



## THE PRODUCT

The comprehensive SHELL-TYPE CASE range is available in different sizes, heights and types.

Simply choose the case that meets your special requirements best.

## YOUR ADVANTAGE

A high degree of rigidity and tight fitting as a result of the tongue- and groove joint.

Flat design for small-volume components.  
Higher versions for larger components.

Guide ridges for vertical mounting of partitions and PCBs. Fastening pillars in top and base part.

3 different case types:  
V: open front, closed rear.  
O: open front, open rear.  
G: closed front, closed rear.

Front and rear panels in aluminum or PMMA red (plexiglass®) available as accessories.

Without/with battery compartment.

Closed versions with flat top parts (type G), also with recessed area to protect the membrane keyboard.

## APPLICATIONS

Measuring and control technology.

Medical field and laboratory technology.

Peripheral devices and interfaces, switchboxes, modems.

## PROTECTION CLASS UP TO IP 65

For closed versions (G) without battery compartment when using the sealing kit (accessory).

## 3 HEIGHTS

Flat top part.  
Flat base part.



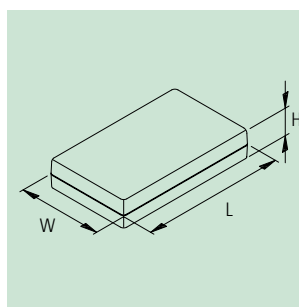
High top part.  
Flat base part.



High top part.  
High base part.



Off-white, RAL 9002



## TYPES

### SHELL-TYPE CASES V 85, 110, 155, 190

Open front,  
closed rear.



### SHELL-TYPE CASES O 155, 190

Open front,  
open rear.



### SHELL-TYPE CASES G 85, 110, 155, 190

Closed front,  
closed rear.



SHELL-TYPE CASES

## BATTERY COMPARTMENTS

### Case version II

1 x 9 V (SHELL-TYPE CASE V/G 110)

### Case version IV

2 x AA / 1 x 9 V (SHELL-TYPE CASE V/G 155)

### Case version V

4 x AA / 2 x 9 V (SHELL-TYPE CASE V/G 155, 190)



## ENCLOSURES

Part-No.	SHELL-TYPE-CASES	Outside dim. in inches			Version / Equipment (dim. in inches)			Material		
		L	W	H	battery comp.	max. dim. keypad	max. size of PCB*1			
A 94 04 333	V 85	3.346	1.772	0.866	I	—	—	2.795 x 1.496 / 2.795 x 1.496	ABS (UL 94 HB)	
A 94 06 333	V 110	4.488	2.835	1.299	I	—	—	3.898 x 2.126 / 3.898 x 2.126	ABS (UL 94 HB)	
A 94 06 343		4.488	2.835	1.772	I	—	—	3.898 x 2.126 / 3.858 x 2.126	ABS (UL 94 HB)	
A 94 06 443		4.488	2.835	2.244	I	—	—	2.717 x 2.126 / 3.898 x 2.126	ABS (UL 94 HB)	
A 94 06 334		4.488	2.835	1.299	II*2	1 x 9 V	—	2.717 x 2.126 / 3.858 x 2.126	ABS (UL 94 HB)	
A 94 06 344		4.488	2.835	1.772	II*2	1 x 9 V	—	2.717 x 2.126 / 3.858 x 2.126	ABS (UL 94 HB)	
A 94 08 333		V 155	6.220	3.740	1.299	I	—	—	5.630 x 3.031 / 5.630 x 3.031	ABS (UL 94 HB)
A 94 08 343	6.220		3.740	1.772	I	—	—	5.630 x 3.031 / 5.591 x 3.031	ABS (UL 94 HB)	
A 94 08 443	6.220		3.740	2.244	I	—	—	5.591 x 3.031 / 5.591 x 3.031	ABS (UL 94 HB)	
A 94 08 638	6.220		3.740	1.299	V*3	4 x AA / 2 x 9 V	—	3.268 x 3.031 / 5.630 x 3.031	ABS (UL 94 HB)	
A 94 08 648	6.220		3.740	1.772	V*3	4 x AA / 2 x 9 V	—	3.268 x 3.031 / 5.591 x 3.031	ABS (UL 94 HB)	
A 94 08 336	6.220		3.740	1.299	IV*4	2 x AA / 1 x 9 V	—	4.449 x 3.031 / 5.630 x 3.031	ABS (UL 94 HB)	
A 94 08 346	6.220		3.740	1.772	IV*4	2 x AA / 1 x 9 V	—	4.449 x 3.031 / 5.591 x 3.031	ABS (UL 94 HB)	
A 94 13 333	V 190		7.480	5.433	1.772	I	—	—	6.850 x 4.646 / 6.850 x 4.646	ABS (UL 94 HB)
A 94 13 343		7.480	5.433	2.677	I	—	—	6.850 x 4.646 / 6.811 x 4.646	ABS (UL 94 HB)	
A 94 13 443		7.480	5.433	3.583	I	—	—	6.850 x 4.646 / 6.811 x 4.646	ABS (UL 94 HB)	
A 94 13 638		7.480	5.433	1.772	V*3	4 x AA / 2 x 9 V	—	4.488 x 4.646 / 6.850 x 4.646	ABS (UL 94 HB)	
A 94 13 648		7.480	5.433	2.677	V*3	4 x AA / 2 x 9 V	—	4.488 x 4.646 / 6.811 x 4.646	ABS (UL 94 HB)	
A 94 08 330		O 155	6.220	3.740	1.299	I	—	—	5.591 x 3.031 / 5.591 x 3.031	ABS (UL 94 HB)
A 94 08 340	6.220		3.740	1.772	I	—	—	5.591 x 3.031 / 5.591 x 3.031	ABS (UL 94 HB)	
A 94 08 440	6.220		3.740	2.244	I	—	—	5.591 x 3.031 / 5.591 x 3.031	ABS (UL 94 HB)	
A 94 13 330	O 190	7.480	5.433	1.772	I	—	—	6.811 x 4.646 / 6.811 x 4.646	ABS (UL 94 HB)	
A 94 13 340		7.480	5.433	2.677	I	—	—	6.811 x 4.646 / 6.811 x 4.646	ABS (UL 94 HB)	
A 94 13 440		7.480	5.433	3.583	I	—	—	6.811 x 4.646 / 6.811 x 4.646	ABS (UL 94 HB)	
A 94 04 331	G 85	3.346	1.772	0.866	I	—	—	2.992 x 1.496 / 2.953 x 1.496	ABS (UL 94 HB)	
A 94 04 341		3.346	1.772	1.299	I	—	—	2.992 x 1.496 / 2.953 x 1.457	ABS (UL 94 HB)	
A 94 04 441		3.346	1.772	1.772	I	—	—	2.953 x 1.457 / 2.953 x 1.457	ABS (UL 94 HB)	
A 94 06 331	G 110	4.488	2.835	1.299	I	—	—	4.094 x 2.126 / 4.094 x 2.126	ABS (UL 94 HB)	
A 94 06 351		4.488	2.835	1.319	I	—	4.012 x 2.358	4.094 x 2.126 / 4.094 x 2.126	ABS (UL 94 HB)	
A 94 06 341		4.488	2.835	1.772	I	—	—	4.094 x 2.126 / 4.055 x 2.126	ABS (UL 94 HB)	
A 94 06 441		4.488	2.835	2.244	I	—	—	4.094 x 2.126 / 4.055 x 2.126	ABS (UL 94 HB)	
A 94 06 332		4.488	2.835	1.299	II*2	1 x 9 V	—	2.953 x 2.126 / 4.094 x 2.126	ABS (UL 94 HB)	
A 94 06 352		4.488	2.835	1.319	II*2	1 x 9 V	4.012 x 2.358	2.953 x 2.126 / 4.094 x 2.126	ABS (UL 94 HB)	
A 94 06 342		4.488	2.835	1.772	II*2	1 x 9 V	—	2.953 x 2.126 / 4.055 x 2.126	ABS (UL 94 HB)	
A 94 08 331		G 155	6.220	3.740	1.299	I	—	—	5.866 x 3.031 / 5.866 x 3.031	ABS (UL 94 HB)
A 94 08 351	6.220		3.740	1.319	I	—	5.685 x 3.205	5.866 x 3.031 / 5.866 x 3.031	ABS (UL 94 HB)	
A 94 08 341	6.220		3.740	1.772	I	—	—	5.866 x 3.031 / 5.787 x 3.031	ABS (UL 94 HB)	
A 94 08 441	6.220		3.740	2.244	I	—	—	5.827 x 3.031 / 5.787 x 3.031	ABS (UL 94 HB)	
A 94 08 737	6.220		3.740	1.299	V*3	4 x AA / 2 x 9 V	—	3.465 x 3.031 / 5.866 x 3.031	ABS (UL 94 HB)	
A 94 08 757	6.220		3.740	1.319	V*3	4 x AA / 2 x 9 V	5.685 x 3.205	3.465 x 3.031 / 5.866 x 3.031	ABS (UL 94 HB)	
A 94 08 747	6.220		3.740	1.772	V*3	4 x AA / 2 x 9 V	—	3.465 x 3.031 / 5.787 x 3.031	ABS (UL 94 HB)	
A 94 08 335	6.220		3.740	1.299	IV*4	2 x AA / 1 x 9 V	—	4.685 x 3.031 / 5.866 x 3.031	ABS (UL 94 HB)	
A 94 08 355	6.220		3.740	1.319	IV*4	2 x AA / 1 x 9 V	5.685 x 3.205	4.685 x 3.031 / 5.866 x 3.031	ABS (UL 94 HB)	
A 94 08 345	6.220		3.740	1.772	IV*4	2 x AA / 1 x 9 V	—	4.685 x 3.031 / 5.827 x 3.031	ABS (UL 94 HB)	
A 94 13 331	G 190		7.480	5.433	1.772	I	—	—	7.087 x 4.646 / 7.087 x 4.646	ABS (UL 94 HB)
A 94 13 351			7.480	5.433	1.791	I	—	6.772 x 4.724	7.087 x 4.646 / 7.087 x 4.646	ABS (UL 94 HB)
A 94 13 341		7.480	5.433	2.677	I	—	—	7.087 x 4.646 / 7.047 x 4.646	ABS (UL 94 HB)	
A 94 13 441		7.480	5.433	3.583	I	—	—	7.087 x 4.646 / 7.047 x 4.646	ABS (UL 94 HB)	
A 94 13 737		7.480	5.433	1.772	V*3	4 x AA / 2 x 9 V	—	4.724 x 4.646 / 7.087 x 4.646	ABS (UL 94 HB)	
A 94 13 757		7.480	5.433	1.791	V*3	4 x AA / 2 x 9 V	6.772 x 4.724	4.724 x 4.646 / 7.087 x 4.646	ABS (UL 94 HB)	
A 94 13 747		7.480	5.433	2.677	V*3	4 x AA / 2 x 9 V	—	4.724 x 4.646 / 7.047 x 4.646	ABS (UL 94 HB)	

V = Open front, closed rear.

O = Open front, open rear.

G = Closed front, closed rear.

\*1 cutouts for pillars not taken into consideration; PCB mounting in base / top

\*2 plug-in contact for 1 x 9 V flat battery see accessories

\*3 set of battery clips for 4 x AA and plug-in contact for 1 x 9 V flat battery see accessories

\*4 set of battery clips for 2 x AA and plug-in contact for 1 x 9 V flat battery see accessories

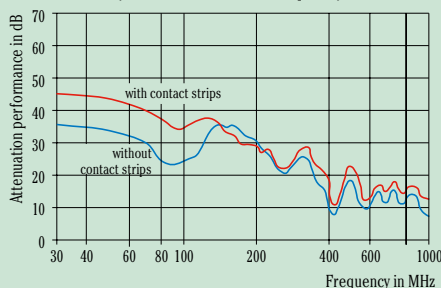
## INFO-BOX

### EMC

On request the shell-type cases are also available with aluminum metallization.

Bonding can be achieved by the available contact strips (accessory).

SHELL-TYPE CASE A 94 13 441 with al-metallization (al-metallization on request)



## ACCESSORIES

Article	Version / Application	For enclosure SHELL-TYPE CASE	Part-No.
① Set of battery clips complies with DIN EN 60601 (short circuit caused by incorrect insertion of batteries impossible)	nickel-plated, for 2 x 1.5 V mignon cells (AA) (As alternatives to conventional, tin-plated battery clips 1 x A9193003 and 2 x A9193004 see accessories page 105.)	V, G 155 version IV	A 91 90 014
	nickel-plated, for 4 x 1.5 V mignon cells (AA) (As alternatives to conventional, tin-plated battery clips 3 x A9193003 and 2 x A9193004 see accessories page 105.)	V, G 155, 190 version V	A 91 90 013
② Plug-in contact	for 1 x 9 V flat battery	V, G 155, 190 vers. IV, V	A 91 60 003
③ Ring eyelet	plastic, volcano, NCS S 5502-G, inside ring diameter 0.098", max. wall thickness 0.118", location hole ø 0.157" required	V, O, G 85	A 91 00 001
	plastic, volcano, NCS S 5502-G, inside ring diameter 0.157", max. wall thickness 0.157", location hole ø 0.197" required	V, O, G 110, 155	A 91 00 002
④ Sealing kit	protection class up to <b>IP 65</b> for cases type G (closed front and rear and without battery compartment), 1 O-ring for the case, 4 rubber disks for sealing between the assembly pillars	G 85	A 91 04 250
		G 110	A 91 06 352
		G 155	A 91 08 486
		G 190	A 91 13 630
⑤ Contact strips	aluminum strips which provide additional electrical continuity between the top and base shells of shielded cases (order two pieces, one for each side), cases with al-metallization on request	V, G 85	A 91 04 073
		V, G 110	A 91 06 095
		V, O, G 155	A 91 08 120
		V, O, G 190	A 91 13 150
Article	Dim. in inches	For enclosure SHELL-TYPE CASE	Part-No. matt anodized Al PMMA (plexiglass®)
⑥ Front / rear panel for SHELL-TYPE CASE V and O (1 piece)	1.417 x 0.575 x 0.039	A 94 04 33.	A 91 04 111
	2.335 x 0.984 x 0.039	A 94 06 33.	A 91 04 113
	2.335 x 1.457 x 0.039	A 94 06 34.	A 91 07 111
	2.335 x 1.929 x 0.039	A 94 06 44.	A 91 06 113
	3.224 x 0.929 x 0.039	A 94 08 33. / A 94 08 63.	A 91 07 121
	3.224 x 1.402 x 0.039	A 94 08 34. / A 94 08 64.	A 91 06 123
	3.224 x 1.874 x 0.039	A 94 08 44.	A 91 07 221
	4.890 x 1.323 x 0.059	A 94 13 33. / A 94 13 63.	A 91 06 223
	4.890 x 2.228 x 0.059	A 94 13 34. / A 94 13 64.	A 91 09 111
	4.890 x 3.134 x 0.059	A 94 13 44.	A 91 08 113
			A 91 09 121
			A 91 08 123
			A 91 09 221
			A 91 08 223
			A 91 14 111
			A 91 13 113
			A 91 14 121
			A 91 13 123
			A 91 14 221
			A 91 13 223



NEW PRODUCT