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SPX-D switch disconnector with fuses

Reference(s): **from 6 050 82 to 6 050 95**

CONTENTS

1. USE

SPX-D platform has been upgraded to give a new solution for switch disconnection with fuses, providing a complete platform in standard market segments.

The switches disconnectors SPX-D are devices for the protection of the electric circuits from overcharge and short circuit using fuses (NFC or NH). They can be installed in systems with different features from power centers switch OFF-ON to secondary panels for the cut of the line. Icu value is up to 100 kA, with the benefit given by fuses of quick and easy maintenance and substitution.

2. RANGE

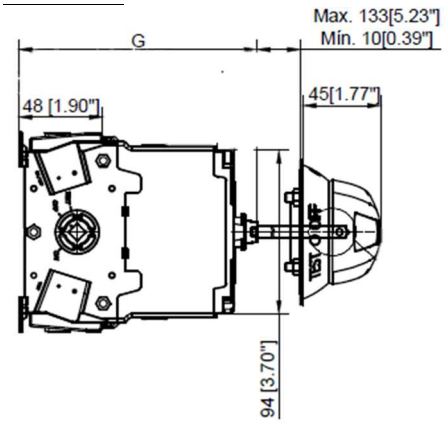
Size	Amp.	Fuse link	3P	4P
F00	50	14x51	LG-605082	LG-605083
	63	NH000	LG-605086	LG-605087
	100	22x58	LG-605084	LG-605085
		NH000	LG-605088	LG-605089
F0	125	NH00	LG-605090	LG-605091
	160	NH00	LG-605092	LG-605093
F1	250	NH1	LG-605094	LG-605095

3. DIMENSIONS AND WEIGHTS

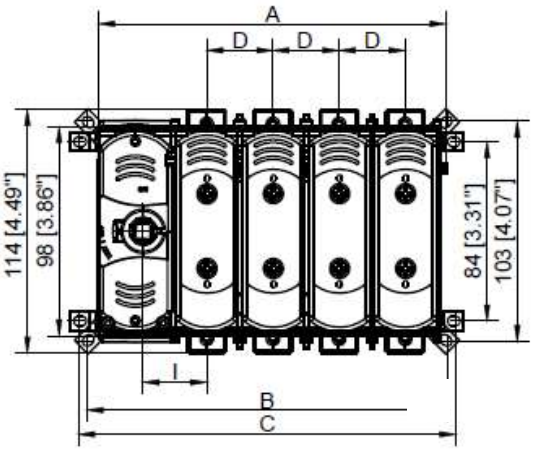
3.1 Dimensions

Frame 00

Lateral view



Frontal view



	F00					
	50A		63A		100A	
	3P	4P	3P	4P	3P	4P
A [mm]	120	147	120	147	132	163
B [mm]	126	153	126	153	138	169
C [mm]	134	161	134	161	146	177
D [mm]	27	27	27	27	31	31
G [mm]	115	115	137	137	115(*) - 137(**)	115(*) - 137(**)
Height [mm]	114	114	114	114	114	114

(*) cylindrical fuses

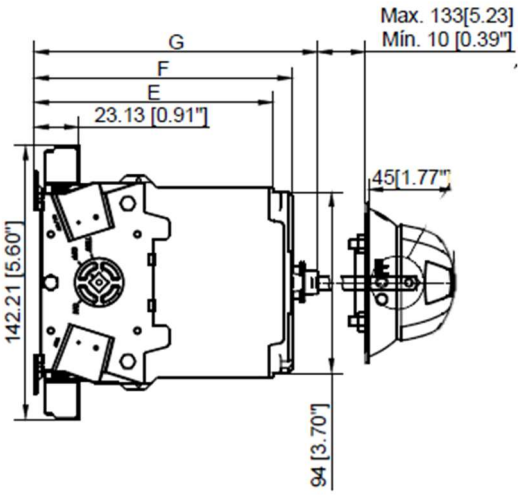
(**) blade fuses

SPX-D switch disconnector with fuses

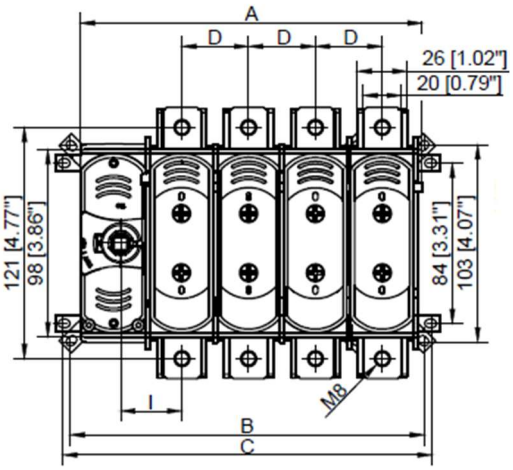
Reference(s): **from 6 050 82 to 6 050 95**

Frame 0

Lateral view



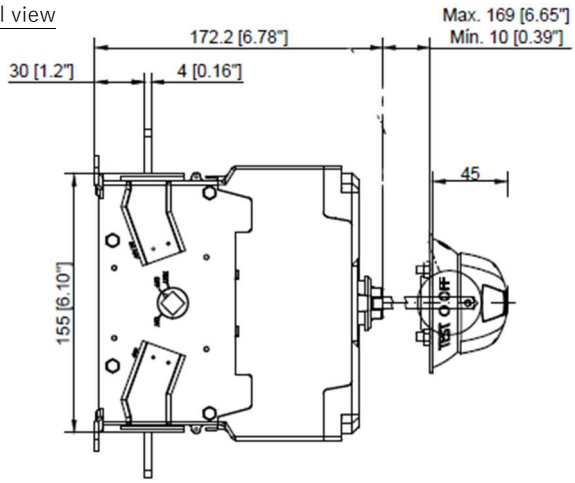
Frontal view



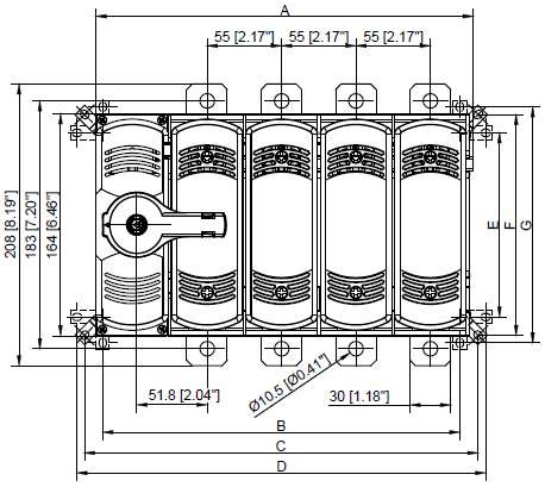
	F0	
	125 - 160A	
	3P	4P
A [mm]	144	179
B [mm]	151	186
C [mm]	159	194
D [mm]	35	35
G [mm]	147	147
Height [mm]	142.21	142.21

Frame 1

Lateral view



Frontal view



	F1	
	250A	
	3P	4P
A [mm]	224	279
B [mm]	209	264
C [mm]	236	291
D [mm]	247	302
E [mm]	136	
F [mm]	163	
G [mm]	174	
Pole pitch [mm]	55	55
Depth w/o handle [mm]	172.2	172.2
Height [mm]	208	208

3.2 Weights

Frame	In [A]	weights [kg]	
		3P	4P
F00	50	0.85	1.10
	63	0.85	1.10
	100	1.00	1.30
F0	125	1.30	1.60
	160	1.30	1.60
F1	250	3.40	4.20

4. OVERVIEW

4.1 Supplied with:

Frame 00 up to 100A 3P/4P

For Frame 00 up to 100A both 3P and 4P, there is no need to have supplied material.

Frame 0 up to 160A 3P

- 6 units Hexagonal Screw M8x15 DIN933
- 6 units Flat washer 8 DIN125B
- 6 units Serrated Washer 8,4 DIN6798

Frame 0 up to 160

- 8 units Hexagonal Screw M8x15 DIN933
- 8 units Flat washer 8 DIN125B
- 8 units Serrated Washer 8,4 DIN6798

Frame 1 up to 250A 3P

- 6 units Hexagonal Screw M10x25 DIN933
- 6 units Flat washer 10 DIN125B
- 6 units Serrated Washer 10.5 DIN6798

Frame 1 up to 250A 4P

- 8 units Hexagonal Screw M10x25 DIN933
- 8 units Flat washer 10 DIN125B
- 8 units Serrated Washer 10.5 DIN6798
- 16 units Hexagonal nut M10 DIN934

5. ELECTRICAL CONNECTIONS

5.1 Mounting possibilities

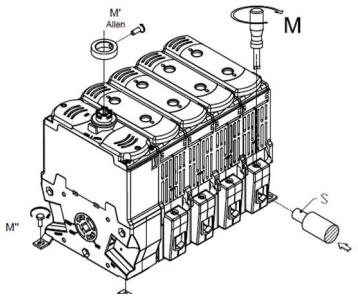
On plate:

- Vertical
- Horizontal
- Supply invertor type

5.2 Mounting

(see instruction sheet for detailed mounting procedures)

Frame 00



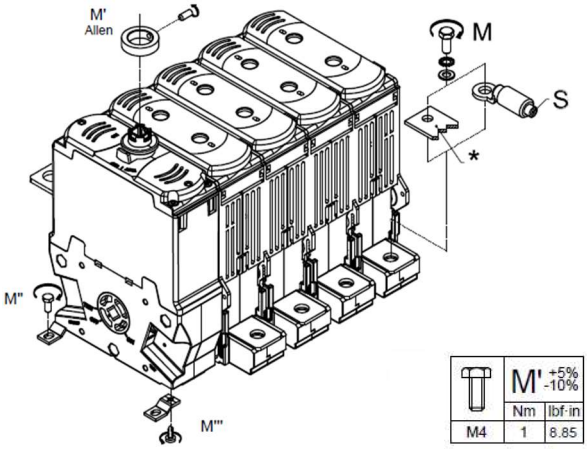
	Ith	Wire / Câble Cable S	Cu S max mm²	Cu S max AWG	M +5% -10% Nm	M +5% -10% lbf·in
00	up to 63 A		1x 25	1x 4	2	17.7
	up to 100 A		50	00	2	26.5

M' +5% -10% Nm	M' +5% -10% lbf·in
M4 1	8.85

M''' +5% -10% Nm	M''' +5% -10% lbf·in
Ch 3,5 0,8	7,1

M'' +5% -10% Nm	M'' +5% -10% lbf·in
M4 1,5	13,3

Frame 0



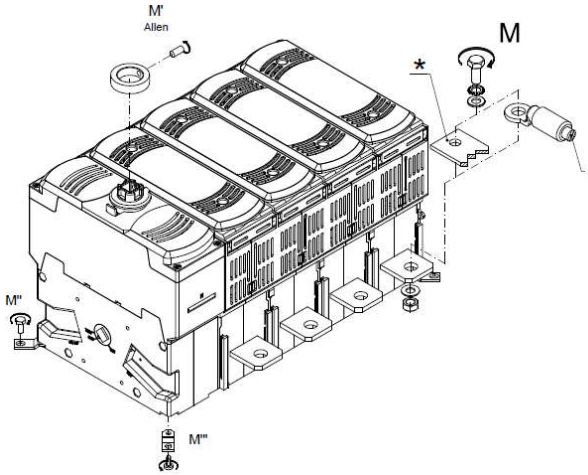
	Ith	Qty.	Busbar / Jeu de Barres / Pletina H	Busbar / Jeu de Barres / Pletina L	Wire / Câble Cable S	Copper / Cuivre / Cobre H max mm	Copper / Cuivre / Cobre H max in	Copper / Cuivre / Cobre L max mm	Copper / Cuivre / Cobre L max in	Copper / Cuivre / Cobre S max mm²	Copper / Cuivre / Cobre S max AWG	M +5% -10% Nm	M +5% -10% lbf·in
0	160 A	1	3	1/8	25	1				1x 70	1x 00	M8	6	53

M' +5% -10% Nm	M' +5% -10% lbf·in
M4 1	8.85

M''' +5% -10% Nm	M''' +5% -10% lbf·in
Ch 3,5 0,8	7,1

M'' +5% -10% Nm	M'' +5% -10% lbf·in
M4 1,5	13,3

Frame 1



Busbar / Jeu de Barres / Pletina H	Busbar / Jeu de Barres / Pletina L	Wire / Câble Cable S	Ith	Copper / Cuivre / Cobre Qty.	Copper / Cuivre / Cobre H max mm	Copper / Cuivre / Cobre H max in	Copper / Cuivre / Cobre L max mm	Copper / Cuivre / Cobre L max in	Copper / Cuivre / Cobre S max mm²	Copper / Cuivre / Cobre S max AWG
*			up to 250 A	1	7	9/32	30	1-3/16	1x 185	1x 350

M +5% -10% Nm	M +5% -10% lbf·in	M' +5% -10% Nm	M' +5% -10% lbf·in	M'' +5% -10% Nm	M'' +5% -10% lbf·in	M''' +5% -10% Nm	M''' +5% -10% lbf·in
M10 18	159	M5 1,2	10,6	M4 1,5	13,3	PI4 0,8	7,1

6. ELECTRICAL AND MECHANICAL CHARACTERISTICS

			Frame					
			00			0		1
			50 A	63 A	100 A	125 A	160 A	250 A
			Cylindrical 14x51	Blade type size 000	Cylindrical 22x58 and blade type size 000	Blade type size 00	Blade type size 00	Blade type size 1
Electrical features	Thermal current in ambient at 35°C (and temporarily 40°C)	Ith (A)	50	63	100	125	160	250
	Rated insulation voltage	Ui (Vac)	1000	1000	1000	1000	1000	1000
	Rated impulse withstand voltage	Uimp (kV)	8	8	8	8	8	12
	AC rated operational current (A) (Rated frequency 50/60 Hz)	Ue 415 V - AC21A	50	63	100	125	160	250
		Ue 415 V - AC22A	50	63	100	125	160	250
		Ue 415 V - AC23A	50	63	80	125	160	250
	Power losses in fuses (W)	NH/DIN	-	5.8	6.6	9	11.2	17
		NFC	4.8	-	9	11.4	-	-
Short circuit behavior	Conditional short-circuit current (*) (kA rms)	NH/DIN	100	100	100	100	100	100
	Maximum cut-off current (kA peak)		9.5	10.5	14	16.5	19.5	32
Mechanical data	Durability, number of operating cycles		10000	10000	10000	8000	8000	8000
Connection capacity	Rigid Cu wire	Min. section (mm²)	10	16	35	50	70	120
		Max. section (mm²)	25	25	50	70	70	185 (**)
	Bar	Max. width (mm)	-	-	-	25	25	30
	Tightening torque (+5%/-10%)	Flange (Nm)	2	2	2	-	-	-
		Terminal (Nm)	-	-	-	6	6	18

(*) With a protective device limiting the cut - off current and the joule integral to the indicated values.
(**) Larger sections are allowed through the use of phase barriers

6.6 DERATINGS

According to IEC/EN 60947-1

Ambient conditions	max. RH	Usage range
Storage (1 year maximum)	95%	-40 to +75°C
Transport		-40 to +75°C
Operational (general value)		-15 to +50°C
Room temperature (ºC)	**max. RH**	**Kt (Current)**
Temp. ≤ 40	60%	1
50 < Temp. ≤ 55		0,8
55 < Temp. ≤ 60		0,75
60 < Temp. ≤ 70		0,6
Altitude [m] (Conforme ANSI C37.20.1)	**Ku (Voltage)**	**Ki (Current)**
Altitude ≤ 2000	1	1
2000 < Altitude ≤ 2500	0,95	0,99
2500 < Altitude ≤ 3000	0,9	0,98
3000 < Altitude ≤ 3500	0,85	0,97
3500 < Altitude ≤ 4000	0,8	0,96
4000 < Altitude ≤ 4500	0,75	0,95
4500 < Altitude ≤ 5000	0,7	0,94
5000 < Altitude ≤ 5500	0,65	0,93
5500 < Altitude ≤ 6000	0,6	0,92
Way of assembly		**Ki (Current)**
Mounting on ceiling	-	0,9
Mounting on wall or horizontal fuses	-	0,9

7. CONFORMITY

SPX-D range of product concerning switch-disconnectors with fuses exceed compliance with the IEC/EN standard 60947-1 and 60947-3.
Certification available by IECEE CB-scheme.
SPX-D respect the European Directives REACh, RoHS, RAEE.

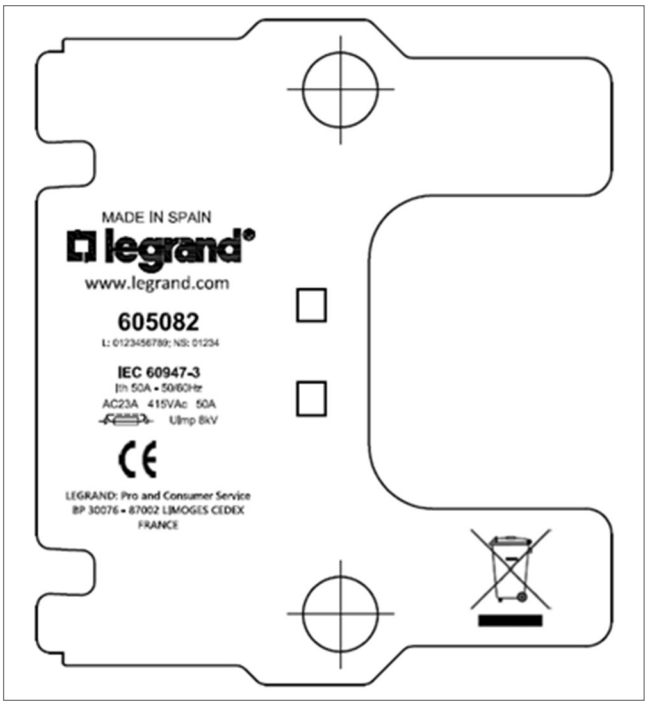
For specific information, please contact Legrand support.

7.1 Marking

Product (both circuit breakers and switch disconnectors) are provided with labelling in full conformity to the referred standard and directives requirements by laser or sticker labels (for illustrative purposes only) as:

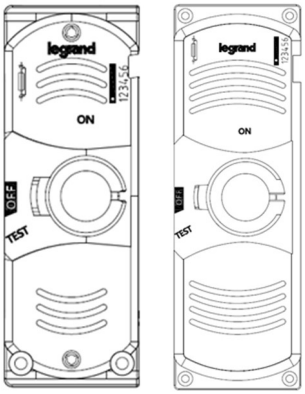
Product laser label on front

- Legrand brand
- Denomination, type product, code
- Made in
- Standard conformity
- Standard characteristics declared
- Technical data



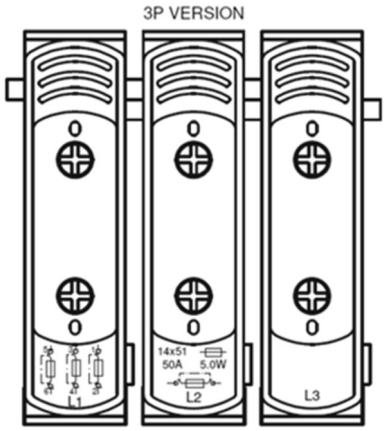
Product laser marking on front side F00-0 and F1

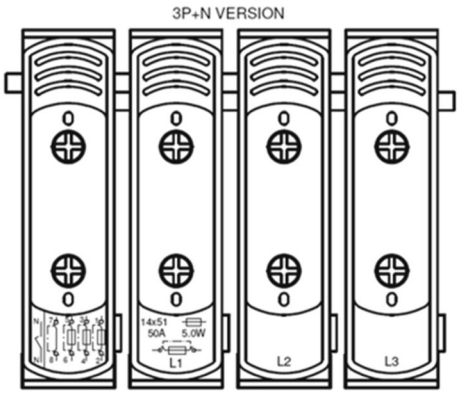
- Legrand brand,
- Code,
- Product symbol,
- Anti-counterfeiting symbol
- Handle status marking



Fuses cover marking

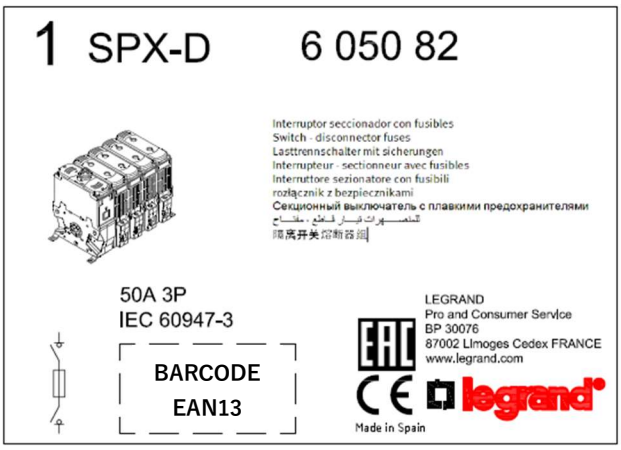
- Fuse symbol and size
- In
- L1/L2/L3 indicator





Packaging sticker label

- Manufacturer responsible
- Denomination and type product
- Mark/Licence (if any)
- Directive requirements
- Bar code identification product



8. EQUIPMENTS AND ACCESSORIES

8.1 Handles for SPX-D switch-disconnectors with fuses

- Direct handles - black:

For Frame 00 and Frame 0 (50A,63A,100A,160A) *ref. 6 051 70*
For Frame 1 (250A) *ref. 6 051 71*

- Vary-depth handles on door - black:

For Frame 00 and 0 – shaft length 177 mm included *ref. 6 051 72*
For Frame 1 – shaft length 227 mm included *ref. 6 051 73*

- Vary-depth handles on door – red/yellow (emergency):

For Frame 00 and 0 – shaft length 177 mm included *ref. 6 051 74*
For Frame 1 – shaft length 227 mm included *ref. 6 051 75*

8.2. Extended shafts for SPX-D vari-depth handles

For Frame 00 and 0 – (used with ref. 605172/74) *ref. 6 051 76*
For Frame 1 – (used with ref. 605173/75) *ref. 6 051 78*

8.3 Auxiliary contacts

Early Make/Break auxiliary contact *ref. 6 051 82*

To be clipped directly onto left-hand side of the switch-disconnectors. Up to 2 auxiliary contacts per switch: one for ON/ OFF position + one for TEST position Additional auxiliary contacts:

- 2 additional Early Make/Break contacts in combination with the accessories ref. 6 051 83/84
- 2 additional simultaneous contacts in combination with the accessories ref. 6 051 85/86 (fixed onto right-hand side of the switch).

8.4 Additional accessories for auxiliary contact

- Additional accessories for early Make/Break auxiliary contacts:

For Frame 00 and 0 *ref. 6 051 83*
For Frame 1 *ref. 6 051 84*

To be clipped onto left-hand side of the switch-disconnectors. Can take up to 2 auxiliary contacts ref. 6 051 85: one for ON/OFF position + one for TEST position.

- Additional accessories for simultaneous auxiliary contact:

For Frame 00 and 0 *ref. 6 051 85*
For Frame 1 *ref. 6 051 86*

To be clipped onto left-hand side of the switch-disconnectors. Can take up to 2 auxiliary contacts ref. 6 051 85: one for ON/OFF position + one for TEST position.

8.5 Sealable terminal shields - IP 20

- For SPX-D Frame 0:

For 3P switches (kit of 3) *ref. 6 051 87*
For 3P+N switches (kit of 4) *ref. 6 051 88*

- For SPX-D Frame 1:

For 3P switches (kit of 3) *ref. 6 051 89*
For 3P+N switches (kit of 4) *ref. 6 051 90*

8.6 Insulated shields (phase barriers)

- For SPX-D Frame 0:

For 3P switches (kit of 2) *ref. 6 051 91*
For 3P+N switches (kit of 3) *ref. 6 051 92*

- For SPX-D Frame 1:

For 3P switches (kit of 2) *ref. 6 051 93*
For 3P+N switches (kit of 3) *ref. 6 051 94*

8.7 Direct key lock

For Frame 00 and 0 *ref. 6 051 95*
For Frame 1 *ref. 6 051 96*

Data indicated in this document refers exclusively to test conditions according to product standards, unless otherwise indicated in the documentation.

For the different conditions of use of the product, inside electrical equipment or in any case inserted in the installation context, refer to the regulatory requirements of the equipment, local regulations and design specifications of the system.