



/ STP 13-US-50 (208V) / STP 20-US-50 / STP 25-US-50 / STP 30-US-50

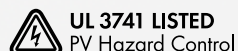
Sunny Tripower X 30-US

13 (208V) / 20 / 25 / 30

/ Integrated intelligence for future-proof system design.



powered by
ennexOS



Integrated System Manager

- Monitoring and control for up to 5 inverters
- Remote access with Sunny Portal powered by ennexOS
- SMA Dynamic Power Control

Enhanced safety

- Integrated SunSpec PLC signal for module-level shutdown
- Advanced DC AFCI arc-fault protection
- Optional AC disconnect
- Optional DC type 2 and type 1+2 surge protection

Maximum yields

- Three MPP trackers for flexible array design
- Achieve an optimized design using SMA Sunny Design with NEC 690.8(A)(1)(a)(2) when calculating maximum current on systems over 100kW
- SMA ShadeFix string level optimization
- Integrated I-V curve diagnostics
- The 13 kW (208V) supports 200% DC:AC design capability

Smart monitoring, control and service

- SMA Smart Connected proactive monitoring and service solution
- SMA ennexOS cross-sector energy management platform

The Sunny Tripower X 30-US is the versatile inverter solution for small to medium commercial PV systems, delivering reliable performance across rooftop, carport, ground-mount and repowering applications.

Providing three MPP trackers with SMA ShadeFix string optimization technology for optimal PV array design flexibility and maximum energy yields. SMA's proven integrated rapid shutdown support and reliable DC AFCI arc-fault protection ensure enhanced system safety. With the new integrated System Manager, powered by SMA's ennexOS cross-sector energy management platform, The Sunny Tripower X 30-US becomes the centerpiece of the SMA Commercial Energy Solution for comprehensive commercial energy systems now and in the future.

Technical data	Sunny Tripower X 20-US	Sunny Tripower X 25-US	Sunny Tripower X 30-US
Input (DC)			
Maximum array power	30000 Wp	37500 Wp	45000 Wp
Maximum system voltage	1000 V		
Rated MPP voltage range	350 V ... 800 V	430 V ... 800 V	515 V ... 800 V
MPPT operating voltage range	150 V ...1000 V		
Minimum DC voltage / start voltage	150 V / 188 V		
Maximum usable operating input current / Maximum short circuit current per MPPT	24 A / 37.5 A		
MPP trackers / strings per MPP input	3 / 2		
Output (AC)			
Nominal output power	20000 W	25000 W	30000 W
Maximum apparent power	20000 VA	25000 VA	30000 VA
Output phases / line connection	3 / 3-(N)-PE		
Nominal AC voltage	480 V / 277 V		
AC voltage range	244 V ... 305 V		
Maximum output current	24 A	30 A	36 A
Rated grid frequency / range	60 Hz / 54 Hz ... 66 Hz		
Power factor at rated power / adjustable displacement	1 / 0.8 leading ... 0.8 lagging		
Harmonics (THD)	< 3 %		
Efficiency			
CEC efficiency	97.5 %	98 %	98 %
Protection and safety features			
Load rated DC disconnect	●		
Load rated AC disconnect	○		
Ground fault monitoring / grid monitoring	● / ●		
DC reverse polarity protection / AC short-circuit protection	● / ●		
All-pole sensitive residual-current monitoring unit	●		
DC AFCI arc-fault protection	●		
SunSpec PLC signal for rapid shutdown	●		
DC surge protection: Type 2 / Type 1+2	○ / ○		
Protection class / overvoltage category (as per UL 840)	I / III		
General data			
Device dimensions (W/H/D)	728 mm / 762 mm / 266 mm (28.7 in / 30 in / 10.5 in)		
Device weight	77 lbs (35 kg)		
Operating temperature range	-25°C to +60°C (-13°F to +140°F)		
Audible noise emission (full power @ 1m and 25°C)	59 dB(A)		
Topology / cooling concept	Transformerless / OptiCool (forced convection, variable speed fans)		
Enclosure protection rating	Type 4X (as per UL 50E)		
Corrosion classification	C5		
Maximum permissible relative humidity (non-condensing)	100 %		
Additional information			
Mounting	Vertical rack / wall mount to 15° from horizontal		
DC connection / AC connection	Amphenol H4 Plus / spring-cage terminal		
LED indicators (status / fault / communication)	●		
Network interfaces: Ethernet / WLAN	● (2 ports) / ●		
Data protocols: SMA Modbus / SunSpec Modbus / Speedwire	● / ● / ●		
Multi-function relay / Extension module slot / Digital inputs	● / ● / ● (6 inputs)		
ShadeFix technology for string level optimization	●		
I-V curve diagnostic function	●		
Integrated Plant Control / Q on Demand 24/7	● / ●		
SMA Smart Connected (proactive monitoring and service support)	●		
Standard warranty	10 years		
Optional warranty extensions (total warranty coverage cannot exceed 20 years)	+5 years, +10 years		
Certificates and approvals			
Certificates and approvals	UL 62109-1, UL 1699B Ed. 1, CAN/CSA 22.2 No. 62109-1:16 / 62109-2:16, PV Rapid Shutdown System Equipment in accordance with UL1741:2021, UL 3741, UL 1998		
FCC compliance	FCC Part 15 Class A		
Grid interconnection standards	UL 1741 SB, IEEE 1547:2018, compliance to SRDs: CA Rule 21, HECO Rule 14H, ISO-NE, CSA C22.2 No. 107. 1-16 section 14		
Integrated System Manager			
Maximum number of supported inverters / energy meters	5 / 1		
Maximum system power PV inverters (nominal AC power)	150 kVA		
Centralized commissioning of all devices in the system	●		
Remote parameterization of SMA devices	● (via Sunny Portal powered by ennexOS)		
SMA Dynamic Power Control (e.g. zero export / Volt-Var)	●		
Type designation	STP 20-US-50	STP 25-US-50	STP 30-US-50

● Standard features ○ Optional – Not available Data in nominal conditions Last revision: 04/2025

Accessories



SMA Data Manager M
EDMM-20



Roof Mount Kit
210462-00.01



AC Disconnect Kit
210841-00.01



SMA Sensor Module
MD.SEN-US-40



SunSpec Certified Rapid Shutdown Device
JMS-FA



DC Terminal Cover
DC-TERM-COVER



DC Surge Protection Kits
T2: DC_SPD_KIT6-10
T1+2: DC_SPD_KIT7_T1T2

Technical Data	Sunny Tripower X 13-US
Input (DC)	
Maximum array power	26000 Wp
Maximum system voltage	800 V
Rated MPP voltage range	230 V ... 720 V
MPPT operating voltage range	150 V ... 800 V
Minimum DC voltage / start voltage	150 V / 188 V
Maximum usable operating input current / Maximum short circuit current per MPPT	24 A / 37.5 A
MPP trackers / strings per MPP input	3 / 2
Output (AC)	
Nominal output power	13000 W
Maximum apparent power	13000 VA
Output phases / line connection	3 / 3-(N)-PE
Nominal AC voltage	208 V / 120 V
AC voltage range	108 V ... 132 V
Maximum output current	36 A
Rated grid frequency / range	60 Hz / 54 Hz ... 66 Hz
Power factor at rated power / adjustable displacement	1 / 0.8 overexcited to 0.8 underexcited
Harmonics (THD)	< 3 %
Efficiency	
CEC efficiency	97%
Protection and safety features	
Load rated DC disconnect	●
Load rated AC disconnect	○
Ground fault monitoring / grid monitoring	● / ●
DC reverse polarity protection / AC short-circuit protection	● / ●
All-pole sensitive residual-current monitoring unit	●
DC AFCI arc-fault protection	●
SunSpec PLC signal for rapid shutdown	●
DC surge protection: Type 2 / Type 1+2	○ / ○
Protection class / overvoltage category as per UL 840	I / III
General data	
Dimensions (W/H/D)	728 mm / 762 mm / 266 mm (28.7 in / 30.0 in / 10.5 in)
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Operating temperature range	-25°C to +60°C (-13°F to +140°F)
Audible noise emission (full power @ 1m and 25°C)	59 dB(A)
Topology / cooling concept	Transformerless / OptiCool (forced convection, variable speed fans)
Enclosure protection rating	Type 4X (as per UL 50E)
Corrosivity classification according to IEC 61701	C5
Maximum permissible relative humidity (non-condensing)	100 %
Features / functions / accessories	
Mounting type	Vertical rack / wall mount to 15° from horizontal
DC connection / AC connection	Amphenol H4 Plus / spring-cage terminal
LED indicators (status / fault / communication)	●
Network interfaces: Ethernet / WLAN	● (2 ports) / ●
Data protocols: SMA Modbus / SunSpec Modbus / Speedwire	● / ● / ●
Multi-function relay / Extension module slot / Digital inputs	● / ● / ● (6 ports)
ShadeFix technology for string level optimization	●
I-V curve diagnostic function	●
Integrated Plant Control / Q on Demand 24/7	● / ●
SMA Smart Connected (proactive monitoring and service support)	●
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Remote parameterization of SMA devices	● (via Sunny Portal powered by ennexOS)
SMA Dynamic Power Control (e.g. zero export / Volt-Var)	●
Type designation	STP 13-US-50

● Standard features ○ Optional — Not available Data in nominal conditions Last revision: 04/2026

Accessories			
	SMA Data Manager M EDM-20		Roof Mount Kit 210462-00.01
	SunSpec Certified Rapid Shutdown Device JMS-FA		DC Terminal Cover DC-TERM-COVER
	AC Disconnect Kit 210841-00.01		DC Surge Protection Kits T2: DC_SPD_KIT6-10 T1+2: DC_SPD_KIT7-T1T2
	SMA Sensor Module MD.SEN-US-40		