Solar-Log™

Connection of the Kernel SCB V1.2

Solar-Log™

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1 The Kernel SCB

1.1 General

The Kernel from Kernel Sistemi is compatible with the Solar-Log Base 2000.
Up to 60 Kernel SCBs can be connected to a single Solar-Log Base 2000.
You have to request and enter a license code before you can select and configure the Kernel SCB.

Steps for purchasing and importing a license for the Solar-Log™:

- Go to the license portal at https://shop.solar-log.com.
- Log on with your Enerest account.
- After you have to enter the serial number of the Solar-Log™, a list of compatible licenses is displayed.
- You can only select one license from the list. After the selection has been made, the web-shop payment options appear.
- After the payment confirmation, the license is valid.

Automatic import:

- Go to the Configuration | System | Licenses WEB menu of the Solar-Log™.
- Click on Synchronize.
- Now the Solar-Log™ connects to the license server and downloads all of the active licenses.

Manual import:

- Download the license file from the License portal.
- Go to the Configuration | System | Licenses WEB menu of the Solar-Log™.
- Click on the plus symbol and select the license file.

After importing the license, it is activated immediately and „Installed“ is displayed.

Note

Licenses are linked to the device (serial number). The license has to be purchased again if a device has been replaced after the warranty has expired.

Note

If a Solar-Log™ with a license has a defect during the warranty period, a license can be requested for the replacement device. There are no costs involved, provided that the defective device is returned to Solar-Log GmbH.

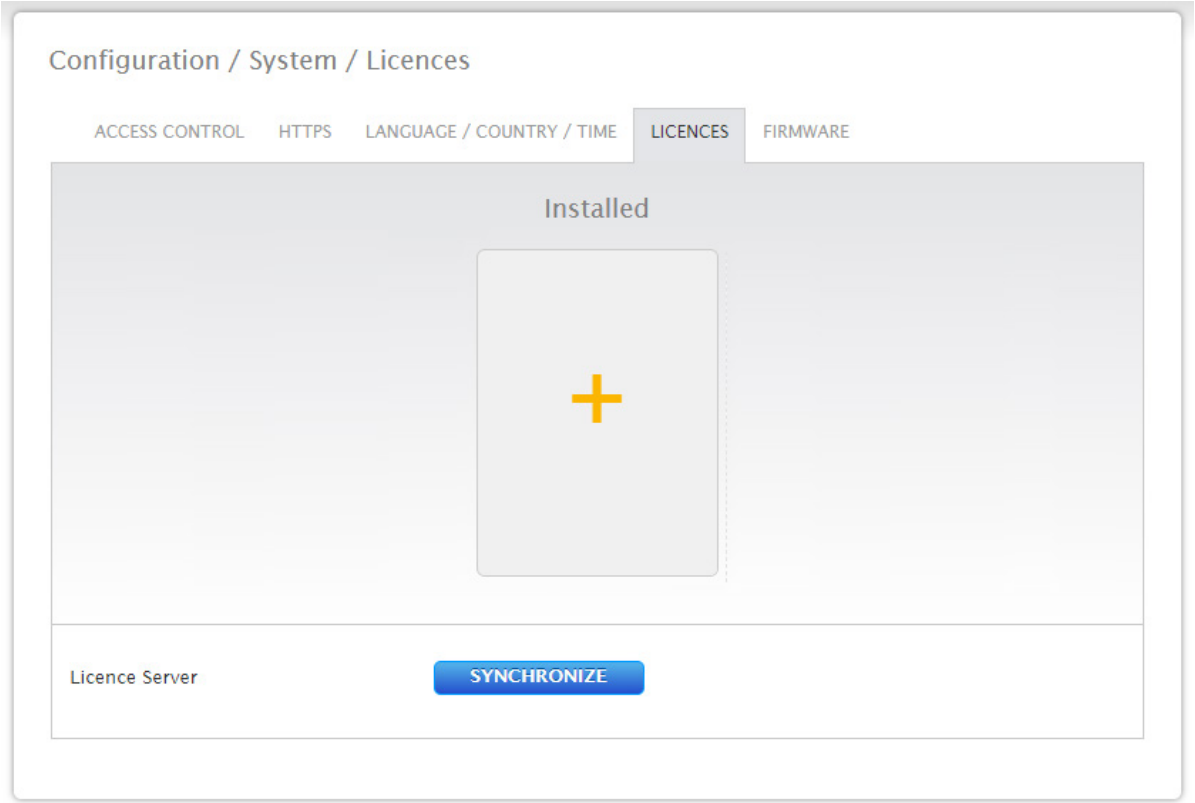


Fig.: Solar-Log™ with license area

1.2 Introduction

The configuration described in this document refers to the Kernel SCB from Kernel Sistemi. Refer to the manufacturer's manual for the basic installation, configuration, termination and addressing.

1.3 Scope of Application

The instructions describe the connection of the Solar-Log Base 2000 with the Kernel SCB from Kernel Sistemi.

Note!

The Kernel SCB from Kernel Sistemi must be connected to the Solar-Log™ via a separate RS485 interface.

1.4 Compatible Models

The following models are compatible with the Solar-Log Base 2000:

ST0HS-series:

- ST0HS 0825
- ST0HS 1225
- ST0HS 1625
- ST0HS 2425

ST0N-series:

- ST0N 0825
- ST0N 1225
- ST0N 1625
- ST0N 2425

(Status August 2023)

2 Communication Setup

The Kernel SCB is connected to either the RS485A or RS485B interface of the Solar-Log Base 2000.

The wiring is done using a

- self-made, shielded 3-wire data cable.

Connect the wires as shown in the following diagram:

Terminal block Solar-Log™	Kernel SCB - CN2
PIN	PIN
► (A) 6 or (B) 10 (Data+)	► 4 TX+ (Blau)
► (A) 8 or (B) 12 GND	► 6 GND (Schwarz)
► (A) 9 or (B) 13 (Data-)	► 5 TX- (Gelb)

Termination: yes (120 Ohm between A and B)

Important note!

The following settings must be observed:
Baud rate: 19200
Data bits: 8
Parity: No
Stop bits: 1

In addition, the SW1 DIP switch must be set to “Modbus”.

2.1 Termination and Addressing of the SCB

Please refer to the manufacturer’s instructions for the configuration, termination, addressing and wiring of the Kernel SCB from Kernel Sistemi.

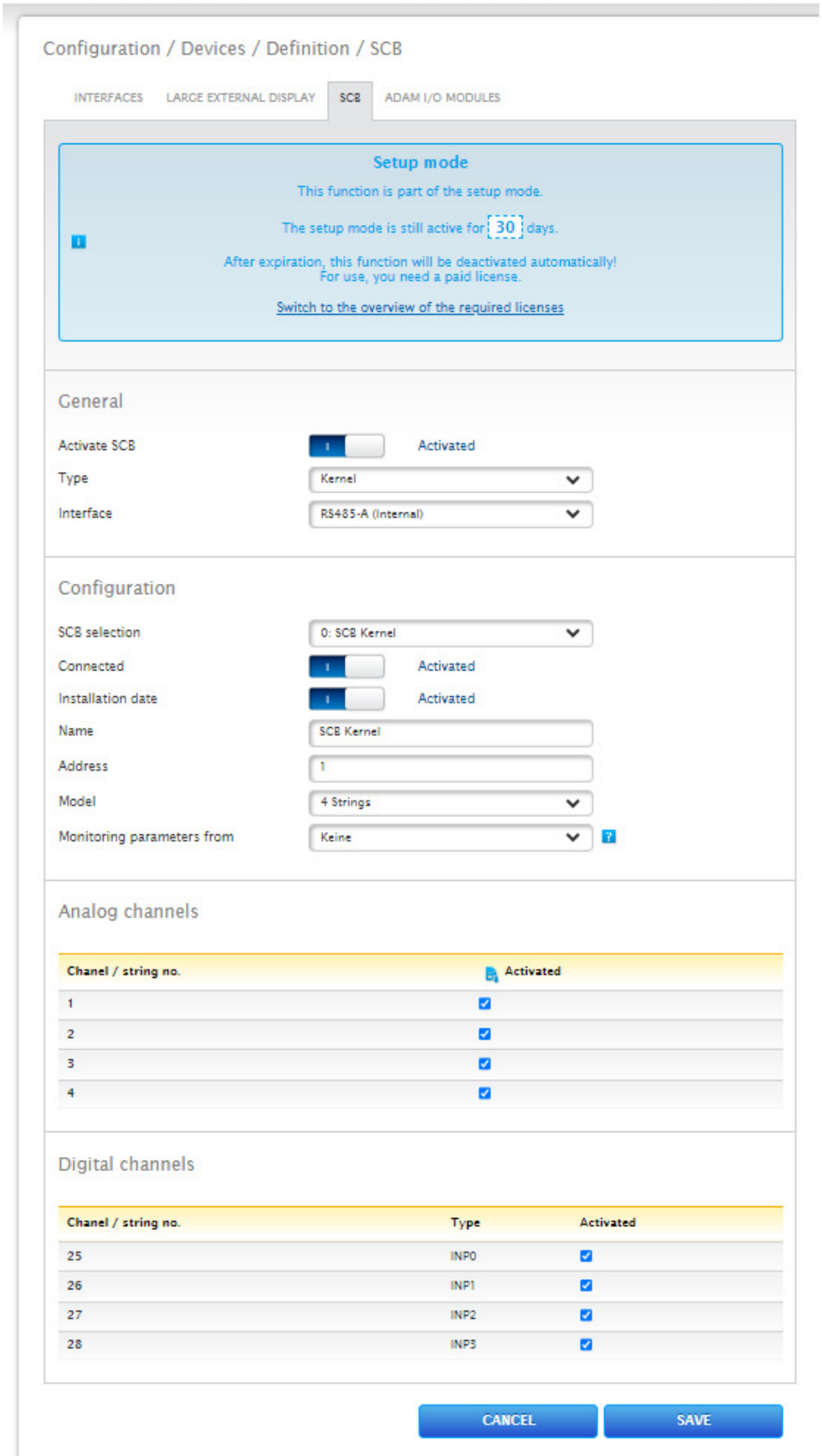
3 Solar-Log™ Installation

3.1 Configuration

To configure the Solar-Log Base 2000, you need a PC/laptop that you connect to the Solar-Log Base 2000 via a network cable or a router. Please refer to the Solar-Log Base manual for the necessary settings regarding network addresses.

Activating the Kernel SCB

- Access the web interface of the Solar-Log™.
- Activate the Kernel SCB in the Configuration | Devices | Definition | SCB menu.



Example image with activated SCB Kernel in installation mode

Additional Settings

After the SCB has been activated, adjustments need to be made to the additional settings in the following sections.

- General
- Configuration
- Analog Channels
- Digital Channels

General

The following points are under General:

- Activate SCB
- Type
- Interface

Activate SCB

The Activate SCB button activates (or deactivates) the entire SCB logic.

Type

Select Kernel SCB under Type.

Interface

Select the interface here that the SCB(s) is connected to.

Configuration

The following configuration options are available under Configuration:

- SCB Selection
- Connected
- Installation date
- Name
- Address (0-255)
- Model
- Monitoring parameters from

SCB Selection

Here the profile position of the up to 60 definable SCBs can be selected and configured.

Connected

This should be activated only after the Solar-Log Base and SCB data connection has been established and the devices communicate with each other.

In Operation

This should only be activated when the PV plant feeds into the grid.

Name

Here you enter the names of the individual SCBs. We recommend assigning unique names to ensure the correct assignments.

Address (0-255)

Enter the bus address for each SCB that was assigned to the device during the SCB configuration. We recommend starting with 1 and continuing in a consecutive and ascending order to maintain a better overview.

Model

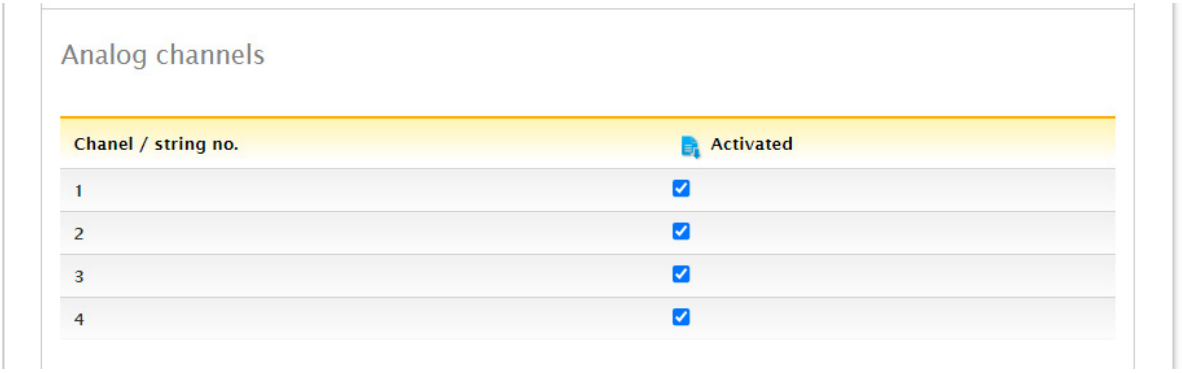
The model of the SCB that is to be applied to this confirmation can be selected here via a pull-down menu.

Monitoring parameters from

The inverters monitoring parameters are applied
by the assignment to an inverter. Several SCBs can be assigned to an inverter. This method is possible because string monitoring is not possible with central inverters and for this reason monitoring parameters are not required. The SCB monitoring parameters can be modified in the Configuration | Notifications | Power & Failure menu.

Analog Channels

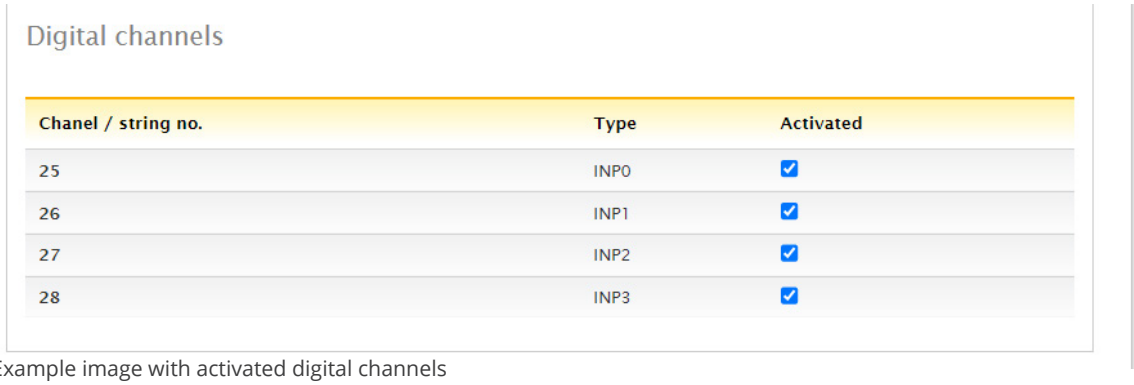
Logging of the individual strings can be activated and deactivated from Analog Channels.



Example image with activated analog channels

Digital Channels

Logging of the SCB's available status channels can be activated and deactivated from Digital Channels.



Example image with activated digital channels

After configuring the SCB, click on Save.

3.2 Checking the SCB Configuration

After the SCB has been successfully installed and activated, the Solar-Log Base immediately starts to receive data from it. Go to SCB Monitor to check the installation and data. And then go to Diagnosis | Components | SCB Monitor. Each SCB can be selected in this section from the drop-down menu in the String Overview. The measured values from all of the SCBs are displayed in the table below.
A table with the following columns is found under Measurement from (see the figure below).

- Analog no.
  - Type
  - Value
- Digital no.
  - Type
  - Value

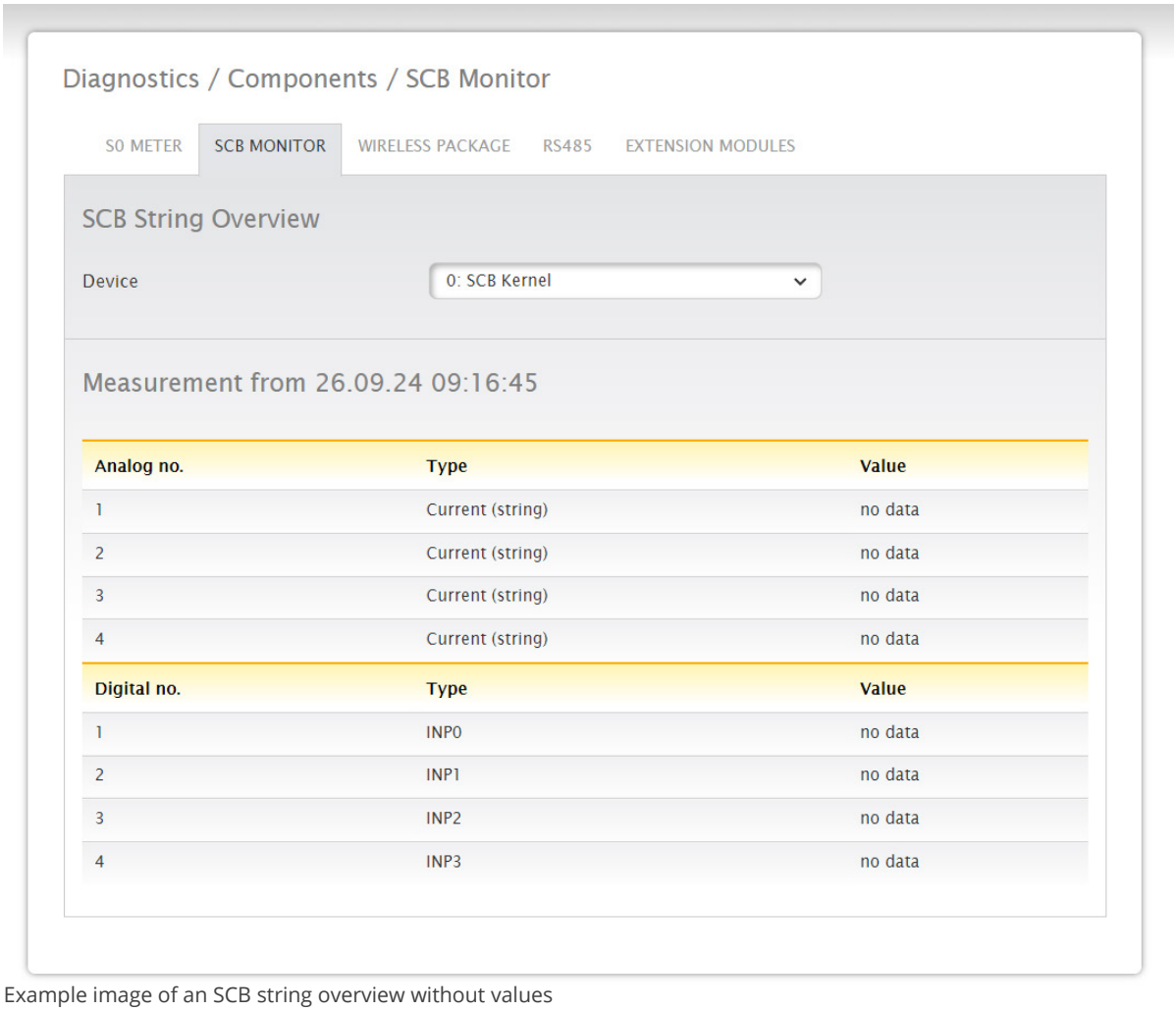
The measurements themselves occur on a regular 15-second cycle. The time of the last measurement is displayed under Measurement from.

Type

The data type of the particular channel (e.g., analogue channel current, total power, internal temperature, total voltage etc.) is displayed.

Value

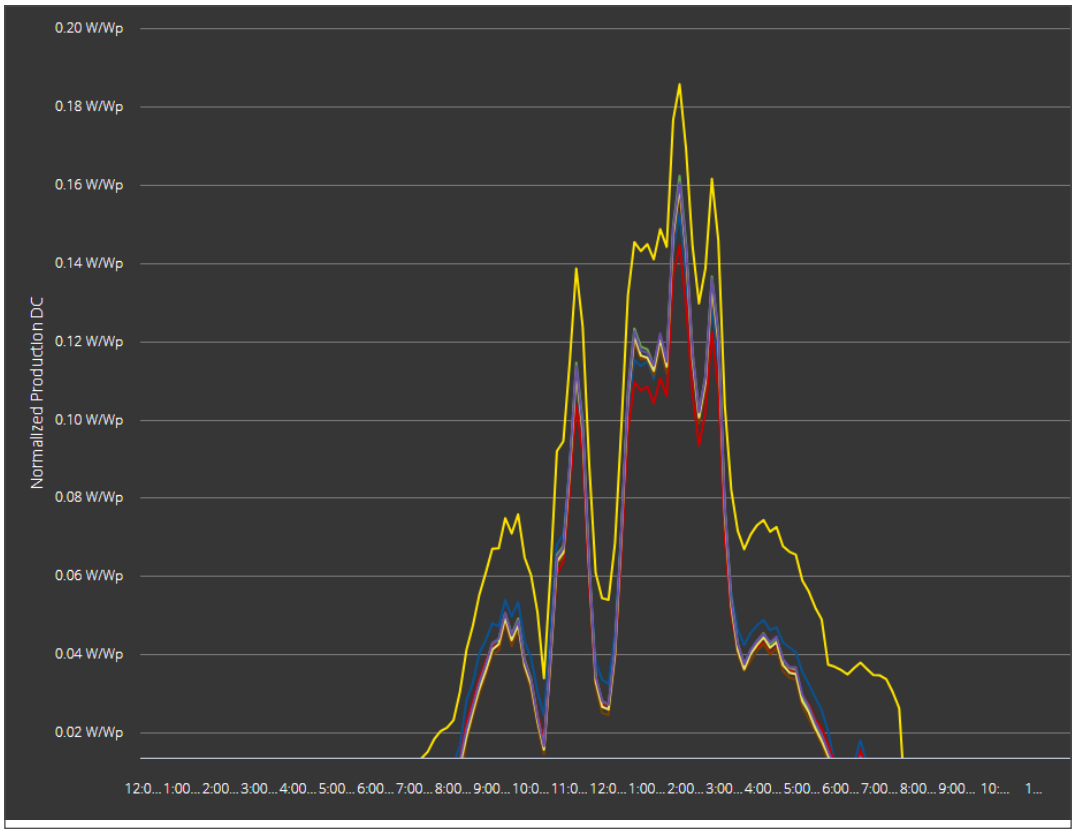
The last measured values of the particular channel are displayed here.



Example image of an SCB string overview without values

4 Displaying and Monitoring String Data

A precise graphical evaluation of the SCB string data, as well as the error and monitoring messages can be realized in the Solar-Log WEB Enerest™ (see example illustration).
Further information can be found on our homepage under Products & Solutions.



Example of String Display in the Solar-Log WEB Enerest™

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