



SIRCO MC PV UL508i

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

new



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

The solution for

- > Residential
- > Buildings
- > Solar parks



Strong points

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

Conformity to standards

- > UL508i
- > IEC 60947-3



Approvals and certifications⁽¹⁾



(1) Product reference on request.

Function

SIRCO MC PV are DC load break switches. They make and break under load conditions and provide optimum safety isolation for any PV circuit.

Advantages

Compact

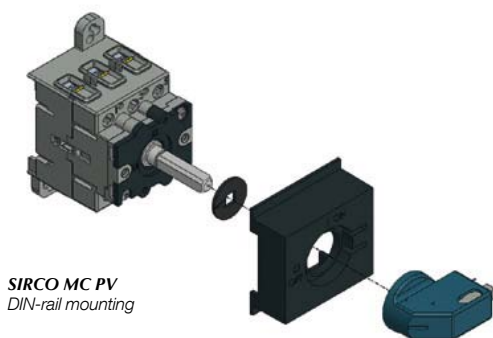
Thanks to its compact design, the space needed within the combiner box or the solar inverter is greatly reduced.

High breaking capacity up to 1000 VDC

- Making and breaking capacity under load conditions up to 1000 VDC.
- Specific photovoltaic test beyond requirements of UL508i and IEC 60947-3 standard.

Safety

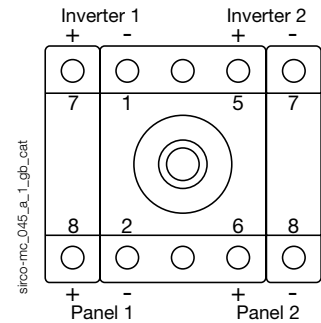
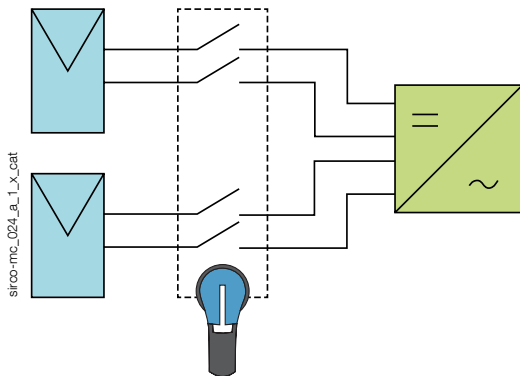
- Bridging bars are factory fitted for easier, quicker and safer connection.
- Direct access to connection terminals for adequate tightening.



SIRCO MC PV
DIN-rail mounting

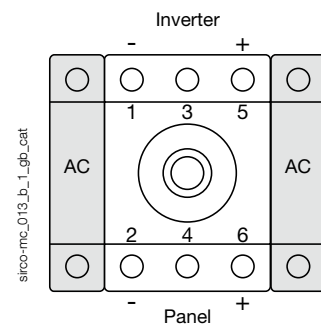
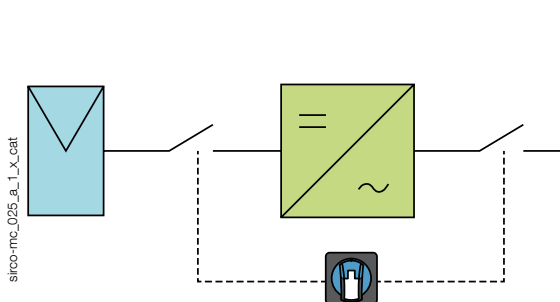
Multi-circuit switching

- 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

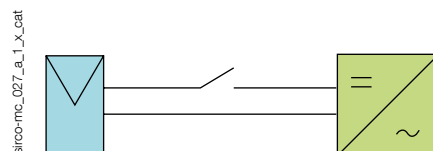
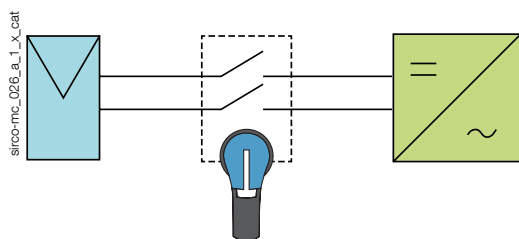
- The SIRCO MC PV with two additional AC poles can be integrated into the inverter to provide complete and simultaneous isolation of the PV and AC circuits. This improves safety and reduces the overall product size.



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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from 25 to 45 A, up to 1000 VDC

References

SIRCO MC PV 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 2107 0517	1 contact NC+NO 2110 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.

SIRCO MC PV 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 2107 0517	1 contact NC+NO 2110 0001
	Dual PV circuit	8 P	21PV 8144	MC01 type Black 2119 1412	Red 4.4X 147R 0111 ⁽¹⁾		

(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 colour	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	MC01	yes	2119 1012

(1) Standard handle.

2 MPPT 600 V					
Rating (A)	Handle colour	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	MC01	yes	2119 1012
45	Blue	1 padlock Ø 5 mm	MC01	yes	2119 1412



MC0 handle



MC01 handle

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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

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access_302_a_1_cat

DIN-rail or back plate mounting

Rating (A)	Handle type	Handle colour	Type of locking	Protection degree ⁽¹⁾	Reference
25 ... 45	MC1	Black	3 padlocks Ø 9 mm	4.4X	2119 3312
25 ... 45	MC1	Red/Yellow	3 padlocks Ø 9 mm	4.4X	2119 3313
25 ... 45	S00	Black	3 padlocks Ø 8 mm	4.4X	147D 0111
25 ... 45	S00	Red/Yellow	3 padlocks Ø 8 mm	4.4X	147R 0111

(1) NEMA protection degree.

Shaft for external handle

Use

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

Shaft length

Device + shaft:
- 265 mm



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DIN-rail or back plate mounting

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

(1) Shaft for door interlocking.

Terminal shrouds

Use

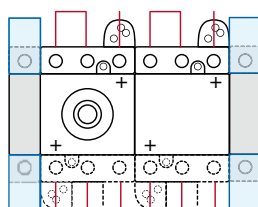
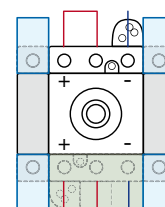
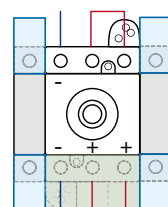
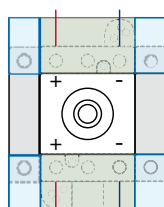
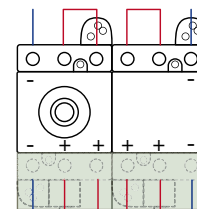
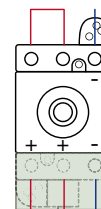
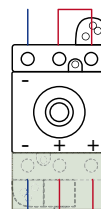
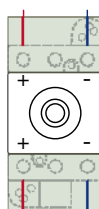
Top or bottom protection against direct contact with the terminals or connection parts. 1 and 3 poles are available.

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).

For SIRCO MC PV

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

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Terminal shrouds 3 pole

SIRCO MC PV UL508i

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Characteristics

as per standard UL508i

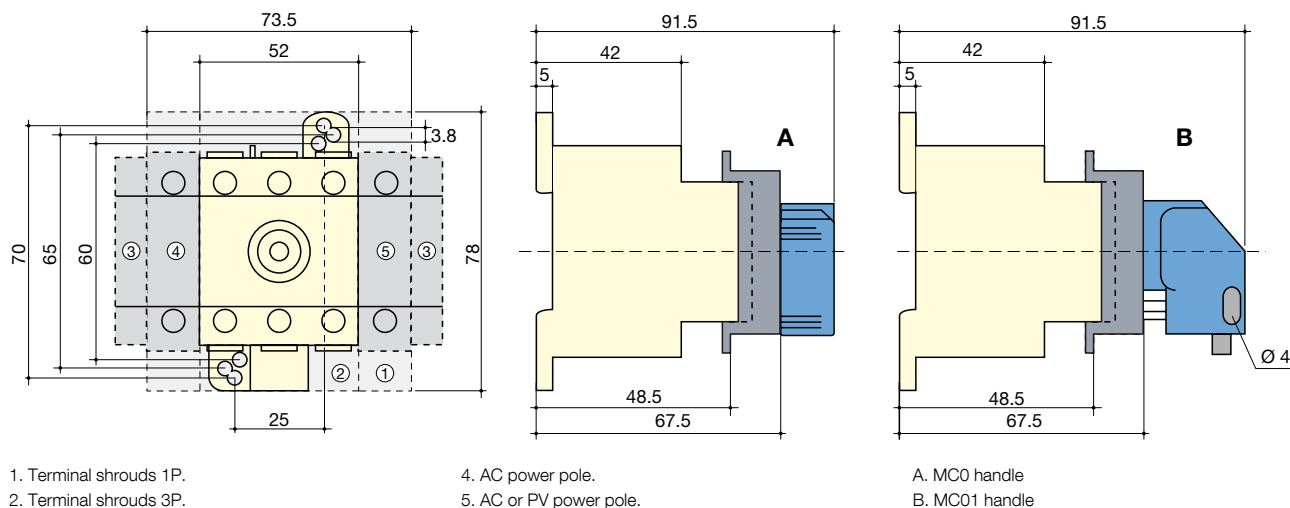
			25 A	45 A
General use rating with 200% overload extra test				
Rated voltage	Number of poles of the device	Number of PV circuits	(A)	(A)
600 VDC	2 P	1	25	-
600 VDC	4 P	1	-	45
600 VDC	2 x 2 P	2	25	-
600 VDC	2 x 4 P	2	-	45
1000 VDC	4 P	1	-	32
1000 VDC	2 x 4 P	2	-	32
Short-circuit capacity at 600 VDC				
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

as per standard IEC 60947-3

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	Number of poles of the device	Number of PV circuits	(A)	(A)
600 VDC	2 P	1	30	-
600 VDC	4 P	1	-	40
600 VDC	2 x 2 P	2	30	-
600 VDC	2 x 4 P	2	-	40
1000 VDC	2 P	1	10	-
1000 VDC	4 P	1	-	40
1000 VDC	2 x 2 P	2	10	-
1000 VDC	2 x 4 P	2	-	40

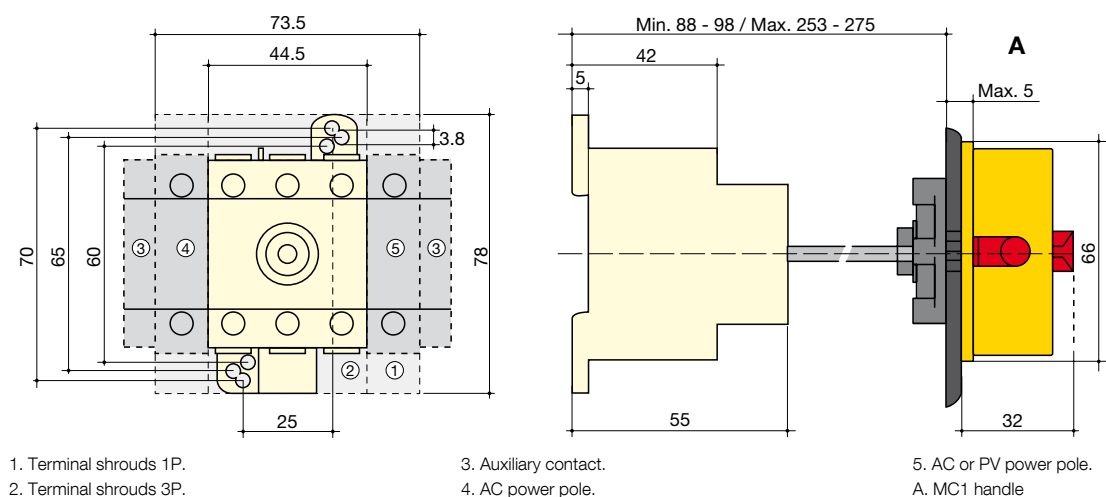
Dimensions

DIN-rail mounting - Direct operation



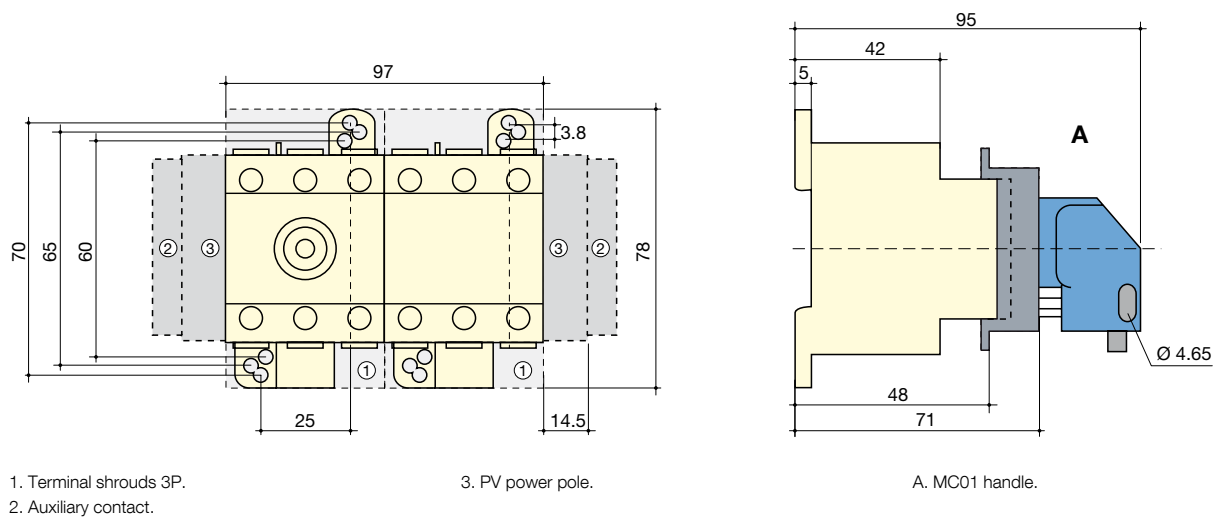
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DIN-rail mounting - External operation



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



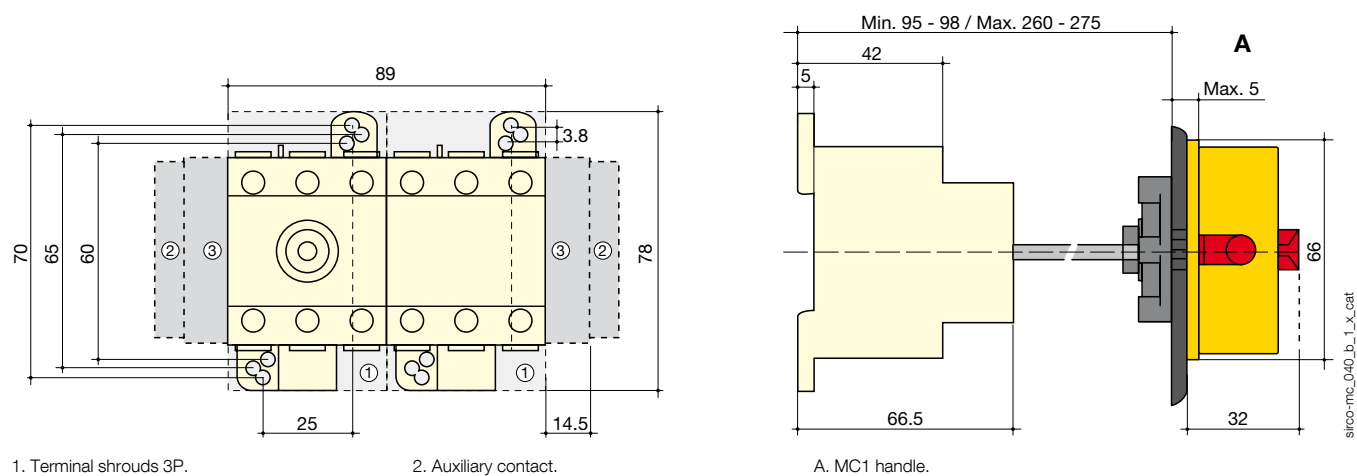
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Dimensions (continued)

DIN-rail mounting - External operation



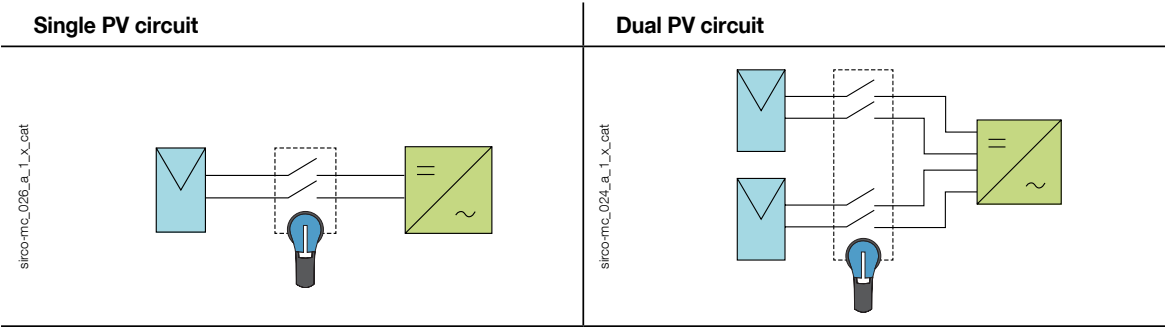
Dimensions for external handles

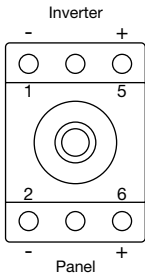
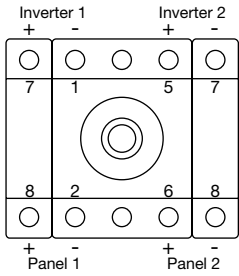
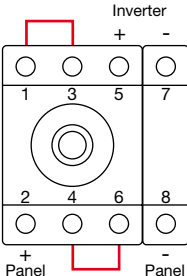
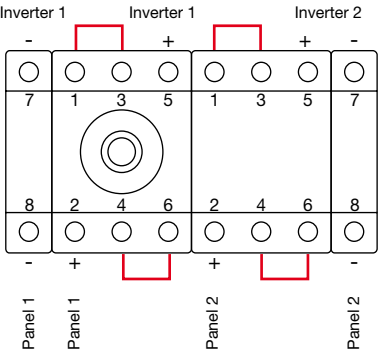
DIN-rail or back plate mounting

Handle type	Front operation Direction of operation	Door drilling
MC1 type 		
S00 type 		

Poles connections

Switching of polarities + and - ⁽¹⁾



Rating	Single PV circuit	Dual PV circuit
25 A - 600 VDC	21PV 2102-UL sirco-mc_044_a_1_gb_cat 	21PV 5102-UL sirco-mc_045_a_1_gb_cat 
45 A - 600 VDC 32 A - 1000 VDC	21PV 4144 sirco-mc_083_a_1_gb_cat 	21PV 8144 sirco-mc_065_a_1_gb_cat 

(1) For grounded systems, single polarity switching, a bridge shall be added.