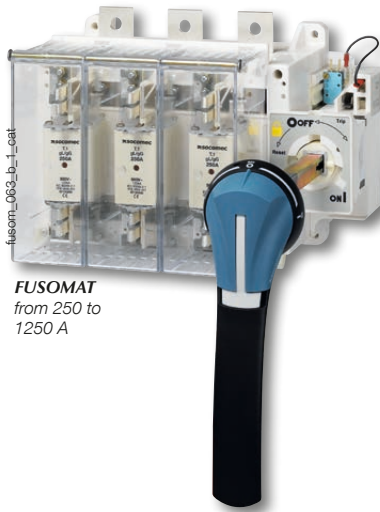




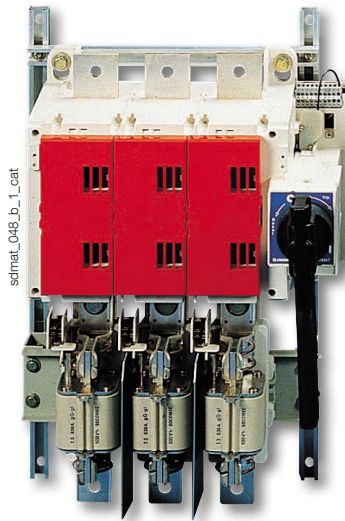
FUSOMAT and SIDERMAT combination

Fuse combination switches with tripping function and visible breaking for industrial fuses up to 1800 A

Fuse protection



FUSOMAT
from 250 to
1250 A



SIDERMAT fuse-combination
switches from 800 to 1800 A

The solution for

- > Motor feeders
- > Protection of industrial cabinets
- > Electrical distribution



Strong points

- > Overload tripping
- > High breaking capacity
- > Improved safety

Extended range

- > To use with uR fuses for the protection of power semiconductors, please consult us.

Compliance with standards

- > IEC 60947-3
- > EN 60947-3
- > VDE 0660-107
- > NBN EN 60947-3
- > BS 88 on request



Function

FUSOMAT and SIDERMAT fuse-combination switches are manually operated 3 or 4-pole load break switches with visible breaking and a remote tripping function. They provide load operation, safety disconnection and protection against overloads and short-circuits in any low

voltage electrical circuit. They can ensure the automatic opening of the circuit together with:

- fuse blown detection system (see DDMM or FMD)
- thermal relay
- differential relay, see RESYS.
- other safety devices

Advantages

Overload tripping

Opens remotely with voltage release device.

High breaking capacity

Protection against overloads and short-circuits thanks to high breaking capacity fuses (100 kA rms).

Improved safety

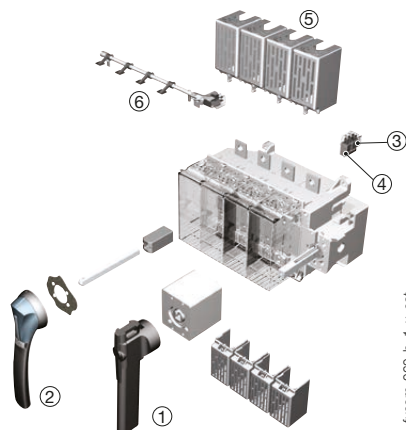
- Double breaking per phase (top/bottom of fuse) on FUSOMAT up to 630 A.
- Visible breaking:
 - FUSOMAT up to 630 A
 - SIDERMAT fuse-combination switches up to 1800 A
- Positive break indication
- IP2X protection on front panel with terminal shrouds.

Configurations

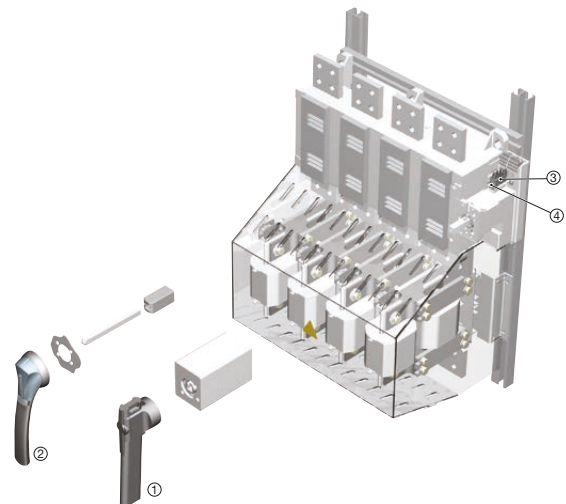
FUSOMAT

Functional diagram (for further details see the installation instructions supplied with the product).

1. Direct front operation.
2. External front operation.
3. NO/NC auxiliary contact for each position.
4. NO/NC auxiliary contact with standard shunt trip coil control.
5. Terminal cover.
6. Fuse melting detector (FMD)



SIDERMAT fuse-combination switches



fusom_060_b_1_x_cat

fusom_064_b_1_x_cat

FUSOMAT and SIDERMAT combination

Fuse combination switches with tripping function and visible breaking
for industrial fuses up to 1800 A

References

FUSOMAT DIN front operation

Device fitted with a 230 VAC shunt trip coil

Rating (A) / Fuse	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	Auxiliary contact position	Auxiliary contact tripping	1 st blown fuse auxiliary contact	Terminal shrouds (1 unit)	Top terminals screen	Inter-phase barrier
250 A / 1	3 P	3650 3026	Black 3999 6201 ⁽¹⁾	Type S3 Black IP55 1431 3511 ⁽¹⁾ Red / Yellow IP55 1432 3511	200 mm 1401 1520 320 mm 1401 1532 ⁽¹⁾	1 st contact NO/NC 3999 0051 2 nd contact NO/NC 3999 0052	1 contact NO/NC 3999 0031	3 P 3994 1304 4 P 3994 1404	3 P 3998 3040 ⁽²⁾ 4 P 3998 4040 ⁽²⁾		
	4 P	3650 6026									
400 A / 2	3 P	3650 3041									
	4 P	3650 6041									
630 A / 3	3 P	3650 3064									
	4 P	3650 6064									
800 A / 4	3 P	3650 3080	Black 3999 6012 ⁽¹⁾					3 P 3994 1306 4 P 3994 1406	3 P 3998 3063 ⁽²⁾ 4 P 3998 4063 ⁽²⁾	3998 3120 ⁽³⁾ 4 P 3998 4120 ⁽³⁾	3 P 2998 0003 4 P 2998 0004
	4 P	3650 6080									
1250 A / 4	3 P	3650 3121									
	4 P	3650 6121									

(1) Standard.

(2) Top/bottom

(3) Bottom terminals screen as standard

(4) One of the T4 fuses is fitted with a striker.

SIDERMAT DIN combination switches with front operation

Device fitted with a 230 VAC shunt trip coil

Rating (A) / Fuse	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	1 st auxiliary contact position	Auxiliary contact tripping	Top terminals screen	Inter-phase barrier
800 A / 4	3 P	3520 3080	Black 3999 6203 ⁽¹⁾	Type S3 Black IP55 1431 3511 ⁽¹⁾ Red IP55 1432 3511	320 mm 1401 1532	1 st NO/NC contact 3999 0051 2 nd NO/NC contact 3999 0052	1 contact NO/NC 3999 0031	3 P 2998 3120 ⁽²⁾ 4 P 2998 4120 ⁽²⁾	3 P 2998 0003 4 P 2998 0004
	4 P	3520 6080							
1250 A / 4	3 P	3520 3120							
	4 P	3520 6120							
1600 A / 2 x 4	3 P	3520 3160							
	3 P + NC	3520 4160							
1800 A / 2 x 4	4 P	3520 6160							
	3 P	3520 3180 ⁽³⁾	2998 3180 ⁽²⁾						
	3 P + NC	3520 4180 ⁽³⁾	included						
	4 P	3520 6180 ⁽³⁾	2998 4180 ⁽²⁾						

(1) Standard.

(2) The bottom terminal screen is delivered as standard.

(3) One of the T4 fuses is fitted with a striker.

FUSOMAT and SIDERMAT combination

Fuse combination switches with tripping function and visible breaking for industrial fuses up to 1800 A

Accessories

Direct handle

For FUSOMAT

Front operation		
Rating (A)	Handle colour	Reference
250 ... 630	Black	3999 6201
800 ... 1250	Black	3999 6012

Side operation		
Rating (A)	Handle colour	Reference
250 ... 1250	Black	3999 6012

For SIDERMAT fuse-combination switches

Front operation		
Rating (A)	Handle colour	Reference
800 - 1800	Black	3999 6203



access_156_a_2_cat

External handle

For FUSOMAT and SIDERMAT combination switches

Front operation				
Rating (A)	Type of handle	Handle colour	External IP	Reference
250 ... 1800	S3	Black	IP55	1431 3511
250 ... 1800	S3	Red	IP55	1432 3511

For FUSOMAT

Side operation				
Rating (A)	Type of handle	Handle colour	External IP	Reference
250 ... 1250	S3	Black	IP55	1435 3511
250 ... 1250	S3	Red	IP55	1436 3511



access_151_La_1_cat



access_156_a_2_cat

Handle type S3

Handle type S3

Type S handle adapter

Use

Enables S-type handles to be fitted in place of existing older style Socomec handles.

Dimensions

Adds 12 mm to the handle depth.

Handle colour	To be ordered in multiples of	External IP ⁽¹⁾	Reference
Black	1	IP65	1493 0000

(1) IP: protection index according to IEC 60529.



access_187_a_1_cat

Alternative colour Type S handle cover

Use

For single lever S3 type handles.

Other colours available - please contact us.

Colour	To be ordered in multiples of	Handle	Reference
Light grey	50	Type S3	1401 0001
Dark grey	50	Type S3	1401 0011



access_189_a_2_cat

FUSOMAT and SIDERMAT combination

Fuse combination switches with tripping function and visible breaking
for industrial fuses up to 1800 A

Shaft for external operation

Use

Standard lengths:

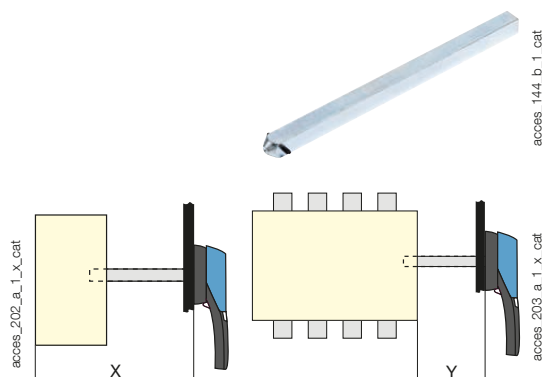
- 200 mm
- 320 mm.

Other lengths available - please contact us.

For FUSOMAT

Front operation				
Rating (A)	Side X (mm)	Shaft length (mm)	Type	Reference
250 - 400	300 ... 422	200	15 x 12	1401 1520
250 - 400	300 ... 542	320	15 x 12	1401 1532
630 ... 1250	345 ... 467	200	15 x 12	1401 1520
630 ... 1250	345 ... 587	320	15 x 12	1401 1532

Side operation				
Rating (A)	Dimension Y (mm)	Shaft length (mm)	Type	Reference
250 ... 1250	78 ... 200	200	15 x 12	1403 1520



access_144_b_1_cat

access_202_a_1_x_cat

access_203_a_1_x_cat

For SIDERMAT fuse-combination switches

Front operation				
Rating (A)	Side X (mm)	Shaft length (mm)	Type	Reference
800	350 ... 450	200	15 x 12	1401 1520
800	350 ... 570	320	15 x 12	1401 1532
1250 ... 1800	370 ... 570	320	15 x 12	1401 1532

Auxiliary contact

Use

Pre-break and signalling of positions 0 and I: 1 to 2 NO/NC auxiliary contacts.

Coil tripping

1 to 2 NO/NC auxiliary contacts.

Connection to the control circuit

By 6.35 mm fast-on terminal.

Characteristics

NO/NC auxiliary contact IP2.

Electrical characteristics

30,000 operations.

For FUSOMAT and SIDERMAT combination switches

NO/NC position contact

Rating (A)	Current Nominal (A)	Operating current I _e (A)			
		250 VAC AC-13	400 VAC AC-13	24 VDC DC-13	48 VDC DC-13
250 ... 1800	16	12	8	14	6

NO/NC coil trip signalling

Rating (A)	Current Nominal (A)	Operating current I _e (A)			
		250 VAC AC-13	400 VAC AC-13	24 VDC DC-13	48 VDC DC-13
250 ... 1800	16	12	8	12	2

NO/NC changeover contact

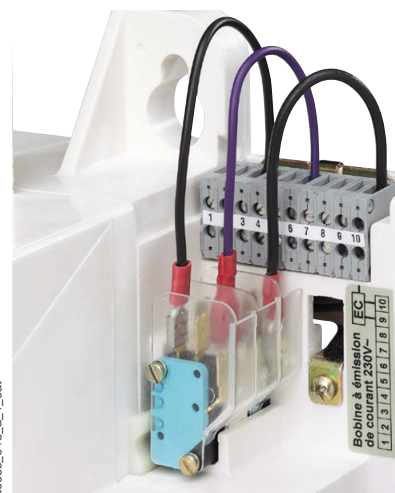
Rating (A)	Auxiliary Contact position	Reference
250 ... 1800	1 st auxiliary contact	3999 0051
250 ... 1800	2 nd auxiliary contact	3999 0052

NO/NC low level position contact

Rating (A)	Auxiliary Contact position	Reference
250 ... 1800	1 st auxiliary contact	3999 0111
250 ... 1800	2 nd auxiliary contact	3999 0112

NO/NC coil trip signalling

Rating (A)	Auxiliary Contact position	Reference
250 ... 1800	1 st auxiliary contact	3999 0031



access_04E_a_1_cat

FUSOMAT and SIDERMAT combination

Fuse combination switches with tripping function and visible breaking
for industrial fuses up to 1800 A

Accessories (continued)

Tripping coil.

For FUSOMAT and SIDERMAT combination switches

Shunt trip coil

Voltage	Replacement coil Reference	Modification of original coil Reference
24 VAC	3990 1024	3991 1024
48 VAC	3990 1048	3991 1048
110 VAC	3990 1110	3991 1110
230 VAC	3990 1220	included
400 VAC	3990 1380	3991 1380
12 VDC	3990 2012	3991 2012
24 VDC	3990 2024	3991 2024
48 VDC	3990 2048	3991 2048
110 / 200 VDC	3990 2220	3991 2220
220 VDC	3990 2220	

Undervoltage trip coil

Voltage	Replacement coil Reference	Modification of original coil Reference
24 VAC	3990 3024	3991 3024
48 VAC	3990 3048	3991 3048
110 VAC	3990 3110	3991 3110
230 VAC	3990 3220	3991 3220
400 VAC	3990 3380	3991 3380
12 VDC	3990 4012	3991 4012
24 VDC	3990 4024	3991 4024
48 VDC	3990 4048	3991 4048
110 VDC	3990 4110	3991 4110
220 VDC	3990 4220	3991 4220

Use

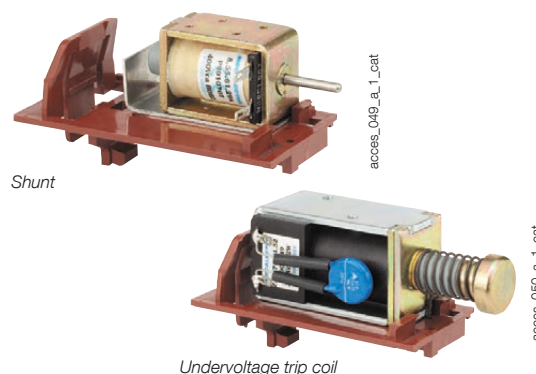
Omnipolar breaking remotely controlled by a shunt trip or undervoltage release coil.

Note: the shunt trip coil must not be supplied for more than 5 s.

Coil mounted as standard on the device: shunt trip coil. To modify the coil, order one of the references opposite with the device.

Examples of ordering:

- FUSOMAT with shunt trip coil 230 VAC - 1 reference: FUSOMAT 250 A, 3-pole, front operation, reference 3650 3026.
- FUSOMAT with another coil type or voltage - 2 references: FUSOMAT 250 A, 3-pole, front operation with 110 VAC undervoltage trip coil: 3650 3026 + 3991 3110.



Current-reducing resistor for undervoltage trip coil

Use

By limiting the current, the resistor reduces the effects on undervoltage trip coils used in continuous processes or those exposed to high ambient temperatures.

For FUSOMAT and SIDERMAT combination switches

Voltage	Reference
110 VAC	3999 3112
230 VAC	3999 3230
400 VAC	3999 3400
110 VDC	3999 4110

Fuse blown indication

Use

For DIN fuse cartridge with striker.

Electrical principle

An NO/NC auxiliary contact detects fuse blowing.

Connection to the control circuit

By 6.35 mm fast-on terminal.

Electrical characteristics

30,000 operations.

For FUSOMAT

NO/NC changeover contact			
Rating (A)	No. of poles	Auxiliary Contact position	Reference
250 - 400	3 P	1 st	3994 1304
250 - 400	4 P	1 st	3994 1404
630	3 P	1 st	3994 1306
630	4 P	1 st	3994 1406
800 ... 1250	3 P	1 st	3994 1312
800 ... 1250	4 P	1 st	3994 1412
250 ... 1250	3/4 P	2 nd	3994 1902

Characteristics

Rating (A)	Current Nominal (A)	Operating current I _o (A)			
		250 VAC AC-13	400 VAC AC-13	24 VDC DC-13	48 VDC DC-13
250 ... 1250	16	12	8	12	2

FUSOMAT and SIDERMAT combination

Fuse combination switches with tripping function and visible breaking
for industrial fuses up to 1800 A

Terminal shrouds

Use

Top or bottom protection against direct contact with terminals or connection parts.

Advantage

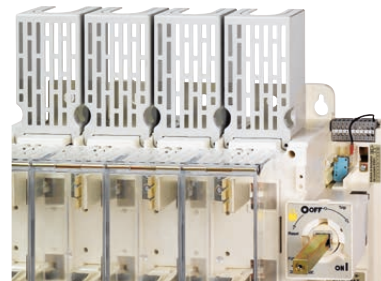
Perforations allow remote thermographic inspection without the need to remove the shrouds.

For FUSOMAT

Rating (A)	No. of poles	Position	Reference
250 - 400	3 P	Top or bottom	3998 3040 ⁽¹⁾
250 - 400	4 P	Top or bottom	3998 4040 ⁽²⁾
630	3 P	Top or bottom	3998 3063 ⁽¹⁾
630	4 P	Top or bottom	3998 4063 ⁽²⁾

(1) Reference comprises 3 parts.

(2) Reference comprises 4 parts.



access_213_b_1_cat

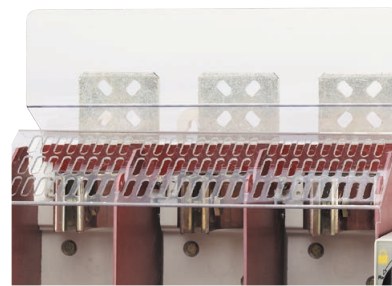
Terminal screen

Use

Top and bottom protection from direct contact with terminals or connection parts.

For FUSOMAT

Rating (A)	No. of poles	Position	Reference
800-1600	3 P	Top	3998 3120
800-1600	4 P	Top	3998 4120
800 ... 1800	3/4 P	Bottom	included



fusom_059_a_1_cat

For SIDERMAT fuse-combination switches

Rating (A)	No. of poles	Position	References
800-1600	3 P	Top	2998 3120
800-1600	4 P	Top	2998 4120
1800	3 P	Top	2998 3180
1800	4 P	Top	2998 4180
800 ... 1800	3/4 P	Bottom	included

Inter-phase barrier

Use

Safety isolation between the terminals, essential for use at 690 VAC or in a polluted or dusty atmosphere.

For FUSOMAT and SIDERMAT combination switches

Rating (A)	No. of poles	Reference
800 ... 1800	3 P	2998 0003
800 ... 1800	4 P	2998 0004



access_006_a_1_cat

FUSOMAT and SIDERMAT combination

Fuse combination switches with tripping function and visible breaking
for industrial fuses up to 1800 A

Accessories (continued)

Key handle interlocking system

Use

- Locking in position 0 of the front operation handle:
- Using a padlock (not supplied) and standard padlocking function of the handle
- Using RONIS 1104 A lock (key BC 3318) to be mounted directly on the padlockable handle
- Using CASTELL K lock (not supplied)
- Using RONIS EL11AP lock (not supplied)

For FUSOMAT and SIDERMAT combination switches

Locking using RONIS EL 1104 A lock (supplied)

Rating (A)	Control	Reference
250 ... 1800	front direct	3999 8104

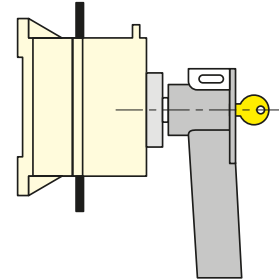
Locking using RONIS EL11AP lock (not supplied)

Rating (A)	Control	Reference
250 ... 1800	External	1499 7701
1600 ... 1800	front direct	3999 6117⁽¹⁾

Locking using CASTELL K (not supplied)

Rating (A)	Control	Reference
250 ... 1250	External	1499 7702

⁽¹⁾ For SIDERMAT fuse-combination switches only



RONIS 1104 A lock.

acces_010_b_1_x_cat

Label

Use

Customisable self-adhesive label allowing identification of the devices.

Dimensions W x H (mm)	Available for order in multiples of	Reference
18 x 13	50	7769 9999



acces_044_a_1_cat

Other specific accessories

Use

- Customised protection screens (for specific dimensions or high ambient temperatures).
- Connection accessories.
- Mounting plates for standard racks
- For specific atmospheric conditions.

FUSOMAT and SIDERMAT combination

Fuse combination switches with tripping function and visible breaking
for industrial fuses up to 1800 A

Characteristics

in accordance with IEC 60947-3

Thermal current I_{th} (40 °C)	FUSOMAT					SIDERMAT fuse-combination switches			
	250 A	400 A	630 A	800 A	1250 A	800 A	1250 A	1600 A	1800 A
NFC/DIN fuse size	1	2	3	4	4	4	4	2 x 4	2 x 4
Rated insulation voltage U_i (V)	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated impulse withstand voltage U_{imp} (kV)	12	12	12	12	12	12	12	12	12

Rated operational currents I_e (A)

Rated voltage	Utilisation category	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾
400 VAC	AC-21 A / AC-21 B	250/250	400/400	630/630	800/800	1250/1250	800/800	1250/1250	1600/1600	1600/1800
400 VAC	AC-22 A / AC-22 B	250/250	400/400	630/630	800/800	1250/1250	800/800	1250/1250	1600/1600	1600/1800
400 VAC	AC-23 A / AC-23 B	250/250	400/400	630/630	800/800	1000/1000	630/630	1250/1250	1600/1600	1600/1600
690 VAC ⁽²⁾	AC-21 A / AC-21 B	200/200	315/400	500/630	800/800	800/1250	800/800	1250/1250	1600/1600	
690 VAC ⁽²⁾	AC-22 A / AC-22 B	200/200	315/400	500/630	800/800	800/1000	630/800	1000/1000	1250/1250	
690 VAC ⁽²⁾	AC-23 A / AC-23 B	200/200	250/315	315/400	630/630	630/630	500/500	800/800	1000/1000	
220 VDC	DC-21 A / DC-21 B	200/200	315/315	400/630	800/800	800/1250	800/800	1250/1250	1600/1600	
220 VDC	DC-22 A / DC-22 B	200/200	315/315	315/630	800/800	800/1250	800/800	1250/1250	1600/1600	
220 VDC	DC-23 A / DC-23 B	200/200	200/315	400/630	800/800	800/1000	630/800	1250/1250	1250/1250	
440 VDC	DC-21 A / DC-21 B	200/200	315/315	400/630 ⁽³⁾	800/800 ⁽⁴⁾	800/1250 ⁽⁴⁾	800/800	1250/1250	1600/1600	
440 VDC	DC-22 A / DC-22 B	200/200	315/315 ⁽³⁾	315/630 ⁽³⁾	800/800 ⁽⁴⁾	800/1250 ⁽⁴⁾	800/800 ⁽³⁾	1250/1250 ⁽⁴⁾	1600/1600 ⁽⁴⁾	
440 VDC	DC-23 A / DC-23 B	200/200	200/315 ⁽³⁾	400/630 ⁽³⁾	800/800 ⁽⁴⁾	800/1000 ⁽⁴⁾	630/800 ⁽³⁾	1250/1250 ⁽⁴⁾	1250/1250 ⁽⁴⁾	

Operational power AC-23 (kW) ⁽¹⁾⁽⁵⁾

400 VAC without pre-break auxiliary contact	132/132	220/220	355/355	450/450	560/560	355/355	710/710	900/900	900/900
690 VAC without pre-break auxiliary contact	185/185	220/295	295/400	400/400	600/600	475/475	750/750	900/900	

Reactive power (kvar)

At 400 VAC (kvar) ⁽⁵⁾	115	185	290	365	575	365	575		
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Current rated as conditional short-circuit with fuse gG DIN

Prospective short-circuit current (kA rms.) ⁽⁶⁾	80/100	80/100	80/100	80/100	80/100	100	100	120	120
Associated fuse rating (A) ⁽⁶⁾	250	400	630	800	1250	800	1250	2 x 800	2 x 900

Short-circuit operation (switch only)

Rated peak withstand current (kA peak) ⁽⁶⁾	30	45	60	80	80	80	100	120	120
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Connection

Minimum Cu cable cross-section (mm ²)	95	185	2 x 150			2 x 185			4 x 240
Minimum Cu cable cross-section (mm ²)			2 x 30 x 5	2 x 60 x 5	2 x 60 x 5	2 x 40 x 5	2 x 60 x 5	2 x 80 x 5	
Minimum Cu cable cross-section (mm ²)	240	240	2 x 300	4 x 185	4 x 185	2 x 300	4 x 185	6 x 240	8 x 240
Maximum Cu busbar width (mm)	40	40	50	100	100	63	100	100	100
Tightening torque min (Nm)	20	20	40		20	20	20	40	

Mechanical characteristics

Durability (number of operating cycles)	8000	8000	5000	5000	5000	5000	5000	3000	3000
Weight of a 3-pole device (kg)	7	8	16	28	28	25	27	54	59
Weight of a 4-pole device (kg)	8.5	9.5	19	33	33	30	32	70	75

(1) Category with index A = frequent operation - Category with index B = infrequent operation.

(2) With terminal shrouds or phase barrier.

(3) Poles not juxtaposed.

(4) 4-pole device with 2 poles in series per polarity.

(5) The power value is given for information only, the current values vary from one manufacturer to another.

(6) For a rated operational voltage $U_o = 400$ VAC.

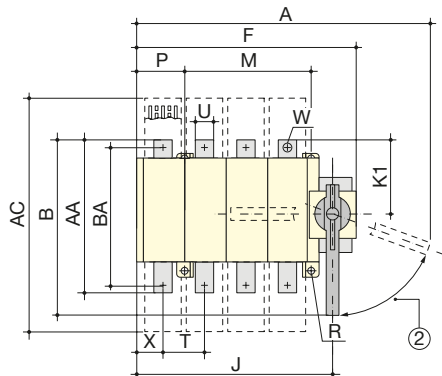
FUSOMAT and *SIDERMAT* combination

Fuse combination switches with tripping function and visible breaking for industrial fuses up to 1800 A

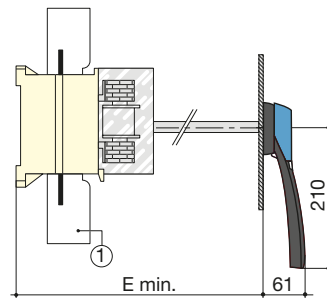
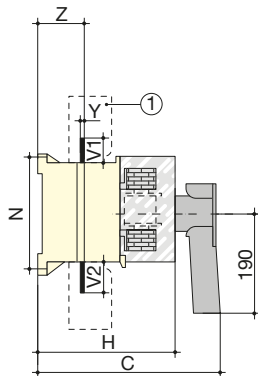
Dimensions

FUSOMAT 250 to 630 A

Direct front operation



External front operation

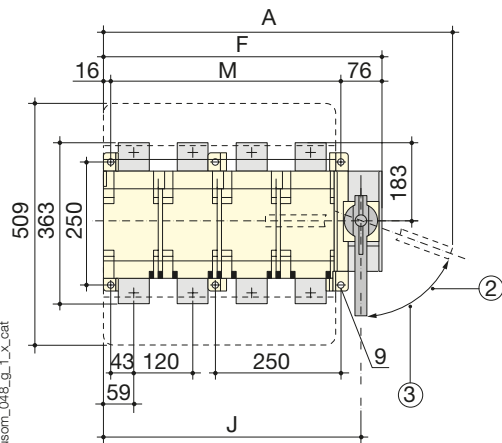


1. Terminal cover.
2. 70° reset.

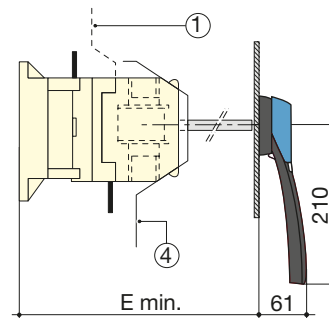
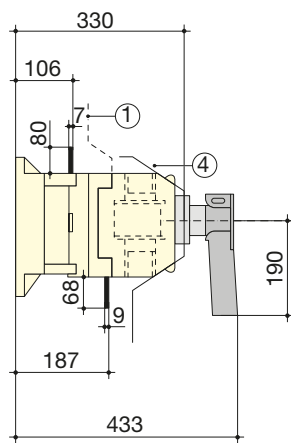
Rating (A)	Overall dimensions					Terminal shrouds	Case						Switch mounting					Connection										
	A 3p.	A 4p.	B	C	E min	AC	F 3p.	F 4p.	H	J 3p.	J 4p.	K1	M	N	P 3p.	P 4p.	R	T	U	V1	V2	W	X 3p.	X 4p.	Y	Z	AA	BA
250	435	495	305	307	228	388	285	345	221	253	313	115	210	180	10	70	7	65	32	35	43	11	51	46	3	67	238	208
400	435	495	305	307	228	388	285	345	221	253	313	115	210	180	10	70	7	65	32	35	43	13	51	46	5	69	238	208
630	491	570	350	348	276	470	346	425.5	268	308	388	150	250	250	20	100	9	80	50	50	50	13	65	65	7	72	300	260

FUSOMAT 800 to 1250 A

Direct front operation



External front operation



1. Top terminals screen
2. 70° reset.

3. 65° padlock
4. Front protective screen.

Rating (A)	Overall dimensions			Case				Switch mounting	
	A 3p.	A 4p.	E min	F 3p.	F 4p.	J 3p.	J 4p.	M 3p.	M 4p.
800	582	702	416	437	557	399.5	519.5	345	465
1250	582	702	416	437	557	399.5	519.5	345	465

FUSOMAT and SIDERMAT combination

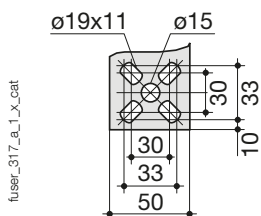
Fuse combination switches with tripping function and visible breaking
for industrial fuses up to 1800 A

Connection terminal

FUSOMAT

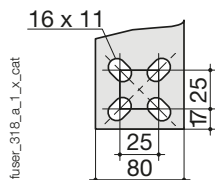
800 A

Top and bottom



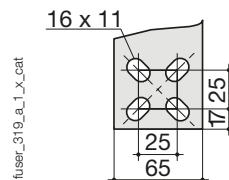
1250 A

Top



1250 A

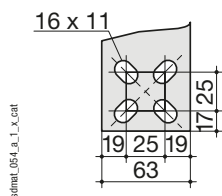
Bottom



SIDERMAT fuse-combination switches

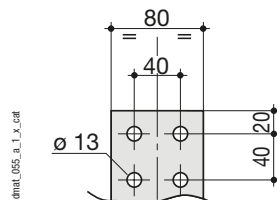
800 to 1250 A

Top and bottom



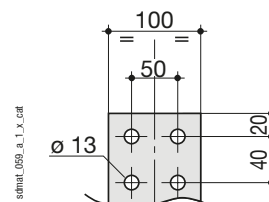
1600 A

Top



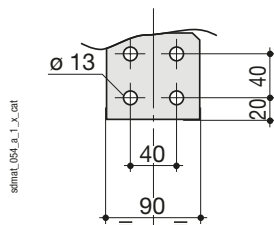
1800 A

Top



1600 to 1800 A

Bottom



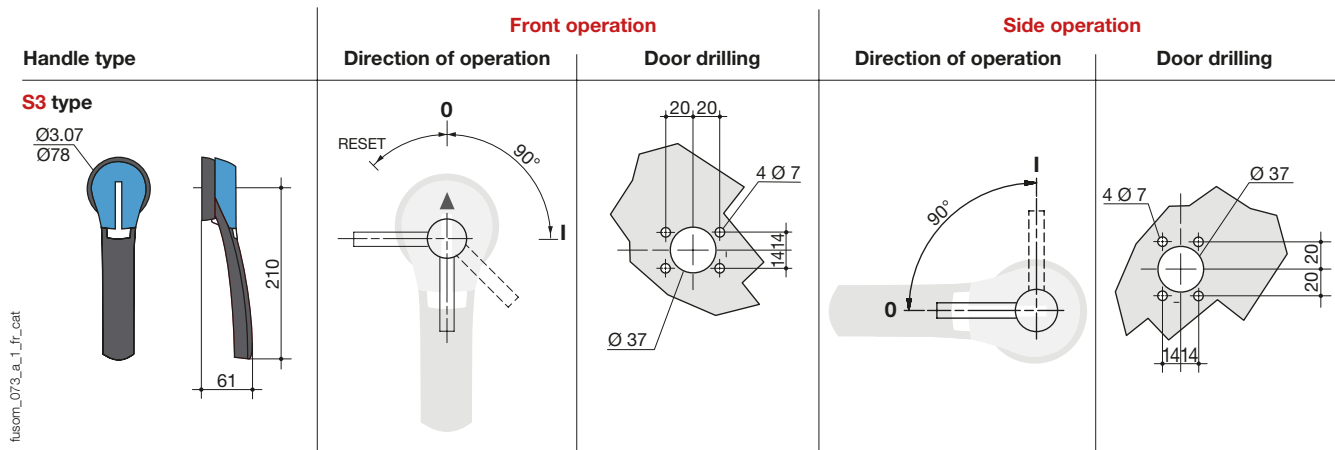
FUSOMAT and SIDERMAT combination

Fuse combination switches with tripping function and visible breaking
for industrial fuses up to 1800 A

Dimensions for external handles

FUSOMAT

250 to 1250 A



fusom_073_a_1_fr_cat