SUNNY TRIPOWER CORE1





Highly integrated

- Compact design with maximum power density achieves logistical cost savings
- 12 direct string inputs enable reduced labor and material costs
- Integrated AC and DC overvoltage protection

Maximum energy harvest

- Unique design allows for DC:AC ratios up to 150%, maximizing power throughout the day
- Six MPP trackers ensure maximum production in any application or shading situation

Cost effective

- Integrated AC and DC disconnects save material costs
- No racking required for rooftop applications, creating additional cost savings
- No PV fuses required

Fastest installation

- Built in Wi-Fi access from any mobile device makes accessing the CORE1 easy and effective
- Simplified inverter configuration and commissioning, which accelerates installation and saves installers' valuable time

SUNNY TRIPOWER CORE1

It stands on its own

The Sunny Tripower CORE1 is the world's first free-standing PV inverter for commercial rooftops, carports and ground-mount solar projects. As the next generation of SMA's industry leading Sunny Tripower product line, the CORE1 revolutionizes the commercial inverter category. Its innovative design reduces both installation time and costs to provide the highest return on investment. 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.

	Technical data*	Sunny Tripower CORE1 (US)	Sunny Tripower CORE1 (IEC)
DC Vollage finals DOD V	Input (DC)		
SOV	Max. usable DC power (@ $\cos \phi = 1$)	51000 W	51000 W
MPF spending voltage range 150 V 1000 V	DC Voltage (max)	1000 V	1000 V
MPF spending voltage range 150 V 1000 V	Rated MPPT voltage range	500 V 800 V	500 V 800 V
Min. D. C. viloge / sent voltage 130 V / 183 V 130 V / 183 V 6 / 2 6	· · · · ·	150 V 1000 V	150 V 1000 V
Number of independent MFF hockes, strange per MFF input 6 / 2		150 V / 188 V	150 V / 188 V
Max. Spending lipsed coment / per MFT socker 120 A / 20 A 30 A / 30 A 3	¥ : 4	·	
Max. Short circuit current per MPT / string input AC consisted power AC consisted power AC consisted power S0000 W			
Coupue (AC) AC noninal priver 50000 W 50000 W Mox. A Copiorer power \$30000 VA 50000 VA Moral patinas (in connections) \$3/3.N.PE 3/3.N.PE Nomine AC vollage 480 V.2727 V.WYE 400 V.230 V AC vollage groupe 6.0 Hz 5.0 Hz Act paid frequency (range 5.0 Hz. 60 Hz/-6 Hz45Hz 50 Hz. 60 Hz/-6 Hz45Hz Mox. Option current Mox. Option current 1/0.0 loading 0.0 logging 1/10 loading 0.0 logging Harmonics (IFD) 3/3 1/0.0 loading 0.0 logging 1/0.0 loading 0.0 logging Harmonics (IFD) 3/3 1/0.0 loading 0.0 logging 1/0.0 loading 0.0 logging Harmonics (IFD) 3/3 1/0.0 loading 0.0 logging 1/0.0 loading 0.0 logging Harmonics (IFD) 3/3 1/0.0 loading 0.0 logging 1/0.0 loading 0.0 logging Harmonics (IFD) 4 - - Good rated AC disconcert with - - - Local created Active Control of the			•
AC contained power AC control power S0000 VA 50000 VA 5000 VA 50000 VA	• • • • • • • • • • • • • • • • • • • •	221., 221.	22.1., 23.1.
Max. AC appearent power	• • •	50000 W	50000 W/
3/3-N-FE	·		
Nominical AC vollage 48.0 V / 27.7 V W V 20.2 264 V 30.5 V 30.2 264 V 30.5 V 30.5 V 30.2 264 V 30.5 V 30.5 V 30.2 264 V 30.5 V	• • • • • • • • • • • • • • • • • • • •		
AC vallage mange AC vallage mange AC grild frequency (nage AC grild frequency		·	·
Solid Sol	·	·	
AC grid finequency / range Max couptar current 6 A A 7.2.5 A 1 / 0.0 leading 0.0 logging 1 /	• •		
Max. output current	Rated AC grid frequency	60 Hz	50 Hz
1/0.0 leading0.0 logging	AC grid frequency/range	50 Hz, 60 Hz/-6 Hz+5Hz	50 Hz, 60 Hz/-6 Hz+5Hz
Hommonics ThD	Max. output current	64 A	72.5 A
Hommonics ThD	Power factor at rated power/adjustable displacement	1/0.0 leading 0.0 lagging	1 / 0.0 leading 0.0 lagging
### Striction devices **Potection devices	Harmonics THD		
Max. Afficiency / Exc efficiency / European efficiency Protection devices Solidary of disconnect switch Load roted BC disconnect switch Condested BC disconnect switch Corresses polarity protection Corresses polarity pression Corresses polarity (Fype II) Corresses polarity (Fype III)			
Protection devices Load roted AC disconnect switch OC reverse polarity protection OC ACTC complaint to UL 16/098 OC ACTC	•	100 % /100 % /100 %	\00% /\00% /\00%
Load rated AC disconnect switch	,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,	240%/240%/248%	~Y8%/ >Y8%/ -Y8%/ >Y8%
Load total &C. disconnect switch			
DC reverse polarity protection All pole sensitive residual current monitoring DC AFCI Compliant to UL 16998 DC AFCI Compliant to UL 16998 DC AFCI Compliant to UL 16998 DC AG Short circuit protection AC surge arrester (Fype II) DC OOO AC short circuit protection DC AG surge arrester (Fype II) DC OOO DC OO	Load rated DC disconnect switch	•	•
	Load rated AC disconnect switch	•	-
	DC reverse polarity protection	•	•
All pole sensitive residual current monitoring DC APCI compliant to UL 16998 DC Surge errester [Type II] O O O AC short circuit protection O O O AC surge arrester [Type II] O O O O Protection class { par IEC 400664-1}/ overvoltage category { par IEC 400614-1}/ overvoltage category { par IEC 40064-1}/ overvoltage category { par IEC 40070-1}/	, ,,	•/•	•/•
DC AFC (compliant to UL 19998	* · •	•	•
OC As short circuit protection AC surge arrester (Type III) OC AC Short circuit protection AC surge arrester (Type III) OC OC OPPROACH (Truth Protection Color Colo		•	
AC surge arrester (Type III)		•	-
AC surge arrester (Type II) Protection class / overvoltage category (as per UL840) Protection class (so sper IEC 60664-1) / overvoltage category (as per IEC 60664-1) Protection class (so sper IEC 6064-1) Protection class (so sper IEC 60721-34 in (24.4 in x 28.8 in x 22.4 in) Protection class (so sper IEC 60721-34 in (24.4 in x 28.8 in x 22.4 in) Protection class (so sper IEC 60721-3-4) Protection class (so	÷	-	
Protection class / overvoltage category (as per UBA40) 1/IV		•	
Protection class (as per IEC 60664-1) / overvoltage category	• .,,	-	O
		I/IV	-
Dimensions (W/H/D)	Protection class (as per IEC 60664-1)/overvoltage category (as per IEC 60664-1)	-	I/AC: III; DC: II
(24.4 in x 28.8 in x 22.4 in) (24.4 in x 28.8 in x 22.4 in) (24.4 in x 28.8 in x 22.4 in)	General data		
24.4 in x x 2.4 in	D:(\A//H/D)	621 mm/733 mm/569 mm	621 mm/733 mm/569 mm
Operating temperature range -25 °C+60 °C -25 °C+60 °C -26 °C+60 °C -27 °C -40 °C+70 °C -40 °C+10 °C+1	Dimensions (VV / FI / D)	$(24.4 \text{ in } \times 28.8 \text{ in } \times 22.4 \text{ in})$	$(24.4 \text{ in } \times 28.8 \text{ in } \times 22.4 \text{ in})$
Storage temperature range -40 °C+70 °C -40 °C+10 °C+10 °C -40	Device weight	82 kg (180 lbs)	82 kg (180 lbs)
Audible noise emissions (full power @ 1m and 25 °C) Internal consumption at night	Operating temperature range	-25 °C+60 °C	-25 °C+60 °C
Internal consumption at night C5 W Topology Transformerless Copling Cocol Colling Concept Enclosure protection rating Climatic category (according to IEC 60721-3-4) Features DC-Connection Features DC-Connection AC-Connection AC-Connection AC-Connection Screw terminal EID indicators (Status / Fault / Communication) Interface: Etherner / WLAN / RS485 Data protocols: SMA Modbus / SunSpec Modbus / Webconnect Multifunction relay Mounting OptiTrac Global Peak / Integrated Plant Control / Q on Demand 24/7 OpfiGrid capable / SMA Fuel Save Controller compatible Warranty: 5/10/15/20 years O Optitional features Standard features *preliminary data as of November 2016 *preliminary data as of November 2016	Storage temperature range	-40 °C+70 °C	-40 °C+70 °C
Internal consumption at night C5 W Topology Transformerless Copling Cocol Colling Concept Enclosure protection rating Climatic category (according to IEC 60721-3-4) Features DC-Connection Features DC-Connection AC-Connection AC-Connection AC-Connection Screw terminal EID indicators (Status / Fault / Communication) Interface: Etherner / WLAN / RS485 Data protocols: SMA Modbus / SunSpec Modbus / Webconnect Multifunction relay Mounting OptiTrac Global Peak / Integrated Plant Control / Q on Demand 24/7 OpfiGrid capable / SMA Fuel Save Controller compatible Warranty: 5/10/15/20 years O Optitional features Standard features *preliminary data as of November 2016 *preliminary data as of November 2016		<60 dB (A)	<60 dB(A)
Transformerless Cooling Concept Climatic category (according to IEC 60721-3-4) Type 4X, 3S (as per UL 50E) P65 (as per IEC 60529) AK4H Maximum permissible value for relative humidity (non-condensing) P6-atures BC-Connection AC-Connection A			
Cooling Concept Concept Cooling Cooli	, ,		
Enclosure protection rating Climatic category (according to IEC 60721-3-4) Ax4H Maximum permissible value for relative humidity (non-condensing) Features DC-Connection AC-Connection AC-Connection BLED indicators (Status/Fault/Communication) Interface: Ethernet/WLAN / RS485 Data protocols: SMA Modbus/SunSpec Modbus/Webconnect Multifunction relay Mounting OptiTrac Global Peak / Integrated Plant Control/Q on Demand 24/7 Off-Grid capable/SMA Fuel Save Controller compatible Warranty: 5/10/15/20 years Certifications and approvals O Optional features Standard features Type 4X, 3S (as per UL 50E) A (X4H AX4H AX4H AX4H AX4H AX4H AX4H AX4H A	• • • •		
Climatic category (according to IEC 60721-3-4) Maximum permissible value for relative humidity (non-condensing) Features DC-Connection Amphenol UTX PV connectors Screw terminal AMphenol UTX PV connectors Screw terminal ED indicators (Status / Fault / Communication) Interface: Ethernet / WLAN / RS485 Data protocols: SMA Modbus / SunSpec Modbus / Webconnect Multifunction relay Mounting OptiTrac Global Peak / Integrated Plant Control / Q on Demand 24/7 Off-Grid capable / SMA Fuel Save Controller compatible Warranty: 5/10/15/20 years Certifications and approvals O Optional features Standard features - Not available *preliminary data as of November 2016			·
Maximum permissible value for relative humidity (non-condensing) Features DC-Connection AC-Connection AC-Connection Screw terminal ED indicators (Status/Fault/Communication) Interface: Ethernet/WLAN/RS485 Data protocols: SMA Modbus/SunSpec Modbus/Webconnect Multifunction relay Mounting free-standing free-standing free-standing OptiTrac Global Peak/Integrated Plant Control/Q on Demand 24/7 Off-Grid capable/SMA Fuel Save Controller compatible Warranty: 5/10/15/20 years Certifications and approvals O Optional features SunCLIX PV connectors Screw terminal Polity of P	, ,	Type 4A, 33 (as per UL 3UE)	
Peatures DC-Connection AC-Connection AC-Connection AC-Connection AC-Connection Screw terminal Screw te	3 , ,	-	
DC-Connection AC-Connection Screw terminal ED indicators (Status / Fault / Communication) Interface: Ethernet / WLAN / R\$485 Data protocols: SMA Modbus / SunSpec Modbus / Webconnect Multifunction relay Mounting OptiTrac Global Peak / Integrated Plant Control / Q on Demand 24/7 Off-Grid capable / SMA Fuel Save Controller compatible Warranty: 5/10/15/20 years Certifications and approvals O Optional features SunCLIX PV connectors Screw terminal O (2 ports) / • / O • (2 ports) / • (2 ports	•	100%	100%
AC-Connection LED indicators (Status/Fault/Communication) Interface: Ethernet/WLAN/R\$485 Data protocols: SMA Modbus/SunSpec Modbus/Webconnect Multifunction relay Mounting OptiTrac Global Peak/Integrated Plant Control/Q on Demand 24/7 Off-Grid capable/SMA Fuel Save Controller compatible Warranty: 5/10/15/20 years Certifications and approvals O Optional features Screw terminal O pack Popological Po			
LED indicators (Status/Fault/Communication) Interface: Ethernet/WLAN/RS485 Data protocols: SMA Modbus/SunSpec Modbus/Webconnect Multifunction relay Mounting OptiTrac Global Peak/Integrated Plant Control/Q on Demand 24/7 Off-Grid capable/SMA Fuel Save Controller compatible Warranty: 5/10/15/20 years Certifications and approvals O Optional features Standard features Standard features Standard features O (2 ports)/●/O ● (2 ports)/●/O ● (2 ports)/●/O ● (2 ports)/●/O ● (4 ports)/●/O ● (5 ports)/●/O ● (4 ports)/●/O ● (5 ports)/●/O ● (6 ports)/●/O ● (9 ports)/●/● ● (9 ports)/●/O ● (9 ports)/●/O ● (9 ports)/●/● ● (9 ports)/●/●/● ● (9 ports)/●/● ● (1 ports)/	DC-Connection	Amphenol UTX PV connectors	SUNCLIX PV connectors
Interface: Ethernet / WLAN / RS485 Data protocols: SMA Modbus / SunSpec Modbus / Webconnect Multifunction relay Mounting OptiTrac Global Peak / Integrated Plant Control / Q on Demand 24/7 Off-Grid capable / SMA Fuel Save Controller compatible Warranty: 5/10/15/20 years Certifications and approvals OptiOnal features Standard features Standard features Standard features Optional features Standard features Optional f	AC-Connection	Screw terminal	Screw terminal
Interface: Ethernet/WLAN/RS485 Data protocols: SMA Modbus/SunSpec Modbus/Webconnect Multifunction relay Mounting OptiTrac Global Peak/Integrated Plant Control/Q on Demand 24/7 Off-Grid capable/SMA Fuel Save Controller compatible Warranty: 5/10/15/20 years Certifications and approvals O Optional features Standard features Standard features O Optional features O (2 ports)/	LED indicators (Status / Fault / Communication)	•	•
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·	Certifications and approvals	FCC Part 15 (Class A & B),	
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type designation STP50-40 STP50-40			
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SMA Sensor Module MD.SEN-US-40 SMA RS485 Module MD.485-US-40



Antenna Extension Kit EXTANT-US-40

