



/ STP5.0-3SE-40 / STP6.0-3SE-40 / STP8.0-3SE-40 / STP10.0-3SE-40



# Sunny Tripower Smart Energy

5.0 / 6.0 / 8.0 / 10.0

The beating heart of every home



## Store energy

- Three-phase / DC-coupled
- Integrated battery-backup function
- Fast charging
- Compatible with high-voltage batteries from leading manufacturers

## Smart and effective

- Smart energy management with the Sunny Home Manager
- Maximum energy yield thanks to SMA ShadeFix

## Connect to the grid easily

- Intuitive commissioning via app
- Quick and easy to install thanks to external terminals
- Compact design means minimum space requirements

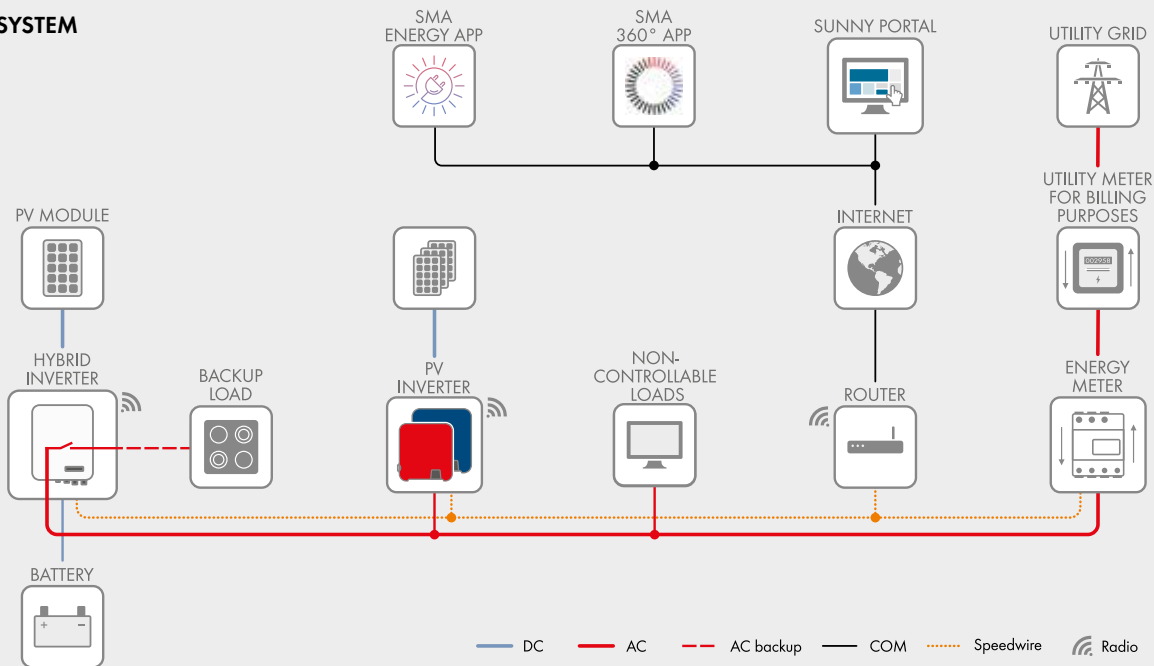
## Convenient all round

- Full-scale professional support for solar power professionals
- Automated service thanks to SMA Smart Connected
- Warranty extension from 5 to 10 years - free of charge

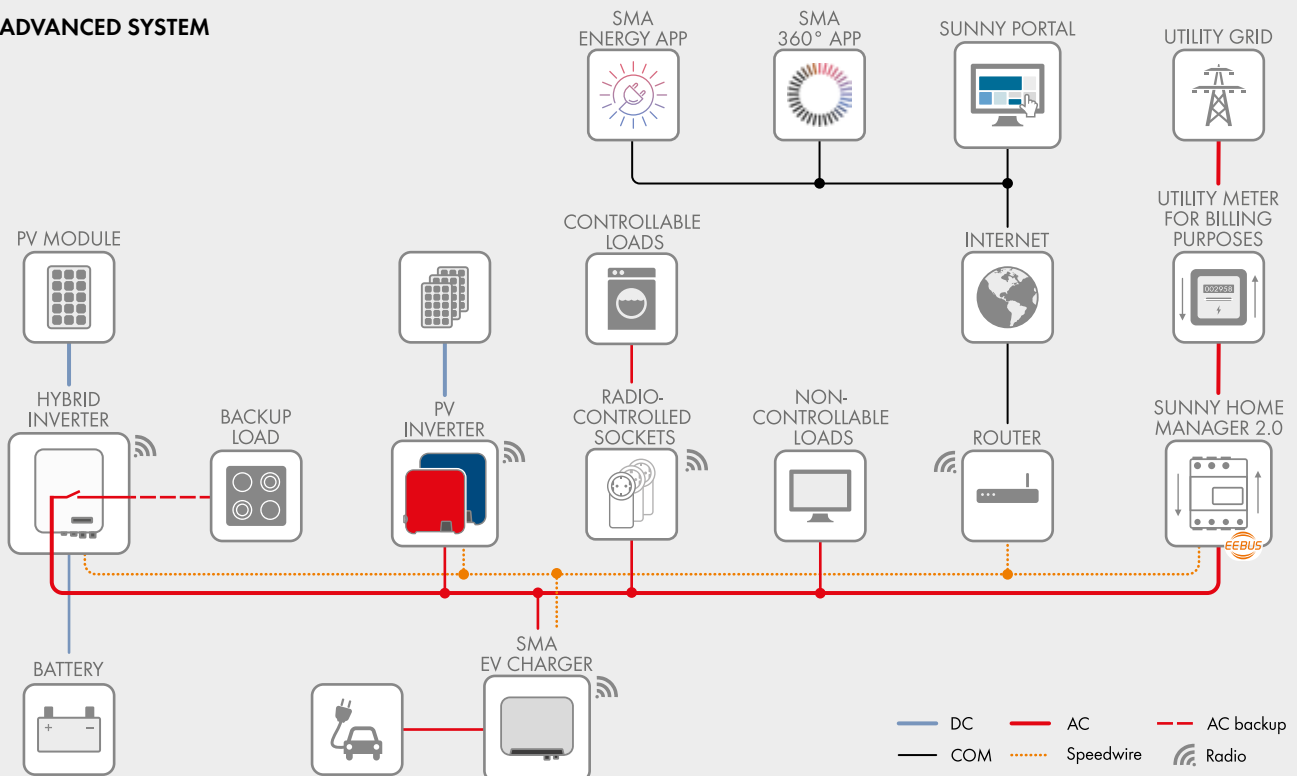
## The Sunny Tripower Smart Energy hybrid inverter is the two-in-one system for supplying solar power at home.

With this, SMA has combined smart technology and integrated services to create a compact, space-saving system, drawing on more than 30 years of experience in storage. With Sunny Tripower Smart Energy, users can easily and conveniently generate, use and store solar power. It is possible to make additions to the system at any time, incorporating e-mobility or heat pumps. The integrated battery-backup function safeguards the household electricity supply even in the event of a grid failure. That makes domestic PV systems comprehensive, smart energy systems with solar energy self-sufficiency of up to 100 percent.

## BASIC SYSTEM



## ADVANCED SYSTEM



### Functions of the basic system with SMA Energy Meter

- Maximum system yield and reduced electricity procurement costs thanks to dynamic limits on grid feed-in of between 0% and 100%\*
- Reliable supply for selected loads even in the event of grid failure thanks to integrated automatic backup power supply
- Flexible battery use via PV inverter installed in parallel thanks to DC and AC charging
- Easy commissioning via 360° APP and intuitive installation wizard

\* Does not apply to multiple inverters in one system

### Functions of the advanced system with Sunny Home Manager 2.0

- Basic system functions
- Increased energy self-sufficiency, ideally matched to your specific installation site and usage by means of artificial intelligence
- Smart combination with heat pumps
- Smart combination with electric vehicles
- Maximum energy use thanks to forecast-based charging
- Visualization of energy consumption
- Dynamic limits on grid feed-in of between 0% and 100% with multiple SMA inverters

| Technical data  | Sunny Tripower 5.0<br>Smart Energy  | Sunny Tripower 6.0<br>Smart Energy | Sunny Tripower 8.0<br>Smart Energy | Sunny Tripower 10.0<br>Smart Energy |
|---|---|------------------------------------|------------------------------------|-------------------------------------|
| <b>Input (PV DC)</b>  |   |                                    |                                    |                                     |
| Max. PV array power   | 7500 Wp   | 9000 Wp                            | 12000 Wp                           | 15000 Wp                            |
| Max. usable input power (P <sub>DC max</sub> ) at input A / input B                           | 4500 W / 4500 W   | 5400 W / 5400 W                    | 7200 W / 7200 W                    | 6000 W / 12000 W                    |
| Max. input voltage  | 1000 V  | 1000 V                             | 1000 V                             | 1000 V                              |
| MPP voltage range   | 210 V to 800 V  | 250 V to 800 V                     | 330 V to 800 V                     | 280 V to 800 V                      |
| Rated input voltage   | 600 V   |                                    |                                    |                                     |
| Min. input voltage / initial input voltage  | 150 V / 180 V   |                                    |                                    |                                     |
| Max. usable input current at input A / input B  | 12.5 A / 12.5 A   |                                    |                                    | 12.5 A / 25 A                       |
| Max. DC short-circuit current at input A / input B  | 20 A / 20 A   |                                    |                                    | 20 A / 40 A                         |
| Number of independent MPP inputs / strings per MPP input                                      | 2/A: 1; B: 1  |                                    |                                    | 2/A: 1; B: 2                        |
| <b>Battery connection</b>   |   |                                    |                                    |                                     |
| Battery type  | Lithium-ion <sup>1)</sup>   |                                    |                                    |                                     |
| Voltage range   | 150 V to 600 V  |                                    |                                    |                                     |
| Max. charging current / max. discharging current  | 30 A <sup>2)</sup> / 30 A <sup>2)</sup>   |                                    |                                    |                                     |
| Number of connectable batteries   | 1   |                                    |                                    |                                     |
| Max. charging power / max. discharging power <sup>3)</sup>                                    | 7500 W / 6000 W   | 9000 W / 7200 W                    | 10600 W / 10600 W                  |                                     |
| <b>AC connection</b>  |   |                                    |                                    |                                     |
| Rated power (at 230 V, 50 Hz)   | 5000 W  | 6000 W                             | 8000 W                             | 10000 W                             |
| Max. apparent AC power  | 5000 VA   | 6000 VA                            | 8000 VA                            | 10000 VA                            |
| Nominal AC voltage  | 3 / N / PE; 220 V / 380 V<br>3 / N / PE; 230 V / 400 V<br>3 / N / PE; 240 V / 415 V   |                                    |                                    |                                     |
| AC voltage range  | 156 V to 277 V  |                                    |                                    |                                     |
| AC grid frequency / range   | 50 Hz / 45 Hz to 55 Hz  |                                    |                                    |                                     |
| Rated grid frequency / rated grid voltage   | 50 Hz / 230 V   |                                    |                                    |                                     |
| Rated output current  | 3 x 7.3 A   | 3 x 8.7 A                          | 3 x 11.6 A                         | 3 x 14.5 A                          |
| Max. output current   | 3 x 7.6 A   | 3 x 9.1 A                          | 3 x 12.1 A                         | 3 x 15.2 A                          |
| Power factor at rated power / adjustable displacement power factor                            | 1 / 0.8 overexcited to 0.8 underexcited   |                                    |                                    |                                     |
| Feed-in line conductors / connection line conductors  | 3 / 3   |                                    |                                    |                                     |
| <b>Efficiency</b>   |   |                                    |                                    |                                     |
| Max. efficiency / European efficiency   | 98.2 % / 97.3 %   | 98.2 % / 97.5 %                    | 98.2 % / 97.8 %                    | 98.1 % / 97.5 %                     |
| <b>Output (AC backup) during on-grid mode</b>   |   |                                    |                                    |                                     |
| Max. connectable power for backup load  | 13800 W   |                                    |                                    |                                     |
| Max. output current for backup load   | 3 x 20 A  |                                    |                                    |                                     |
| <b>Output (AC backup) during off-grid mode</b>  |   |                                    |                                    |                                     |
| Rated power 1~/3~ (at 230 V, 50 Hz)   | 1660 W / 5000 W   | 2000 W / 6000 W                    | 2660 W / 8000 W                    | 3330 W / 10000 W                    |
| Max. apparent AC power  | 5000 VA   | 6000 VA                            | 8000 VA                            | 10000 VA                            |
| Output power / output apparent power < 5 min  | 6000 W / 6000 VA  | 7200 W / 7200 VA                   | 12000 W / 12000 VA                 |                                     |
| Output power / output apparent power < 10 s   | 10000 W / 10000 VA  |                                    | 12000 W / 12000 VA                 |                                     |
| Nominal AC voltage  | 3 / N / PE; 230 V / 400 V   |                                    |                                    |                                     |
| AC grid frequency   | 50 Hz   |                                    |                                    |                                     |
| Switching time to backup operation  | 30 ms to 10 s (adjustable)  |                                    |                                    |                                     |
| <b>Protective devices</b>   |   |                                    |                                    |                                     |
| Input-side disconnection point (PV DC)  | ●   |                                    |                                    |                                     |
| Ground fault monitoring / grid monitoring   | ● / ●   |                                    |                                    |                                     |
| DC reverse polarity protection / AC short circuit current capability / galvanically isolated  | ● / ● / -   |                                    |                                    |                                     |
| All-pole-sensitive residual-current monitoring unit   | ●   |                                    |                                    |                                     |
| Protection class (according to IEC 61140)   | I   |                                    |                                    |                                     |
| Overvoltage category (according to IEC 60664-1) grid/battery/PV SPD                           | III/II/II<br>DC type II / AC type II  |                                    |                                    |                                     |
| <b>General data</b>   |   |                                    |                                    |                                     |
| Dimensions (W/H/D)  | 500 mm / 598 mm / 173 mm (19.7 inch / 23.5 inch / 6.8 inch)   |                                    |                                    |                                     |
| Weight  | 30 kg (66 lbs)  |                                    |                                    |                                     |
| Operating temperature range   | -25 °C to +60 °C (-13 °F to +140 °F)  |                                    |                                    |                                     |
| Noise emission, typical   | 30 dB(A)  |                                    |                                    |                                     |
| Self-consumption (night)  | 44 W  |                                    |                                    |                                     |
| Topology / cooling method   | Transformerless/convection  |                                    |                                    |                                     |
| Degree of protection (according to IEC 60529) / climate category (according to IEC 60721-3-4) | IP65/4K26   |                                    |                                    |                                     |
| Max. permissible value for relative humidity (non-condensing)                                 | 100 %   |                                    |                                    |                                     |
| <b>Equipment</b>  |   |                                    |                                    |                                     |
| PV connection / BAT connection  | SUNCLIX / MC4, incl. MC4 battery cable, 3 m   |                                    |                                    |                                     |
| AC terminals  | AC CONNECTOR (5 x 1.5 to 10 mm <sup>2</sup> )   |                                    |                                    |                                     |
| Display via smartphone, tablet, laptop  | ●   |                                    |                                    |                                     |
| Number of interfaces: Wi-Fi/Ethernet/BAT-CAN  | 1 / 2 / 1   |                                    |                                    |                                     |
| Number of digital inputs / outputs  | 5 / 1   |                                    |                                    |                                     |
| Communication protocols   | Modbus (SMA, Sunspec), Speedwire/Webconnect   |                                    |                                    |                                     |
| Shade management: SMA ShadeFix (integrated)   | ●   |                                    |                                    |                                     |
| Warranty: 5/10 years  | ● / ● <sup>4)</sup>   |                                    |                                    |                                     |
| Certificates and approvals (more available upon request)                                      | CE, CEI0-21 int./ext., C10/11 int./ext., EN50549-1, G98/G99, IEC 62109-1/2, NA/EEA-NE7, NRS 097-2-1, RD1699/413, TOR generator type A, VDE126-1-1, VDE AR-E2510-2, VDE-AR-N4105 |                                    |                                    |                                     |
| Country availability of SMA Smart Connected   | AT, BE, CH, DE, ES, GB, LU, NL, IT, UK, ZA  |                                    |                                    |                                     |
| Model type number   | STP5.0-3SE-40   | STP6.0-3SE-40                      | STP8.0-3SE-40                      | STP10.0-3SE-40                      |

# Sunny Tripower Smart Energy



## **SMA ShadeFix** – Intelligent energy yield optimization

Established product features and integrated software solutions will provide yield optimization throughout the system's entire service life. Even in the shade. SMA ShadeFix is a proprietary inverter software that optimizes energy yield in nearly every situation. SMA Smart Connected inverter monitoring offers enhanced safety by detecting errors at an early stage and automatically reporting them to the installer.



## **SMA Smart Connected** – Proactive communication in the event of faults

SMA Smart Connected\* allows you to monitor your inverter via the SMA Sunny Portal for free. If an inverter fails, SMA will proactively inform the system operator and the installer. This saves valuable working time and costs.

With SMA Smart Connected, the installer benefits from rapid diagnostics by SMA. This allows the installer to rectify the fault quickly and offer customers a range of additional and highly attractive services.

\* For details, see document "Description of Services - SMA SMART CONNECTED"