

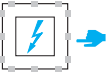


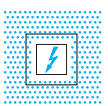



the Ingress Protection (IP) for all low voltage enclosures up to 1000 V a.c. and 1500 V d.c. is defined in identical fashion by the standards EN 60529 - IEC 529 it comprises the letters IP followed by two character numerals:


The first character numeral

indicates the degree of protection provided by the enclosure with respect to persons, also to the equipment inside the enclosure

 **The first character numeral:**
protection against solid substances

IP	désignation
0	non-protected
1	protected against solid objects greater than 50 mm 
2	protected against solid objects greater than 12,5 mm 
3	protected against solid objects greater than 2,5 mm 
4	protected against solid objects greater than 1,0 mm 
5	dust-protected 
6	dust-tight 


code IK: protection against mechanical shocks




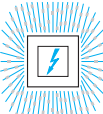
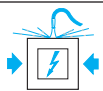
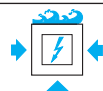
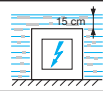
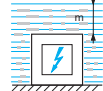
 code IK according to EN 50-102 (new designation)


code IK	shock energy
00	non-protected
01	0,15 joule
02	0,2 joule
03	0,35 joule
04	0,5 joule
05	0,7 joule
06	1 joule
07	2 joules
08	5 joules
09	10 joules
10	20 joules

The second character numeral


indicates the degree of protection provided by the enclosure with respect to harmful ingress of water; a third character may be used to indicate mechanical strength. An x signifies that no test has been carried out

 **The second character numeral:**
protection against liquid substances

IP	désignation
	non-protected
1	protected against dripping water 
2	protected against dripping water when titled up to 15° 
3	protected against spraying water 
4	protected against splashing water 
5	protected against water jets 
6	protected against heavy seas 
7	protected against the effect of immersion 
8	protected against submersion 

 **additional letter (in option)**
protection of people against access to dangerous parts

	designation
A	protected against access of the back of the hand
B	protected against access of a finger
C	protected against access of a tool - Ø 2,5 mm
D	protected against access of a tool - Ø 1 mm

 **additional letter (in option)**
specific information on the product

	designation
H	high voltage material
M	movements during water test
S	stationary during water test
W	bad weather

Consumer Units & Distribution Boards

As you might expect, consideration has been given to the design of the enclosure to accommodate the range of MCB and RCD devices which are suitable for use in domestic or similar installations, or generally in installations where unskilled persons have access to their use. This, as it happens, describes the European Standard covering the requirements of LV Distribution Boards suitable for this application.

The full title is:

EN 60439-3

Specification for low voltage switchgear and control switchgear assemblies. Part 3. Particular requirements for low-voltage switchgear and control gear assemblies intended to be installed in places where unskilled persons have access to their use - Distribution boards

This standard covers the supplementary requirements for enclosure distribution boards suitable for indoor use containing protective devices and intended for use either in domestic applications or in other places where unskilled persons have access for their use, Control and/or signalling devices may also be included.

They are for use on ac, with a nominal voltage to earth not exceeding 300V. The outgoing circuits contain short circuit protection devices, each having a rated current not exceeding 125A with a total incoming load current not exceeding 250A.

Customer Distribution Boards which are generally known in Ireland as Consumer Units are also included in this Standard. The additional test requirements are set out in annex ZA which calls for the assembly to withstand a short-circuit fault of 16kA when protected by a 100A specified fuse.

By definition a customer distribution board or consumer unit is an integrated assembly, for the control and distribution of electrical energy, principally in domestic installations, incorporating manual means of double pole isolation in the incoming circuits, and are designed for use exclusively with one or more of the following outgoing circuit protective devices: fuses, MCB's and RCBO's. The units may also incorporate RCD's. Polarity must be observed throughout and the consumer unit is type tested when energised through a 100A type II fuse complying with BS1361. The rated current of a consumer unit is determined by the rated current of the incoming protective device, usually 63A, 80A or 100A, the rated current of the incoming device(s) is limited to 100A.

As there are no diversity factors applied to consumer units, the incoming circuit and the bus-bar system must be able to carry their full rated current without exceeding the temperature rise limits.

Panelboards

The idea of group mounting MCCBs or MCBs on to a vertical three phase bus-bar system came from North America during the 1960s, where it had been used very effectively for a number of years. The design takes advantage of the modular dimensions of the circuit breakers which, together with the simple bus-bar system, proved to be very economical and safe. The basic design philosophy behind the panelboard is to provide a three phase distribution board capable of accommodating MCCBs, which is simple to specify, manufacture and install, and can be made available "off the shelf" or on a very short delivery cycle.

Generally installed for commercial and light industrial application the panelboard is, however, used in many different types of applications.

Panelboards are covered by the European Standard for Low-voltage Switchgear and Control Gear Assemblies EN 60439 Part 1, which is the specification for type-tested and partially type-tested assemblies (general requirements).

Panelboards are usually type-tested assemblies but, unlike consumer units and distribution boards, they do not, as yet, have their own particular standard, so care must be taken in their selection and application. It is important that the system designer understands, and is able to use, the technical information that the manufacturer is required to publish regarding the panelboard. Most of the information is straightforward and presents little problem, except perhaps for internal separation (Form numbers), degree of protection (IP rating) and short-circuit withstand strength.

Internal Separation

The internal separation of assemblies is described in the European Standard EN 60439 and is concerned with three requirements which can be met by the suitable arrangement of barriers or partitions.

- Protection against contact with live parts belonging to adjacent functional units.
- Limitation of the possibility of initiating and spreading of arcing faults.
- Prevention of the passage of solid foreign bodies from one unit of an assembly to an adjacent unit.

Form numbers are given to some typical forms of separation -

Form 1 - no separation

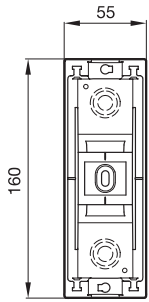
Form 2 - separation of bus-bars from the functional units

Form 3 - separation of bus-bars from the functional units and separation of all functional units from one another, but not their outgoing terminals.

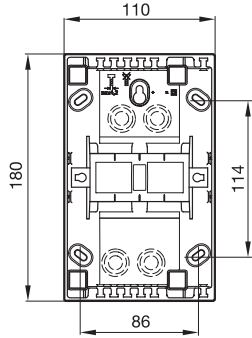
Form 4 - separation of bus-bars from the functional units and separation of all functional units from one another including their outgoing terminals.

Mini Gamma enclosures

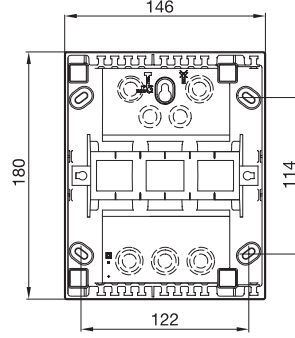
GD102N



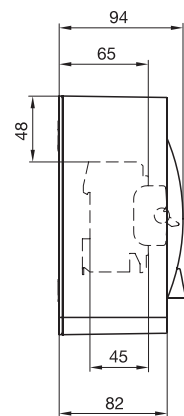
GD104N



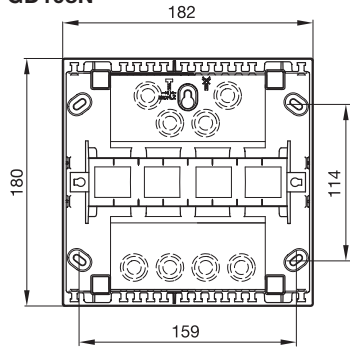
GD106N



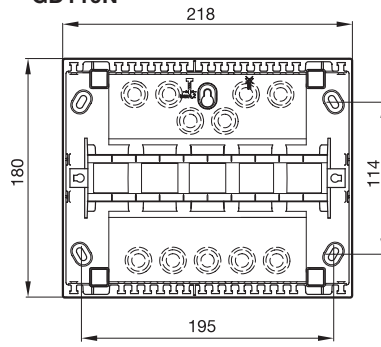
GD104N bis GD110N



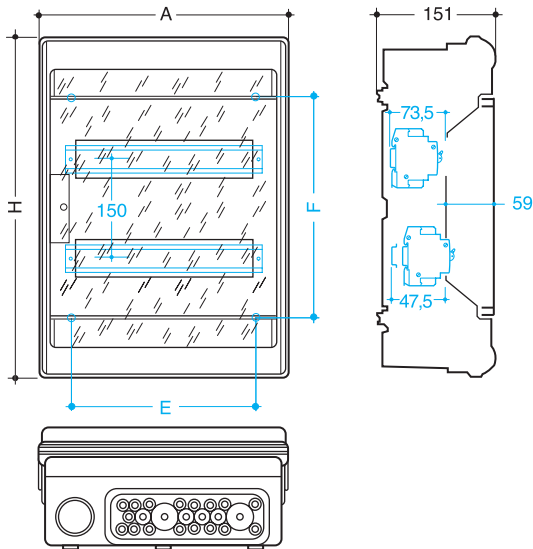
GD108N



GD110N



Vector IP65 enclosures



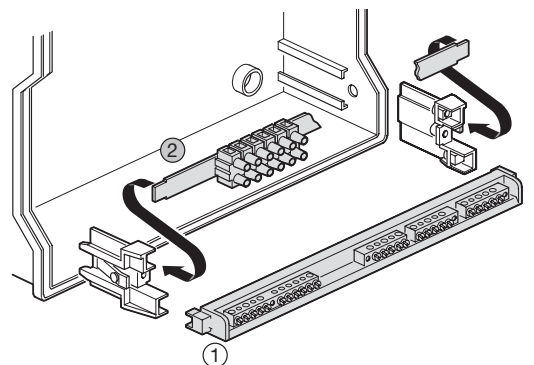
Dimensions

References	Enclosure sizes Wall box				
	R	A	H	E	F
VE103L	3	111	175	-	147
VE106L	6	165	190	108	158
VE110L	10	237	210	180	173
VE112L	12	310	302	230	155
VE212L	24	310	427	230	280
VE312L	36	310	552	230	405
VE412L	18	310	677	230	550
VE118L	18	418	302	338	155
VE218L	36	418	452	338	305
VE318L	54	418	602	338	455

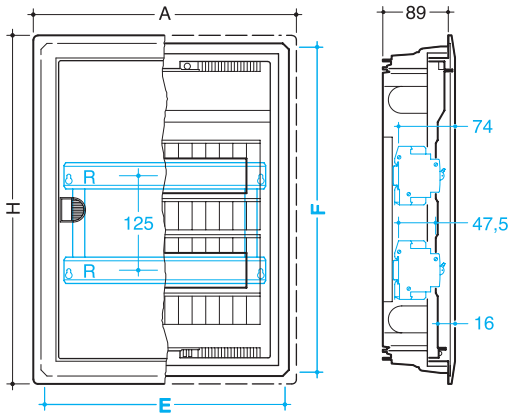
Connection assembly

mounting on insulating support at both end of the chassis ∞ additional connection assembly: VZ403 or VZ428,insulated terminal VZ743

enclosure reference	knock outs	supplied cable bushes
VE103	2xM20	3xM20
VE106	1xM20+1xM25+1xM30/32	2xM20+2xM25+1xM32
VE110	1xM20/32+1xM25+3xM20	4xM20+2xM25+1xM32
VE112	2xM20/32/40+2xM25/32+3xM25+6xM20	10xM20+2xM25+1xM32
VE118	1xM20/40/50+2xM20/32+12xM25+2xM20	8xM20+10xM25+1xM32
VE212	2xM20/32/40+2xM25/32+3xM25+6xM20	14xM20+4xM25+1xM32
VE218	1xM20/40/50+2xM20/32+12xM25+2xM20	8xM20+14xM25+1xM32
VE312	2xM20/32/40+2xM25/32+3xM25+6xM20	14xM20+10xM25+2xM32
VE318	1xM20/40/50+2xM20/32+12xM25+2xM20	8xM20+18xM25+2xM32
VE412	2xM20/32/40+2xM25/32+3xM25+6xM20	14xM20+10xM25+1xM32



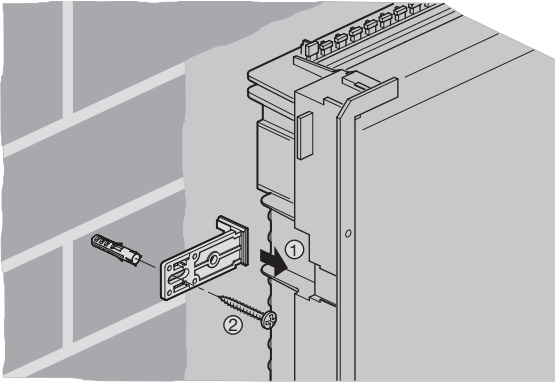
VU24B



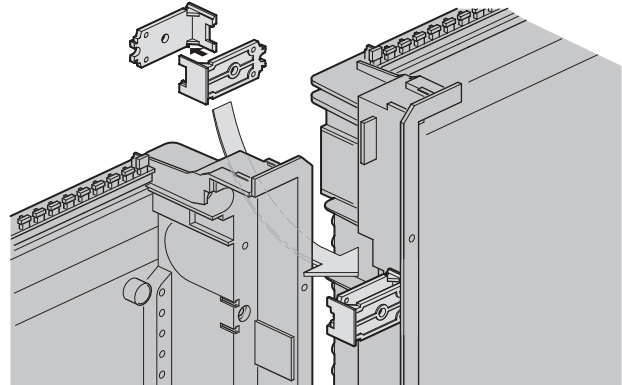
Enclosure

Volta	R	Outside		Inside		
		A	B	E	F	
VU12B	12	1	348	336	330	317
VU24B	24	2	348	461	330	442
VU36B	36	3	348	586	330	567
VU48B	48	4	348	711	330	692

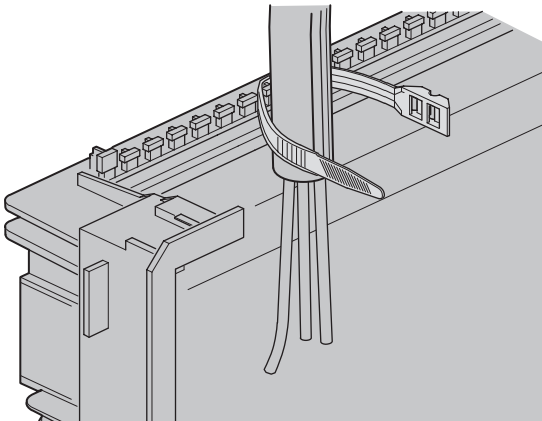
Wall mounting bracket



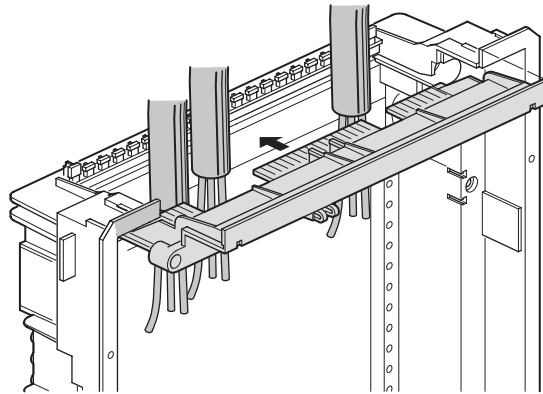
Connecting two enclosures



Conduit entry

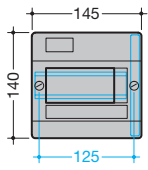


Cable entry plate

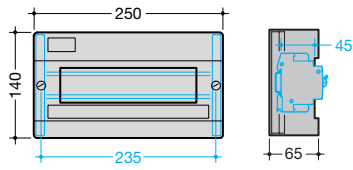


Gamma dimensions

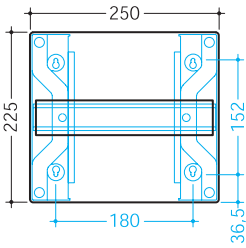
GD106N - 1 row 5



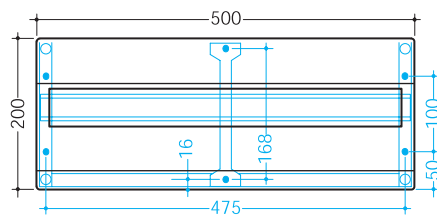
GD110N - 1 row 10



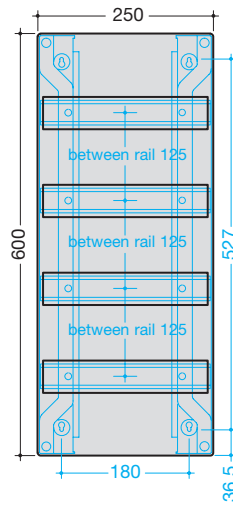
GD113H - 1 row 13



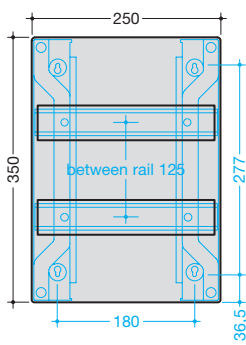
GD26C - 1 row 26



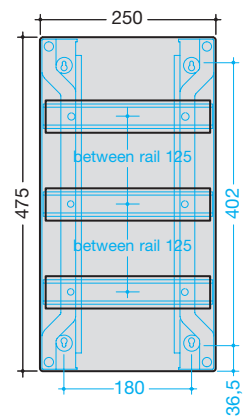
GD413D - 4 row 52



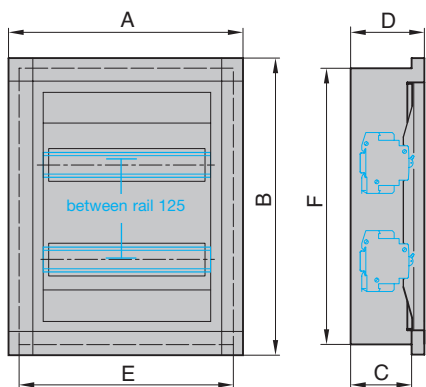
GD213H - 2 row 26



GD313H - 3 row 39



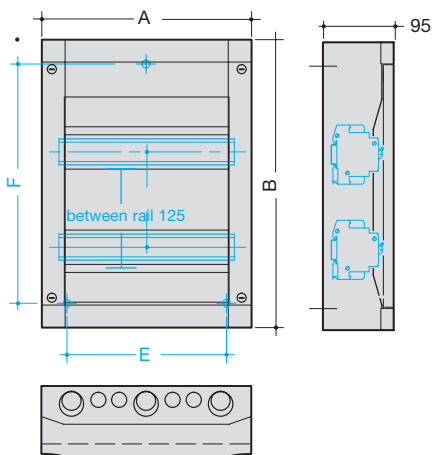
Flush mounting



		dimension (mm)				fixing	
		A	B	C	D	E	F
VF04	1 row 4	180	220	73	90	140	177
VF08	1 row 8	250	230	77	94	209	189
VF12	1 row 12	322	265	80	97	281	224
VF24	2 row 24	322	390	80	97	281	349
VF36	3 row 36	322	535	80	97	281	494

Consumer Units and enclosures

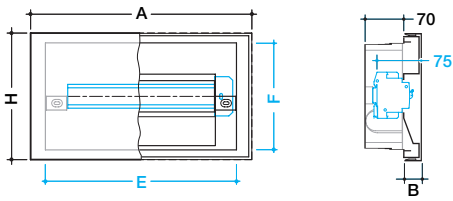
Surface mounting



		dimension (mm)			fixing	
		A	B	D	E	F
VS04	1 row 4	130	180	86		
VS08	1 row 8	200	180	86	120	140
VS12	1 row 12	275	225	95	205	160
VS24	2 row 24	275	350	95	205	285
VS36	3 row 36	275	500	95	205	410

VL enclosure

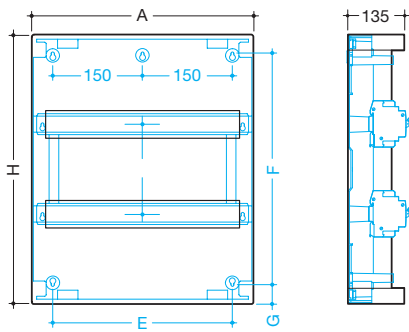
VL 12



References		Enclosure dimensions			Wall box	
		A	H	B	E	F
VL 08..	12	250	186	27	200	170
VL 12..	24	324	186	27	272	170
VL 18..	36	445	208	28	360	170

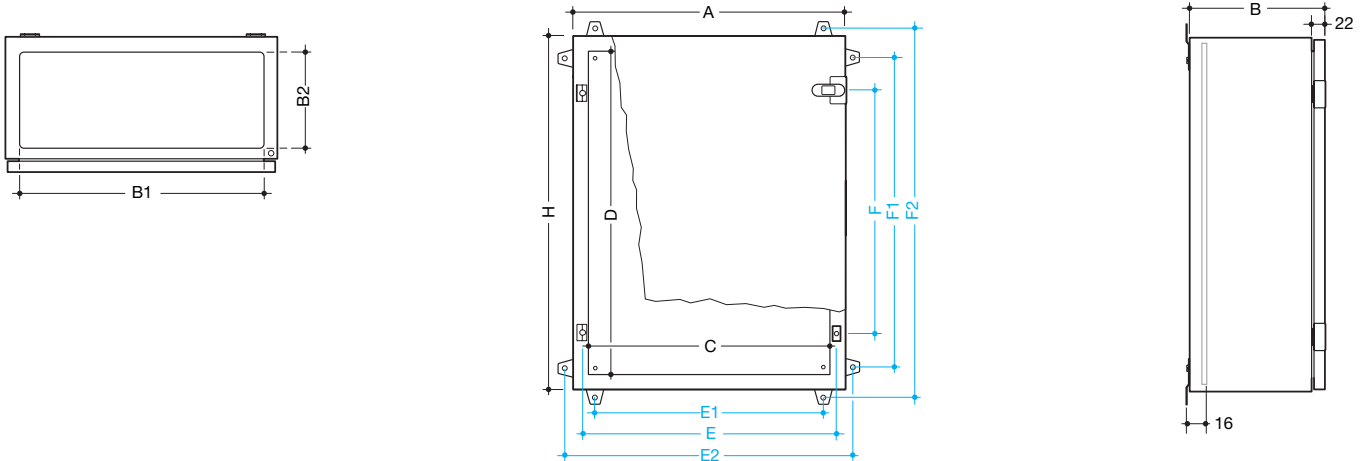
Vega enclosure

VB 36W - 2 rows 36



References		Enclosure dimensions		Fixing		
		A	H	E	F	G
VB 18W	18	370	300	300	236	32
VB 36W	36	370	450	300	386	32
VB 54W	54	370	600	300	536	32

Metal enclosure Orion Plus

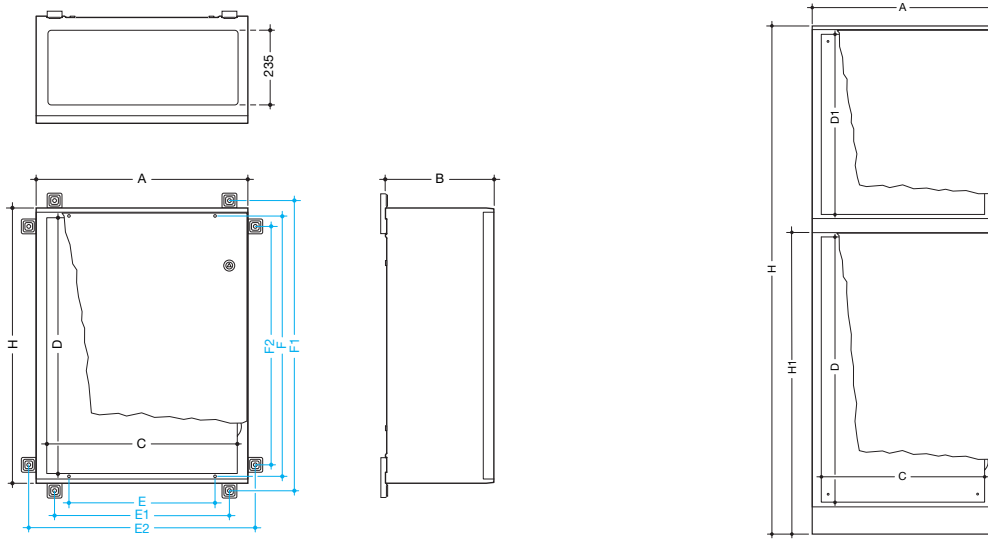


Dimensions

references

plain door	transp. door	number of rows	enclosure L	A	B	B1	B2	C	D	external fixing			
										E1	E2	F1	F2
FL101A	FL151A	-	200	250	160	145	80	150	200	160	270	170	282
FL102A	FL152A	-	250	300	160	195	80	200	250	210	320	220	332
FL103A	FL153A	-	300	300	160	245	80	250	250	260	370	220	332
FL104A	FL154A	2	300	350	160	245	80	250	300	260	370	270	382
FL105A	FL155A	2	300	350	200	245	120	250	300	260	370	270	382
FL106A	FL156A	-	300	400	160	245	80	250	350	260	370	320	432
FL107A	FL157A	-	300	400	200	245	120	250	350	260	370	320	432
FL108A	FL158A	-	400	400	200	345	120	350	350	360	470	320	432
FL109A	FL159A	3	300	500	160	245	80	250	450	260	370	420	532
FL110A	FL160A	3	300	500	200	245	120	250	450	260	370	420	532
FL111A	FL161A	3	400	500	160	345	80	350	450	360	470	420	532
FL112A	FL162A	3	400	500	200	345	120	350	450	360	470	420	532
FL113A	FL163A	-	500	500	200	445	120	450	450	460	570	420	532
FL114A	FL164A	-	400	600	200	345	120	350	550	360	470	520	632
FL115A	FL165A	-	400	600	250	345	170	350	550	360	470	520	632
FL116A	FL166A	-	600	600	250	545	170	550	550	560	670	520	632
FL117A	FL167A	4	400	650	200	345	120	350	600	360	470	570	682
FL118A	FL168A	4	400	650	250	345	170	350	600	360	470	570	682
FL119A	FL169A	4	500	650	200	445	120	450	600	460	570	570	682
FL120A	FL170A	4	500	650	250	445	170	450	600	460	570	570	682
FL121A	FL171A	5	500	800	200	445	120	450	750	460	570	720	832
FL122A	FL172A	5	500	800	250	445	170	450	750	460	570	720	832
FL123A	FL173A	5	600	800	250	545	170	550	750	560	670	720	832
FL124A	FL174A	5	600	800	300	545	220	550	750	560	670	720	832
FL125A	FL175A	6	600	950	250	545	170	550	900	560	670	870	982
FL126A	FL176A	6	600	950	300	545	220	550	900	560	670	870	982
FL127A	FL177A	6	800	950	250	745	170	750	900	760	870	870	982
FL128A	FL178A	6	800	950	300	745	220	750	900	760	870	870	982
FL129A	FL179A	8	600	1250	250	545	170	550	1200	560	670	1170	1282
FL130A	FL180A	8	800	1250	300	745	220	750	1200	760	870	1170	1282

orion Plus polyester enclosures



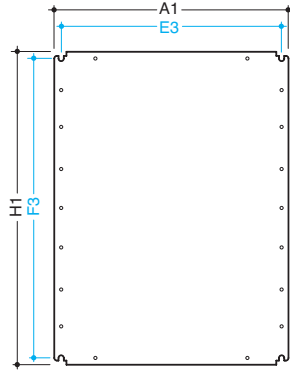
note: plan for "A + 25 mm" for door opening

Dimensions

references

plain door	transp. door	number of rows	enclosure								in.fixing		external fixing			
			L	A	A1	A2	B	C	D	D1	E	F	E1	E2	F1	F2
FL204B	FL254B	2	300	500	-	-	160	250	300	-	219	258	339	339	269	389
FL209B	FL259B	3	300	500	-	-	200	250	450	-	219	408	339	339	419	539
FL213B	FL263B	3	400	500	-	-	200	350	450	-	319	408	439	439	419	539
FL216B	FL266B	4	400	650	-	-	200	350	600	-	319	558	439	439	569	689
FL221B	FL271B	4	500	650	-	-	250	450	600	-	419	558	539	539	569	689
FL229B	FL279B	5	600	800	-	-	300	550	750	-	519	708	639	639	719	839
FL300B	FL500B	3	600	550	-	-	300	500	450	-	-	-	-	-	-	-
FL301B	FL501B	5	600	850	-	-	300	500	750	-	-	-	-	-	-	-
FL302B	FL502B	7	600	1150	-	-	300	500	1050	-	-	-	-	-	-	-
FL305B	FL505B	3	850	550	-	-	300	750	450	-	-	-	-	-	-	-
FL306B	FL506B	5	850	850	-	-	300	750	750	-	-	-	-	-	-	-
FL307B	FL507B	7	850	1150	-	-	300	750	1050	-	-	-	-	-	-	-
FL310B	FL510B	3	1100	550	-	-	300	1000	450	-	-	-	-	-	-	-
FL311B	FL511B	5	1100	850	-	-	300	1000	750	-	-	-	-	-	-	-
FL312B	FL512B	7	1100	1150	-	-	300	1000	1050	-	-	-	-	-	-	-
FL320B	FL520B	3	600	600	-	-	300	500	450	-	-	-	-	-	-	-
FL321B	FL521B	5	600	900	-	-	300	500	750	-	-	-	-	-	-	-
FL322B	FL522B	7	600	1200	-	-	300	500	1050	-	-	-	-	-	-	-
FL325B	FL525B	3	850	600	-	-	300	750	450	-	-	-	-	-	-	-
FL326B	FL526B	5	850	900	-	-	300	750	750	-	-	-	-	-	-	-
FL327B	FL527B	7	850	1200	-	-	300	750	1050	-	-	-	-	-	-	-
FL330B	FL530B	3	1100	600	-	-	300	1000	450	-	-	-	-	-	-	-
FL331B	FL531B	5	1100	900	-	-	300	1000	750	-	-	-	-	-	-	-
FL332B	FL532B	7	1100	1200	-	-	300	1000	1050	-	-	-	-	-	-	-
FL340B	-	3+3	600	1150	550	550	300	500	450	-	-	-	-	-	-	-
FL342B	-	5+3	600	1450	850	550	300	500	750	450	-	-	-	-	-	-
FL344B	-	7+3	600	1750	1150	550	300	500	1050	450	-	-	-	-	-	-
FL346B	-	5+5	600	1750	850	850	300	500	750	750	-	-	-	-	-	-
FL348B	-	7+5	600	2050	1150	850	300	500	1050	750	-	-	-	-	-	-
FL350B	-	3+3	850	1150	550	550	300	750	450	450	-	-	-	-	-	-
FL352B	-	5+3	850	1450	850	550	300	750	750	450	-	-	-	-	-	-
FL354B	-	7+3	850	1750	1150	550	300	750	1050	450	-	-	-	-	-	-
FL356B	-	5+5	850	1750	850	850	300	750	750	750	-	-	-	-	-	-
FL358B	-	7+5	850	2050	1150	850	300	750	1050	750	-	-	-	-	-	-
FL360B	-	3+3	1100	1500	550	550	300	1000	450	450	-	-	-	-	-	-
FL362B	-	5+3	1100	1450	850	550	300	1000	750	450	-	-	-	-	-	-
FL364B	-	7+3	1100	1750	1150	550	300	1000	1050	450	-	-	-	-	-	-
FL366B	-	5+5	1100	1750	850	850	300	1000	750	750	-	-	-	-	-	-
FL368B	-	7+5	1100	2050	1150	550	300	1000	1050	750	-	-	-	-	-	-

Mounting plate



Dimensions

plain plate	perforated plate	size		for enclosures	insulated	size	
		L1	A1			L1	A1
FL401A	-	143	230	FL101A,FL151A	-	-	-
FL402A	FL472A	193	280	FL102A,FL152A	FL422A	195	235
FL403A	-	243	280	FL103A,FL153A	-	-	-
FL404A	FL473A	243	330	FL104A,FL105A,FL154A, FL155A,FL204B,FL254B	FL423A	245	285
FL405A	-	243	380	FL106A,FL107A, FL156A,FL157A	-	-	-
FL406A	-	343	380	FL108A,FL158A	-	-	-
FL407A	FL474A	243	480	FL109A,FL110A,FL159A, FL160A,FL209B,FL259B	FL424A	245	285
FL408A	FL475A	343	480	FL111A,FL112A,FL161A, FL162A,FL213B,FL263B	FL425A	245	435
FL510E	-	493	480	FL300B,FL500B, FL320B,FL520B	FL550E	495	435
FL520E	-	743	480	FL305B,FL505B, FL325B,FL525B	FL560E	745	435
FL530E	-	993	480	FL310B,FL510B, FL330B,FL530B	FL570E	995	435
FL409A	-	443	480	FL113A,FL163A	-	-	-
FL410A	-	343	580	FL114A,FL115A, FL164A,FL165A	-	-	-
FL411A	-	543	580	FL116A,FL166A	-	-	-
FL412A	FL476A	343	630	FL117A,FL118A,FL167A, FL168A,FL216B,FL266B	FL426A	345	585
FL413A	FL477A	443	630	FL119A,FL120A,FL169A, FL170A,FL221B,FL271B	FL427A	445	585
FL414A	FL478A	443	780	FL121A,FL122A, FL171A,FL172A	FL428A	445	735
FL415A	FL479A	543	780	FL123A,FL124A,FL173A, FL174A,FL229B,FL279B	FL429A	545	735
FL511E	-	493	780	FL301B,FL501B, FL321B,FL521B	FL551E	495	735
FL521E	-	743	780	FL306B,FL506B, FL326B,FL526B	FL561E	745	735
FL531E	-	993	780	FL311B,FL511B, FL331B,FL531B	FL571E	995	735
FL512E	-	493	1080	FL302B,FL502B, FL322B,FL522B	FL552E	495	1035
FL522E	-	693	1080	FL307B,FL507B, FL327B,FL527B	FL562E	745	1035
FL532E	-	993	1080	FL312B,FL512B, FL332B,FL532B	FL572E	995	1035
FL416A	FL480A	543	930	FL125A,FL126A, FL175A,FL176A	FL430A	545	885
FL417A	FL481A	743	930	FL127A,FL128A, FL177A,FL178A	FL431A	745	885
FL418A	FL482A	543	1230	FL129A,FL179A	FL432A	545	1185
FL419A	FL483A	743	1230	FL130A,FL180A	FL433A	745	1185

Power dissipated

IEC standard EN 60439-1 (IEC 17-13/1) standard in Table 7 shows the list of checks and tests to be carried out on BT panel types AS (series equipment subject to type testing) and ANS (series equipment partially subject to type testing).

One of the characteristics to be monitored is the overtemperature limit check to ensure that the temperatures specified in Table 3 of the standard are not exceeded for the various parts of the panel.

IEC standard EN 60439-1 requires that for ANS type panels the overtemperature limit check can be carried out by means of extrapolation of the series panels (AS) that have passed the type testing.

The extrapolation method laid down by the standard is set out in the IEC 890 publication corresponding to IEC standard 17-43 "Overtemperature determination method, by extrapolation, for non-standard (ANS) protection and control equipment assemblies for low tension (BT panels)".

To make the overtemperature limit check easier, Hager Lume have drawn up a series of tables where the maximum power values that can be dissipated P.Max (W) are shown for all the Lume panels.

These values have been determined so as to obtain the overtemperature values specified in Table 3 of IEC standard EN 60439-1 for accessible external envelopes and coverings (30K for metal surfaces and 40K for insulating surfaces) for the upper part of the panel.

The maximum power values shown in the tables that can be dissipated by the metalwork are valid for the mounting conditions of the panel considered and for the overtemperature values halfway up $t \pm 0.5$ and in the upper part $t \pm 1.0$ indicated.

IP 65 standard metal panels

Article		Dimensional data (mm)	Laid	ΔT 0,5 (K)	ΔT 1,0 (K)	P. max (W)
FL102A	FL152A	300 x 250 x 160	Walls	25,0	30	28
FL104A	FL154A	350 x 300 x 160	Walls	25,0	30	35
FL105A	FL155A	350 x 300 x 200	Walls	24,9	30	39
FL109A	FL159A	500 x 300 x 160	Walls	24,3	30	44
FL110A	FL160A	500 x 300 x 200	Walls	24,3	30	49
FL111A	FL161A	500 x 400 x 160	Walls	24,7	30	54
FL112A	FL162A	500 x 400 x 200	Walls	24,9	30	60
FL117A	FL167A	650 x 400 x 200	Walls	24,3	30	71
FL118A	FL168A	650 x 400 x 250	Walls	24,5	30	80
FL119A	FL169A	650 x 500 x 200	Walls	24,8	30	84
FL120A	FL170A	650 x 500 x 250	Walls	24,9	30	93
FL121A	FL171A	800 x 500 x 200	Walls	24,4	30	97
FL122A	FL172A	800 x 500 x 250	Walls	24,5	30	107
FL123A	FL173A	800 x 600 x 250	Walls	22,0	30	100
FL124A	FL174A	800 x 600 x 300	Walls	22,7	30	114
FL125A	FL175A	950 x 600 x 250	Walls	21,4	30	113
FL126A	FL176A	950 x 600 x 300	Walls	21,8	30	127
FL127A	FL177A	950 x 800 x 250	Walls	22,1	30	148
FL128A	FL178A	950 x 800 x 300	Walls	22,8	30	170
FL129A	FL179A	1250 x 600 x 250	Walls	20,0	30	134,5
FL130A	FL180A	1250 x 800 x 300	Walls	21,3	30	211

Polyester panels IP 65 series boxes

Article	Dimensional data (mm)	Laid	ΔT 0,5 (K)	ΔT 1,0 (K)	P. max (W)
FL204B	FL254B 350 x 300 x 160	Walls	33,4	40	50
FL209B	FL259B 500 x 300 x 200	Walls	32,4	40	70
FL213B	FL263B 500 x 400 x 200	Walls	33,0	40	85
FL216B	FL266B 650 x 400 x 200	Walls	32,6	40	102
FL221B	FL271B 650 x 500 x 250	Walls	33,0	40	132
FL229B	FL279B 800 x 600 x 300	Walls	29,9	40	160

Polyester panels IP 65 series panels

Article	Dimensional data (mm)	Laid	ΔT 0,5 (K)	ΔT 1,0 (K)	P. max (W)
FL300B	550 x 600 x 300	Walls	34,3	40	150
FL301B	850 x 600 x 300	Walls	29,7	40	167
FL302B	1150 x 600 x 300	Walls	27,8	40	205
FL305B	550 x 850 x 300	Walls	32,5	40	170
FL306B	850 x 850 x 300	Walls	30,7	40	230
FL307B	1150 x 850 x 300	Walls	29,2	40	300
FL310B	550 x 1100 x 300	Walls	32,8	40	215
FL311B	850 x 1100 x 300	Walls	31,8	40	310
FL312B	1150 x 1100 x 300	Walls	30,4	40	405

Polyester panels IP 65 series cupboards

Article	Dimensional data (mm)	Laid	ΔT 0,5 (K)	ΔT 1,0 (K)	P. max (W)
FL320B	600 x 600 x 300	Floor-Walls	33,9	40	15
FL321B	900 x 600 x 300	Floor-Walls	29,4	40	17
FL322B	1200 x 600 x 300	Floor-Walls	27,8	40	215
FL325B	600 x 850 x 300	Floor-Walls	32,2	40	180
FL326B	900 x 850 x 300	Floor-Walls	30,7	40	245
FL327B	1200 x 850 x 300	Floor-Walls	29,1	40	315
FL330B	600 x 1100 x 300	Floor-Walls	32,8	40	230
FL331B	900 x 1100 x 300	Floor-Walls	31,4	40	325
FL332B	1200 x 1100 x 300	Floor-Walls	30,1	40	420

Polyester panels IP 65 series cupboards

Article	Dimensional data (mm)	Laid	ΔT 0,5 (K)	ΔT 1,0 (K)	P. max (W)
FL340B	1150 x 600 x 300	Floor-Walls	27,5	40	190
FL342B	1450 x 600 x 300	Floor-Walls	26,9	40	240
FL344B	1750 x 600 x 300	Floor-Walls	25,7	40	285
FL346B	1750 x 600 x 300	Floor-Walls	25,7	40	285
FL348B	2050 x 600 x 300	Floor-Walls	25,6	40	340
FL350B	1150 x 850 x 300	Floor-Walls	29,0	40	280
FL352B	1450 x 850 x 300	Floor-Walls	27,9	40	345
FL354B	1750 x 850 x 300	Floor-Walls	26,9	40	400
FL356B	1750 x 850 x 300	Floor-Walls	26,9	40	400
FL358B	2050 x 850 x 300	Floor-Walls	26,2	40	450
FL360B	1150 x 1100 x 300	Floor-Walls	30,3	40	380
FL362B	1450 x 1100 x 300	Floor-Walls	29,0	40	455
FL364B	1750 x 1100 x 300	Floor-Walls	27,9	40	505
FL366B	1750 x 1100 x 300	Floor-Walls	27,9	40	505
FL368B	2050 x 1100 x 300	Floor-Walls	27,1	40	535

General Description:

Surface mounting enclosures for domestic and commercial electrical distribution

Included in delivery:

- Cabinet with door
- Carrier rails with complete board
- Device covers with 46mm slots, with complete board

Complies with Standards:

DIN VDE 0603, DIN43870, EN60529, Parts 500, 504 and 504/A 1 SN EN 60439-3

Nominal Voltage:

AC230/400V, 50Hz

Current Rating:

for devices up to 125A

Protection Class:

II (insulation protected)

IP Rating:

IP 44

Protection details:

Protection against direct contact: IP3X behind the door
 Protection with indirect contact: Insulation Protection

Air & leakage distance:

as per DIN VDE 0110, Part 1 and 2/1.80, according to electrical surge category IV, pollution Grade 3, Insulation material II and IIIa, nominal voltage AC400V, max incoming current 355A.

Door:

frontal fastening, with internal hinges, all adjustable, removable without tools, optionally attachable on right or left, width from 800mm double door, opening angle 110°.

Door lock:

Twist release lock, exchangeable with other locks, 3 point bar locks on double door cabinet

Colour:

RAL 9010 (pure white)

Cable entries:

cable entry plates top and bottom made of plastic to feed in the cable from the front.

Material

Housing and door made of steel, powder coated

Carrier Rails:

Steel, powdercoated

Supports:

Plastic

Device rails:

steel, galvanised

Covers and knockouts:


plastic

	Height (mm)	Width (mm)	Depth (mm)	DIN-Rails (12mod)	Fields across	number of mods	IP-Class (standard)	IP-Class Special Order only
FWB31	500	300	161	3	1	36	IP44	IP54 (on request)
FWB32		550	161	3	2	72	IP44	IP54 (on request)
FWB33		800	161	3	3	108	IP44	IP54 (on request)
FWB34		1050	161	3	4	144	IP44	IP54 (on request)
FWB41	650	300	161	4	1	48	IP44	IP54 (on request)
FWB42		550	161	4	2	96	IP44	IP54 (on request)
FWB43		800	161	4	3	144	IP44	IP54 (on request)
FWB44		1050	161	4	4	192	IP44	IP54 (on request)
FWB51	800	300	161	5	1	60	IP44	IP54 (on request)
FWB52		550	161	5	2	120	IP44	IP54 (on request)
FWB53		800	161	5	3	180	IP44	IP54 (on request)
FWB54		1050	161	5	4	240	IP44	IP54 (on request)
FWB61	950	300	161	6	1	72	IP44	IP54 (on request)
FWB62		550	161	6	2	144	IP44	IP54 (on request)
FWB63		800	161	6	3	216	IP44	IP54 (on request)
FWB64		1050	161	6	4	288	IP44	IP54 (on request)
FWB71	1100	300	161	7	1	84	IP44	IP54 (on request)
FWB72		550	161	7	2	168	IP44	IP54 (on request)
FWB73		800	161	7	3	252	IP44	IP54 (on request)
FWB74		1050	161	7	4	336	IP44	IP54 (on request)

General Description:

Flush mounting enclosures for domestic and commercial electrical distribution

Included in delivery:

- Cabinet with door
- Carrier rails with complete board
- Device covers with 46mm slots, with complete board
- Comes fitted with  Quick Connect Terminals in complete boards

Complies with Standards:

DIN VDE 0660, Parts 500, 504 and 504/A 1 SN EN 60439-3

Nominal Voltage:

AC 400 V / 50 Hz

Current Rating:

for devices up to 125A

Protection Class:

II (insulation protected)

IP Rating:

IP 30

Protection details:

Protection against direct contact: IP3X behind the door
Protection with indirect contact: Insulation Protection

Air & leakage distance:

as per DIN VDE 0110, Part 1 and 2/1.80, according to electrical surge category III, pollution Grade 2, Insulation material II and IIIa, nominal voltage AC400V


Door:

frontal fastening, with internal hinges, all adjustable, removable without tools, optionally attachable on right or left, width from 800mm double door, opening angle 110°.

Door lock:

Twist release lock, exchangeable with other locks, 3 point bar locks on double door cabinet

Quick Connect Terminals,

built in per field to every complete board 

Colour:

RAL 9010 (pure white)

Cable entries:

cable entry plates top and bottom made of plastic to feed in the cable from the front.

Material

Housing and door made of steel, powder coated

Carrier Rails:

Steel, powdercoated

Supports:

Plastic

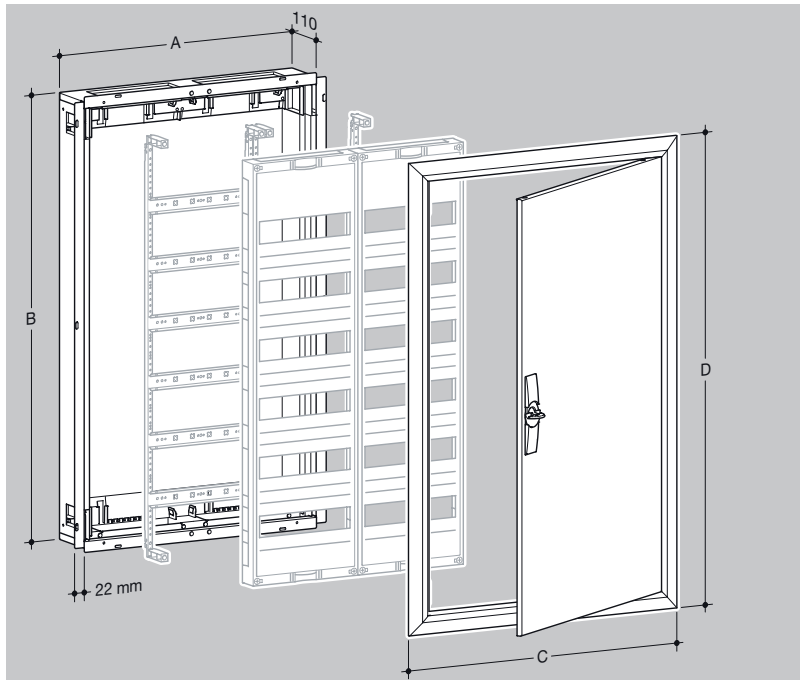
Device rails:

steel, galvanised

Covers and knockouts:

plastic

	Height (mm)	Width (mm)	Depth (mm)	DIN-Rails (12mod)	Fields across	number of mods	IP-Class (standard)
FW31U..	500	300	110	3	1	36	IP30
FW32U..		550	110	3	2	72	IP30
FW33U..		1050	110	3	3	108	IP30
FW41U..	650	300	110	4	1	48	IP30
FW42U..		550	110	4	2	96	IP30
FW43U..		1050	110	4	3	144	IP30
FW51U..	800	300	110	5	1	60	IP30
FW52U..		550	110	5	2	120	IP30
FW53U..		800	110	5	3	180	IP30
FW54U..		1050	110	5	4	240	IP30
FW61U..	950	300	110	6	1	72	IP30
FW62U..		550	110	6	2	144	IP30
FW63U..		800	110	6	3	216	IP30
FW64U..		1050	110	6	4	288	IP30
FW71U..	1100	300	110	7	1	84	IP30
FW72U..		550	110	7	2	168	IP30
FW73U..		1050	110	7	3	252	IP30



FW Flush Cabinets, depth 110mm

Cat. ref.	Recess Dimensions		Dimension incl. trimming frame	
	A	B	C	D
FW31U..	305	502	353	553
FW32U..	555	502	603	553
FW33U..	805	502	853	553
FW41U..	305	652	353	703
FW42U..	555	652	603	703
FW43U..	805	652	853	703
FW51U..	305	802	353	853
FW52U..	555	802	603	853
FW53U..	805	802	853	853
FW54U..	1055	802	1103	853
FW61U..	305	952	353	1003
FW62U..	555	952	603	1003
FW63U..	805	952	853	1003
FW64U..	1055	952	1103	1003
FW71U..	305	1102	353	1153
FW72U..	555	1102	603	1153
FW73U..	805	1102	853	1153

Consumer Units
and enclosures

