

SOLAR INVERTERS

ADVANCED TECHNOLOGY

The Sunways Solar Inverters
AT 5000, AT 4500, AT 3600
and AT 2700.

Advanced Technology. Flexible
planning, stable efficiency and
high yield.

Originals. The solar inverters made by sunways. Thanks to a series of functional developments and revolutionary ideas, Sunways has attracted attention with its solar inverters from the outset. The solar inverters with Advanced Technology were developed for flexible applications and stable yields with changing temperatures and irradiation levels. With proven HERIC® topology, extensive «all-in-one» equipment and created for thin-film and silicon modules.

Stable efficiency – high yield. Sunways Solar Inverters achieve a consistently high yield, regardless of changing temperatures and irradiation levels. They achieve their uniformly high output over their entire input voltage range from 150 to 680 V, and thanks to their stable efficiency of up to 95.5 percent (European efficiency: 95.0 percent) they leave other inverters behind them with regard to the yield actually achieved.

HERIC® topology. Increased efficiency at a low partial load. And at a high one. The HERIC® topology enables Sunways AT Solar Inverters to achieve their maximum efficiency of 95.5 percent at a partial load of just 25 percent. In combination with the Advanced Technology, it provides for a voltage characteristic at the solar generator which is even recommended for the operation of thin-film modules. And there's no longer any need for the complicated earthing of the negative pole on the solar generator.

The design is outstanding. Easy to operate. Their outward appearance makes Sunways AT Solar Inverters as unmistakable as their technology. Here as well, the maxim holds true: «Form follows function». The lighted graphic display with a keypad enables the simple display of status messages directly on site. Things can only be more convenient with the Sunways Browser, thanks to which photovoltaic systems can be monitored and configured from a PC regardless of their location.



Top quality and workmanship. Sunways Solar Inverters are subjected to the toughest testing and simulation processes. For example, Sunways has one of the most modern quality and testing laboratories for solar inverters and pursues an uncompromising quality policy. Finally, Sunways Solar Inverters must also prove their unmatched class even after years of use with first-class quality and reliability.

Versatile and flexible. The especially broad voltage range from 150 to 680 V leaves plenty of room for flexible system planning. With four output classes from 2700 to 5000 W, Sunways AT Solar Inverters cover an extremely broad range of system sizes – and are also suitable for thin-film and silicon modules. AT Solar Inverters can also be combined with NT Solar Inverters. As a result, any desired system configuration can be planned – regardless of its size.

Simple installation. Protection class IP 54. The external connections make it unnecessary to open AT Solar Inverters during installation. Easy to use plug-in connectors and the integrated mechanical DC load break cut-out simplify installation further. All interfaces are protected by a specially sealed cover element. All settings for commissioning can be made directly on the LCD display – with several networked solar inverters centrally from the main device.

All-in-one. Typically Sunways. AT Solar Inverters from Sunways are already equipped with all useful functions as standard:

- Integrated DC load break cut-out
- Backlit graphic display with keypad
- Operation and system monitoring with intuitive, menu-supported navigation
- Information on instantaneous values, yield and output values and status messages
- CAN bus for networking and communication of several AT Solar Inverters
- Automatic alerting function: AT Solar Inverters automatically send a message, for example via an existing Ethernet network
- Interface for connecting sensors and displaying their irradiation and temperature
- S0 pulse output for controlling Sunways Display
- Alarm relay for extremely simple on-site monitoring
- Modem interface for connecting Sunways modem (analogue, ISDN or GSM)
- Ethernet interface for direct visualisation of a large number of measured values and operating data on a PC via integrated web server
- RS485 interface for integrating NT-series Solar Inverters



Simple and safe: The exemplary arrangement of the connections and the integrated DC load break cut-out.

	AT 5000	AT 4500	AT 3600	AT 2700
DC Input				
Rated DC power	5200 W	4700 W	3750 W	2800 W
Maximum DC current	22.0 A	22.0 A	15.5 A	15.5 A
Nominal DC voltage	350 V			
MPP voltage range	150 V to 600 V			
Minimum MPP voltage at full load	236 V	214 V	242 V	181 V
Maximum voltage DC	680 V			
Number of inputs per MPP tracker	2 x Tyco Solarlok			
Number of MPP trackers	1			
AC output				
Rated AC output power	5000 W	4500 W	3600 W	2700 W
Maximum AC power	5000 W	4500 W	3600 W	2700 W
Nominal AC current	21.7 A	19.6 A	15.7 A	11.7 A
Maximum AC current	23.0 A	21.0 A	17.0 A	12.5 A
Nominal frequency	50 Hz			
Frequency tolerance range	47.5 Hz to 50.2 Hz (according to DIN VDE 0126-1-1)			
Grid voltage	230 V			
AC voltage range	-20% to +15% (according to DIN VDE 0126-1-1)			
Distortion factor at Pn	< 4%			
Reactive power factor (cos phi)	ca. 1			
Grid voltage monitoring	according to DIN VDE 0126-1-1			
Earth fault protection	RCD (according to DIN VDE 0126-1-1)			
Insulation, frequency and DC current monitoring	integrated according to DIN VDE 0126-1-1			
Required phases, number of grid connections	3 (L1, L2, L3, N, PE)			
Number of feed-in phases (230 V single-phase)	1			
Performance				
Stand-by consumption	6.5 W			
Night-time consumption	< 0.06 W			
Maximum efficiency	95.5%	95.5%	95.5%	95.5%
European efficiency	95.0%	95.0%	94.9%	94.7%
MPP efficiency (static)	99.99%	99.99%	99.99%	99.99%
Switching concept	HERIC® / FP topology, transformerless			
Other				
DC switch	internal, mechanical			
Grid-connection fuse layout	25 A	25 A	25 A	16 A
Data interfaces	Ethernet, CAN, RS485, voltageless alarm relay, S0 pulse output, modem			
Sensor interfaces	irradiation, temperature			
Display	LCD, backlit, 128 x 64 pixels			
Plant supervision	active alarm via e-mail, integrated web-server, Sunways Communicator, Sunways Portal			
IP degree of protection according to IEC 60529	IP 54			
Max. relative humidity	95%			
Cooling	free convection			
Ambient temperature	-25 °C to 40 °C (at full load)			
Overload behaviour	working point adjustment			
Dimensions (height x width x depth)	59 x 35 x 21 cm			
weight (without installation frame)	29 kg			
Type of installation	wall installation			
Noise development	< 35 dB (A)			
Standard warranty (option)	5 years (10 years)			
Certificates	CE, DIN VDE 0126-1-1			