FUSOMAT DIN

Fuse combination switches with tripping function

250 A to 1250 A

fusom_063.eps

The solution for

- Healthcare
- Energy
- Infrastructure & Transport
- Industry

Strong points

- Automatic tripping
- Optimum safety
- High breaking capacity

Conformity to standards

- IEC 60947-3

Function

FUSOMAT 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

Automatic tripping

FUSOMAT is the only fuse combination switch that allows automatic remote opening by means of a coil associated with an external device.

Optimum safety

Double phase breaking (upstream and downstream from the fuse) and fully visible isolation keep people and equipment protected from overcurrent.

High breaking capacity

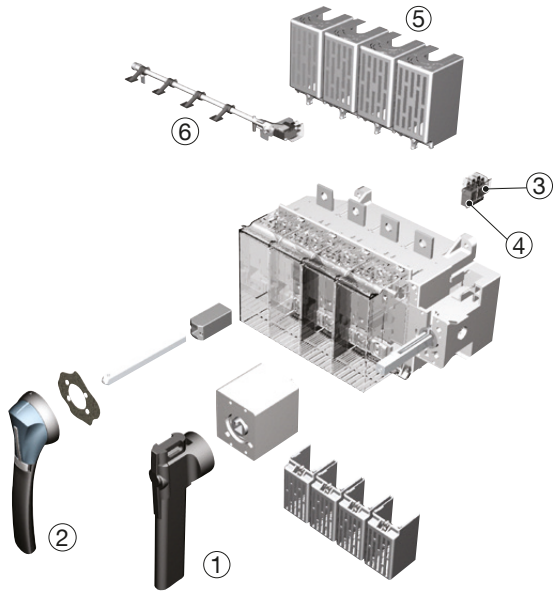
High breaking capacity fuses (100 kA rms) provide protection from overloads and short circuits.

General characteristics

- For industrial fuses up to 1250 A.
- 3P or 4P available.
- Direct or external handle.
- Auxiliary contact optional.

socomec
Innovative Power Solutions

Configurations



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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 shroud.
6. Fuse melting detector (FMD)

References

FUSOMAT DIN front operation

Device fitted with a 230 VAC shunt trip coil

Rating (A) / Fuse	N° of Poles	Appareil nu	direct handle	External handle	Shaft for external handle	Auxiliary contact position	Auxiliary contact tripping	1st auxiliary contact blown fuse	Terminal Shrouds (1 unit)	Top terminals screen	Inter phase barrier
250 A / 1	3 P	3650 **3026**	Black 3999 **6201**(1)	S3 type Black IP55 1431 **3511**(1) Red / Yellow IP55 1432 **3511**	200 mm 1401 **1520** 320 mm 1401 **1532**(1)	1st contact NO/NC 3999 **0051** 2nd 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**						3 P 3994 **1306** 4 P 3994 **1406**	3 P 3998 **3063**(2) 4 P 3998 **4063**(2)		
	4 P	3650 **6064**									
800 A / 4	3 P		Black 3999 **6012**(1)					3 P 3994 **1312** 4 P 3994 **1412**		3998 **3120**(3) 4 P 3998 **4120**(3)	3 P 2998 **0003** 4 P 2998 **0004**
	4 P										
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.

Accessories

direct handle

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

Lateral operation Current (A)	Handle colour	Reference
250 ... 1250	Black	3999 **6012**


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External handle

Front operation Current (A)	Handle type	Handle colour	External IP	Reference
250 ... 1250	S3	Black	IP55	1431 **3511**
250 ... 1250	S3	Rouge	IP55	1432 **3511**

Lateral operation Current (A)	Handle type	Handle colour	External IP	Reference
250 ... 1250	S3	Black	IP55	1435 **3511**
250 ... 1250	S3	Rouge	IP55	1436 **3511**


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S3 type handle


acces_166_a_2_cat

S3 type handle

S-type 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.


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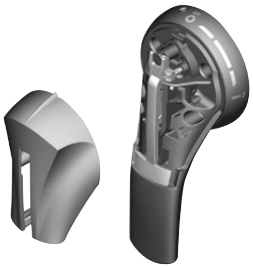
Alternative S type handle cover colour

Use

For single lever S3 type handles.

Other colours available - please contact us.

Color	To be ordered in multiples of	Handle	Reference
Light grey	50	S3 type	1401 **0001**
Dark Grey	50	S3 type	1401 **0011**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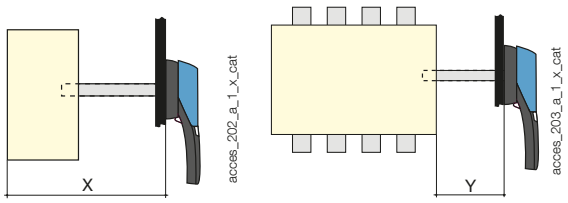
Shaft for external operation

Use

Standard lengths:
- 200 mm
- 320 mm.

Other lengths available - please contact us.



Front operation

Current (A)	Dimension 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**

Lateral operation

Current (A)	Dimension Y (mm)	Shaft length (mm)	Type	Reference
250 … 1250	78 … 200	200	15 x 12	1403 **1520**

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.

Features

NO/NC auxiliary contact IP2.

Electrical Rating

30,000 operations.

NO/NC position contact

Current (A)	Current nominal (A)	Operating current I_e (A) 250 VAC AC-13	400 VAC AC-13	5A / 24 VDC DC-13	48 VDC DC-13
250 … 1800	16	12	8	14	6

NO/NC coil trip signalling

Current (A)	Current nominal (A)	Operating current I_e (A) 250 VAC AC-13	400 VAC AC-13	5A / 24 VDC DC-13	48 VDC DC-13
250 … 1800	16	12	8	12	2

NO/NC changeover contact

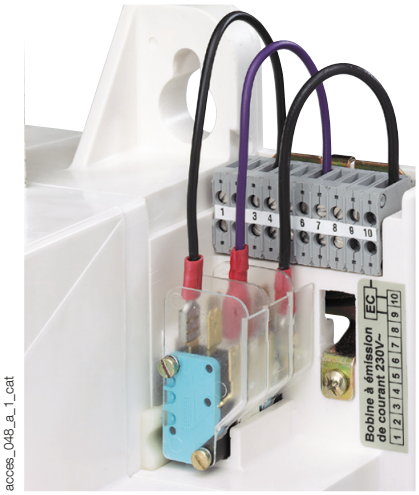
Current (A)	AC position	Reference
250 … 1800	1st AC	3999 **0051**
250 … 1800	2nd auxiliary contact	3999 **0052**

NO/NC low level position contact

Current (A)	AC position	Reference
250 … 1800	1st AC	3999 **0111**
250 … 1800	2nd auxiliary contact	3999 **0112**

NO/NC coil trip signalling

Current (A)	AC position	Reference
250 … 1800	1 AC	3999 **0031**



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Accessories (continued)

Tripping Coil

Shunt trip coil

Premin.	Replacement coil Reference	Alternative coil Reference
24 VAC	3990 **1024**	3991 **1024**
48 VAC	3990 **1048**	3991 **1048**
110 VAC	3990 **1110**	3991 **1110**
230 V a.c.	3990 **1220**	included
400 VAC	3990 **1380**	3991 **1380**
12 VDC	3990 **2012**	3991 **2012**
5A / 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

Premin.	Replacement coil Reference	Alternative coil Reference
24 VAC	3990 **3024**	3991 **3024**
48 VAC	3990 **3048**	3991 **3048**
110 VAC	3990 **3110**	3991 **3110**
230 V a.c.	3990 **3220**	3991 **3220**
400 VAC	3990 **3380**	3991 **3380**
12 VDC	3990 **4012**	3991 **4012**
5A / 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

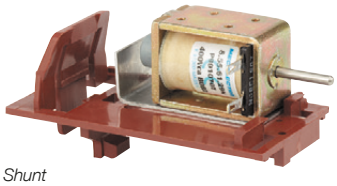
Omnipolar breaking remotely controlled by a shunt trip or undervoltage release coil.

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

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.



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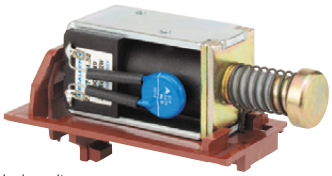
Shunt



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Undervoltage

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.

Premin.	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 Rating
30,000 operations.

NO/NC changeover contact

Current (A)	N° of Poles	AC position	Reference
250… 400	3 P	1st	3994 **1304**
250… 400	4 P	1st	3994 **1404**
630	3 P	1st	3994 **1306**
630	4 P	1st	3994 **1406**
800 … 1250	3 P	1st	3994 **1312**
800 … 1250	4 P	1st	3994 **1412**
250 … 1250	3/4 P	2nd	3994 **1902**

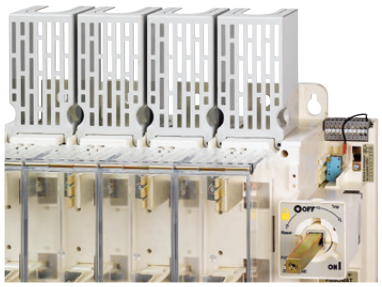
Features

Current (A)	Current nominal (A)	Operating current I_e (A) 250 VAC AC-13	400 VAC AC-13	5A / 24 VDC DC-13	48 VDC DC-13
250 … 1250	16	12	8	12	2

Terminal Shrouds

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

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



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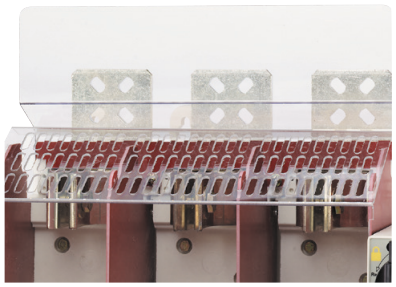
For FUSOMAT

Current (A)	N° 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.

Terminals protection screen

Use
Top or bottom protection against direct contact with terminals or connecting parts.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Current (A)	N° of Poles	Position	Reference
800 … 1250	3 P	Top	3998 **3120**
800 … 1250	4 P	Top	3998 **4120**
800 … 1250	3/4 P	Bottom	included

Accessories (continued)

Inter-phase barrier

Use

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

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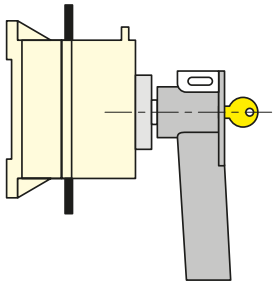
Current (A)	N° of Poles	Reference
800 ... 1250	3 P	2998 **0003**
800 ... 1250	4 P	2998 **0004**

Handle key interlocking accessories

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)



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RONIS 1104 A lock.

Locking using RONIS EL 1104 A lock (supplied)

Current (A)	Command	Reference
250 ... 1800	front direct	3999 **8104**

Locking using RONIS EL 11AP lock (not included)

Current (A)	Command	Reference
250 ... 1800	handle	1499 **7701**
1600 ... 1800	front direct	3999 **6117** (1)

Locking using CASTELL K (not supplied)

Current (A)	Command	Reference
250 ... 1250	handle	1499 **7702**

(1) For SIDERMAT fuse-combination switches only

Label Holder

Use

Recognisable self-adhesive label allowing identification of the devices.

acces_044_a_1_cat

Dimensions W x H (mm)	To be ordered in multiple of	Reference
18 x 13	50	7769 **9999**

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.

Features

According to IEC 60947-3

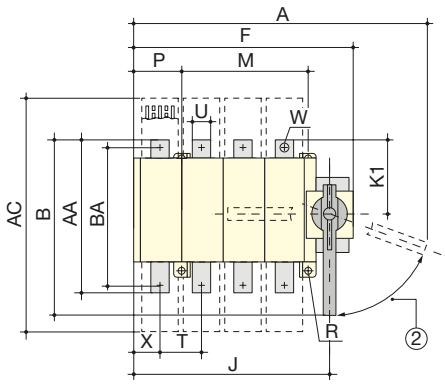
		FUSOMAT				
Thermal current I_{th} (40 °C)		**250 A**	**400 A**	**630 A**	**800 A**	**1250 A**
NFC/DIN fuse size		1	2	3	4	4
Rated insulation voltage U_i (V)		1000	1000	1000	1000	1000
Rated impulse withstand voltage U_{imp} (kV)		12	12	12	12	12
Rated operational currents I_e (A)						
Rated voltage	**Load duty category**	**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
400 VAC	AC-22 A / AC-22 B	250/250	400/400	630/630	800/800	1250/1250
400 VAC	AC-23 A / AC-23 B	250/250	400/400	630/630	800/800	1000/1000
690 VAC(2)	AC-21 A / AC-21 B	200/200	315/400	500 /630	800/800	800/1250
690 VAC(2)	AC-22 A / AC-22 B	200/200	315/400	500 /630	800/800	800/1000
690 VAC(2)	AC-23 A / AC-23 B	200/200	250/315	315/400	630/630	630/630
220 VDC	DC-21 A / DC-21 B	200/200	315/315	400/630	800/800	800/1250
220 VDC	DC-22 A / DC-22 B	200/200	315/315	315/630	800/800	800/1250
220 VDC	DC-23 A / DC-23 B	200/200	200/315	400/630	800/800	800/1000
440 VDC	DC-21 A / DC-21 B	200/200	315/315	400/630(3)	800/800(4)	800/1250(4)
440 VDC	DC-22 A / DC-22 B	200/200	315/315(3)	315/630(3)	800/800(4)	800/1250(4)
440 VDC	DC-23 A / DC-23 B	200/200	200/315(3)	400/630(3)	800/800(4)	800/1000(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
At 690 VAC without pre-break AC		185/185	220/295	295/400	400/400	600/600
Reactive power (kvar)						
At 400 VAC (kvar)(5)		115	185	290	365	575
Fuse protected short-circuit withstand with gG DIN fuses						
Prospective short-circuit current (kA rms.)(6)		100	100	100	100	100
Associated fuse rating (A)(6)		250	400	630	800	1,250
Short-circuit operation (switch only)						
Rated peak withstand current (kA peak)(6)		30	45	60	80	80
Connection						
Minimum Cu cable cross-section (mm^2)		95	185	2 x 150		
Minimum Cu cable cross-section (mm^2)				2 x 30 x 5	2 x 60 x 5	2 x 60 x 5
Minimum Cu cable cross-section (mm^2)		240	240	2 x 300	4 x 185	4 x 185
Maximum Cu busbar width (mm)		40	40	50	100	100
Tightening torque min (Nm)		20	20	40		20
Mechanical Characteristics						
Durability (number of operating cycle)		8000	8000	5000	5000	5000
Weight of a 3-pole device (kg)		7	8	16	28	28
Weight of a 4-pole device (kg)		8.5	9.5	19	33	33

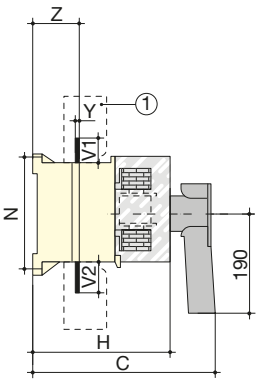
(1) Category with index A = frequently operated /
Category with index B = infrequently operated.
(2) With terminal shrouds or terminal screen.
(3) Poles not juxtaposed.
(4) 4-pole device with 2 poles in series per polarity
(5) The power value is given for information only; the current values vary from one manufacturer to another.
(6) For a rated operational voltage U_e = 400 VAC.

Dimensions

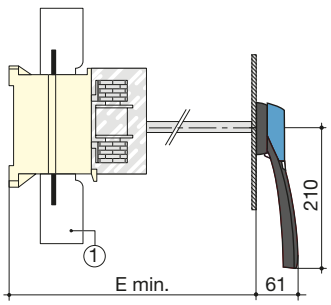
250 to 630 A

Direct front operation





External front operation



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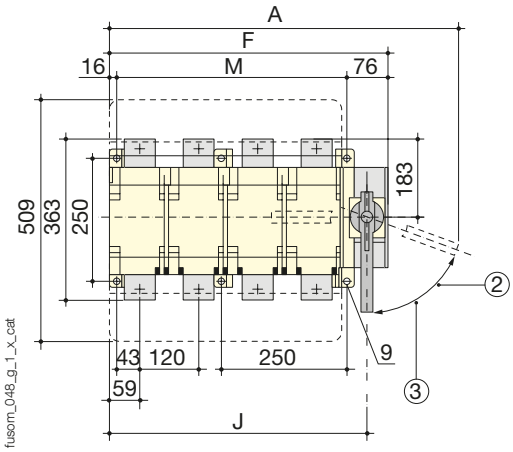
1. Terminal shroud.
2. 70° reset.

Current (A)	Overall dimensions A 3p.	A 4p.	B	C	E min	Terminal Shrouds AC	Body F 3p.	F 4p.	H	J 3p.	J 4p.	K1	Switch mounting M	N	P 3p.	P 4p.	R	Connection 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

800 to 1250 A

Direct front operation



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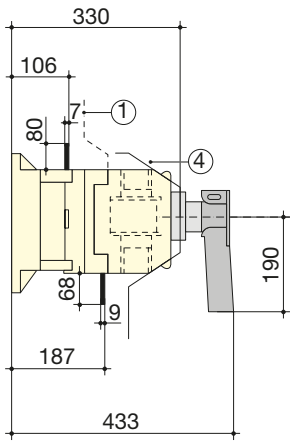
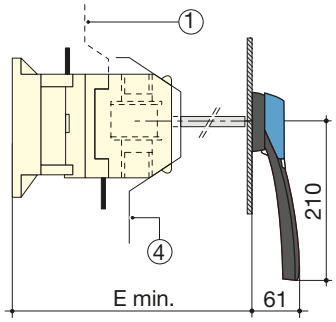


External front operation



1. Top terminals screen
2. 70° reset.
3. 65° padlock
4. Front protective screen.

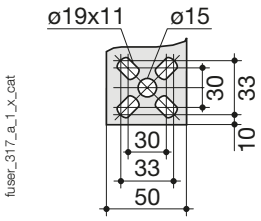
Current (A)	Overall dimensions A 3p.	A 4p.	E min	Body F 3p.	F 4p.	J 3p.	J 4p.	Switch mounting M 3p.	M 4p.
800	582	702	416	437	557	399.5	519.5	345	465
1,250	582	702	416	437	557	399.5	519.5	345	465

A connection terminals

FUSOMAT

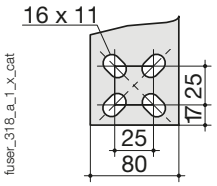
800 A

Top and bottom



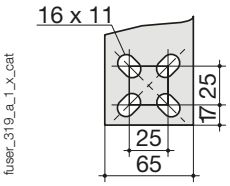
1250 A

Top



1250 A

Bottom



Dimensions for external handles

FUSOMAT

250 to 1250 A

Handle type	Front operation		Lateral operation	
	Operating direction	Door drilling	Operating direction	Door drilling
Type S3