



Spare-part set "Emergency Switch Relay Kit" for ELECTROLYZER CONVERTER UP(-US)

6UP-580-002-001

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1 Information on this Document

1.1 Validity

This document is valid for:

- Emergency Switch Relay Kit (P2G Emergency Switch Relay Kit)

1.2 Target Group

The tasks described in this document must only be performed by qualified persons. Qualified persons must have the following skills:

- Within the SMA factory warranty, participation in an SMA training course is mandatory for carrying out the activities described in this document. The type of training and the media used may vary from country to country. The type and method of training can therefore vary from country to country, but must have been completed before the service is provided.
- Knowledge of how to safely disconnect SMA inverters
- Knowledge of how an inverter works and is operated
- Training in the installation and commissioning of electrical devices and installations
- Knowledge of all applicable laws, regulations, standards, and directives
- Knowledge of and compliance with this document and all safety information
- Training in dealing with dangers and risks in electrical installations according to 29 CFR, Chapter XVII, Part 1910 (OSHA), NEC and NFPA 70E

1.3 Levels of Warning Messages

The following levels of warning messages may occur when handling the product.

DANGER

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

Indicates a situation which, if not avoided, can result in property damage.

1.4 Symbols in the Document

Symbol	Explanation
	Information that is important for a specific topic or goal, but is not safety-relevant
	Indicates a requirement for meeting a specific goal
	Required result
	Example

1.5 Typographies in the document

Typography	Use	Example
bold	• Messages • Terminals • Elements on a user interface • Elements to be selected • Elements to be entered	• Connect the insulated conductors to the terminals X703:1 to X703:6. • Enter 10 in the field Minutes.
>	• Connects several elements to be selected	• Go to Settings > Date.
[Button] [Key]	• Button or key to be selected or pressed	• Select [Enter].
#	• Placeholder for variable components (e.g., parameter names)	• Parameter WCtHz.Hz#

1.6 Designations in the Document

Complete designation	Designation in this document
P2G Emergency Switch Relay Kit	Product
Electrolyzer Converter UP	Electrolyzer Converter, power converter

2 Safety

2.1 Intended Use

The product must only be installed in the following SMA inverters:

- EC UP-LV
- EC UP-LV-US
- EC UP-HV
- EC UP-HV-US

Statutory warranty

Use SMA products only in accordance with the information provided in the enclosed documentation and with the locally applicable laws, regulations, standards and directives. Any other application may cause personal injury or property damage.

Alterations to the SMA products, e.g., changes or modifications, are only permitted with the express written permission of SMA Solar Technology AG. Unauthorized alterations will void guarantee and warranty claims and in most cases terminate the operating license. SMA Solar Technology AG shall not be held liable for any damage caused by such changes.

Any use of the product other than that described in the Intended Use section does not qualify as appropriate.

The enclosed documentation is an integral part of this product. Keep the documentation in a convenient, dry place for future reference and observe all instructions contained therein.

This document does not replace any regional, state, provincial, federal or national laws, regulations or standards that apply to the installation, electrical safety and use of the product. SMA Solar Technology AG assumes no responsibility for the compliance or non-compliance with such laws or codes in connection with the installation of the product.

The enclosed documentation is an integral part of this product. Keep the documentation in a convenient, dry place for future reference and observe all instructions contained therein.

The product must not be operated with any technical defects.

2.2 IMPORTANT SAFETY INFORMATION

Keep the manual for future reference.

This section contains safety information that must be observed at all times when working.

The product has been designed and tested in accordance with international safety requirements. As with all electrical or electronical devices, some residual risks remain despite careful construction. To prevent personal injury and property damage and to ensure long-term operation of the product, read this section carefully and observe all safety information at all times.

DANGER

Danger to life due to electric shock when live components or cables of the inverter are touched

High voltages are present in the conductive components or cables of the inverter. Touching live parts and cables of the inverter results in death or lethal injuries due to electric shock.

- Disconnect the inverter from voltage sources and make sure it cannot be reconnected before working on the device.
- After switching off the inverter, wait at least 25 minutes before opening the inverter to allow the capacitors to discharge completely.
- Wear suitable personal protective equipment for all work on the product.
- Do not touch non-insulated parts or cables.

DANGER

Danger to life due to electric shock in case of a ground fault

If there is a ground fault, components that are supposedly grounded may in fact be live. Touching live parts will result in death or serious injury due to electric shock.

- Before working on the system, ensure that no ground fault is present.
- Wear suitable personal protective equipment for all work on the product.

WARNING

Danger to life from electric shock when entering the power system

Damaged insulation in the power system can cause lethal currents to ground. Lethal electric shocks can result.

- All work on the product must only be carried out by the SMA Service or a service partner.
- After entering the power system, immediately ensure that the power converter does not display an insulation error.
- Wear suitable personal protective equipment for all work on the product.
- Install the product in a closed electrical operating area.

⚠ WARNING**Danger to life due to electric shock when the internal power supply is switched off**

After switching off the internal power supply at the load-break switch -**Q62**, lethal voltages are still present in the cables to load-break switch -**Q62**. Only after the power path has disconnected are all cables of the internal energy self-sufficiency de-energized. Touching live components can result in death or serious injury due to electric shock.

- Disconnect the product from the power path and ensure that it cannot be reconnected.
- Do not touch the orange cables in the inside of the product. These cables are used for connecting the external supply voltage and can be dangerous to touch.
- Wear suitable personal protective equipment for all work on the product.

⚠ WARNING**Hearing impairment due to high-frequency noises of the inverter**

The inverter generates high-frequency noises when in operation. This can result in hearing impairment.

- Wear hearing protection.

⚠ WARNING**Danger to life due to electric arc if there are tools inside the inverter**

When reconnecting and in operation, an electric arc can arise if conductive foreign parts (e.g. tools) are located in the inverter and establish a conductive connection between live components. This can result in death or serious injury.

- Before commissioning or reconnection, verify that no tools are inside the inverter.

⚠ WARNING**California Proposition 65**

The product can expose you to hazardous substances including antimony trioxide and diethylhexyl phthalate (DEHP). These chemicals are known to the State of California to cause cancer and birth defects or other reproductive harm.

- For more information, visit <https://www.P65warnings.ca.gov>.

⚠ CAUTION**Risk of burns due to hot components**

Some components of the inverter can become very hot during operation. Touching these components can cause burns.

- Observe the warning messages on all components.
- During operation, do not touch any components marked with such warnings.
- After switching off the inverter, wait until any hot components have cooled down sufficiently.
- Wear suitable personal protective equipment for all work on the product.

⚠ CAUTION**Risk of injury due to sharp edges in the inverter**

There are sharp edges in the inverter. You can cut yourself when reaching into the inverter.

- Wear gloves when carrying out any work on the inverter.

NOTICE

Damage to the inverter due to sand, dust and moisture

Sand, dust and moisture penetration can damage the inverter, thus impairing its functionality.

- Only open the inverter if the humidity is within the thresholds and the environment is free of sand and dust.
- Do not open the inverter during a dust storm or precipitation.
- Close the inverter in case of interruption of work or after finishing work.

i Observe superordinate standards

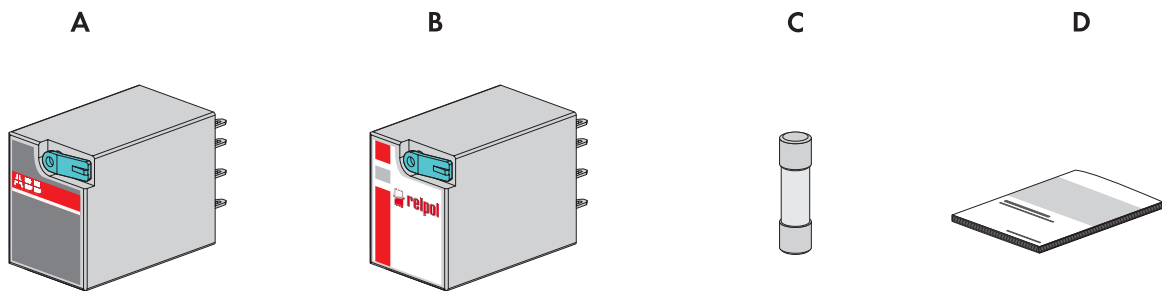
The repair work on devices and the consideration and application of other standards which correspond to a superordinate standard is the responsibility of the qualified person performing the work. Unauthorized alterations will void guarantee and warranty claims and in most cases terminate the operating license. SMA Solar Technology AG shall not be held liable for any damage caused by such changes.

i Connecting and disconnecting medium voltage

Only a duly authorized person trained in electrical safety is allowed to connect and disconnect the medium voltage.

3 Scope of Delivery

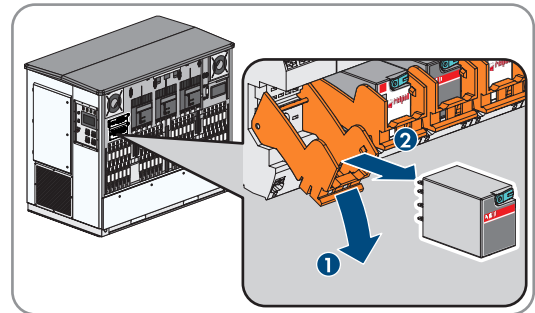
Check the scope of delivery for completeness and any externally visible damage. Contact the Service if the scope of delivery is incomplete or damaged.



Position	Quantity	Designation
A	4	Relay by manufacturer ABB
B	4	Relay by manufacturer relpol
C	2	Miniature fuse
D	1	Manual

4 Removing the P2G Emergency Switch Relays

1. Disconnect the power converter from all poles (see manual of power converter).
2. Open the hatch in front of the DC area of the power converter (see manual of power converter).
3. Remove all relays. Push the retaining brackets downwards and pull out the relays.

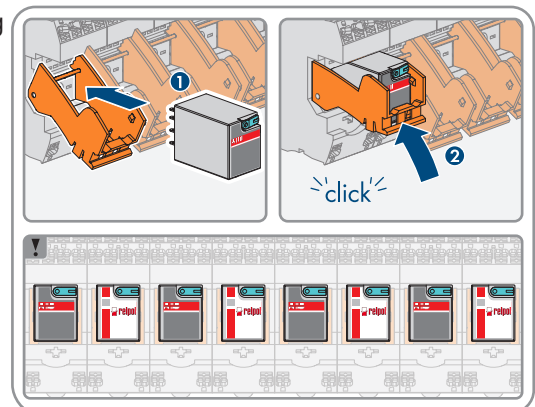


i Information on Relay Replacement

All relays must always be replaced. Depending on the version, this is either 8 or 6 relays. The miniature fuses must also be checked and replaced if needed. Information on the miniature fuses can be found in the circuit diagram.

5 Mounting the P2G Emergency Switch Relays

1. Mount the relays contained in the scope of delivery alternating between the two manufacturers. To do this, start on the left with relay A (manufacturer ABB) and then continue with relay B (manufacturer relpol).
2. Insert the new relay in the retaining bracket and push the retaining bracket upwards to lock it in place.
 - ☒ The relay snaps audibly into place.



6 Checking the Function

1. Close the opened hatch (see manual of power converter).
2. Reconnect the power converter (see manual of power converter).
3. If the power converter does not start running again, contact Service.

7 Contact

If you have technical problems with our products, please contact the SMA Service Line. The following data is required in order to provide you with the necessary assistance:

- Type of device
- Serial number
- Firmware version
- Event message
- Mounting location and mounting height
- Type of communication
- Type and number of PV modules

- Type of the communication products connected
- Use the name of the system in Sunny Portal (if available)
- Access data for Sunny Portal (if available)
- Special country-specific settings (if available)
- Detailed description of the problem

You can find your country's contact information at:



<https://go.sma.de/service>

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