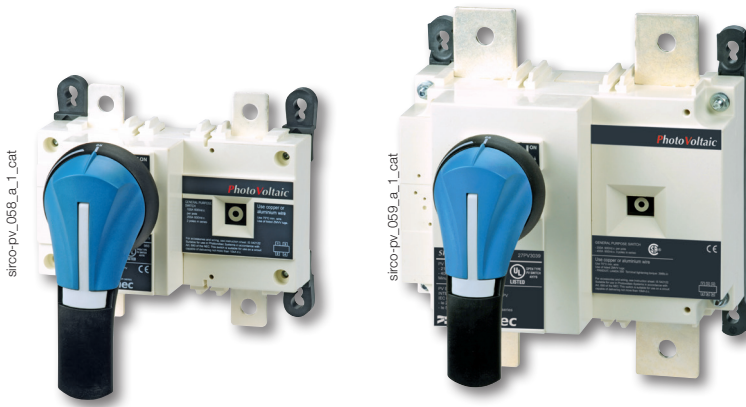


# SIRCO PV UL 98B

Disconnect switches for photovoltaic applications

from 100 to 2000 A, up to 1500 VDC

Photovoltaic range



## The solution for

- > Combiner box
- > Recombiner box
- > Solar Inverter
- > Energy Storage Inverter
- > Battery Energy Storage System



## Strong points

- > Patented switching technology
- > Positive break indication
- > Up to 1500 VDC as per characteristics by UL 98B
- > Suitable for use in accordance with NEC Article 690

## Conformity to standards

- > UL 98B  
Guide WHVA  
File E346418
- > CSA-C22.2 No. 4  
Class 4651-02  
File 112964
- > IEC 60947-3



## Approvals and certifications<sup>(1)</sup>



<sup>(1)</sup> Product reference on request.

## Function

**SIRCO PV UL 98B** are manually operated multipolar disconnect switches. They make and break under load conditions and provide safety isolation for any PV circuit up to 1500 VDC. They comply with NEC Article 690 (US National Electrical Code) concerning photovoltaic installations. They are compliant for use within solar inverters and systems governed by standard UL 1741.

SIRCO PV are extremely durable switches that have been tested and approved for use in

the most demanding environments. They have been designed and tested for all types of applications: grounded, ungrounded and bipolar.

## Advantages

### Performance

A glass fiber reinforced polyester break chamber with an arc extinguishing system provides a patented safety disconnection system offering rapid extinguishing of the electric arc up to 1500 VDC and current interruption up to 2000 A.

### Back-to-back double disconnect switch

The system of back-to-back double switches enables:

- on load operation of two switches with a single handle
- compact solution when connecting two separate photovoltaic circuits compared with the use of two separate switches
- easy connection
- voltages above 1000 VDC are broken by the use of two poles in series

## References

### 1000 VDC - Back plate mounting

Rating (A)	Frame size	No. of poles	Switch body	External handle	Shaft for external handle
<b>1 PV circuit</b>					
100 A	B4	2 P	27PV 2009	S2 type Black 1, 3R, 12 142F 2111 <sup>(1)</sup>  Red/Yellow 1, 3R, 12 142G 2111 <sup>(1)</sup>  Black 4, 4X 142D 2111 <sup>(1)</sup>  Red/Yellow 4, 4X 142E 2111 <sup>(1)</sup>	7.9 inches 200 mm 1400 1020  12.6 inches 320 mm 1400 1032  15.7 inches 400 mm 1400 1040 <sup>(2)</sup>
200 A	B4		27PV 2019		
250 A	B4		27PV 2024		
325 A	B5		27PV 2032		
400 A	B5		27PV 2039		
600 A	B6	4 P	27PV 4060	S3 type Black 4, 4X 143D 3111 <sup>(1)</sup>  Red/Yellow 4, 4X 143E 3111 <sup>(1)</sup>	7.9 inches 200 mm 1401 1520  12.6 inches 320 mm 1401 1532
800 A	B7		27DC 4081		
1200 A	B7		27DC 4121		
2000 A	B7 <sub>DS</sub>	8 P	27DC 4201	V1 type Black 3R, 12 2799 7145	12.6 inches 320 mm 4199 3018
<b>2 PV circuits</b>					
100 A	B4 <sub>DS</sub>	4 P	27PV 5009	S2 type Black 1, 3R, 12 142F 2111 <sup>(1)</sup>  Red/Yellow 1, 3R, 12 142G 2111 <sup>(1)</sup>  Black 4, 4X 142D 2111 <sup>(1)</sup>  Red/Yellow 4, 4X 142E 2111 <sup>(1)</sup>	7.9 inches 200 mm 1400 1020  12.6 inches 320 mm 1400 1032  15.7 inches 400 mm 1400 1040 <sup>(2)</sup>
250 A	B4 <sub>DS</sub>		27PV 5024		
325 A	B5		27PV 4032		
400 A	B5		27PV 4039		
600 A	B6 <sub>DS</sub>	8 P	27PV 8060	V1 type Black 3R, 12 2799 7145	12.6 inches 320 mm 4199 3018
800 A	B7 <sub>DS</sub>		27DC 8081		
1000 A	B7 <sub>DS</sub>		27DC 8101		
<b>4 PV circuits</b>					
350 A	B5 <sub>DS</sub>	8 P	27PV 8039	S3 type Black 4, 4X 143D 3111 <sup>(1)</sup> Red/Yellow 4, 4X 143E 3111 <sup>(1)</sup>	7.9 inches 200 mm 1401 1520 12.6 inches 320 mm 1401 1532 15.7 inches 400 mm 1401 1540 <sup>(2)</sup>

(1) Defeatable handle.

(2) Shaft guide reference 1429 0000 is required for a shaft length over 12.6 in / 320 mm.

# SIRCO PV UL 98B

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from 100 to 2000 A - up to 1500 VDC

## 1500 VDC - Back plate mounting

Rating (A)	Frame size	No. of poles	Switch body	External handle	Shaft for external handle
<b>1 PV circuit</b>					
275 A	B5	3 P	27PV <b>3026</b>	S2 type Black 1, 3R, 12 <b>142F 2111<sup>(2)</sup></b>	7.9 inches 200 mm <b>1400 1020</b>
325 A	B5		27PV <b>3032</b>	Red/Yellow 1, 3R, 12 <b>142G 2111<sup>(2)</sup></b>	12.6 inches 320 mm <b>1400 1032</b>
400 A	B5		27PV <b>3039</b>	Black 4, 4X <b>142D 2111<sup>(2)</sup></b> Red/Yellow 4, 4X <b>142E 2111<sup>(2)</sup></b>	15.7 inches 400 mm <b>1400 1040<sup>(3)</sup></b>
600 A <sup>(1)</sup>	B6 <sub>DS</sub>	8 P	27PV <b>8060</b>	V1 type Black 3R, 12 <b>2799 7145</b>	12.6 inches 320 mm <b>4199 3018</b>
800 A <sup>(1)</sup>	B7 <sub>DS</sub>		27DC <b>8081</b>		
1000 A <sup>(1)</sup>	B7 <sub>DS</sub>		27DC <b>8101</b>		
<b>2 PV circuits</b>					
275 A	B5 <sub>DS</sub>	6 P	27PV <b>6026</b>	S3 type Black 4, 4X <b>143D 3111<sup>(2)</sup></b>	7.9 inches 200 mm <b>1401 1520</b>
350 A	B5 <sub>DS</sub>		27PV <b>6039</b>	Red/Yellow 4, 4X <b>143E 3111<sup>(2)</sup></b>	12.6 inches 320 mm <b>1401 1532</b> 15.7 inches 400 mm <b>1401 1540<sup>(3)</sup></b>

(1) Not UL.

(2) Defeatable handle.

(3) Shaft guide reference 1429 0000 is required for a shaft length over 12.6 in / 320 mm.

## Accessories

### External operation

#### Use

In a combiner box, located close to the solar cell strings, or located close to the inverter, we recommend to use a door interlocked external handle for its safety features.

Door interlocked external operation handles include an escutcheon, are padlockable and must be utilized with an extension shaft.

#### Example

The locking function of the enclosure in the "ON" position will force the operator to safely disconnect and isolate the solar cell strings prior to any intervention. Opening the door when the switch is on "ON" position is possible by defeating the locking function using a tool (authorized personnel only). The interlocking function is restored when the door is re-closed.

Frame size	Handle type	Handle color	Nema degree of protection	Reference
B4 ... B5 B4 <sub>DS</sub>	S2	Black	1, 3R, 12	142F <b>2111</b>
		Red/Yellow		142G <b>2111</b>
		Black		142D <b>2111</b>
		Red/Yellow		142E <b>2111</b>
B5 <sub>DS</sub> B6	S3	Black	4, 4X	143D <b>3111</b>
		Red/Yellow		143E <b>3111</b>
B7	S4	Black		144D <b>3111</b>
		Red/Yellow		144E <b>3111</b>
B6 <sub>DS</sub> ... B7 <sub>DS</sub>	V1	Black	1, 3R, 12	2799 <b>7145</b>

#### Front handle heavy duty I - 0 with metallic lever

Frame size	Handle type	Color	Nema type	Reference
B4 ... B5 B4 <sub>DS</sub>	S2	Black	4, 4X	142D <b>2911</b>
		Red/Yellow	4, 4X	142E <b>2911</b>
B5 <sub>DS</sub> B6	S3	Black	4, 4X	143D <b>3911</b>
		Red/Yellow	4, 4X	143E <b>3911</b>
B7	S4	Black	4, 4X	144D <b>3911</b>
		Red/Yellow	4, 4X	144E <b>3911</b>



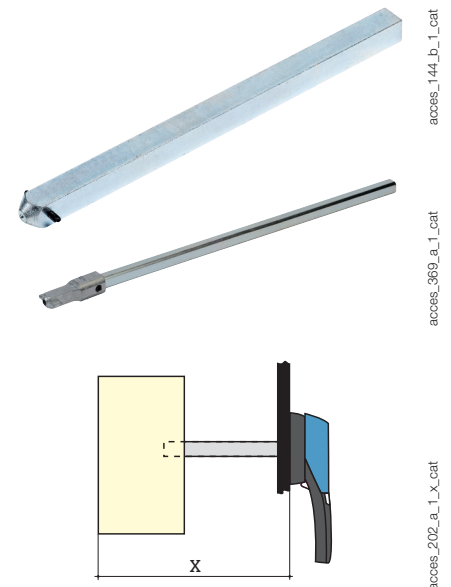
### Shaft for external handle

#### Use

Standard lengths:  
 - 7.9 in / 200 mm,  
 - 12.6 in / 320 mm,  
 - 15.7 in / 400 mm.

Other lengths: please consult us.  
 19.69 in / 500 mm available.

Frame size	Handle type	Dimension (inches)	Dimension X (mm)	Length (inches)	Length (mm)	Reference
B4	S2	6 ... 11.6	150 ... 295	7.9	200	1400 <b>1020</b>
		6 ... 16.3	150 ... 415	12.6	320	1400 <b>1032</b>
		6 ... 19.4	150 ... 495	15.7	400	1400 <b>1040</b>
B5	S2	8 ... 12.9	203 ... 328	7.9	200	1400 <b>1020</b>
		8 ... 17.6	203 ... 448	12.6	320	1400 <b>1032</b>
		8 ... 20.7	203 ... 525	15.7	400	1400 <b>1040</b>
B6	S3	8.70 ... 13.50	220 ... 343	7.9	200	1401 <b>1520</b>
		8.70 ... 18.23	220 ... 463	12.6	320	1401 <b>1532</b>
		8.70 ... 21.38	220 ... 543	15.7	400	1401 <b>1540</b>
B7	S4	12 ... 14.4	305 ... 366	7.9	200	1401 <b>1520</b>
		12 ... 19.1	305 ... 485	12.6	320	1401 <b>1532</b>
		12 ... 22.2	305 ... 564	15.7	400	1401 <b>1540</b>
B4 <sub>DS</sub>	S2	12 ... 14.3	305 ... 363	7.9	200	1400 <b>1020</b>
		12 ... 19	305 ... 483	12.6	320	1400 <b>1032</b>
		12 ... 22.10	305 ... 561	15.7	400	1400 <b>1040</b>
B5 <sub>DS</sub>	S3, S4	16 ... 18.4	406 ... 467	7.9	200	1401 <b>1520</b>
		16 ... 23.1	406 ... 589	12.6	320	1401 <b>1532</b>
		16 ... 26.3	406 ... 668	15.7	400	1401 <b>1540</b>
B6 <sub>DS</sub>	V1	20 ... 28.1	508 ... 714	12.6	320	4199 <b>3018</b>
		20 ... 31.3	508 ... 795	15.7	400	4199 <b>3019</b>
B7 <sub>DS</sub>	V1	20 ... 28.1	508 ... 714	12.6	320	4199 <b>3018</b>
		20 ... 39.4	508 ... 795	15.7	400	4199 <b>3019</b>



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## S-type handle adapter

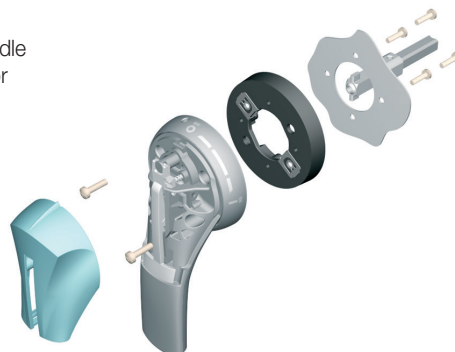
### Use

For handles S2, S3 and S4.

### Dimensions

Increases the distance between the handle grip and the door by 0.47 in / 12 mm, for better handling.

Color	Nema degree of protection	To be ordered in multiples of	Reference
Black	1, 3R, 12	10	1493 0000



access\_187\_a\_3\_cat

## Alternative S-type handle cover colors

### Use

For handles S2, S3 and S4.

Other colors: please consult us.

Handle color	Handle type	To be ordered in multiples of	Reference
Light grey	S2, S3	50	1401 0001
Dark grey	S2, S3	50	1401 0011
Light grey	S4	50	1401 0031
Dark grey	S4	50	1401 0041



access\_198\_a\_3\_cat

## Auxiliary contact

### Use

Pre-break and signaling of positions 0 and I:  
- 1 to 2 NO/NC auxiliary contacts,  
- 1 to 2 low level NO/NC auxiliary contacts.

### Electrical characteristics

A300.  
To have 2 NO/NC contacts per switch,  
please order 1<sup>st</sup> and 2<sup>nd</sup> auxiliary contacts  
per switch.

### NO/NC contact

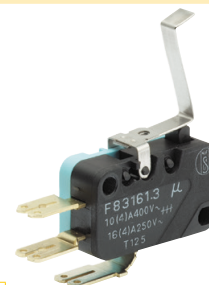
These auxiliary contacts are for an application of 125-250VAC, 60Hz, general use 10A, 1A 1/2 HP.

Frame size	Position AC	Type	Reference
B4 ... B7	1 <sup>st</sup>	NO/NC	2799 0021
	2 <sup>nd</sup>		2799 0022
B4 <sub>DS</sub> ... B7 <sub>DS</sub>	1 <sup>st</sup>		4159 0021

### Low level NO/NC auxiliary contacts

Low level auxiliary contacts are for an application of 125VAC, 60Hz, general use 1A.

Frame size	Position AC	Type	Reference
B4 ... B7	1 contact	NO/NC	2799 0121
	2 contacts		2799 0122
B4 <sub>DS</sub> ... B7 <sub>DS</sub>	1 contact		4159 0022



access\_076\_a\_1\_cat

## Terminal screen

### Use

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

Frame size	No. of poles	Position	Pack	Reference
B4	2 P	Top	1 unit	2798 3021
		Bottom	1 unit	2798 8021
B5	3 P	Top	1 unit	2798 3041
		Bottom	1 unit	2798 8041
B5	4 P	Top or bottom	1 unit	2798 4041
B6	4 P	Top or bottom	1 unit	2798 4061
B4 <sub>DS</sub>	2 P	Top or bottom	1 unit	4158 3021
B5 <sub>DS</sub>	6 P	Top or bottom	1 unit	4158 3041
		Top or bottom	1 unit	4158 4041
B6 <sub>DS</sub>	8 P	Top and bottom	2 units	2798 8061
B7 <sub>DS</sub>	8 P	Top or bottom	1 unit	2798 4121



access\_079\_a\_1\_cat

## Jumpers for connecting poles in series

1 PV circuit - 1000 VDC

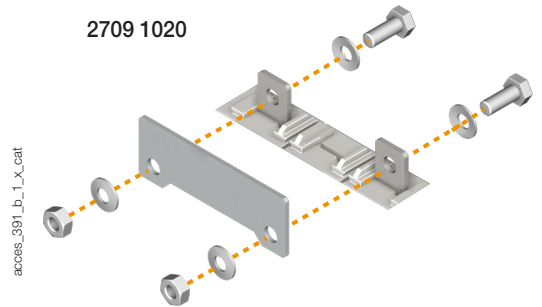
Switch Reference	Frame size	Rating (A)	Quantity of jumper kits to be order per switch		Jumper kit Reference
			Ungrounded	Grounded	
27PV 2009	B4	100	N/A	1	2709 1020
27PV 2019	B4	200	N/A	1	2709 1020
27PV 2024	B4	250	N/A	1	2709 1020
27PV 2032	B5	325	N/A	1	2709 1041
27PV 2039	B5	400	N/A	2	2709 1041
27DC 4060	B6	600	2	3	2709 0062
27DC 4081	B7	800	2	3	2709 0081
27DC 4121	B7	1200	2	3	2709 0121
27DC 4201	B7 <sub>DS</sub>	2000	6	6 <sup>(1)</sup>	2709 0121

### Use

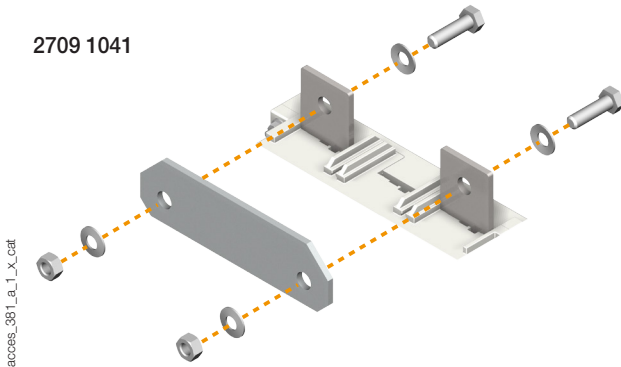
The jumpers will make easy the connection of the poles in series, allowing the following configurations<sup>(1)</sup>.

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

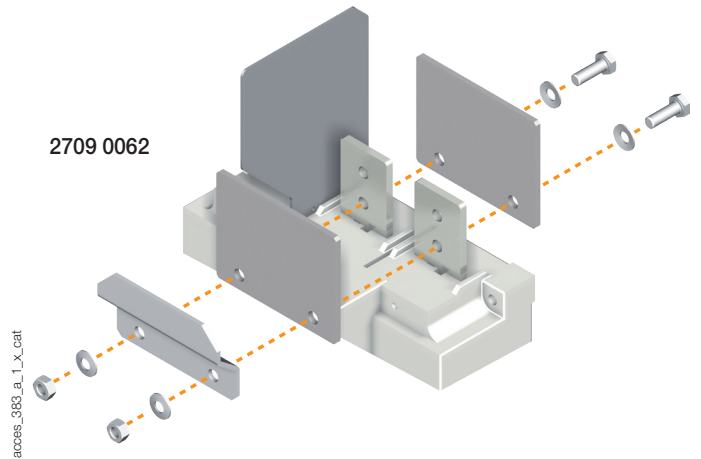
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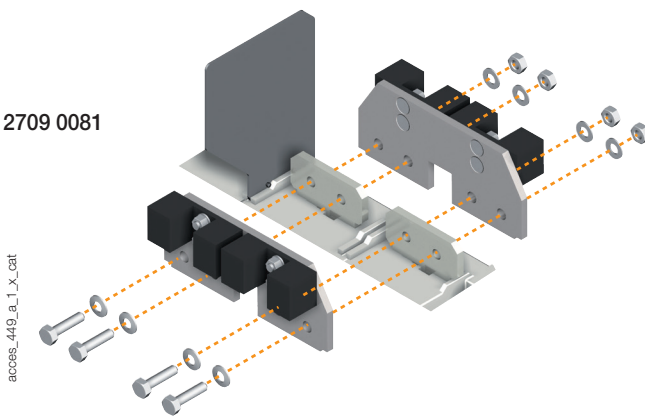
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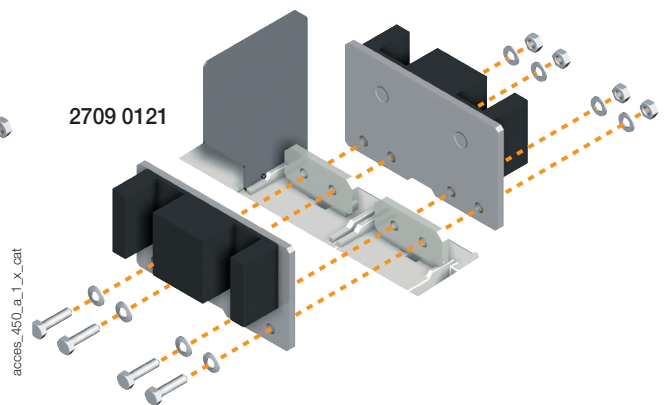
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2709 0081



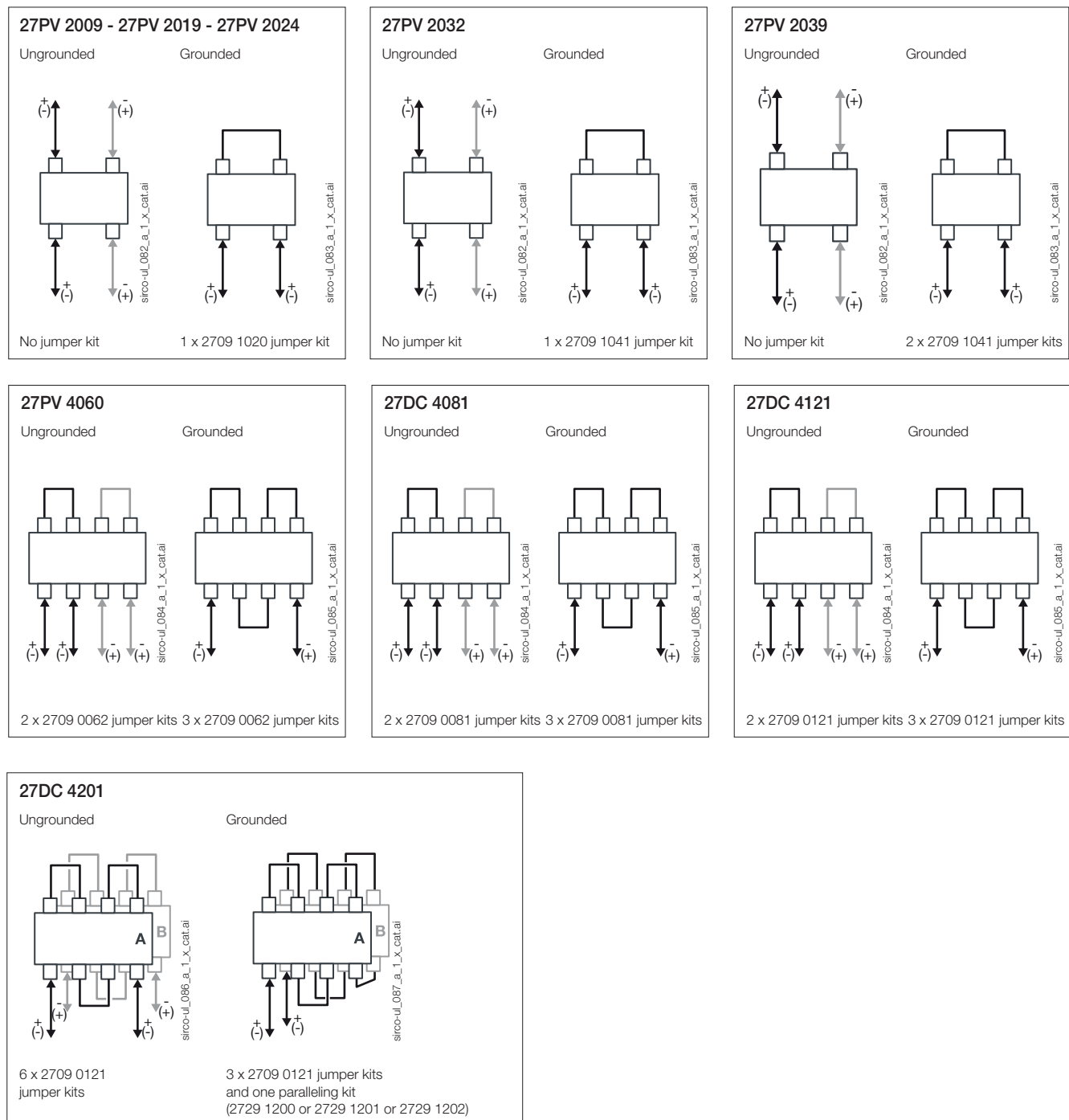
2709 0121



# SIRCO PV UL 98B

Disconnect switches for photovoltaic applications  
from 100 to 2000 A - up to 1500 VDC

## 1 PV circuit - 1000 VDC



## Jumpers for connecting poles in series (continued)

### 2 PV circuits - 1000 VDC

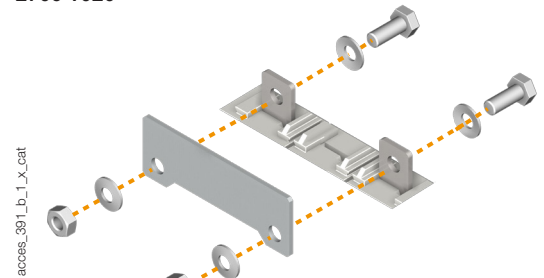
Switch Reference	Frame size	Rating (A)	Quantity of jumper kits to be order per switch		Jumper kit Reference
			Ungrounded	Grounded	
<b>2 PV circuits</b>					
27PV 5009	B4 <sub>DS</sub>	100	N/A	2	2709 1020
27PV 5024	B4 <sub>DS</sub>	250	N/A	2	2709 1020
27PV 4032	B5	325	N/A	2	2709 0027
27PV 4039	B5	400	N/A	2	2709 0038
27PV 8060	B6 <sub>DS</sub>	600	4	6	2709 0062
27DC 8081	B7 <sub>DS</sub>	800	4	6	2709 0121
27DC 8101	B7 <sub>DS</sub>	1000	4	6	2709 0121

### Use

The jumpers will make easy the connection of the poles in series, allowing the following configurations<sup>(1)</sup>.

*(1) Other connections: refer to mounting instructions.*

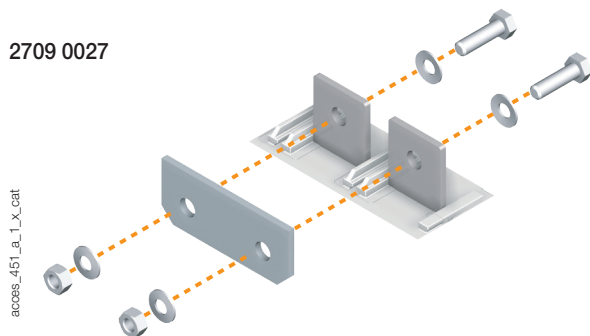
2709 1020



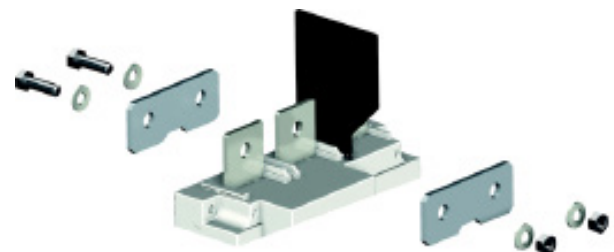
### 4 PV circuits - 1000 VDC

Switch Reference	Frame size	Rating (A)	Quantity of jumper kits to be order per switch		Jumper kit Reference
			Ungrounded	Grounded	
27PV 8039	B5 <sub>DS</sub>	350	N/A	4	2709 0038

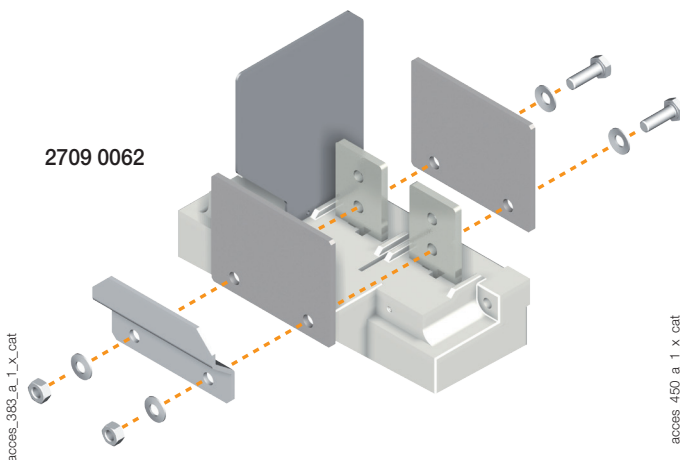
2709 0027



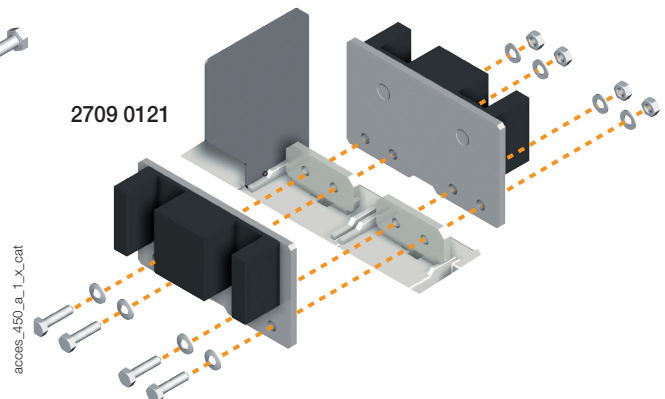
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2709 0062



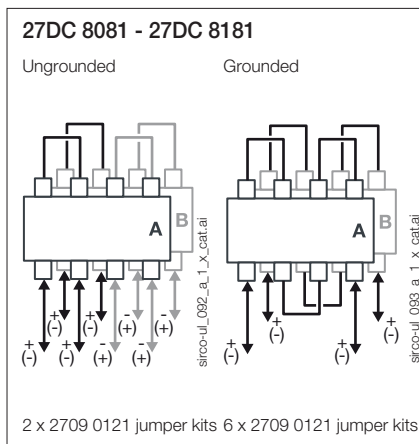
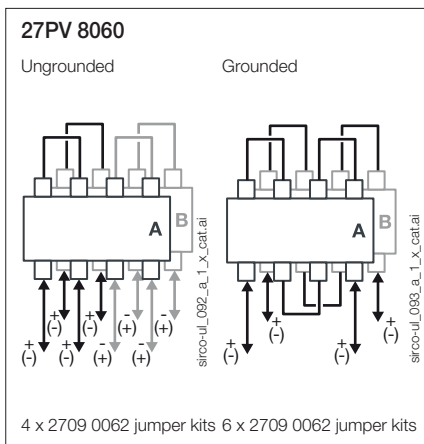
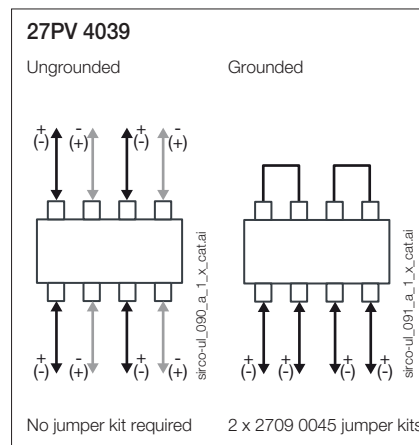
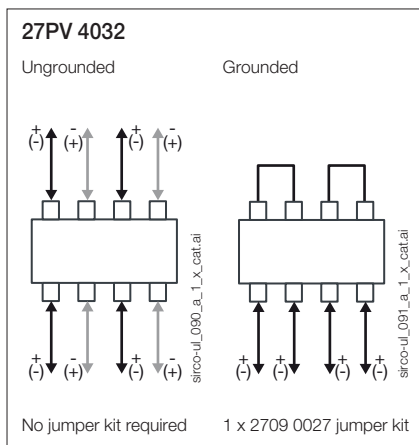
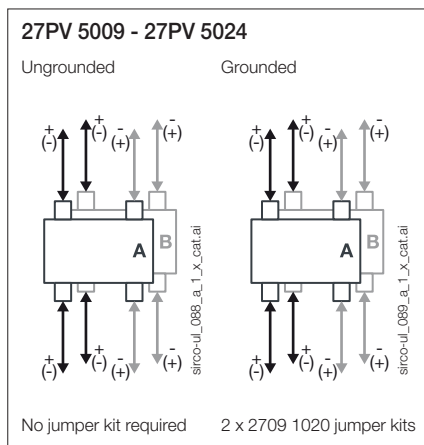
2709 0121



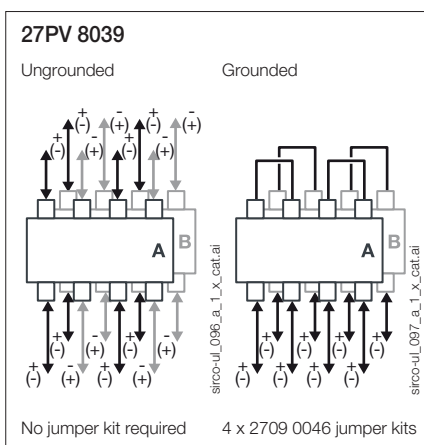
# SIRCO PV UL 98B

Disconnect switches for photovoltaic applications  
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## 2 PV circuits - 1000 VDC



## 4 PV circuits - 1000 VDC



## Jumpers for connecting poles in series (continued)

### 1 PV circuit - 1500 VDC

Switch Reference	Frame size	Rating (A)	Quantity of jumper kits to be order per switch		Fig. of one jumper kit	Jumper kit Reference
			Ungrounded	Grounded		
<b>1 PV circuit</b>						
27PV 3026	B5	275	1	2	3	2709 0027
27PV 3032	B5	325	1	2	3	2709 0027
27PV 3039	B5	400	1	2	4	2709 0038
27PV 8060	B6 <sub>DS</sub>	600	6	6 <sup>(2)</sup>	6	2709 0062
27DC 8081	B7 <sub>DS</sub>	800	6	6 <sup>(1)</sup>	8	2709 0121
27DC 8101	B7 <sub>DS</sub>	1000	6	6 <sup>(1)</sup>	8	2709 0121
<b>2 PV circuits</b>						
27PV 6026	B5 <sub>DS</sub>	275	2	4	3	2709 0027
27PV 6039	B5 <sub>DS</sub>	350	2	4	4	2709 0038

(1) Please order paralleling kit to connect back and front switches, see paralleling connection kit.

(2) Paralleling kit is needed to connect back and front switches, please consult us

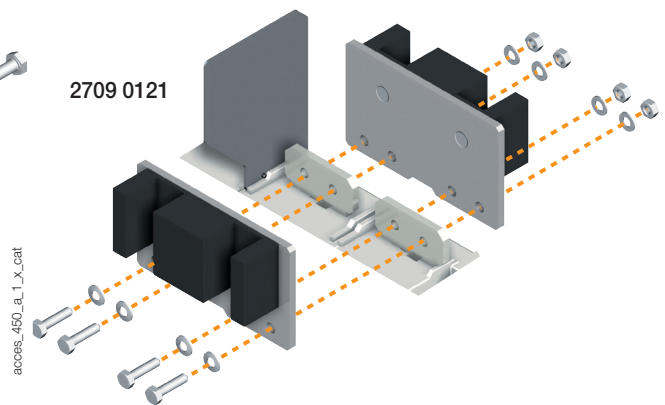
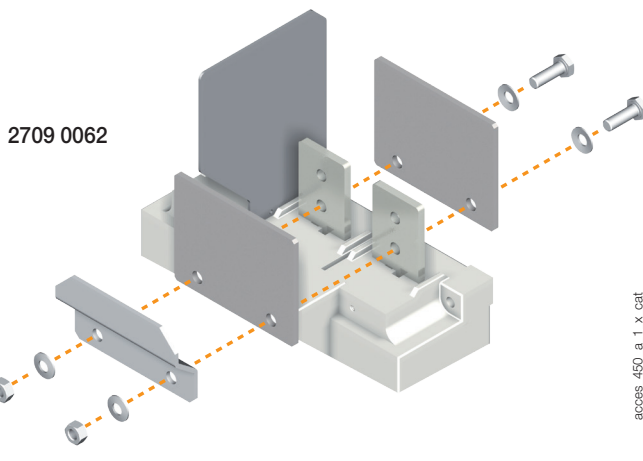
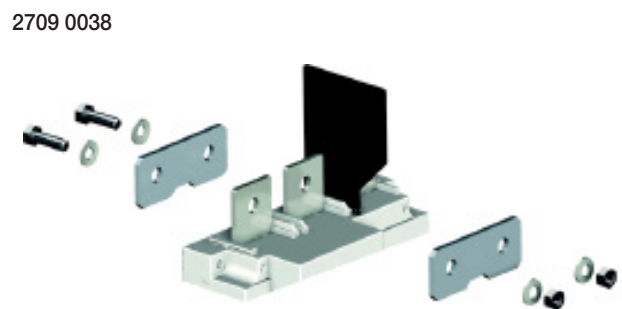
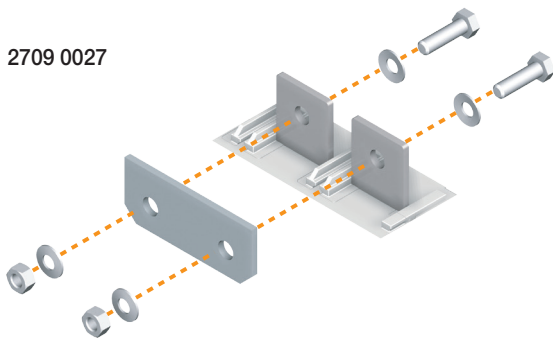
### 2 PV circuits - 1500 VDC

Switch Reference	Frame size	Rating (A)	Quantity of jumper kits to be order per switch		Fig. of one jumper kit	Jumper kit Reference
			Ungrounded	Grounded		
27PV 6026	B5 <sub>DS</sub>	275	2	4	3	2709 0027
27PV 6039	B5 <sub>DS</sub>	350	2	4	4	2709 0038

#### Use

The jumpers will make easy the connection of the poles in series, allowing the following configurations<sup>(1)</sup>.

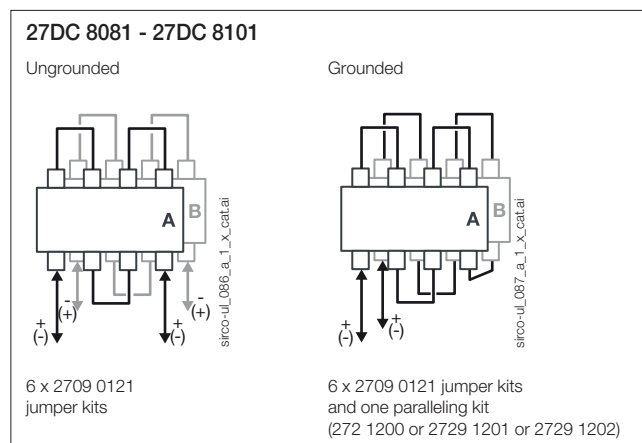
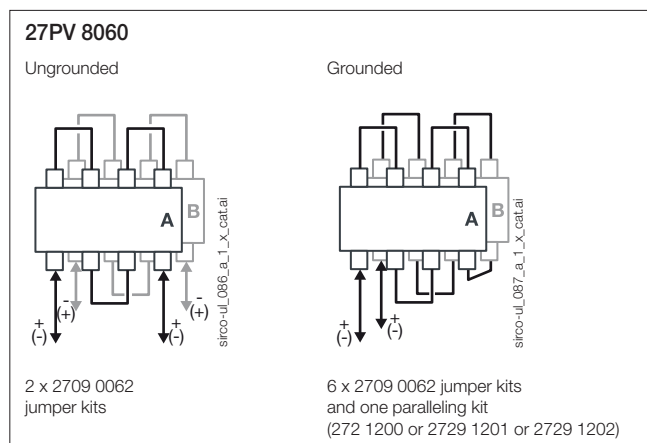
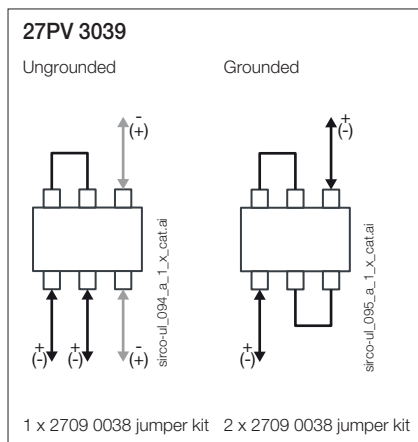
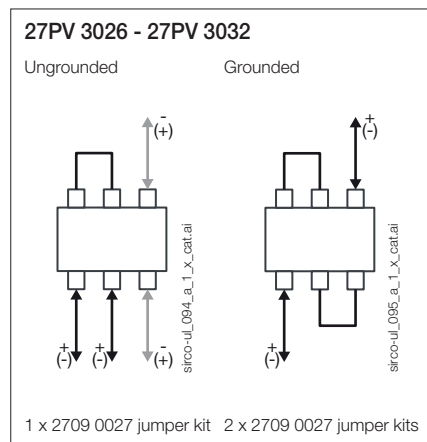
(1) Other connections: refer to mounting instructions.



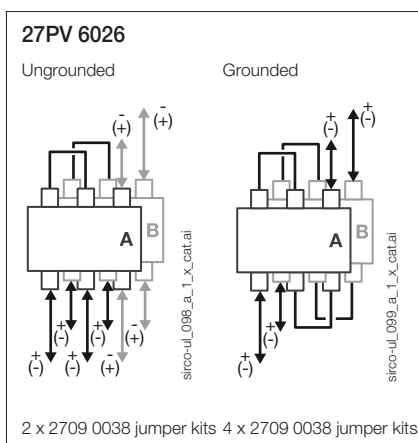
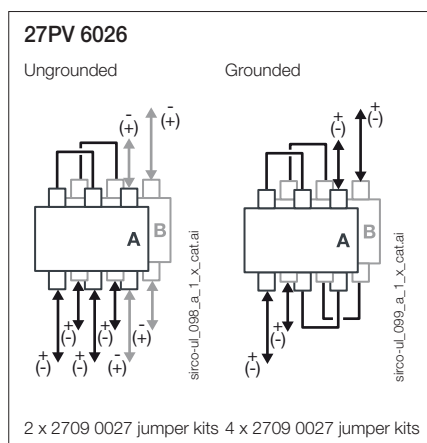
# SIRCO PV UL 98B

Disconnect switches for photovoltaic applications  
from 100 to 2000 A - up to 1500 VDC

## 1 PV circuit - 1500 VDC



## 2 PV circuits - 1500 VDC



## Accessories (continued)

### Terminal lugs

#### Use

Connection of bar copper cables onto the terminals (without lugs).

Optional fan out kit for ratings of 800 to 1200 A for connecting several cables to the switch.

Frame size	Rating max (A)	Number and size of cables	Max. number of connections per terminal	Type of cable	Quantity	Reference
B4 - B4 <sub>DS</sub>	100 ... 250	1 conductor (#6-300MCM)	1	Cu / Al	2 lugs	3954 2020
		2 conductors (#4-2/0)	1	Cu / Al	2 lugs	3954 2025
B5 - B5 <sub>DS</sub>	325 ... 400	1 conductor (#4-600MCM)	1	Cu / Al	2 lugs	3954 2040
		2 conductors (#6-350MCM)	1	Cu / Al	2 lugs	3954 2041
B6 - B6 <sub>DS</sub>	600	2 conductors (#2-600MCM)	1	Cu / Al	2 lugs	3954 2060
B7	800 ... 1200	2 conductors (#2-600MCM)	2	Cu / Al	2 lugs	3954 2060
		2 conductors (#2-600MCM)	3 <sup>(1)</sup>	Cu / Al	3 lugs	3954 3060
B7 <sub>DS</sub>	2000	2 conductors (#2-600MCM)	2 <sup>(2)</sup>	Cu / Al	2 lugs	3954 2060
		2 conductors (#2-600MCM)	3 <sup>(3)</sup>	Cu / Al	3 lugs	3954 3060



ul\_032\_a

(1) Order a fan out kit reference 2709 1203 for connecting 3 connectors per terminal (6 in total for the switch).

(2) 2 connectors per terminal with the connection kit 2729 1200.

(3) 3 connectors per terminal with the connection kits 2729 1201 and 2709 1202.

### Paralleling connection kit

#### Use

Allows connection of double stack switches to increase current or voltage characteristics from 800 to 2000 A.

For 600 A double stack switches, please consult us.

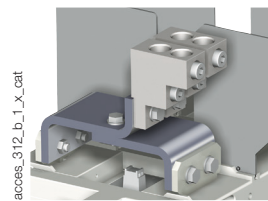
#### Top or bottom flat connection

Frame size	Rating (A)	Figure	Quantity to order per pole	Number of terminals	Reference
B7 <sub>DS</sub>	800 ... 1000	1	1	2	2729 1200
		2	1	3	2729 1202
	2000	1	1	2	2729 1200
		2	1	3	2729 1202

#### Top or bottom edgewise connection

Frame size	Rating (A)	Figure	Quantity to order per pole	Number of terminals	Reference
B7 <sub>DS</sub>	800 ... 2000	3	1	3	2729 1201

Fig. 1



access\_312\_b\_1\_X\_cat

Fig. 3

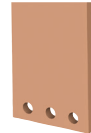
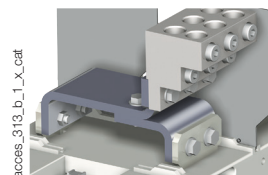


Fig. 2



access\_313\_b\_1\_X\_cat

access\_314\_b\_1\_X\_cat

# SIRCO PV UL 98B

Disconnect switches for photovoltaic applications  
from 100 to 2000 A - up to 1500 VDC

## Characteristics

### Compliance to UL 98B, CSA-C22.2 No. 4 and IEC 60947-3 standards

SIRCO PV UL 98B switches comply with both UL 98B and IEC 60947-3 standards. As acceptance test criteria are different depending on one or the other standard, the same product can be referred to with two different ratings, identified in the characteristic table as follows:

- "Rating" for characteristics as per standard UL 98B.
- "Rated current" for characteristics as per standard IEC 60947-3.

Rating (A)		100 A				200 A			
Number of circuits	Rated voltage	(A)	Number of pole(s) in series per polarity	Number of pole(s) of the device	Frame size	(A)	Number of pole(s) in series per polarity	Number of pole(s) of the device	Frame size
1 circuit	1000 VDC	100	2 P	2 P	B4	200	2 P	2 P	B4
2 circuits	600 VDC	100	1 P	2 P	B4	130	1 P	2 P	B4
2 circuits	1000 VDC	100	2 P	4 P	B4 <sub>DS</sub>	200	2 P	4 P	B4 <sub>DS</sub>
4 circuits	600 VDC	100	1 P	4 P	B4 <sub>DS</sub>	130	1 P	4 P	B4 <sub>DS</sub>
<b>Short-circuit capacity at 1000 VDC (any circuit breaker)</b>									
Prospective short-circuit current (kA rms DC)		10 <sup>(1)</sup>				10 <sup>(1)</sup>			
<b>Connection terminals</b>									
Min. connection wire range/ AWG		#6				#6			
Max. connection wire range/ AWG		300MCM				300MCM			
<b>Mechanical characteristics</b>									
Durability (number of operating cycles)		10 000				10 000			
Operating effort (lbs.in/Nm)		88.5/10				88.5/10			
<b>Auxiliary contact</b>									
Electrical characteristics		A300				A300			

IEC 60947-3										
Rated current I <sub>n</sub>		160 A				250 A				
Thermal current at 104°F/40°C (A)		160				250				
Thermal current at 122°F/50°C (A)		160				250				
Thermal current at 140°F/60°C (A)		160				250				
Rated insulation voltage U <sub>i</sub> (V)		1500				1500				
Rated impulse withstand voltage U <sub>imp</sub> (kV)		12				12				
Number of circuits	Rated voltage	Utilization category	(A)	Number of pole(s) in series per polarity	Number of pole(s) of the device	Frame size	(A)	Number of pole(s) in series per polarity	Number of pole(s) of the device	Frame size
1 circuit	1000 VDC	DC-21 B	160	2 P	2 P	B4	250	2 P	2 P	B4
1 circuit	1500 VDC	DC-21 B	160	4 P	4 P	B4 <sub>DS</sub>	250	4 P	4 P	B4 <sub>DS</sub>
2 circuits	1000 VDC	DC-21 B	160	2 P	4 P	B4 <sub>DS</sub>	250	2 P	4 P	B4 <sub>DS</sub>
4 circuits	600 VDC	DC-21 B	125	1 P	4 P	B4 <sub>DS</sub>	160	1 P	4 P	B4 <sub>DS</sub>

(1) Without fuse during 50 ms.

## Characteristics (continued)

as per standards UL 98B, CSA-C22.2 No. 4 and IEC 60947-3

Rating		250 A				275 A			
Number of circuits	Rated voltage	(A)	Number of pole(s) in series per polarity	Number of pole(s) of the device	Frame size	(A)	Number of pole(s) in series per polarity	Number of pole(s) of the device	Frame size
1 circuit	1000 VDC	250	2 P	2 P	B4	275	2 P	2 P	B5
1 circuit	1500 VDC	-	-	-	-	275	3 P	3 P	B5
2 circuits	600 VDC	130	1 P	2 P	B4	215	1 P	2 P	B5
2 circuits	1000 VDC	250	2 P	4 P	B4 <sub>DS</sub>	275	2 P	4 P	B5
2 circuits	1500 VDC	-	-	-	-	275	3 P	6 P	B5 <sub>DS</sub>
4 circuits	600 VDC	130	1 P	4 P	B4 <sub>DS</sub>	215	1 P	4 P	B5
4 circuits	1000 VDC	-	-	-	-	215	2 P	8 P	B5 <sub>DS</sub>
6 circuits	600 VDC	-	-	-	-	215	1 P	6 P	B5 <sub>DS</sub>
8 circuits	600 VDC	-	-	-	-	215	1 P	8 P	B5 <sub>DS</sub>
<b>Short-circuit capacity at 1000 VDC (any circuit breaker)</b>									
Prospective short-circuit current (kA rms DC)		10 <sup>(1)</sup>				10 <sup>(1)</sup>			
<b>Connection terminals</b>									
Min. connection wire range/ AWG		#6				2x#6			
Max. connection wire range/ AWG		300MCM				600MCM			
<b>Mechanical characteristics</b>									
Durability (number of operating cycles)		10 000				6 000			
Operating effort (lbs.in/Nm)		88.5/10				128.3/14.5			
<b>Auxiliary contact</b>									
Electrical characteristics		A300				A300			

IEC 60947-3										
Rated current I <sub>n</sub>		315 A				275 A				
Thermal current at 104°F/40°C (A)		315				275				
Thermal current at 122°F/50°C (A)		315				275				
Thermal current at 140°F/60°C (A)		315				275				
Rated insulation voltage U <sub>i</sub> (V)		1500				1500				
Rated impulse withstand voltage U <sub>imp</sub> (kV)		12				12				
Number of circuits	Rated voltage	Utilization category	(A)	Number of pole(s) in series per polarity	Number of pole(s) of the device	Frame size	(A)	Number of pole(s) in series per polarity	Number of pole(s) of the device	Frame size
1 circuit	1000 VDC	DC-21 B	315	2 P	2 P	B4	275	2 P	2 P	B5
1 circuit	1500 VDC	DC-21 B	315	4 P	4 P	B4 <sub>DS</sub>	275	3 P	3 P	B5
2 circuits	1000 VDC	DC-21 B	315	2 P	4 P	B4 <sub>DS</sub>	275	2 P	4 P	B5
4 circuits	600 VDC	DC-21 B	160	1 P	4 P	B4 <sub>DS</sub>	275	1 P	4 P	B5
4 circuits	1000 VDC	DC-21 B	-	-	-	-	275	2 P	8 P	B5 <sub>DS</sub>
6 circuits	600 VDC	DC-21 B	-	-	-	-	275	1 P	6 P	B5 <sub>DS</sub>
8 circuits	600 VDC	DC-21 B	-	-	-	-	275	1 P	8 P	B5 <sub>DS</sub>

(1) Without fuse during 50 ms.

# SIRCO PV UL 98B

Disconnect switches for photovoltaic applications  
from 100 to 2000 A - up to 1500 VDC

as per standards UL 98B, CSA-C22.2 No. 4 and IEC 60947-3

Rating		325 A				350 A			
Number of circuits	Rated voltage	(A)	Number of pole(s) in series per polarity	Number of pole(s) of the device	Frame size	(A)	Number of pole(s) in series per polarity	Number of pole(s) of the device	Frame size
1 circuit	1000 VDC	325	2 P	2 P	B5	-	-	-	-
1 circuit	1500 VDC	325	3 P	3 P	B5	-	-	-	-
2 circuits	600 VDC	215	1 P	2 P	B5	-	-	-	-
2 circuits	1000 VDC	325	2 P	4 P	B5	350	3 P	6 P	B5 <sub>DS</sub>
2 circuits	1500 VDC	-	-	-	-	350	3 P	6 P	B5 <sub>DS</sub>
4 circuits	600 VDC	215	1 P	4 P	B5	-	-	-	-
4 circuits	1000 VDC	325	2 P	8 P	B5 <sub>DS</sub>	350	2 P	8 P	B5 <sub>DS</sub>
6 circuits	600 VDC	215	1 P	6 P	B5 <sub>DS</sub>	215	1 P	6 P	B5 <sub>DS</sub>
8 circuits	600 VDC	215	1 P	8 P	B5 <sub>DS</sub>	215	1 P	8 P	B5 <sub>DS</sub>
<b>Short-circuit capacity at 1000 VDC (any circuit breaker)</b>									
Prospective short-circuit current (kA rms DC)		10 <sup>(1)</sup>				10 <sup>(1)</sup>			
<b>Connection terminals</b>									
Min. connection wire range/ AWG		2x#6				2x#6			
Max. connection wire range/ AWG		600MCM				600MCM			
<b>Mechanical characteristics</b>									
Durability (number of operating cycles)		6 000				6 000			
Operating effort (lbs.in/Nm)		128.3/14.5				128.3/14.5			
<b>Auxiliary contact</b>									
Electrical characteristics		A300				A300			

IEC 60947-3										
Rated current I <sub>n</sub>		400 A				500 A				
Thermal current at 104°F/40°C (A)		400				500				
Thermal current at 122°F/50°C (A)		400				500				
Thermal current at 140°F/60°C (A)		400				500				
Rated insulation voltage U <sub>i</sub> (V)		1500				1500				
Rated impulse withstand voltage U <sub>imp</sub> (kV)		12				12				
Number of circuits	Rated voltage	Utilization category	(A)	Number of pole(s) in series per polarity	Number of pole(s) of the device	Frame size	(A)	Number of pole(s) in series per polarity	Number of pole(s) of the device	Frame size
1 circuit	1000 VDC	DC-21 B	400	2 P	2 P	B5	-	-	-	-
2 circuits	1000 VDC	DC-21 B	400	2 P	4 P	B5	500	3 P	6 P	B5 <sub>DS</sub>
4 circuits	600 VDC	DC-21 B	275	1 P	4 P	B5	-	-	-	-
4 circuits	1000 VDC	DC-21 B	400	2 P	8 P	B5 <sub>DS</sub>	500	2 P	8 P	B5 <sub>DS</sub>
6 circuits	600 VDC	DC-21 B	275	1 P	6 P	B5 <sub>DS</sub>	275	1 P	6 P	B5 <sub>DS</sub>
8 circuits	600 VDC	DC-21 B	275	1 P	8 P	B5 <sub>DS</sub>	275	1 P	8 P	B5 <sub>DS</sub>

(1) Without fuse during 50 ms.

## Characteristics (continued)

as per standards UL 98B, CSA-C22.2 No. 4 and IEC 60947-3

Rating		400 A				600 A			
Number of circuits	Rated voltage	(A)	Number of pole(s) in series per polarity	Number of pole(s) of the device	Frame size	(A)	Number of pole(s) in series per polarity	Number of pole(s) of the device	Frame size
1 circuit	1000 VDC	400	2 P	2 P	B5	600	4 P	4 P	B6
1 circuit	1500 VDC	400	3 P	3 P	B5	600	8 P	8 P	B6 <sub>DS</sub>
2 circuits	600 VDC	215	1 P	2 P	B5	600	3 P	6 P	B6 <sub>DS</sub>
2 circuits	1000 VDC	400	2 P	4 P	B5	600	4 P	8 P	B6 <sub>DS</sub>
4 circuits	600 VDC	215	1 P	4 P	B5	-	-	-	-
<b>Short-circuit capacity at 1000 VDC (any circuit breaker)</b>									
Prospective short-circuit current (kA rms DC)		10 <sup>(1)</sup>				10 <sup>(1)</sup>			
<b>Connection terminals</b>									
Min. connection wire range/ AWG		2x#6				2x#2			
Max. connection wire range/ AWG		600MCM				2 x 600MCM			
<b>Mechanical characteristics</b>									
Durability (number of operating cycles)		6 000				6 000			
Operating effort (lbs.in/Nm)		128.3/14.5				327.5/37			
<b>Auxiliary contact</b>									
Electrical characteristics		A300				A300			

<b>IEC 60947-3</b>										
Rated current I <sub>n</sub>		500 A				800 A				
Thermal current at 104°F/40°C (A)		500				800				
Thermal current at 122°F/50°C (A)		500				800				
Thermal current at 140°F/60°C (A)		500				800				
Rated insulation voltage U <sub>i</sub> (V)		1500				1200				
Rated impulse withstand voltage U <sub>imp</sub> (kV)		12				12				
Number of circuits	Rated voltage	Utilization category	(A)	Number of pole(s) in series per polarity	Number of pole(s) of the device	Frame size	(A)	Number of pole(s) in series per polarity	Number of pole(s) of the device	Frame size
1 circuit	1000 VDC	DC-21 B	500	2 P	2 P	B5	800	4 P	4 P	B6
1 circuit	1500 VDC	DC-21 B	500	3 P	3 P	B5	800	8 P	8 P	B6 <sub>DS</sub>
2 circuits	1000 VDC	DC-21 B	275	1 P	4 P	B5	800	4 P	8 P	B6 <sub>DS</sub>
4 circuits	600 VDC	DC-21 B	275	1 P	4 P	B5	-	-	-	-

(1) Without fuse during 50 ms.

(2) 1200 VDC for B6.

# SIRCO PV UL 98B

Disconnect switches for photovoltaic applications  
from 100 to 2000 A - up to 1500 VDC

as per standards UL 98B, CSA-C22.2 No. 4 and IEC 60947-3

Rating		800 A				1000 A			
Number of circuits	Rated voltage	(A)	Number of pole(s) in series per polarity	Number of pole(s) of the device	Frame size	(A)	Number of pole(s) in series per polarity	Number of pole(s) of the device	Frame size
1 circuit	1000 VDC	800	4 P	4 P	B7	1000	8 P	8 P	B7 <sub>DS</sub>
1 circuit	1500 VDC	800	8 P	8 P	B7 <sub>DS</sub>	1000	8 P	8 P	B7 <sub>DS</sub>
2 circuits	600 VDC	800	3 P	6 P	B7 <sub>DS</sub>	1000	4 P	8 P	B7 <sub>DS</sub>
2 circuits	1000 VDC	800	4 P	8 P	B7 <sub>DS</sub>	1000	4 P	8 P	B7 <sub>DS</sub>
<b>Short-circuit capacity at 1000 VDC (any circuit breaker)</b>									
Prospective short-circuit current (kA rms DC)		10 <sup>(1)</sup>				10 <sup>(1)</sup>			
<b>Connection terminals</b>									
Min. connection wire range/ AWG		4x#2				4x#2			
Max. connection wire range/ AWG		6x 600MCM <sup>(2)</sup>				6x 600MCM <sup>(2)</sup>			
<b>Mechanical characteristics</b>									
Durability (number of operating cycles)		3 500				3 500			
Operating effort (lbs.in/Nm)		495.7/56				495.7/56			
<b>Auxiliary contact</b>									
Electrical characteristics		A300				A300			

IEC 60947-3										
Rated current I <sub>n</sub>		1000 A				1200 A				
Thermal current at 104°F/40°C (A)		1000				1200				
Thermal current at 122°F/50°C (A)		1000				1200				
Thermal current at 140°F/60°C (A)		1000				1200				
Rated insulation voltage U <sub>i</sub> (V)		1200				1200				
Rated impulse withstand voltage U <sub>imp</sub> (kV)		12				12				
Number of circuits	Rated voltage	Utilization category	(A)	Number of pole(s) in series per polarity	Number of pole(s) of the device	Frame size	(A)	Number of pole(s) in series per polarity	Number of pole(s) of the device	Frame size
1 circuit	1000 VDC	DC-21 B	1000	4 P	4 P	B7	1200	4 P	4 P	B7 <sub>DS</sub>
1 circuit	1500 VDC	DC-21 B	1000	8 P	8 P	B7 <sub>DS</sub>	1000	8 P	8 P	B7 <sub>DS</sub>
2 circuits	1000 VDC	DC-21 B	1000	4 P	8 P	B7 <sub>DS</sub>	1000	4 P	8 P	B7 <sub>DS</sub>

(1) Without fuse during 50 ms.

(2) Maximum 6 x 600MCM with fan out kit 2729 1203.

(3) 1200 VDC for B7.

## Characteristics (continued)

as per standards UL 98B, CSA-C22.2 No. 4 and IEC 60947-3

Rating		1200 A				2000 A			
Number of circuits	Rated voltage	(A)	Number of pole(s) in series per polarity	Number of pole(s) of the device	Frame size	(A)	Number of pole(s) in series per polarity	Number of pole(s) of the device	Frame size
1 circuit	1000 VDC	1200	4 P	4 P	B7	2000	8 P	8 P	B7 <sub>DS</sub>
1 circuit	1500 VDC								
2 circuits	600 VDC	1200	3 P	6 P	B7 <sub>DS</sub>				
2 circuits	1000 VDC	1200	4 P	8 P	B7 <sub>DS</sub>				
<b>Short-circuit capacity at 1000 VDC (any circuit breaker)</b>									
Prospective short-circuit current (kA rms DC)		10 <sup>(1)</sup>				10 <sup>(1)</sup>			
<b>Connection terminals</b>									
Min. connection wire range/ AWG		4x#2				4x#2			
Max. connection wire range/ AWG		6x 600MCM <sup>(2)</sup>				6x 600MCM <sup>(2)</sup>			
<b>Mechanical characteristics</b>									
Durability (number of operating cycles)		3 500				3 500			
Operating effort (lbs.in/Nm)		495.7/56				663.9/75			
<b>Auxiliary contact</b>									
Electrical characteristics		A300				A300			

<b>IEC 60947-3</b>										
Rated current I <sub>n</sub>		1400 A				2200 A				
Thermal current at 104°F/40°C (A)		1400				2200				
Thermal current at 122°F/50°C (A)		1400				1850				
Thermal current at 140°F/60°C (A)		1400				1600				
Rated insulation voltage U <sub>i</sub> (V)		1200				1200				
Rated impulse withstand voltage U <sub>imp</sub> (kV)		12				12				
Number of circuits	Rated voltage	Utilization category	(A)	Number of pole(s) in series per polarity	Number of pole(s) of the device	Frame size	(A)	Number of pole(s) in series per polarity	Number of pole(s) of the device	Frame size
1 circuit	1000 VDC	DC-21 B	1400	4 P	4 P	B7 <sub>DS</sub>	2200	8 P	8 P	B7 <sub>DS</sub>
1 circuit	1500 VDC	DC-21 B	1000	8 P	8 P	B7 <sub>DS</sub>				
2 circuits	1000 VDC	DC-21 B	1000	4 P	8 P	B7 <sub>DS</sub>				

(1) Without fuse during 50 ms.

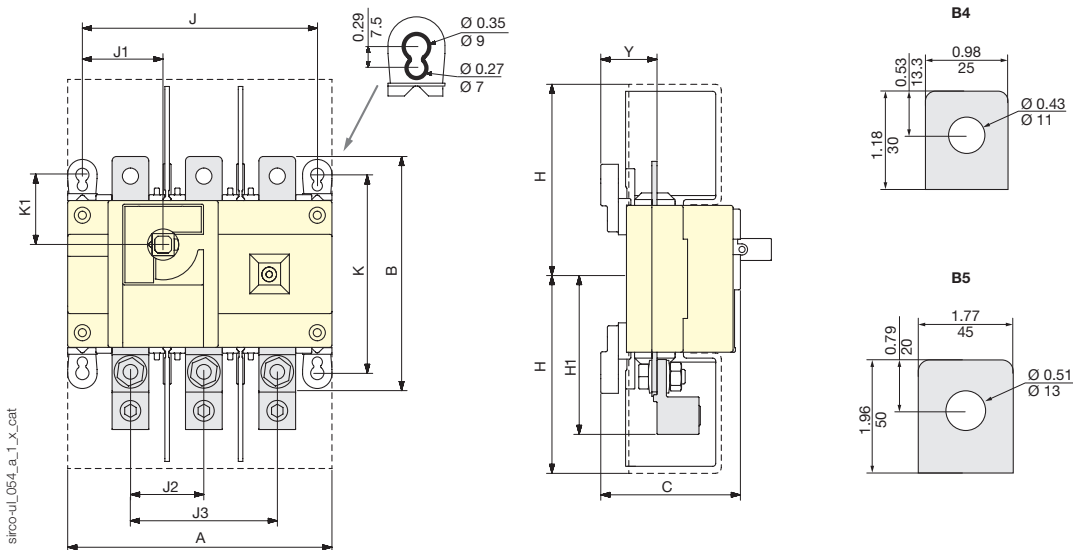
(2) Maximum 6 x 600MCM with fan out kit 2729 1203.

# SIRCO PV UL 98B

Disconnect switches for photovoltaic applications  
from 100 to 2000 A - up to 1500 VDC

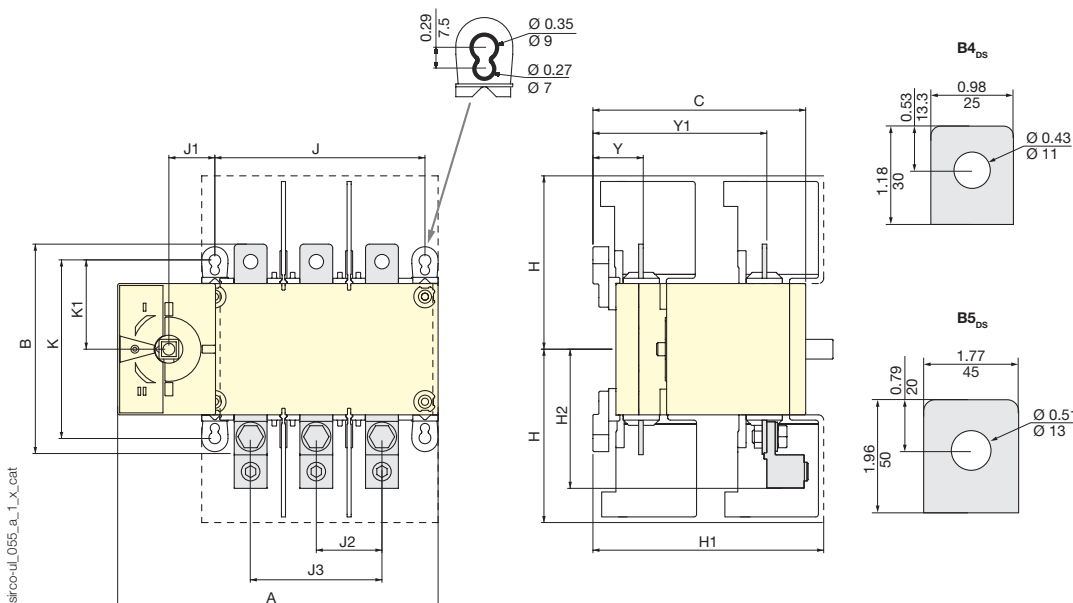
## Dimensions (in/mm)

### B4-B5



Frame size	No. of poles	Unit	A	B	C	H	H1 max.	J	J1	J2	J3	K	K1	Y
B4	2 P	inches	7.08	6.30	3.74	5.21	4.21	6.30	2.16	-	3.94	5.31	1.89	1.51
		mm	180	160	95	132.5	107	160	55	-	100	135	48	38.5
B5	2 P	inches	9.05	10.23	5.04	8	6.53	8.26	2.95	-	5.12	7.67	2.65	2.08
		mm	230	260	128	203	166	210	75	-	130	195	67.5	53
B5	3 P	inches	9.05	10.23	4.98	8	6.53	8.26	2.95	2.56	-	7.67	2.65	2.02
		mm	230	260	126.5	203	166	210	75	65	-	195	67.5	51.5
B5	4 P	inches	11.41	10.23	4.98	8	6.53	10.63	5.31	2.56	-	7.67	2.65	2.02
		mm	290	260	126.5	203	166	270	135	65	-	195	67.5	51.5

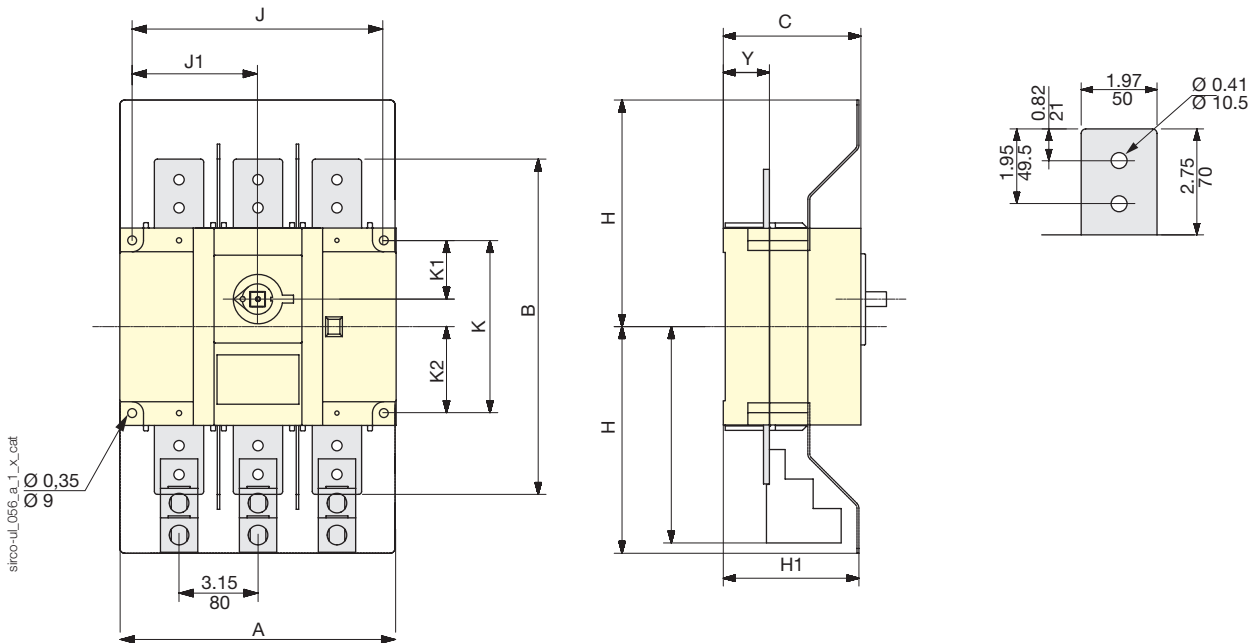
### B4<sub>DS</sub>-B5<sub>DS</sub>



Frame size	No. of poles	Unit	A	B	C	H	H1	H1 max.	J	J1	J2	J3	K	K1	Y	Y1
B4 <sub>DS</sub>	4 P	inches	9.60	6.30	6.37	5.08	6.93	4.21	6.30	1.37	-	3.93	5.31	2.65	1.51	5.21
		mm	244	160	162	129	176	107	160	35	-	100	135	67.5	38.5	132.5
B5 <sub>DS</sub>	6 P	inches	11.85	10.23	9.39	8	6.51	6.53	6.26	1.37	2.56	-	7.67	2.70	2.02	7.44
		mm	301	260	238.5	203	165.5	166	210	35	65	-	195	68.5	51.5	189
B5 <sub>DS</sub>	8 P	inches	14.21	10.23	9.39	8	6.51	6.53	10.63	1.37	2.56	-	7.67	2.70	2.02	7.44
		mm	361	260	238.5	203	165.5	166	270	35	65	-	195	68.5	51.5	189

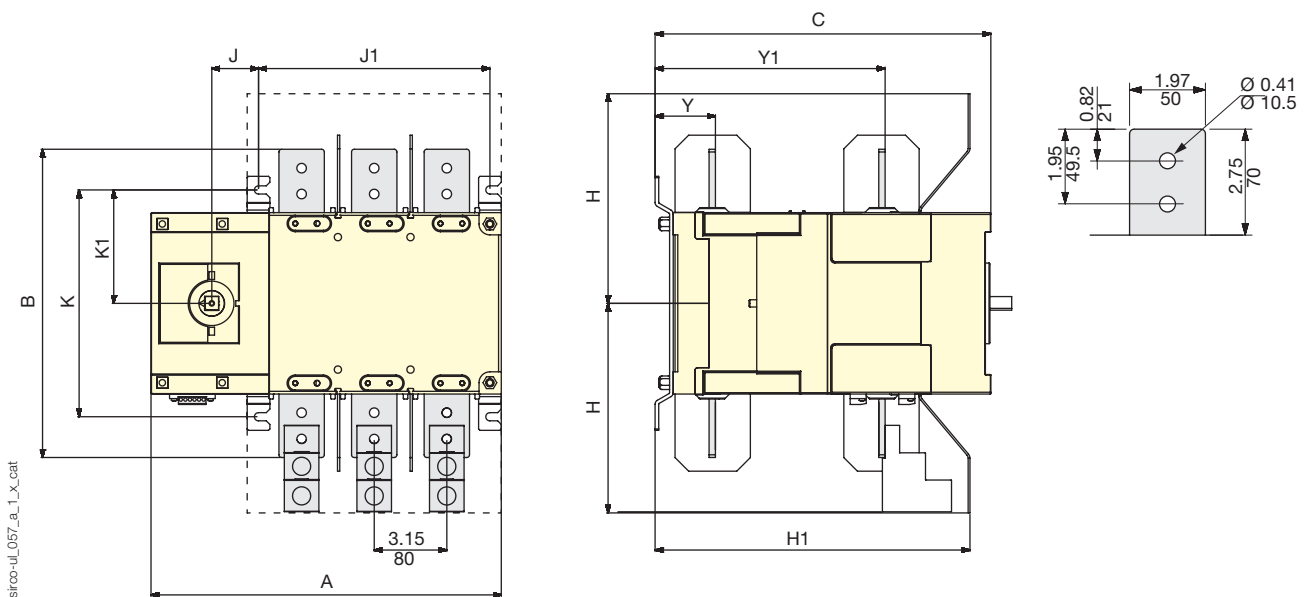
## Dimensions (in/mm) (continued)

### B6



Frame size	No. of poles	Unit	A	B	C	H	H1	J	J1	K	K1	K2	Y
		inches	14.17	13.38	5.47	10.63	5.70	13.19	6.59	6.88	2.34	1.10	1.83
B6	4 P	mm	360	340	139	270	145	335	167.5	175	59.5	28	46.5

### B6<sub>DS</sub>

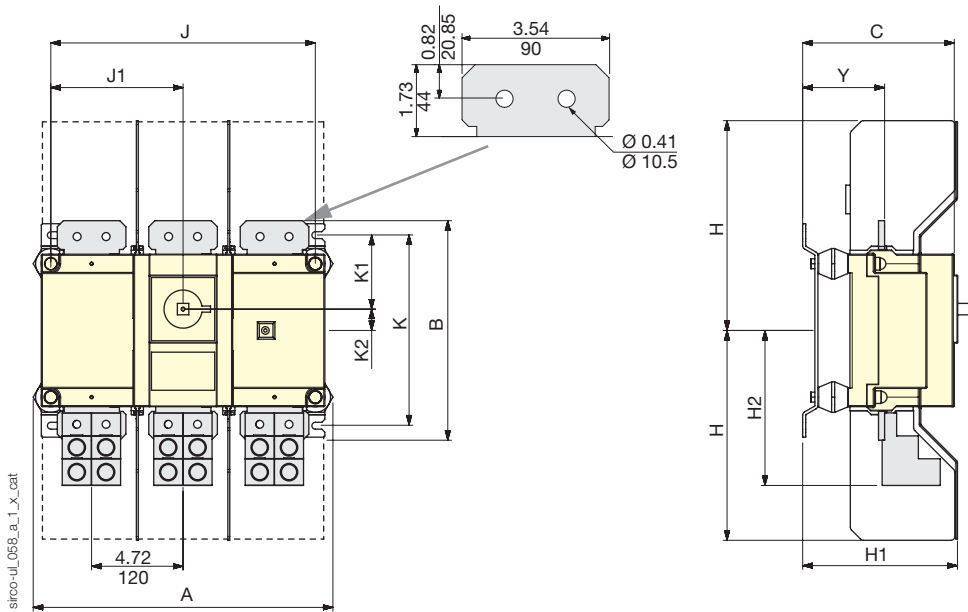


Frame size	No. of poles	Unit	A	B	C	H	H1	J	J1	K	K1	Y	Y1
		inches	18.34	13.38	14.56	10.63	13.66	13.18	2.02	9.84	4.92	2.61	9.98
B6 <sub>DS</sub>	8 P	mm	466	340	370	270	347	335	51.5	250	125	66.5	253.5

# SIRCO PV UL 98B

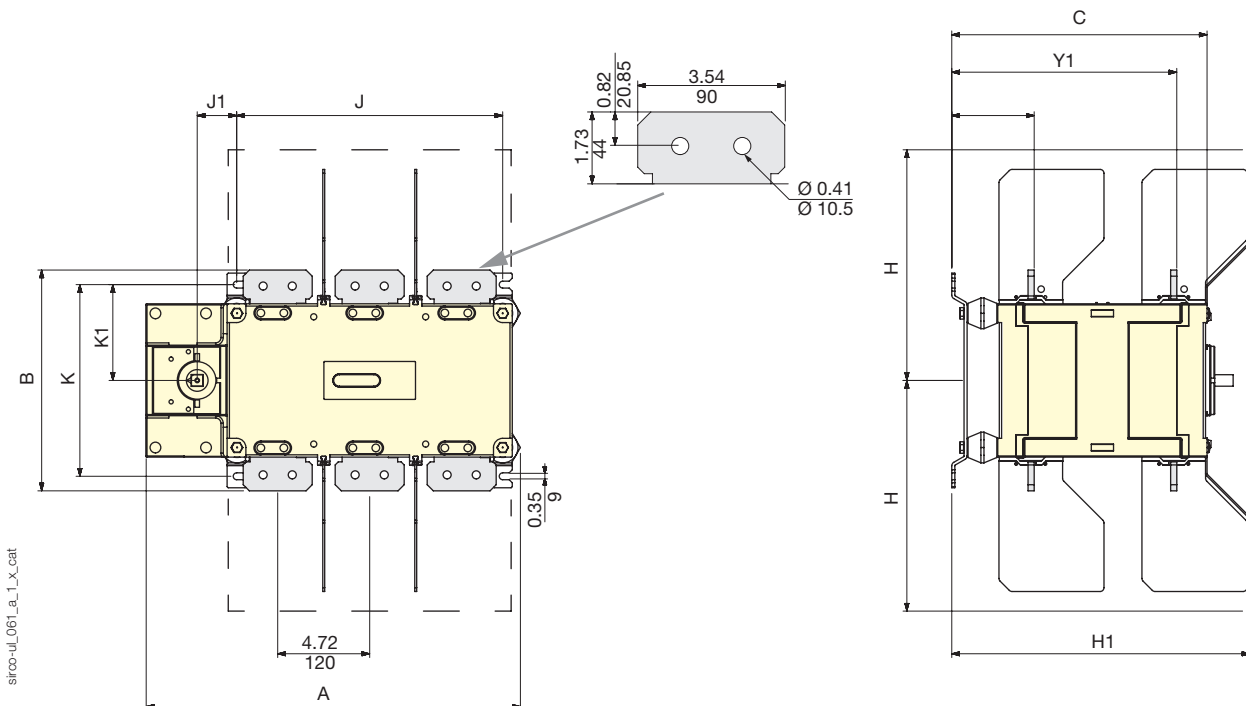
Disconnect switches for photovoltaic applications  
from 100 to 2000 A - up to 1500 VDC

## B7



Frame size	No. of poles	Unit	A	B	C	H	H1	H2	J	J1	K	K1	K2	Y
B7	4 P	inches	20.19	11.33	7.97	11.89	8.30	8.01	18.38	9.19	9.84	3.82	1.10	4.23
		mm	513	288	200	302	211	203.5	467	233.5	250	97	28	107.5

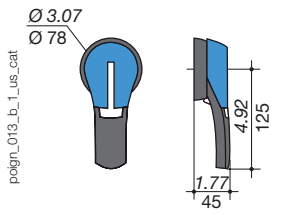
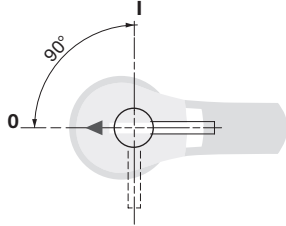
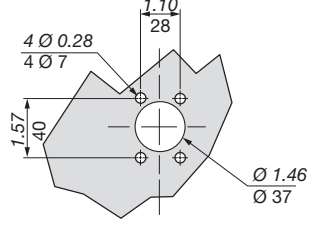
## B7<sub>DS</sub>



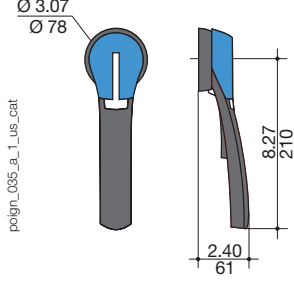
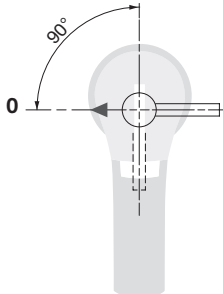
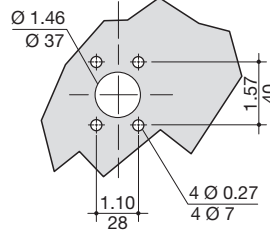
Frame size	No. of poles	Unit	A	B	C	H	H1	J	J1	K	K1	Y	Y1
B7 <sub>DS</sub>	8 P	inches	23.95	11.33	13.11	11.85	15.31	18.38	2.02	9.84	4.92	4.23	11.55
		mm	608.5	288	333	301	389	467	51.5	250	125	107.5	293.5

Dimensions for external handles (in/mm)

B4 - B4<sub>DS</sub> - B5

Handle type	Front operation Direction of operation	Door drilling
<p><b>S2 type</b></p> <p>poign_013_b_1_us_cat</p> 		

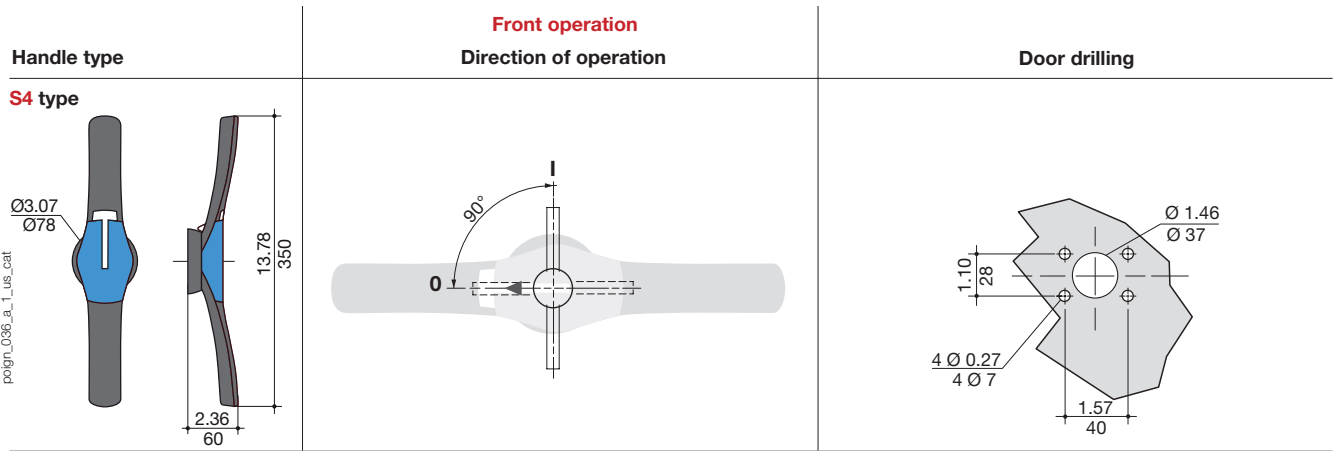
B5<sub>DS</sub> - B6

Handle type	Front operation Direction of operation	Door drilling
<p><b>S3 type</b></p> <p>poign_065_a_1_us_cat</p> 		

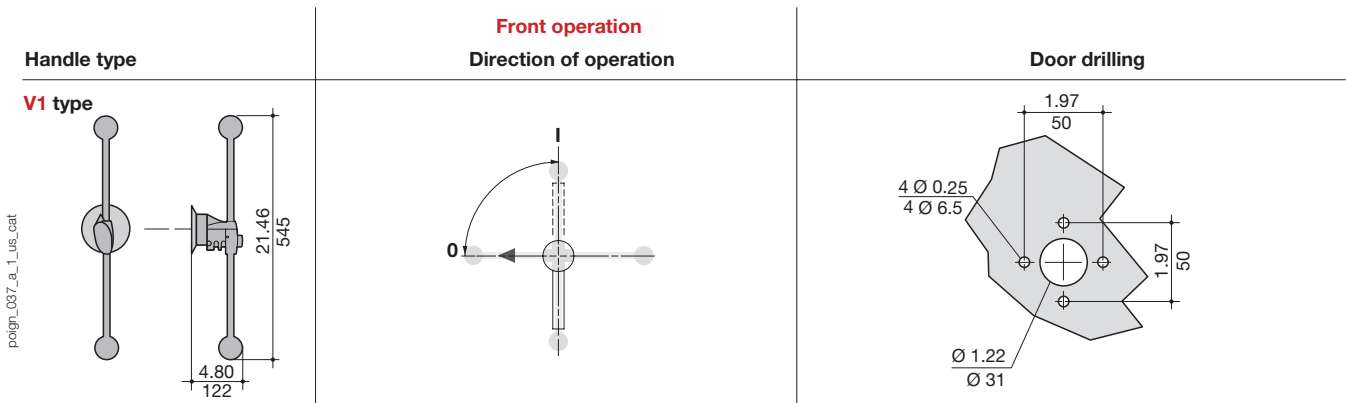
# SIRCO PV UL 98B

Disconnect switches for photovoltaic applications  
from 100 to 2000 A - up to 1500 VDC

## B7



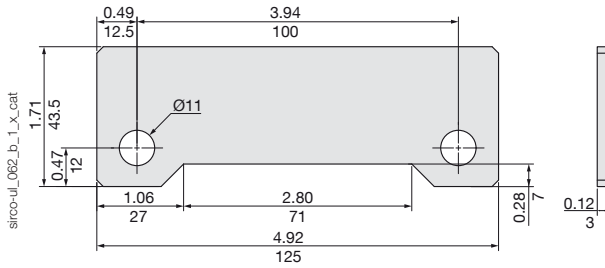
## B6<sub>DS</sub> - B7<sub>DS</sub>



## Jumpers (in/mm)

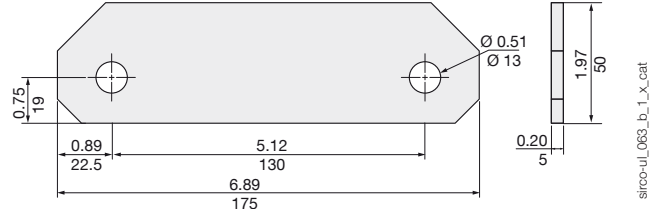
### B4 - B4<sub>DS</sub>

2709 1020



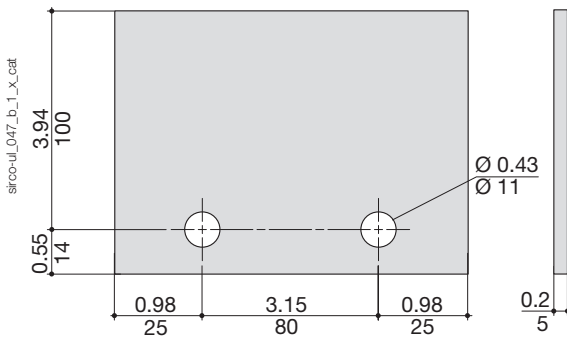
### B5 - B5<sub>DS</sub>

2709 1041

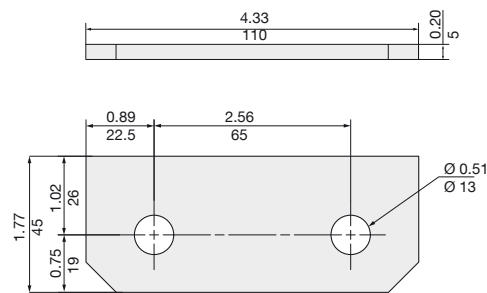


### B6 - B6<sub>DS</sub>

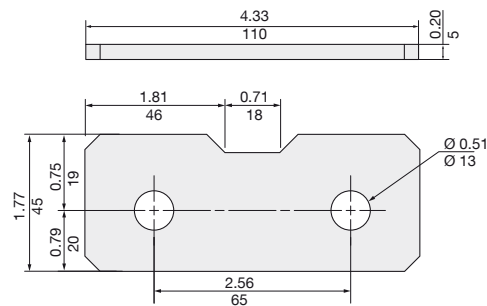
2709 0062



2709 0027

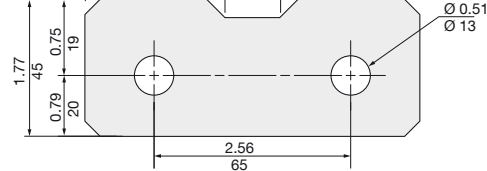
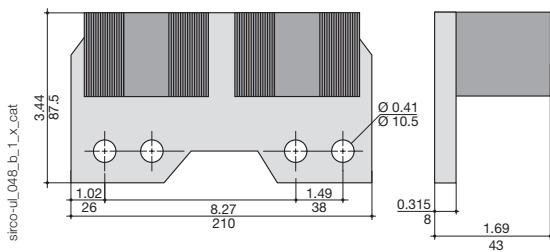


2709 0038



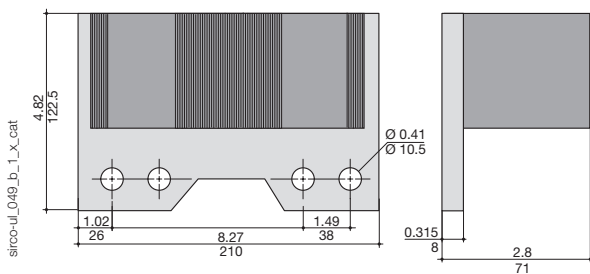
### B7

2709 0081



### B7 - B7<sub>DS</sub>

2709 0121

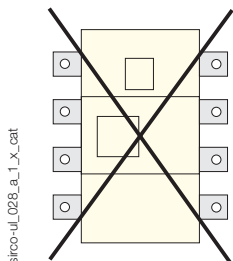


# SIRCO PV UL 98B

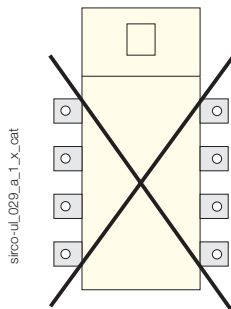
Disconnect switches for photovoltaic applications  
from 100 to 2000 A - up to 1500 VDC

## Mounting orientation

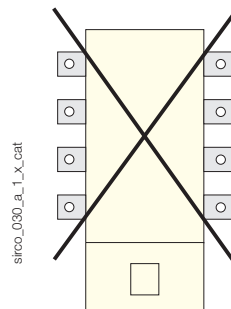
All frames



B4<sub>DS</sub> - B5<sub>DS</sub>

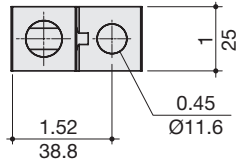


B6<sub>DS</sub> - B7<sub>DS</sub>



Terminal lugs (in/mm)

100 to 250 A

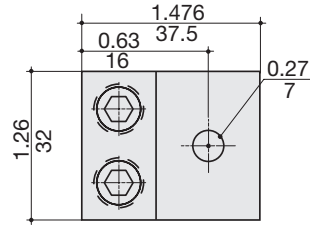


sirco-ul\_115\_b\_1\_us\_cat

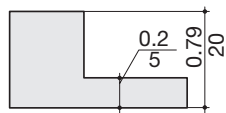


300MCM

100 to 250 A

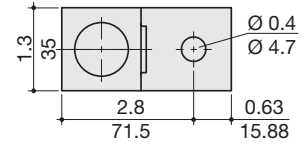


sirco-ul\_038\_a\_1\_us\_cat

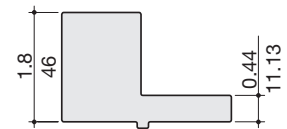


2/0

400 A

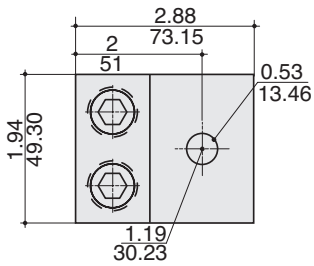


sirco-ul\_010\_a\_1\_us\_cat

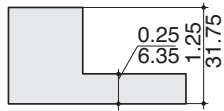


600MCM

400 A

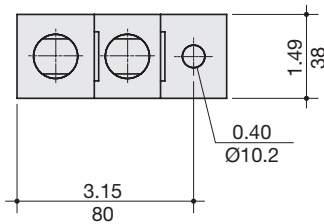


sirco-ul\_026\_b\_1\_us\_cat

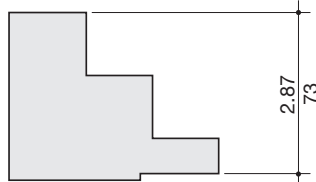


2 x 350MCM

600 to 2000 A



sirco-ul\_116\_b\_1\_us\_cat



2 x 600MCM