



SMA Commercial Storage Solution

The new integrated energy storage solution for the commercial sector.

powered by
ennexOS

Integrated system support

- Design with the SMA Planning Service
- System and battery training
- Commissioning support
- SMA Service for the entire system

Full flexibility

- Scalable AC and storage capacity
- Can be used with and without PV
- Prepared for battery backup

Long service life and investment security

- High-quality battery cells
- Up to 8000 complete charge cycles

Intelligent energy management

- Increased self-consumption, peak load shaving
- Multiuse** as combinations of different modes
- Free monitoring thanks to SMA Sunny Portal

The new storage solution for commercial use is easy to install and provides comprehensive support throughout the entire product life cycle.

From the design including calculation of the load profile and ROI to support during commissioning as well as certified system and battery training – everything from a single source.

The modular design of the components makes it easy to design or expand the configuration with a high level of flexibility. The system is already fully equipped for battery backup and backup applications and functions with and without PV.

With the integrated system manager, the commissioning and integration of other SMA components such as PV inverters, EV chargers or sensors is child's play.

The integrated energy management makes a variety of storage applications possible. Increased self-consumption and peak load shaving, or even a combination thereof with multiuse**: all of this is leading to commercial customers reducing their energy costs permanently and making it plannable for the companies.

*) Valid only once the system has been registered with SMA. Battery: 10 year capacity warranty. The SMA warranty conditions apply.

***) In preparation.

Sunny Tripower Storage X

| Technical data | Sunny Tripower Storage X 30 | Sunny Tripower Storage X 50 |
|---|---|-----------------------------|
| Battery connection (DC) | | |
| Max. DC power | 30600 W | 51000 W |
| DC voltage range | 200 V to 980 V | |
| Max. usable input current ($I_{DC, max}$) | 150 A | |
| Battery type | Li-ion | |
| Grid connection (AC) | | |
| Rated power at nominal voltage | 30000 W | 50000 W |
| Max. apparent AC power | 30000 VA | 50000 VA |
| Max. reactive power | 30000 var | 50000 var |
| Nominal AC voltage | 400 V, $\pm 15\%$ | |
| AC voltage range | 340 V to 477 V | |
| Rated grid frequency | 50 Hz / 60 Hz | |
| Power frequency range | 44 Hz to 66 Hz | |
| Max. output current | 45.6 A per line conductor | 75.5 A per line conductor |
| Power factor at rated power / adjustable displacement power factor | 1 / 0 overexcited to 0 underexcited | |
| Feed-in line conductors / connection line conductors | 3 (L1, L2, L3) / 5 (L1, L2, L3, N, PE) | |
| efficiency | | |
| Max. efficiency/European efficiency | 98.0 % / 97.6 % | 98.0 % / 97.2 % |
| Protective devices | | |
| Grid monitoring | ● | |
| Overtemperature / battery deep discharge | ● / ● | |
| 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 60664-1) | I / DC: II; AC: III | |
| General data | | |
| Dimensions (W/H/D) | 772 / 837.3 / 443.8 mm (30.4 / 33 / 17.5 inch) | |
| Weight | 104 kg (229 lb) | |
| Operating temperature range | -25°C to +60°C (-13°F to +140°F) with derating | |
| Noise emission, typical | 69 dB(A) | |
| Standby | 25 W | |
| Topology / cooling concept | Three-phase/active | |
| Degree of protection (according to IEC 60529 / UL 50E) | IP65 / NEMA 4X | |
| Climatic category (according to IEC 60721-3-4) | 4K4 / 4Z4 / 4S2 / 4M3 / 4C2 / 4B2 | |
| Max. permissible value for relative humidity (non-condensing) | 95% | |
| Features / functions / accessories | | |
| DC connection / AC connection | Terminal lug (50 mm ² to 95 mm ²) / Screw terminal (16 mm ² to 95 mm ²) | |
| Communication / protocols | Modbus (SMA, Sunspec), SMA Speedwire, Webconnect | |
| LED display (Status / Fault / Communication) | ● / ● / ● | |
| Energy management functions | Self-consumption optimization, peak load shaving, multiuse ²⁾ | |
| Web User Interface / WiFi ³⁾ | ● / ● | |
| Retrofitting in systems with external inverters | ● | |
| System monitoring | Sunny Portal powered by ennexOS | |
| Bus battery interface | Ethernet (Modbus) | |
| Battery backup | In preparation | |
| System manager function | | |
| Total number of supported devices when a Sunny Tripower Storage is the system manager ¹⁾ | 10 | |
| Total number of supported devices when a SMA Data Manager M is the system manager ¹⁾²⁾ | 50 | |
| Centralized commissioning of all devices in the system | ● | |
| Remote parameterization of SMA devices with Sunny Portal powered by ennexOS | ● | |
| Model type number | STPS30-20 | STPS50-20 |

● Standard equipment ○ Optional - Not available Data at nominal conditions Last revised: 03/2024

1) Supported devices: SMA EV Charger Business, PV inverter, Sunny Tripower Storage and SMA Commercial Energy Meter 2) In preparation 3) Only for commissioning

| Order options | ESSX-30-20 | ESSX-50-20 |
|----------------|---|---|
| consisting of: | STPS30-20 Storage-30-20 SMA Commercial Energy Meter | STPS50-20 Storage-50-20 SMA Commercial Energy Meter |

SMA Commercial Storage

| Technical data | SMA Commercial Storage 30 | SMA Commercial Storage 50 |
|---|--|------------------------------------|
| Connection | | |
| Energy | 32 kWh (at 100% DOD) | 56 kWh (at 100% DOD) |
| Expandability - battery modules of 8 kWh each can be flexibly retrofitted within 6 months after commissioning | extendable to up to 48 kWh | extendable to up to 80 kWh |
| Can be expanded to up to | max. 192 kWh | max. 320 kWh |
| Nominal voltage | 324 V | 567 V |
| Min. operating voltage/max. operating voltage | 290 V/365 V | 508 V/639 V |
| Nominal charge/discharge current | 100 A | 100 A |
| Max. C rate | 1C (in conjunction with STPS30-20) | 1C (in conjunction with STPS50-20) |
| Cell | Lithium NMC prismatic (Samsung SDI) | |
| Cell balancing | DyamiX Battery Optimizer | |
| Anticipated cycles @ 100% DoD 70% EoL 23°C +/-5°C 1C/1C | 6000 | |
| Anticipated cycles @ 100% DoD 70% EoL 23°C +/-5°C 0.5C/0.5C | 8000 | |
| Guaranteed cycles @ 100% DoD 70% EoL 23°C +/-5°C 1C/1C | 4500 | |
| Guaranteed cycles @ 100% DoD 70% EoL 23°C +/-5°C 0.5C/0.5C | 6000 | |
| Self-consumption (standby) | 5 W (without battery inverter) | |
| efficiency | | |
| Efficiency (battery) | Up to 98% | |
| General data | | |
| Dimensions (W/H/D) | 608 mm/1400 mm/990 mm | 608 mm/2008 mm/990 mm |
| Total weight | 356 kg | 555 kg |
| Cabinet | 119 kg | 150 kg |
| Battery module | 56 kg | |
| Battery management system (APU) | 13 kg | |
| Operating temperature | 0°C to 50°C | |
| Ambient temperature | 0°C to 50°C | |
| Humidity | 0% to 80% (non-condensing) | |
| Cooling concept | Passive via air louvers and active via fan | |
| Altitude of mounting location | < 2000 meters above NN | |
| Protection class/degree of protection | IP20/I | |
| Recycling | Free collection of batteries within Germany | |
| Cell certificates and standards | IEC 62619, UL 1642, UN 38.3 | |
| Product certificates and standards | CE, UN 38.3, IEC 62619, IEC 62620, IEC 61010-1, IEC 61508, IEC 61000-6-2/4/7, 2006/66/EC (Battery Directive) | |
| Battery designation in accordance with DIN EN 62620:2015 | INP46/175/127/[1P22S]M/-20+60/90 | |
| Model type number | Storage-30-20 | Storage-50-20 |

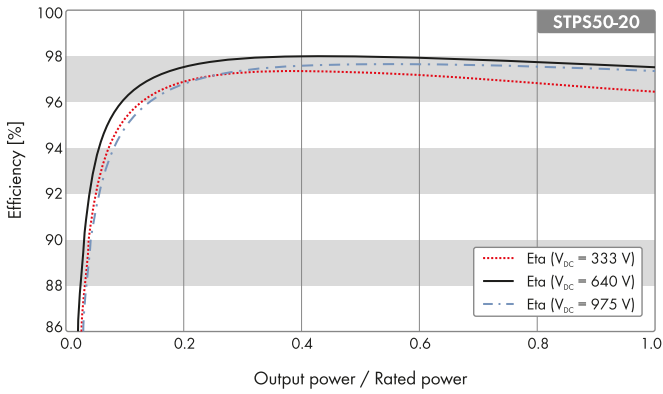
SMA Commercial Energy Meter and other

By default, the SMA Commercial Storage Solution is supplied with a meter for a measurement range of up to 600 A and low-voltage connection. For systems with other requirements, a different meter can be selected during ordering.



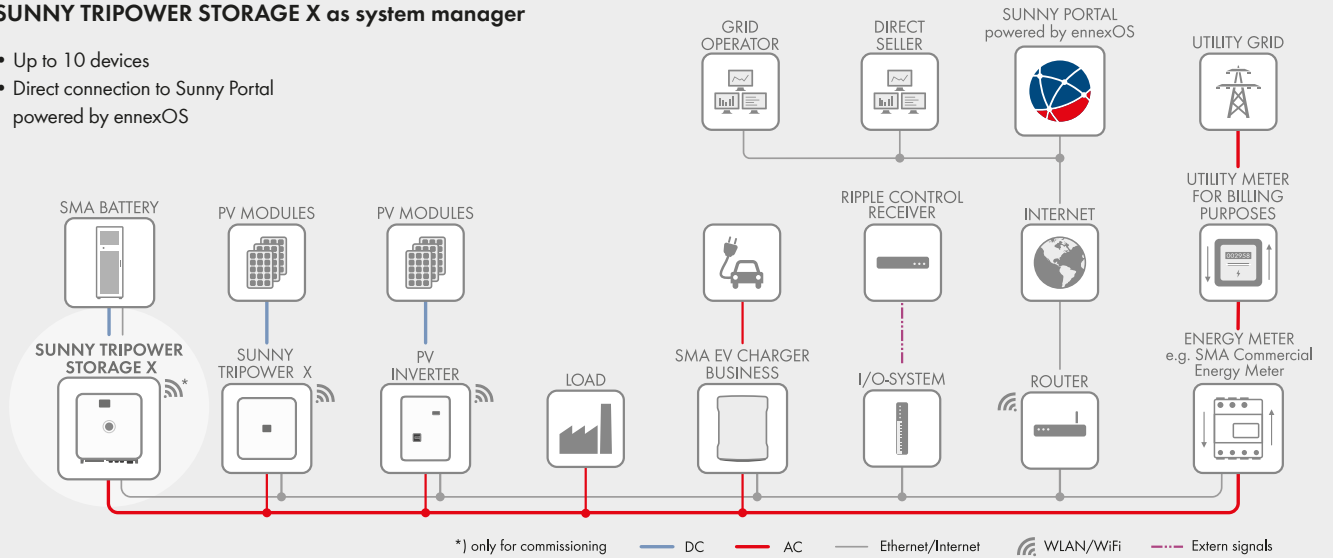
| Technical data | SMA Commercial Energy Meter 600 A | SMA Commercial Energy Meter 200 A | Power Quality Analyser UMG 604 E |
|--|-----------------------------------|-----------------------------------|---------------------------------------|
| Current transformer | 3 x 600 A | 3 x 200 A | Not included in the scope of delivery |
| Voltage supply | from voltage input | from voltage input | via power supply unit CLCON-PWRSUPPLY |
| Cable length to the current transformer | 2 m | 2 m | — |
| Meter dimensions | 88 x 35 x 65 mm | 88 x 35 x 65 mm | 107.5 x 90 x 82 mm |
| Meter weight | < 0.2 kg | < 0.2 kg | 0.35 kg |
| Dimensions of one current transformer (W/H/D) | 57.5 x 85.2 x 41.4 mm | 23 x 40 x 26 mm | Not included in the scope of delivery |
| Weight 1 current transformer | 470 g | 250 g | |
| Diameter opening current transformer enclosure opening | 36 mm | 24 mm | |
| Total weight | 1.6 kg | 1.0 kg | 0.35 kg |
| Standard measuring interval | 200 ms | 200 ms | 200 ms |
| Ambient temperature in operation | -25°C to +55°C | -25°C to +55°C | -10°C to +55°C |
| Assembly | DIN rail | DIN rail | DIN rail |
| Model type number | COM-EMETER-A-20 | COM-EMETER-B-20 | JANITZA-SP |

Efficiency curve



SUNNY TRIPOWER STORAGE X as system manager

- Up to 10 devices
- Direct connection to Sunny Portal powered by ennexOS



SUNNY TRIPOWER STORAGE X with SMA DATA MANAGER M as system manager **

- Up to 50 devices
- Direct connection to Sunny Portal powered by ennexOS

