

# SUNNY TRIPOWER CORE1

## STP 50-41



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**SMA ShadeFix**  
STRING LEVEL OPTIMIZATION

**NOW with  
Arc-fault circuit interrupter  
and I-V curve diagnoses**

### Cost-Effective

- Floor-mounted device easy to install
- No DC fuses required
- Integrated DC disconnect

### Highly Integrated

- Integrated Wi-Fi access with any mobile device
- 12 direct string inputs reduce labor and material costs
- Arc-fault circuit interrupter (AFCI)
- AC/DC overvoltage protection (optional)

### Fastest Installation

- Fast grid connection due to easy inverter configuration and commissioning
- Completely accessible connection areas

### Maximum Yields

- Up to 150% DC:AC ratio
- Yield increase without installation effort due to integrated shade management SMA ShadeFix
- I-V Generator diagnosis

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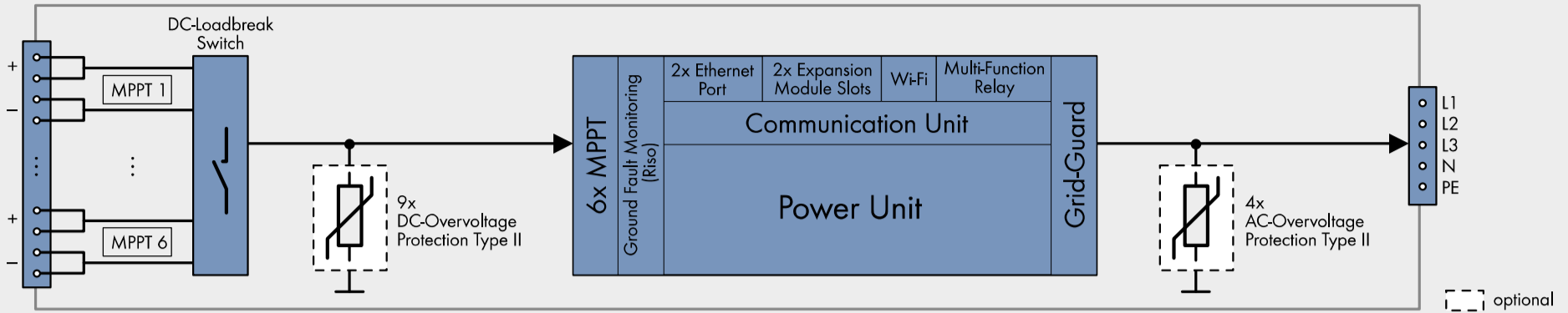
Stands on its own

The Sunny Tripower CORE1 is the world's first free-standing string inverter for decentralized rooftop and ground-based PV systems as well as covered parking spaces. The CORE1 is the third generation in the successful Sunny Tripower product family and is revolutionizing the world of commercial inverters with its innovative design. SMA engineers developed an inverter that combines a unique design with an innovative installation method to significantly reduce installation time and provide all target groups with a maximum return on investment.

From delivery and installation to operation, the Sunny Tripower CORE1 generates widespread savings in logistics, labor, materials and services. Commercial PV installations are now quicker, more reliable and easier to complete than ever before.

## BLOCK DIAGRAM

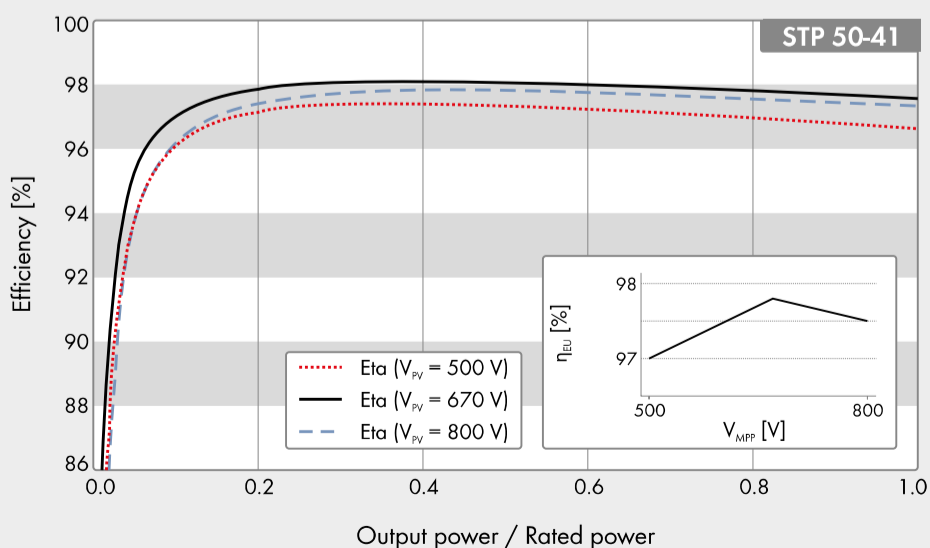
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Technical Data	Sunny Tripower CORE1	Technical Data	Sunny Tripower CORE1
<b>Input (DC)</b>		<b>Efficiency</b>	
Max. generator power	75000 W <sub>p</sub> STC	Max. efficiency / European efficiency	98.1% / 97.8%
Max. input voltage	1000 V	<b>General data</b>	
MPP voltage range / rated input voltage	500 V to 800 V / 670 V	Dimensions (W/H/D) without feet or DC load break switch	569 mm / 733 mm / 621 mm (22.4 in / 28.8 in / 24.4 in)
Min. input voltage / start input voltage	150 V / 188 V	Weight	84 kg (185 lb)
Max. operating input current / per MPPT	120 A / 20 A	Operating temperature range	-25°C to +60°C (-13°F to +140°F)
Max. short circuit current per MPPT / per string input	30 A / 30 A	Noise emission (typical)	< 65 dB(A)
Number of independent MPPT inputs / strings per MPP input	6 / 2	Self-consumption (at night)	4.8 W
<b>Output (AC)</b>		Topology / Cooling concept	Transformerless / OptiCool
Rated power (at 230 V, 50 Hz)	50000 W	Degree of protection (as per IEC 60529)	IP65
Rated / Max. apparent power	50000 VA / 50000 VA	Climatic category (according to IEC 60721-3-4)	4K4H
Rated voltage	220 V / 380 V 230 V / 400 V 240 V / 415 V	Max. permissible value for relative humidity (non-condensing)	100%
Voltage range	202 V to 305 V	<b>Features / functions / accessories</b>	
Grid frequency / range	50 Hz / 44 Hz to 55 Hz 60 Hz / 54 Hz to 65 Hz	DC connection / AC connection	SUNCLIX / screw terminal
Rated power frequency / rated grid voltage	50 Hz / 230 V	Mounting feet	●
Rated / Max. output current	72.5 A / 72.5 A	LED indicators (status / fault / communication)	●
Output phases / AC connection	3 / 3-(N)-PE	LC display	○
Power factor at rated power / Adjustable displacement power factor	1 / 0.0 leading to 0.0 lagging	Interface: Ethernet / WLAN / RS485	● (2 ports) / ▲ / ○
THD	< 3%	Data interface: SMA Modbus / SunSpec Modbus / Speedwire, Webconnect	● / ● / ●
<b>Protective devices</b>		Multi-Function relay / Expansion Module Slots	● / ● (2 ports)
Input-side disconnection device	●	Shade management SMA ShadeFix / Integrated Plant Control / Q on Demand 24/7	● / ● / ●
Ground fault monitoring / grid monitoring	● / ●	Off-grid capable / SMA Fuel Save Controller compatible	● / ●
DC reverse polarity protection / AC short-circuit current capability / galvanically isolated	● / ● / -	Guarantee: 5 / 10 / 15 / 20 years	● / ○ / ○ / ○
All-pole sensitive residual-current monitoring unit	●	Certificates and permits (more available on request)	C10/11:2019, EN50549-1/-2, CE, VDE 0126-1-1, VDE AR-N 4110, VDE AR-N 4105:2018, NRS097-2-1:2017 (A3), CEI 0-16/0-21: 2020, VFR 2019, RD 1699/413, RD 661, TED/749/2020, AS 4777, IEC 61727, IEC 62109-1/2, IEC 62116, IEC 60068-2-x, TOR Erzeuger, G99, NBR 16149
Protection class (according to IEC 62109-1) / overvoltage category (according to IEC 62109-1)	I / AC: III; DC: II	Type designation	STP 50-41
Arc-fault circuit interrupter (AFCI) / I-V Generator diagnosis	● / ●		
AC/DC surge arrester (type 2, type 1/2)	○		

● Standard features ○ Optional - Not available ▲ Depending on availability Data at nominal conditions - status: 01/2022

## Efficiency Curve



## Assessories

- SMA Sensor Module MD.SEN-40
- SMA IO-Module MD.IO-40
- SMA RS485 Module MD.485-40
- Universal Mounting System UMS\_KIT-10
- AC Surge Protection Module Kit type 2, type 1/2 AC\_SPD\_Kit1-10, AC\_SPD\_KIT2\_T1T2
- DC Surge Protection Module Kit type 2, type 1/2 DC\_SPD\_Kit4-10, DC\_SPD\_KIT5\_T1T2