



SUNNY TRIPOWER CORE1




UP TO
60%
faster installation
for commercial
PV systems

STANDS ON ITS OWN

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THE FUTURE FOR COMMERCIAL PV SYSTEMS

Top performance and maximum efficiency thanks to innovative design



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SCALABILITY FOR MAXIMUM ENERGY YIELDS

With a capacity of 50 kW, the Sunny Tripower CORE1 is scalable up to the megawatt range. The unique design enables over-dimensioning of the PV array of up to 150%. At the same time, the six independent MPP trackers guarantee optimal energy production for every use, even in shading.

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CONSISTENTLY INTEGRATED CONCEPT

The innovative, fully integrated design of the CORE1 takes care of low BoS costs, simpler processes and lower material expenses. Alongside the 12 direct string inputs, the CORE1 also contains a DC disconnect and, as an option, AC and DC overvoltage protection.

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EFFICIENT AND ECONOMICAL

The CORE1 can be installed directly onto a roof without additional mounting racks. Only a simple substructure is needed for other commercial PV applications. There are additional savings from the considerably lower expenditure on logistics, installation and materials.

The Sunny Tripower CORE1 is the world's first free-standing string inverter for decentralized roof- and ground mount PV systems as well as covered parking spaces. The groundbreaking new design allows increases in installation speed of up to 60% and, at the same time, lowers the total cost of ownership (OPEX).

2

OPTICOOL™ ACTIVE COOLING SYSTEM

SMA's intelligent OptiCool™ cooling system is reliable and ensures maximum energy production, even in challenging conditions. Secure your solar investment and reduce your service costs with high-performance technology, which has proved its worth worldwide in over 50 GW installed power.

4

FAST, EASY COMMUNICATION

The integrated Wi-Fi interface makes easy and efficient access to CORE1 possible with any mobile device. Thanks to the SMA online assistant, configuration and commissioning are much simpler and can be completed in a short time.

6

SEAMLESS GRID INTEGRATION

Thanks to cutting-edge grid management, SunSpec ModBus® compatibility and optional 24/7 remote monitoring, CORE1 offers high-performance PV system monitoring and control functions. Users benefit from easy configuration and fast, smooth grid connection.



COMPACT POWER FOR MAXIMUM EFFICIENCY

The flexible solution for roof- and ground-based
PV systems and covered parking spaces





Sunny Tripower CORE1. Save costs – from logistics to services

The CORE1 is the third generation of the successful Sunny Tripower product family and is revolutionizing the world of commercial inverters with its innovative design. The challenge for the SMA engineers was to combine a unique design with an innovative installation method in order to increase the installation speed significantly. The result: the optimal return on investment for all target groups.

From delivery and installation to operation, the Sunny Tripower CORE1 makes widespread savings in logistics, labor, materials and services possible. With integrated Wi-Fi access for fast commissioning, up-to-date plug-and-play communication and smart functions for grid support, PV installations are quicker and easier to complete than ever before.



SUNNY TRIPOWER CORE1 FOR DISTRIBUTORS

Ordering, storage and logistics for inverters have been substantially simplified as a result of the maximum integration of the CORE1. Additional savings are achieved thanks to:

- Flexible use with just one product
- Worldwide platform for universal use
- Fewer components and BoS components
- Extensive support and service



SUNNY TRIPOWER CORE1 FOR EPCS AND DEVELOPERS

Attractive margins are achieved only with reduced costs for purchasing, installation and maintenance. That is exactly what was taken into account in the development of CORE1. Benefit from:

- Plug-and-play concept
- Faster installation and lower labor
- Reduced material costs
- Free tool for system planning



SUNNY TRIPOWER CORE1 FOR ELECTRIC UTILITY COMPANIES

SMA knows that efficient operations and maintenance costs across the entire useful life and trouble-free performance are of crucial significance to energy companies. Therefore, CORE1 offers:

- The lowest LCOE
- 24/7 remote monitoring thanks to the worldwide number one service team
- An effective interface for customer monitoring
- Intelligent grid management service

TECHNICAL DATA (PRELIMINARY*) **SUNNY TRIPOWER CORE1**

Input (DC)	
Max. DC power (at $\cos \varphi = 1$) / DC rated power	51000 W / 51000 W
Max. input voltage	1000 V
MPP voltage range / rated input voltage	150 V to 1000 V / 500 V to 800 V
Min. input voltage / start input voltage	150 V / 188 V
Max. operating input current / per MPPT	120 A / 20 A
Max. short circuit current per MPPT / per string input	30 A / 30 A
Number of independent MPPT inputs / strings per MPP input	6 / 2

Output (AC)	
Rated power (at 230 V, 50 Hz)	50000 W
Max. apparent AC power	50000 VA
AC nominal voltage	3 / N / PE; 220 V / 380 V 3 / N / PE; 230 V / 400 V 3 / N / PE; 240 V / 415 V
AC voltage range	180 V to 280 V
AC grid frequency / range	50 Hz / 44 Hz to 55 Hz 60 Hz / 54 Hz to 65 Hz
Rated power frequency / rated grid voltage	50 Hz / 230 V
Max. output current / Rated output current	72.5 A / 72.5 A
Output phases / line connections	3 / 3
Power factor at rated power / Adjustable displacement power factor	1 / 0.0 leading ... 0.0 lagging
THD	3%

Protective devices	
Input-side disconnection device	●
Ground fault monitoring / grid monitoring	● / ●
DC reverse polarity protection / AC short-circuit current capability / galvanically isolated	● / ● / -
All-pole sensitive residual-current monitoring unit	●
Protection class (according to IEC 62109-1) / overvoltage category (according to IEC 62109-1)	I / AC: III; DC: II
AC/DC surge arrester (Type II)	○ / ○

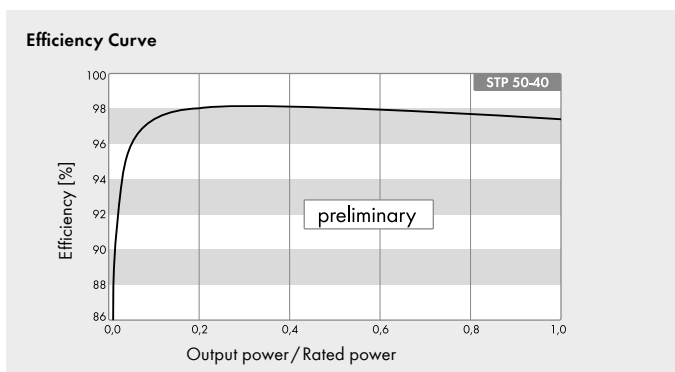
TECHNICAL DATA (PRELIMINARY*) **SUNNY TRIPOWER CORE1**

Efficiency	
Max. efficiency / European efficiency	>98.0% / >98.0%

General data	
Dimensions (W/H/D)	621 mm / 733 mm / 569 mm (24.4 in / 28.8 in / 22.4 in)
Weight	82 kg (180 lb)
Operating temperature range	-25°C to +60°C (-13 °F to +140 °F)
Noise emission (typical)	<60 dB(A)
Self-consumption (at night)	<5 W
Topology / Cooling concept	Transformerless / OptiCool
Degree of protection (as per IEC 60529)	IP65
Climatic category (according to IEC 60721-3-4)	4K4H
Max. permissible value for relative humidity (non-condensing)	100%

Features / functions / accessories	
DC connection / AC connection	SUNCLIX / screw terminal
LED indicators (status / fault / communication)	●
Interface: Ethernet / WLAN / RS485	● (2 ports) / ● / ○
Data interface: SMA Modbus / SunSpec Modbus / Speedwire, Webconnect	● / ● / ●
Multi-Function relay / Expansion Module Slots	● / ● (2 ports)
OptiTrac Global Peak / Integrated Plant Control / Q on Demand 24/7	● / ● / ●
Off-grid capable / SMA Fuel Save Controller compatible	● / ●
Guarantee: 5 / 10 / 15 / 20 years	● / ○ / ○ / ○
Certificates and permits (more available on request)	ANRE 30, AS 4777, BDEW 2008, C10/11:2012, CE, CEI 0-16, CEI 0-21, EN 50438:2013*, G59/3, IEC 60068-2-x, IEC 61727, IEC 62109-1/2, IEC 62116, MEA 2013, NBR 16149, NEN EN 50438, NRS 091-2-1, PEA 2013, PPC, RD 1699/413, RD 661/2007, Res. n°7:2013, SI4777, TOR D4, TR 3.2.2, UTE C15-712-1, VDE 0126-1-1, VDE-ARN 4105, VFR 2014, P.O.12.3, NTCO-NTCyS, GC 8.9H, PR20, DEWA
*Does not apply to all national appendices of EN50438	
● Standard features ○ Optional - Not available Data at nominal conditions - preliminary version: 11/2016	
Type designation	STP 50-40

*December 2016



Assessories

SMA SensorModule MD.SEN-US-40	SMA IO-Module MD.IO-40	Antenna Extension Kit EXTANT-US-40
SMA RS485 Module MD.RS485-US-40	AC Surge Protection Module Kit AC_SPD_Kit1-10 DC Surge Protection Module Kit DC_SPD_Kit4-10	

SUNNY TRIPOWER CORE1 STANDS FOR EFFICIENCY

Innovative design for
maximum return on investment



Dimensions

621 mm / 733 mm / 569 mm
(24.4 in x 28.8 in x 22.4 in)

Weight

82 kg (180 lbs)





ENERGY
THAT
CHANGES

