOMER'S REQUIREMENTS

Machining on modern CNC-controlled machines. Lacquering. Silk screen and tampo printing.

Important: Please appoint the parts with or without groove.
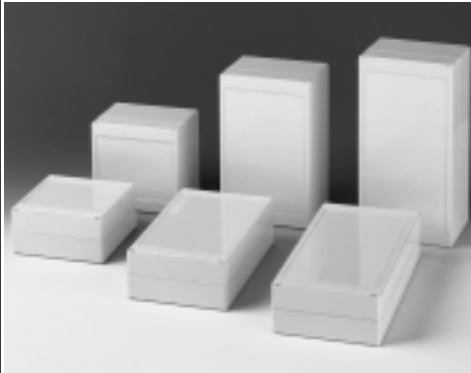
See pages 210-213.

ROBUST-BOXES

OKW

ROBUST-BOX WIDTH 80

Outside dimensions in mm

Length	Width	Height
80	80	60 / 80
120	80	60 / 80
160	80	60 / 80
240	80	60 / 80

ROBUST-BOX WIDTH 120

Outside dimensions in mm

Length	Width	Height
120	120	60 / 90
200	120	60 / 90
240	120	60 / 90

ROBUST-BOX WIDTH 160

Outside dimensions in mm

Length	Width	Height
160	160	60 / 90
240	160	60 / 90
new:		
240	160	120

ROBUST-BOX in poly-carbonate with transparent top on demand.

STANDARD COLOURS

One-coloured: light grey, RAL 7035.

Two-coloured: case light grey, RAL 7035; cover strips alternatively in silver grey, RAL 7001 / red, RAL 3020 / yellow, RAL 1023 / green, RAL 6024 or blue, RAL 5017. (Colourful cover strips see accessories on page 89.)

See also colour chart page 214.

MATERIAL

ABS (UL 94 HB) or polycarbonate (UL 94 HB). Please refer to the specifications pages 215-217.

NEW IN PROGRAM
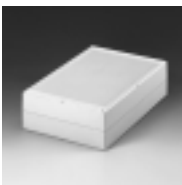
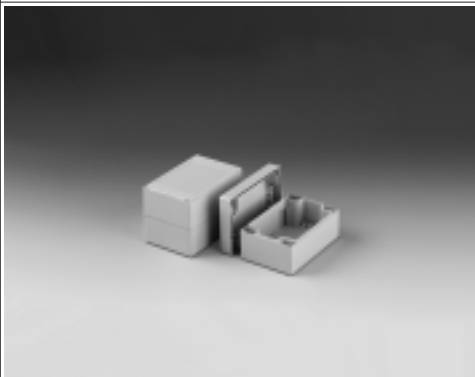## ROBUST-BOX WIDTH 200

300 x 200 x 80/120/160

ROBUST-BOX WIDTH 240

360 x 240 x 80/120/160

ROBUST-BOXES

ROBUST-BOXES

OKW

ROBUST-BOX, WIDTH 80

VERSION I

Top and base
ABS (UL 94 HB);
colour: light grey, RAL 7035.

VERSION II

Top and base
polycarbonate (UL 94 HB);
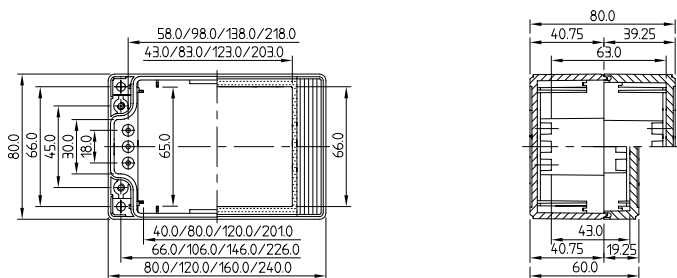colour: light grey, RAL 7035.

SUPPLY

Two case shells (one with
groove, one with tongue)
with gasket; each with two
pairs of cover strips (the
base ones with two holes
for the rubber feet) in light
grey.
Assembly kit.

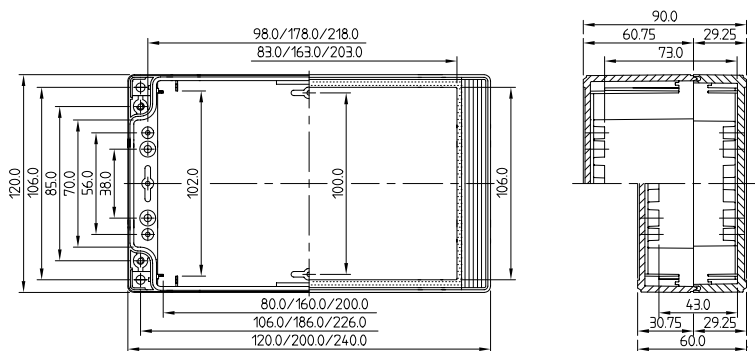Detailed drawing available on demand in dwg or dxf format.

⊕ ◈ = Type of screw for case fixing: cross head

58.0/98.0/138.0/218.0
43.0/83.0/123.0/203.0

80.0
66.0
45.0
30.0
18.0
65.0
66.0

40.0/80.0/120.0/201.0
66.0/106.0/146.0/226.0
80.0/120.0/160.0/240.0

80.0
40.75   39.25
63.0

43.0
40.75   19.25
60.0

(Part-No. with ⚡ see EMC page 82)

⊕ Z (PZ2)

Part-No.	CASE LENGTH 80				CASE LENGTH 160				Part-No.
	Version	Outside dim. in mm			Version	Outside dim. in mm			
		L	W	H		L	W	H	
C 20 08 081 ⚡	I	80	80	60	I	160	80	60	C 20 08 161 ⚡
C 21 08 081 ⚡	I	80	80	80	I	160	80	80	C 21 08 161 ⚡
C 20 08 082 ⚡	II	80	80	60	II	160	80	60	C 20 08 162 ⚡
C 21 08 082 ⚡	II	80	80	80	II	160	80	80	C 21 08 162 ⚡

Part-No.	CASE LENGTH 120				CASE LENGTH 240				Part-No.
	Version	Outside dim. in mm			Version	Outside dim. in mm			
		L	W	H		L	W	H	
C 20 08 121 ⚡	I	120	80	60	I	240	80	60	C 20 08 241 ⚡
C 21 08 121 ⚡	I	120	80	80	I	240	80	80	C 21 08 241 ⚡
C 20 08 122 ⚡	II	120	80	60	II	240	80	60	C 20 08 242 ⚡
C 21 08 122 ⚡	II	120	80	80	II	240	80	80	C 21 08 242 ⚡

OKW

SUPPLY

Two case shells (one with groove, one with tongue) with gasket; each with two pairs of cover strips (the base ones with two holes for the rubber feet) in light grey.
Assembly kit.

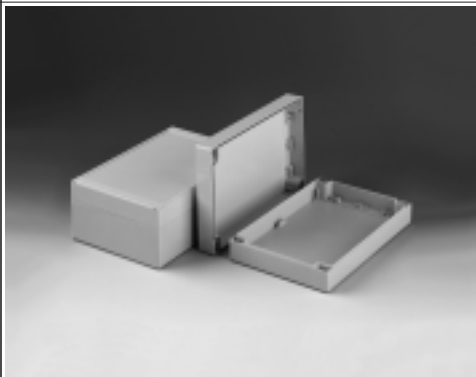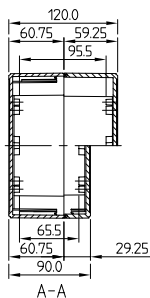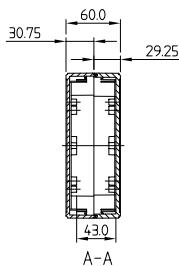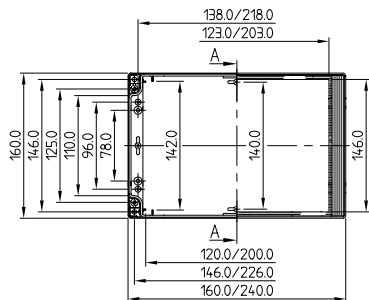## VERSION I

Top and base
ABS (UL 94 HB);
colour: light grey, RAL 7035.

VERSION II

Top and base
polycarbonate (UL 94 HB);
colour: light grey, RAL 7035.

ROBUST-BOXES

Detailed drawing available on demand in dwg or dxf format.

⊕ ⊕ = Type of screw for case fixing: cross head
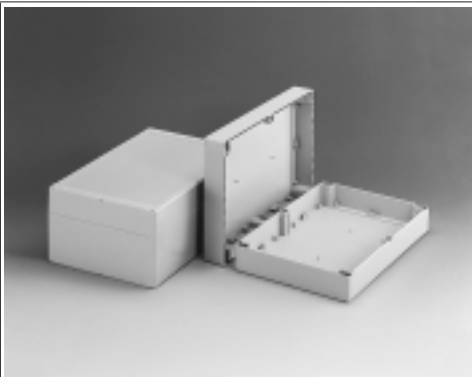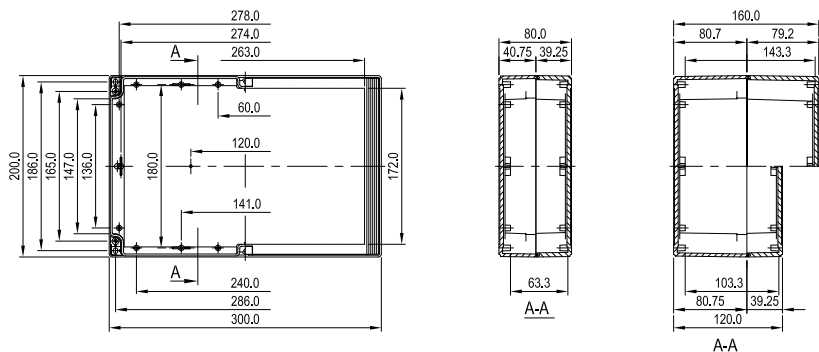

(Part-No. with ⚡ see EMC page 82)

⊕ Z (PZ2)

ROBUST-BOXES

Part-No.	Version	Outside dim. in mm		
		L	W	H
C 20 12 121 ⚡	I	120	120	60
C 21 12 121 ⚡	I	120	120	90
C 20 12 122 ⚡	II	120	120	60
C 21 12 122 ⚡	II	120	120	90

CASE LENGTH 120

CASE LENGTH 200

Version	Outside dim. in mm			Part-No.
	L	W	H	
I	200	120	60	C 20 12 201 ⚡
I	200	120	90	C 21 12 201 ⚡
II	200	120	60	C 20 12 202 ⚡
II	200	120	90	C 21 12 202 ⚡

ACCESSORIES (separately available, see pages 89-90.)

Case feet for desktop applications	Robust hinge
Wall-mounting brackets	Security kit
Fastening elements to DIN-rails	PCB supports
Cover strips	Punched plates with clips to insert PCBs
Securing hinge for the cover	DIN-rails

CASE LENGTH 240

Version	Outside dim. in mm			Part-No.
	L	W	H	
I	240	120	60	C 20 12 241 ⚡
I	240	120	90	C 21 12 241 ⚡
II	240	120	60	C 20 12 242 ⚡
II	240	120	90	C 21 12 242 ⚡

VERSION I

Top and base
ABS (UL 94 HB);
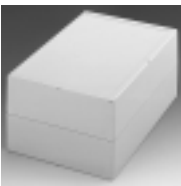colour: light grey, RAL 7035.

VERSION II

Top and base
polycarbonate (UL 94 HB);
colour: light grey, RAL 7035.

SUPPLY

Two case shells (one with
groove, one with tongue)
with gasket; each with two
pairs of cover strips (the
base ones with two holes for
the rubber feet) in light
grey. Assembly kit.

Detailed drawing available on demand in dwg or dxf format.

⊕ ◈ = Type of screw for case fixing: cross head

(Part-No. with ⚡ see EMC page 82)

⊕ Z (PZ2)

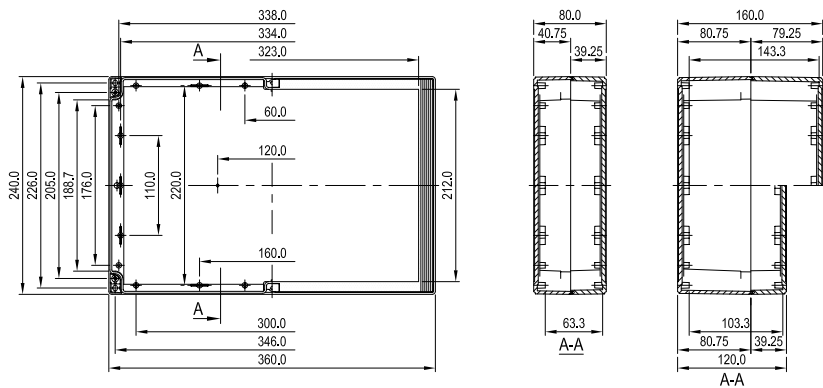| Part-No.	CASE LENGTH 160				CASE LENGTH 240				Part-No.
	Version	Outside dim. in mm			Version	Outside dim. in mm			
		L	W	H		L	W	H	
C 20 16 161 ⚡	I	160	160	60	I	240	160	60	C 20 16 241 ⚡
C 21 16 161 ⚡	I	160	160	90	I	240	160	90	C 21 16 241 ⚡
					I	240	160	120	C 24 16 241 ⚡
C 20 16 162 ⚡	II	160	160	60	II	240	160	60	C 20 16 242 ⚡
C 21 16 162 ⚡	II	160	160	90	II	240	160	90	C 21 16 242 ⚡
					II	240	160	120	C 24 16 242 ⚡

ROBUST-BOXES

ROBUST-BOXES

OKW

SUPPLY

Two case shells (one with groove, one with tongue) with gasket; cover strips (the base ones with holes for the rubber feet) in light grey. Assembly kit.

VERSION I

Top and base
ABS (UL 94 HB);
colour: light grey, RAL 7035.

VERSION II

Top and base
polycarbonate (UL 94 HB);
colour: light grey, RAL 7035.

ROBUST-BOXES

Detailed drawing available on demand in dwg or dxf format.

⊕ ⊕ = Type of screw for case fixing: cross head

ROBUST-BOXES

⊕ Z (PZ2)

ACCESSORIES (separately available, see pages 89-90.)

Case feet for desktop applications   Robust hinge
Wall-mounting brackets   Security kit
PCB supports

Version	Outside dim. in mm			Part-No.
	L	W	H	
I	300	200	80	C 21 20 301
I	300	200	120	C 24 20 301
I	300	200	160	C 25 20 301
II	300	200	80	C 21 20 302
II	300	200	120	C 24 20 302
II	300	200	160	C 25 20 302

CASE LENGTH 300

OKW

VERSION I

Top and base
ABS (UL 94 HB);
colour: light grey, RAL 7035.

VERSION II

Top and base
polycarbonate (UL 94 HB);
colour: light grey, RAL 7035.

SUPPLY

Two case shells (one with
groove, one with tongue)
with gasket; cover strips
(the base ones with holes
for the rubber feet)
in light grey.
Assembly kit.

ROBUST-BOXES

ROBUST-BOXES

Detailed drawing available on demand in dwg or dxf format.

⊕ ◈ = Type of screw for case fixing: cross head

⊕ Z (PZ2)

Part-No.	CASE LENGTH 360			
	Version	Outside dim. in mm		
		L	W	H
C 21 24 361	I	360	240	80
C 24 24 361	I	360	240	120
C 25 24 361	I	360	240	160
C 21 24 362	II	360	240	80
C 24 24 362	II	360	240	120
C 25 24 362	II	360	240	160

Case feet for desktop applications   Robust hinge
Wall-mounting brackets   Security kit
PCB supports

When using the case for desktop applications. Because of levelling out the length's tolerance of the cover strips we recommend to glue the case feet of sizes 200x300 and 240x360 mm.

Supply:
4 pieces

CASE FEET

	Part-No.
	C 22 99 018

Elements for exterior wall-mounting after assembly of the unit.

Supply:
4 pieces, fixing screws

WALL-MOUNTING-BRACKETS

	Part-No.
	C 22 99 028

For fastening the cases to DIN-rails according to DIN EN 50 022 and DIN EN 50 035.

Supply:
2 fastening elements, assembly kit

DIN-rails see page 90.

FASTENING ELEMENTS TO DIN-RAILS

for ROBUST-BOX	Part-No.
width 80	C 22 01 088
width 120	C 22 03 128
width 160	C 22 04 168

For securing the cover, e.g. during servicing. Can be fitted to any case side. Cannot be used with PCB mounting kit. Not applicable for sizes 200 x 300 and 240 x 360.

Supply:
2 securing hinges, fixing screws

SECURING HINGE FOR THE COVER

	Part-No.
	C 22 99 031

Suitable for case 120, 160, 200 and 240 mm length or width. Additional machining (drilling) required.

Supply:
2 complete hinges

HINGE

	Part-No.
	C 22 99 088

For use with lead tags.

Supply as security kit:
4 plugs, 2 cover strips with holes for the top, standard colour

Supply security plug as a single part:
1 plug

SECURITY KIT* / SECURITY PLUG**

for ROBUST-BOX	Part-No.
width 80	C 22 99 048*
width 120	C 22 99 042*
width 160	C 22 99 046*
all sizes	C 22 99 040**

Optionally supplied to the light grey coloured standard versions. Simply clip into top or base. Pair of cover strips with 2 holes to put in rubber feet or security plug.

COVER STRIPS

Supply:
2 cover strips with holes
2 cover strips without holes

Part numbers of the cover strips:

Colour		width 80 mm	width 120 mm	width 160 mm	Colour	
silver grey,	RAL 7001	C 22 01 082	C 22 03 123	C 22 04 162	silver grey,	RAL 7001
red,	RAL 3020	C 22 01 084	C 22 03 124	C 22 04 164	red,	RAL 3020
yellow,	RAL 1023	C 22 01 085	C 22 03 125	C 22 04 165	yellow,	RAL 1023
green,	RAL 6024	C 22 01 086	C 22 03 126	C 22 04 166	green,	RAL 6024
blue,	RAL 5017	C 22 01 087	C 22 03 127	C 22 04 167	blue,	RAL 5017

ROBUST-BOXES (side tab)

PCB SUPPORT

For mounting pre-assembled PCB units.
Case size 200 x 120 mm will accept Eurocard size (100 x 160 mm).

Supply:
2 supports (Eurocard size and width 120 mm) or
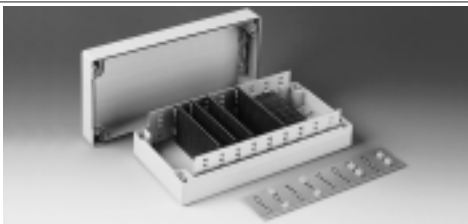4 supports (all other sizes), fixing kit

Part-No.	for ROBUST-BOX
C 22 99 058	200 x 120 mm, for Eurocard size and all other cases width 120 mm, 2 pieces
C 22 99 068	for all other sizes, 4 pieces

PCB MOUNTING KIT

For horizontally or vertically mounting of PCBs.

Supply:
2 punched plates,
12 clips

Rows

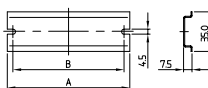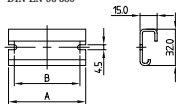| Part-No.		for ROBUST-BOX	Rows	Outside dim. in mm	
60 high	80 high	L x W		A	B
C 22 99 019	C 22 99 029	80 x 80	2	45	50.5 / 70.5
C 22 99 039	C 22 99 049	120 x 80	3	85	50.5 / 70.5
C 22 99 059	C 22 99 069	160 x 80	5	125	50.5 / 70.5
C 22 99 079	C 22 99 089	240 x 80	9	205	50.5 / 70.5
60 high	90 high				
C 22 99 099	C 22 99 049	120 x 120	3	85	43 / 70.5
C 22 99 119	C 22 99 129	200 x 120	5	165	43 / 73
C 22 99 139	C 22 99 089	240 x 120	9	205	43 / 70.5
C 22 99 159	C 22 99 069	160 x 160	5	125	43 / 70.5
C 22 99 139	C 22 99 089	240 x 160	9	205	43 / 70.5

ROBUST-BOXES (side tab)
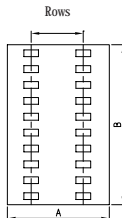
DIN-RAIL

DIN EN 50 022

DIN EN 50 035
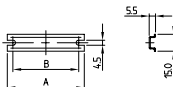
DIN EN 50 045

For fixings of clamps in the case.

Supply:
1 DIN-Rail

Part-No.			for	Outside dim. in mm	
DIN EN 50 022	DIN EN 50 035	DIN EN 50 045	ROBUST-BOX	A	B
–	–	C 22 99 609	length 80 mm	68	58
C 22 99 419	C 22 99 519	C 22 99 619	lenght 120 mm	108	98
C 22 99 429	C 22 99 529	C 22 99 629	length 160 mm	148	138
C 22 99 439	C 22 99 539	C 22 99 639	length 200 mm	188	178
C 22 99 449	C 22 99 549	C 22 99 649	length 240 mm	228	218
C 22 99 459	C 22 99 559	C 22 99 659	width 120 mm	110	100
C 22 99 469	C 22 99 569	C 22 99 669	width 160 mm	150	140