Power distribution systems
Catalogue | 2014

Spacial SFP

Schneider Electric

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Electrical switchboards ...

The Prisma functional system can be used for all types of low-voltage distribution switchboards up to 4000 A, in commercial and industrial environments.

PB502719_50.eps

PB502720_72.eps

Switchboard design is very simple

① A metal structure
made up of one or more frameworks combined side-by-side or back-to-back.

② A distribution system
positioned in a lateral compartment or at the rear of the cubicle are used to distribute electricity throughout the switchboard.

③ Complete functional units
- dedicated mounting plate for device installation
- front plate to block direct access to live parts.
- devices for on-site connections.

The functional units are modular and are arranged rationally, one on top of another, within the enclosure. The components of the Spacial SFP and those of the functional units in particular have been designed and tested taking into account device characteristics.
This design approach ensures a high degree of reliability in system operation and optimum safety for personnel.

Advantages of Prisma system switchboards

① A safe electrical installation
The total compatibility of Schneider Electric devices with the Prisma system is a key advantage in ensuring a high level of installation dependability.

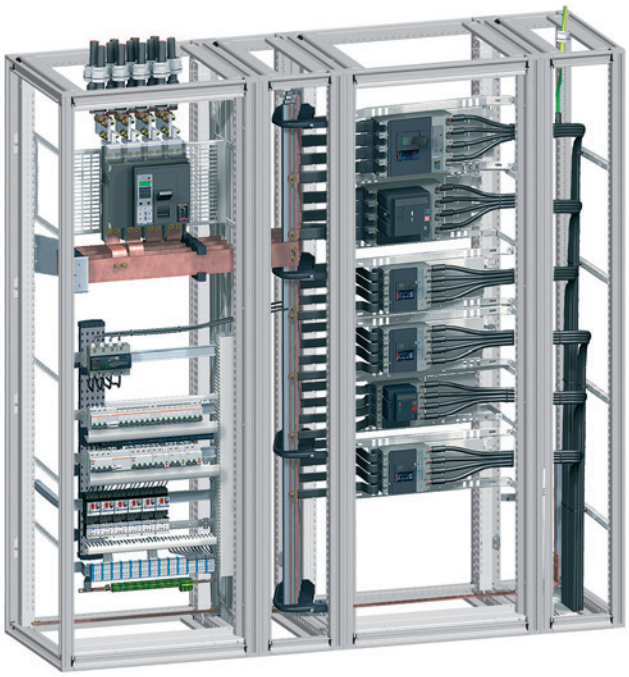
② An upgradeable electrical installation
Thanks to modular design, Spacial SFP switchboards can be modified easily to integrate new functional units as needed.

③ Total safety for personnel
Work in a switchboard must be carried out by authorised persons in compliance with all applicable safety regulations. To increase the safety of personnel, devices are installed behind protective front plates; only the operating handles are accessible. Additional internal protection (partitions, barriers) is available to create form 2, form 3 and form 4 separation to protect against direct contacts with live parts.
Terminal shields are mandatory for installation of Compact NSX and INS/INV devices in Prisma system enclosures.

... Up to 4000 A

Use of the components in the Prisma functional system ensures the creation of switchboards complying with standards IEC 50298, IEC 61439-1&2.

PB500740.eps



Electrical characteristics

- Rated insulation level of main busbars: 1000 V
- Rated operational current Ie: 4000 A
- Rated peak withstand current Ipk: 220 kÂ
- Rated short-time withstand current Icw: 100 kA rms/1 second
- Frequency: 50/60 Hz.

Mechanical characteristics

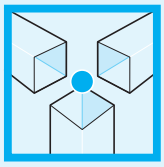
- Steel sheet metal.
- Electrophoresis treatment + hot-polymerised polyester epoxy powder.
- Grey colour RAL 7035.
- Can be dismantled.
- Can be combined side-by-side and back-to-back.
- Degree of protection: IP55.
- Degree of protection against mechanical impacts: IK10 with door.
- Framework dimensions:
  - two widths:
    - W 300: cable compartment
    - W 700: device compartment or cable compartment
  - three depths:
    - D500 up to 1600 A with incoming Masterpact NT only
    - D600 up to 1600 A with incoming Masterpact NT only. Possibility to connect with cables from rear
    - D800 up to 4000 A with incoming Masterpact NT or NW. Possibility to connect to cables from rear or to connect to rear vertical busbars
  - height: 2000 mm
- Indoor cubicles.

Electrical switchboards built using the Prisma functional system and Schneider Electric recommendations fully comply with international standard IEC 61439-1&2.

Spacial SFP functional system

The forms according to IEC 61439-1&2

Decisions concerning the Form of separation and the degree of protection are the subject of an agreement between the manufacturer and the user.

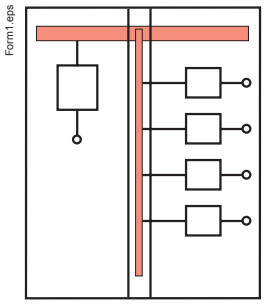


In most installations, Spacial SFP cubicles do not require partitioning.
In this case, the switchboard is a Form 1.
Safety being one of its foremost goals, Schneider Electric offers options and features that go well beyond the recommendations of the standard.
The protection of life and property is a standard feature due to:

- front plates that require a tool to be removed
- keylocks on doors, some of which provide access to live parts
- the systematic installation of terminal shields on Compact NSX circuit breakers and Compact INS and INV switch-disconnectors
- covering of the upstream and downstream terminals on the incoming device so that operators are perfectly safe at all points in the switchboard when the incoming device is off (open).

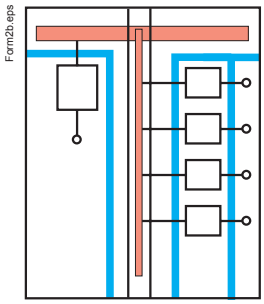
What is more, Spacial SFP offers different levels of partitioning to create separations inside the cubicles and thus create Form 2b, 3b, 4a and 4b electrical switchboards. Electrical switchboards must meet the degree of protection IP2X to comply with standard IEC 61439-1&2.

Form 1



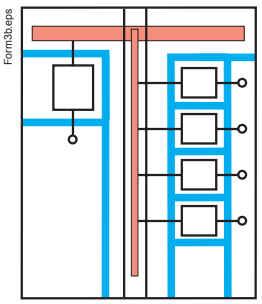
In most installations, Spacial SFP cubicles do not require partitioning. In this case, the switchboard is a Form 1. Safety being one of its foremost goals, Schneider Electric offers options and features that go well beyond the recommendations of the standard.

Form 2b



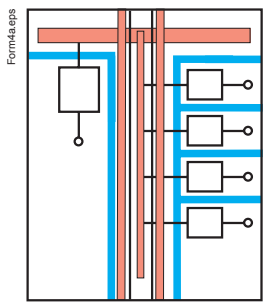
- Terminals for external conductors separated from busbars.
- The functional units and the terminals are separated from the busbars.

Form 3b



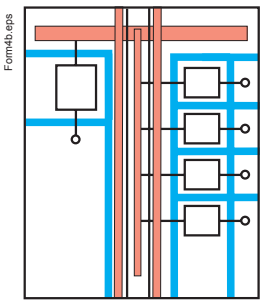
- Terminals for external conductors separated from busbars.
- The functional units are separated from each other and from the busbars.
- The terminals are separated from the busbars, but not from each other.

Form 4a



Terminals for external conductors in the same compartment as the associated functional unit.

Form 4b



Terminals for external conductors not in the same compartment as the associated functional unit, but in individual, separate, enclosed protected spaces or compartments.

Upgradeable Prisma functional units

Functional units include switchgear mounting plates, front plates, connection supports, barriers...

Masterpact
NW08 to NW40

Masterpact
NT06 to NT16

Compact NSX
up to 630 A

Compact NS
from 630b to 1600 A

Compact NS
up to 3200 A

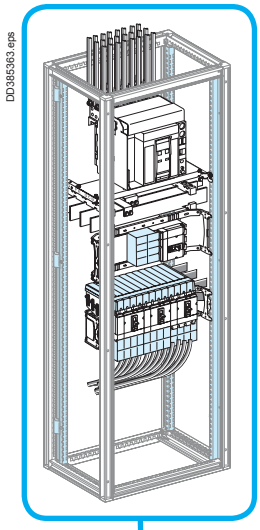
Easypact
from 100 to 630 A

Compact INS-INV250-630 A

Compact INS-INV630-2500 A

Source changeover systems
Compact/Masterpact

Source changeover systems
Compact INS



Fupact
from 32 to 1250 A

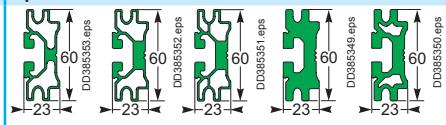
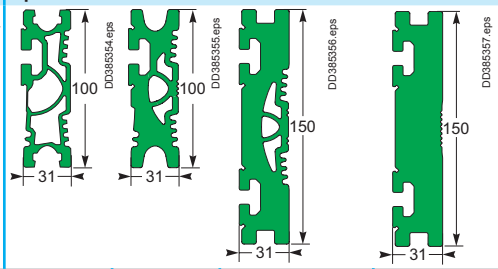
Multi 9 - Acti 9

Accessories

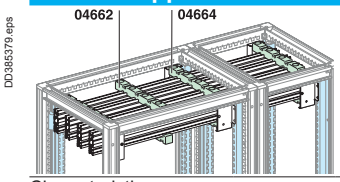
For more informations, see the catalogue Prisma P DESW016EN.

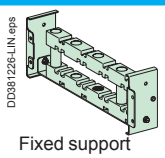
Linergy LGYE
Horizontal profiles up to 4000 A

Linergy LGYE profiles

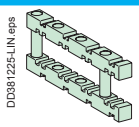
Installation in Spacial SFP		Up to 1600 A					Up to 4000 A			
Linergy profile, 2000 mm length										
		630 A	**800 A**	**1000 A**	**1250 A**	**1600 A**	**2000 A**	**2500 A**	**3200 A**	**4000 A**
Permissible current for an ambient temperature of 35 °C around the switchboard	IP ⩽ 31	630 A	800 A	1000 A	1250 A	1650 A	2000 A	2440 A	3200 A	3620
	IP > 31	530 A	680 A	850 A	1050 A	1480 A	1650 A	2100 A	2800 A	3350
Number of profiles per phase		1								
Total number of vertical modules (50 mm)		3					3		4	
Cat. no.		**04560**	**04561**	**04562**	**04563**	**04564**	**04565**	**04566**	**04567**	**04568**

Busbar supports





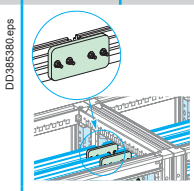
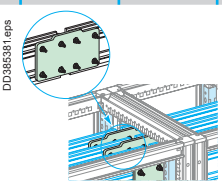
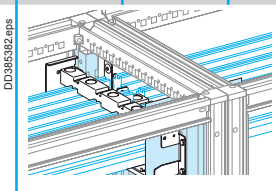
Fixed support
04664



Free support
04662

Characteristics		2 fixed supports for Spacial SFP 700 wide frame are compulsory. 1 fixed support for 300/400 wide frame are compulsory. If more supports are needed, add free supports.								
In cubicle: W700 Busbar supports 75 mm distance between	Number of supports depending on Icw (kA rms/1 s) ⩽ 15	2								
	⩽ 25	2								
	⩽ 30	2								
	⩽ 40	-		2						
	⩽ 50	-			2					
	⩽ 60	-			2+1		2			
	⩽ 65	-				2+1				
	⩽ 75	-				2+1				
	⩽ 85	-				2+1				
	⩽ 100	-					2+2			
Cat. no.	Fixed support	**04664**					**04664 + 04671** (order 1 per support)		**04664 + 04646** (sold in lots of 12 spacers)	
Cat. no.	Free support	**04662**					**04662 + 04671** (order 1 per support)		**04662 + 04646** (sold in lots of 12 spacers)	
In duct: W300 Busbar supports 75 mm distance between	Number of supports depending on Icw (kA rms/1 s) ⩽ 15	1								
	⩽ 25	1								
	⩽ 30	1								
	⩽ 40	1								
	⩽ 50	1								
	⩽ 60	1								
	⩽ 65	1 + 1								
	⩽ 75	1 + 1								
	⩽ 85	1 + 1								
	⩽ 100	-					1 + 1			
Cat. no.	Fixed support	**04664**					**04664 + 04671** (order 1 per support)		**04664 + 04646** (sold in lots of 12 spacers)	
Cat. no.	Free support	**04662**					**04662 + 04671** (order 1 per support)		**04662 + 04646** (sold in lots of 12 spacers)	

Joints

	Up to 1600 A					Up to 4000 A			
	630 A	**800 A**	**1000 A**	**1250 A**	**1600 A**	**2000 A**	**2500 A**	**3200 A**	**4000 A**
									
	04620		**04623**			**04624**			
Cat. no.	3 x **04620** (3P) 4 x **04620** + **04624** (4P)					3 x **04621** (3P) 4 x **04621** + **04624** (4P)		3 x **04623** (3P) 4 x **04623** + **04624** (4P)	
Note	Reference **04624** is compulsory when installing jointed Linergy LGYE 4P busbars and must be fitted where the frames meet. When installed at the bottom of a cubicle, the busbar must be partitioned.								

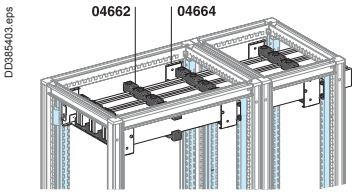
Note: for accessories, see page 15.

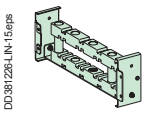
Linergy BS
Horizontal flat busbars up to 4000 A

Flat busbars

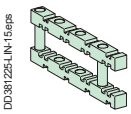
Installation in Spacial SFP		Up to 1600 A				Up to 4000 A					
Copper bar, 2000 mm length											
Permissible current for an ambient temp. of 35 °C around the switchboard	IP ≤ 31	800 A	1000 A	1400 A	1800 A	1800 A	2050 A	2300 A	2820 A	3300 A	3760 A
	IP > 31	750 A	900 A	1250 A	1600 A	1600 A	1850 A	2000 A	2500 A	2900 A	3340 A
Busbar cross-section (mm)		60 x 5	80 x 5	60 x 5	80 x 5	80 x 10	50 x 10	60 x 10	80 x 10	100 x 10	120 x 10
Number of busbars per phase		1	1	2	2	1	2	2	2	2	2
Total number of vertical modules (50 mm)		3									4
Cat. no.		**04536**	**04538**	**04536**	**04538**	**04548**	**04545**	**04546**	**04548**	**04550**	**04552**

Busbar supports





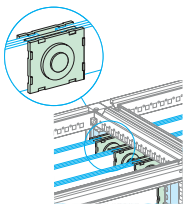
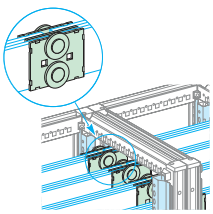
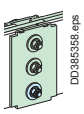
Fixed support **04664**



Free support **04662**

In cubicle: W700 with 75 mm distance between bars	Characteristics		2 fixed supports for Spacial SFP 700 wide frame are compulsory. 1 fixed support for 300/400 wide frame are compulsory. If more supports are needed, add free supports.		
	Number of supports depending on Icw (kA rms/1 s)	≤ 15	2		
		≤ 25	2+1	2	
		≤ 30	2+1	2	
		≤ 40	2+1	2	
		≤ 50	-	2+1	2
		≤ 60	-	2+1	
		≤ 65	-	2+1	
		≤ 75	-	2+2	2+1
		≤ 85	-	-	2+1
	Cat. no.	Fixed support	**04664**	**04664**	**04664** + **04671**
		Free support	**04662**	**04662**	**04662** + **04671**
In duct: W300 with 75 mm distance between bars	Number depending on Icw (kA rms/1 s)	≤ 30	1		
		≤ 50	1+1	1	
		≤ 85	-	2	
	Cat. no. depending on depth	Fixed support	**NSYBHS500** (D500) or **NSYBHS600** (D600) or **NSYBHS800** (D800)	**NSYBHS500** (D500) or **NSYBHS600** (D600) or **NSYBHS800** (D800)	**NSYBHS500** (D500) or **NSYBHS600** (D600) or **NSYBHS800** (D800) + **04671**
		Free support	**04662**	**04662**	**04662** + **04671**
In cubicle W700 with 115 mm distance between bars	Number depending on Icw (kA rms/1 s)	≤ 30	-	2	
		≤ 40		2+1	2
		≤ 60		2+1	
		≤ 75		2+2	2+1
		≤ 85		-	2+2	2+1
	Cat. no.	Fixed support		**NSYBHS800L**	**NSYBHS800L** + **04671**
		Free support		**04678**	**04678** + **04671**
In duct W300 with 115 mm distance between bars	Number depending on Icw	≤ 50	-	1	
		≤ 85		2	
	Cat. no.	Fixed support		**NSYBHS800L**	**NSYBHS800L** + **04671**
		Free support		**04678**	**04678** + **04671**

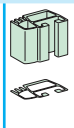
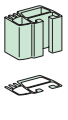
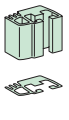
Joints

Installation in Spacial SFP		Up to 1600 A				Up to 4000 A					
		1 vertical bar per phase		2 vertical bars per phase		1 vert. bar per phase	2 vertical bars per phase				
Busbar cross-section (mm)		60 x 5	80 x 5	60 x 5	80 x 5	80 x 10	50 x 10	60 x 10	80 x 10	100 x 10	120 x 10
Sliding joints with self-breaking lock nut		**04640**			**04641**						
											
Cat. no.		**04640**	**04641**	**04640**	**04641**	**04641**	**04640**	**04640**	**04641**	**04641**	**04643**

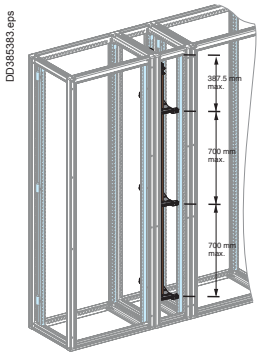
Note: *When installed at the bottom of a cubicle, the busbar must be partitioned.*

Linergy LGY
Lateral profiles up to 1600 A

Linergy LGY profiles

		Up to 1600 A (single busbar)				
In Spacial SFP duct		**W300**				
Linergy profile, 1670 mm length		 DD381233-LIN-7.eps	 DD381234-LIN-7.eps	 DD381235-LIN-7.eps	 DD381236-LIN-7.eps	 DD381237-LIN_7.eps
		630 A	**800 A**	**1000 A**	**1250 A**	**1600 A**
Permissible current for an ambient temp. of 35 °C around the switchboard	IP ≤ 31	680 A	840 A	1040 A	1290 A	1650 A
	IP > 31	590 A	760 A	950 A	1170 A	1480 A
Number of profiles per phase		1				
Cat. no.		**04502**	**04503**	**04504**	**04505**	**04506**

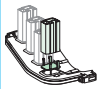
Busbar supports


DD385383.eps


DD380741-LIN-12.eps

Fixed support **04651**

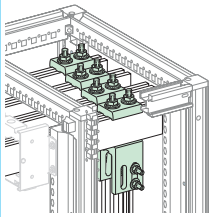
Characteristics


DD380742-LIN-12.eps

An end stop must be fitted on the bottom support:
01109 (sold in lots of 12)

Number depending on Icw (kA rms/1 s)	≤ 25	3				
	≤ 30	-	3			
	≤ 40	-		3		
	≤ 50	-			4	
	≤ 60	-			5	
	≤ 65	-				5
	≤ 75	-				7
	≤ 85	-				8
Cat. no.		**04651** (set of 2 upright adapters **06502** for installation in Spacial SFP cubicle)				

Connections to the Linergy BS horizontal busbar

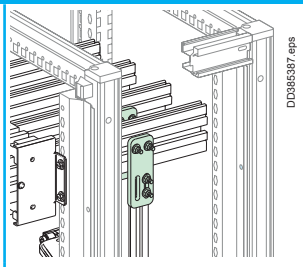

DD385409.eps

Characteristics

Supplied with mounting hardware.
Reference include 1 connection only. Order 1 connection per phase.

Cat. no according to horizontal busbar size	5 mm thick		**04634**	**04635**
	10 mm thick	Width ≤ 80 mm	**04636**	
		Width > 80 mm	**04636** + **04642** **04638** + **04642**	

Connections to the Linergy LGYE horizontal busbar


DD385387.eps

≤ 1600 A

Characteristics

Supplied with mounting hardware.
Reference include 1 connection only. Order 1 connection per phase.

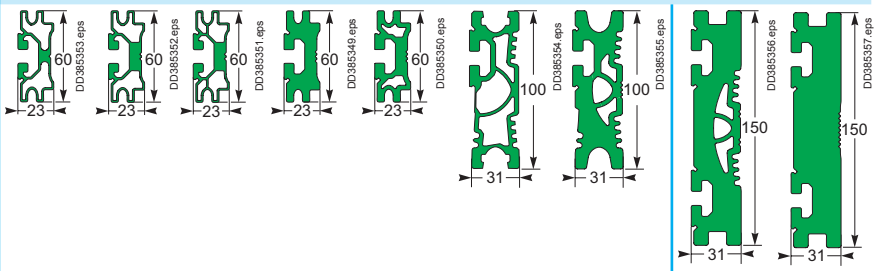
Cat. no.

04602 (vertical connection)
04603 (vertical shifted connection) (1)

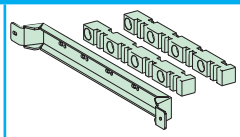
(1) Dedicated connection 04603 for Linergy LGYE busbar in 150 mm duct with horizontal jointing.

Linergy LGYE
Lateral profiles up to 4000 A

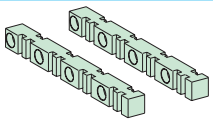
Linergy LGYE profiles

		Up to 4000 A							
In Spacial SFP duct		**W300**							
Linergy profile, 2000 mm length									
		630 A	**800 A**	**1000 A**	**1250 A**	**1600 A**	**2000 A**	**2500 A**	**3200 A**	**4000 A**
Permissible current for an ambient temperature of 35 °C around the switchboard	IP ⩽ 31	530 A	680 A	850 A	1050 A	1480 A	1650 A	2100 A	2800 A	3620
	IP > 31	630 A	800 A	1000 A	1250 A	1650 A	2000 A	2440 A	3200 A	3350
Length to cut for side mounting		1675 mm							1625 mm	
Number of profiles per phase		1								
Cat. no.		**04560**	**04561**	**04562**	**04563**	**04564**	**04565**	**04566**	**04567**	**04568**

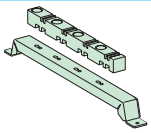
Busbar supports



Fixed support **NSYBVS500**



Free support **04662**



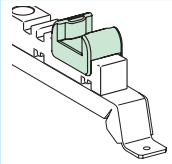
Bottom support **NSYAS500**

Characteristics		3 fixed supports are compulsory to hold the busbar in position. If more than 3 supports are needed, use free supports (in addition).							
Number depending on Icw (kA rms/1 s)	⩽ 30	3							
	⩽ 40	-	3+2				3		
	⩽ 50	-		3+2			3		
	⩽ 60	-		3+2				3	
	⩽ 65	-				3+2			
	⩽ 75	-				3+4			3+2
	⩽ 85	-				3+4			
	⩽ 100	-						3+6	

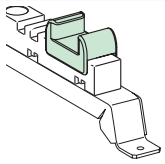
Cat. no. of supports depending on distance between bars and duct depth	Spacial SFP duct 75 mm distance between bars	W300, D500	**NSYBVS500** (fixed) + **04662** (free) + **NSYAS500** (spacer) (1)
		W300, D600	**NSYBVS600** (fixed) + **04662** (free) + **NSYAS600** (spacer) (1)
		W300, D800	**NSYBVS800** (fixed) + **04662** (free) + **NSYAS800** (spacer) (1)
	Spacial SFP duct 115 mm distance between bars	W300, D800	**NSYBVS800L** (fixed) + **04678** (free) + **NSYAS800L** (spacer) (1)

*(1) If using a 100 x 10 bars, add a pack of screws ref. **04671** for each fixed support and free support.*

Wedging busbars in position



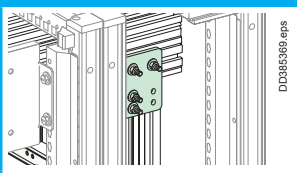
Wedge fitted on bottom support



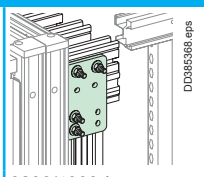
Wedge fitted on bottom support

Characteristics	The bottom support is used to place profiles and ensure they are in the correct position. It is not considered to be a busbar support.	
Cat. no.	**04666** **04658** (pack of 12 stops)	**04666** **04659** (pack of 12 replacement stops)

Connections to the Linergy LGYE horizontal busbar



2000/2500 A

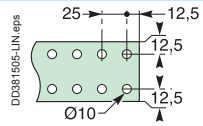


3200/4000 A

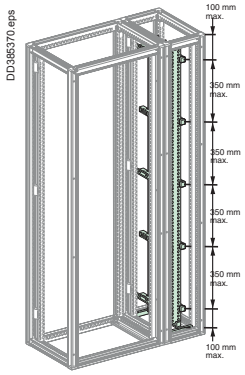
Characteristics	Supplied with mounting hardware. Reference include 1 connection only. Order 1 connection per phase.	
Cat. no.	**04604** (short connection) **04605** (long connection)	**04607**

Linergy BS
Lateral flat busbars up to 3200 A

Flat busbars

		Up to 1600 A				Up to 3200 A						
In Spacial SFP duct		**W300 D500/600/800**				**W300 D500/600/800**						
Pre-slotted copper, 1675 mm length												
Permissible current for an ambient temp. of 35 °C around the switchboard	IP ⩽ 31	800 A	1000 A	1400 A	1800 A	1200 A	1400 A	1800 A	2050 A	2300 A	2820 A	3200 A
	IP > 31	750 A	900 A	1250 A	1600 A	1080 A	1250 A	1600 A	1850 A	2000 A	2500 A	2820 A
Busbar cross-section (mm)		60 x 5	80 x 5	60 x 5	80 x 5	50 x 10	60 x 10	80 x 10	50 x 10	60 x 10	80 x 10	100 x 10
Number of busbars per phase		1		2		1			2			
Cat. no.		**04516**	**04518**	**04516**	**04518**	**04525**	**04526**	**04528**	**04525**	**04526**	**04528**	**04550** (1)

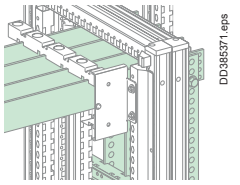
Busbar supports

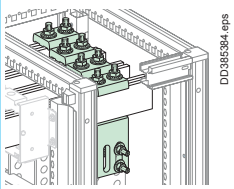


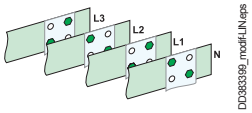
Description		3 fixed supports are compulsory to hold the busbar in position. If more than 3 supports are needed, use free supports (in addition). The bottom wedge support is used to place the busbar and ensure it is in the correct position. It does not count as a busbar support.										
Number of supports depending on Icw (kA rms/1 s)	⩽ 15	3				3						
	⩽ 25	3+2			3	3						
	⩽ 30	3+2				3+2						3
	⩽ 40	3+4		3+2		3+2						
	⩽ 50		3+4			3+2						
	⩽ 60					3+4						3+2
	⩽ 65					3+4						3+2
	⩽ 75						3+6		3+4			
	⩽ 85									3+4		
Cat. no. of supports depending on distance between bars and duct depth	Spacial SFP duct 75 mm distance between bars – W300, D500	**NSYBVS500** (fixed) + **04662** (free) + **NSYAS500** (spacer) (2)										
	Spacial SFP duct 75 mm distance between bars – W300, D600	**NSYBVS600** (fixed) + **04662** (free) + **NSYAS600** (spacer) (2)										
	Spacial SFP duct 75 mm distance between bars – W300, D800	**NSYBVS800** (fixed) + **04662** (free) + **NSYAS800** (spacer) (2)										
	Spacial SFP duct 115 mm distance between bars – W300, D800	**NSYBVS800L** (fixed) + **04678** (free) + **NSYAS800L** (spacer) (2)										

(1) Copper bar without holes.
*(2) If using a 100 x 10 bars, add a pack of screws ref. **04671** for each fixed support and free support.*

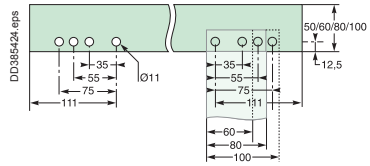
Connections to the Linergy BS horizontal busbar



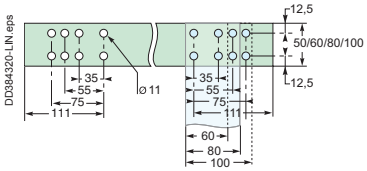


Characteristics		For a busbar with 75 mm distance between bars, the bars must be completely covered. Staggered assembly points between one bar and the next, to maintain the necessary clearance distances.(3)				References **04636**, **04637, 04638** are supplied individually: 1 connection per phase. Reference **04642** consists of 2 M8 x 140 screws which can replace the original M8 x 120 screws.						
												
		1 vertical bar per phase		2 vertical bars per phase		1 vertical bar per phase			2 vertical bars per phase			
		60 x 5	80 x 5	60 x 5	80 x 5	50 x 10	60 x 10	80 x 10	50 x 10	60 x 10	80 x 10	100 x 10
Cat. no. of the connection piece depending on horizontal busbar size	⩽ 80 mm	**04645**				**04636**		**04637**	**04637**			**04645**
	> 80 mm	**04645**				**04636** + **04642**		**04637** + **04642**	**04637** + **04642** **04638** + **04642**			**04645**

(3) Drill hole dimensions for 5 mm thick horizontal busbars.

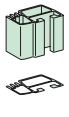
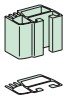
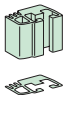
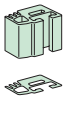


Drill hole dimensions for 10 mm thick horizontal busbars.

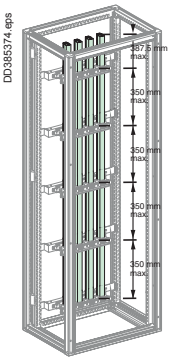


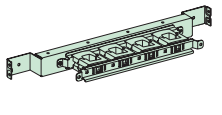
Linergy LGY
Rear profiles up to 1600 A

Linergy LGY profiles

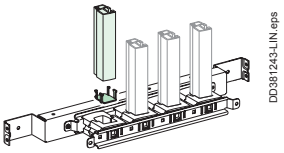
		Up to 1600 A				
At the rear of a Spacial SFP cubicle		**W700**				
Linergy profile, 1670 mm length		 DD381233-LIN-7.eps	 DD381234-LIN-7.eps	 DD381235-LIN-7.eps	 DD381236-LIN-7.eps	 DD381237-LIN_7.eps
		630 A	**800 A**	**1000 A**	**1250 A**	**1600 A**
Permissible current for an ambient temp. of 35 °C around the switchboard	IP ⩽ 31	680 A	840 A	1040 A	1290 A	1650 A
	IP > 31	590 A	760 A	950 A	1170 A	1480 A
Number of profiles per phase		1				
Cat. no.		**04502**	**04503**	**04504**	**04505**	**04506**

Busbar supports

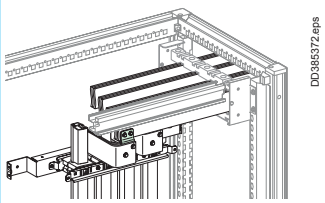

DD385374.eps


DD381242-LIN.eps

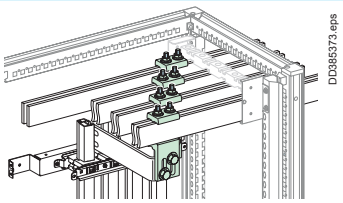
Fixed support **04652**

Number depending on Icw (kA rms/1 s)	⩽ 25	3			
	⩽ 30		4		
	⩽ 40			5	
	⩽ 50				7
Characteristics		 DD381243-LIN.eps		An end stop must be fitted on the bottom support **01109** (sold in lots of 12)	
Cat. no.		**04652**			

Connections to the Linergy BS horizontal flat busbar


DD385372.eps

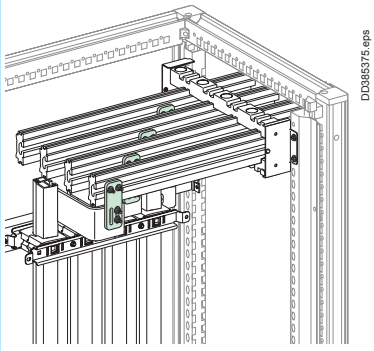
04635 connection to 5 mm thick horizontal busbar


DD385373.eps

04636 connection to 10 mm thick horizontal busbar

Characteristics			Fixings supplied, order 1 connection per phase. For part of the connection, flexible insulated busbars are needed.
Cat. no. according to horizontal busbar size	5 mm thick		**04635**
	10 mm thick	Width ⩽ 80 mm	**04636**
		Width > 80 mm	**04636** + **04642**

Connections to the Linergy LGYE horizontal flat busbar

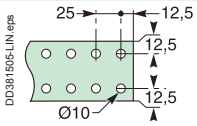

DD385375.eps

04602 connection to the Linergy LGYE horizontal flat busbar

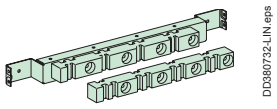
Characteristics	Fixings supplied, order 1 connection per phase. For part of the connection, flexible insulated busbars are needed.
Cat. no.	**04602**

Linergy BS
Rear flat busbars up to 1600 A

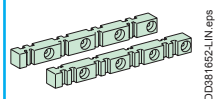
Flat busbars

		Up to 1600 A					
At the rear of a Spacial SFP cubicle		**W700**					
Pre-slotted copper, 1670 mm length							
		800 A	**1000 A**	**1400 A**	**1000 A**	**1200 A**	**1600 A**
Permissible current for an ambient temperature of 35 °C around the switchboard	IP ⩽ 31	800 A	1000 A	1400 A	-	-	-
	IP > 31	750 A	900 A	1250 A	1080 A	1250 A	1600 A
Busbar cross-section (mm)		60 x 5	80 x 5	60 x 5	50 x 10	60 x 10	80 x 10
Number of busbars per phase		1		2	1		
Cat. no		**04516**	**04518**	**04516**	**04525**	**04526**	**04528**

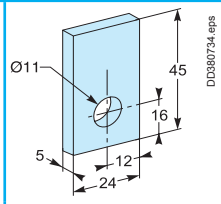
Busbar supports



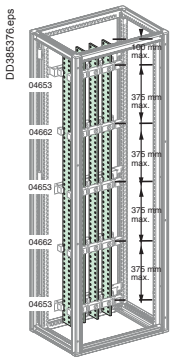
Fixed busbar support **04653**

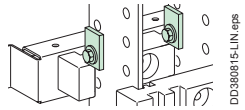
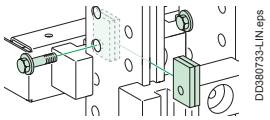


Busbar free support **04662**

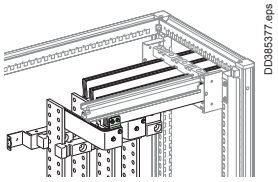


Mounting chocks **04669**

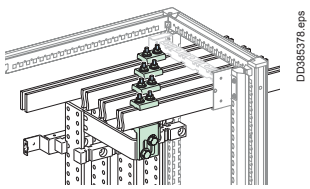


Characteristics		3 fixed supports ref. 04653 are compulsory to keep the busbar vertical. If more than 3 supports are needed, use free support ref. 04662 (in addition). Metal shim ref. 04669 (sold in lots of 100), 5 mm thick, is screwed onto the busbar. It rests on a fixed support and is used to wedge the busbar in position.							
		 Wedging: 1 busbar/phase							
		 Wedging: 2 busbars/phase							
Number depending on Icw (kArms/1 s)	⩽ 15	3				3			
	⩽ 25	3+2				3			
	⩽ 30	3+2				3+2			
	⩽ 40	3+4		3+2		3+2			
	⩽ 50		3+4			3+2			
	⩽ 60					3+4			
	⩽ 65					3+4			
	⩽ 75						3+6		
	⩽ 85								
Cat. no.		**04653** (fixed) + **04662** (free) + **04669** (spacer)							

Connections to the Linergy BS horizontal flat busbar



04635 connection to horizontal busbar
5 mm thick

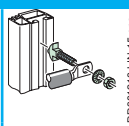


04636 connection to horizontal busbar
10 mm thick

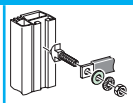
Characteristics			For part of the connection, flexible insulated busbars are needed. References **04635**, **04636** are supplied individually = 1 connection per phase. Reference **04642** consists of 2 M8 x 140 screws which can replace the original M8 x 120 screws.
Cat. no. according to horizontal busbar size	5 mm thick		**04635**
	10 mm thick	Width ⩽ 80 mm	**04636** (1)
		Width > 80 mm	**04636** + **04642** (1)

(1) To be made.

Accessories



Linergy screw

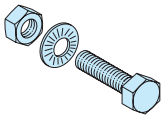


Plain washer

Identification

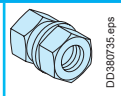
Linergy screw	Characteristics		Sold in lots of 20: 20 screws + 20 nuts + 20 contact washers, class 8.8. The screws slide into the profile and are then locked in the desired position.
	Cat. no.	25 mm length 39 mm length	see the table "Connections on Linergy LGYE & LGY" below
Steel plain washers	Characteristics		M8 sold in lots of 20
	Cat. no.	ext. Ø20 mm	**04772**
		ext. Ø24 mm	**04773**
		ext. Ø28 mm	**04774**
Brass plain washers	Characteristics		M8 sold in lots of 20 for connection of ≤ 25 mm² lugs to Linergy
	Cat. no.	ext. Ø20 mm	**04775**
Identification	Characteristics		12 clip-on supports + N, L1, L2, L3, PE, PEN labels
	Cat. no.		**04794**
	Characteristics		Linergy LGYE busbar screw plate kit after sales service
	Cat. no.		**01130**

M8 bolts



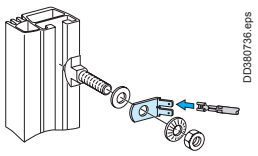
Linergy BS, 20 bolts 8.8 class	Characteristics		Set of 20 bolts + 20 nuts + 40 contact washers.
	Cat. no.	M8 x 20	**04782**
		M8 x 25	**04783**
		M8 x 30	**04784**
		M8 x 35	**04785**
		M8 x 40	**04786**
		M8 x 45	**04787**
		M8 x 50	**04788**

Torque nuts



20 M8 torque nuts	Characteristics	Can be used to obtain the correct tightening torque (28 Nm) recommended by then manufacturer, without using a torque wrench. Torque nuts may be used for all electrical connections.
	Cat. no.	**04759**

Voltage tap-offs



20 M10 voltage tap-offs for two 6.35 mm tab connectors	Characteristics	For small lugs (on low-current cables or measurement tap-offs), insert a conducting washer (cat. no. 04775) between the busbar and the lug.
	Cat. no.	**04229**

Connections on Linergy LGYE & LGY

InA (A)		Connection on Linergy	Utilisation	Cat no.	
0 to 630	Cable Insulated flexible bar	Use the 25 mm Linergy screw	Recommended	**04766**	
		Use the 39 mm Linergy screw	Possible	**04767** (1)	
800 to 1250	5 mm thick bar	Use the 25 mm Linergy screw	Recommended	**04766**	
		Use the 39 mm Linergy screw	Possible	**04767** (1)	
		Use the flate plate screw with 2 studs	Possible	**04768**	
1600 to 2500	5 or 10 mm thick bar	Use the flate plate screw with 2 studs	Recommended	**04768**	
		Use the 39 mm Linergy screw	Possible	**04767** (1)	
3200 to 4000	10 mm thick bar	Use the flate plate screw with 3 studs	Recommended	**04769**	

(1) ***04767*** *is only compatible with Linergy LGY.*

Form 1 partitioning

Catalogue numbers

Presentation

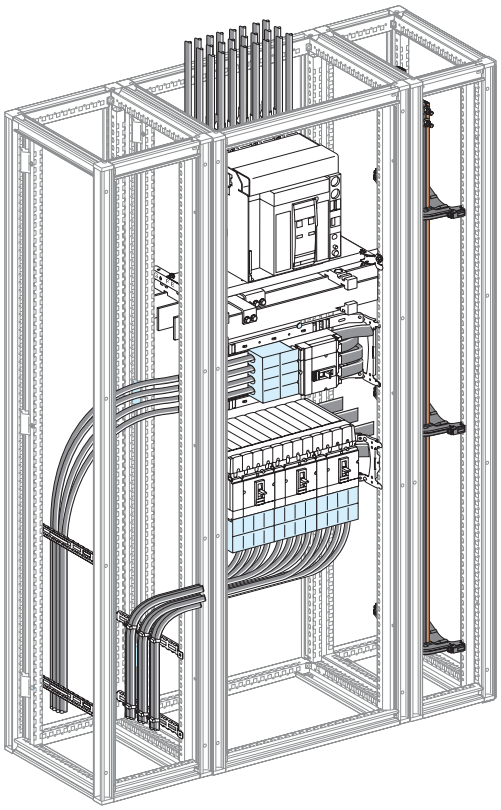
Decisions concerning the Form of separation and the degree of protection are the subject of an agreement between the manufacturer and the user.

In most installations, Spacial SFP cubicles do not require partitioning. In this case, the switchboard is a Form 1.
Safety being one of its foremost goals, Schneider Electric offers options and features that go well beyond the recommendations of the standard.
The protection of life and property is a standard feature due to:

> front plates that require a tool to be removed
> keylocks on doors, some of which provide access to live parts
> the systematic installation of terminal shields on Compact NSX circuit breakers and Compact INS and INV switch-disconnectors.

What is more, Spacial SFP offers different levels of partitioning to create separations inside the cubicles and thus create Form 2b, 3b, 4a & 4b electrical switchboards.
Electrical switchboards must meet the degree of protection IP2X to comply with standard IEC 61439-1 and 2.

DD385393.eps



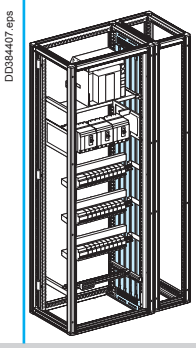
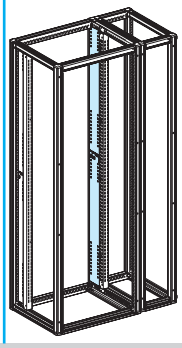
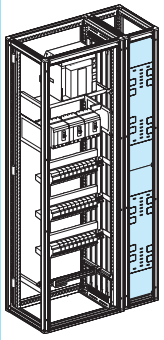
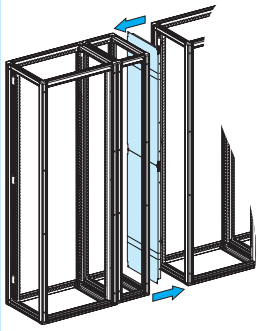
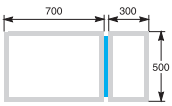
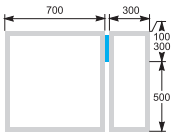
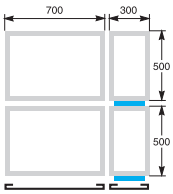
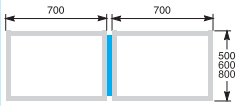
The protection of life and property is ensured by the systematic installation of terminal shields on Compact NSX circuit breakers and on Compact INS and INV switch-disconnectors (see the pages on the functional units).

Form 2 partitioning

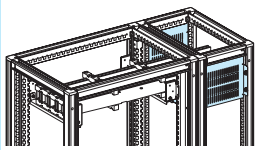
Catalogue numbers

Form 2 partitioning

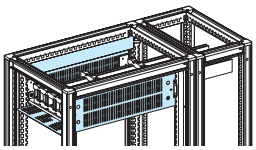
Separation of busbars from the functional units:
- protection against contact with live parts upstream of the outgoing circuits
- protection against penetration of foreign solid bodies.

	Lateral partitioning	Form 2 restoration for side-barrier cut-out	Partitioning extension	Front and rear barrier	Inter-cubicle partitioning
					
Schemes					
					
Characteristics	■ Vertical barrier made of insulating slats. ■ Can be installed on both sides of Linergy and flat busbars. ■ The space between the slats is sufficient for prefabricated connections (one copper bar, 5 or 10 mm thick, or insulated flexible bars) or for cables up to 35 mm², while maintaining the degree of protection IP2X compliance with standard IEC 60695.2.1 concerning withstand to fire.	■ This kit enables passage of the connection between a device > 1600 A (NW, INS) and lateral vertical busbars. ■ It is made up of an insulated plate (six modules H 300 mm) that can be cut as required, supplied with supports and the necessary hardware.	■ For the Spacial SFP system switchboards 600 and 800 mm depth, a partitioning extension is required.	■ Front protection is realized by the association of the door W300 and this barrier. Metallic barrier, composed of 2 parts H850, pre-cut at both ends. ■ Rear protection, a barrier is required at the rear of the busbar compartment in cubicles that are 800, 1000 and 1300 mm deep.	■ Metal partition, used to separate two adjacent cubicles. ■ It is made up of two panels, each 850 mm high. ■ The top and bottom ends have knock-outs for horizontal busbars. ■ Supplied with the necessary supports and hardware, the partition is mounted on the framework and does not hinder installation of the functional mounting plates.
Cat. no.	**06545**	**04924**	**D600: 06541** **D800: 06543**	**06540**	D 500: **06555** D 600: **06565** D 800: **06558**

Partitioning of horizontal busbars



W300



W700

Designation	■ Set of two barriers (front and rear), plus a slotted rear panel for efficient natural convection in the switchboard. ■ The set can be used to partition horizontal busbars installed at the top or bottom of the cubicle. ■ The space required for the busbars is not increased.					
For Depth	D500	D600	D800	D500	D600	D800
Cat. no. for 3M busbar	**06560**	**06561**	**06563**	**06570**	**06570**	**06570**
Cat. no. for 4M busbar	**06568**	**06568**	**06568**	**06567**	**06567**	**06567**

Note: *when the busbars are at the bottom of the cubicle, gland plates are mandatory.*

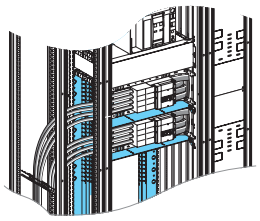
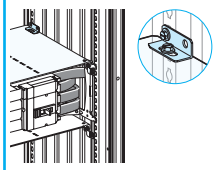
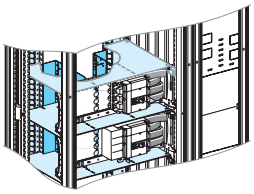
Form 3 partitioning

Catalogue numbers

Form 3 partitioning

Separation of busbars from the functional units and separation of all functional units from one another.
Separation of the terminals for external conductors from the functional units, but not from each other.

- protection against contact with live parts
- reduction in the risk of faults between the functional units (propagation of electrical arcs, etc.).

	Front connection			Rear connection	
	DD384420.eps 		DD384422.eps 	DD384421.eps 	
	Horizontal metal partition, W650 mm	**Rear support for partitions, W650 mm**	**6 universal angle brackets**	**Rear connection**	
Characteristics	■ A horizontal metal partition can be used to physically separate functional units from one another.	■ It is fixed at the rear by a support (two uprights) secured to the framework (500 mm deep) or to the intermediate uprights (800 mm deep frameworks).	■ A set of brackets can be used to install partial Form 3 partitioning in the cubicle. ■ It does not take up any useful space in the switchboard.	■ Vertical partitions (two cat. no. per functional unit)	
				3 to 4 modules	5 to 6 modules
Cat. no.	**04901**	**04943**	**03583**	**04955**	**04956**

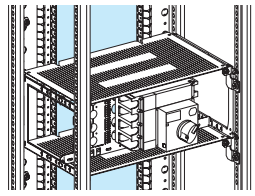
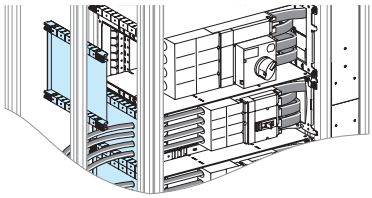
Form 4 partitioning

Catalogue numbers

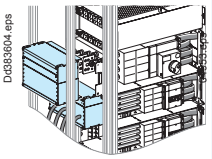
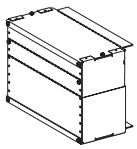
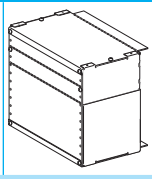
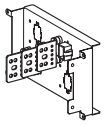
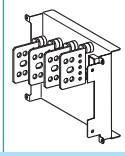
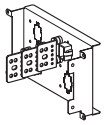
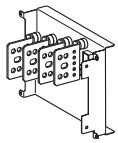
Form 4 partitioning

■ Separation of busbars from the functional units and separation of all functional units from one another, including the terminals for external conductors which are an integral part of the functional unit
■ Protection against contacts with live parts and reduction in the risk of faults between the functional units (propagation of electrical arcs, etc.)
■ Form 4a: terminal for external conductors in the same compartment as the associated.
■ Form 4b: Terminals for external conductors not in the same compartment as the associated functional unit, but in individual, separate, enclosed protected spaces or compartments.

Form 4a partition

	For front connection		
	DD385389.eps 	Dd383603.eps 	
	Form 4a backplate (one cat. no. per cubicle)	**Form 4a gland plate**	
Characteristics	■ a backplate (one cat. no. per cubicle) made up to two metal half panels mounted on the rear supports for Form 3 partitions. This backplate is not indispensable for 500 mm deep frameworks.	■ a plastic gland plate that can be easily cut out (one for each functional unit) and is mounted on the framework.	
		3 or 4 modules	5 or 6 modules
Cat. no.	**04946**	**04951**	**04952**

Form 4b partition

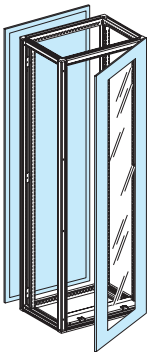
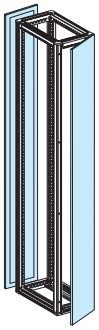
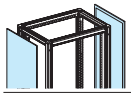
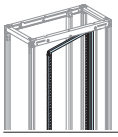
Dd383604.eps 	04954.eps 	06606.eps 		06607.eps 	06604.eps 	06605.eps 	
			Connection transfer assembly, 3 to 5 modules, 250 A		**Connection transfer assembly, 4 to 6 modules, 630 A**		
Characteristics	■ a cover with metallic gland plates that can be easily cut out on the side and bottom. It is available in two heights :		■ Transfert assembly without connection to simplyfied the cable installation		■ Transfert assembly without connection to simplyfied the cable installation		
	3 to 5 modules	4 to 6 modules	3P	4P	3P	4P	
Cat. no.	**06600**	**06601**	**06606**	**06607**	**06604**	**06605**	

Cubicles and accessories

Characteristics
Catalogue numbers

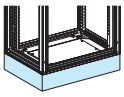
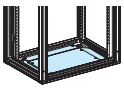
Common characteristics

- ■ Roof characteristics:
  - □ equipped with a factory-mounted polyurethane (PUR) gasket
  - □ supplied with mounting hardware
  - □ with markings for clear identification of cable-running zones
- ■ The cables compartment can be mounted on the right or left.
- ■ Can be combined side-by-side or back-to-back.
- ■ Receive the IP55 cover panels.

Mounting	W700			W300		
	 DD385545.eps			 DD385546.eps		
Depth	**D500**	**D600**	**D800**	**D500 (1)**	**D600 (1)**	**D800 (1)**
Assembled enclosures H2000 Plain door	**NSYSFP20750**	**NSYSFP20760**	**NSYSFP20780**	**NSYSF20350**	**NSYSF20360**	**NSYSF20380**
Assembled enclosures H2000 Glazed door	**NSYSFP20750T**	**NSYSFP20760T**	**NSYSFP20780T**	-	-	-
Adapter uprights to install Linergy LGY, LGYE, BS busbar  06502.eps	-	-	-	**NSYSFPA**	**NSYSFPA + NSYSUCR40200**	**NSYSFPA + NSYSUCR40200**
Side panel (Set of 2) (2)  DD384425.eps	**NSY2SP205**	**NSY2SP206**	**NSY2SP208**	**NSY2SP205**	**NSY2SP206**	**NSY2SP208**
Hinged front plate support frame (3)  DD381324.eps	**08566**	**08566**	**08566**	-	-	-

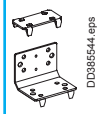
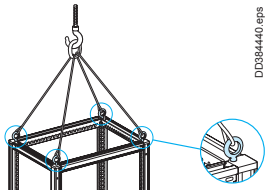
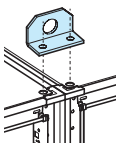
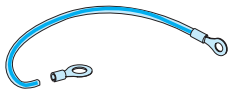
(1) For cables and to install Linergy LGYE, BS busbar.
(2) An earthing braid must be installed between the lateral panels and the frame.
(3) Reversible for left or right-hand opening.

Accessories

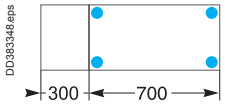
Width			W700			W300		
Depth			D500	D600	D800	D500	D600	D800
 DD384428.eps	Plinth H100 (1)	Front and rear cross-pieces	NSYSPF7100	NSYSPF7100	NSYSPF7100	NSYSPF3100	NSYSPF3100	NSYSPF3100
		Lateral cross-pieces	NSYSPS5100	NSYSPS6100	NSYSPS8100	NSYSPS5100	NSYSPS6100	NSYSPS8100
	Plinth H200 (1)	Front and rear cross-pieces	NSYSPF7200	NSYSPF7200	NSYSPF7200	NSYSPF3200	NSYSPF3200	NSYSPF3200
		Lateral cross-pieces	NSYSPS5200	NSYSPS6200	NSYSPS8200	NSYSPS5200	NSYSPS6200	NSYSPS8200
 DD384427.eps	Plain gland-plates		NSYEC751	NSYEC761	NSYEC781	NSYEC351	NSYEC651	NSYEC381

(1) The plinth is made up of two catalogue numbers: front and rear cross-pieces + lateral cross-pieces.

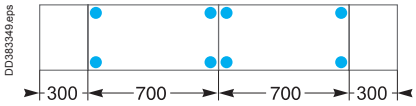
Other accessories

	 DD385544.eps	 DD384440.eps	 NSYFELB.eps		 DD384368.eps	 21716copie.eps
	Coupling kit	**4 lifting rings**	**4 lifting brackets**	**Set of 20 screws + M6 nuts**	**Earthing wire, 6 mm²**	**Earthing braid (3)**
Description	■ side-by-side combination ■ back-to-back combination (2): - D500+D500 - D800+D500	■ Use a set of lifting rings for each framework (4) (W700 mm) containing devices.	■ When two cubicles with devices have been combined, use a lifting beam.		The wire is equipped with a 4 mm diameter lug at one end and a 6 mm diameter lug on the other. The earthing wire is used to earth: ■ a door or wicket door with devices ■ a front-plate support frame equipped with switchgear in a cubicle.	■ For NSYEL166D8: Length 160 mm, Section 6 mm², Terminal 8.3 mm. ■ For NSYEL3525D8: Length 350 mm, Section 25 mm², Terminal 8.3 mm.
Cat. No.	**NSYSFBK19**	**NSYSFEB**	**NSYSFELB**	**06461**	**08911**	**NSYEL166D8 / NSYEL3525D8**

(2) Back to back association must be shipped individually and combined during on-site installation.
(3) An earthing braid must be installed between the roof and the frame.
(4) For one framework



For two frameworks



Ground fastening

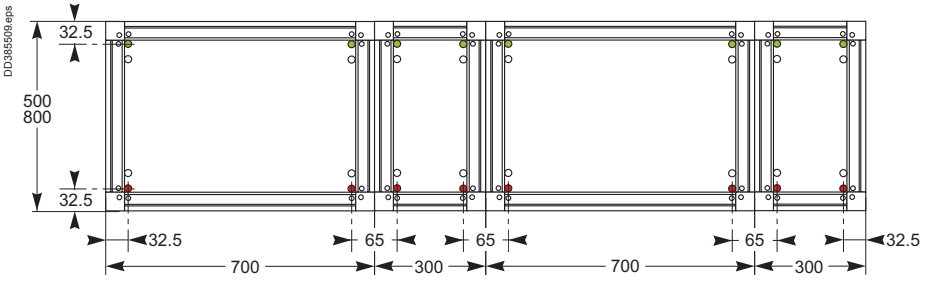
Characteristics
Catalogue numbers

Seismic application 3G withstand					
		1600 A configuration (1)		3200 A configuration	
		Spacial SFP	Busbar duct	Spacial SFP	Busbar duct
Nominal dimensions	Height	2000	2000	2000	2000
	Width	700	300	700	300
	Depth	500	500	800	800
Additional dummy load (kg)		350	350	450	450
Seismic plinth H100 mm - Cat. no.		**NSYS5GPC75**	**NSYS5GPC35**	**NSYS5GPC78**	**NSYS5GPC38**

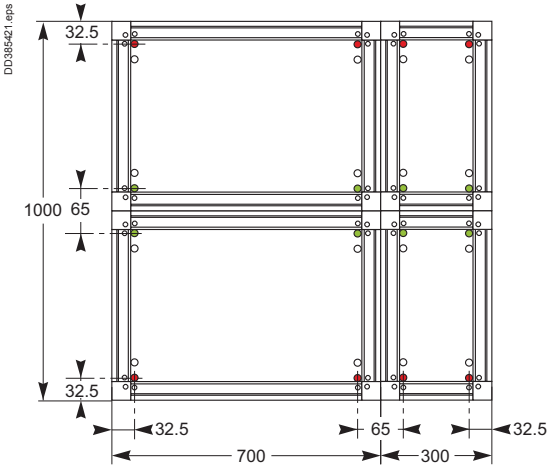
Note: incoming by pre-frabricated busbar truncking is forbidden for seismic application.
(1) Not compatible for depth 600 mm.

Ground fastening

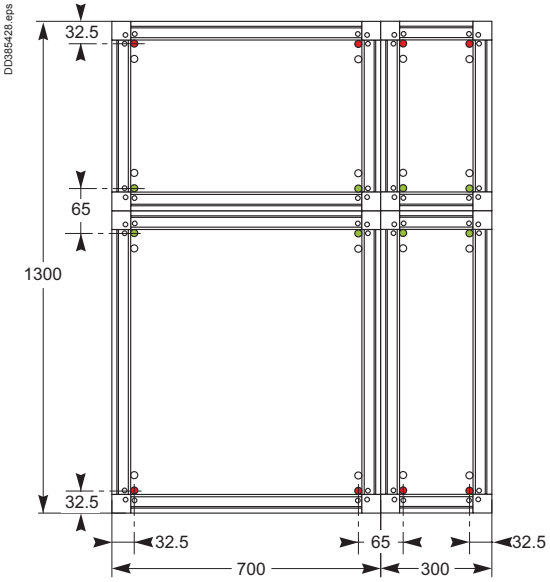
■ Front connection (example: device cubicle W700 mm + compartment W300 mm)



■ Rear connection D1000
(example: device cubicle + compartment D500 + D500 mm)



■ Rear connection D1300
(example: device cubicle + compartment D800 + D500 mm)



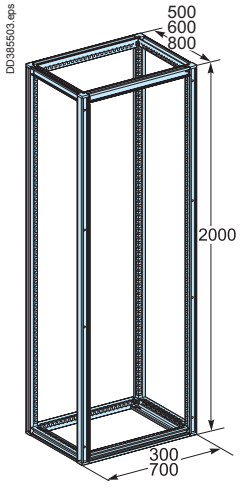
● compulsory fixing point
● optional fixing point

■ 8.8-class screws: screw M10 TH
+ washers (external Ø 25 mm, thickness 3 mm)
+ CS contact washers Ø 10 mm.

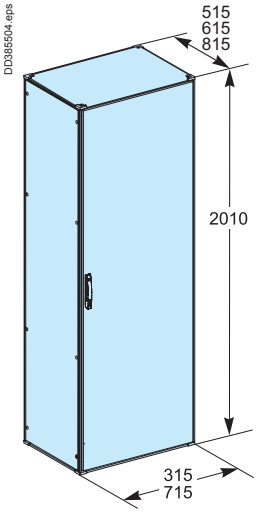
Dimensions

Cubicles

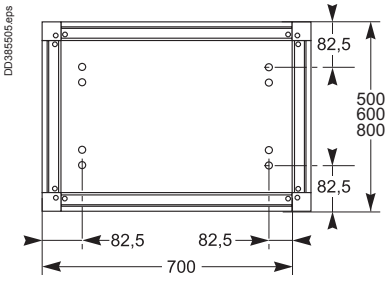
Profile



Cover panels, Plain or transparent door, lateral panels

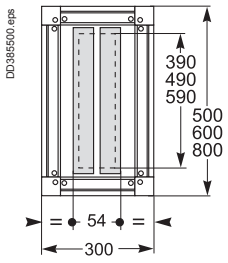


Standard plinth

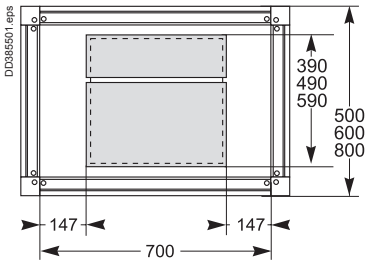


Gland plates

W300

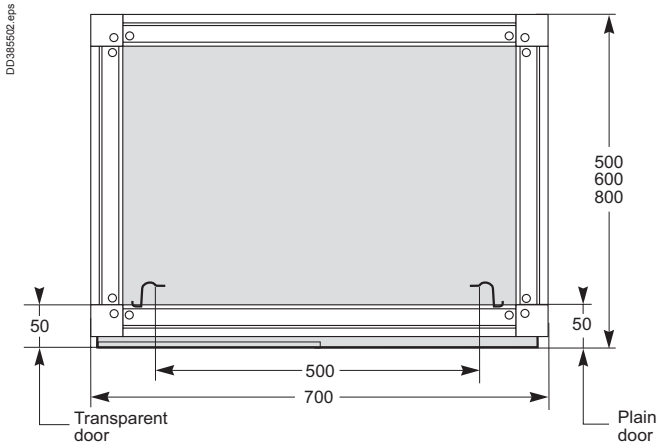


W700



Functional system in Spacial SFP switchboards, cubicle mounting

D500, D600, D800

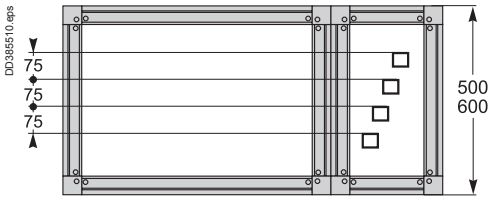


Dimensions

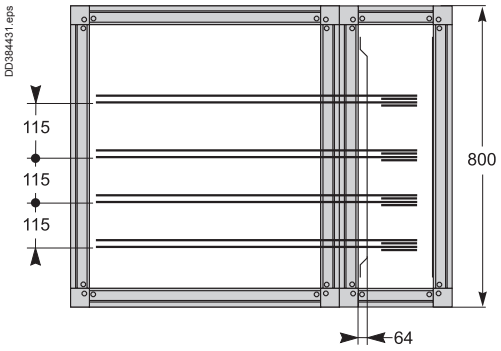
Dimensions

Busbars mounting, Lateral vertical busbars

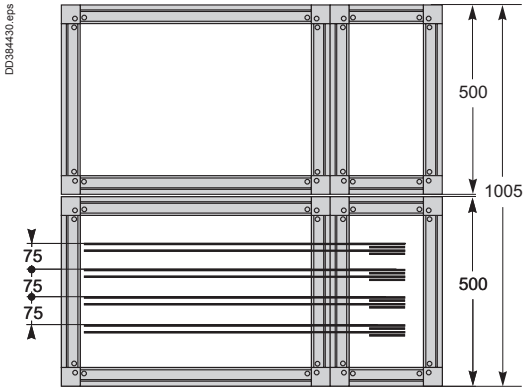
1600 A



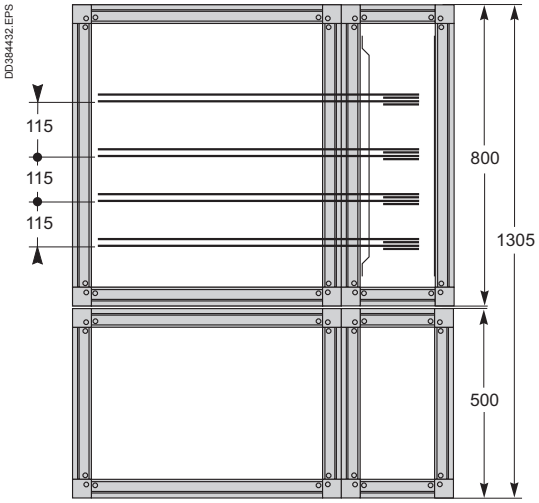
2500 A



2000 A



3200 A



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