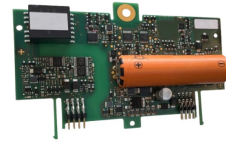



BU-STRT-US-50
Backup Start Module



BU-STRT-US-50 SMA Backup Start Module User Guide

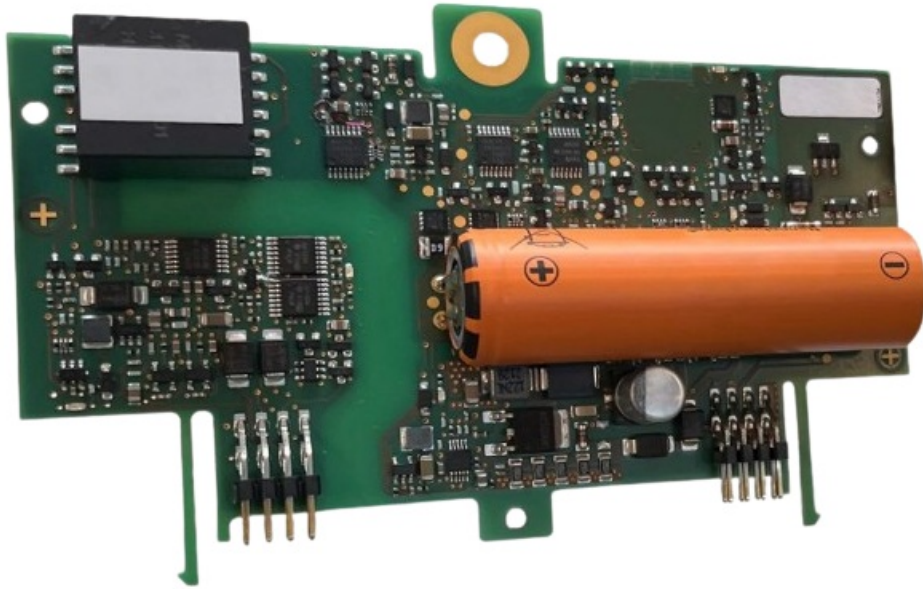
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BU-STRT-US-50 SMA Backup Start Module



Specifications

- **Product Name:** SMA Backup Start
- **Model Number:** BU-STRT-US-50
- **Manual Type:** eManual
- **Version:** BU-STRT-US-50-50-ISS-xx-10 | 125964-00.01 | Version 1.0

Product Information

SMA Backup Start is a product manufactured by SMA Solar Technology AG. It is designed to provide backup power in certain SMA inverters and is approved for use in the USA market. The product comes with specific safety guidelines and intended use instructions to ensure proper and safe operation.

Product Usage Instructions

- It is crucial to follow all safety guidelines provided by SMA Solar Technology AG to prevent personal injury and property damage.
- Only qualified persons should handle the product, and all components must operate within their permitted ranges.
- The SMA Backup Start should only be installed in SMA inverters specified by the manufacturer.
- It is not suitable for powering life-sustaining medical devices, and any modifications to the product must have written permission from SMA Solar Technology AG.
- Users must adhere to all local laws, regulations, and standards when using the product.
- Any other application not described in the documentation may result in injury or damage.
- The enclosed documentation is essential for reference, and any unauthorized alterations can void warranty claims.

FAQ

- **Q:** Can the SMA Backup Start be used with any inverter?
- **A:** No, the product must only be installed in specific SMA inverters as indicated in the documentation to ensure

proper functionality.

- **Q:** Is the SMA Backup Start suitable for powering medical devices during a power outage?
- **A:** No, it is not suitable for powering life-sustaining medical devices. A power outage should not lead to personal injury when using this product.

Legal Provisions

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The exclusion of implied warranties may not apply in all cases under some statutes, and thus the above exclusion may not apply.

Specifications are subject to change without notice. Every attempt has been made to make this document complete, accurate, and up-to-date. Readers are cautioned, however, that product improvements and field usage experience may cause SMA Solar Technology AG to make changes to these specifications without advance notice or per contract provisions. SMA Solar Technology AG shall not be responsible for any damages, including indirect, incidental or consequential damages, caused by reliance on the material presented, including, but not limited to, omissions, typographical errors, arithmetical errors or listing errors in the content material.

SMA Warranty

- You can download the current warranty conditions from the Internet at www.SMA-Solar.com.

Trademarks

All trademarks are recognized, even if not explicitly identified as such. Missing designations do not mean that a product or brand is not a registered trademark.

Information on this Document

Validity

- This document is valid for:
- BU-STRT-US-50 (SMA Backup Start)

Target Group

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

- Knowledge of how to safely disconnect SMA inverters
- Knowledge of how an inverter works and is operated
- Training in how to deal with the dangers and risks associated with installing, repairing, and using electrical devices and installations
- 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

Content and Structure of this Document

- This document contains safety information on the handling of the product. Graphical instructions for initial installation as part of the initial installation of the inverter are also included with the product.
- Observe all information in the documents and carry out the actions illustrated graphically in this document in the specified order.
- The latest version of this document and the comprehensive manual for installation, commissioning, configuration, and decommissioning of the system can be found in PDF format and as an eManual at www.SMA-Solar.com. You will find the QR code that
- links to the eManual on the title page of this document.
- Illustrations in the documents are reduced to the essential information and may deviate from the real product.

Levels of Warning Messages

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

DANGER

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

NOTICE

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

Symbols in the Document

Symbol Explanation

-  Information that is important for a specific topic or goal, but is not safety-relevant

Safety

Intended Use

SMA Backup Start is required to use a secure power supply and battery-backup operation in the SMA Home Energy Solution with the SMA inverters listed below. SMA Backup Start is equipped with a battery that can be charged to start the system as soon as energy is present in the PV system or the system battery. Thus, SMA Backup Start makes it possible to start an emergency power operation or battery backup operation, even with a completely de-energized inverter. This is particularly necessary if PV module switches are installed in the system that supports the SunSpec communication signal for Rapid Shutdown systems and disconnects the inverter from the PV modules. SMA Backup Start can be used in systems with or without a battery.

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

- SBSE3.8-US-50 (Sunny Boy Smart Energy 3.8-US)
- SBSE4.8-US-50 (Sunny Boy Smart Energy 4.8-US)

- SBSE5.8-US-50 (Sunny Boy Smart Energy 5.8-US)
- SBSE7.7-US-50 (Sunny Boy Smart Energy 7.7-US)

Even with SMA Backup Start, the system is not suitable for supplying life-sustaining medical devices.

- A power outage must not lead to personal injury.
- All components must remain within their permitted operating ranges and their installation requirements at all times.
- The product is approved for the USA market.
- 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 the intended use
- 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.

IMPORTANT SAFETY INSTRUCTIONS

DANGER

Danger to life due to electric shock when live components or DC cables are touched

The DC cables connected to a battery or a PV module may be live. Touching live DC cables results in death or serious injury due to electric shock.

- Disconnect the inverter from voltage sources and make sure it cannot be reconnected before working on the device.
- Wait five minutes before working on the inverter.
- Observe all safety information of the battery manufacturer.
- Do not touch non-insulated parts or cables.
- Do not pull the DC conductors under load out of the terminal blocks.
- Wear suitable personal protective equipment for all work on the product.

DANGER

Danger to life due to electric shock when touching live system components in case of a ground fault

If a ground fault occurs, parts of the system may still be live. Touching live parts and cables 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.

- Only touch the cables of the PV modules on their insulation.
- Do not touch any parts of the substructure or frame of the PV array.
- Do not connect PV strings with ground faults to the inverter.
- Once disconnected from voltage sources, wait five minutes before touching any parts of the PV system or the inverter.

WARNING

Danger to life due to fire and deflagration

In rare cases, an explosive gas mixture can be generated inside the inverter under fault conditions. In this state, switching operations can cause a fire and, in very rare cases, a deflagration inside the inverter. Death or lethal injuries due to the spread of a fire can result.

- In case of failure, do not perform any direct actions on the inverter.
- In case of failure, ensure that unauthorized persons have no access to the product.
- In case of failure, disconnect the PV module from the inverter via an external disconnection device. If there is no disconnecting device present, wait until no more DC power is applied to the inverter.
- In case of failure, disconnect the battery from the inverter via an external disconnection device. Do not operate the DC load-break switch on the inverter.
- In the event of a fault, disconnect the AC circuit breaker, or keep it disconnected in case it has already tripped, and secure it against reconnection.

WARNING

Risk of injury due to toxic substances, gases and dusts.

- In rare cases, damages to electronic components can result in the formation of toxic substances, gases or dusts inside the inverter. Touching toxic substances and inhaling toxic gases and dusts can cause skin irritation, burns or poisoning, trouble breathing and nausea.
- Only perform work on the inverter (e.g., troubleshooting, repair work) when wearing personal protective equipment for handling of hazardous substances (e.g., safety gloves, eye and face protection, respiratory protection).
- Ensure that unauthorized persons have no access to the inverter.

WARNING

Danger to life due to fire or explosion when batteries are fully discharged

A fire may occur due to incorrect charging of fully discharged batteries. This can result in death or serious injury.

- Before commissioning the system, verify that the battery is not fully discharged.
- Do not commission the system if the battery is fully discharged.
- If the battery is fully discharged, contact the battery manufacturer for further proceedings.
- Only charge fully discharged batteries as instructed by the battery manufacturer.

WARNING

- Danger to life due to electric shock from destruction of the measuring device due to overvoltage
- Overvoltage can damage a measuring device and result in voltage being present in the enclosure of the

measuring device. Touching the live enclosure of the measuring device results in death or lethal injuries due to electric shock.

- Only use measuring devices with measurement ranges designed for the maximum AC and DC voltage of the inverter.

CAUTION

Risk of burns due to hot inverter enclosure parts

Some parts of the inverter enclosure can get hot during operation. Touching hot enclosure parts can result in burn injuries.

- During operation, do not touch any parts other than the enclosure lid of the inverter.
- Wait until the inverter has cooled down before touching the enclosure.

CAUTION

Risk of injury due to sharp EMC clips

The EMC clips installed on the enclosure of the inverter may have sharp edges and can cause cut injuries.

- Do not touch the EMC clips.
- Use caution when installing and removing modules in 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.

NOTICE

Damage to the inverter due to electrostatic discharge

Touching electronic components can cause damage to or destroy the inverter through electrostatic discharge.

- Ground yourself before touching any component.

FCC STATEMENT

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

1. this device may not cause harmful interference, and
2. this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, according to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used under the instructions, may cause harmful interference to radio communications. However, there is no guarantee that

interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications made to this equipment not expressly approved by SMA Solar Technology AG may void the FCC authorization to operate this equipment.


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Documents / Resources

	<p>SMA BU-STRT-US-50 SMA Backup Start Module [pdf] User Guide BU-STRT-US-50, BU-STRT-US-50 SMA Backup Start Module, SMA Backup Start Module, Backup Start Module, Start Module, Module</p>
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References

- [User Manual](#)