

SUNNY TRIPOWER CORE1

STP 50-40



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World's first free standing inverter

Up to 60 % faster installation for commercial PV systems

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
- 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
- Six independent MPP trackers guarantee optimal energy production for every use, even in shading

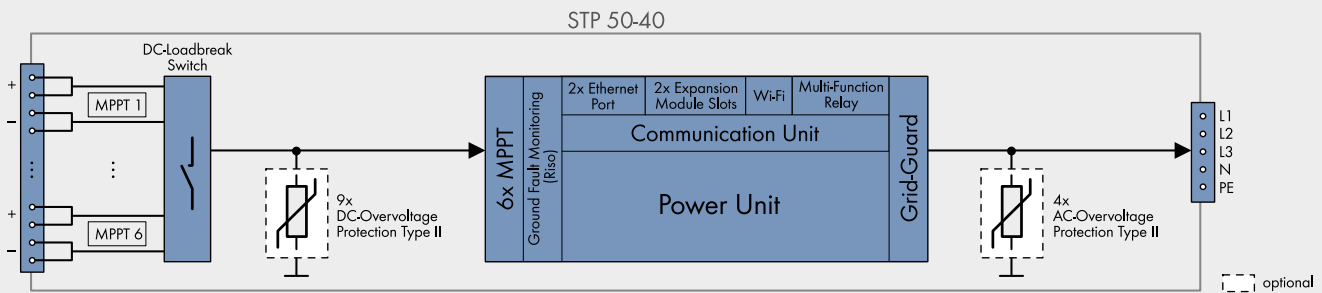
SUNNY TRIPOWER CORE1

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 and easier to complete than ever before.

BLOCK DIAGRAM



Technical Data (preliminary)

Sunny Tripower CORE1

Input (DC)

Max. DC power (at $\cos \phi = 1$) / 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	30A / 30A
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

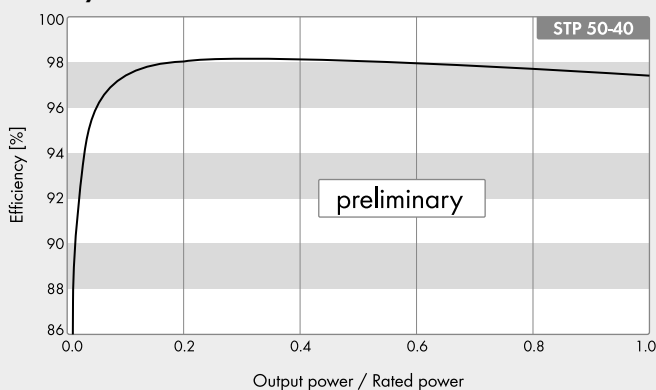
Max. efficiency / European efficiency	>98.0% / >98.0%
General data	
Dimensions (W/H/D)	621 mm / 733 mm / 569 mm (24.4 in / 28.8 in / 22.4 in)
Weight	82 kg (180 lb)
Operating temperature range	-25°C to +60°C (-13°F to +140°F)
Noise emission (typical)	<60 dB(A)
Self-consumption (at night)	<5 W
Topology / 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, NTC-NTCS, GC 8.9H, PR20, DEWA

● Standard features ○ Optional — Not available
Data at nominal conditions - preliminary version: 11/2016
Type designation

Efficiency Curve



Assessories

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