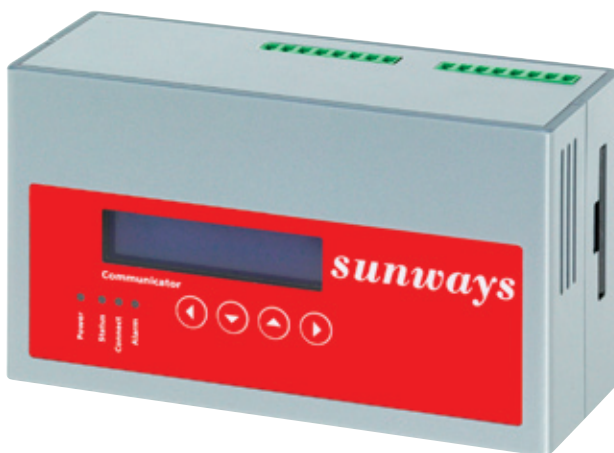


SOLAR INVERTER

Sunways Communicator and Sunways Portal

Your photovoltaic system up close - from anywhere.

With the Sunways Portal you can monitor and check all important parameters of your solar system from any Internetcapable computer. The solar system data acquired in the Sunways Communicator are transmitted to the Sunways Portal every night so that you're always up to date.



The Communicator

The Sunways Communicator monitors up to 99 Sunways Solar Inverters, and also evaluates external electricity meters, temperature or irradiation sensors. All recorded system data are stored on the Communicator as 15-minute values. A constant yield comparison between the Solar Inverters tracks down irregularities. The Sunways Communicator continually checks your solar system for smooth operation and informs you immediately if something should fail to function as usual. For this purpose it uses the communication methods SMS, fax or e-mail as desired.

With live access

The live access developed exclusively by Sunways enables you to establish a direct connection to your solar system and view the momentary values from the Sunways Portal.

Sunways Portal

The Sunways Portal offers graphic visualisation of all solar system data, the automatic preparation of reports in the PDF, HTML or CSV format and support when producing yield statements for your power supply company. If you own several Sunways Communicators, you have direct access to all your registered solar systems under a common login. In addition, you can create new user accounts yourself so that your business partners or customers can also view your system data with restricted rights.

Information and Sales

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sunways
Photovoltaic Technology

Product overview

Product	Version	Art. No.
Sunways Communicator 10 System monitoring for up to 99 x NT 2600...NT 6000 or 33 x NT 8000/10000 including Sunways Portal Professional Access for 2 years	with integrated analogue modem	002248
	with integrated ISDN modem	002249
	with integrated GSM modem and rod antenna	002250
	for connection to a DSL router	002453
Sunways Communicator 05	with integrated analogue modem	002451
	for connection to a DSL router	002452

Overview: Basic and professional access

Free basic access

The free basic access is designed for private users wishing to keep track of their system yields.

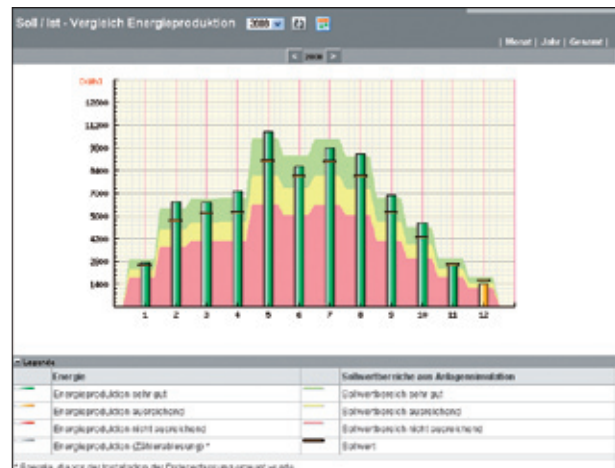
- Free basic access for Communicator and direct connection (AT/PT)
- System yield visualisation
- Live access
- Display of energy yields as 5-minute, daily, monthly, annual and total values
- No system data storage required
- Energy production of solar system compared to irradiation (if irradiation sensor installed)

Sunways AG offers this access free of charge.

Professional access

Professional access includes all functionalities that professional system operators expect from a monitoring portal. This access is offered at an attractive price.

- Display of all inverter operating data
- System monitoring and notification of deviations via the Portal
- Comparison between target yields and actual yields
- Automatic dispatch of system reports
- Access to professional weather data
- System management via login
- Setpoint-actual comparison of energy production through simulation with current weather data



- Energie-performance ratio: energy yield per installed output is shown¹⁾
- Efficiency of solar system depending on irradiation¹⁾
- Output depending on irradiation¹⁾
- Automatic professional access extension via the Portal is possible

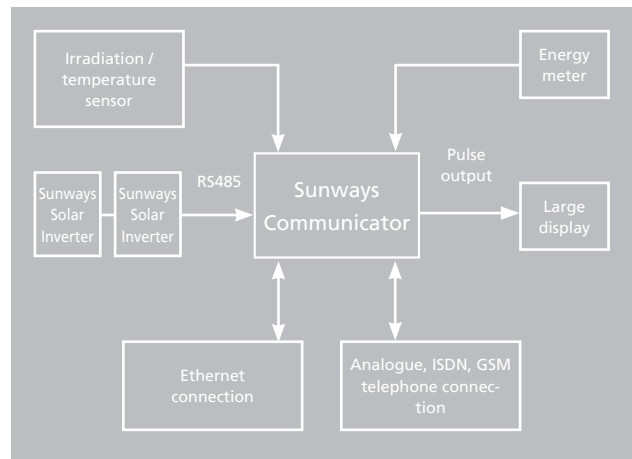
1) The condition for this graph is the installation of an irradiation sensor (available as an accessory from Sunways)

Installation and operating conditions

- Sunways Communicator analogue, ISDN, DSL or GSM
- Landline network: an analogue or ISDN telephone connection
- GSM: a mobile communications agreement with option of data transfer (available from Sunways)

Compatibility of the Sunways Communicator

- NT 8000/10000, NT Series (850 V): fully compatible
- NT Series (750 V): for devices that do not have the firmware version 1.10b or 5.07b (or higher) yet, a free upgrade of the interface PCB by Sunways is required ²⁾
- 2.0x, 3.0x, 5.0x: connection of the Sunways Communicator via the optionally available Sunways iChecker is possible
- AT Series: possible with connection via RS-485 interface



Sunways Portal charges

Basic access: free of charge

Professional access: 48,00 € / year basic fee
0,42 € / kWp / year

Mobile contract: Mobile fees for GSM modem
(only valid in EU countries, outside of Germany)

Inclusive volume/month	Monthly fee
10 MB	17,50 €
30 MB	28,00 €

Connection fee (one-time) 20,00 €

Contract terms GSM

(only valid in EU countries, outside of Germany)

Minimum contract period: 12 months

- The contract is automatically extended for a further 12 months, unless it is cancelled at least 4 months before the expiry date
- If the inclusive data volume is exceeded, a tariff change is effected. This is also possible during the term of contract.
- Data volumes in excess of 10 MB or 30 MB, depending on the tariff, will be charged at 4,50 € per MB
- The SIM card can be activated by specifying the IMEI number shown on the device
- The data volume depends on the number of devices in the system and the data sending interval. The customer can set these values in the Sunways Browser.

Data volume

(example for up to 8 devices per system)

Send interval	Data volume per month
Once per day	5 MB
60 minutes	5 - 10 MB

²⁾ The interface PCB is sent to Sunways for this purpose. Even without the interface PCB, the Solar Inverter continues to run normally and feeds in power.

Technical data		Communicator 05	Communicator 10
Inputs	Analogue inputs, 0 - 10 V, for connection of sensors, e.g. irradiation or temperature sensor	1	4
	Digital inputs for connection of energy meters with S0 interface	1	4
Outputs	Configurable digital output: Pulse output, e.g. for large display with pulse interface or alarm relay, e.g. for external transducer	1	1
Data storage on the Sunways Communicator	Sunways Solar Inverter (all data as 15-minute values): DC voltage, DC current, AC voltage, AC current, Output power, Energy yield, Status messages Optional: Module temperature, Irradiation Analogue inputs: 15-minute values for each analogue input Digital inputs: 15-minute values for each digital input	•	•
Communications interfaces	RS485-interface for connecting Sunways Solar Inverters (see compatibility)	•	•
	Max. number of NT 2600...NT 6000 units	5	99
	Max. number of NT 8000/10000 units	2	33
Connections	Ethernet interface for service access to Sunways Communicator	–	•
	Ethernet interface to connect to DSL line	one option only	one option only
	Integrated modem for analogue landline network		
	Integrated modem for ISDN landline network	–	–
Integrated modem for GSM mobile communications (incl. GSM antenna)	–	–	
Power supply	Internal power supply unit 110/230 V (AC) or 24 V (DC)	•	•
Storage medium	32 MB CompactFlash memory card for firmware and data storage	•	•
Operating elements	Number of embossed navigation buttons	2	4
Status display	LEDs: Power, Status, Connect, Alarm	6	4
Display	Two-line alphanumeric LCD display with background lighting	–	•
Operation	Menu control in either German, English or Spanish (in preparation)	–	•
Protection type	IP 20 (indoor use)	•	•
Ambient temperature	0°C to 55°C	•	•
Dimensions (H x W x D)	94 x 165 x 57 mm	•	•
Installation	Two teardrop holes for wall installation with M3.5 screws	•	•
Warranty	2 years	•	•
Portal access included in purchase price	Free basic acces ³⁾	•	–
	Professional access for 2 years	–	•
Delivery scope	230 V power cable	•	•
	For analogue/ISDN: Telephone connection cable (RJ45 connection)	one option only	one option only
	for DSL: Ethernet cable for DSL connection		
	for GSM: GSM antenna with connection cable and a SIM card for activation	–	–
	RS485 connection cable for Sunways Solar Inverter	•	•
	Plug connectors with screw terminals for inputs, outputs and 24 V	•	•
	Dowels and screws for installation	•	•
	32 MB Compact Flash memory card with preinstalled firmware	•	•
	Installation Instructions	•	•

3) The basic access includes the meter management, evaluation of the system energy yields, irradiation data (if available), solar account, environmental and weather information. An upgrade to professional access is possible at any time for a fee.