User Manual

Communication via SMA Modbus

SI4.4M-12 / SI6.0H-12 / SI8.0H-12 / SI4.4M-13 / SI6.0H-13 / SI8.0H-13

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1 Information on this Document

1.1 Validity

This document is valid for:

- SI4.4M-13 (Sunny Island 4.4M) from firmware version 3.30.12.R
- SI6.0H-13 (Sunny Island 6.0H) from firmware version 3.30.12.R
- SI8.0H-13 (Sunny Island 8.0H) from firmware version 3.30.12.R

1.2 Target Group

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

- Detailed knowledge of the grid management services
- Knowledge of IP-based network protocols
- Knowledge of the Modbus specifications
- Training in the installation and configuration of IT systems
- Knowledge of and compliance with this document and all safety information

1.3 Content and Structure of this Document

This document names the possible applications of the SMA Modbus interface on the Sunny Island and, for an application example, describes the procedure when setting up this interface (for information on mounting, installation, commissioning, operation, configuration, troubleshooting, decommissioning of the Sunny Island see the operating manual of the inverter).

1.4 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.

1.5 Symbols in the Document

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

Symbol	Explanation
☑	Required result
🔧	Example

1.6   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	• Select **Settings > Date**.
[**Button**] [**Key**]	• Button or key to be selected or pressed	• Select [**Enter**].
#	• Placeholder for variable components (e.g., parameter names)	• Parameter **WCtlHz.Hz#**

1.7   Additional Information

For more information, please go to www.SMA-Solar.com.

Title and information content	Type of information
Mounting, installation, commissioning, operation, configuration, troubleshooting and decommissioning of the inverter	Operating manual
"Modbus® parameters and measured values" Device-specific list of the Modbus register	Technical Information
"SMA Modbus® Interface" Device-independent information on the commissioning and configuration of the SMA Modbus interface	Technical Information

2 Safety

2.1 Intended Use

The Modbus interface of the SMA products is designed for industrial use and has the following tasks:

- Remote control of grid management services
- Remote-controlled querying of measured values
- Remote-controlled changing of parameters

The battery inverter only supports the Modbus profile developed by SMA.

All components must remain within their permitted operating ranges and their installation requirements at all times.

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 other than that described in the Intended Use section does not qualify as appropriate.

The documentation supplied is an integral part of SMA products. 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.

2.2 IMPORTANT SAFETY INSTRUCTIONS

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.

NOTICE
Damage of SMA products due to cyclical changing of parameters
The parameters of SMA products that can be changed with writable Modbus registers (RW) are intended for long-term storage of device settings.
Parameters marked with ⚠, must not be changed more than once a day (see technical information "Parameters and Measured Values").
Parameters for grid management services to control and limit the nominal system power are marked with ⚡. These parameters may be changed cyclically (see technical information "Parameters and Measured Values").
• Use the parameters for grid management services for the automated remote control.
• Note the explanation of the symbols (see Technical Information "Parameters and Measured Values").

NOTICE

Manipulation of system data in networks

You can connect the supported SMA products to the Internet. When connected to the Internet, there is a risk that unauthorized users can access and manipulate the data of your system.

- Set up a firewall.
- Close unnecessary network ports.
- If absolutely necessary, only enable remote access via a virtual private network (VPN).
- Do not use the port forwarding feature. This also applies to the used Modbus ports.
- Disconnect system components from other network components (network segmentation).

$\boxed{\mathbf{i}}$ **Access to data points after activating the Modbus interface**

The read-only access to data points is possible after activating the Modbus interface. The read-only access to all data points (which are not protected by the SMA Grid Guard code) are possible without further input of a password via Modbus after activating the Modbus interface.

- Ensure that the Modbus interface is still active after resetting the SMA product to default settings.

2.3   SMA Grid Guard code

Certain parameters are protected by the personal SMA Grid Guard code. If you would like to changes these parameters, you must log into the user interface of the inverter and enter your personal SMA Grid Guard code. By entering your personal SMA Grid Guard code, the SMA inverter changes its configuration mode to the Grid Guard mode. Changes to the grid management service parameters in Grid Guard mode will be recorded by the SMA inverter. These parameters are marked with 🔧 in the device-specific register HTML file.

It is also possible to enter the SMA Grid Guard code via Modbus. The input is made with values in hexadecimal.

With an SMA Grid Guard code, only one person, communication device or software tool can log into the SMA product. If you want to change parameters via your Modbus client, you are not allowed to use the same SMA Grid Guard code via Sunny Explorer, user interface of an SMA inverter or via SMA data logger at the same time.

You can obtain the SMA Grid Guard code via SMA Service or via the "Application for SMA Grid Guard Code" at www.SMA-Solar.com.

The SMA Grid Guard code as well as the code for logging out of the Grid Guard mode are described in the Modbus register (43090) under the Unit ID 3. If an SMA inverter is restarted during Grid Guard mode, the SMA Grid Guard code must be transmitted again. The Grid Guard mode is deactivated with the code **0**.

For more information on accessing an SMA product via Grid Guard code, see manual of the SMA product. For parameters that are Grid Guard-protected, see product pages or Modbus page at www.SMA-Solar.com.

3 System Requirements

Machine

☐ Required: Modbus master to establish a Modbus connection to the Sunny Island

☐ Recommended: SMA Data Manager M for reading of the Modbus registers of a multicluster system

☐ The SMA Data Manager M allows the querying of aggregated power and energy values as well as the state of charge of the entire multicluster system.

Network and router:

☐ Required: Stable network connection to the Sunny Island

☐ Recommended: fixed assignment of the IP address to the MAC address of the Sunny Island (see DHCP settings of the network router)

☐ Recommended: deactivation of IGMP-snooping

4 Preparing Communication via Modbus

The following preparations must be made prior to the first use of the SMA Modbus interface.

Procedure:

1. Commission the Sunny Island master device (see operating manual of the Sunny Island).
2. Select the parameter group **External communication** via the user interface of the Sunny Island or in the parameter list of the SMA Data Manager.
3. In the group **Modbus > TCP server** select the drop-down list **Activated**.
4. In the drop-down list **Activated**, select the entry **Yes**.
5. In the group **Modbus > UDP server**, select the drop-down list **Activated**.
6. In the drop-down list **Activated**, select the entry **Yes**.

5 Application Examples

5.1 Reading of Modbus Registers

5.1.1 Reading of Modbus registers: system structure

By means of the SMA Modbus interface various values of the Sunny Island can be read (see technical information "Modbus® parameters and measured values" of the Sunny Island). This includes, for example, operating states, current power values and set parameters.

A Sunny Island can supply the values of a single-phase single system (individual device) or of a three-phase single-cluster system. The values of a single cluster are queried via the master device of the single cluster.

To read aggregated system measured values (e.g. AC power, total state of charge) of a multicluster system, the SMA Data Manager M is required in addition. If no SMA Data Manager M is available, you must retrieve the values individually via the master devices of the multicluster system and aggregate them yourself.

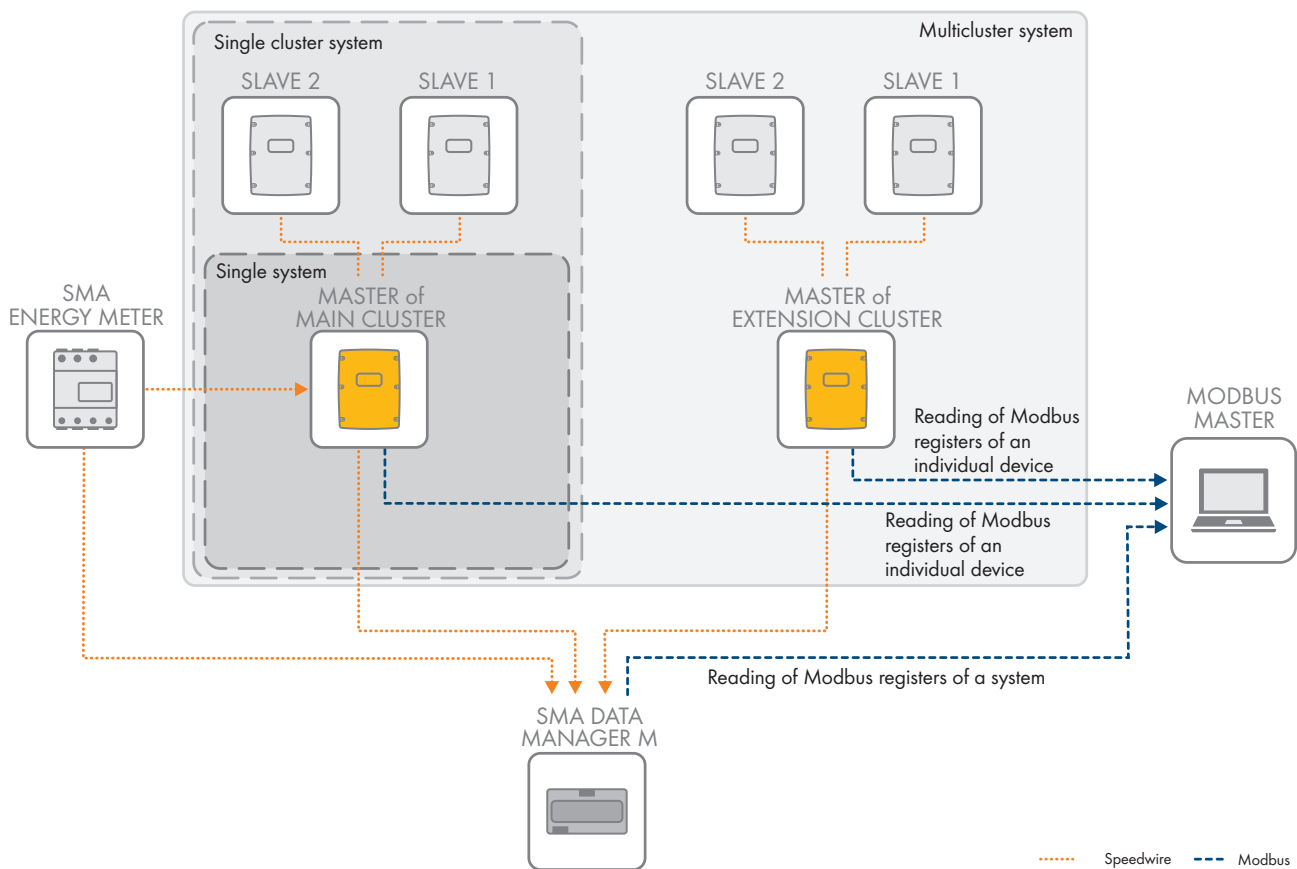Reading of Modbus registers via the interface is possible in parallel grid operation and stand-alone mode.

Figure 1: Reading of Modbus registers in PV systems and individual devices

Also see:

- Reading of Modbus registers: compatibility overview ⇒ page 11

5.1.2 Reading of Modbus registers: compatibility overview

	Reading Modbus Registers via the Modbus Interface of the Sunny Island	Reading Modbus Registers via the Modbus Interface of the Sunny Data Manager M
Sunny Island (single-phase)	●[1]	●[1]
Sunny Island (three-phase as single-cluster system)	●[1]	●[1]
Sunny Island (three-phase as multicluster system)	○[2]	●[1]

5.2 Parameterization

5.2.1 Parameterization: system structure

The second application example for the SMA Modbus interface is the setting of the parameters of end devices.

Different from reading Modbus registers, there is no system-wide parameterization possible via the Modbus interface of the SMA Data Manager M. Parameter changes must be made individually on each master device in a multicluster system (see technical information "Modbus® parameters and measured values" of the Sunny Island).

> **i** **Parameter with Grid Guard symbol**
>
> If commissioning of the product occurred more than 10 hours ago, the Grid Guard code must be entered to be able to change parameters with the Grid Guard symbol 🔧. You can request the Grid Guard code via the Online Service Center.

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[1] Compatible

[2] Not compatible
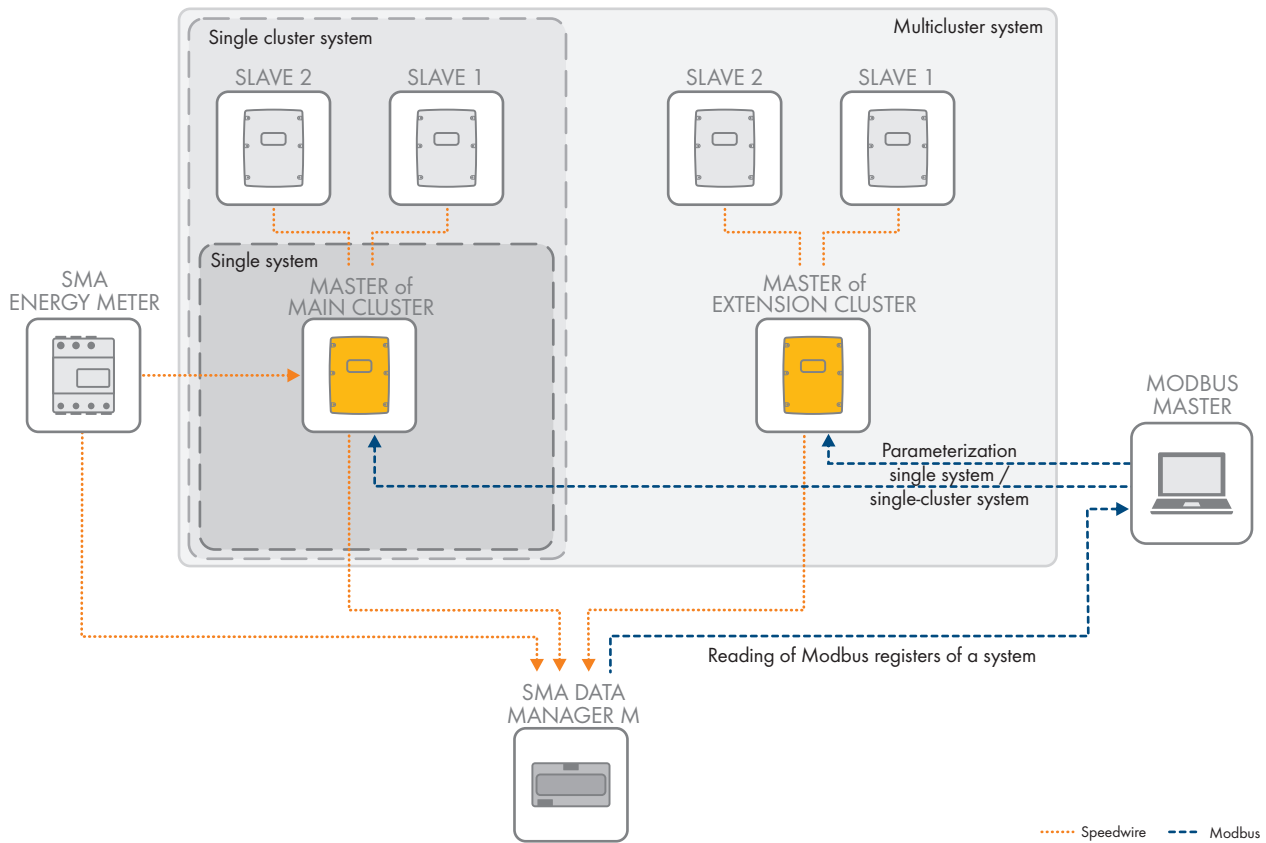
Figure 2: Parameterization of systems and individual devices

Also see:

- Parameterization: compatibility overview ⇒ page 12

5.2.2   Parameterization: compatibility overview

	Parameterization via the Modbus interface of the Sunny Island	Parameterization via the Modbus interface of the Sunny Data Manager M
Sunny Island (single-phase)	●[3]	○[4]
Sunny Island (three-phase as single-cluster system)	●[3]	○[4]
Sunny Island (three-phase as multicluster system)	●[3] [5]	○[4]

5.3   Power Specification

5.3.1   Power specification: system structure

The third possible application of the SMA Modbus interface is the specification of the active power of the Sunny Island.

Analogous to the parameterization, a system-wide power specification can be made via the SMA Data Manager M.

The power specification via the interface is only possible during parallel grid operation.

---

[3] Compatible

[4] Not compatible

[5] The parameters must be set separately via the master of each individual Sunny Cluster.

ⓘ **Maximum usable power when specifying power via Modbus**

The maximum usable power when specifying power via Modbus depends on the system structure:

- In a single-phase single system (individual device), the maximum usable power is the continuous rated power of the individual device (e.g., 6 kW for a Sunny Island 8.0H-13).

- In a three-phase single-cluster system, the maximum usable power is three times the continuous rated power of the individual devices (e.g., 18 kW for a Sunny Island 8.0H-13).

ⓘ **External power specification**

In case of external power specification, the inverter receives the setpoint from a higher-level control unit. The dynamic behavior for the implementation of the setpoint and the fallback behavior for the absent external power setpoint can be adjusted via parameters.

The setpoint is specified as a percentage maximum and minimum value in parallel grid operation and as an absolute value per phase in stand-alone mode with the utility grid connected.
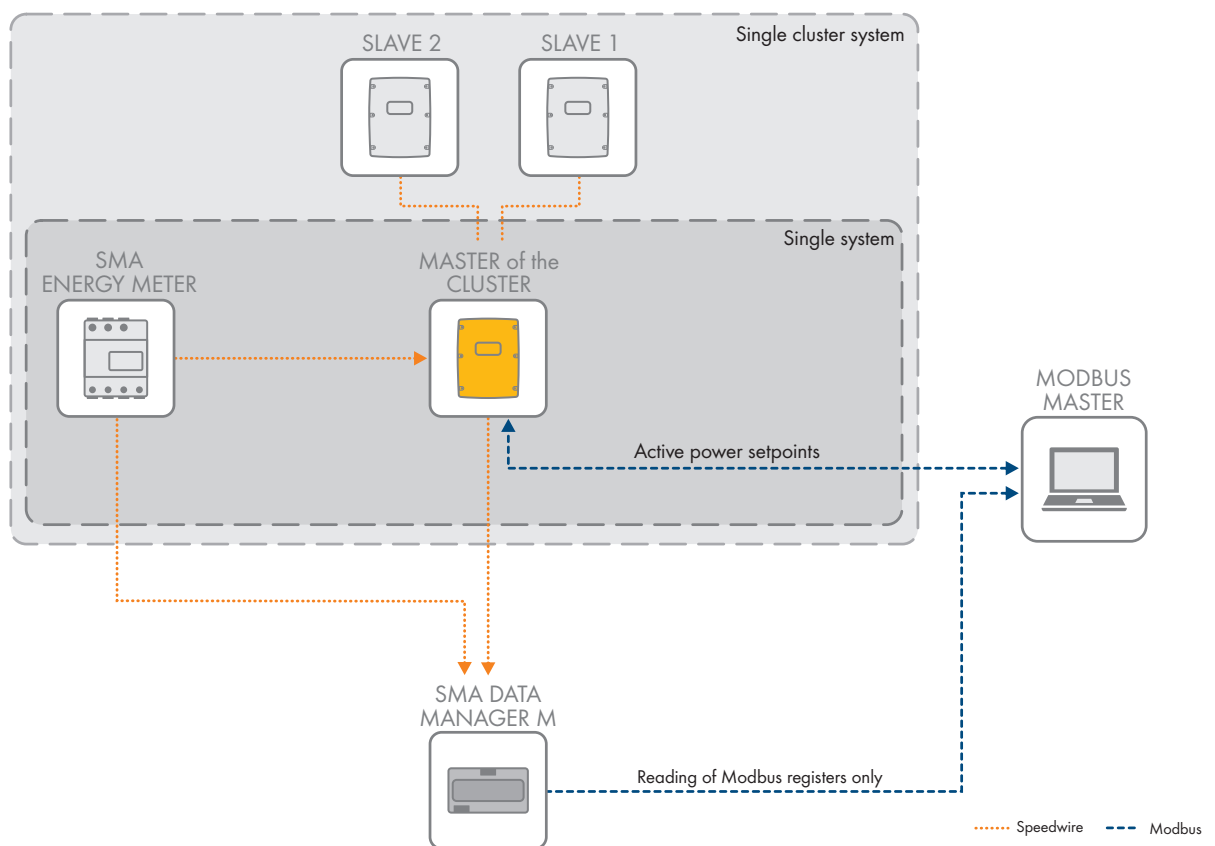
Figure 3: Power specification

Also see:

- Power setpoint: Compatibility Overview ⇒ page 14
- Power setpoint for single or single-cluster systems in parallel grid operation ⇒ page 15
- Power setpoint for single or single-cluster systems in stand-alone mode ⇒ page 19

5.3.2   Power setpoint: Compatibility Overview

	Power setpoints via the Modbus interface of the Sunny Island	Power setpoints via the Modbus interface of the SMA Data Manger M
Sunny Island in parallel grid operation (single-phase)	●[6]	○[7]
Sunny Island in parallel grid operation (three-phase as single-cluster system)	●[6]	○[7]
Sunny Island in stand-alone mode (single-phase)	●[6]	○[7]
Sunny Island in stand-alone mode (three-phase as single-cluster system)	●[6]	○[7]
Sunny Island in stand-alone mode (three-phase as multi-cluster system)	○[7]	○[7]

---

[6] Compatible

[7] Not compatible

6 Power setpoint for single or single-cluster systems in parallel grid operation

6.1 System setup for power setpoint in parallel grid operation
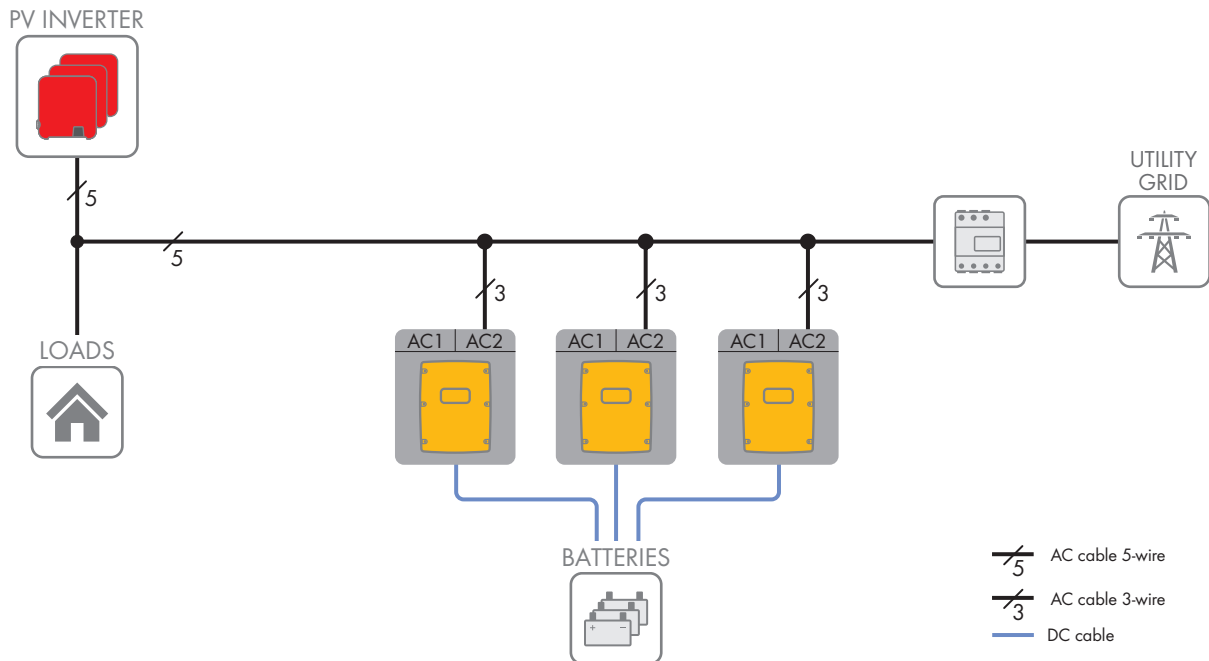
Figure 4: Design of a system in parallel grid operation with load and utility grid (example)

To be able to fully remote control a single system or single cluster system in parallel grid operation via the Modbus interface, the system must be configured for parallel grid operation.

In parallel grid operation, the performance needs are given as percentages. The percentage values refer to the rated power of the individual inverter or the individual clusters.

Also see:

- Example for power setpoint in parallel grid operation ⇒ page 15
- Parameters for power setpoint in parallel grid operation ⇒ page 16
- Setting the Power Setpoint in Parallel Grid Operation ⇒ page 17

6.2 Example for power setpoint in parallel grid operation

[i] **Note the sign when entering hexadecimal values**

To prevent incorrect input of signed numerical values, the power setpoints should be transmitted as hexadecimal values for the 32-bit double registers. Sample conversions can be made on the following website: https://manderc.com/concepts/umrechner/index.php

The Sunny Island can be cyclically controlled via specification of the minimum and maximum active power. The originally configured operation mode (e.g. increased self-consumption) is carried out within the limits.

Figure 5: Control of the Sunny Island via specification of the minimum and maximum active power

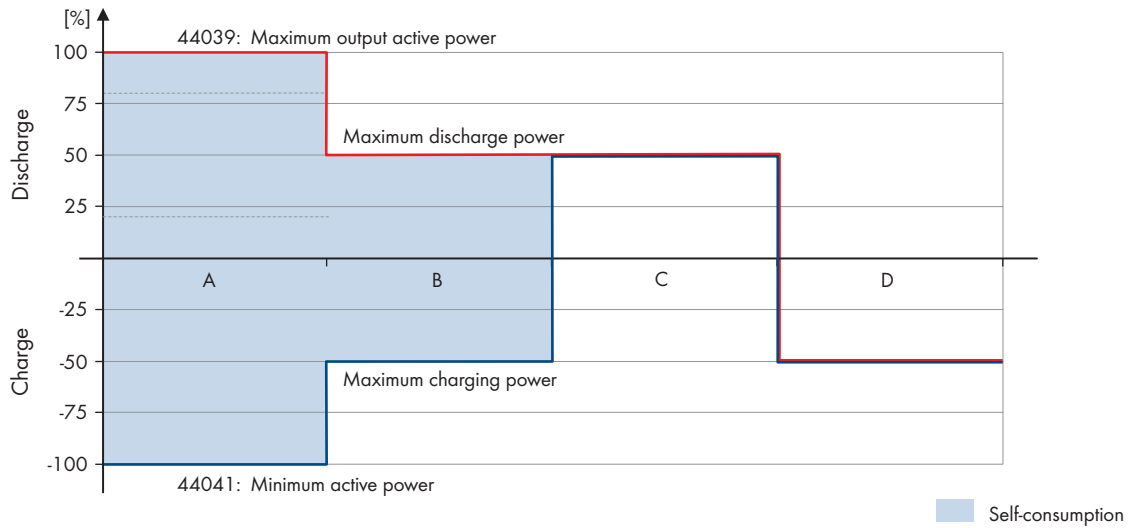| Example	Explanation
A	If the system is to provide increased self-consumption via the full nominal reference and nominal feed-in power, select the following settings: • **44041: Minimum active power** to -**100%** (Hex: FFFF D8F0) • **44039: Maximum active power** to +**100%** (Hex: 0000 2710)
B	If the system is to provide increased self-consumption with a maximum of 50% of nominal reference power and 50% of nominal feed-in power, select the following settings: • **44041: Minimum active power** to -**50%** (Hex: FFFF EC78) • **44039: Maximum active power** to +**50%** (Hex: 0000 1388)
C	Select the following settings for a power feed-in with 50% of the possible nominal feed-in power: • **44041: Minimum active power** to +**50%** (Hex: 0000 1388) • **44039: Maximum active power** to +**50%** (Hex: 0000 1388)
D	Select the following settings for a power consumption with 50% of the possible nominal reference power: • **44041: Minimum active power** to -**50%** (Hex: FFFF EC78) • **44039: Maximum active power** to -**50%** (Hex: FFFF EC78)

ℹ️ If the power setpoint was sent to the inverter, these values are displayed under "Instantaneous Values".

6.3 Parameters for power setpoint in parallel grid operation

General external active power setpoint:

Parameters	Value
40210: Operating mode Active power setpoint	1079: External setting
41195: External active power setpoint, timeout	1 s to 8000 s

Parameters	Value
41193: External active power setpoint, fallback behavior	2506: Keep values[8]
	2507: Apply fallback values[8]
44037: External active power specification, fallback value of the maximum active power	0 W to 10000 W

Ramps of internal control:

Parameters	Value
44029: External active power setpoint, limitation of the ramp rate	303: Off[8]
	308: On[8]
44031: External active power setpoint, ramp-up rate	0.1 %/s to 10000 %/s
44033: External active power setpoint, ramp-down rate	0.1%/s to 10000%/s

6.4　Setting the Power Setpoint in Parallel Grid Operation

1. To configure the Sunny Island in the **BackupOnly** or **SelfCsmpBackup** operating mode, install a backup or switch box.

2. Configure the Sunny Island in the **SelfConsOnly**, **BackupOnly** oder **SelfCsmpBackup** operating mode:

3. Set general external active power setpoint (see table **General external active power setpoint**).

4. Set the ramps of the internal control to external active power specifications (see table **Ramps of internal control**).

5. Set the cyclical setpoint of the minimum and maximum active power.

6. Make sure that a new active power setpoint is transmitted no more than every 500 ms. Otherwise, the device may not accept the setpoints.

☐ **Possibly no discharge of the battery due to current state of charge**

The Sunny Island dynamically changes the limit for the discharge protection of the battery. As a result, the battery of the Sunny Island can have a state of charge in which discharge is temporarily not possible (e.g. with deep discharge protection).

- While the Sunny Island is remotely controlled, permanently monitor the limit for the state of charge. To do this, read the current limit via **31009: Lower discharge limit for self-consumption area** (for further information on the battery management see operating manual of the Sunny Island).

Also see:

6.5　Power setpoint under SelfConsOnly and SelfCsmpBackup without SMA Energy Meter or SMA Home Manager 2.0

If no SMA Energy Meter or SMA Home Manager 2.0 is installed and the battery inverter is configured in the **SelfConsOnly** or **SelfCsmpBackup** operating mode, the battery inverter will report faulty communication with the metering device after commissioning. Nevertheless, the battery inverter can be used in the **SelfConsOnly** or **SelfCsmpBackup** operating mode to specify power setpoints via the Modbus interface.

[8] Optional

Implement the following measures:

- Deactivate increased self-consumption before specifying power setpoints via the Modbus interface. Set the parameter **40075: Rise in self-consumption switched on** to **1130: No**.

  If no setpoints for power specification are not specified any more, the battery inverter starts to fully charge the battery after the time set via **41195: External active power setpoint, timeout** has elapsed.

- To prevent the battery from being fully charged, either set values of 0% or reactivate the increased self-consumption. Set the parameter **40075: Rise in self-consumption switched on** to **1129: Yes**.

7 Power setpoint for single or single-cluster systems in stand-alone mode

7.1 System setup for power setpoint in stand-alone mode
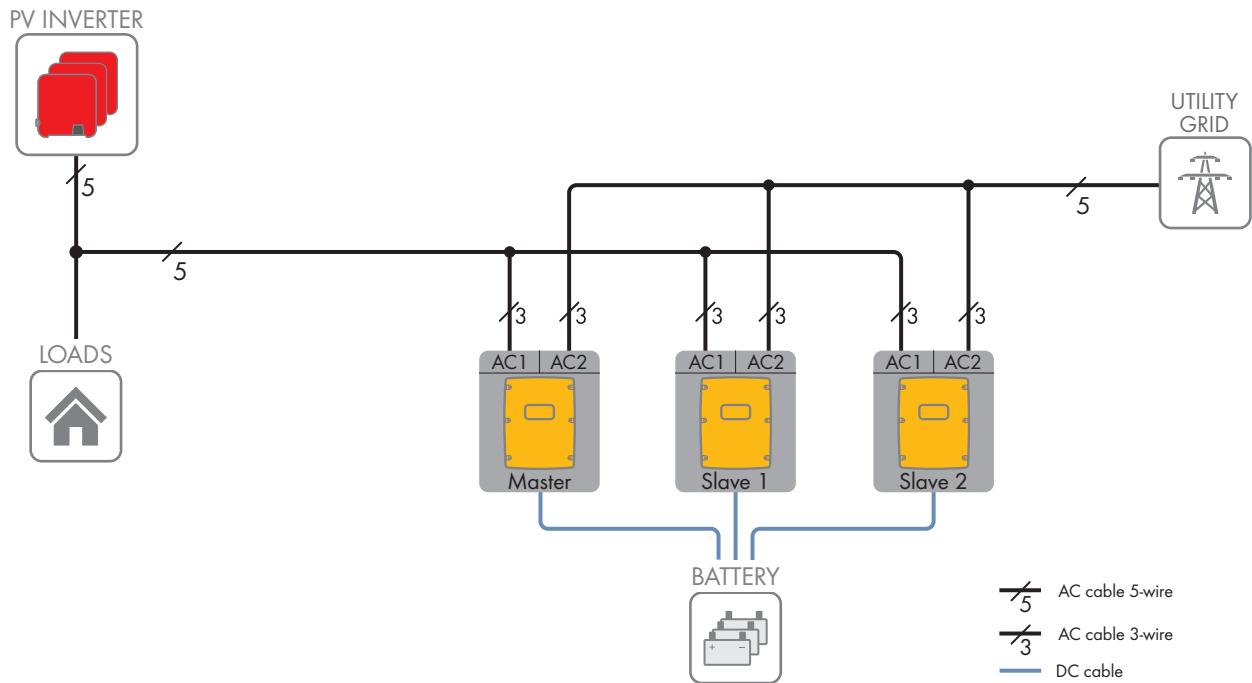
Figure 6: Design of a system in stand-alone mode with load and utility grid (example)

Also see:

7.2 Requirements for power setpoints in stand-alone mode

To be able to fully remote control a single system or single cluster system in stand-alone mode via the Modbus interface, the following requirements must be met:

- A single-system or single-cluster system must be installed. It is not possible to specify power setpoints via the Modbus interface when operating with a Multicluster-Box.
- The utility grid is connected to the AC2 terminal of the battery inverter and is used exclusively as an external energy source.
- The utility grid is synchronized with the stand-alone grid.

If a generator is used as an external energy source, it is not possible to specify the power setpoints via the Modbus interface.

Power setpoints via Modbus are always specified in watts per phase in stand-alone mode with connected utility grid. In a three-phase single-cluster system, the system power is always three times the power setpoint of the individual inverter.

7.3   Parameters for power setpoint in stand-alone mode

General external active power setpoint:

Parameters	Value
40679: Reverse-feeding into the utility grid permitted	1129: Yes
40210: Operating mode Active power setpoint	1079: External setting
41195: External active power setpoint, timeout	1 s to 8000 s (recommendation: 5 s to 10 s)
41193: External active power setpoint, fallback behavior	2506: Keep values[9]
	2507: Apply fallback values[9]
44037: External active power specification, fallback value of the maximum active power	0 W to 10000 W

Ramps of internal control:

Parameters	Value
44029: External active power setpoint, limitation of the ramp rate	303: Off[9]
	308: On[9]
44031: External active power setpoint, ramp-up rate	0.1 %/s to 10000 %/s
44033: External active power setpoint, ramp-down rate	0.1%/s to 10000%/s

7.4   Setting the Power Setpoint in Stand-Alone Mode

1. Set the Sunny Island to stand-alone mode (**Off-grid mode**).

2. Select the utility grid as external energy source (**Grid**).

3. Select the system configuration as single-phase system (**single-phase**) or three-phase system (**three-phase**).

4. Set general external active power setpoint (see table **General external active power setpoint**).

5. Set the ramps of the internal control to external active power specifications (see table **Ramps of internal control**).

6. Set the discharge limits for external active power setpoints in stand-alone mode with the utility grid as the external power source. Set the parameter **40705: Upper state of charge for reactivation of grid feed-in** to **0%** to **90%** and the parameter **40707: Lower state of charge for blocking grid feed-in** to **0%** to **100%**.

7. Set the cyclic settings for power control when the utility grid is connected. Set the parameter **40151: Active and reactive power control via communication** to **802: active (Act)** and the parameter **40149: Active power setpoint** to the required power. Information: For a three-phase single cluster system, the system power is three times the value of the phase power specified in **40149: Active power setpoint**.

[i] **Possibly no discharge of the battery due to current state of charge**

The Sunny Island dynamically changes the limit for the discharge protection of the battery. As a result, the battery of the Sunny Island can have a state of charge in which discharge is temporarily not possible (e.g. with deep discharge protection).

- While the Sunny Island is remotely controlled, permanently monitor the limit for the state of charge. For discharging operation, the current battery state of charge must be within the discharge limits set for external active power setpoints in stand-alone mode with the utility grid: **40705: Upper state of charge for reactivation of grid feed-in** and **40707: Lower state of charge for blocking grid feed-in**.

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[9] Optional

Also see:

- Parameters for power setpoint in parallel grid operation ⇒ page 16
- Requirements for power setpoints in stand-alone mode ⇒ page 19

8 Assignment Tables

8.1 Explanation for the assignment tables

The following subsections are sorted by unit ID. Each contains a table of the Modbus registers which can be accessed using this unit ID. The tables present the following information:

Information	Explanation
ADR	Decimal Modbus register
Description/number codes	Short description of the Modbus register and the number codes used
CNT	Number of assigned Modbus registers
Type	Data type: • U = Unsigned Value • S = Signed Value • 16, 32 or 64 = size of the register in bits
Format	Data format of the saved value: • FIXn means that in the register value the decimal point is shifted by n digits. • TAGLIST means that only the given values appear.
Access	Access type: • RO = Read Only • RW = Read Write • WO = Write Only

8.2 Measured Values and Parameters Selected

The following table contains a selection of the measured values and parameters provided by the Sunny Island via the SMA Modbus profile. These measured values and parameters are relevant for reading Modbus registers, for parameterization and for power specification.

ADR	Description/number codes	CNT	Type	Format	Access
30053	Device type: 9331: Sunny Island 3.0M-12 9332: Sunny Island 4.4M-12 9333: Sunny Island 6.0H-12 9334: Sunny Island 8.0H-12 9474: Sunny Island 4.4M-13 9475: Sunny Island 6.0H-13 9476: Sunny Island 8.0H-13 9486: Sunny Island 5.0H-13	2	U32	TAGLIST	RO
30201	Status: 35: Error (Alm) 303: Off 307: Ok 455: Warning (Wrn)	2	U32	TAGLIST	RO

ADR	Description/number codes	CNT	Type	Format	Access
30845	Current battery state of charge Value range: 0% to 100%	2	U32	FIX0	RO
30775	Power in W	2	S32	FIX0	RO
30843	Battery current in A	2	S32	FIX3	RO
30849	Battery temperature in °C	2	U32	FIX1	RO
30851	Battery voltage in V	2	U32	FIX2	RO
30917	Generator status: 303: Off 1392: Error (Flt) 1787: Initialization (Init) 1788: Ready (Rdy) 1789: Warm-up (Warming) 1790: Synchronize (Syn) 1791: Activated (ConnAct) 1792: Re-synchronize (ReSyn) 1793: Generator separation (GnDscon) 1794: shut-off delay (StopDl) 1795: blocked (Lok) 1796: Locked after error (FltLok) 16777213: Information not available (NaNStt)	2	U32	TAGLIST	RO
31009	Lower discharge limit for self-consumption range in %	2	U32	FIX0	RO
33003	Operating status: 235: Parallel grid operation (GriOp) 1463: Backup (Bck) 2677: Operation at generator, at external input (SttGnOp) 3664: Emergency charge mode (EmgCha) 16777213: Information not available (NaNStt)	2	U32	TAGLIST	RO
40149	Active power setpoint in W	2	S32	FIX0	WO
40151	Active and reactive power control via communication: 802: active (Act) 803: inactive (Ina)	2	U32	TAGLIST	WO
40210[10]	Operating mode Active power setpoint: 303: Off 1077: Manual setting in W (WCnst) 1078: Manual setpoint in % of the nominal device power (WCnstNom) 1079: External setpoint (WCtlCom)	2	U32	TAGLIST	RW

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[10] This parameter can only be read or written if a logon has taken place using the SMA Grid Guard code.

ADR	Description/number codes	CNT	Type	Format	Access
40679	Reverse-feeding into the utility grid permitted: 1129: Yes 1130: No	2	U32	TAGLIST	RW
40705	Upper state of charge for reactivation of grid feed-in Value range: 0% to 90%	2	U32	FIX0	RW
40707	Lower state of charge for blocking grid feed-in Value range: 0% to 100%	2	U32	FIX0	RW
41193	External active power setpoint, fallback behavior: 2506: Keep values (UsStp) 2507: Apply fallback values (UsFlb)	2	U32	TAGLIST	RW
41195	External active power setpoint, timeout Value range: 1 s to 1800 s	2	U32	DURA-TION	RW
44029	External active power setpoint, limitation of the ramp rate: 303: Off 308: On	2	U32	TAGLIST	RW
44031[10]	External active power setpoint, ramp-up rate Value range: 0.1%/s to 10000%/s (referred to the value of the external active power input)	2	U32	FIX2	RW
44033[10]	External active power setpoint, ramp-down rate Value range: 0.1%/s to 10000%/s (referred to the value of the external active power input)	2	U32	FIX2	RW
44037	External active power specification, fallback value of the maximum active power Value range: 0 W to 10000 W	2	S32	FIX2	RW
44039	Maximum output active power Value range: -100% to +100% of nominal device power	2	S32	FIX2	WO
44041	Minimum active power Value range: -100% to +100% of nominal device power	2	S32	FIX2	WO

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