

MC-PB



Mounting instructions

Important Safety Instructions

SAVE THESE INSTRUCTIONS

This manual contains important instructions for the following products:

MC-PB

This manual must be followed during installation and maintenance.

The product is designed and tested according to inter national safety requirements, but as with all electrical and electronic equipment, certain precautions must be observed when installing and/or operating the prod uct. To reduce the risk of personal injury and to ensure the safe installation and operation of the product, you must carefully read and follo wall instructions, cautions and warnings in this manual.

A WARNING

General Warnings

All electrical installations must be made in accor dance with the local and National Electrical Code ANSI/NFPA 70 or the Canadian Electrical Code CSA C22.1. This document does not and is not intended to replace any local, state, provincial, federal or national laws, regulation or codes applicable to the installation and use of the product, including without limitation applica ble electrical safety code s. All installations mus comply with the laws, regulations, codes and standards applicable in the jurisdiction of instal lation. SMA assumes no responsibility for the compliance or noncompliance with such laws or codes in connection with the installation of the product.

The product contains no user-serviceable parts For all repair and maintenance, always return the unit to an authorized SMA Service Center. Before installing or using the product, read all of the instructions, cautions, and warnings in this

Wiring of the product must be made by qualified personnel only.

Information on this Document

This manual is valid for the retrofit kit MC-PB when ret rofitting the following Sunny Island inverters: SI4548-US-10 / SI504 8-US / SI6048-US-10.

Target Group

This document is intended for qualified persons. Only personnel with the following qualifications are al lowed to perform the tasks set forth in this document:

- Knowledge about the functional principle and op eration of off-grid systems
- Knowledge in how to deal with the dangers and risks associated with installing and using electrical devices and batteries
- · Knowledge of the installation and commissioning of electrical devices
- Knowledge and observance of the local stan dards and guidelines
- · Knowledge of and adherence to this document and all safety precautions

Nomenclature

Complete designation	Designation in this document
Sunny Island 4548-US / 5048-US / 6048-US	Sunny Island
Interface MC-PB	Interface
SMA Solar Technology America, LLC	SMA

Intended Use

The MC-PB retrofit kit enables the setup of the multi cluster communication and of the RS485 communica tion. The multicluster communication is established between the master of the main cluster and the master of the extension cluster via CAN. Via RS485 the Sunny Island can communicate with SMA communica tion products and SMA inverters. Use the interface of the retrofit kit according to the instructions in the documentation. Any other use may cause property dam age. For safety reasons, it is forbidden to modify the product or install components that are not explicitly recommended for this product or distributed by SMA. The enclosed documentation is an integral part of this product.

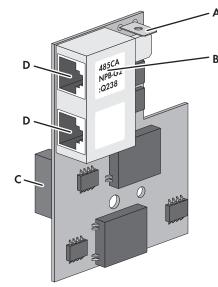
- Read and adhere to the documentation.
- Keep the documentation in a convenient place for future reference.

Scope of Delivery

Check the scope of delivery for completeness and any externally visible damage. Contact your specialty re tailer if the scope of delivery is incomplete or dam aged.

Quantity	Designation	
1	485CANPB-G2	
1	Yellow RJ45 data cable, $16\frac{1}{4}$ ft. (5 m)	
1	Gray RJ45 data cable, $16\frac{1}{4}$ ft. (5 m)	
1 \	Vhite RJ45 data cable with three con - ductors with stripped insulation	
2	Terminator	
1	Grounding cable	
1	Mounting Instructions	

Product description



Design of the interface Figure 1:

-	•	
lte	m Designation	
Α	A Flat male tab for grounding	
В	Type Label	
C	C Connection plug	
D	D RJ45 jack for multicluster communication	

The information on the type label is intended to help you in the safe use of the interface and will be needed if you contact the SMA Service Line. The type label must be permanently attached to the interface.

Installing the MC-PB

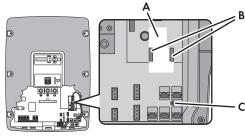


Figure 2: Installation location and connection of the interface

Item	Designation	
Α	Interface slot	
В	Connection socket	
C	Screw for grounding	

▲ WARNING

Danger to life due to high voltages

High voltages are present in the off-grid system and in the Sunny Island. The Sunny Island can start on its own from standby.

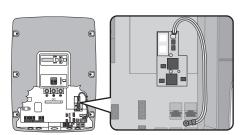
- Turn off or disconnect the components in the following order:
 - Sunny Island
 - All loads, AC sources, external energy sources and DC sources
- Miniature circuit-breaker for AC sources and the external energy source in the sub-distributions
- · Switch the DC miniature circuit-breaker to the Off position
- Ensure that the device cannot be reconnect -• Wait at least 15 minutes. This allows the ca
- pacitors to discharge • Open the enclosure lid of the Sunny Island and ensure that no voltage is present.
- Ground and short-circuit the AC conductors.
- Cover or safeguard any adjacent live compo nents.

NOTICE

Destruction of the connection socket due to improper installation

- Position the interface above the interface slot and adjust it vertically to it. The RJ45 sockets point towards the interior of the enclosure.
- Place the interface on the connection socket and press slightly. This avoids damage of the pins in the connection socket.
- 3. Undo the screw for earthing and attach it to the earthing cable on the printed circuit board (torque: 2 Nm).
- Plug the push-on receptacle of the earthing cable into the flat male tab for earthing.

The interface is grounded.



5. Connect the multicluster communication and RS485 communication (see technical description of the Sunny Island / Sunny Backup).

Removing the MC-PB

▲ WARNING

Danger to life due to high voltages

High voltages are present in the off-grid system and in the Sunny Island. The Sunny Island can start on its own from standby.

- Turn off or disconnect the components in the following order:
- Sunny Island
- All loads, AC sources, external energy sources and DC sources
- Miniature circuit-breaker for AC sources and the external energy source in the sub-distributions
- Switch the DC miniature circuit-breaker to the Off position
- Ensure that the device cannot be reconnect
- Wait at least 15 minutes. This allows the ca pacitors to discharge.
- Open the enclosure lid of the Sunny Island and ensure that no voltage is present.
- Ground and short-circuit the AC conductors.
- Cover or safeguard any adjacent live compo

NOTICE

Destruction of the conection socket due to improper removal

- Ground yourself before touching any compo nents
- Remove all cables f rom the interface.
- Undo the screw for grounding and remove the grounding cable
- Insert the screw into the printed circuit board for earthing (torque 2 Nm).
- Remove the interface vertically from the con nection socket. Do not lock the interface.
- Ground yourself before touching any compo 3. Close the Sunny Island. Ensure that enclosure openings which are not used for the RJ45 data ca ble are closed with cable support sleeves (see technical description of the Sunny Island / Sunny Backup).

Disposing of the MC-PB

• Dispose of the MC-PB in accordance with the lo cally applicable disposal regulations for electron ic waste.

Return the MC-PB to SMA at your own expense. Label the packaging with the information "ZUR ENTSORGUNG" (for disposal).

Technical Data

Communication

Communication interfaces	CAN und RS485
CAN communication range	164 ft. (50 m)
RS485 radio range	3 937 ft. (1 200 m)

Mechanical Data

Width x height x depth	$2^{11}/_{16}$ in. x $1^{11}/_{16}$ in. x $1^{1}/_{8}$ in. (68 mm x 42 mm x 27 mm)
Weight	1 ¹ / ₁₆ oz. (30 g)
Installation loca - tion	SI4548-US-10 / SI5048-US / SI6048-US-10

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