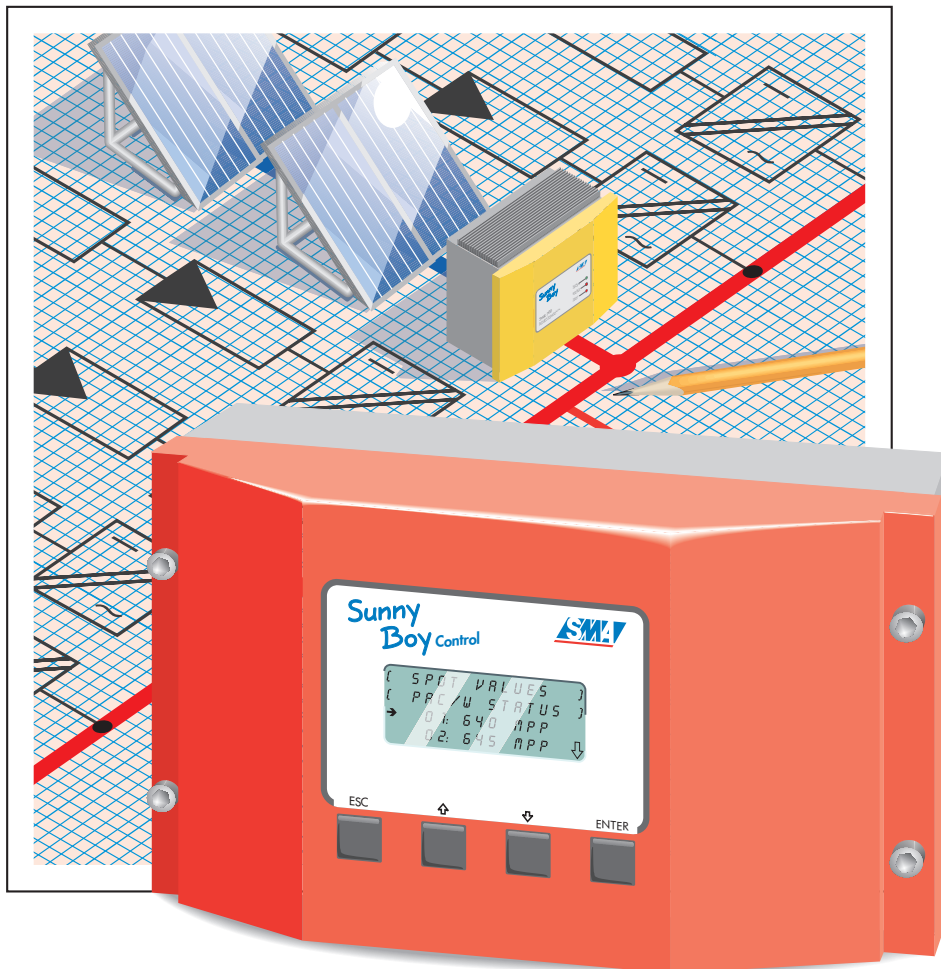


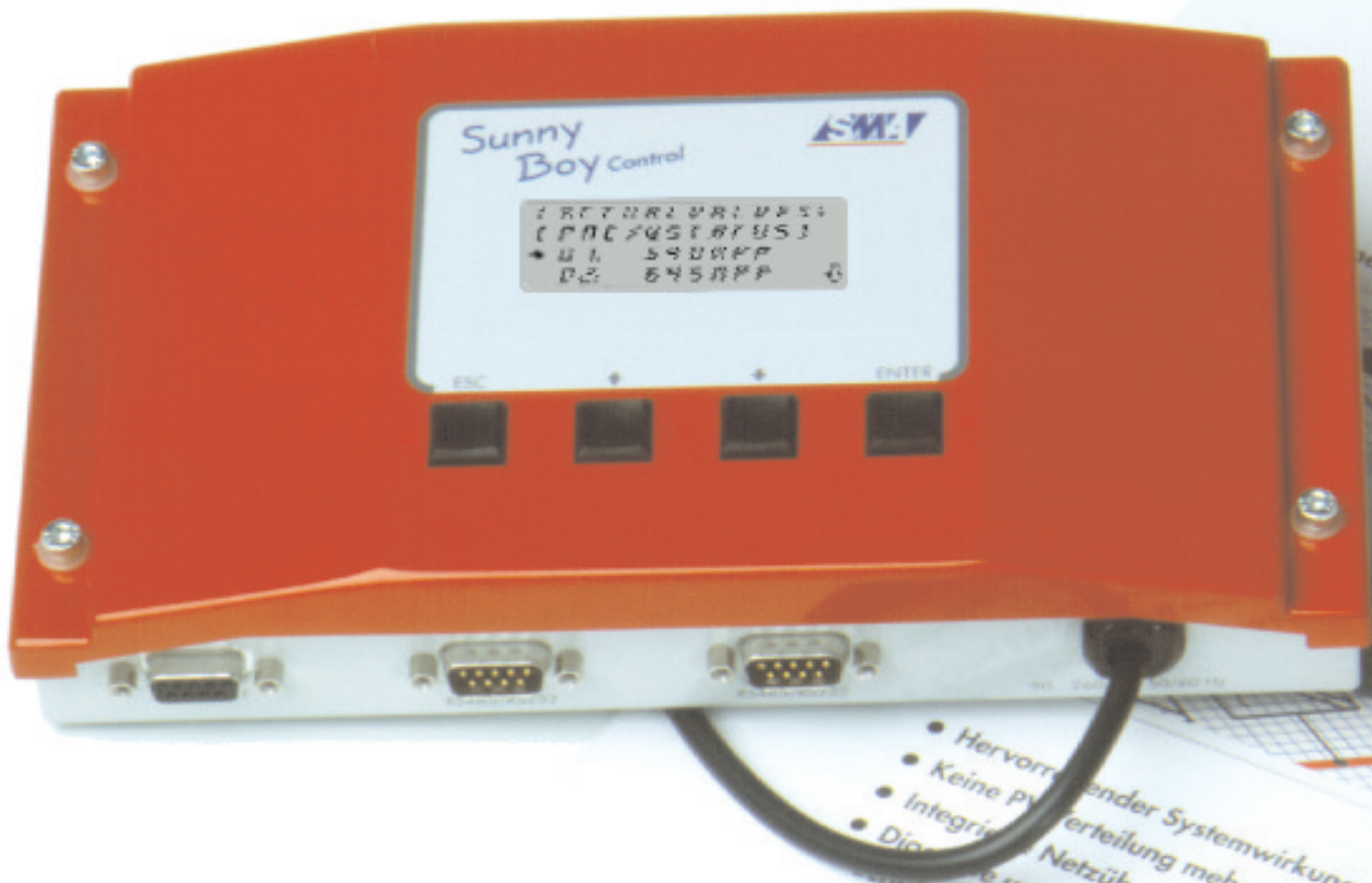
Sunny Boy Control

The Controller for PV Plants with Sunny Boys



- Plant Monitoring and Remote Diagnosis
- Data Acquisition and Evaluation
- Flexible Power Management
- PV Plant Output Optimization
- Simple Installation
- Ideal even for large Plants

Sunny Boy Control



A Step into the Future

The new Sunny Boy Control is a consequent continuation of the innovative concept of modular PV systems with Sunny Boy string inverters.

Easy Handling

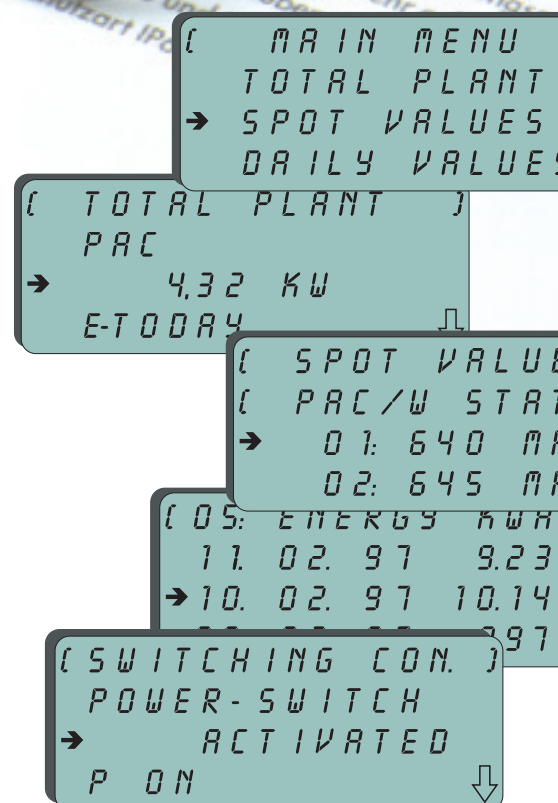
The four key control of the menu system allows simple usage. Even without otherwise necessary intensive manual studies – each operation intuitively explains itself step by step.

Flexible Power Management

Sunny Boy Control allows to switch on or switch off electric consumers depending on the solar radiation or the time of day.

PV Plant Optimization

The Sunny Boy inverters internal parameters are accessible and can be modified in order to optimize the entire plant.



The new Technology for the Monitoring of PV Plants



A Device for any Plant Configuration

A single Sunny Boy control can manage up to 35 Sunny Boy inverters which can have several different nominal powers. Several Sunny Boy Controls can easily be combined to a large scaled system due to the modular design. A PV-plant consisting of e.g. 150 Sunny Boy inverters can be monitored by 5 Sunny Boy Control units which forward the data via RS 485 or RS 232 to a PC running Sunny Data Control. Due to the modular concept extending and enlarging the PV-plant is therefore simple and cost extensive due to the modular system design.

Comfortable Data Evaluation

A four line LC display shows all data and status messages from the inverters and the entire plant.

Easy Installation and Low Power Consumption

After plugging the Sunny Boy Control to the socket outlet it automatically starts monitoring the PV-plant (Plug'n Play). Its internal power consumption is only 4W.

PC Connection

The acquired data can additionally be evaluated and visualized on a PC with the software package Sunny Data Control. The measured data can be saved to disk and subsequently processed or printed with Excel.

Large External Display Interface

The Sunny Boy Control is equipped with facilities that can supply an external display with current measured data via serial port.

Other Interface Types

In order to prevent disturbances due to difficult grid conditions (harmonic distortions, EMC, etc.) it is possible to connect the Sunny Boy Control and the inverters with a RS485 connection and this over a distance up to 1.2 km.

Compact Design

Sunny Boy Control is hardly larger than a book and installed in a compact metal case. It can be used stationarily as a desk or wall device or flexibly as mobile commissioning controller.

Monitoring and Remote Diagnosis

The PV plant is continuously monitored due to the permanent data acquisition. The Sunny Boy Control can automatically send a fax message to a specified address in case of a malfunction. Additionally the Sunny Boy Control can be configured to switch an external device (e.g. a siren) in order to signal malfunctions and therefore to avoid energy losses.

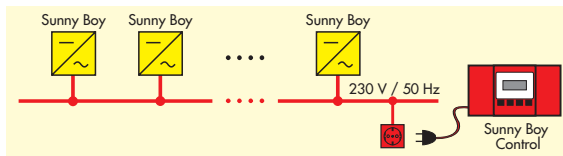
Data from any Mains Socket via Powerline

All Sunny Boys that are widely spread out over the PV-plant transmit their measured data via the powerline using their integrated modem. The Sunny Boy Control can be connected to any socket-outlet of the domestic mains in order to directly communicate with the inverters.

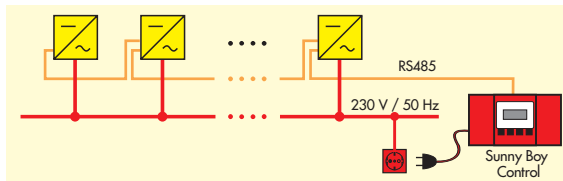
Technical Data

Hardware

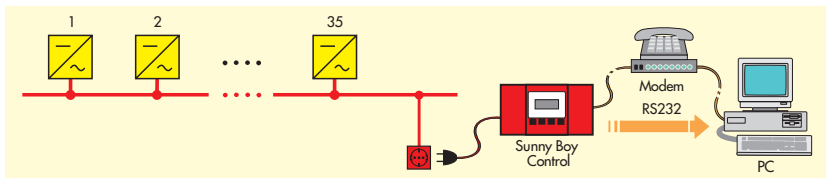
Supply voltage:	90 ... 260 V, 50 ... 60 Hz
Power consumption:	4 ... 6 W (depending on plant size), 2 W in stand-by mode
Carrier frequency:	132,45 kHz
Transmission protocol:	complying to DIN EN 50065 (VDE 0808 part 1)
Ambient temperature:	0 ... 40 °C
Dimensions:	229 x 126 x 46 mm
Display:	4 x 16 characters
Weight:	1275 g
Safety class:	IP 40
Fuse:	overload protection, 365 V/90 mA
CE conformity:	yes



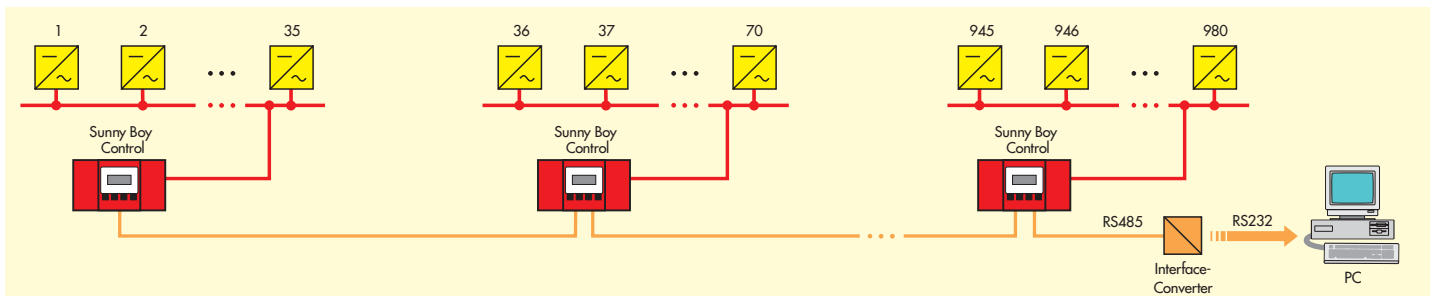
Communication via 230 V power line



Communication via screened data cable



Visualization with a PC, e.g. via phone modem



Plant configuration with several Sunny Boy Controls

Connections

Mains connection:	3-wire with grounding type plug or optionally with a standardized connector for non-heating devices
Male 9 pin D-SUB connector:	connection to PC via zero - modem cable
Male 9 pin D-SUB connector:	optional connection of Sunny Boys via RS485 (as alternative to Powerline)
9-pin D-SUB-socket:	relay output connections (0 ... 48 V / 0,5 A)

Accessories / Options

Mains connection:	3-wire cable with standardized connector for non heating devices in compliance with IEC 320
PC connection:	RS232 interface as standard - optionally a RS485 interface can be installed
Data line to Sunny Boy:	standard is an integrated Powerline modem, optionally a RS485 connection can be installed
Interface converter:	if several Sunny Boy Controls are to be connected to one PC, this is done with a RS485 interface the PC is connected with an additional interface converter (RS485 to RS232)

(subject to change due to technical improvements)