

SIRCO MC PV UL 508I

Load break switches for photovoltaic applications
from 25 to 45 A, up to 1000 VDC



SIRCO MC PV 25 A - 1000 VDC
DIN-rail mounting

Function

SIRCO MC PV are DC non-fusible disconnect switches. They make and break under load conditions and provide optimum safe isolation for any PV circuit.

Advantages

Compact

Thanks to its compact design, the space needed within the combiner box or the solar inverter is greatly reduced.

High breaking capacity up to 1000 VDC

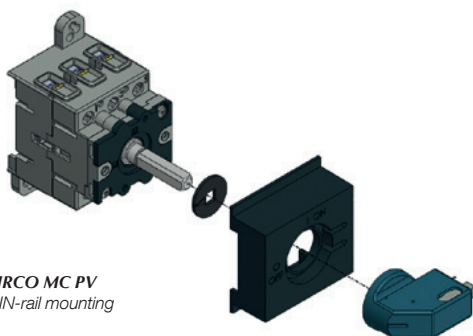
- Making and breaking capacity under load conditions up to 1000 VDC.
- Specific photovoltaic test beyond requirements of UL 508I and IEC 60947-3 standard.

Safety

- Bridging bars are factory fitted for easier, quicker and safer connection.
- Direct access to connection terminals for adequate tightening.

sirco-mc_0028_a

SIRCO MC PV
DIN-rail mounting



The solution for

- > Residential
- > Buildings
- > Solar parks



Strong points

- > Compact
- > High breaking capacity up to 1000 VDC
- > Safety

Conformity to standards

- > UL 508I Guide NMSJ, file E365404



- > IEC 60947-3



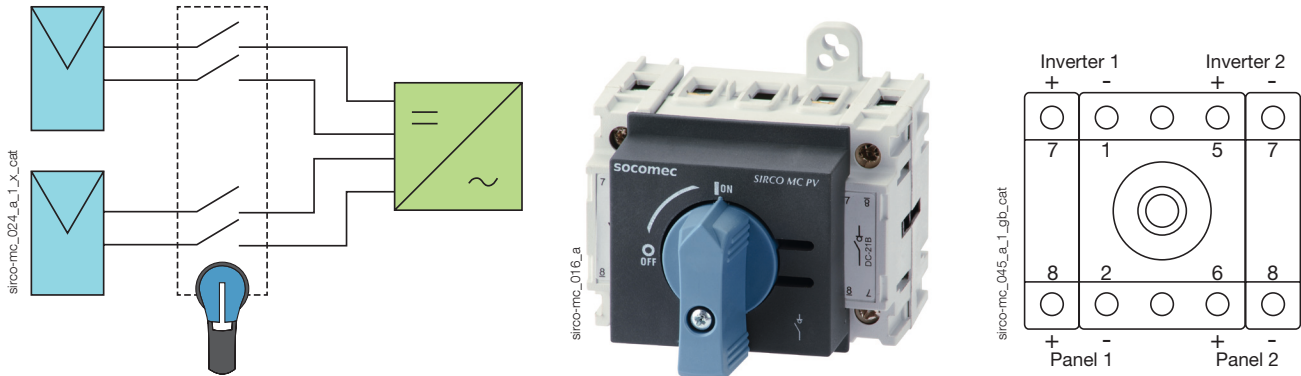
Approvals and certifications⁽¹⁾



(1) Product reference on request.

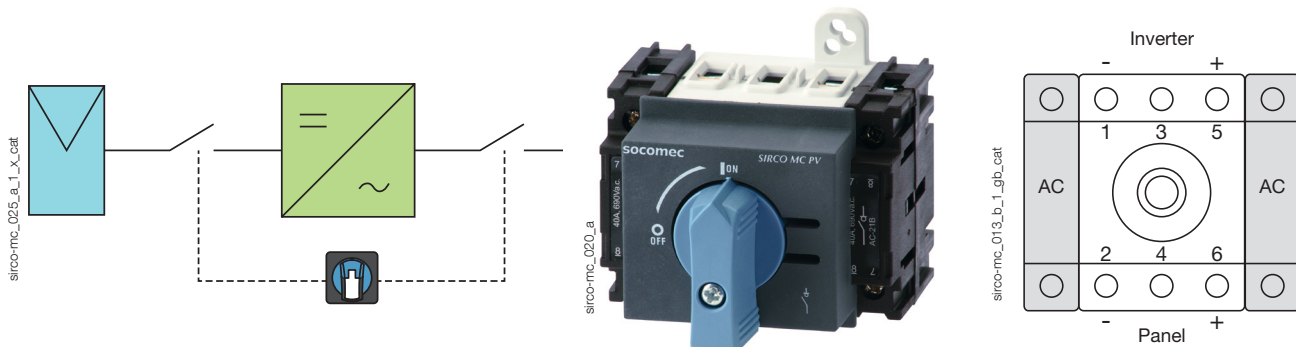
Multi-circuit switching

- The SIRCO MC PV for dual circuits (2 MPPT: Maximum Power Point Tracking) enables connection of two independent photovoltaic circuits to a single switch in order to reduce the costs of the global solution.



Completely isolate the inverter within one operation

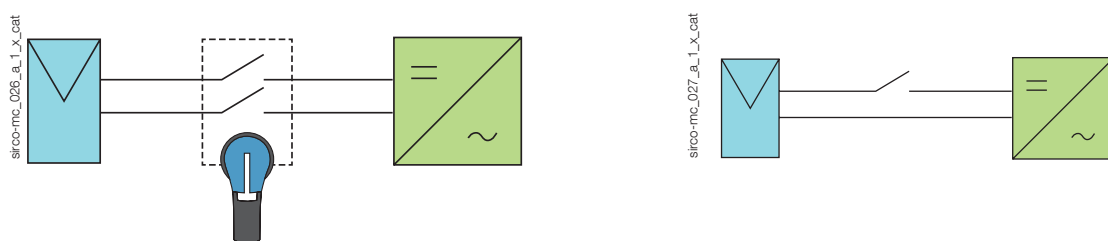
- The SIRCO MC PV with two additional AC poles can be integrated into the inverter to provide complete and simultaneous isolation of the PV and AC circuits. This improves safety and reduces the overall product size.



What you need to know

For grounded or ungrounded networks:

It is possible to use the SIRCO MC PV in both network systems, either switching one or both polarities.



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References

600 VDC

Rating (A)	Circuit type	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	Auxiliary contact
25 A	Single PV circuit	2 P	21PV 2102-UL	MC01 type Blue 2119 1012	S00 type Black 4.4X 147D 0111 ⁽¹⁾	S00 type 265 mm 10.43 in 2107 0517	1 contact NC+NO 2119 0001
	Dual PV circuit	4 P	21PV 5102-UL				
45 A	Single PV circuit	4 P	21PV 4144	MC01 type Blue 2119 1412	Red 4.4X 147R 0111 ⁽¹⁾		
	Dual PV circuit	8 P	21PV 8144				

(1) Door interlocking.

1000 VDC

Rating (A)	Circuit type	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	Auxiliary contact
32 A	Single PV circuit	4 P	21PV 4144	MC01 type Black 2119 1012	S00 type Black 4.4X 147D 0111 ⁽¹⁾	S00 type 265 mm 10.43 in 2107 0517	1 contact NC+NO 2119 0001
	Dual PV circuit	8 P	21PV 8144	MC01 type Black 2119 1412			

(1) Door interlocking.

Accessories

Direct operation handle

Use

The direct operation conversion kit requires an additional 4 mm distance on each side of the 2 and 3 pole device.

Rating (A)	Handle color	Type of locking	Handle type	45 mm modular DIN front plate	Reference
25 ... 45	Blue	-	MC0	yes	2119 0012 ⁽¹⁾
25 ... 45	Blue	1 padlock Ø 5 mm / 0.20 in	MC01	yes	2119 1012

(1) Standard handle.

2 MPPT 600 V					
Rating (A)	Handle color	Type of locking	Handle type	45 mm modular DIN front plate	Reference
25	Blue	-	MC0	yes	2119 0012
25	Blue	1 padlock Ø 5 mm / 0.20 in	MC01	yes	2119 1012
45	Blue	1 padlock Ø 5 mm / 0.20 in	MC01	yes	2119 1412



MC0 handle



MC01 handle

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access_293_a_1_cat

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External operation handle

Use

The external control will allow the operator to safely disconnect and isolate the solar strings prior to any intervention.

External controls are user-friendly and adapted to meet requirements of residential installations, large roofs and ground-based generators.



S00 handle



MC1 handle

DIN-rail or back plate mounting

Rating (A)	Handle type	Handle color	Type of locking	Protection degree ⁽¹⁾	Reference
25 ... 45	MC1	Black	3 padlocks Ø 8 mm / 0.35 in	4.4X	2119 3312
25 ... 45	MC1	Red/Yellow	3 padlocks Ø 8 mm / 0.35 in	4.4X	2119 3313
25 ... 45	S00	Black	3 padlocks Ø 8 mm / 0.31 in	4.4X	147D 0111
25 ... 45	S00	Red/Yellow	3 padlocks Ø 8 mm / 0.31 in	4.4X	147R 0111

(1) Nema/UL protection degree.

Shaft for external handle

Use

The shaft can be adjusted and cut depending on the need.

Shaft length

Device + shaft:
- 265 mm



DIN-rail or back plate mounting

Rating (A)	Device + shaft Length	Reference
25 ... 45	265 mm / 10.43 in	2107 0517 ⁽¹⁾

(1) Shaft for door interlocking.

Terminal shrouds

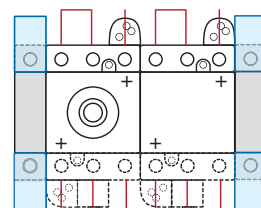
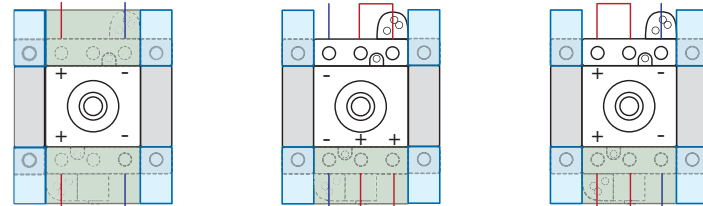
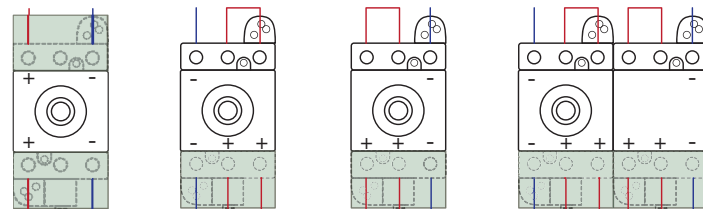
Use

Top or bottom protection against direct contact with the terminals or connection parts.
1 and 3 poles are available.

The SIRCO MC PV load break switch is pre-bridged. Terminal covers are mounted on the top or bottom free space of the device.

Possibility to assemble a terminal shroud on the bridge side by removing the insulating material of the series connection bar (irreversible step).

Rating (A)	Type of mounting	No. of poles	Position	Reference
25 ... 45	DIN-rail	1 P	top or bottom	2194 1004
25 ... 45	DIN-rail	3 P	top or bottom	2194 3004



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Terminal shrouds 1 pole

aces_300_a_1_cat



Terminal shrouds 3 pole

aces_341_a_1_cat

aces_302_a_1_cat

aces_297_a_1_cat

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Characteristics

according to UL 508I

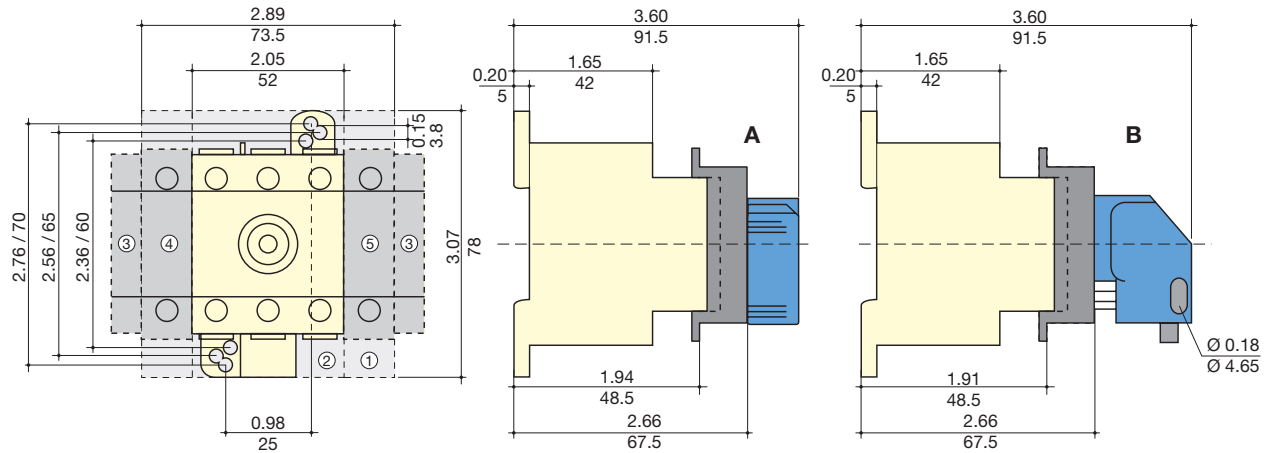
	25 A	45 A
General use rating with 200% overload extra test		
Rated voltage	(A)	(A)
600 VDC	25	-
600 VDC	-	45
600 VDC	25	-
600 VDC	-	45
1000 VDC	-	32
1000 VDC	-	32
Short-circuit capacity at 600 VDC		
Prospective short-circuit current (kA rms)	5	5
Type of fuse	gPV	gPV
Associated fuse rating (A)	25	80
Short-circuit capacity at 1000 VDC		
Prospective short-circuit current (kA rms)	5	5
Connection terminals		
Min. connection wire range / AWG (solid or stranded)	14 / 7	14 / 3
Mechanical characteristics		
Durability (number of operating cycles)	30 000	30 000
Tightening torque (Nm)	2	2

according to IEC 60947-3

	25 A	45 A
Rated current	25 A	45 A
Thermal current I_{th} at 40°C (A)	25	45
Thermal current at 50°C (A)	25	45
Thermal current at 60°C (A)	25	45
Rated insulation voltage U_i (V)	1000	1000
Rated impulse withstand voltage U_{imp} (kV)	8	8
Rated operational currents I_e (A)		
Rated voltage	(A)	(A)
600 VDC	30	-
600 VDC	-	40
600 VDC	30	-
600 VDC	-	40
1000 VDC	10	-
1000 VDC	-	40
1000 VDC	10	-
1000 VDC	-	40

Dimensions (in/mm)

DIN-rail mounting - Direct operation



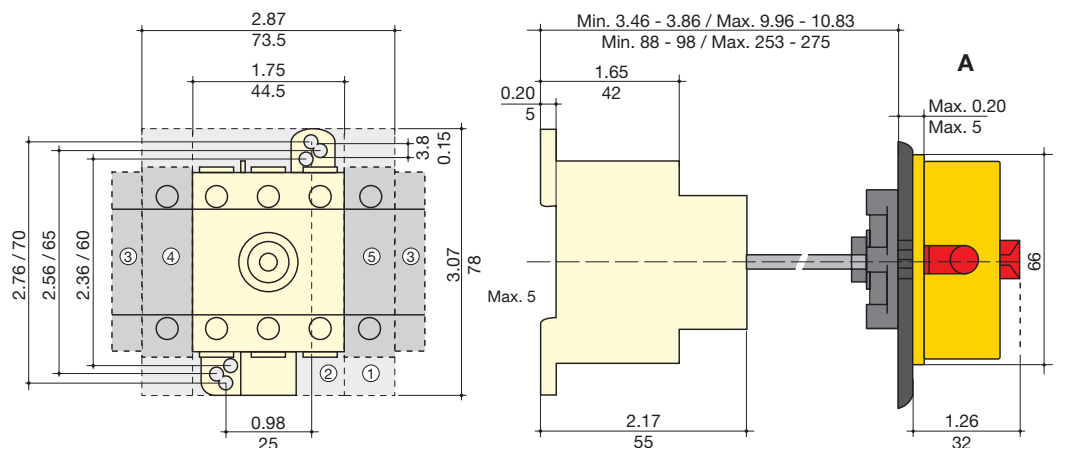
1. Terminal shrouds 1P.
2. Terminal shrouds 3P.
3. Auxiliary contact.

4. AC power pole.
5. AC or PV power pole.

- A. MC0 handle
 B. MC01 handle

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DIN-rail mounting - External operation



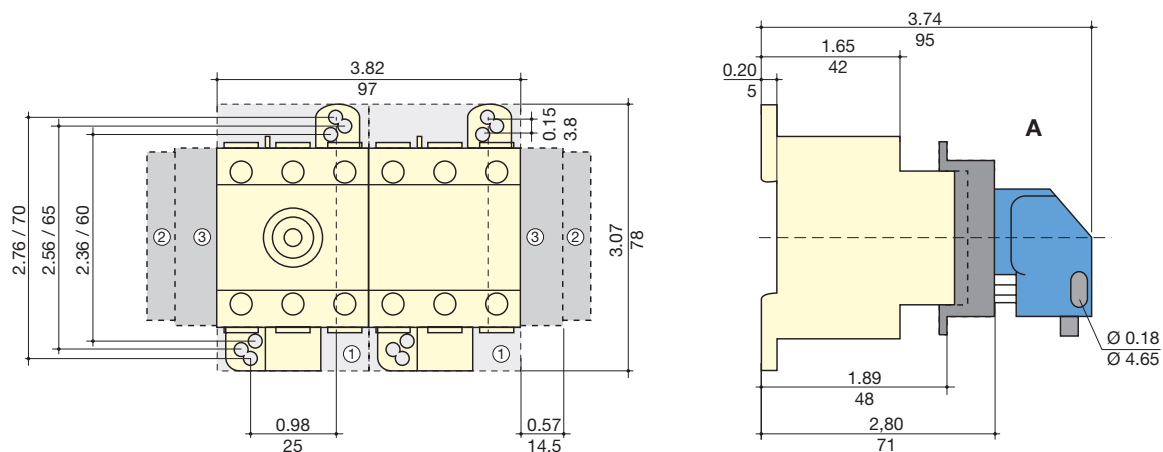
1. Terminal shrouds 1P.
2. Terminal shrouds 3P.

3. Auxiliary contact.
4. AC power pole.

5. AC or PV power pole.
 A. MC1 handle

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2 MPPT - 45 A - 600 VDC and 32 A - 1000 VDC - DIN-rail mounting - Direct operation



1. Terminal shrouds 3P.
2. Auxiliary contact.

3. PV power pole.

- A. MC01 handle.

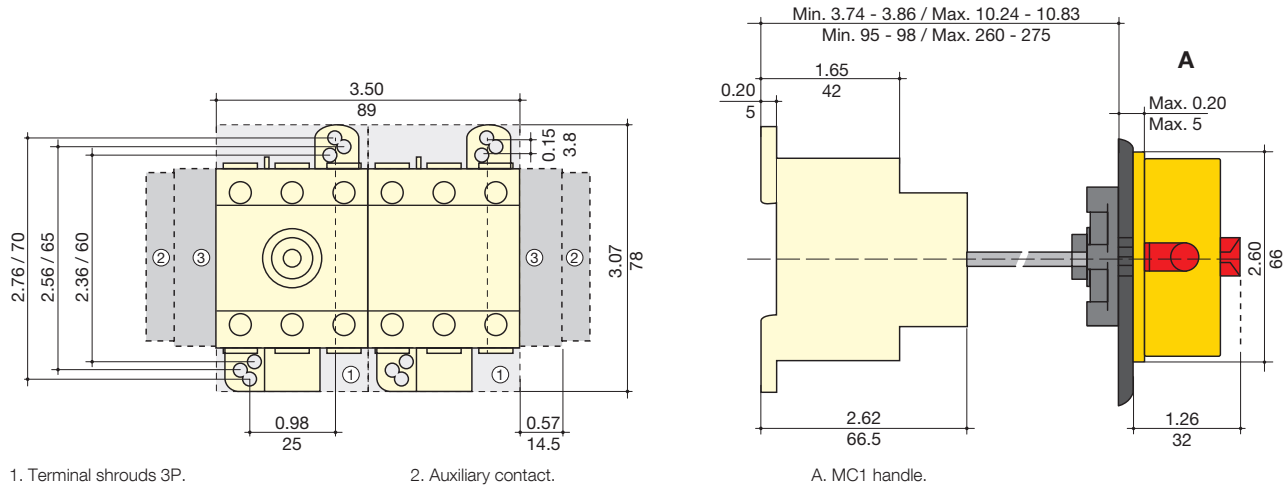
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Dimensions (continued)

DIN-rail mounting - External operation



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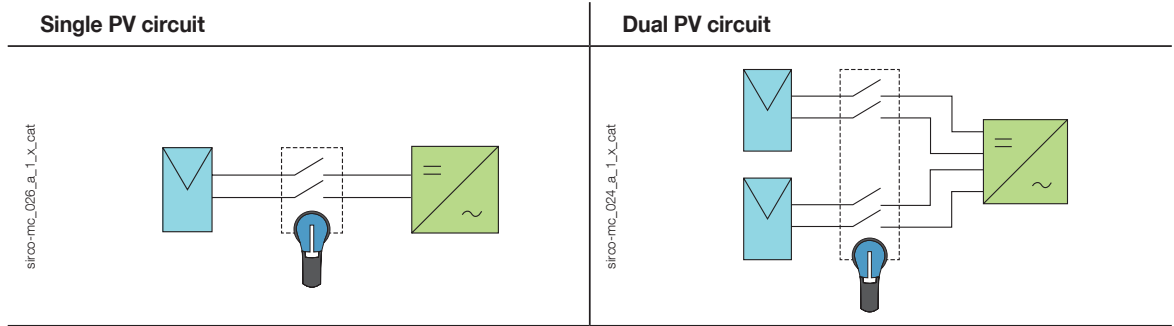
Dimensions for external handles (in/mm)

DIN-rail or back plate mounting

Handle type	Front operation Direction of operation	Door drilling
<p>MC1 type</p> <p>poign_001_a_1_us_cat</p>		
<p>S00 type</p> <p>poign_056_a_1_us_cat</p>		<p>With 4 fixing screws</p> <p>With fixing nut</p>

Poles connections

Switching of polarities + and - ⁽¹⁾



Rating	Single PV circuit	Dual PV circuit
25 A - 600 VDC	<p>21PV 2102-UL</p> <p>sirco-mc_044_a_1_gb_cat</p>	<p>21PV 5102-UL</p> <p>sirco-mc_045_a_1_gb_cat</p>
45 A - 600 VDC 32 A - 1000 VDC	<p>21PV 4144</p> <p>sirco-mc_063_a_1_gb_cat</p>	<p>21PV 8144</p> <p>sirco-mc_065_a_1_gb_cat</p>

(1) For grounded systems, single polarity switching, a bridge shall be added.
 For spare bridging bars, please consult use.