

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.

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.

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).

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**(1)	4 P 2998 **0024**	4 P 1509 **4025**(2)	4 P 2694 **4021**(3)
400 A / B4			19PV **4038**	4 P 2609 **4050**(1)			
630 A / B5			19PV **4063**	2 P 2609 **0080**	4 P 2998 **0014**	4 P 1509 **4063**	4 P 2694 **4051**(3)
800 A / B5			19PV **4080**				
1000 A / B6			19PV **4100**	2 P 2609 **1100**(1)	included	4 P 1509 **4080**	
1250 A / B6			19PV **4120**				
1600 A / B7			19PV **4160**	2 P 2609 **1160**(1)		4 P 1509 **4160**	
2000 A / B7			19PV **4200**	2 P 2609 **1200**(1)		4 P 1509 **4200**	
3200 A / B8			19PV **4320**				

(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

acces_334_a_1_cat



Bridging bar 2000 … 3200 A

acces_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.



acces_065_a_1_cat

Characteristics

Rating (A)	Nominal current (A)	Operating current I_e (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



svr_058_a_1_cat

NO/NC changeover contact

Frame size	Rating (A)	Contact(s)	Reference
B4 … B5	250 … 800	2nd	1999 **1002**
B6 … B7	1000 … 2000	2nd	1999 **1032**
B8	3200	2nd	included

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.



acces_206_a_2_cat

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.



acces_207_a_2_cat

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**

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.


acces_036_a_2_cat

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

2 position padlocking (I - 0)

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



atys_854_a_1_cat

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

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.


atys_853_a_1_cat

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

Other specific accessories

Low level auxiliary contacts.

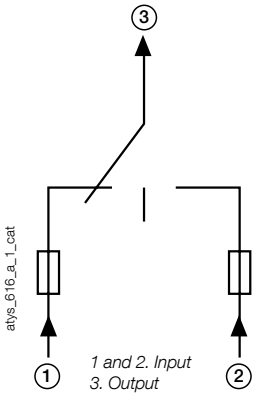
Double power supply - DPS

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^2.
- Modular device: 4 module width.



ats_616_a_1_cat



ats_612_a_2_cat

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.


ats_009_a_2_cat

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.


ats_595_a_2_cat

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

Characteristics according to IEC 60947-3

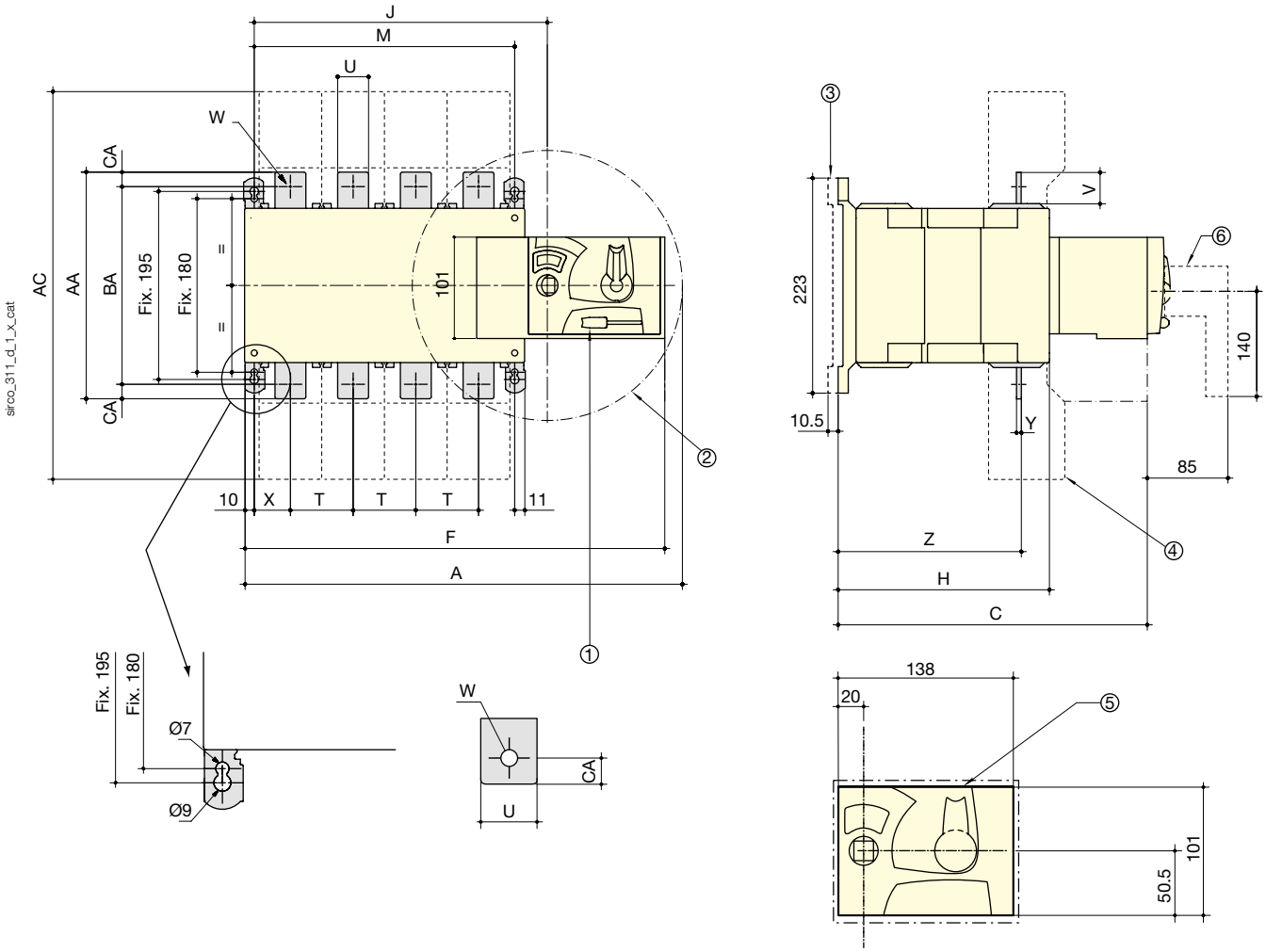
200 to 3200 A

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)**	**(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
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
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
Connection													
Rigid Cu cable cross-section (mm^2)					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)(1)					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 endurances: Please consult us.

Dimensions

250 to 800 A / B4 to B5

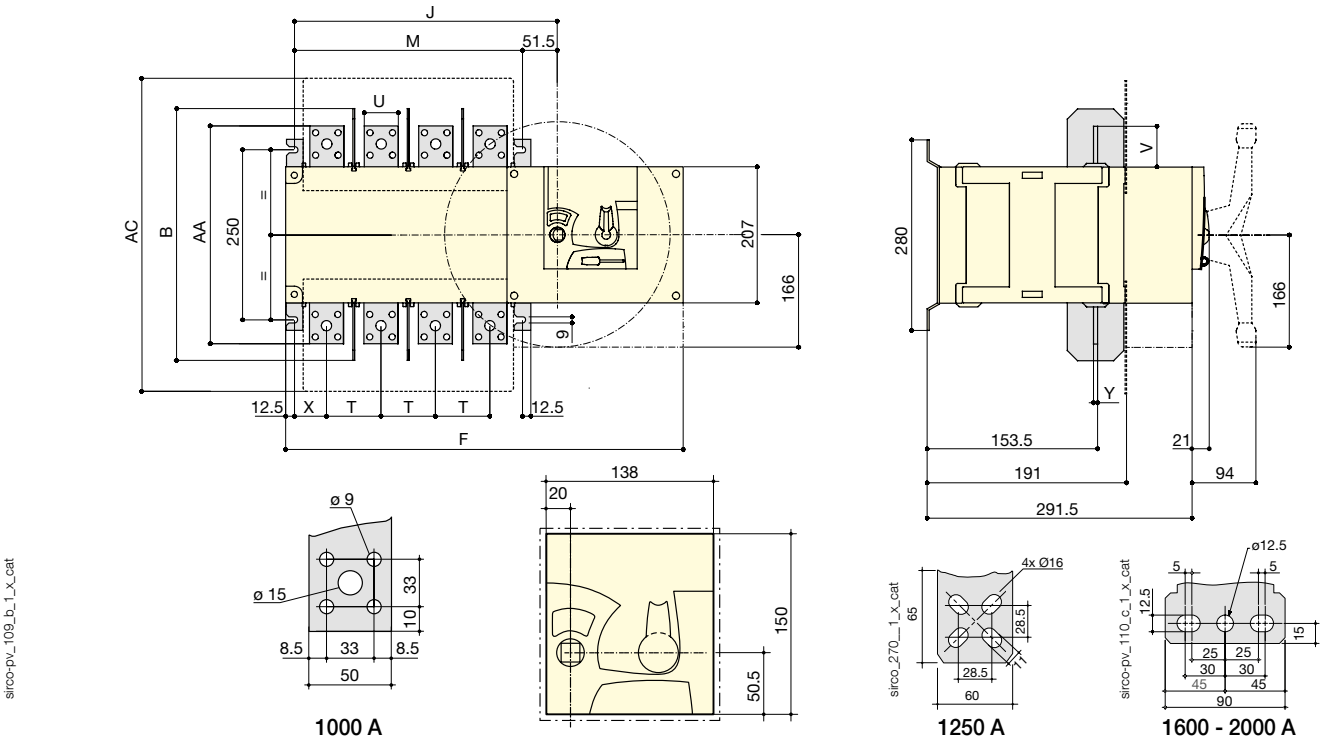


1. Locking bracket
2. Maximum handle radius, operating angle 2 x 90°
3. Mounting spacers
4. Terminal shrouds
5. Dimension of the cut-out
6. Handle

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

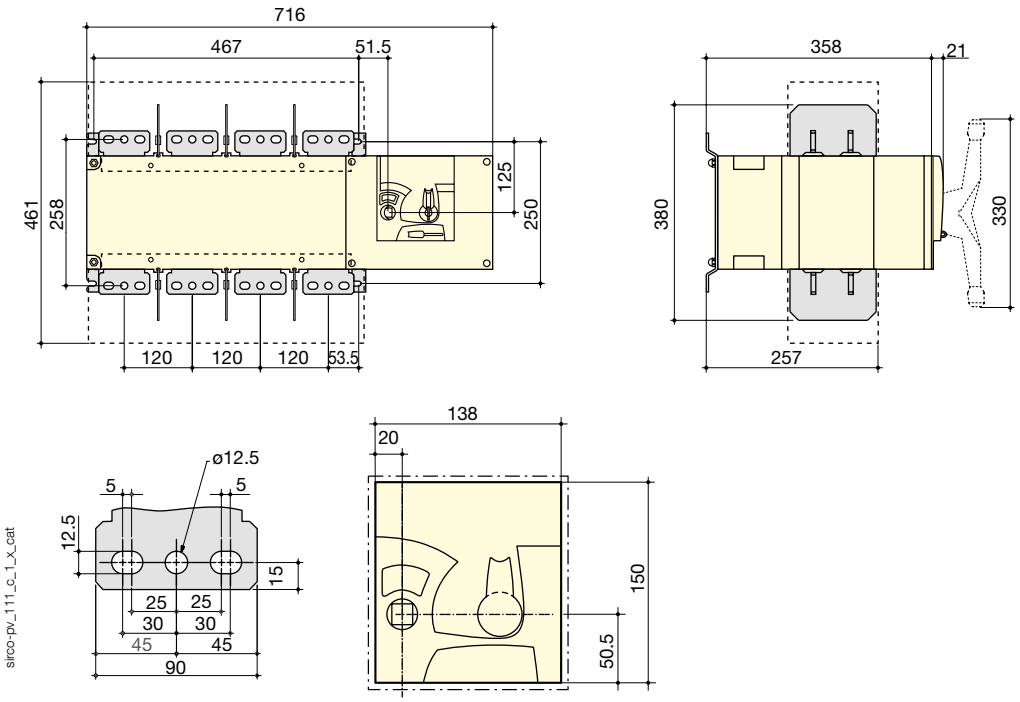
Dimensions (continued)

1000 to 1250 A / B6 to B7



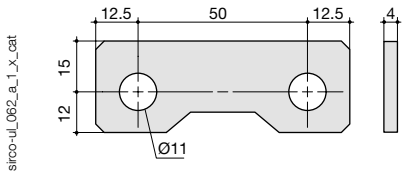
Rating (A) / Frame size	Overall dimensions B	Terminal shrouds AC	Switch body F 4p.	Switch body J 4p.	Switch mounting M 4p.	Connection T	Connection U	Connection V	Connection X	Connection Y	Connection AA
1000 / B6	370	461	584	387	335	80	50	60.5	60	7	321
1250 / B6	370	461	584	387	335	80	60	65	60	7	330
1600 / 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

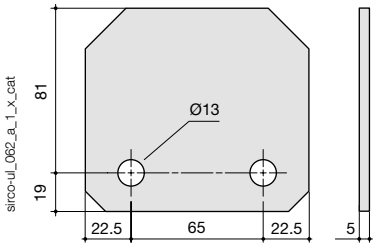


Bridging bar

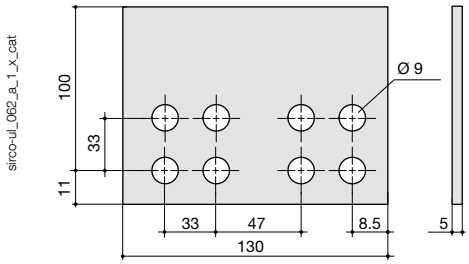
250 - 400 A



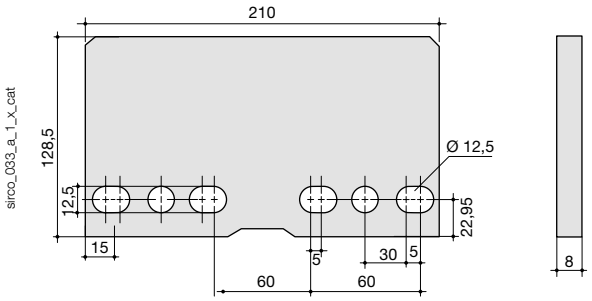
630 - 800 A



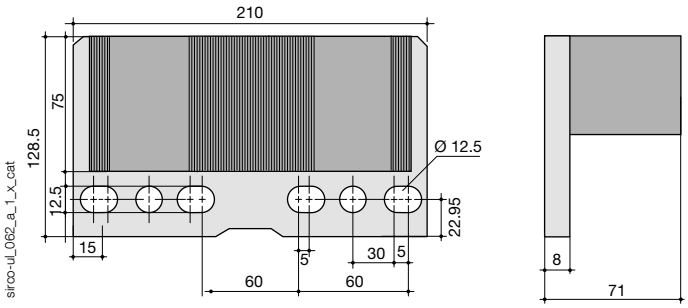
1000 - 1250 A



1600 A

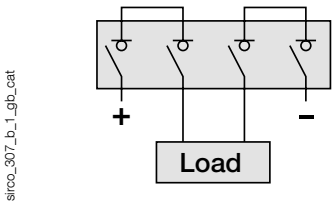


2000 - 3200 A



Pole series connections(1)

4 poles - bottom / bottom



(1) Other connections: refer to mounting instructions