



# SUNNY TRIPOWER CORE1



UP TO  
**60%** Faster  
Installation  
for commercial PV systems

# SUNNY TRIPOWER CORE1 STANDS FOR COMMERCIAL SOLAR

A global solution optimized for all commercial applications



..... 1

**SCALABILITY WITH MAXIMUM ENERGY HARVEST**  
This larger, 50 kW Sunny Tripower offers the ideal building block with scalability up to the MW range. Its unique design allows for DC:AC ratios up to 150% while the six MPP trackers ensure optimum energy production in any application or shading situation.

..... 2

**HIGHLY INTEGRATED**  
The compact yet fully integrated design allows integrators to save logistical, labor and material costs. Along with 12 direct string inputs, the CORE1 also includes DC and AC disconnects as well as optional DC and AC surge protection.

..... 3

**COST EFFECTIVE**  
The CORE1 needs no racking on roof-mount systems and very minimal, highly simplified racking in other commercial applications. This results in additional cost savings due to the reduction in field labor, time and materials.

Sunny Tripower CORE1 is the world's first standing PV inverter for commercial rooftops, carports and ground-mount solar projects. The innovative new design offers up to 60% faster installation while delivering optimized total cost of ownership.

4

#### **OPTICOOL™ ACTIVE COOLING SYSTEM**

SMA's OptiCool™ intelligent temperature management system ensures reliable operation and maximum energy production in the most demanding conditions. Safeguard your PV investment and reduce service expenses with field-proven technology based on 50+ GW of installed capacity worldwide.

5

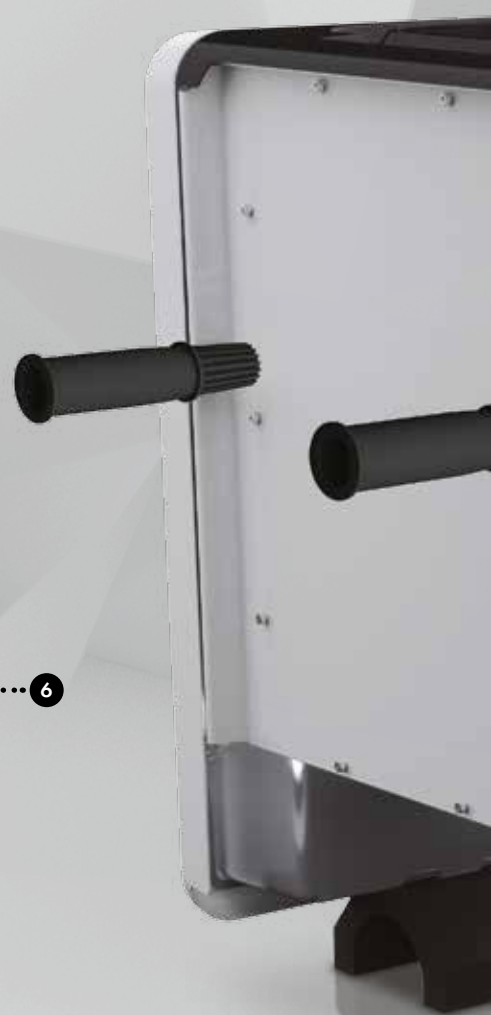
#### **SPEED AND ACCESSIBILITY**

Built in Wi-Fi access from any mobile device makes accessing the CORE1 easy and effective. Inverter configuration and commissioning is simplified with SMA's web-based assistant, which accelerates installation and saves installers' valuable time.

6

#### **SEAMLESS GRID INTEGRATION**

With full grid management capabilities, SunSpec MODBUS compatibility and optional 24/7 remote monitoring, the CORE1 enables unrivaled system monitoring and control. It also ensures rapid project completion and reduces the risk of troubleshooting grid interconnection.





# COMPACT POWER FOR COMMERCIAL ROOFTOPS, CARPORTS AND GROUND-MOUNT PROJECTS

The versatile solution with maximum return on investment





## Sunny Tripower CORE1. The superior way to get your projects up and running

As the third generation of SMA's industry-leading Sunny Tripower product line, the CORE1 revolutionizes the commercial inverter category. Its innovative engineering approach is built on a foundation that includes a groundbreaking form factor and inventive mounting method whose goals are to speed installation and achieve the most economical return on investment for all parties involved.

From distribution to construction to operation, the Sunny Tripower CORE1 enables logistical, material, labor and service cost reductions. With built-in Wi-Fi for fast commissioning, advanced communications and smart inverter grid support functions, commercial installations are up and running faster and simpler than ever.



### SUNNY TRIPOWER CORE1 FOR DISTRIBUTORS

Product ordering, stocking and logistics have all been simplified thanks to the CORE1's maximum level of integration. Additional cost savings are achieved with:

- **One product for various commercial applications**
- **Global platform for universal deployment**
- **Reduced part numbers and balance-of-system components**
- **Unmatched support and service**



### SUNNY TRIPOWER CORE1 FOR EPCS AND DEVELOPERS

Procurement, installation and field labor costs must be reduced to maintain margins, so that's precisely what's driven the development of the CORE1. Benefit from:

- **Plug-and-play installation concept**
- **Reduced material costs**
- **Accelerated installation and decreased labor**
- **Free system design tool**



### SUNNY TRIPOWER CORE1 FOR SYSTEM OWNERS

SMA understands that lifetime cost of ownership and uninterrupted performance are paramount among system owners. That's why the CORE1 delivers:

- **Optimized LCOE**
- **Advanced customer monitoring interface**
- **24/7 remote monitoring from the world's #1 service team**
- **Intelligent grid management**



# Technical Data \*

	SUNNY TRIPOWER CORE1/US	SUNNY TRIPOWER CORE1/IEC
<b>Input (DC)</b>		
Max. usable DC power (@ $\cos \phi = 1$ )	51000 W	51000 W
DC Voltage (max)	1000 V	1000 V
Rated MPPT voltage range	500 V... 800 V	500 V... 800 V
MPPT operating voltage range	150 V... 1000 V	150 V... 1000 V
Min. DC voltage / start voltage	150 V / 188 V	150 V / 188 V
Number of independent MPP trackers / strings per MPP input	6 / 2	6 / 2
Max. input current / per MPP tracker	120 A / 20 A	120 A / 20 A
<b>Output (AC)</b>		
AC nominal power	50000 W	50000 W
Max. AC apparent power	53000 VA	50000 VA
Output phases / line connections	3 / 3-N-PE, 3-PE	3 / 3-N-PE, 3-PE
Nominal AC voltage	480 V / 277 V WYE	400 V / 230 V
AC voltage range	244 V... 305 V	202... 264 V
Rated AC grid frequency	60 Hz	50 Hz
AC grid frequency / range	50 Hz, 60 Hz / -6 Hz... +5Hz	50 Hz, 60 Hz / -6 Hz... +5Hz
Max. output current	64 A	72.5 A
Power factor at rated power / adjustable displacement	1 / 0.0 leading... 0.0 lagging	1 / 0.0 leading... 0.0 lagging
Harmonics THD	<3%	<3%
<b>Efficiency</b>		
Max. efficiency / CEC efficiency / European efficiency	>98% / >98% / >98%	>98% / >98% / >98%
<b>Protection devices</b>		
DC-side disconnection device	●	●
DC reverse polarity protection	●	●
Ground fault monitoring / grid monitoring	● / ●	● / ●
All-pole sensitive residual current monitoring unit	●	●
DC AFCI compliant to UL 1699B	●	-
DC surge arrester (Type II)	○	○
AC short circuit protection	●	●
AC-side disconnection device	●	-
AC surge arrester (Type II)	○	○
Protection class / overvoltage category (as per UL840)	I / IV	-
Protection class (as per IEC 60664-1) / overvoltage category (as per IEC 60664-1)	-	I / AC: III; DC: II
<b>General data</b>		
Dimensions (W / H / D)	621 mm / 733 mm / 569 mm (24.4 in x 28.8 in x 22.4 in)	621 mm / 733 mm / 569 mm (24.4 in x 28.8 in x 22.4 in)
Device weight	82 kg (180 lbs)	82 kg (180 lbs)
Operating temperature range	-25 °C... +60 °C	-25 °C... +60 °C
Noise emissions (typical)	<60 dB(A)	<60 dB(A)
Internal consumption at night	<5 W	<5 W
Topology	Transformerless	Transformerless
Cooling Concept	OptiCool	OptiCool
Degree of protection	NEMA 4X, 3S (as per UL 50E)	IP65 (as per IEC 60529)
Climatic category (according to IEC 60721-3-4)	-	4K4H
Maximum permissible value for relative humidity (non-condensing)	100%	100%
<b>Features</b>		
DC-Connection	Amphenol H4 PV connectors	SUNCLIX PV connectors
AC-Connection	Screw terminal	Screw terminal
LED indicators (Status / Fault / Communication)	●	●
Interface: Ethernet / WLAN / RS485	● (2 ports) / ● / ○	● (2 ports) / ● / ○
Data protocols: SMA Modbus / SunSpec Modbus / Webconnect	● / ● / ●	● / ● / ●
Multifunction relay	●	●
Sensor Module / Power Control Module / External WLAN antenna	○ / ○ / ○	○ / ○ / ○
Mounting	free-standing	free-standing
OptiTrac Global Peak / Integrated Plant Control / Q on Demand 24/7	● / ● / ●	● / ● / ●
Off-Grid capable / SMA Fuel Save Controller compatible	● / ●	● / ●
Certifications and approvals	pending: UL 1741, UL 1998, UL 1699B, IEEE 1547, FCC Part 15 (Class A & B)	pending: IEC 62109-1 / 2, BDEW 2008
Type designation	STP50-US-40	STP50-40

○ Optional features    ● Standard features    - Not available

\*preliminary data as of August 2016

# SUNNY TRIPOWER CORE1 IT STANDS ON ITS OWN

Innovative design for the most economical solution



## SUNNY TRIPOWER CORE1



**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

