/ STP 50-80 / STP 60-80



Sunny Tripower X 60

50 / 60

Integrated intelligence for future-proof system design

powered by ennexOS

SMA Smart Connected · SMA ArcFix · SMA ShadeFix

Maximum yields and performance
- up to 60 kW power
- SMA ShadeFix optimizes yields even with partial shading
- SMA Smart Connected for early fault detection

Security and safety at the highest level
- SMA ArcFix for arc fault detection and prevention
- Robust design for long-term operational reliability

Flexibility to meet every requirement
- 5 MPP trackers with two string inputs each
- High input current for the state-of-the-art PV modules
- System Manager functions

Industry-leading cybersecurity
- Built-in access control with enforced passwords, limited interfaces, SMA ID login & auto updates
- ISO 27001-certifi ed cloud via Sunny Portal powered by ennexOS
- Fully compliant with EU regulations and leading security standards

The new Sunny Tripower X 60 is the smart system solution for medium-sized commercial enterprises. With up to 60 kW and 5 MPP trackers, it ensures maximum energy yields and efficient use of high-power, bifacial PV modules.

The integrated System Manager function enables the central control of up to five SMA inverters* and one Energy Meter via Sunny Portal powered by ennexOS. This allows active and reactive power to be dynamically controlled in order to optimize grid stability and efficiency.
Using SMA Speedwire, the Sunny Tripower X 60 can be easily integrated into the SMA Commercial Energy Solution - including commercial storage system and charging infrastructure.
With its innovative design and simple commissioning, the Sunny Tripower X 60 sets new standards for commercial PV systems. Unlock your full energy – with the system solution designed for the future!

*) When an inverter is used as a System Manager, the total installation size must not exceed 135 kVA.

Technical Data	Sunny Tripower X 50	Sunny Tripower X 60
Input (DC)		
Max. PV system power	75000 Wp STC	90000 Wp STC
Max. input voltage	1000 V	
MPP voltage range at nominal power / Rated input voltage / MPP voltage range	500 V to 850 V / 630 V / 200 V to 850 V[1]	
Min. input voltage / initial input voltage	200 V / 250 V	
Max. usable input current per MPP tracker / per string	40 A[2] / 22 A	
Max. short-circuit current per MPP tracker / per string	50 A / 30 A	
Number of independent MPP trackers / strings per MPP tracker	5 / 2	
Output (AC)		
Rated power (at 230 V, 50 Hz)	50000 W	60000 W
Rated apparent power / max. apparent power	50000 VA / 50000 VA	60000 VA / 60000 VA
Nominal AC voltage	230 V / 400 V	
AC voltage range	180 V to 305 V	
AC grid frequency / range	50 Hz / 45 Hz to 65 Hz	
Rated grid frequency / rated grid voltage	50 Hz / 400 V	
Rated output current / max. output current	72.5 A / 79.5 A	86.6 A / 95.3 A
Power factor at rated power/adjustable displacement power factor	1 / 0.8 overexcited to 0.8 underexcited	
Harmonic (THD)	< 3% (at rated power)	
Feeding conductors / AC connection	3 / 3-N-PE	
Efficiency		
Max. efficiency / European Efficiency	98.1 % / 97.7 %	98.1 % / 97.8 %
Protective Devices		
Input-side disconnection point / ground fault monitor / grid monitor	● / ● / ●	
DC reverse polarity protection / AC short-circuit current capability	● / ●	
All-pole sensitive residual-current monitoring unit	●	
Protection class (as per IEC 62109-1) / overvoltage category (as per IEC 62109-1)	I / AC: III; DC: II	
Arc-fault circuit interrupter (AFCI) / I-V generator diagnostics[3]	● (Compliant with IEC 63027) / ●	
Surge arrester	● (DC type I + II / AC type II)	
General Data		
Dimensions (W / H / D)	680 mm / 717.5 mm / 332 mm (26.8 in / 28.2 in / 13.1 in)	
Weight	50.5 kg (111.3 lbs)	
Operating temperature range	–25°C to +60°C (–13°F to +140°F)	
Noise emission, maximum (1 m)	63 dB(A)	
Self-consumption (at night)	< 15 W	
Topology / cooling concept	No galvanic isolation / OptiCool	
Degree of protection (according to IEC 60529)	IP65	
Features / functions / accessories		
DC connection / AC connection	SUNCLIX / terminal lug (up to 70 mm²)	
LED display (status/fault/communication)	●	
Interface: Ethernet/Wi-Fi	● (2 ports) / ●	
Data protocols: SMA Modbus / SunSpec Modbus / Speedwire	● / ● / ●	
Multifunction relay	● Floating change-over contact	
Number of digital inputs for power limitation / fast stop	4 / 2	
Wi-Fi range in free-field conditions	10 m	
Mounting type	Wall mounting / Roof mounting[4]	
SMA ShadeFix / Q on Demand 24/7	● / ●	
Off-grid capable	●	
Warranty: 5 / 10 / 15 / 20 years	● / ○ / ○ / ○	
Certificates and approvals (more available on request)	C10/C11:2019 & V1:2020 LV&MV,CE, CEI 0-21/CEI 0-16, EIFS 2018:2, EN50549-1/-2:2018, EN50549-10:2022, EREC G99/2:2025 Type A & B, G99/NI-1:2019, IEC 60068-2-x, IEC 61727, IEC 62109-1/-2, IEC62116, IEC 63027, NA/EEA-NE7, VDE-AR-N 4105:2018 (ZEREZ-ID: ZE-7ZWF-8L2Y)/4110:2023/4120:2020, TED/749/2020 inkl. NTS2.1 Type A & B, TOR Erzeuger Typ A:2022/B:2022, UNE 217002:2020,	
Cybersecurity	EU-RED Cybersecurity Directive (EN 18031-1), ETSI EN 303 645, Speedwire Encrypted Communication (SEC), EU-based data hosting (ISO 27001), EU NIS2 Directive, automatic updates	
System Manager function		
Total number of subordinate devices (inverters, charging stations and energy meters)	5	
Centralized commissioning of all devices in the system	●	
Remote parameterization of SMA devices with Sunny Portal powered by ennexOS	●	
Direct selling via SMA SPOT (Germany)	●	
Type designation	STP 50-80	STP 60-80
SMA Material number	03-50-1100-1-80	03-60-1100-1-80

● Standard features ○ Optional – Not available "STC"- Standard test conditions Data in nominal conditions Status: 12/2025

1) Input voltages of up to 1000 V are possible; however, this will result in reduced power output. 2) Is achieved at an input voltage between 450 V and 550 V. 3) available from Q4/2026

4) For roof mounting, the Roof Mount Kit and Roof Mount Adapter STP xx-80 are required (available as of 03/2026).

Accessories



SMA Data Manager M
EDMM-20



Roof Mount Kit[4]
210462-00.01

+



Roof Mount Adapter STP xx-80[4]
RM-ADP-STP-80

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