

Industrial Enclosures

ED. 04

For indoor and outdoor
industrial applications

Insulated boxes



GE imagination at work

- A.4 MultiBox
- A.9 VJ-BOX
- A.13 APO
- A.25 Street lighting pole boxes

Application guide / e-catalogue

Insulated boxes

Insulated wall mounting cabinets

Wall mounting system enclosures

Sheet steel distribution boards

Pedestals

Subterranean enclosures

Climate control

General accessories

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Insulated boxes

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











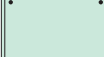


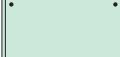



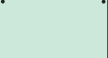
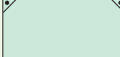


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Overview Insulated Boxes

MultiBox IP66	VJ-BOX IP67/IP66	APO IP67
 65 x 65 x 57/81	 186 x 186 x 126	 186 x 151 x 140
 94 x 65 x 57/81	 236 x 186 x 126	 302 x 186 x 175
 94 x 94 x 57/81	 287 x 236 x 138/176	 302 x 302 x 175
 110 x 110 x 66/90	 338 x 287 x 142/180	 372 x 302 x 175
 130 x 94 x 57/81	 389 x 338 x 170/208	 488 x 302 x 175
 130 x 130 x 75/99	 440 x 389 x 170/208	 558 x 302 x 175
 180 x 94 x 57/81	 491 x 440 x 243	 603 x 302 x 175
 180 x 110 x 90/111/165		 603 x 372 x 175
 182 x 180 x 90/111/165		 603 x 603 x 175
 254 x 180 x 90/111/165		
 361 x 254 x 111/165		

H x W x D in mm

Insulated boxes

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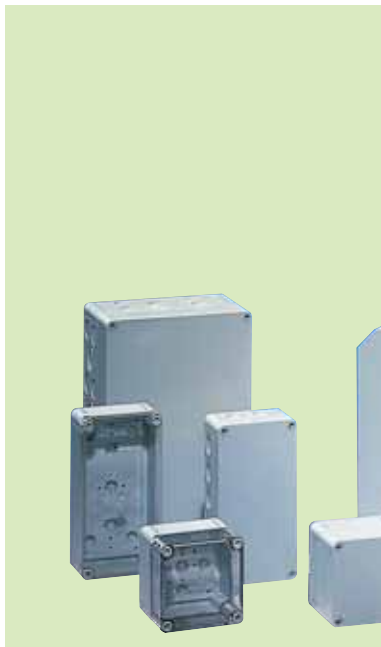
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Small multipurpose boxes



Applications

- Ideal for automation and control applications in industry, machinery, tool-shop and OEM.
- Electronic applications in data and telecom industry.
- Also suitable for use as commercial and industrial distribution boxes.

Standards

IEC 60529 EN 60529
 IEC 62208 EN 62208
 IEC 62262 EN 62262
 DIN VDE 0606 Teil 1/11.84

Approvals



Only for polycarbonate boxes

Features and benefits

- 11 different basic enclosures (from 65 x 65 mm up to 361 x 254 mm) with up to 3 different cover depths.
- Material: made of polystyrene or glass-fibre reinforced polycarbonate.
- Colour: Grey RAL 7035
- High protection degree, IP66-IP67 for polystyrene, and IP66-IP68 for polycarbonate, by means of injected polyurethane seal.
- Polycarbonate boxes are available with smooth side walls (only one entry) or with several metric knock-outs. Polystyrene boxes are available with smooth side walls or with several metric knock-outs.
- Opaque grey or transparent covers.
- Designed for surface mounting.
- Combinations of heights and widths optional.
- Polystyrene boxes (650° glow wire test) are suitable for use in temperatures up to +70°C, polycarbonate boxes (960° glow wire test) are suitable for use in temperatures up to +120°C.
- Total insulation \square
- High resistance to chemical and aggressive influences.
- Non-corrosive and maintenance-free.
- Halogen-free.
- Self-extinguishing (UL94-V2).
- Rated insulation voltage $U_i = 1000V$

Overview of the range ● Page A.3

Dimensional drawings ● Page I.10

Specifications for tender ● Page I.50
 documents

Why MultiBox

Do you prefer something standard or can it be tailor-made?

GE offers you: customerspecific developments for all your applications and requirements, exclusively to meet your needs!

- All colours (environmental aspects, customised, differentiated)
- Painted or screened
- With cut-outs (circular, rectangular, square)
- Coupling facilities in vertical and horizontal direction
- EMC shielded



Or do you prefer the "ready to install and use" - answer? (Equipped and wired)



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Small multipurpose boxes

							(for terminals)	(for terminals and components)
		Polystyrene		Polycarbonate (*)		Mounting plate (Insulated)	DIN profile 15x5x1	DIN profile 35x7,5x1
Base	Depth	Grey Cover RAL 7035	Transparent Cover	Grey Cover RAL 7035	Transparent Cover	Ref. No.	Ref. No.	Ref. No.
		Ref. No.	Ref. No.	Ref. No.	Ref. No.			
		MB 11 H x W = 65 x 65 mm				45 x 45 mm	L=49,5 long/short side	
With metric knock-outs	A = 57	861612	861613	861500	861501	861730	861741	-
	B = 81	861614	861615	861502	861503			
Smooth	A = 57	861668	861669	861556	861557			
	B = 81	861670	861671	861558	861559			
		MB 21 H x W = 94 x 65 mm				74 x 45 mm	L=49,5 short side	
With metric knock-outs	A = 57	861616	861617	861504	861505	861731	861741	-
	B = 81	861618	861619	861506	861507			
Smooth	A = 57	861672	861673	861560	861561		L=80 long side	-
	B = 81	861674	861675	861562	861563			
		MB 22 H x W = 94 x 94 mm				74 x 74 mm	L=80 long/short side	
With metric knock-outs	A = 57	861620	861621	861508	861509	861732	861742	-
	B = 81	861622	861623	861510	861511			
Smooth	A = 57	861676	861677	861564	861565			
	B = 81	861678	861679	861566	861567			
		MB 33 H x W = 110 x 110 mm				90 x 90 mm	L=92 long/short side	L=81 long/short side
With metric knock-outs	A = 66	861624	861625	861512	861513	861733	861743	861746
	B = 90	861626	861627	861514	861515			
Smooth	A = 66	861680	861681	861568	861569			
	B = 90	861682	861683	861570	861571			
		MB 42 H x W = 130 x 94 mm				110 x 74 mm	L=111 long side	L=106 long side
With metric knock-outs	A = 57	861628	861629	861516	861517	861734	861744	861747
	B = 81	861630	861631	861518	861519			
Smooth	A = 57	861684	861685	861572	861573			
	B = 81	861686	861687	861574	861575			
		MB 44 H x W = 130 x 130 mm				110 x 110 mm	L=111 long/short side	L=106 long/short side
With metric knock-outs	A = 75	861632	861633	861520	861521	861735	861744	861747
	B = 99	861634	861635	861522	861523			
Smooth	A = 75	861688	861689	861576	861577			
	B = 99	861690	861691	861578	861579			
		MB 52 H x W = 180 x 94 mm				160 x 74 mm	L=154 long side	L=144 long side
With metric knock-outs	A = 57	861636	861637	861524	861525	861736	861745	861748
	B = 81	861638	861639	861526	861527			
Smooth	A = 57	861692	861693	861580	861581			
	B = 81	861694	861695	861582	861583			

(*) Smooth = one metric knock-out on short side for power supply cord ! (See dimensional drawings on I.10)

Pack.=1

Insulated boxes

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Small multipurpose boxes

		Polystyrene		Polycarbonate (*)		Mounting plate (Insulated)	(for terminals and components) DIN profile 35x7,5x1	
Base	Depth	Grey Cover RAL 7035	Transparent Cover	Grey Cover RAL 7035	Transparent Cover	Ref. No.	Ref. No.	
		Ref. No.	Ref. No.	Ref. No.	Ref. No.			
		MB 53 H x W = 180 x 110 mm				150 x 90 mm	L=144 long side	
With metric knock-outs	A = 90	861640	861641	861528	861529	861737	861748	
	B = 111	861642	861643	861530	861531			
	C = 165	861644	861645	861532	861533			
Smooth	A = 90	861696	861697	861584	861585			
	B = 111	861698	861699	861586	861587			
	C = 165	861700	861701	861588	861589			
		MB 65 H x W = 182 x 180 mm				150 x 150 mm	L=144 long side	
With metric knock-outs	A = 90	861646	861647	861534	861535	861738	861748	
	B = 111	861648	861649	861536	861537			
	C = 165	861650	861651	861538	861539			
Smooth	A = 90	861702	861703	861590	861591			
	B = 111	861704	861705	861592	861593			
	C = 165	861706	861707	861594	861595			
		MB 75 H x W = 254 x 180 mm				220 x 150 mm	L=216 long side	
With metric knock-outs	A = 90	861654	861655	861542	861543	861739	861749	
	B = 111	861656	861657	861544	861545			
	C = 165	861658	861659	861546	861547			
Smooth	A = 90	861710	861711	861598	861599			
	B = 111	861712	861713	861600	861601			
	C = 165	861714	861715	861602	861603			
		MB 87 H x W = 361 x 254 mm				331 x 220 mm	L=336 long side	
With metric knock-outs	A = 111	861662	861663	861550	861551	861740	861750	
	B = 165	861664	861665	861552	861553			
Smooth	A = 111	861718	861719	861606	861607			
	B = 165	861720	861721	861608	861609			

(*) Smooth = one metric knock-out on short side for power supply cord ! (See dimensional drawings on I.10)

Pack.=1

MultiBox Matrix

MB (MultiBox)	Height	Width
11	65	65
21	94	65
22	94	94
33	110	110
42	130	94
44	130	130
52	180	94
53	180	110
65	182	180
75	254	180
87	361	254

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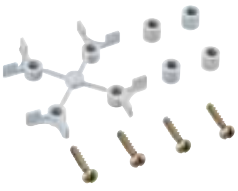

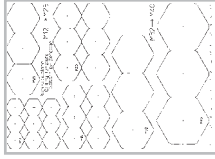
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Accessories

	<p>Combi set For joining several boxes horizontal and/or vertical</p> <p>① 861753 5 small M20</p> <p>① 861754 5 small M25</p> <p>① 861755 5 small M32</p> <p>② 861756 1 large from MB 53 on</p>	<p>Thumb grip</p> <p>861763 1</p> <p>For fixing on to cover screws. Available for all MultiBoxes - 1 set = 4 pcs</p> 
	<p>Hinges Converts removable covers into hinged covers. (incl. drilling template)</p> <p>861757 1 small up to MB 52</p> <p>861758 1 large from MB 53 on</p>	<p>Carrying handle Used with MultiBoxes for portable purposes (plastic, blue).</p> <p>861764 1 with plastic screws</p> <p>861765 1 with self-tapping screws</p> 
	<p>Wall mounting brackets</p> <p>861759 1</p> <p>For external mounting of all MultiBoxes 1 set = 4 pieces</p>	<p>Double membrane nipple IP66 Special plastic material (elastic and temperature-resistant) Secure fitting without locknut, two integrated sealing membranes. Cable glands, see p. I.2</p> <p>861724 50 M16</p> <p>861725 50 M20</p> <p>861726 50 M25</p>
	<p>Padlock</p> <p>861761 1</p> <p>For protection against unauthorised access. Available from MB 65 on</p>	<p>861727 25 M32</p> 
	<p>Spacers</p> <p>861762 1</p> <p>In plastic (6 + 8 mm), determines the distance between PC-boards or mounting plates and the base of the box 1 set = 8 pieces (incl. fixing screws) Available for all MultiBoxes.</p>	<p>Air vent (IPx4) To allow ventilation and prevent condensation. Air vents are preferably mounted in the upper and lower part of the box - M20</p> <p>861728 25</p> 
	<p>Drilling template</p> <p>861760 5</p> <p>Aids drilling, setting the required min. spacing, maximum number of holes and box positioning.</p>	<p>Coverscrews</p> <p>861769 20 Short for grey cover, enclosure depth A</p> <p>861770 20 Long for grey cover, enclosure dept B & C</p> <p>861795 20 Short for transparent cover, enclosure depth A</p> <p>861796 20 Long for transparent cover, enclosure depth B and C</p>

Polyester NEMA sized boxes



Applications

- Industry
- Steel works
- Oil refineries
- Petrochemical plants
- Breweries
- Shipyards
- Public utilities

Standards

IEC 60439-1	EN 60439-1
IEC 60529	EN 60529
IEC 62208	EN 62208

Approvals



UL types 3, 3R, 3S, 4, 4X, 6, 12 and 13



CSA types 3, 3R, 3S, 4, 4X, 6, 12 and 13



AS 3132-1991 (Australian Standards)

Features

- VJ-boxes are designed in accordance with the Joint Industrial Council (JIC) - USA.
- The VJ-range consists of seven box sizes in three versions:
 - with screw cover
 - with stainless steel hinges
 - with plastic hinges
- The bases and covers are made of light grey (RAL 7035), hot moulded, glass fibre reinforced polyester, dyed in mass. They come complete with 4 threaded inserts (Dodge) for fixing a mounting plate.
- Gaskets that guarantee an optimal tightness degree, are made of polyurethane foam.
- All fixing hardware is made of stainless steel.
- The box can be readily worked with conventional tools, such as drills, cutting mills, saws, punches, etc.
- Versatile service conditions: polyester enclosures can withstand continuous temperatures up to 70°C (158°F) (peak temperatures up to 150°C or 302°F)
- VJ-boxes provide optimum security to both operators and equipment because they feature total insulation \square and protection degree IP67/IP66 according to IEC 60529 (IP68 on demand) Protection degree IK10 against external mechanical impacts according to EN 62262 and IEC 62262. This protection degree covers the total volume of the enclosure according to EN 62208 and IEC 62208.
- VJ polyester boxes are maintenance-free and corrosion resistant.
- Rated insulation voltage $U_i = 1000V$
- VJ-boxes are UL listed, as per UL Standard 508 and CSA approved as per C22.2 nr. 94 types 3, 3R, 3S, 4, 4X, 6, 12 and 13.

Special versions



With air vents



With inset polycarbonate window (226 x 175)

- Overview of the range ● Page A.3
- Dimensional drawings ● Page I.13
- Specifications for tender documents ● Page I.51
- Power dissipation values ● Page I.68

Polyester NEMA sized boxes

		Type	VJ 66	VJ 86	VJ 108	VJ 1210
Insulated boxes	 <p>Box with polyester cover □ IP67⁽¹⁾ (acc. to EN60529 1 m deep - 1/2h.) With fixing screws</p>	H x W x D	186 x 186 x 126	236 x 186 x 126	287 x 236 x 138	338 x 287 x 142
		Ref. No.	866480	866483	866453	866459
	Weight (kg)	1.280	1.500	2.100	2.820	
	 <p>Box with hinged cover □ IP67 With stainless steel hinges</p>	H x W x D	186 x 186 x 126	236 x 186 x 126	287 x 236 x 138	338 x 287 x 142
		Ref. No.	866481	866484	866454	866460
	Weight (kg)	1.280	1.500	2.100	2.820	
	 <p>Box with hinged cover □ IP67 With plastic hinges</p>	H x W x D	186 x 186 x 126	236 x 186 x 126	287 x 236 x 138	338 x 287 x 142
		Ref. No.	866482	866485	866455	866461
	Weight (kg)	1.359	1.579	2.179	2.899	
 <p>Box with raised polyester cover □ IP67⁽¹⁾ (acc. to EN60529 1 m deep - 1/2h.) With fixing screws</p>	H x W x D	-	-	287 x 236 x 176	338 x 287 x 180	
	Ref. No.	-	-	866450	866456	
Weight (kg)	-	-	2.220	2.940		
 <p>Box with hinged raised cover □ IP67 With stainless steel hinges</p>	H x W x D	-	-	287 x 236 x 176	338 x 287 x 180	
	Ref. No.	-	-	866451	866457	
Weight (kg)	-	-	2.220	2.940		
 <p>Box with hinged raised cover □ IP67 With plastic hinges</p>	H x W x D	-	-	287 x 236 x 176	338 x 287 x 180	
	Ref. No.	-	-	866452	866458	
Weight (kg)	-	-	2.299	3.019		
 <p>Mounting plate Sendzimir zinc plated sheet steel 2 mm</p>	H x W	124 x 124	172 x 124	222 x 175	273 x 226	
	Ref. No.	866010	866016	866021	866026	

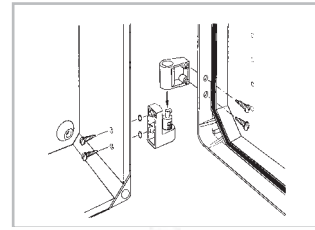
(1) IP68 on request

Accessories

Hinges

The VJ-Box plastic hinges allow the cover to open at an angle exceeding 180°. The cover can be lifted off and reinstalled without the use of a tool, which substantially reduces the operations within the cover.

By simply adjusting one of the pivot parts, the cover becomes unremovable.



866486 1

Set of 2 pieces
RAL 7035

Surface mounted windows

866001 1

Screwed IP67
H x W = 262 x 211



866002 1

Screwed IP67 with indication strip
H x W = 240 x 139



866003 1

Screwed IP67 without indication strip
H x W = 217 x 139



Dimensions on I.10

Air vents IP44

Two air vents must be mounted per enclosure to ensure sufficient air circulation and prevent condensation water.

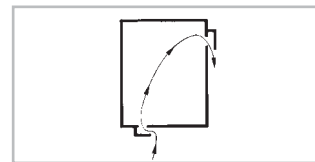
Complete with template and screws.

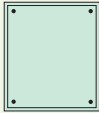
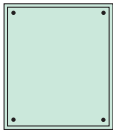
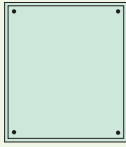
The air vents are preferably mounted in the upper and lower part of the box.



833677 1

Set of two pieces in polyamide.
RAL 7035



		
VJ 1412	VJ 1614	VJ 1816
389 x 338 x 170 866465 3.860	440 x 389 x 170 866471 4.720	491 x 440 x 243 866477 6.240
389 x 338 x 170 866466 3.860	440 x 389 x 170 866472 4.720	491 x 440 x 243 866478 6.240
389 x 338 x 170 866467 3.939	440 x 389 x 170 866473 4.799	491 x 440 x 243 866479 6.319
389 x 338 x 208 866462 3.980	440 x 389 x 208 866468 4.900	491 x 440 x 281 866474 6.740
389 x 338 x 208 866463 3.980	440 x 389 x 208 866469 4.900	491 x 440 x 281 866475 6.740
389 x 338 x 208 866464 4.059	440 x 389 x 208 866470 4.979	491 x 440 x 281 866476 6.820
324 x 276 866032	375 x 327 866037	425 x 378 866043

Notes

Insulated boxes

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Modular polyester boxes




Standards

IEC 60439-1	EN 60439-1
IEC 60529	EN 60529
IEC 62208	EN 62208

Approvals

-  Boxes with polyester cover: types 3, 3R, 4, 4X, 6, 6P, 12 and 13
- Boxes with polycarbonate cover: types 3, 3R, 4, 4X, 12 and 13
- Boxes with hinged cover: types 3, 3R, 4, 4X, 6, 12 and 13

-  Boxes with polyester cover: types 3, 3R, 4, 4X, 6, 6P, 12 and 13
- Boxes with polycarbonate cover: types 3, 3R, 4, 4X, 12 and 13
- Boxes with hinged cover: types 3, 3R, 4, 4X, 6, 12 and 13



Lloyd's Register of Shipping



EEx e II. BASEEFA 05ATEX0034U

Features

- The range consists of nine boxes based on the 300 and 185 mm modules.
- The bases are made of light grey (RAL 7035), hot moulded glass fibre reinforced polyester, dyed in mass. These come complete with M4 threaded inserts (Dodge) for fixing a mounting plate or mounting frame.
- The cover is made of either transparent polycarbonate or light grey (RAL 7035) hot moulded glass fibre reinforced polyester, dyed in mass.
- APO-boxes provide optimum security to both operators and equipment because they feature total insulation and protection degree IP67 according to IEC 60529 and EN 60529
- Protection degree IK10 against external mechanical impacts according to EN 62262 and IEC 62262
- This protection covers the total volume of the enclosure according to EN 62208 and IEC 62208.
- Each large box is a multiple of a smaller one. Its fixing points are also a multiple of those of a small box. These fixing points are blind holes for M4 threaded inserts.
- Four to six blind holes for M6 threaded inserts are also provided in each base.
- APO polyester boxes are designed for both wall and pole mounting.
- The box can be readily worked with conventional tools such as drills, cutting mills, saws punches, etc.
- Versatile service conditions: polyester enclosures can withstand continuous temperatures up to 70°C (peak temperatures up to 150°C) and the transparent polycarbonate covers resist service temperature up to 120°C
- APO polyester boxes are maintenance-free and corrosion resistant.
- Rated insulation voltage $U_i = 1000V$.
- APO boxes are UL listed, as per UL Standard 508, types 3, 3R, 4, 4X, 6, 6P, 12 and 13
- They are also CSA approved.

Applications

- | | |
|--------------------|-------------------------|
| - Industry | - Oil refineries |
| - Shipyards | - Steel works |
| - Breweries | - Petro-chemical plants |
| - Public utilities | |

- Overview of the range ● Page A.3
- Dimensional drawings ● Page I.14
- Specifications for tender documents ● Page I.52
- Power dissipation values ● Page I.70

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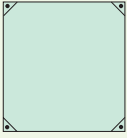
Modular polyester boxes

Insulated boxes

		Type	 APO 1	 APO 31	 APO 41	 APO 71
	<p>Box with polyester cover  IP67</p> <p>Light-grey cover with fixing screws</p>	H x W x D	186 x 151 x 140	302 x 186 x 175	302 x 302 x 175	372 x 302 x 175
		Ref. No.	856048	856049	856050	856051
	<p>Box with polycarbonate cover  IP66</p> <p>Transparent cover with fixing screws</p>	H x W x D	186 x 151 x 140	302 x 186 x 175	302 x 302 x 175	372 x 302 x 175
		Ref. No.	856057	856058	856059	856060
	<p>Box with hinged cover  IP67</p> <p>Transparent cover with thumb screws for the door</p>	H x W x D	-	302 x 186 x 175	302 x 302 x 175	372 x 302 x 175
		Ref. No.	-	856066	856067	856068
	<p>Box with hinged cover  IP55</p> <p>Light-grey cover</p>	H x W x D	186 x 151 x 140	302 x 186 x 175	302 x 302 x 175	372 x 302 x 175
		Ref. No.	856071	856072	856073	856074
	<p>Box with hinged cover and lock (ventilated)  IP44</p> <p>Light-grey cover</p>	H x W x D	-	302 x 186 x 175	302 x 302 x 175	372 x 302 x 175
		Ref. No.	-	856080	856081	856082

Pack: 1



				
APO 51	APO 81	APO 61	APO 11	APO 12
488 x 302 x 175 856052	558 x 302 x 175 856053	603 x 302 x 175 856054	603 x 372 x 175 856055	603 x 603 x 175 856056
488 x 302 x 210 856061	558 x 302 x 210 856062	603 x 302 x 210 856063	603 x 372 x 210 856064	603 x 603 x 210 856065
488 x 302 x 175 856069	-	603 x 302 x 175 856070	-	-
488 x 302 x 175 856075	558 x 302 x 175 856076	603 x 302 x 175 856077	603 x 372 x 175 856078	603 x 603 x 175 856079
488 x 302 x 175 856083	558 x 302 x 175 856084	603 x 302 x 175 856085	603 x 372 x 175 856086	-

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Modular polyester boxes

Insulated boxes

		Type	 APO 1	 APO 31	 APO 41	 APO 71
	Base with plain sides	H x W x D	186 x 151 x 85	302 x 186 x 131	302 x 302 x 131	372 x 302 x 131
		Ref. No.	856000	856001	856002	856003
		Pack	4	4	4	4
	Base with 2 open sides <small>Sizes in box refer to location of open side panel</small>	H x W x D	-	302 x 186 x 131	302 x 302 x 131	372 x 302 x 131
		Ref. No.	-	856009	856010	856011
		Pack	-	4	4	2
	Base with 4 open sides	H x W x D	-	302 x 186 x 131	302 x 302 x 131	372 x 302 x 131
		Ref. No.	-	856017	856018	856019
		Pack	-	4	4	2
	Polyester cover <small>Light-grey cover with fixing screws</small>	H x W x D	186 x 151 x 45	302 x 186 x 45	302 x 302 x 45	372 x 302 x 45
		Ref. No.	856025	856026	856027	856028
		Pack	4	4	4	4
	Polycarbonate cover <small>Transparent cover with fixing screws</small>	H x W x D	186 x 151 x 45	302 x 186 x 45	302 x 302 x 45	372 x 302 x 45
		Ref. No.	851196	851173	851277	851176
		H x W x D	-	-	-	-
		Pack	4	4	4	4
	Hinged cover <small>Transparent cover with thumb screws for the door</small>	H x W x D	-	302 x 186 x 45	302 x 302 x 45	372 x 302 x 45
		Ref. No.	-	856034	856035	856036
		Pack	-	4	4	4
	Depth extension frame <small>Glass fibre reinforced polyamide PA6</small>	H x W x D	186 x 151 x 35	302 x 186 x 35	302 x 302 x 35	372 x 302 x 35
		Ref. No.	856040	856041	856042	856043
		Pack	4	4	4	4
	Mounting plate <small>Pertinax 5 mm Sendzimir zinc coated sheet steel 2 mm Perforated 1.5 mm (For sliding nuts, see I.13)</small>	H x W	140 x 105	228 x 139	254 x 228	298 x 254
		Ref. No.	851190	851187	851278	851181
		H x W	134 x 99	249 x 134	249 x 249	319 x 249
		Ref. No.	851191	851188	851279	851185
		H x W	134 x 99	249 x 134	249 x 249	319 x 249
		Pack	1	1	1	1
	Blind cover plate <small>Covidur 1.5 mm</small>	H x W	150 x 115	265 x 150	265 x 265	335 x 265
		Ref. No.	851189	851186	851281	851180
		Pack	1	1	1	1

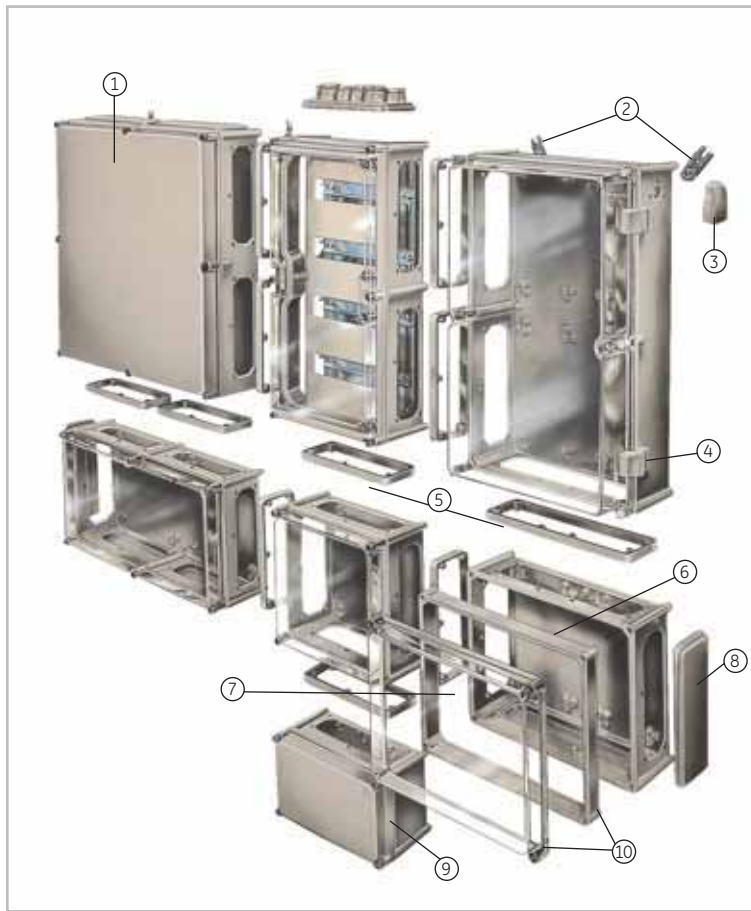


APO 51	APO 81	APO 61	APO 11	APO 12
488 x 302 x 131 856004 2	558 x 302 x 131 856005 2	603 x 302 x 131 856006 2	603 x 372 x 131 856007 2	603 x 603 x 131 856008 2
488 x 502 x 131 856012 2	558 x 502 x 131 856013 2	603 x 302 x 131 856014 2	603 x 572 x 131 856015 2	603 x 603 x 131 856016 2
488 x 302 x 131 856020 2	558 x 302 x 131 856021 2	603 x 302 x 131 856022 2	603 x 372 x 131 856023 2	603 x 603 x 131 856024 2
488 x 302 x 45 856029 2	558 x 302 x 45 856030 2	603 x 302 x 45 856031 2	603 x 372 x 45 856032 2	603 x 603 x 45 856033 2
488 x 302 x 80 852092 2	558 x 302 x 80 851193 2	603 x 302 x 80 851282 2	603 x 372 x 80 851290 2	603 x 603 x 80 852280 2
- 2	- 2	603 x 302 x 45 851283 2	- 2	- 2
488 x 302 x 45 856037 2	-	603 x 302 x 45 856038 2	603 x 372 x 115 856039 (1) 2	-
-	558 x 302 x 60 856044 2	603 x 302 x 60 856045 2	603 x 372 x 60 856046 2	603 x 603 x 60 856047 2
413 x 254 852091 1	484 x 254 851170 1	528 x 254 851286 1	528 x 324 851289 1	555 x 555 852174 1
435 x 249 852095 1	505 x 249 851171 1	550 x 249 851287 1	550 x 319 851292 1	550 x 555 852178 1
435 x 249 852878 1	505 x 249 852879 1	550 x 249 852880 1	550 x 319 852881 1	550 x 555 852882 1
450 x 265 852090 1	-	-	-	-

(1) **856039** 1
Hinged cover with side flange



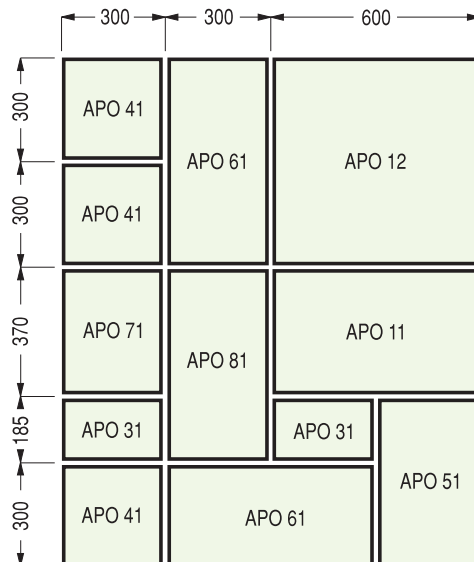
Modular panel building



- ① Polyester cover
- ② Wall mounting feet, stainless steel or non-metallic
- ③ Ventilator
- ④ Non-metallic hinge
- ⑤ Coupling collar
- ⑥ Depth extension frame
- ⑦ Clear polycarbonate cover
- ⑧ Coupling cover plate
- ⑨ Twist lock latch
- ⑩ Foamed polyurethane gaskets with tongue and groove labyrinths at all seal points

Optimal use of the modular design

The unique modular concept of APO boxes enables mounting of different standard functions in coupled boxes.



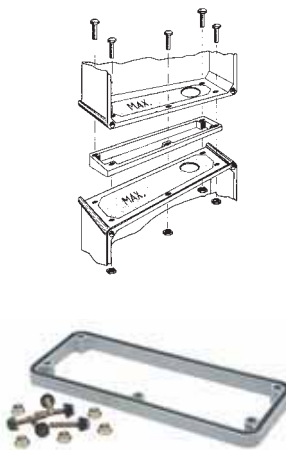
Accessories

Combi end-plates in polystyrene			
	Width		
4 x M20/16 + 1 x M32/25	185	856096	1
2 x M32/25 + 3 x M25/M20 + 4 x M20/16	300	856131	1
9 x M25/20	300	856097	1
2 x M50/40 + 2 x M25/20	300	856098	1
13 x M20/16	300	856099	1
3 x M40/32 + 2 x M20/16	300	856100	1
1 x M40/32 + 10 x M25/20	370	856101	1
13 x M25/20	370	856102	1




Cable glands, see p. H.2

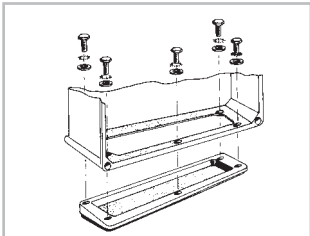
Coupling frames			
Coupling frames are made of polyamide (rubber).			
- Complete with template.			
- The smallest side of the coupling frame fits the front side of the box.			
- The maximum passage between two coupled boxes can be marked off with the aid of the template. Within this mark, any desired opening can be made.			
Width			
185	856106		1
300	856107		1
370	856108		1



For dimensions of maximum opening, see page I.16

Blind end-plates in polyester			
	Width		
	185	856103	1
	300	856104	1
	370	856105	1






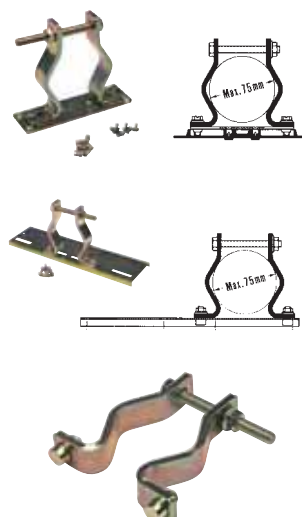
For dimensions of maximum opening, see page J.16

Cable-end boxes					
In polyester (funnel-shaped in polystyrene)	For side	Type	Max Ø cable (mm)	Nr. of clamps provided	
856115	1	300	APO31	1 x 75	1
856116	1	300	APO31	2 x 75	2
856117	1	300	APO41	1 x 75	1
856118	1	370	APO71	3 x 75	1

Dimensions, see page I.17

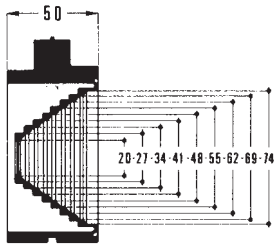


Cable clamps ⁽¹⁾	
851105	1
For direct mounting to cable end box. Max. Ø cable: 75 mm Used in APO 31 and APO 71 Enclosure side 185, 300, 370 mm	
851110	1
Universal stress relieving cable clamp. Max. Ø cable: 75 mm Used in APO 41 Enclosure side 300, 370, 600 mm	
851111	1
For mounting to universal stress relieving attachment Max. Ø cable: 75 mm Spare part	



(1) See drawing on page I.17

Accessories



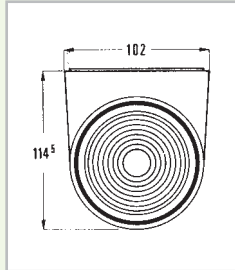
Rubber cable sleeves

- For direct mounting
- Complete with template

851106 1

For use as a sealing gland on cable end boxes.

Max. Ø cable: 75 mm



Air vents IP44

Two air vents must be mounted per enclosure to ensure sufficient air circulation and prevent water condensation.

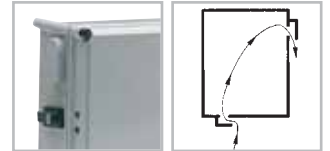
Complete with template and screws.

The air vents are preferably mounted in the upper and lower part of the base.

833677 1

Set of 2 pieces in polyamide.

RAL 7035



Bridges

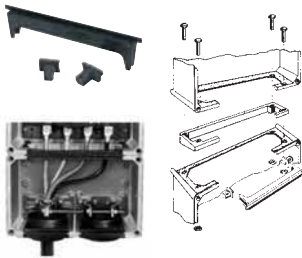
Make heavy connections easier whilst guaranteeing that the original degree of protection is maintained.

851103 1

Fits the 300 mm side.

851112 1

Fits the 370 mm side.



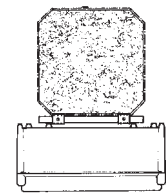
Pole mounting

- At the rear of enclosure, C-profiles are installed.

- Around the pole, a fixation (holding) band is installed. On the C-profile, clamps are placed to catch the holding band securely.

890510 1

Set of 2 C-profiles for side 300 and 370 mm (fixation band not included).



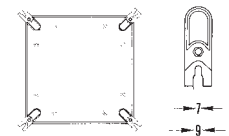
Mounting brackets

851266 1

Set of 4 pieces in glass fibre reinforced polyamide

- For external fixing points.
- Direct fixing through the four corner holes of the enclosure.
- If extension frames are to be used, the mounting brackets shall be mounted before the frames.

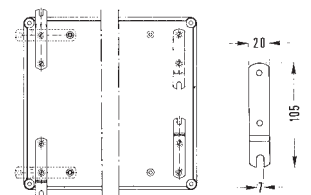
- Maximum permissible component weight: 150 kg.



852025 1

Set of 4 pieces in stainless steel (type 304)

- For extremely severe working conditions.
- For band iron fixation to round poles.
- The four brackets are mounted directly at the rear of the box in reinforcements provided for that purpose.
- Fixing by M4 threaded bushes (supplied).
- Maximum permissible component weight: 150 kg.



Safety locks with handle

Complete with drilling template, keys and mounting hardware.

852020 1

2 keys V 2432E

Safety locks without handle

852021 1

Square key 8 mm

852022 1

Triangular key 8 mm

852024 1

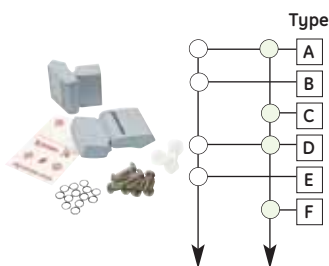
Triangular key 11 mm

852023 1

Double-bit yale key 3 mm



Accessories



Selection	Base	
	APO 1	31-41-71-51 81-61-11-12
Polyester cover	A	A
Polyester cover + depth extension	B	C
Polycarbonate cover	D	D
Polycarbon. cover + depth extension	E	F

Type	Hinges
A	856109 1
B	856110 1
C	856111 1
D	856112 1
E	856113 1
F	856114 1

- In order to enable hinge mounting, holes must be drilled in the cover and in either the base or the extension frame. Templates for drilling these holes are supplied with each set. The type of hinge depends on the required combination.

- Hence six sets of hinges are available. Each set consists of two hinges, screws, a drilling template, the mounting instructions and, if necessary, spacer shims.

Hinge screw
851256 1

Set of 2 pieces

Triangular TTR sealing screw

851262 1

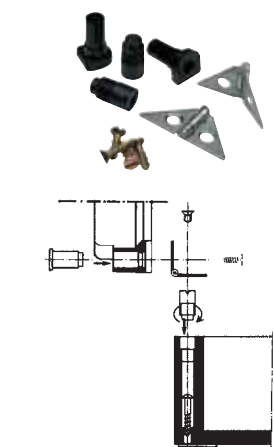
For screwed cover.

Set of 2 pieces.

852016 1

For hinged cover.

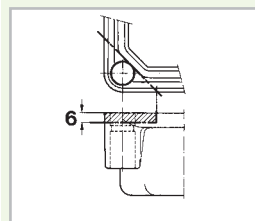
Set of 2 pieces.



Cover hinges

851268 1

Set of 2 pieces in stainless steel (complete with fixing hardware)



Cover must be milled along the dotted line to a depth of 6 mm prior to hinge mounting.

Spanner

851016 1

For triangular TTR sealing screw.



Sealing plate

851260 1

Set of 2 pieces.



Cover fixing screws

851255 50

Slotted screw

Padlocking set

852004 1

Max. diameter of padlock: 8 mm.



Thumb grip

For cover screws or hinge screws.

851259 1

Set of 50 pieces

851258 1

Set of 2 pieces

Threaded inserts

851026 100

M4 Dodge type inserts

851371 100

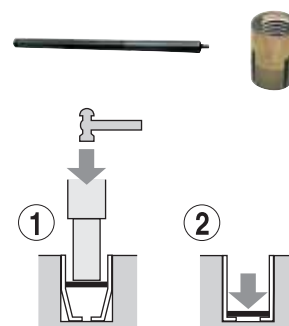
M6 Dodge type inserts x 12, 50 mm

851027 1




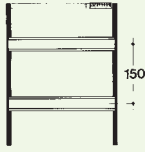
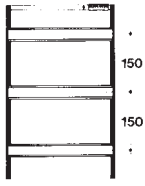
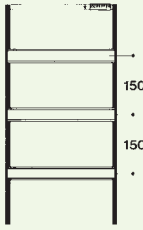


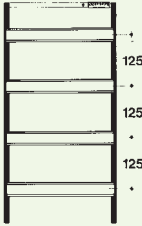
M4 special tool for securing

852003 1



M6 special tool for securing





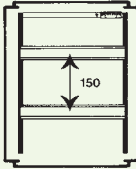
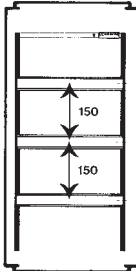

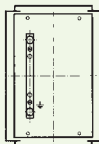
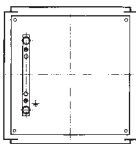
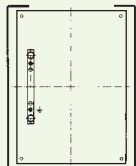
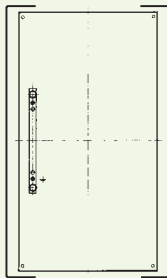
Universal fuseboard frames

Type	F3	F4	F7	F5	F6
 <p>Universal fuseboard frames</p> <p>Includes:</p> <ul style="list-style-type: none"> - Empty frames fitted with an earth terminal and cover plate. - The packaging includes fixing screws and height extension studs. 					
	302 x 186 14 modules 851326	302 x 302 14 modules 851336	372 x 302 28 modules 851353	488 x 302 42 modules 852283	603 x 302 42 modules 851345
					
	302 x 186 14 modules 851330	302 x 302 28 modules 851338			603 x 302 56 modules 851347

Accessories

	<p>Blank plate</p> <p>for screening off rectangular openings</p> <p>828056 1m</p> <p>For cutout of 45 mm</p>	
	<p>Marking strip</p> <p>self adhesive</p> <p>851321 1m</p>	

Equipped individual units

Type	APO 31	APO 41	APO 71	APO 61	APO 11
 <p>Enclosures for DIN-rail equipment</p> <p>Includes:</p> <ul style="list-style-type: none"> - base with two open sides - with combi end plates top: 13 x M20/16 bottom: 2 x M32/25 + 3 x M25/20 + 4 x M20/16 - base frame with earth connector and coverplate - transparent pivoting cover 					
	<p>186 x 302 x 175</p> <p>14 modules</p> <p>856119</p>		<p>372 x 302 x 175</p> <p>28 modules</p> <p>856120</p>	<p>603 x 302 x 175</p> <p>42 modules</p> <p>856121</p>	
 <p>Enclosures for disconnecter loadbreak switches (Dilos) and fused disconnecter loadbreak switches (Fulos)</p> <p>Includes:</p> <ul style="list-style-type: none"> - base with two open sides - combi end plates: APO31 on top and bottom: side 185: 4 x M20/16 + 1 x M32/25 APO 41 on top and bottom: side 300: 2 x M50/40 + 2 x M25/20 APO 71 and APO 11 are with 2 open sides, cable entry plates are to be ordered separately, see p. A.19 - mounting plate with threaded holes and earthing connector - transparent cover with handle cut-out and with screws - extension shaft and operating handle 					
	<p>302 x 186 x 175</p> <p>DILOS 1 40/63/80/100/125A</p> <p>3P/4P + ⊕</p> <p>856122</p>	<p>302 x 302 x 175</p> <p>DILOS 2 160/200A</p> <p>3P/4P + ⊕</p> <p>856123</p>	<p>372 x 302 x 175</p> <p>DILOS 3 160/200/250/315A</p> <p>3P/4P + ⊕</p> <p>856125</p>	<p>603 x 372 x 270</p> <p>DILOS 4 400/500/630A</p> <p>3P/4P + ⊕</p>	
		<p>DILOS 1H 40/63/125A</p> <p>3P/4P + ⊕</p> <p>FULOS 000 32/63/100A</p> <p>3P/4P + ⊕</p> <p>856124</p>	<p>FULOS 00 160A</p> <p>3P/4P + ⊕</p> <p>FULOS 0 160A</p> <p>3P/4P + ⊕</p> <p>856126</p>	<p>FULOS 1 250A</p> <p>3P/4P + ⊕</p> <p>FULOS 2 400A</p> <p>3P/4P + ⊕</p> <p>856127</p>	
<p>Disconnecter loadbreak switches and fused disconnecter loadbreak switches are to be ordered separately</p>					

Modular boxes

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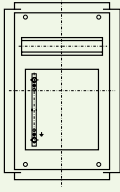

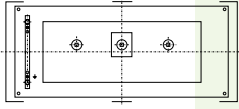
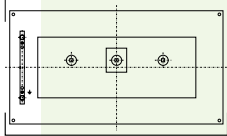
H

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Equipped individual units

Type	APO 31	APO 41	APO 71	APO 61	APO 11
 <p>Enclosures for loadbreak switches (Dilos) and fuse bases</p> <p>Includes:</p> <ul style="list-style-type: none"> - base with two open sides - with combi end plates top and bottom: 4 x M20/16 + 1 x M32/25 - one DIN-rail and mounting plate with earthing - transparent cover with handle cut-out and with screws - extension shaft and operating handle 	 <p>302 x 186 x 175 DILOS 1 40/63/80A 3P/4P + \perp 856128</p>				
		<p>Disconnecter loadbreak switches, fuse bases and fuses are to be ordered separately</p>			
 <p>Enclosures for changeover switches (Dilos/Fulos)</p> <p>Includes:</p> <ul style="list-style-type: none"> - base with two open sides - cable entry plates are optional, see p. A.19 - mounting plate with changeover system (I-O-II) and earth bar - transparent cover with handle cut-out and with screws - extension shaft and operating handle 					
				 <p>603 x 302 x 210 DILOS 1H 125A 3P/4P + \perp FULOS 000 32/63/100A 3P/4P + \perp</p> <p>603 x 372 x 270 DILOS 3 160/200/250/315A 3P/4P + \perp FULOS 00 160A 3P/4P + \perp FULOS 0 160A 3P/4P + \perp 856129 856130</p>	
<p>Changeover switches are to be ordered separately</p>					

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Street lighting pole boxes

- Base and cover in fiberglass reinforced polyester (types A, B and C).
- Base and cover in fiberglass reinforced thermoplast (type D).
- Constructed for mounting in lighting poles or on facades.
- Total insulation IP44 - IK09

Junction boxes

	Description	Equipment	Ref. no.	Pack.
Type A 	Cover with 4 screws M4. - Entries • Top: 2 threaded PG16 equipped with universal cable entries (851084) and compression bushes (851047) • Bottom: 2 threaded PG21 of which 1 equipped with an universal entry (610132)	Includes: • 2 pin fuseholders 20A (619012) • 1 support with 4 terminals 16 mm ² (779214) with insulated hood in rubber (890704)	890701	1
		Includes: • 3 pin fuseholders 20A (619012) • 1 terminal with 4 terminals 16 mm ² (779214) with insulated hood in rubber (890704)	890700	1
Type B 	Cover with 1 triangular screw (TTR) and sealable. - Entries Bottom: 2 universal PG11 (851082)	Includes: • 2 pin fuseholders 20A (619012) • 1 support with 4 terminals 16 mm ² (779212 without earth connector) with insulated hood in rubber (890704)	890706	1
Type C 	Cover with 1 triangular screw 8 mm - Entries • Top: 1 threaded PG21 • Bottom: 3 which can be used for: - Al protection tube Ø 28 mm - 2 universal PG21 (610132) or 2 compression glands PG21 (851051) use together with a brass nut - 1 extra knock-out Ø 13 mm - non used entries can be sealed from the inside by a blanking plug (851067)	Empty unit Bottom equipped with 2 brass nuts PG21	890702	1
		Box with mounting plate with: • 3 pin fuseholders 20A (619012) • 1 support with terminals with 2 compression nuts Cable section: 25-35 mm ² (779204) The terminals are equipped with an insulated hood	890703	1
Type D 	Cover with 2 triangular screws (TTR) - Entries • Top: 1 knock-out with a supplied nut H20 • Bottom: 5 of which 3 knock-outs - 3 for Al protection tube Ø 28 mm or 3 EXVB4G 10 mm ² or 3 EVAUB4G 10 mm ² - 1 VOB st 16 mm ² - 1 XVB3G 1.5 mm ² or XVB3G 2.5 mm ² - non used entries can be sealed from the inside by a supplied blanking plug	Includes • 3 disconnectors for cylindrical fuses SF321 • 1 support with 4 terminals 16 mm ² , each one with 2 compression units and 1 insulated hood in rubber	890761	1

Accessories

	Fixation on the back (Al) for type C 891680 1 Set of 2 fixations + 4 self-tapping screws in stainless steel	Key for types B and D 851016 30 Triangular key (TTR)	
	Fixation on the back (Inox) for type C 891681 1 Set of 2 fixations + 4 self-tapping screws in stainless steel		

Notes

Insulated boxes

A

B

C

D

E

F

G

H

I

X



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GE CONSUMER & INDUSTRIAL
POWER PROTECTION
Nieuwevaart 51
B-9000 Gent
T +32/9 265 21 11
F +32/9 265 28 90
E gepcbhel@gepc.ge.com

GE POWER CONTROLS Ltd
129-135 Camp Road
St Albans
Herts AL1 5HL
United Kingdom
Customer Service
T 0800 587 1251
F 0800 587 1239
E gepcuk@gepc.ge.com



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