

SIRCO MC PV

Disconnect switches for photovoltaic applications
up to 45 A, up to 1000 VDC
UL 508i & IEC 60947-3



your energy
our expertise



 **socomec**
Innovative Power Solutions

Your guarantee for safe & reliable switching of photovoltaic circuits

Taking into account the specificity and technical constraints of solar applications, SOCOMEC was the first manufacturer to release real PV-specific disconnect switches certified by UL, according to UL98B. The SIRCO MC PV 508i follow the same trend and are tested according to the latest industry standards. Our complete range of PV disconnect switches is fully tested and certified according to the relevant standard for PV applications; this is our commitment to quality and performance.



Save time

Multiple mounting options **facilitate easy integration** into standard off the shelf enclosures or your custom designs.

Save space

The compact design ensures the **optimum use** of valuable space in the PV inverter or associated local enclosure.

Rationalize your equipments

The same product can be used to ensure that your standard design **conforms to all major international standards and approvals** including UL, IEC and CCC.



SIRCO MC PV

UL and IEC Disconnect switches for photovoltaic applications
From 25 to 45 A – 600 & 1000 VDC

Specifically designed for photovoltaic applications, the SIRCO MC PV disconnect switches **have been tested for use in applications with high performance characteristics** that exceed the requirements of the latest industry standards.

Thanks to its very small size, the **space constraint is largely reduced**, which will allow the usage of much smaller enclosures.

The versatility of the solution, both in terms of installation possibilities and switching options, will make the **SIRCO MC PV fit perfectly in your photovoltaic application.**



SOCOMEc, your best asset

SOCOMEc is an industrial group specialized in the availability, control and safety of low voltage electrical energy which meets the requirements of the industry and service sectors.

As a manufacturer with complete control over its technological processes, SOCOMEc is constantly improving its fields of expertise in order to offer its clients increasingly customised and appropriate solutions.

As a recognized world leader in photovoltaic applications, SOCOMEc is offering you a full range of PV disconnect switches perfectly adapted to your needs.

ENERGY
SPECIALIST
SINCE 1922



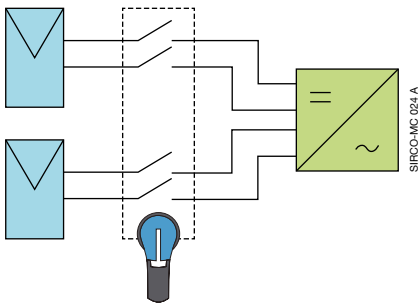
The advantages of *SIRCO MC PV*

Several switching options

- Multiple circuit



Due to its high performance the product for 2 circuits (2 MPPT, Multiple Power Points Tracking) allows the current interruption of two strings under higher voltage using a single compact switch. This improves ergonomics, reduces overall product size, and improves safety.

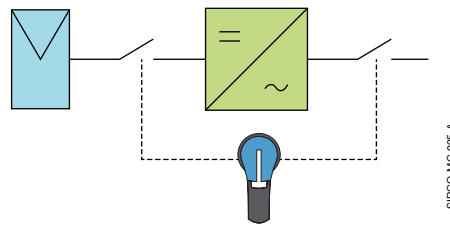


2MPPT switch, 2 circuits are switched together.

- Completely isolate the inverter within operation

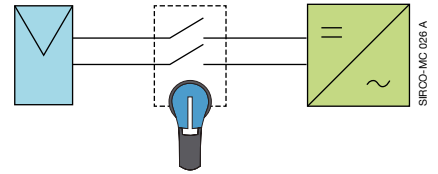


One single device can switch both DC and AC circuits, reducing the overall need for space within the inverter and allowing a voltage free maintenance of the inverter.

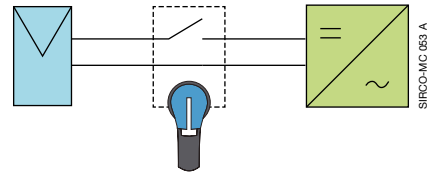


DC and AC circuits are switched with one handle.

- For grounded or ungrounded networks
It is possible to use the SIRCO MC PV in both network systems, either switching one single polarity or both polarities.



Ungrounded system, both polarities are switched.



Grounded system, only one polarity is switched.

NEC and photovoltaic



Most of the PV systems fall under the provisions of the National Electrical Code (NEC). The requirement for disconnects for PV

systems are covered in Article 690 of the National Electrical Code. NEC limits one and two family dwellings, with certain limitations, to 600 V. Other installations with maximum photovoltaic system voltage over 600

VDC shall comply with Article 690, Part IX. However, if the most common voltage is still below 600 VDC, the trend is for higher voltage in order to improve the efficiency of the system.

Various mounting options

• Base mounting

The SIRCO MC PV exists for back plate mounting by means of screws and on DIN rail. This mounting enables quick and efficient installation.



Direct operation

The handle is mounted directly on the switch which can only be operated when the door is open. Modular 45 mm cutout enables integration in modular type panels. The switch must be located behind a hinged cover.



External dead front handle

The handle is mounted on the door and is connected to the switch when the door is closed.

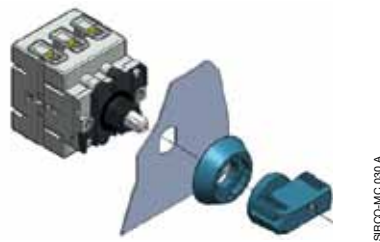
• Panel mounting*

The switches can be mounted on the door without tools. The switch body is attached to the inside of the enclosure door.



Quickfix*

Once the handle is fitted on the door by means of a nut, handle and switches are assembled through a quarter turn fixation.



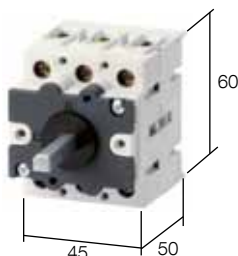
Standard door mounting*

This type of mounting is a cost effective and simple solution. The switch is fixed using a nut on the external side of the door.

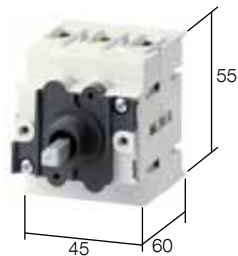
Space saving

The compact design ensures the optimum use of valuable enclosure space. The SIRCO MC PV is easy to install in the

modern small photovoltaic inverter where space means cost and competitiveness.



Base mounting.



Panel mounting.

* Not UL listed.

The standards for PV disconnect switches

USA

- UL508i; Manual disconnect switches for photovoltaic systems, usually for ratings up to 45 A.
- UL1741; Inverters and interconnection system equipment.

Worldwide

- IEC 60947; Low-voltage switchgear and controlgear. Part 3; Switches, disconnectors, switch-disconnectors and fuse-combination units.



The selection guide

Which standard?

How many circuits?

Which voltage?

Which rating?

SIRCO MC PV Solar Disconnect Switch

UL UL 508i							
NUMBER OF CIRCUITS	VOLTAGE VDC	25 A		32 A		45 A	
		DIMENSIONS (mm)	REFERENCES	DIMENSIONS (mm)	REFERENCES	DIMENSIONS (mm)	REFERENCES
1 CIRCUIT	600 VDC		21PV 2102-UL		21PV 4144		21PV 4144
	1000 VDC	-		-		-	
2 CIRCUITS	600 VDC		21PV 5102-UL		21PV 8144		21PV 8144
	1000 VDC	-		-		-	
3 CIRCUITS	600 VDC	Consult us					
	1000 VDC						

IEC IEC 60947-3							
NUMBER OF CIRCUITS	VOLTAGE VDC	25 A		30 A		40 A	
		DIMENSIONS (mm)	REFERENCES	DIMENSIONS (mm)	REFERENCES	DIMENSIONS (mm)	REFERENCES
1 CIRCUIT	600 VDC		21PV 2102		21PV 2102		21PV 3124
	1000 VDC		21PV 3722	-			21PV 4754
2 CIRCUITS	600 VDC		21PV 5102		21PV 5102		21PV 6124
	1000 VDC		21PV 6722	-			21PV 8154
3 CIRCUITS	600 VDC	Consult us					
	1000 VDC						

All references are for back plate / DIN rail mounting and ungrounded systems (2 polarities switched). Door mounting and grounded system (1 polarity switched) references are also available, please contact us.

Handles & accessories

Direct operation

SWITCH MOUNTING	TYPE	COLOUR	REFERENCES
Back plate/DIN rail	MC01	Black	2119 1012

External operation

HANDLE				SHAFT		ACCESSORIES	
SWITCH MOUNTING	TYPE	COLOUR	REFERENCES	SHAFT REFERENCES	LENGHT (switch + shaft)	AUXILIARY CONTACT (NO+NC)	BRIDGING BAR (10 pcs)
Back plate / DIN rail	MC1	Black	2119 3312	2107 0517 ⁽¹⁾	265 mm	2119 0001	2109 0005 ⁽²⁾
		Red/yellow	2119 3313				
	S00	Black	147D 1111				
		Red/yellow	147R 0111				

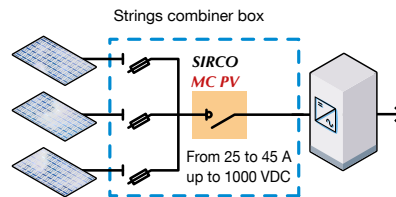
(1) With door interlock. (2) To switch single polarity, a bridging bar shall be added on the product. Please consult us on UL/IEC connection of ungrounded systems.

The *SIRCO* range

A complete offer for the photovoltaic applications from 16 A to 2000 A

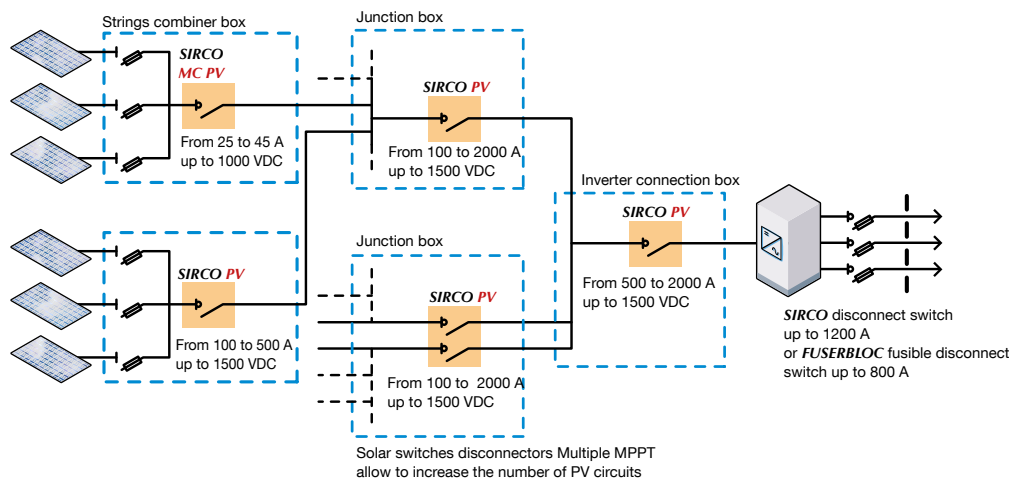
As experts in the solar energy equipment field, SOCOMEC has the specialized know-how for implementing key strategic functions in PV facilities, including safety, through specially designed switch disconnectors to interrupt the DC current generated by solar panels regardless of the facility configuration and operating conditions.

Typical electrical distribution of a residential installation



SIRCO-MC 056 B GB

Typical electrical distribution of a large PV installation

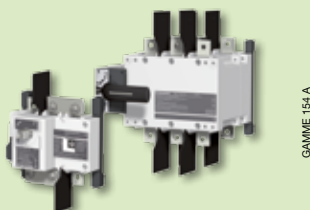


SIRCO-MC 056 B GB

Also available

SIRCO DC PV up to 2000 A

SIRCO DC disconnect switches are heavy duty switches that break and make up to 1500 VDC photovoltaic circuits on load. They are suitable for use in accordance with NEC Article 690 photovoltaic installations and Application UL1741.



Other UL products

- SIRCO M UL 508; Manual motor controller from 16 to 100 A
- SIRCO M UL98; AC disconnect switches from 30 to 100 A
- SIRCO UL98; AC disconnect switches from 30 to 1200 A
- FUSERBLOC UL; Fusible disconnect switches from 30 to 800 A
- SIRCOVER; Manual transfer switches from 100 to 1200 A
- DIRIS; Multi function metering devices
- ATYS UL 1008; Motorized transfer switching equipment from 100 to 1200 A



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