


Modular polyester boxes




Standards

IEC 60439-1	IEC 60529
EN 60439-1	EN 60529
	EN 50298

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

-  AS Australian Standards 3131 - 1991

EExe II. NIEB 88B. 102.698 U

-  Lloyd's Register of Shipping

 BASEEFA

Features

- The range consists of nine boxes based on the 300 and 185 mm modules.
- The bases are made of grey (RAL 7036), 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 opaque grey (RAL 7036) 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 50102
- This protection covers the total volume of the enclosure according to EN 50298.
- 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 end 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
- Shipyards
- Breweries
- Public utilities
- Oil refineries
- Steel works
- Petro-chemical plants

Overview of the range	● Page A.3
Dimensional drawings	● Page J.14
Specifications for tender documents	● Page J.60
Power dissipation values	● Page J.80

Modular polyester boxes

Insulated Boxes

A

		Type	APO 1	APO 31	APO 41	APO 71
	Box with polyester cover □ IP67 Opaque grey cover with fixing screws	H x W x D	185 x 150 x 130	300 x 185 x 175	300 x 300 x 175	370 x 300 x 175
		Ref. No.	852043	852062	852083	852140
	Box with polycarbonate cover □ IP66 Transparent cover with fixing screws	H x W x D	185 x 150 x 130	300 x 185 x 175	300 x 300 x 175	370 x 300 x 175
		Ref. No.	852197	852201	852207	852217
	Box with hinged cover □ IP67 Transparent cover with thumb screws for the door	H x W x D	-	300 x 185 x 175	300 x 300 x 175	370 x 300 x 175
		Ref. No.	-	852063	852054	852141
	Box with hinged cover □ IP55 Opaque grey cover	H x W x D	185 x 150 x 130	300 x 185 x 175	300 x 300 x 175	370 x 300 x 175
		Ref. No.	852243	852244	852245	852248
	Box with hinged cover and lock (ventilated) □ IP44 Opaque grey cover	H x W x D	-	300 x 185 x 175	300 x 300 x 175	370 x 300 x 175
		Ref. No.	-	852254	852255	852258

Pack: 1

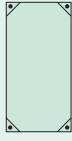




APO 51



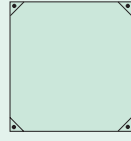
APO 81



APO 61



APO 11



APO 12

485 x 300 x 175
852101

555 x 300 x 175
852155

600 x 300 x 175
852121

600 x 370 x 175
852169

600 x 600 x 175
852183

485 x 300 x 210
852211

555 x 300 x 210
852222

600 x 300 x 210
852214

600 x 370 x 210
852225

600 x 600 x 210
852228

485 x 300 x 175
852102

-

600 x 300 x 175
852122

-

-

485 x 300 x 175
852246

555 x 300 x 175
852249

600 x 300 x 175
852247

600 x 370 x 175
852250

600 x 600 x 175
852251

485 x 300 x 175
852256

555 x 300 x 175
852259

600 x 300 x 175
852257

600 x 370 x 175
852260








-



Modular polyester boxes

Insulated Boxes

A

	Type	APO 1	APO 31	APO 41	APO 71
	Base with plain sides	H x W x D 185 x 150 x 85	300 x 185 x 130	300 x 300 x 130	370 x 300 x 130
		Ref. No. 852042	852061	852082	852139
		Pack 4	4	4	4
 <small>Sizes in box refer to location of open side panel</small>	Base with 2 open sides	H x W x D -	300 x 185 x 130	300 x 300 x 130	370 x 300 x 130
		Ref. No. -	852059	852080	852137
		Pack -	4	4	2
	Base with 4 open sides	H x W x D -	300 x 185 x 130	300 x 300 x 130	370 x 300 x 130
		Ref. No. -	852060	852081	852138
		Pack -	4	4	2
	Polyester cover Opaque grey cover with fixing screws	H x W x D 185 x 150 x 45	300 x 185 x 45	300 x 300 x 45	370 x 300 x 45
		Ref. No. 852039	852050	852072	852128
		Pack 4	4	4	4
	Polycarbonate cover Transparent cover with fixing screws	H x W x D 185 x 150 x 45	300 x 185 x 45	300 x 300 x 45	370 x 300 x 45
		Ref. No. 851196	851173	851277	851176
		H x W x D -	-	-	-
		Ref. No. -	-	-	-
	Pack 4	4	4	4	
	Hinged cover Transparent cover with thumb screws for the door	H x W x D -	300 x 185 x 45	300 x 300 x 45	370 x 300 x 45
		Ref. No. -	852049	852071	852127
		Pack -	4	4	4
	Depth extension frame Glass fibre reinforced polyamide PA6	H x W x D 185 x 150 x 35	300 x 185 x 35	300 x 300 x 35	370 x 300 x 35
		Ref. No. 852038	852048	852070	852126
		Pack 4	4	4	4
	Mounting plate Pertinax 5 mm	H x W 140 x 105	228 x 139	254 x 228	298 x 254
		Ref. No. 851190	851187	851278	851181
	Sendzimir zinc coated sheet steel 2 mm	H x W 134 x 99	249 x 134	249 x 249	319 x 249
		Ref. No. 851191	851188	851279	851185
	Perforated 1.5 mm (For sliding nuts, see ?)	H x W 134 x 99	249 x 134	249 x 249	319 x 249
		Ref. No. 852874	852875	852876	852877
	Pack 1	1	1	1	
	Blind cover plate Covidur 1.5 mm	H x W 150 x 115	265 x 150	265 x 265	335 x 265
		Ref. No. 851189	851403	851405	851407
		Pack 1	1	1	1





APO 51



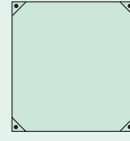
APO 81



APO 61



APO 11



APO 12

485 x 300 x 130
852100
2

555 x 300 x 130
852154
2

600 x 300 x 130
852120
2

600 x 370 x 130
852168
2

600 x 600 x 130
852182
2

485 x 300 x 130
852098
2

555 x 300 x 130
852152
2

600 x 300 x 130
852118
2

600 x 370 x 130
852166
2

600 x 600 x 130
852180
2

485 x 300 x 130
852099
2

555 x 300 x 130
852153
2

600 x 300 x 130
852119
2

600 x 370 x 130
852167
2

600 x 600 x 130
852181
2

485 x 300 x 45
852093
2

555 x 300 x 45
852148
2

600 x 300 x 45
851282
2

600 x 370 x 45
852160
2

600 x 600 x 45
852175
2

485 x 300 x 80
852092
2

555 x 300 x 80
851193
2

600 x 300 x 80
851282
600 x 300 x 45
851283
2

600 x 370 x 80
851290
2

600 x 600 x 80
852280
2

485 x 300 x 45
852089
2

-

600 x 300 x 45
852107
2

600 x 370 x 115
852159 (1)
2

-

-

555 x 300 x 60
852147
2

600 x 300 x 60
852106
2

600 x 370 x 60
852158
2

600 x 600 x 60
852173
2

(1) 852159 1

Hinged cover with side flange



413 x 254
852091
435 x 249
852095
435 x 249
852878
1

484 x 254
851170
505 x 249
851171
505 x 249
852879
1

528 x 254
851286
550 x 249
851287
550 x 249
852880
1

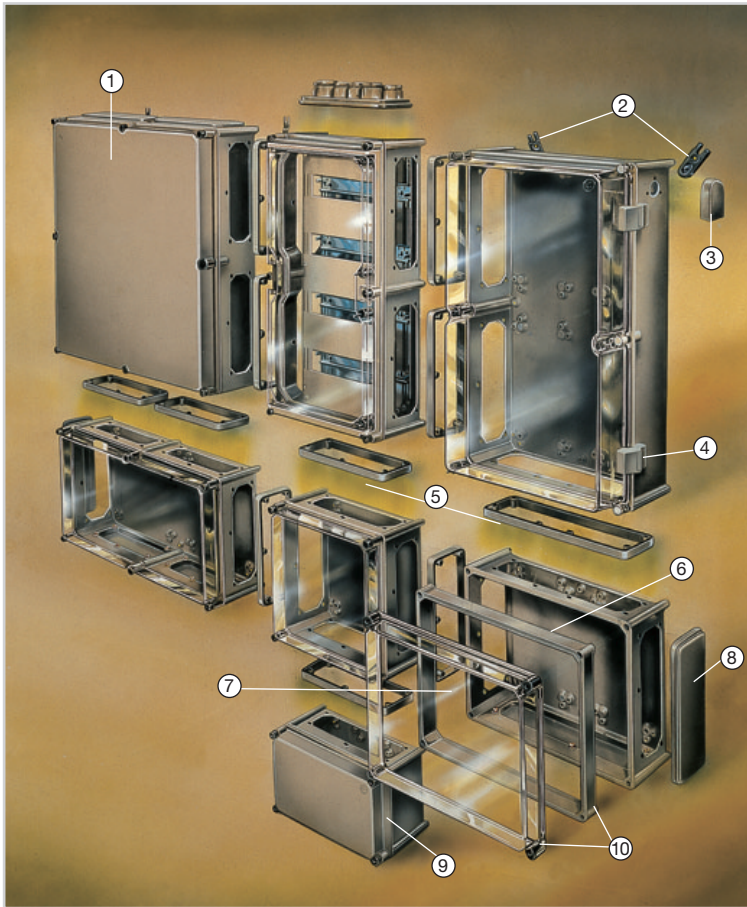
528 x 324
851289
550 x 319
851292
550 x 319
852881
1

555 x 555
852174
550 x 555
852178
550 x 555
852882
1

450 x 265
852304
1



Modular panel building

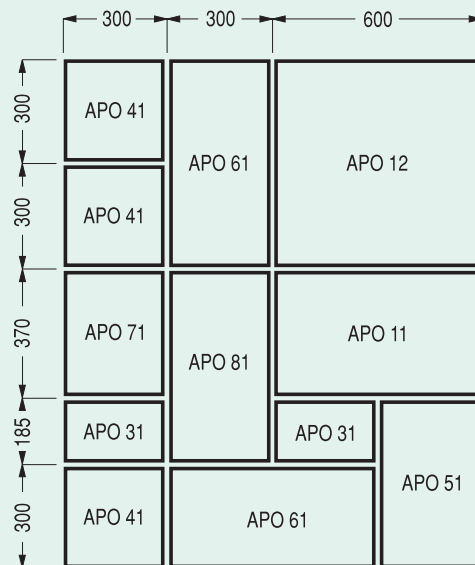


- ① Polyester cover
- ② Wall mounting feet, stainless steel or non-metallic
- ③ Ventilator
- ④ Non-metallic hinge
- ⑤ Coupling collar
- ⑥ Depth extension frame
- ⑦ Clear polycarbonate cover
- ⑧ Coupling cover plate
- ⑨ Twist lock latch
- ⑩ Foamed polyurethane gaskets with tongue and groove labyrinths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

A

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

Characteristics Metric/PG		Width		
New	4 x M20/16 + 1 x M32/25	185	854087	1
Old	4 x PG16 + 1 x PG21/29		852231	
New	2 x M32/25 + 3 x M25/M20 + 4 x M20/16	300	854088	1
Old	4 x PG16 + 3 x PG16/21 + 3 x PG21/29		852233	
New	9 x M25/20	300	854089	1
Old	10 x PG21		852236	
New	2 x M50/40 + 2 x M25/20	300	854090	1
Old	3 x PG29/36 + 2 x PG16		852237	
New	13 x M20/16	300	854091	1
Old	15 x PG13.5		852238	
New	3 x M40/32 + 2 x M20/16	300	854092	1
Old	5 x PG29		852239	
New		300	-	
Old	13 x PG16		852241	
New	1 x M40/32 + 10 x M25/20	370	854094	1
Old	6 x PG16 + 5PG16/21 + 2 x PG21/29		852235	
New	13 x M25/20	370	854097	1
Old	17 x PG 16		852242	



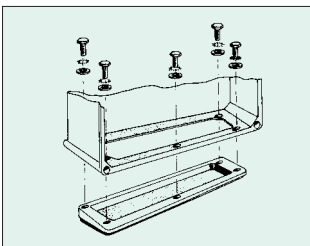
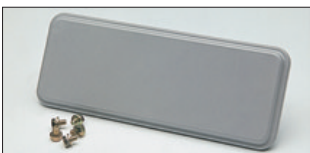
Bushing end-plates in polyester

Characteristics PG		Width		
	9 x PG16 + 2 x PG21 + 2 x PG29	300	852194	1
	21 x PG13.5	300	852195	1
	13 x PG16	300	852196	1



Blind end-plates in polyester

		Width		
		185	852012	1
		300	852014	1
		370	852018	1

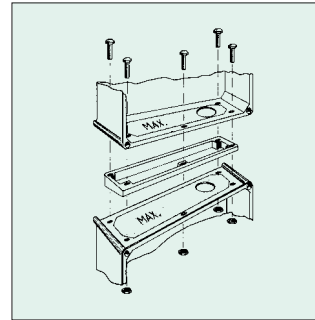


For dimensions of maximum opening, see page J.16

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	852011	1
300	852013	1
370	852017	1

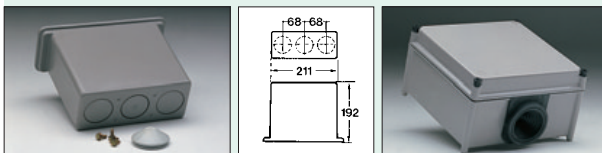


For dimensions of maximum opening, see page J.16

Cable-end boxes

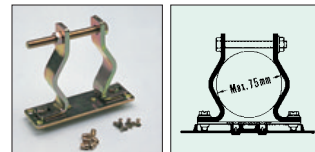
In polyester (funnel-shaped in polystyrene)	For side	Type	Max Ø cable (mm)	Nr. of clamps provided	
852186	1	300	APO31	1 x 75	1
852188	1	300	APO31	2 x 75	2
852192	1	300	APO41	1 x 75	1
852193	1	370	APO71	3 x 75	1
852190	1	300	Funnel-shaped	3 x 49	-

Dimensions, see page J.17

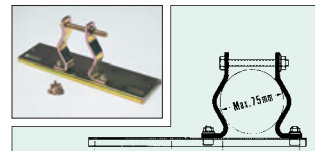


Cable clamps

851105 1
For direct mounting to cable end box.
Max. Ø cable: 75 mm



851110 1
Universal stress relieving cable clamp.
Max. Ø cable: 75 mm



851111 1
For mounting to universal stress relieving attachment
Max. Ø cable: 75 mm



Accessories

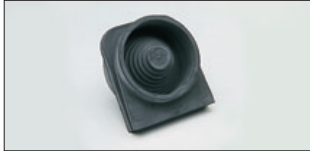


Rubber cable sleeves

- For direct mounting
- Complete with template

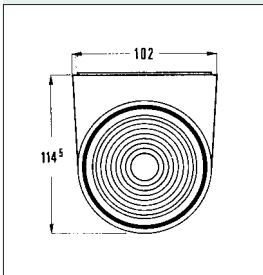
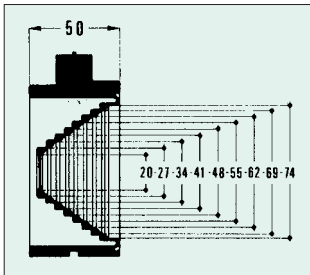
852191 1

For funnel-shaped cable end box.
Max. Ø cable: 49 mm



851106 1

For use as a sealing gland on cable end boxes.
Max. Ø cable: 75 mm



Air vents IP44

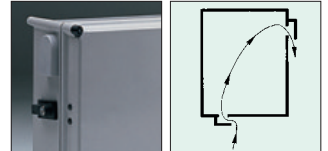
Two air vents must be mounted per enclosure to ensure sufficient air circulation and prevent water condensation.

Complete with template and screws.
The air vents are preferably mounted in the upper and lower part of the base.



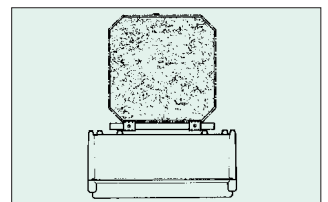
852001 1

Set of 2 pieces in polyamide.
RAL 7036



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.



Bridges

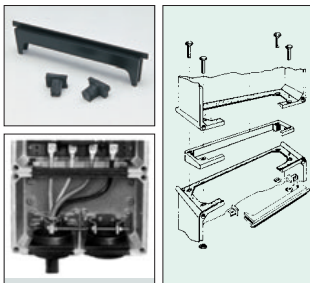
Make heavy connections easier whilst guaranteeing that the original degree of protection is maintained.

851103 1

Fits the 300 mm side.

851112 1

Fits the 370 mm side.

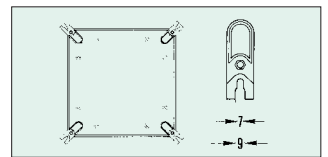


Mounting brackets

851266 1

Set of 4 pieces in glass fibre reinforced polyamide

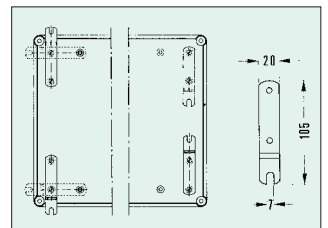
- For external fixing points.
- Direct fixing through the four corner holes of the enclosure.
- If extension frames are to be used, the mounting brackets shall be mounted before the frames.
- Maximum permissible component weight: 150 kg.



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

Complete with drilling template, keys and mounting hardware.

852020 1

2 keys V 2432E

852021 1

Square key 8 mm

852022 1

Triangular key 8 mm

852024 1

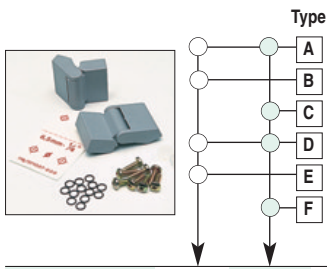
Triangular key 11 mm

852023 1

Double-bit yale key 3 mm



Accessories



Type	Hinges	Part No.	Qty
A	A	852000	1
B	B	852009	1
C	C	852008	1
D	D	852005	1
E	E	852007	1
F	F	852006	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.

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

Hinge screw	Part No.	Qty
	851256	1

Set of 2 pieces

Triangular TTR sealing screw

	851262	1
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For screwed cover.
Set of 2 pieces.



	852016	1
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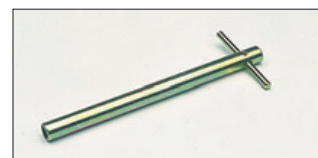
For hinged cover.
Set of 2 pieces.



Spanner

	851016	1
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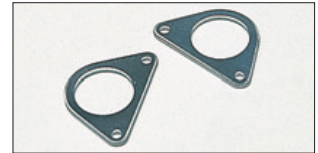
For triangular TTR sealing screw.



Sealing plate

	851260	1
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Set of 2 pieces.



Padlocking set

	852004	1
--	--------	---

Max. diameter of padlock: 8 mm.



Threaded inserts

	851026	100
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M4 Dodge type inserts

	851371	100
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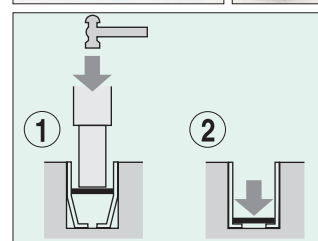
M6 Dodge type inserts

	851027	1
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M4 special tool for securing

	852003	1
--	--------	---

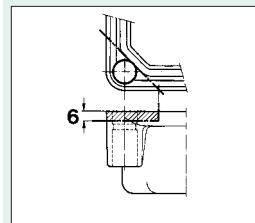
M6 threaded insert



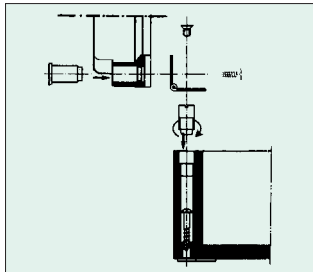
Cover hinges

	851268	1
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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.



Cover fixing screws

	851255	50
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Slotted screw



Thumb grip

For cover screws or hinge screws.




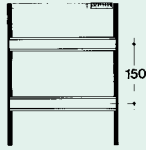
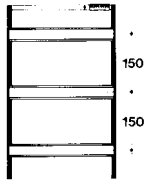
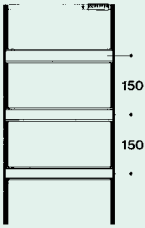


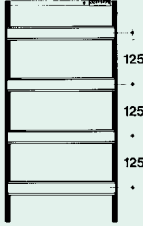
	851259	1
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Set of 50 pieces

	851258	1
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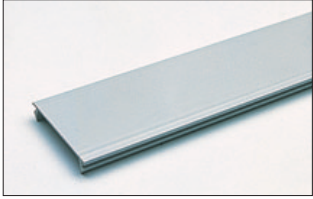

Set of 2 pieces

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. 					
	300 x 185 14 modules 851326	300 x 300 14 modules 851336	370 x 300 28 modules 851353	485 x 300 42 modules 852283	600 x 300 42 modules 851345
					
	300 x 185 14 modules 851330	300 x 300 14 modules 851338			600 x 300 56 modules 851347

A

Accessories

	<p>Spare blank plate for screening off rectangular openings</p>	<p>Marking strip self adhesive</p>	
	<p>828056 1m</p>	<p>851321 1m</p>	