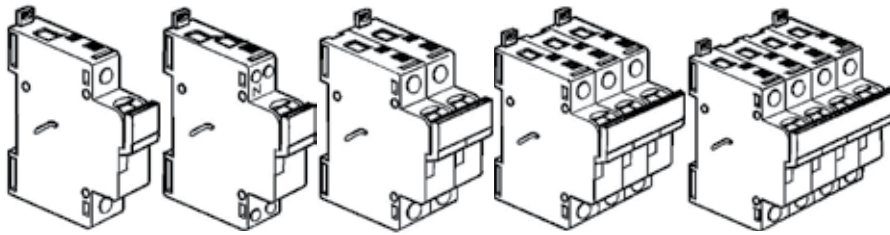


Modular fuse carriers for industrial cylindrical cartridge fuses

Catalogue Number(s): 0 058 04/06/08/16/18/26/28/36/38/46/48



CONTENTS

Page

1. Principle	1
2. Range	1
3. Dimensions	1
4. Electrical characteristics	1
5. Conformity	1
6. Mechanical characteristics	2
7. Protection index	2
8. Derating	2
9. Positioning	2
10. Installation	2
11. Accessories	3

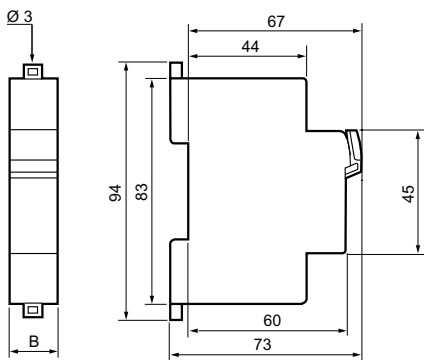
1. PRINCIPLE

Modular fuse carrier for protection and switching of electrical circuits

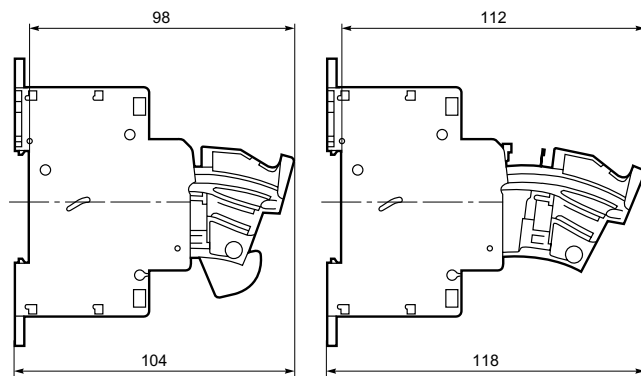
2. RANGE

Single-pole, single-pole + neutral, 2-pole, 3-pole, 3-pole + neutral

3. DIMENSIONS (MM)



	1 P	1 P + N	2 P	3 P	3 P + N
B	17.7	17.7	35.5	53.4	71.2



4. ELECTRICAL CHARACTERISTICS

• Breaking capacity

Industrial cylindrical cartridge fuses

Size (mm)	8.5 × 31.5	10 × 38
Type	gG or aM With or without indicator	gG or aM With or without indicator
Voltage	400 V~	500 V~
ISC	20 kA	100 kA

• Maximum fuse cartridge rating depending on the voltage

	400 V	500 V
10 × 38	aM 25 A	gG 25 A - aM 16 A
8.5 × 31.5	gG 16 A - aM 10 A	-

• Maximum dissipated power per pole

	1 P	1 P + N
8.5 × 31.5 cartridge	0.3 W	0.8 W
10 × 38 cartridge	0.5 W	1.5 W

• Other cartridge types

May be used within the dissipated power limits

• Other characteristics

Nominal frequency	50/60 Hz
DC	48 V max.
Overvoltage level	6 kV
Dielectric strength	4 kV (50 Hz)
Degree of pollution	3

5. CONFORMITY

Conforms to IEC standards 60269.1, 60269.2, 60269.2-1 and standard NF C 63-210

AC 20 isolators according to IEC 60947.3

6. MECHANICAL CHARACTERISTICS

Environmental conditions:

Operating temperature: - 5°C to + 40°C (internal/external)
Storage temperature: - 25°C to + 70°C

Mechanical resistance: IPxx3

Materials:

Casing	Reinforced polyethylene	Density	1.62 to 1.70
		Max. tensile stress	> 100 MPa
		Flexural modulus	> 9.5 GPa
		Glow wire	960°C/5 s
		Oxygen index	> 30
		Colour	Grey RAL 7035
Screws	Zinc dichromate plated steel		
Contacts	Silver-plated copper		

7. PROTECTION INDEX

- Class 2 : unit closed, open or being opened
- IP 2x

8. DERATING

It may be necessary to derate the equipment in harsh operating conditions:

- For an ambient temperature greater than 35°C: derate the fuse by one rating for every 10°C (IEC 60943 guidance concerning permissible temperature rise)
- For units installed side-by-side operating simultaneously

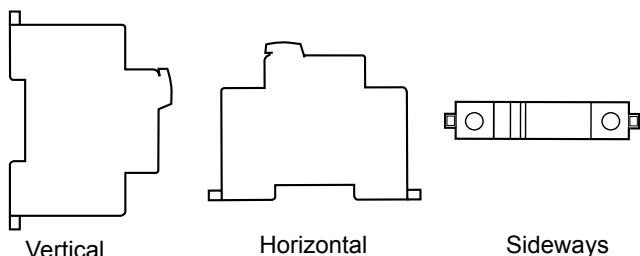
Apply the correct coefficient to the nominal current of the base unit:

Number of poles side-by-side	Coefficient
1, 2 or 3 poles	1
4, 5 or 6 poles	0.8
7, 8 or 9 poles	0.7
10 or more poles	0.6

(NF C 63-421/EN 60439-1) - Table 1

- For continuous duty (more than 8 hours/day): it may be necessary to derate the base units by one size

9. POSITIONING



Subject to the use of Legrand brand fuses.
Power supply via the top or bottom

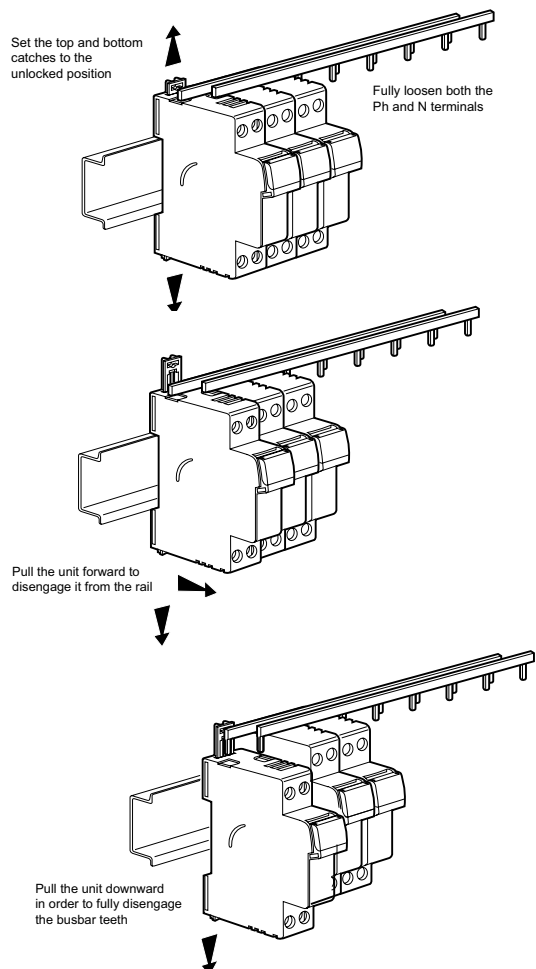
10. INSTALLATION

- Fixing
- On 35x7.5 or 35x15 symmetrical rail according to EN 60715
- With Ø 3 screws on plate using ends of released claws
- Power supply via the top and bottom
- Connection

	1 P + N	1 P / 2 P / 3 P / 3 P + N
Permissible conductors:		
- Flexible with ferrules	1.5 to 10 mm ²	1.5 to 25 mm ²
- Flexible	1.5 to 10 mm ²	1.5 to 25 mm ²
- Rigid	1.5 to 16 mm ²	1.5 to 25 mm ²
Tools required:		
- Flat blade screwdriver	Ø 4 to 5.5 mm	Ø 4 to 5.5 mm
- Phillips screwdriver	PZ1	PZ2
Tightening torque:		
- Min.	1.2 Nm	1.8 Nm
- Max.	2.8 Nm	3 Nm
- Recommended	2 Nm	2.2 Nm

- Protection against direct contact: IP2x
- Cage terminals, with combined releasable and captive Pozidriv screws
- Alignment and spacing of the terminals allows busbar connection with other products in the range

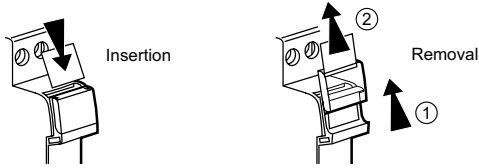
Maintenance with busbar connection



• **Labelling**

Circuits are labelled on the front face:

- using label creation software
- using electronic label printer with keypad
- using pre-printed sheets of symbols

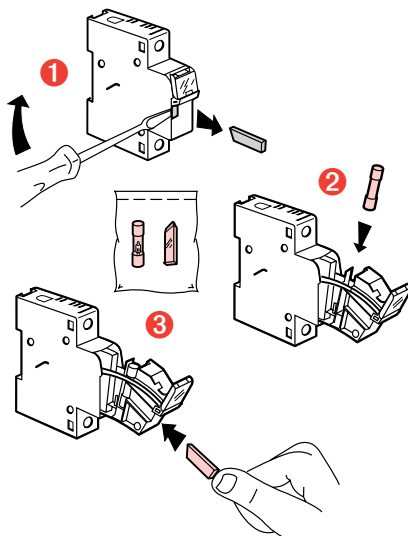


11. ACCESSORIES

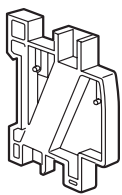
• **Wiring accessories**

- supply busbars
- incoming terminals

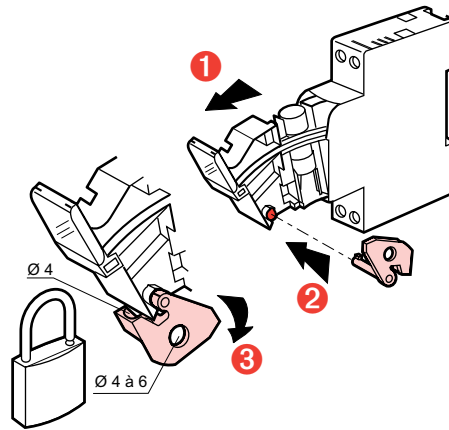
• **Blow-out indicator 250 V~ Cat. No. 0 057 90**



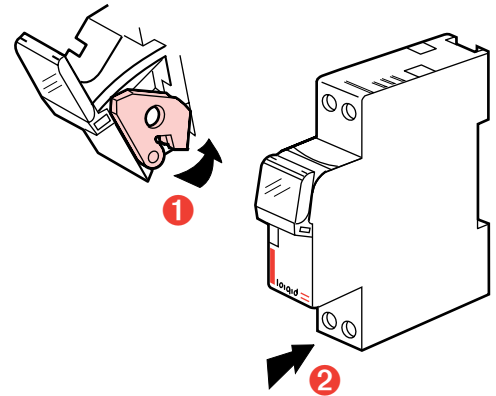
• **Separation module (0.5 module) Cat. No. 4 063 07**



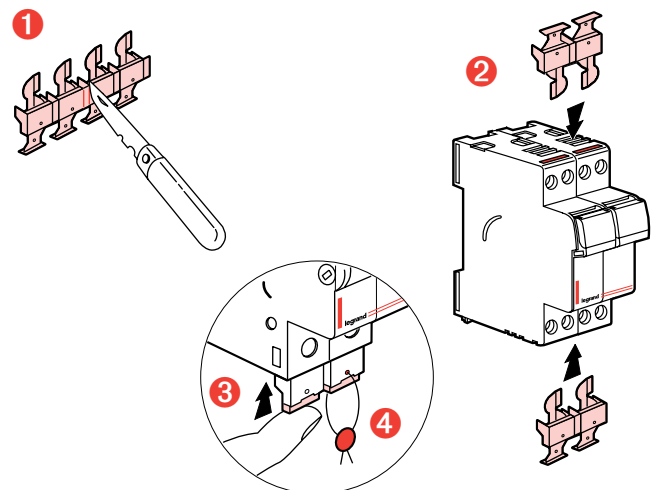
• **Padlocking accessory Cat. No. 0 057 99**



- Ø 5 mm padlock Cat. No. 0 044 43
- Ø 6 mm padlock Cat. No. 0 227 97

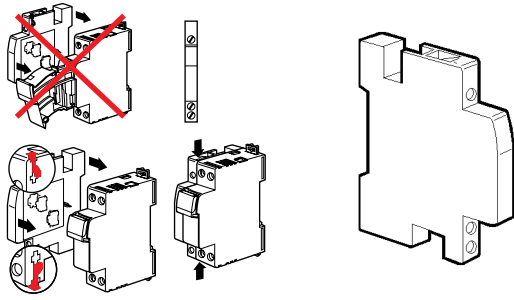


• **Sealable terminal shield (4 separable poles) Cat. No. 0 044 44**

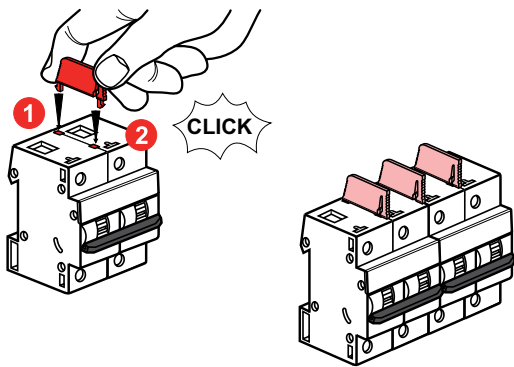


- **Auxiliary device**

N/C + N/O auxiliary switch for on/off signalling 250 V (0.5 module)
Cat. No. 0 057 96

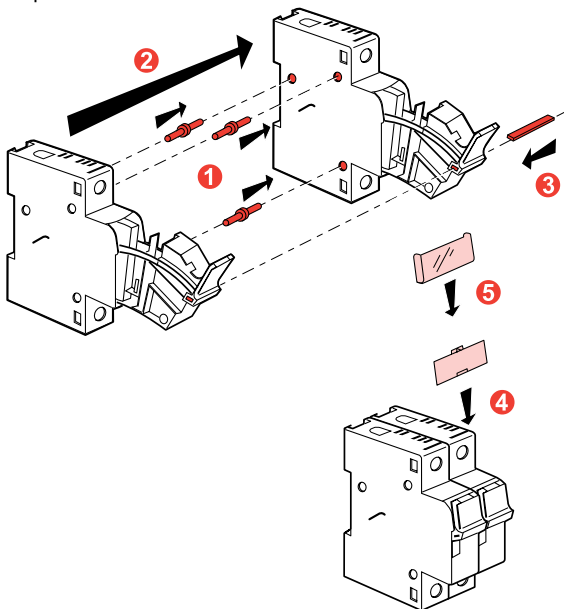


- **Pole separation divider Cat. No. 4 063 05**



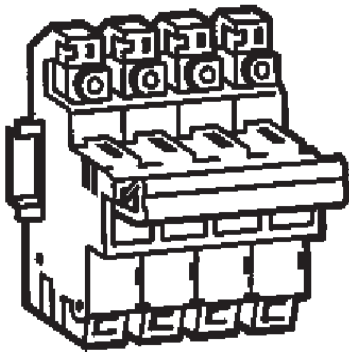
- **Reinforced joining kit**

2-pole Cat. No. 0 057 92
3-pole Cat. No. 0 057 93
4-pole Cat. No. 0 057 94



SP isolating fuse carriers with protected terminals

Catalogue Number(s): 0 214 00 to 45 / 0 215 00 to 36
 0 216 00 to 36



CONTENTS

	Page
1. Principle.....	1
2. Mounting.....	1
3. Dimensions.....	1
4. Materials.....	1
5. Standards.....	1
6. Electrical characteristics.....	1
7. Protection index.....	2
8. Temperature.....	2
9. Derating.....	2
10. Positioning.....	2
11. Installation.....	2
12. Accessories.....	3

1. PRINCIPLE

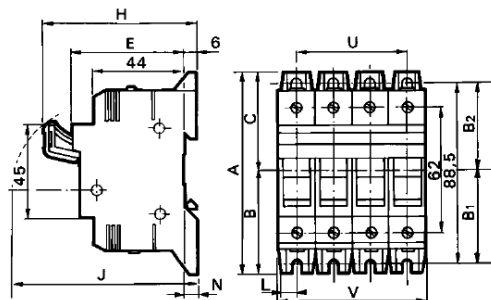
Isolating fuse carriers for isolation and protection of electrical circuits

2. MOUNTING

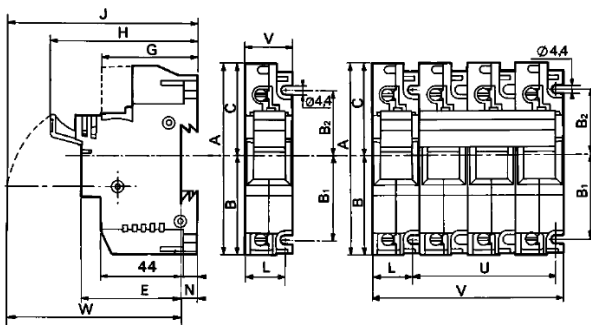
- screw
- on symmetrical rail: 35x7.5 or 35x15 EN 60715

3. DIMENSIONS

- SP 38 with protected terminals and SP 38 for motor starter protection



- SP 51 and SP 58 with protected terminals



	A mm	B mm	B1 mm	B2 mm	C mm	E mm	G mm	H 1-pole mm	H multi mm	J 1-pole mm
SP 38	100	51	46	42.5	48.5	52	-	73	76	83
SP 51	106	54.5	45	35	51.5	55	53	81	84	96
SP 58	140	74	65	45	66	59	53	87	90	111

	J multi mm	L mm	N mm	U 2-pole mm	U 3-pole mm	U 4-pole mm	V 1-pole mm	V 2-pole mm	V 3-pole mm	V 4-pole mm	W multi mm	W 1-pole mm
SP 38	86	9	6	17.7	35.4	53.1	17.7	35.4	53.1	70.8	77	80
SP 51	99	20.7	9	26.5	53	79.5	26.5	53	79.5	106	87	90
SP 58	114	27	9	36	72	108	36	72	108	144	101	109

4. MATERIALS

Screws	: Zinc dichromate electroplated steel
Contacts	: Silver-plated copper
Springs	: Tinned piano wire
Body	: Polyamide 6
Filler	: Mineral
Density	: 1.48 g/cm ³
UV resistance	: Good
Colour	: Grey RAL 7035
VICAT softening point (B)	: 180°C
Dielectric strength	: 95,000 V/mm
Surface resistance	: ITC 500
Glow wire	: 960°C/5 s (NF C 20-455) - V0 (UL 94)
Oxygen index	: 39.50

5. STANDARDS

NF C 63-210-211 - NF C 60-200 - IEC 60269-1, 60269-2, 60269-2-1

Utilisation category according to IEC 60947-3: AC 21 at In (cos φ > 0.9)

6. ELECTRICAL CHARACTERISTICS

- Fuse cartridges used

SP 38	SP 51	SP 58
10 x 38 gG or aM class with or without indicator	14 x 51 gG or aM class with or without striker	22 x 58 gG or aM class with or without striker

- Nominal rating

20 A	40 A	80 A
25 A in intermittent duty	50 A in intermittent duty	100 A in intermittent duty

• **Maximum dissipated power**

SP 38	SP 51	SP 58
3 W	5 W	9.5 W

• **Maximum fuse cartridge rating depending on the voltage**

	SP 38	SP 51	SP 58
400 V	32 A	50 A	125 A
500 V	20 A	40 A	80 A
690 V	-	25 A	50 A

• **Other characteristics**

Nominal frequency	50/60 Hz
DC	48 V max.
Overvoltage level	6 kV
Dielectric strength	4 kV (50 Hz)
Degree of pollution	3

7. PROTECTION INDEX - IP 2X

IP 2xC under faceplate (live parts inaccessible with unit in open or closed position)

8. TEMPERATURE (ENVIRONMENTAL CONDITIONS)

Operating temperature : -5°C to +40°C (internal/external)
Storage temperature : -25°C to +70°C

9. DERATING

It may be necessary to derate the equipment in harsh operating conditions:

• For an ambient temperature greater than 35°C: derate the fuse by one rating for every 10°C (IEC 60943 guidance concerning permissible temperature rise)

• For units installed side-by-side operating simultaneously

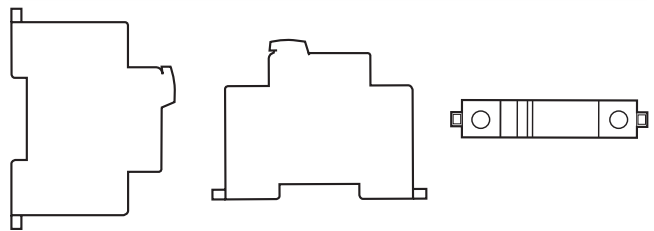
Apply the correct coefficient to the nominal current of the base unit:

Number of poles side-by-side	Coefficient
1, 2 or 3 poles	1
4, 5 or 6 poles	0.8
7, 8 or 9 poles	0.7
10 or more poles	0.6

(NF C 63-421/EN 60439-1) - Table 1

• For continuous duty (more than 8 hours/day): it may be necessary to derate the base units by one size

10. POSITIONING



Vertical

Horizontal

Sideways

Subject to the use of Legrand brand fuses.

Power supply via the top or bottom

11. INSTALLATION

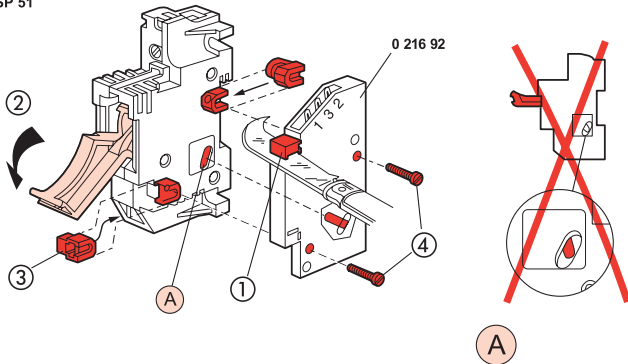
	SP 38 0 214 00 to 0 214 05	SP 51 0 215 00 to 0 215 36	SP 58 216 00 to 216 36
Connection	1 x 16 mm ² or 2 x 10 mm ²	1 x 35 mm ² or 2 x 16 mm ²	1 x 50 mm ² or 2 x 25 mm ²
Permissible conductors: - flexible with end caps - flexible - rigid	1.5 to 10 mm ²	2.5 to 16 mm ²	4 to 25 mm ²
	1.5 to 10 mm ²	2.5 to 16 mm ²	4 to 25 mm ²
	1.5 to 16 mm ²	2.5 to 20 mm ²	4 to 30 mm ²
Screws	1 x M5 mixed head (slotted + cross-head)	1 x M5 mixed head (slotted + cross-head)	1 x M6 mixed head (slotted + cross-head)
Tools required: - flat-blade screwdriver - Phillips screwdriver	Ø 4 to 5.5 mm PZ2	Ø 5 to 5.5 mm PZ2	Ø 5 to 6.5 mm PZ2
	Recommended tightening torque	2 Nm	3 Nm

12. ACCESSORIES

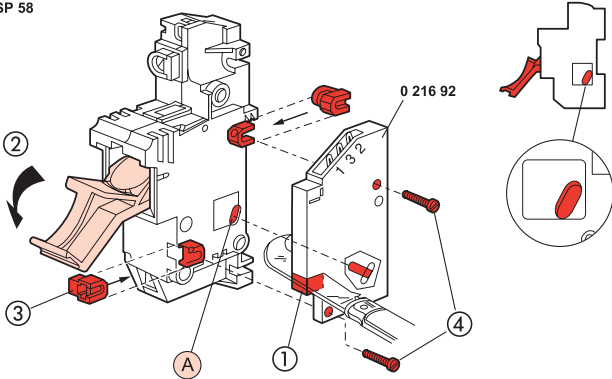
- **0 216 92** Changeover microswitch (5 A - 250 V)

For detection of open fuse carrier
Side mounting for SP 51 and SP 58

SP 51

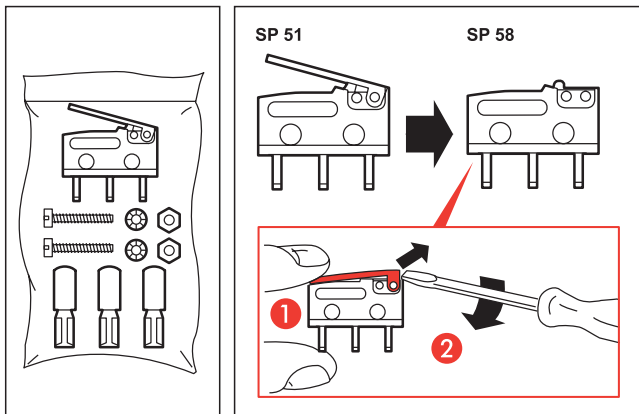


SP 58



- **0 216 95**

Replacement microswitch for SP 51 and SP 58

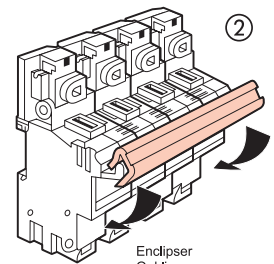
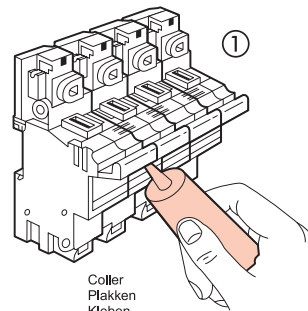


- **0 216 96**

Link handles for SP 38 - SP 51 - SP 58 (can be cut to size)

Length: 300 mm

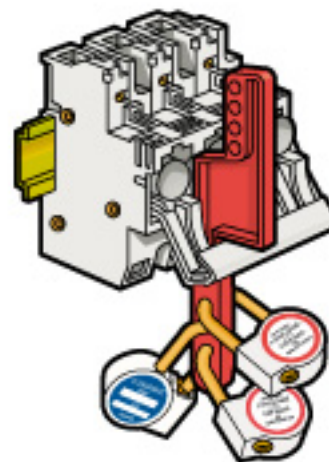
	10.3 x 38	x = 35 mm	x = 54 mm	x = 72 mm
	14 x 51	x = 44 mm	x = 70 mm	x = 96 mm
	22 x 58	x = 62 mm	x = 97 mm	x = 133 mm



- **0 216 98**

Securing plate

For locking SP 51 - SP 58 multipole fuse carriers in the open position using padlock Cat. No. 227 97



Elément d'espacement passe-fil

Référence(s) : 406 307



SOMMAIRE	PAGES
1. Description, utilisation	1
2. Gamme.....	1
3. Cotes d'encombrement.....	1
4. Mise en situation.....	2
5. Caractéristiques générales	2
6. Conformités	2

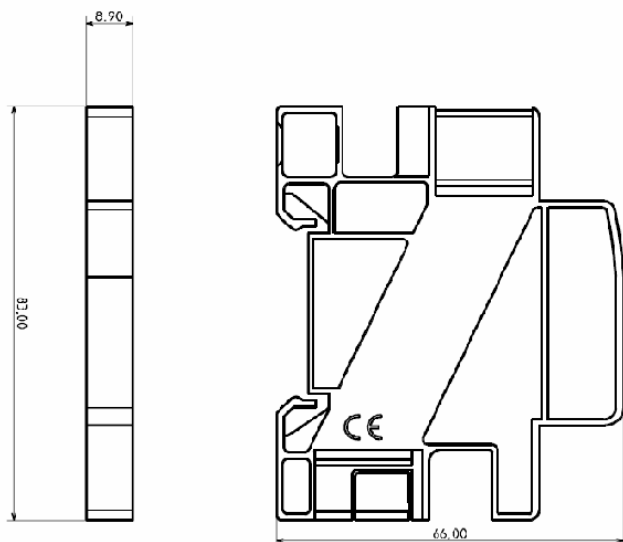
1. DESCRIPTION - UTILISATION

- . Elément d'espacement passe-fil.
- . Intercalé entre deux produits, permet d'en limiter l'échauffement et d'éviter l'application de déclassements (voir dans les fiches techniques des produits utilisés)
- . Permet de faire passer des câbles entre deux produits et de faciliter ainsi la maintenance en évitant le passage de ces câbles au dessus des peignes de raccordement.

2. GAMME

- . 0,5 module de large (8,8 mm)
- . Référence 406 307 : livré par dix.

3. COTES D'ENCOMBREMENT (en mm)



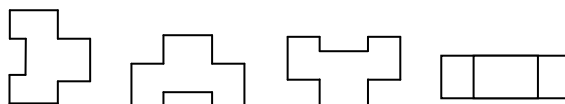
4. MISE EN SITUATION

Mise en situation :

- . Sur rail symétrique EN/IEC 60715 ou DIN 35.

Positionnements de fonctionnement :

- . Vertical, Horizontal, à l'envers et à Plat.



Utilisation en passe-fil :

- . Capacité maxi en câble souple : 2 câbles de 16mm², ou 3 câbles de 10mm², ou 4 câbles de 6mm².



4. MISE EN SITUATION *(suite)*


Outils nécessaires :

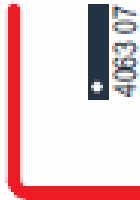
. Aucun.

5. CARACTERISTIQUES GENERALES

Marquage face avant :

. Par tampographie ineffaçable :

- Référence du produit et logotype 



Température ambiante de fonctionnement et de stockage :

. Min. = -40 °C. Max. = +70 °C

Matière de l'enveloppe :

. Polycarbonate

. tenue au fil incandescent à 750 °C selon norme NF EN 60 695-2-11

Poids moyen :

. 11 g (1 produit seul)

. 146 g (10 produit emballés)

Volume emballée :

Emballé par dix pièces

. 1 dm³

6. CONFORMITES

. Ce produit ne fait pas l'objet d'une norme particulière.

performance of MCBs and auxiliaries

Breaking capacity in IT neutral earthing system

MCB single pole breaking capacity at 400 V according to IEC 60947-2

DX ³ [10000] 16 kA	1P/2P/3P/4P	4 kA
DX ³ 25 kA	1P/2P/3P/4P	6.25 kA
DX ³ 36 kA	2P/3P/4P	9 kA
DX ³ 50 kA	1P/2P/3P/4P	12.5 kA

Breaking capacity in the event of short-circuit to earth and insulation voltage

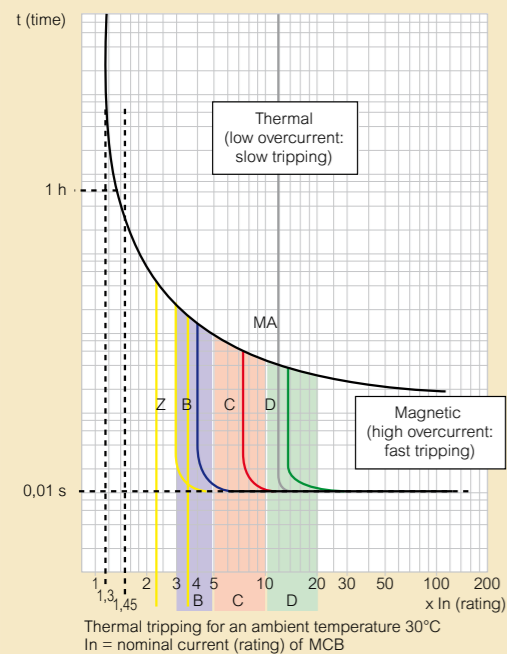
	1P/2P/3P/4P 230/400 V~ MCBs			
	DX ³ [10000] 16 kA	DX ³ 25 kA	DX ³ 36 kA	DX ³ 50 kA
I _{cn1}	16000 A	25000 A	36000 A	50000 A
U _i	500 V	500 V	500 V	500 V

I_{cn1}: Breaking capacity on 1 pole for multipole MCBs in the event of short-circuit to earth
U_i: Rated insulation voltage

Terminal connection cross-sections (mm²)

Copper cable	Rigid		Flexible	
	DX ³ [6000] 10 kA	DX ³ [10000] 16 kA	DX ³ 80 to 125 A	DX ³ 25 kA
≥ 32 A (C curve)		35	70	50
DX ³ 25 kA ≥ 16 A (D curve)		50		35
DX ³ 36 kA, DX ³ 50 kA and add-on modules				
Auxiliaries		2.5		2.5

MCB tripping curves



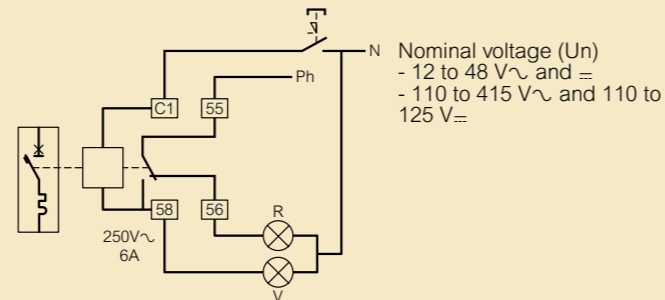
Curves	Magnetic threshold settings
Z ⁽¹⁾	2.4 to 3.6 I _n
B	3 to 5 I _n
C	5 to 10 I _n
D	10 to 14 I _n (10 to 20 acc. to the stds)
MA ⁽¹⁾	12 to 14 I _n

1: On request

Technical characteristics of auxiliaries

Max. connection cross-section: 2.5 mm²
Operating temperature: - 25°C to + 70°C

Shunt trips

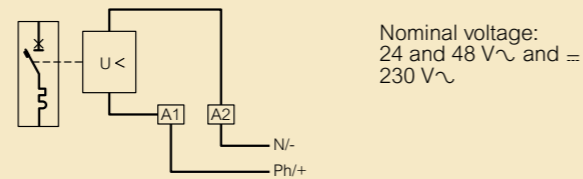


Equipped with a signalling contact which indicates tripping of the shunt trip and automatically breaks the coil.
Min. and max. voltage: 0.7 to 1.1 U_n
Tripping time: less than 20 ms
Power consumption: at 1.1 x 48 V = 121 VA
at 1.1 x 415 V = 127 VA
Impedance: 12 to 48 V = 23 Ω
110 to 415 V = 1640 Ω

Consumption	U _{min.}	U _{max.}
12 to 48 V	522 mA	2610 mA
110 to 415 V	69 mA	259 mA

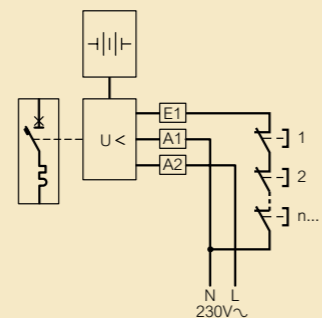
Undervoltage releases

Pull-in voltage ≥ 0.55 U_n
Tripping time: 100 to 400 ms ± 10% (adjustable)
Power consumption: 24 V~ and =: 0.1 VA
48 V~ and =: 0.2 VA
230 V~: 1 VA



Stand-alone releases for N/C push-buttons

Min. and max. operating voltage: 196 to 250 V~
Power consumption: 1.4 VA



Signalling auxiliaries

U_{min.}: 24 V~/= and I_{min.}: 5 mA

Performance of add-on modules

AC type [~] - Standard applications

Detection of 50-60 Hz AC residual currents

A type [~] - Specific applications: dedicated lines

In addition to the characteristics of AC type add-on modules, A type add-on modules also detect residual currents with DC components. They are used whenever the fault currents are not sinusoidal. They are particularly suitable for the following dedicated line applications:

- On circuits where class 1 equipment may produce fault currents with DC components, such as variable speed drives with frequency inverter, etc.

Hpi type [~] [HPI] - Special applications

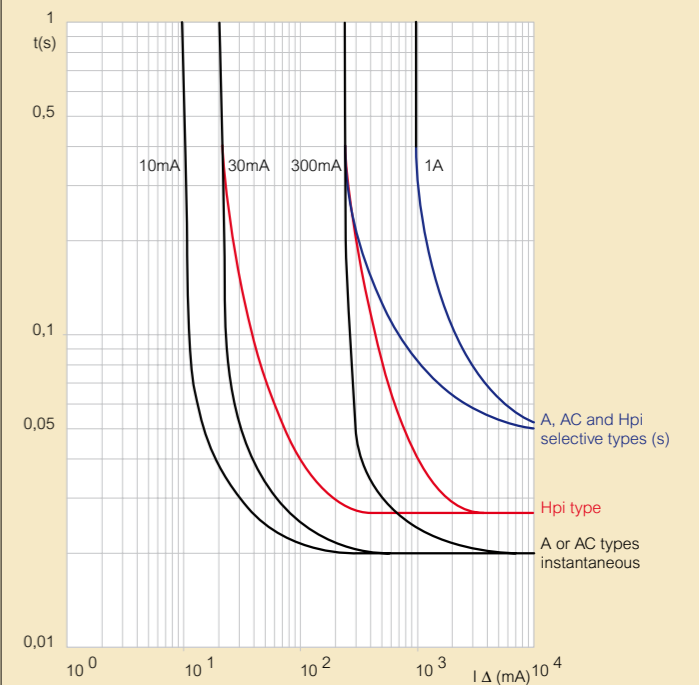
Hpi add-on modules, with additional immunity to false tripping, which is much higher than the level required by the standard, detect residual currents with AC and DC components (A type), operate between - 25°C and + 40°C, and are used in the following special cases:

- When loss of data would be detrimental, such as computer equipment power supply lines (banks, military instrumentation, airline reservation centres, etc.)
- When loss of operation would be detrimental (automated machines, medical instrumentation, freezer lines, etc.)
- In places where there is a high risk of lightning strikes
- On sites with lines subject to considerable interference (use of fluorescent lights, etc)
- On sites with very long lines

Special case of continuity of service

In certain locations where no staff are present and in which continuity of service is particularly important, false tripping of MCBs is not permitted (isolated telephone/TV or radio substations, pumping stations, etc.)
Combining an Hpi RCBO with a motorised control and a STOP & GO recloser provides optimum continuity of service

Average residual current performance curves



Residual current breaking capacity of DX³ add-on modules

I_{Δm} according to EN 61009-1
AC, A and Hpi add-on modules

DX ³ add-on modules used with an MCB	I _{Δm}
DX ³ (1 mod./pole) 25 kA ≤ 25 A (B, C, Z curves) 25 kA ≤ 10 A (D, MA curves)	6000 A
DX ³ (1.5 mod./pole) [10000] 16 kA (80 to 125 A) 25 kA ≥ 32 A (B, C, Z curves) 25 kA ≥ 12.5 A (D, MA curves) 36 kA 50 kA	30000 A