SUNNY TRIPOWER 12000TL-US / 15000TL-US / 20000TL-US / 24000TL-US / 30000TL-US





Design flexibility

- 1000 V DC or 600 V DC
- Two independent DC inputs15° to 90° mounting angle range
- Detachable DC Connection Unit

System efficiency

- 98.0% CEC, 98.6% Peak
- 1000 V DC increases system efficiency
- OptiTrac Global Peak MPPT

Enhanced safety

- Integrated DC AFCI
- Floating system with all-pole sensitive ground fault protection
- Reverse polarity indicator in combination with Connection Unit

Future-proof

- Complete grid management feature set
- Integrated Speedwire, WebConnect, ModBus interface
- Bi-directional Ethernet communications
- Utility-interactive controls for active and reactive power

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The ultimate solution for decentralized PV plants, now up to 30 kilowatts

The world's best-selling three-phase PV inverter, the SMA Sunny Tripower TL-US, is raising the bar for decentralized commercial PV systems. This three-phase, transformerless inverter is UL listed for up to 1000 V DC maximum system voltage and has a peak efficiency above 98 percent, while OptiTrac Global Peak minimizes the effects of shade for maximum energy production. The Sunny Tripower delivers a future-proof solution with full grid management functionality, cutting edge communications and advanced monitoring. The Sunny Tripower is also equipped with all-pole ground fault protection and integrated AFCI for a safe, reliable solution. It offers unmatched flexibility with a wide input voltage range and two independent MPP trackers. Suitable for both 600 V DC and 1,000 V DC applications, the Sunny Tripower allows for flexible design and a lower levelized cost of energy.



Technical data	Sunny Tripower 12000TL-US	Sunny Tripower 15000TL-US	Sunny Tripower 20000TL-US	Sunny Tripower 24000TL-US	Sunny Tripowe 30000TL-US
Input (DC)					
Max. usable DC power (@ $\cos \varphi = 1$)	12250 W	15300 W	20400 W	24500 W	30800 W
Max. DC voltage	*1000 V	*1000 V	*1000 V	*1000 V	1000 V
Rated MPPT voltage range	300 V800 V	300 V800 V	380 V800 V	450 V800 V	500 V800 V
MPPT operating voltage range	150 V1000 V	150 V1000 V	150 V1000 V	150 V1000 V	150 V1000 V
Min. DC voltage / start voltage	150 V / 188 V	150 V / 188 V	150 V / 188 V	150 V / 188 V	150 V / 188 V
Number of MPP tracker inputs	2	2	2	2	2
Max. input current / per MPP tracker input	66 A / 33 A	66 A / 33 A	66 A / 33 A	66 A / 33 A	66 A / 33 A
Output (AC)					
AC nominal power	12000 W	15000 W	20000 W	24000 W	30000 W
Max. AC apparent power	12000 VA	15000 VA	20000 VA	24000 VA	30000 VA
Output phases / line connections	3 / 3-N-PE 3 / 3-N-PE, 3-P				
Nominal AC voltage	480 / 277 V WYE 480 V Delta				
AC voltage range	244 V305 V				
Rated AC grid frequency	60 Hz				
AC grid frequency / range	50 Hz, 60 Hz / -6 Hz+5 Hz				
Max. output current	14.4 A	18 A	24 A	29 A	36.2 A
Power factor at rated power / adjustable displacement	1 / 0.0 leading0.0 lagging				
Harmonics	< 3%				
Efficiency					
Max. efficiency / CEC efficiency	98.2% / 97.5%	98.2% / 97.5%	98.5% / 97.5%	98.5% / 98.0%	98.6% / 98.0%
Protection devices					
DC reverse polarity protection	•	•	•	•	•
Ground fault monitoring / grid monitoring	•	•	•	•	•
All-pole sensitive residual current monitoring unit	•	•	•	•	•
DC AFCI compliant to UL 1699B	•	•	•	•	•
AC short circuit protection	•	•	•	•	•
Protection class / overvoltage category	I/IV	I / IV	I/IV	I/IV	I/IV
General data					
Dimensions (W / H / D) in mm (in)	665 / 650 / 265 (26.2 / 25.6 / 10.4)				
Packing dimensions (W / H / D) in mm (in)	780 / 790 / 380 (30.7 / 31.1 / 15.0)				
Weight	55 kg (121 lbs)				
Packing weight	61 kg (134.5 lbs)				
Operating temperature range	-25°C+60°C				
Noise emission (typical) / internal consumption at night	51 dB(A) / 1 W				
Topology	Transformerless				
Cooling concept / electronics protection rating	OptiCool / NEMA 3R				
Features					
Display / LED indicators (Status / Fault / Communication)			-/●		
Interface: RS485 / Speedwire, WebConnect	0/●				
Data interface: SMA Modbus / SunSpec ModBus			•/•		
Mounting angle range	15°90°				
Warranty: 10 / 15 / 20 years	●/0/0				
Certifications and approvals	UL 1	741, UL 1998, UL 1699B, IE	EE 1547, FCC Part 15 (Class)	A & B), CAN/CSA C22.2 10	7.1-1
NOTE: US inverters ship with gray lids. Data at nomino	al conditions. *Suit	table for 600 V DC max	c. systems		
 Standard features O Optional features Not availal 					

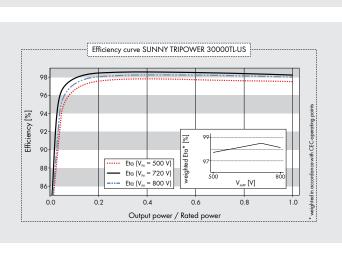
Accessories







SMA Cluster Controller CLCON-10



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