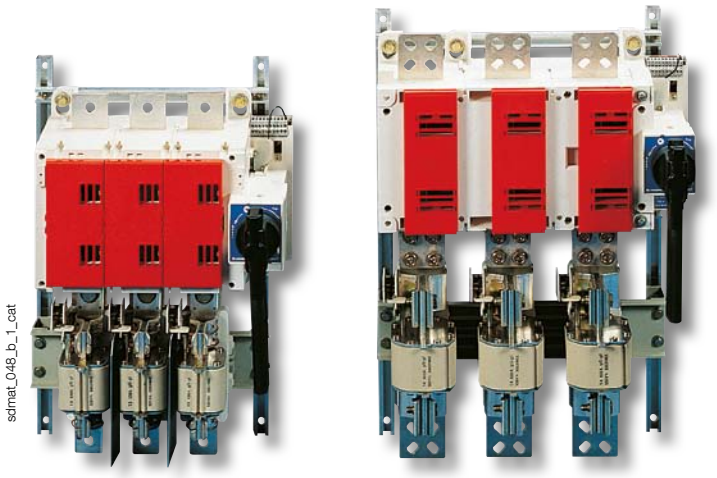


SIDERMAT combination

Visible breaking and tripping fuse switches

from 630 to 1800 A



sdmat_048_b_1_cat

The solution for

- Motor load break
- Protection of industrial cabinet
- Electrical distribution



Strong points

- Tripping upon overload
- High breaking capacity
- Improved safety

A complete range

- Can be combined with uR fuses for the protection of power semi-conductors. Please consult us.

Conformity to standards

- IEC 60947-3
- EN 60947-3
- BS EN 60947-3
- NBN EN 60947-3
- IEC 60269-1
- IS 14947-3
- DIN EN 60269-1
- NF EN 60269-1
- IEC 60269-2
- VDE 0636-1
- VDE 0660-107

Function

SIDERMAT combination are manually operated tri- or tetrapolar fuse disconnecting switches which can be triggered remotely.
They make and break under load conditions and provide safety isolation and protection against overcurrent for any low voltage electrical circuit.

They can automatically switch on a power circuit in combination with:
- fuse blown indication,
- thermal relay,
- differential relay,
- protective relays DIRIS,
- other protective devices.

Advantages

Tripping upon overload.
Remote breaking by voltage release device.

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

Improved safety
- Double break per phase.
- Visible break.
- Positive break indication.
- IP2X protection with terminal shrouds front panel.

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References

NFC and DIN - Front operation - Switch body with a shunt trip coil - 230 VAC

Rating (A) / Fuse[4]	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	1st position AC	Tripping AC	Terminal shrouds top	Terminal screens top	Inter phase barrier
630 A / 3	3 P	3520 **3063**	Black 3999 **6203**[1]	S3 type Black IP55 1431 **3511**[1] Red IP55 1432 **3511**	320 mm 1401 **1532**	1st contact NO/NC 3999 **0051** 2nd contact NO/NC 3999 **0052**	1 contact NO/NC 3999 **0031**	3998 **3063**		
	4 P	3520 **6063**						3998 **4063**		
800 A / 4	3 P	3520 **3080**								
	4 P	3520 **6080**								
1250 A / 4	3 P	3520 **3120**							3 P 2998 **3120**[2] 4 P 2998 **4120**[2]	3 P 2998 **0003** 4 P 2998 **0004**
	4 P	3520 **6120**								
1600 A / 2 x 4*	3 P	3520 **3160**								
	3 P + NC	3520 **4160**								
	4 P	3520 **6160**								
1800 A / 2 x 4*	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) Bottom terminals protection screen as standard.
(3) Only one of the two T4 fuses should be equipped with striker.
(4) For the fuses: see "NFC-DIN industrial fuselinks 0.16 to 1250 A" page 344.
** Two size 4 DIN fuses in parallel per pole.*

Accessories

Direct front operation handle

Rating (A)	Handle colour	Reference
630 ... 1800	Black	3999 **6203**
630 ... 1800	Red	consult us



acces_156_a_2_cat

External front operation handle

Rating (A)	Handle colour	External IP	Reference
630 ... 1800	Black	IP55	1431 **3511**
630 ... 1800	Red	IP55	1432 **3511**



acces_151_a_2_cat

acces_166_a_2_cat

S3 type handle

Alternative S-type handle cover colours

Use

For single lever S3 type handles.
Other colours: consult us.

Colour	To be ordered by multiple	Reference
Light grey	50	1401 **0001**
Dark grey	50	1401 **0011**



acces_198_a_2_cat

Shaft for external handle

Use

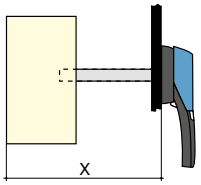
Standard lengths:
- 200 mm,
- 320 mm.

Other lengths: consult us.

Rating (A)	Dimension X (mm)	Shaft length (mm)	Reference
630 ... 800	350 ... 450	200	1401 **1520**
630 ... 800	350 ... 570	320	1401 **1532**
1250 ... 1800	370 ... 570	320	1401 **1532**



acces_144_b_1_cat



acces_202_a_1_x_cat

Current-reducing resistor for undervoltage trip coil

Use

Reduces, by limiting the current, the effects on the undervoltage coils used in continuous processes or processes exposed to high ambient temperatures.

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

Alternative tripping coils

Coils Characteristics: see "SIDERMAT" page 304.

Shunt trip coil

Voltage	Replacement tripping coil Reference	Original coil[1] 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**

Undervoltage trip coil

Voltage	Replacement tripping coil Reference	Original coil[1] 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**

(1) To be ordered at same time as switch (factory fitted).

Shunt trip coil.



acces_049_a_1_cat

Undervoltage trip coil



acces_050_a_1_cat

Use

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

Note: the shunt trip coil must not be supplied for more than 5 s. A 230 VAC shunt trip coil is fitted to the standard switch body.

To modify this coil, the reference opposite must be added to the switch reference (use "original coil" reference).

Examples for ordering

- Combined SIDERMAT with shunt trip coil 230 VAC - 1 reference: Combined SIDERMAT 630 A, 3 pole, front operation: 3520 3063.
- Combined SIDERMAT fitted with a non standard coil - 2 references: Combined SIDERMAT 630 A, 3 pole, front operation fitted with a 110 VAC undervoltage trip coil: 3520 3063 + 3991 3110.

Auxiliary contacts

References

NO/NC position contact

Rating (A)	Position AC	Reference
630 … 1800	1st	3999 **0051**
630 … 1800	2nd	3999 **0052**

NO/NC low level position contact

Rating (A)	Position AC	Reference
630 … 1800	1st	3999 **0111**
630 … 1800	2nd	3999 **0112**

NO/NC contact, signalling coil tripping

Rating (A)	Position AC	Reference
630 … 1800	1	3999 **0031**

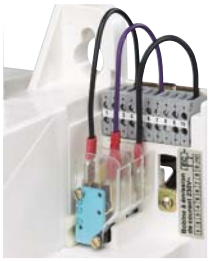
Characteristics

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
630 … 1800	16	12	8	14	6

NO/NC contact, signalling coil tripping

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
630 … 1800	16	12	8	12	2



acces_048_a_1_cat

Use

Pre-break and signalling of positions 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.

Accessories (continued)

Fuse blown indication

Use
For DIN fuse cartridges with striker.

Electrical principle
A NO/ NC auxiliary contacts detects that the fuse has blown.

Connection to the control circuit
By 6.35 mm fast-on terminal.

Electrical characteristics
30 000 operations.

NO/NC changeover contact

Rating (A)	No. of poles	Position AC	Reference
630 … 1800	3/4 P	1st	included

Characteristics

Rating (A)	Nominal current (A)	Operating current I_e (A) 250 VAC AC-13	400 VAC AC-13	24 VDC DC-13	48 VDC DC-13
630 … 1800	16	12	8	12	2

Terminal shrouds

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

Advantages
Perforations allowing remote thermographic inspection without removal.

Rating (A)	No. of poles	Position	Reference
630	3 P	top	3998 **3063**
630	4 P	top	3998 **4063**


acces_212_a_2_cat

Terminal screens

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

Rating (A)	No. of poles	Position	Reference
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.

Rating (A)	No. of poles	Reference
1250 … 1800	3 P	2998 **0003**
1250 … 1800	4 P	2998 **0004**


acces_036_a_1_cat

Handle key interlocking accessories

Use
Locking in position 0 of the front operation handle:
- using a padlock (not supplied) and the factory integrated padlocking function of the handle.
- using RONIS 1104 A lock (key BC 3318) to be mounted directly on the padlockable handle,
- locking using RONIS EL11AP lock (not supplied).

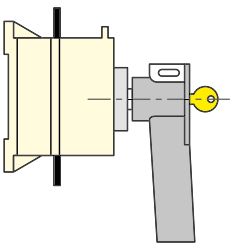
Locking using RONIS EL 1104 A lock (supplied)

Rating (A)	Operation	Reference
630 … 1800	front direct	3999 **8104**

Locking using RONIS EL11AP lock (not supplied)

Rating (A)	Operation	Reference
630 … 1250	front direct	3999 **7007**
1600 … 1800	front direct	3999 **6117**
630 … 1800	external front	1499 **7701**

Lock RONIS 1104A


acces_010_b_1_x_cat

Other specific accessories

- Customised protection screens (for specific dimensions or high ambiant temperatures).
- Connection accessories.
- Mounting plates for standard systems.
- Special construction available for specific environments.

Characteristics according to IEC 60947-3

630 to 1800 A

Thermal current I_{th} (40°C)		**630 A**	**800 A**	**1250 A**	**1600 A**	**1800 A**
Fuse size		3	4	4	2 x 4	2 x 4
Rated insulation voltage U_i (V)		1000	1000	1000	1000	1000
Rated impulse withstand voltage U_{imp} (kV)		12	12	12	12	12
Rated operational currents Ie (A)						
Rated voltage	**Utilisation category**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**	**A/B(1)**
400 VAC	AC-22 A / AC-22 B	630/630	800/800	1250/1250	1600/1600	1600/1800
400 VAC	AC-23 A / AC-23 B	630/630	630/630	1250/1250	1600/1600	1600/1600
690 VAC(2)	AC-21 A / AC-21 B	630/630	800/800	1250/1250	1600/1600	
690 VAC(2)	AC-22 A / AC-22 B	500/630	630/800	1000/1000	1250/1250	
690 VAC(2)	AC-23 A / AC-23 B	400/500	500/500	800/800	1000/1000	
220 VDC	DC-21 A / DC-21 B	630/630	800/800	1250/1250	1600/1600	
220 VDC	DC-22 A / DC-22 B	630/630	800/800	1250/1250	1600/1600	
220 VDC	DC-23 A / DC-23 B	500/630	630/800	1250/1250	1250/1250	
440 VDC	DC-20 A / DC-20 B	630/630	800/800	1250/1250	1600/1600	
440 VDC	DC-21 A / DC-21 B	630/630	800/800	1250/1250	1600/1600	
440 VDC	DC-22 A / DC-22 B	630/630(3)	800/800(3)	1250/1250(4)	1600/1600(4)	
440 VDC	DC-23 A / DC-23 B	500/630(3)	630/800(3)	1250/1250(4)	1250/1250(4)	
Motor power output (kW)						
At 400 VAC without pre-break in AC-23 (1)(5)		355/355	355/355	710/710	900/900	900/900
At 690 VAC without pre-break in AC-23 (1)(5)		400/475	475/475	750/750	900/900	
At 400 VAC without pre-break in AC(1)(5)		355/355	450/450	710/710	900/900	900/900
At 690 VAC without pre-break in AC(1)(5)		475/600	600/750	900/900	1100/1100	
Reactive power (kvar)						
At 400 VAC (5)		290	365	575		
Fuse protected short-circuit withstand (kA rms prospective)						
Prospective short-circuit (kA rms)(6)		100	100	100	120	120
Associated fuse rating (A)(6)		630	800	1250	2 x 800	2 x 900
Short-circuit capacity						
Rated peak withstand current (kA peak)(6)		55	80	100	120	120
Connection						
Minimum Cu cable section (mm^2)		2 x 150	2 x 185			4 x 240
Minimum Cu busbar section (mm^2)		2 x 30 x 5	2 x 40 x 5	2 x 60 x 5	2 x 80 x 5	
Maximum Cu cable section (mm^2)		2 x 300	2 x 300	4 x 185	6 x 240	8 x 240
Maximum Cu busbar width (mm)		50	63	100	100	100
Tightening torque min (Nm)			20	20	40	
Mechanical characteristics						
Durability (number of operating cycles)		5000	5000	5000	3000	3000
Weight of 3 P switch (kg)		20	25	27	54	59
Weight of 4 P switch (kg)		24	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 cannot be juxtaposed.
(4) 4-pole device with 2 pole in series by 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_e = 400 VAC.

SIDERMAT combination

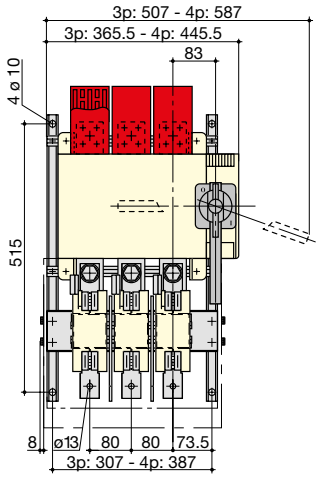
Visible breaking and tripping fuse switches

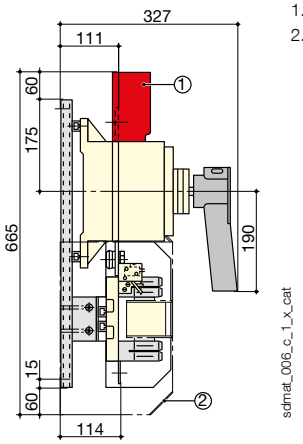
from 630 to 1800 A

Dimensions

SIDERMAT combination 630 A

Direct front operation

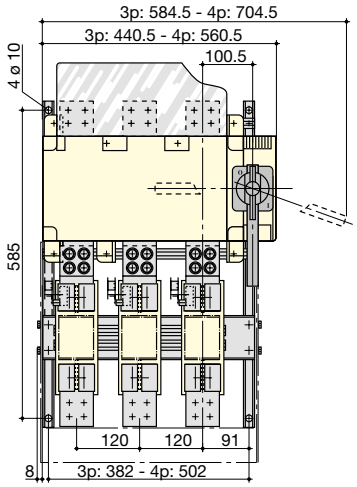


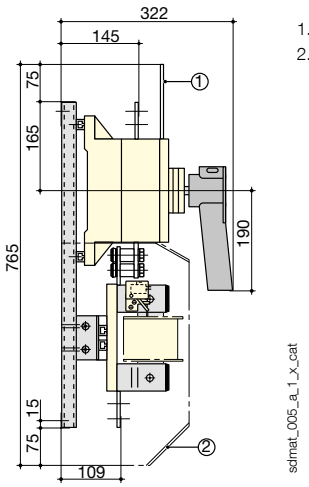


1. Terminal shrouds top.
2. Terminal screens bottom

SIDERMAT combination 800 to 1250 A

Direct front operation

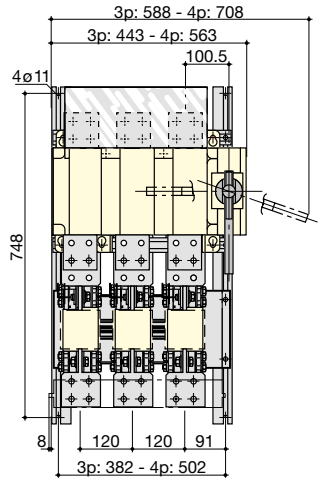


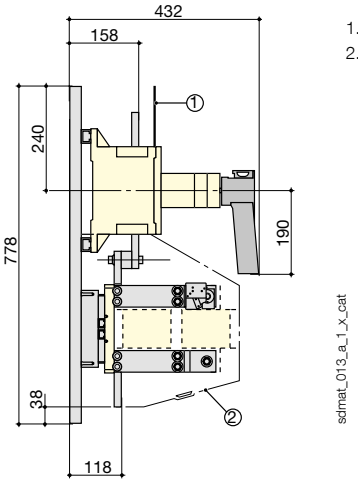


1. Terminal screens top
2. Terminal screens bottom

SIDERMAT combination 1600 A

Direct front operation



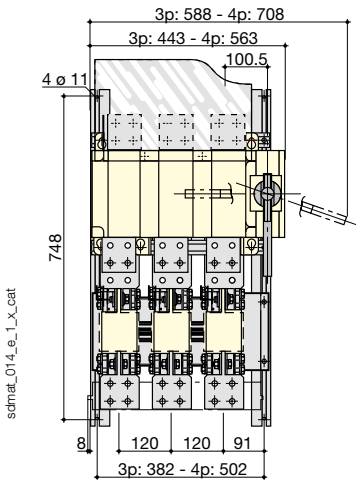


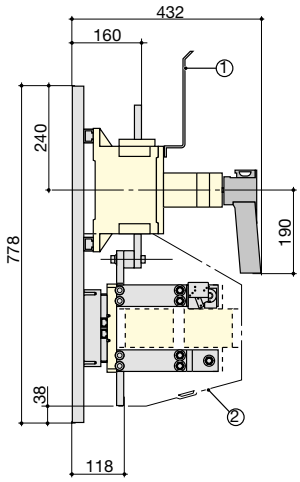
1. Terminal screens top
2. Terminal screens bottom

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SIDERMAT combination 1800 A

Direct front operation

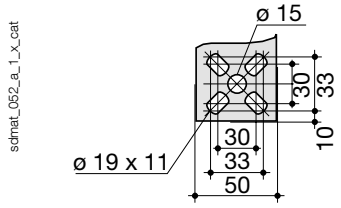




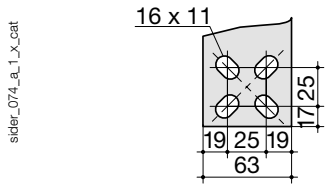
1. Terminal screens top
2. Terminal screens bottom

Connection terminals

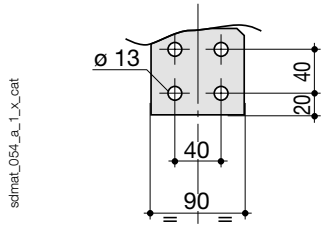
SIDERMAT combination - 630 A



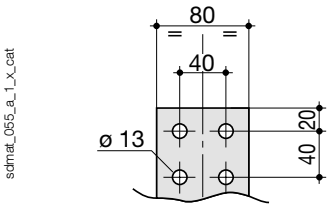
SIDERMAT combination 800 to 1250 A



SIDERMAT combination 1600 to 1800 A - bottom



SIDERMAT combination 1600 A - top



SIDERMAT combination 1800 A - top

