

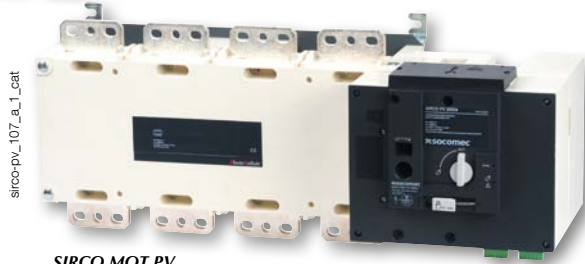
# SIRCO MOT PV

Load break switches for photovoltaic applications

remotely operated range from 250 to 3200 A, up to 1000 VDC



SIRCO MOT PV  
4 x 400 A



SIRCO MOT PV  
4 x 2000 A

## The solution for

- > Buildings
- > Solar parks
- > Solar inverters



## Strong points

- > High breaking capacity up to 3200 A, 1000 VDC
- > Remotely operated product
- > Manual emergency operation

## Conformity to standards

- > IEC 60947-3



## Function

SIRCO PV are remotely operated multipolar load break switches.

They make and break under load conditions and provide safety isolation for any low voltage circuit dedicated to photovoltaic applications up to 1000 VDC.

## Advantages

### High breaking performance

A glass fibre reinforced polyester break chamber with an arc extinguishing system provides a patented safety disconnection system offering rapid extinguishing of the electric arc up to 1000 VDC and current interruption up to 3200 A.

### General characteristics

- Up to 1000 VDC from 250 to 3200 A.
- Patented switching technology.
- Remotely operated product (motor control).
- Positive break indication.
- 2 stable positions (I, 0).

### Remotely operated product

SIRCO MOT PV are intended for use in photovoltaic installations and solar inverters. They can be remotely controlled via volt-free contacts, from either an external automatic controller or a switch.

### Manual emergency operation

In addition to its motorised operation, the SIRCO MOT PV also includes a manual operation facility, enabling the switch position to be changed directly on the device if required.

## References

### 1000 VDC - Back plate mounting

Rating (A) / Frame size	Circuit type	No. of poles	Switch body	Bridging bars for connecting poles in series	Inter phase barrier	Terminal screens	Terminal shrouds	
250 A / B4	Single PV circuit	4 P	19PV 4025	4 P 2609 2025 <sup>(1)</sup>	4 P 2998 0024	4 P 1509 4025 <sup>(2)</sup>	4 P 2694 4021 <sup>(3)</sup>	
400 A / B4			19PV 4038	4 P 2609 4050 <sup>(1)</sup>				
630 A / B5			19PV 4063	2 P 2609 0080	4 P 2998 0014	4 P 1509 4063	4 P 2694 4051 <sup>(3)</sup>	
800 A / B5			19PV 4080	2 P 2609 0080				
1000 A / B6			19PV 4100	included	4 P 1509 4080	4 P 1509 4160	4 P 1509 4200	
1250 A / B6			19PV 4120					2 P 2609 1100 <sup>(1)</sup>
1600 A / B7			19PV 4160					2 P 2609 1160 <sup>(1)</sup>
2000 A / B7			19PV 4200					2 P 2609 1200 <sup>(1)</sup>
3200 A / B8			19PV 4320					2 P 2609 1200 <sup>(1)</sup>

(1) Connection in series of 2 or 4 poles of the device

(2) 2 pieces: one for top side and another for bottom side.

(3) Terminal shrouds cannot be mounted when bridging bars for connecting poles in series are present.

## Accessories

### Bridging bars for connecting poles in series

#### Use

The bridging bars will make easy the connection of poles in series, allowing the following configurations:

- Bottom/Bottom
- Top/Top

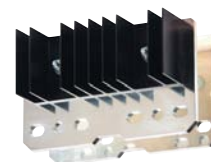
- Top/Bottom
- Bottom/Top

Connection diagrams:  
see "Pole series connections"  
page 171.



Bridging bar 250 A

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Bridging bar 2000 ... 3200 A

access\_392\_a\_1\_cat

Frame size	Rating (A)	Number of poles of the device in series	Pack	Reference
B4	250	2 P	1 piece	2609 0025
B4	250	4 P	2 pieces	2609 2025
B4	400	4 P	4 pieces	2609 4050
B5	630 ... 800	2 P	2 pieces	2609 0080
B5	630 ... 800	4 P	4 pieces	2609 2080
B6	1000 ... 1250	2 P	2 pieces	2609 1100
B7	1600	2 P	2 pieces	2609 1160
B7 ... B8	2000 ... 3200	2 P	1 piece	2609 1200

### Auxiliary contact

#### Use

Pre-break and signalisation of position I:

1 to 2 NO/NC auxiliary contacts  
(1 as standard).

Low level auxiliary contacts: please consult us.

#### Connection to the control circuit

By 6.35 mm fast-on terminal.

#### Electrical characteristics

30 000 operations.

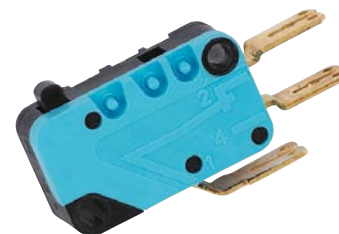
#### Characteristics

Rating (A)	Nominal current (A)	Operating current I <sub>o</sub> (A)			
		250 VAC AC-13	400 VAC AC-13	24 VDC AC-13	48 VDC AC-13
250 ... 3200	16	12	8	14	6

#### References

##### NO/NC changeover contact

Frame size	Rating (A)	Contact(s)	Reference
B4 ... B5	250 ... 800	2 <sup>nd</sup>	1999 1002
B6 ... B7	1000 ... 2000	2 <sup>nd</sup>	1999 1032
B8	3200	2 <sup>nd</sup>	included



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svr\_058\_a\_1\_cat

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## Accessories (continued)

### Terminal shrouds

#### Use

Protection against direct contact with terminals or connecting parts.  
Not compatible for terminals with bridging bars connected.

#### Advantage of terminal shrouds

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



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Frame size	Rating (A)	No. of poles	Position	Reference
B4	250 ... 400	4 P	top or bottom	2694 4021
B5	630 ... 800	4 P	top or bottom	2694 4051

### Terminal screens

#### Use

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

Frame size	Rating (A)	No. of poles	Position	Reference
B4	250 ... 400	4 P	top or bottom	1509 4025
B5	630 ... 800	4 P	top or bottom	1509 4063
B6	1000 ... 1250	4 P	top or bottom	1509 4080
B7	1600	4 P	top or bottom	1509 4160
B7 ... B8	2000 ... 3200	4 P	top or bottom	1509 4200



access\_207\_a\_2\_cat

### Inter phase barrier

#### Use

Safety isolation between the terminals. For 200 to 800 A SIRCO MOT PV, the inter phase barriers allow insulation between pole connected in series.

Frame size	Rating (A)	No. of poles	Pack	Reference
B4	250 ... 400	4 P	3 pieces	2998 0024
B5	630 ... 800	4 P	3 pieces	2998 0014
B6 ... B8	1000 ... 3200	4 P	-	included



access\_006\_a\_2\_cat

### 2 position padlocking (I - 0)

#### Use

Enables padlocking in position I (product can be padlocked in position 0 as standard).  
Factory fitted.

Frame size	Rating (A)	Reference
B4 ... B5	250 ... 800	9599 0003
B6 ... B8	1000 ... 3200	9599 0004



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### Key handle interlocking system

#### Use

Motorised and manual operations can be locked in position 0 using a RONIS EL11AP lock.  
Factory fitted.

As standard, locking in position 0.  
Optional padlocking in 2 positions: Locking in position 0 and I.

Frame size	Rating (A)	Reference
B4 ... B5	250 ... 800	9599 1006
B6 ... B8	1000 ... 3200	9599 1004



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### Other specific accessories

Low level auxiliary contacts.

## Double power supply - DPS

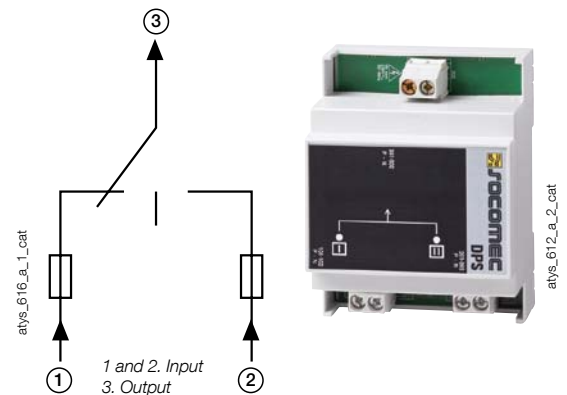
### Use

Allows a SIRCO MOT to be supplied by two 230 VAC, 50/60 Hz networks.

### Input

- The input is considered "active" from 200 VAC.
- Maximum voltage: 288 VAC.
- Internal protection: each input is fuse protected 3.15 A.
- Connection on terminals: max. 6 mm<sup>2</sup>.
- Modular device: 4 module width.

Description of accessories	Reference
DPS	1599 4001



## Mounting spacers

### Use

Increases the distance between the rear power terminals and the backplate by 10 mm.

This accessory may also be used to replace the original mounting spacers.

Frame size	Rating (A)	Description of accessories	Reference
B3 ... B5	125 ... 630	1 set of 2 spacers	1509 0001

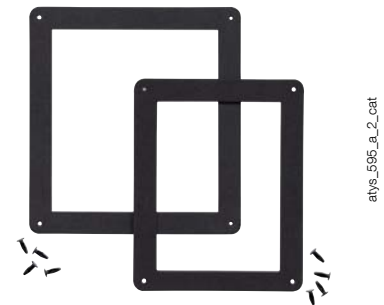


## Door protective surround

### Use

When direct access to the SIRCO MOT front face (mode selection, manual operation, display...) is required, the door surround can be utilised to provide a clean and safe finish to the panel's cut-out.

Frame size	Rating (A)	Reference
B3 ... B5	125 ... 630	1529 0012
B6 ... B8	800 ... 3200	1529 0080



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## Characteristics according to IEC 60947-3

### 200 to 3200 A

Thermal current $I_{th}$ at 40°C	250 A	400 A	630 A	800 A	1000 A	1250 A	1600 A	2000 A	3200 A
Rated insulation voltage $U_i$ (V)	1200	1200	1200	1200	1200	1200	1200	1200	1200
Rated impulse withstand voltage $U_{imp}$ (kV)	12	12	12	12	12	12	12	12	12
Frame size	B4	B4	B5	B5	B6	B6	B7	B7	B8

### Rated operational currents $I_e$ (A)

Rated voltage	Utilisation category	Number of poles of the device	Number of pole(s) in series per polarity	Ambient temperature (°C)	250 A	400 A	630 A	800 A	1000 A	1250 A	1600 A	2000 A	3200 A
					(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	
1000 VDC	DC-21 B	4 P	2 P + and 2 P -	40	250	400	630	800	1000	1250	1600	2000	3200
1000 VDC	DC-21 B	4 P	2 P + and 2 P -	50	250	400	630	720	1000	1250	1600	1800	3200
1000 VDC	DC-21 B	4 P	2 P + and 2 P -	60	250	400	560	650	1000	1125	1600	1600	2700
1000 VDC	DC-21 B	4 P	2 P + and 2 P -	65	-	400	540	620	950	1050	1520	1520	2550

### Switching time

I - 0	0.85	0.85	0.85	0.85	1.60	1.60	1.60	1.60	1.60	1
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### Power supply

Power supply, 230 VAC min. / max. (VAC)	166/332	166/332	166/332	166/332	166/332	166/332	166/332	166/332	166/332	166/332
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### Control supply power demand

Power supply 230 VAC inrush / nominal (VA)	276/115	276/115	176/150	276/150	460/184	460/184	460/230	460/230	812/322
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### Connection

Rigid Cu cable cross-section (mm <sup>2</sup> )	120	240	2 x 185	2 x 240	2 x 240	2 x 240	-	-	-
Maximum Cu busbar width (mm)	32	32	50	50	63	63	100	100	100
Tightening torque min/max (Nm)	20/26	40/45	40/45	40/45	40/45	40/45	40/45	40/45	40/45

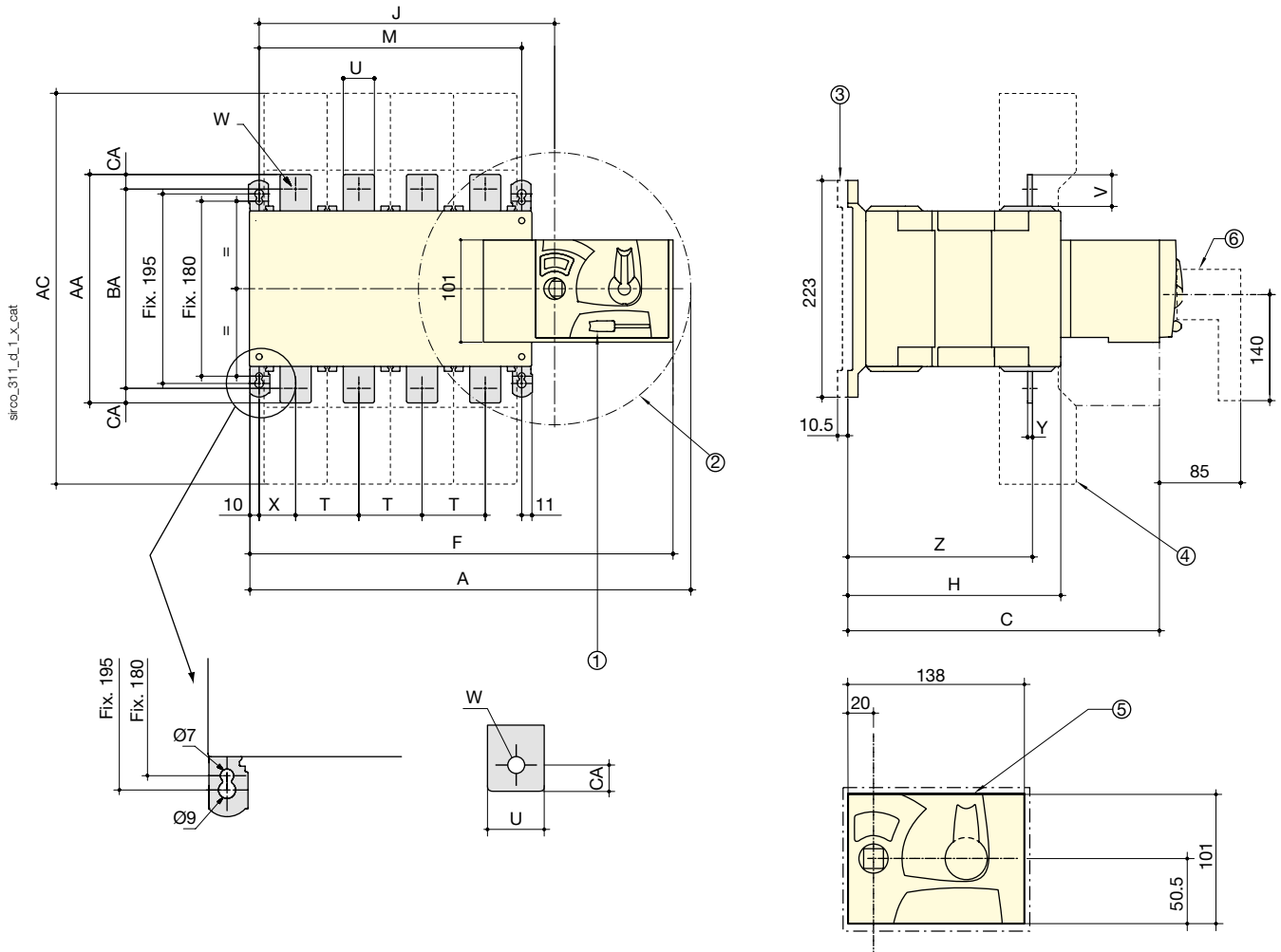
### Mechanical characteristics

Durability (number of operating cycles) <sup>(1)</sup>	8000	5000	5000	5000	4000	4000	3000	3000	3000
Weight of a 4 pole device (kg)	7	8	14	14	33	33	42	42	69

(1) Improved endurance: Please consult us.

## Dimensions

250 to 800 A / B4 to B5



1. Locking bracket
2. Maximum handle radius, operating angle  $2 \times 90^\circ$
3. Mounting spacers
4. Terminal shrouds
5. Dimension of the cut-out
6. Handle

Rating (A) / Frame size	Overall dimensions		Terminal shrouds	Switch body			Switch mounting	Connection									
	A 4p.	C	AC	F 4p.	H	J	M 4p.	T	U	V	W	X 4p.	Y	Z	AA	BA	CA
250 / B4	395	244.5	280	378	153	245	210	50	25	30	11	33	3.5	134.5	160	130	15
400 / B4	395	244.5	280	378	153	245	210	50	35	35	11	33	3.5	134.5	170	140	15
630 / B5	459	320.5	400	437	221	304	270	65	45	50	13	37.5	5	190	260	220	20
800 / B5	459	320.5	400	437	221	304	270	65	45	50	13	37.5	5	190	260	220	20

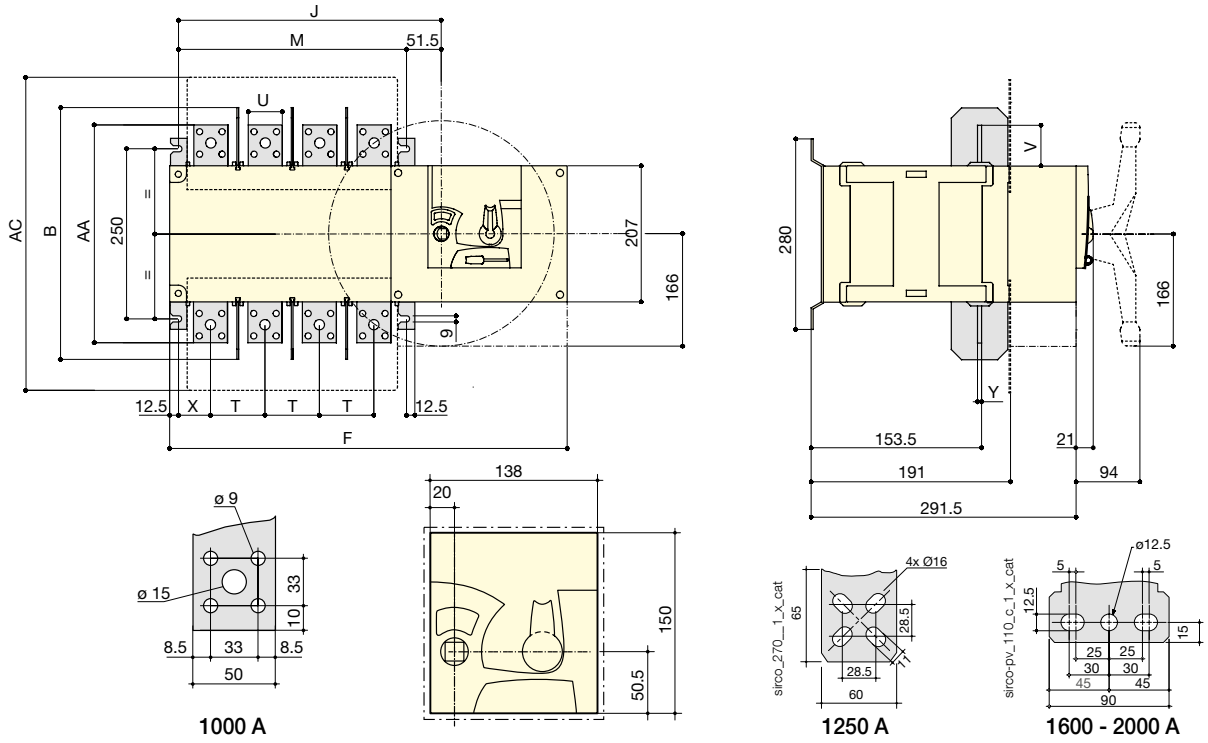
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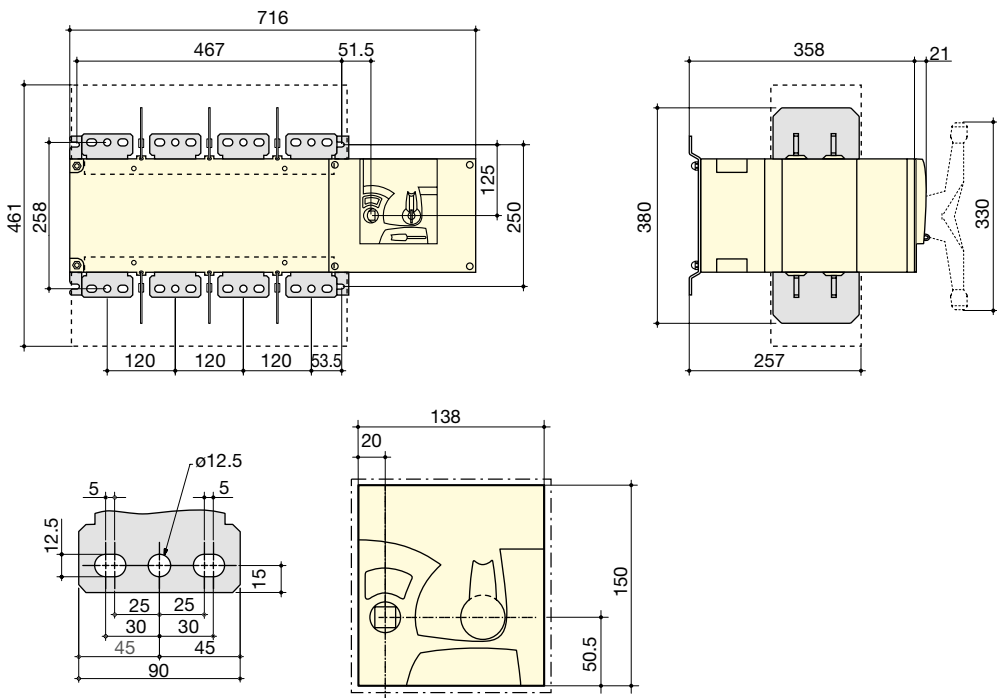
## Dimensions (continued)

### 1000 to 1250 A / B6 to B7



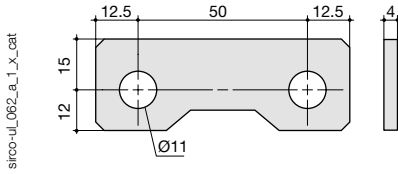
Rating (A) / Frame size	Overall dimensions	Terminal shrouds		Switch body		Switch mounting			Connection			
	B	AC	F 4p.	J 4p.	M 4p.	T	U	V	X	Y	AA	
1000 / B6	370	461	584	387	335	80	50	60.5	60	7	321	
1250 / B6	370	461	584	387	335	80	60	65	60	7	330	
1600 / B7	380	531	716	518.5	467	120	90	44	53	8	288	
2000 / B7	380	531	716	518.5	467	120	90	44	53	8	288	

### 3200 A / B8

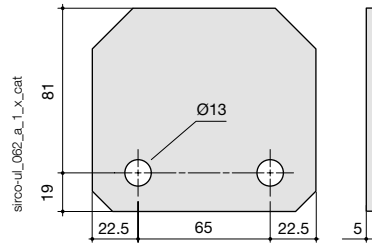


## Bridging bar

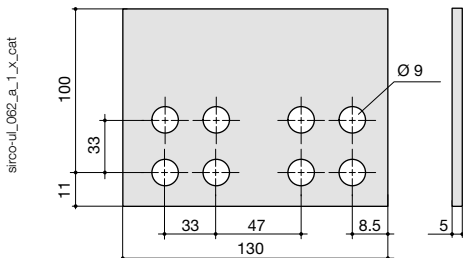
250 - 400 A



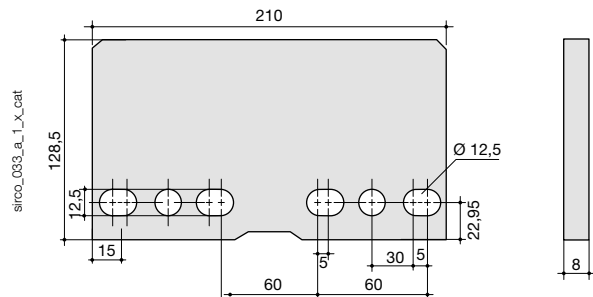
630 - 800 A



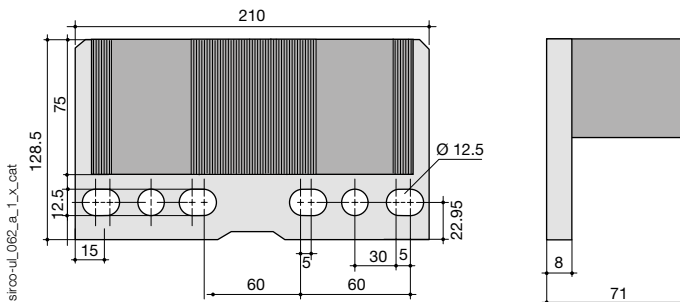
1000 - 1250 A



1600 A

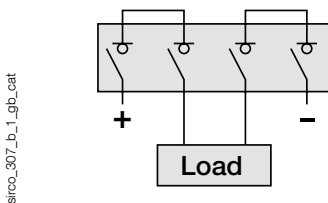


2000 - 3200 A



## Pole series connections<sup>(1)</sup>

4 poles - bottom / bottom



<sup>(1)</sup> Other connections: refer to mounting instructions