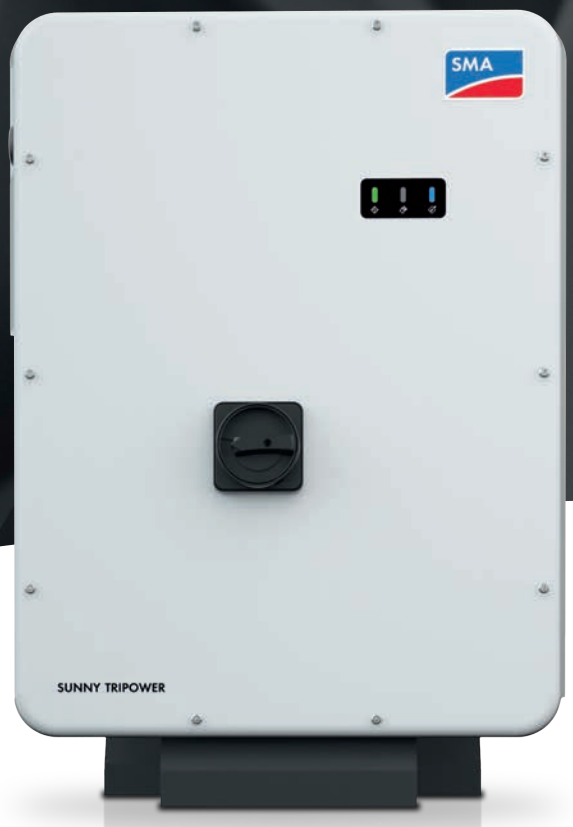
SUNNY TRIPOWER CORE1

SMA COMMERCIAL PRODUCTS

Stands on its own.



Up to 60 % faster installation for commercial PV systems

ENERGY THAT CHANGES

SMA

SUNNY TRIPOWER CORE1

The future for commercial PV systems

Scalability for maximum energy yields

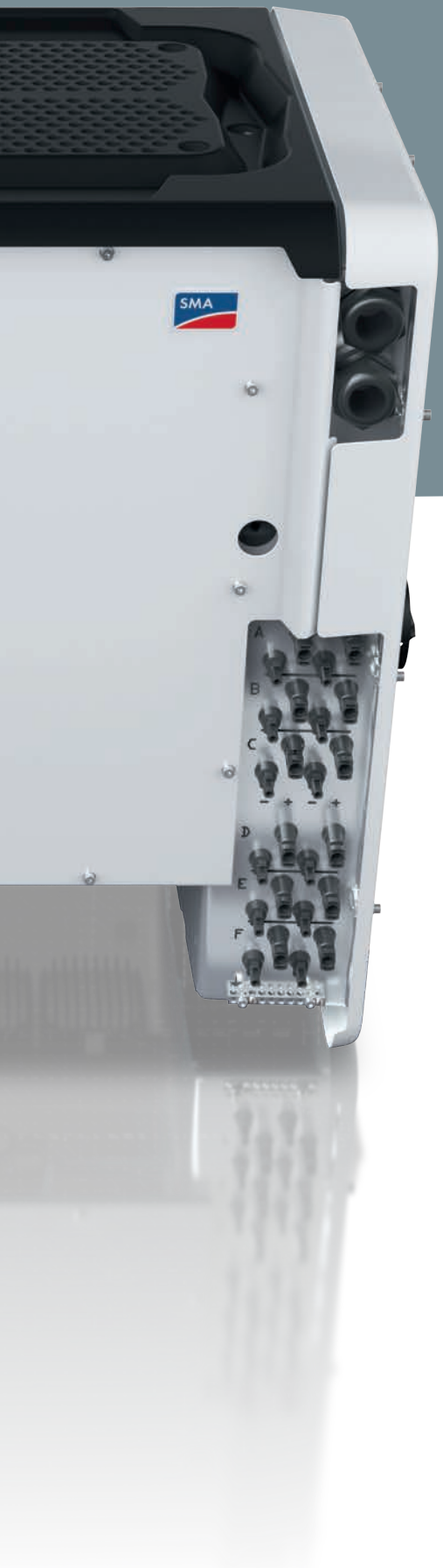
The power range of 50kVA offers you the perfect scalability up to your MW range. Due to its unique product design a DC/AC ratio of 150% is possible. Thanks to the 6 MPP-Tracker even on inhomogenous rooftops or with shading the energy yield is maximized.

Consistently integrated concept

Our compact concept with integrated DC combiner and optional surge protection allows the direct connection of PV strings via plugs. Cross-sections up to AWG 4/0 for aluminum and copper AC cables reduce the energy losses.

Efficient and economical

The CORE1 can be installed directly onto a roof without additional mounting racks. Only a simple substructure is needed for other commercial PV applications. There are additional savings from the considerably lower expenditure on logistics, installation and materials.



Top performance and maximum efficiency thanks to innovative design

The Sunny Tripower CORE1 is the world's first free-standing string inverter for decentralized roof- and ground mount PV systems as well as covered parking spaces.
The groundbreaking new design allows increases in installation speed of up to 60 % and, at the same time, lowers the total cost of ownership (OPEX).

Opticool™ Active Cooling System

SMA's intelligent OptiCoolTM cooling system is reliable and ensures maximum energy production, even in challenging conditions. Secure your solar investment and reduce your service costs with high-performance technology, which has proved its worth worldwide in over 50 GW installed power.

Fast, easy communication

The integrated WLAN interface makes easy and efficient access to CORE1 possible with any mobile device. Thanks to the SMA online assistant, configuration and commissioning are much simpler and can be completed in a short time.

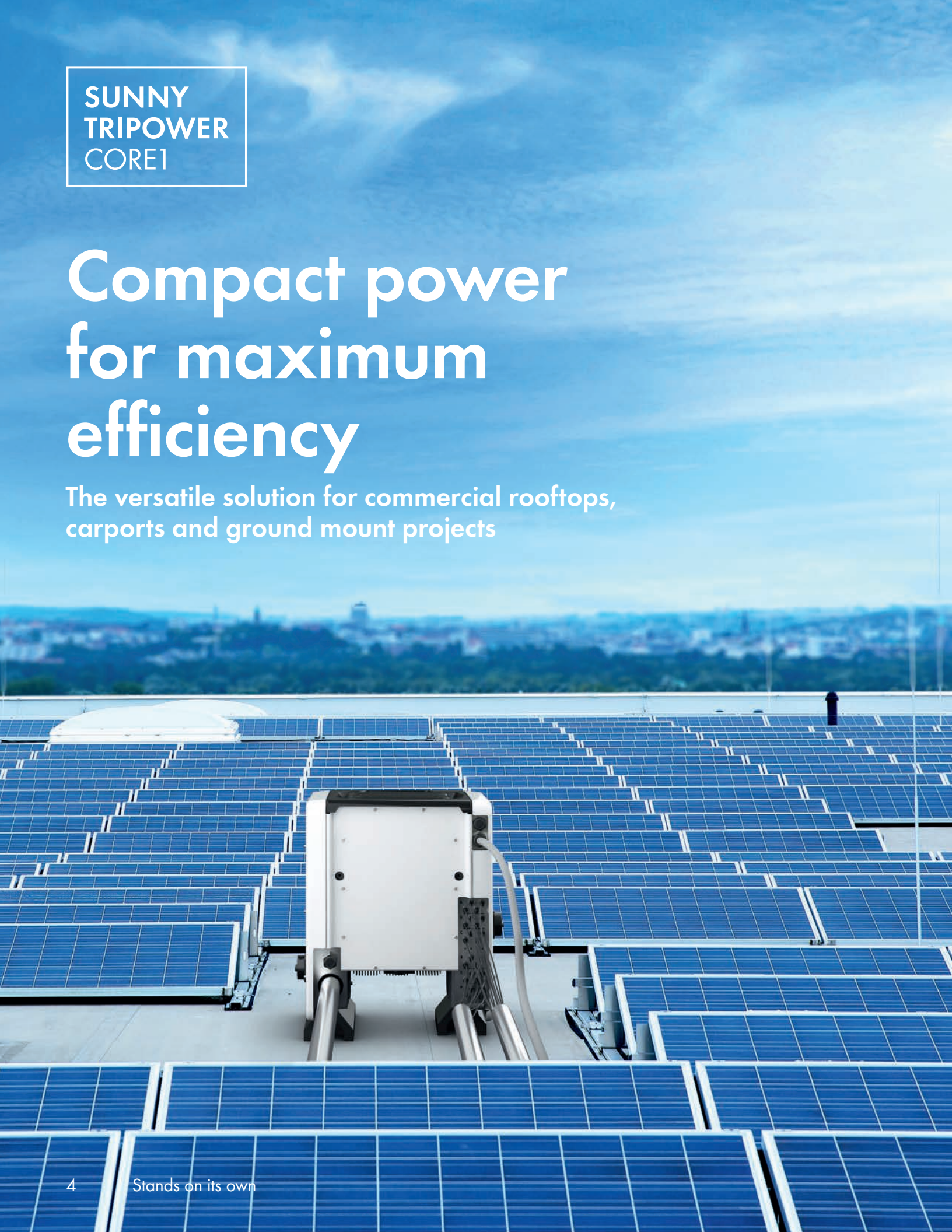
Seamless grid integration

Thanks to cutting-edge grid management, SunSpec ModBus® compatibility and optional 24/7 remote monitoring, CORE1 offers high-performance PV system monitoring and control functions. Users benefit from easy configuration and fast, smooth grid connection.

SUNNY TRIPOWER CORE1

Compact power for maximum efficiency

The versatile solution for commercial rooftops, carports and ground mount projects



Sunny Tripower CORE1.
Save costs – from logistics to services

The CORE1 is the third generation of the successful Sunny Tripower product family and is revolutionizing the world of commercial inverters with its innovative design. The challenge for the SMA engineers was to combine a unique design with an innovative installation method in order to increase the installation speed significantly. The result: the optimal return on investment for all target groups.

From delivery and installation to operation, the Sunny Tripower CORE1 makes widespread savings in logistics, labor, materials and services possible. With integrated WLAN access for fast commissioning, up-to-date plug-and-play communication and smart functions for grid support, PV installations are quicker and easier to complete than ever before.

SUNNY TRIPOWER CORE1 FOR DISTRIBUTORS

Ordering, storage and logistics for inverters have been substantially simplified as a result of the maximum integration of the CORE1. Additional savings are achieved thanks to:

- **Flexible use with just one product**
- **Worldwide platform for universal use**
- **Fewer components and BoS components**
- **Extensive support and service**

SUNNY TRIPOWER CORE1 FOR EPCS AND DEVELOPERS

Attractive margins are achieved only with reduced costs for purchasing, installation and maintenance. That is exactly what was taken into account in the development of CORE1. Benefit from:

- **Plug-and-play concept**
- **Faster installation and lower labor**
- **Reduced material costs**
- **Free tool for system planning**

SUNNY TRIPOWER CORE1 FOR ELECTRIC UTILITY COMPANIES

SMA knows that efficient operations and maintenance costs across the entire useful life and trouble-free performance are of crucial significance to energy companies. Therefore, CORE1 offers:

- **The lowest LCOE**
- **24/7 remote monitoring thanks to the worldwide number one service team**
- **An effective interface for customer monitoring**
- **Intelligent grid management service**

TECHNICAL DATA	SUNNY TRIPOWER CORE1/US	SUNNY TRIPOWER CORE1/IEC
Input (DC)		
Max. array power	75000 Wp STC	75000 Wp STC
DC voltage (max)	1000 V	1000 V
Rated MPP voltage range	500 V ... 800 V	500 V ... 800 V
MPPT operating voltage range	150 V ... 1000 V	150 V ... 1000 V
Min. DC voltage / start voltage	150 V / 188 V	150 V / 188 V
Number of independent MPP trackers / strings per MPP input	6 / 2	6 / 2
Max. operating input current / per MPP tracker	120 A / 20 A	120 A / 20 A
Max. short circuit current per MPPT / string input	30 A / 30 A	30 A / 30 A
Output (AC)		
AC nominal power	50000 W	50000 W
Max. AC apparent power	53000 VA	50000 VA
Output phases / line connections	3 / 3-(N)-PE	3 / 3-(N)-PE
Nominal AC voltage	480 V / 277 V WYE	400 V / 230 V
AC voltage range	244 V ... 305 V	202 ... 264 V
Rated AC grid frequency	60 Hz	50 Hz
AC grid frequency / range	50 Hz, 60 Hz / -6 Hz ... +5Hz	50 Hz, 60 Hz / -6 Hz ... +5Hz
Max. output current	64 A	72.5 A
Power factor at rated power / adjustable displacement	1 / 0.0 leading ... 0.0 lagging	1 / 0.0 leading ... 0.0 lagging
Harmonics THD	<3 %	<3 %
Efficiency		
Max. efficiency / CEC efficiency / European efficiency	98.3 % / 98 % / -	98.1 % / - / 97.8 %
Protection devices		
Load rated DC disconnect switch	●	●
Load rated AC disconnect switch	●	-
DC reverse polarity protection	●	●
Ground fault monitoring / grid monitoring	● / ●	● / ●
All-pole sensitive residual current monitoring	●	●
DC AFCI compliant to UL 1699B	●	-
DC surge arrester (Type II)	O	O
AC short circuit protection	●	●
AC surge arrester (Type II)	O	O
Protection class / overvoltage category (as per UL840)	I / IV	-
Protection class (as per IEC 60664-1) / overvoltage category (as per IEC 60664-1)	-	I / AC: III; DC: II
General data		
Dimensions (W / H / D)	621 mm / 733 mm / 569 mm (24.4 in x 28.8 in x 22.4 in)	621 mm / 733 mm / 569 mm (24.4 in x 28.8 in x 22.4 in)
Device weight	84 kg (185 lbs)	84 kg (185 lbs)
Operating temperature range	-25 °C ... +60 °C	-25 °C ... +60 °C
Storage temperature range	-40 °C ... +70 °C	-40 °C ... +70 °C
Audible noise emissions (full power @ 1m and 25 °C)	65 dB (A)	65 dB (A)
Internal consumption at night	5.1 W	4.8 W
Topology	Transformerless	Transformerless
Cooling Concept	OptiCool	OptiCool
Enclosure protection rating	Type 4X, 3SX (as per UL 50E)	IP65 (as per IEC 60529)
Climatic category (according to IEC 60721-3-4)	-	4K4H
Maximum permissible value for relative humidity (non-condensing)	100 %	100 %
Features		
DC-Connection	Amphenol UTX PV connectors	SUNCLIX PV connectors
AC-Connection	Screw terminal	Screw terminal
LED indicators (Status / Fault / Communication)	●	●
Interface: Ethernet / WLAN / RS485	● (2 ports) / ● / O	● (2 ports) / ● / O
Data protocols: SMA Modbus / SunSpec Modbus / Webconnect	● / ● / ●	● / ● / ●
Multifunction relay	●	●
Mounting	Free-standing with included mounting feet	Free-standing with included mounting feet
OptiTrac Global Peak / Integrated Plant Control / Q on Demand 24/7	● / ● / ●	● / ● / ●
Off-Grid capable / SMA Fuel Save Controller compatible	● / ●	● / ●
Warranty: 5/10/15/20 years	- / ● / O / O	● / O / O / O
Certifications and approvals	UL 1741, UL 1998, UL 1699B, IEEE 1547, FCC Part 15 (Class A & B), Pending: UL 1741 SA advanced inverter capabilities	BDEW 2008, CE, IEC 61727, IEC 62109-1/2, IEC 62116, VDE 0126-1-1, VDE-AR-N 4105 additional regional certifications available on request
Type designation	STP50-US-40	STP50-40

O Optional features ● Standard features - Not available *data at nominal conditions, July 2017

Assessories

SMA SensorModule MD.SEN-US-40

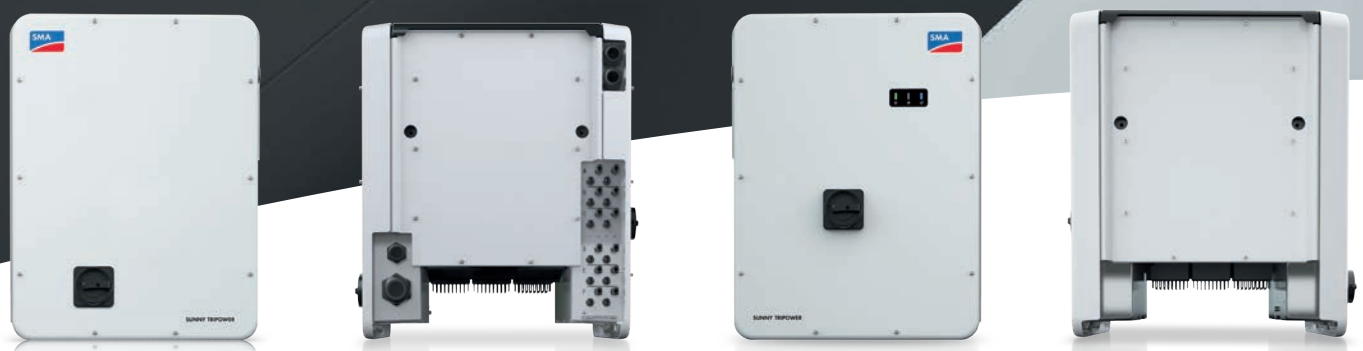
SMA RS485 Module MD.RS485-US-40

Antenna Extension Kit EXTANT-US-40

AC Surge Protection Module Kit AC_SPD_Kit1-10
DC Surge Protection Module Kit DC_SPD_Kit4-10

The combination of flexibility and efficiency

Innovative design for maximum return on investment



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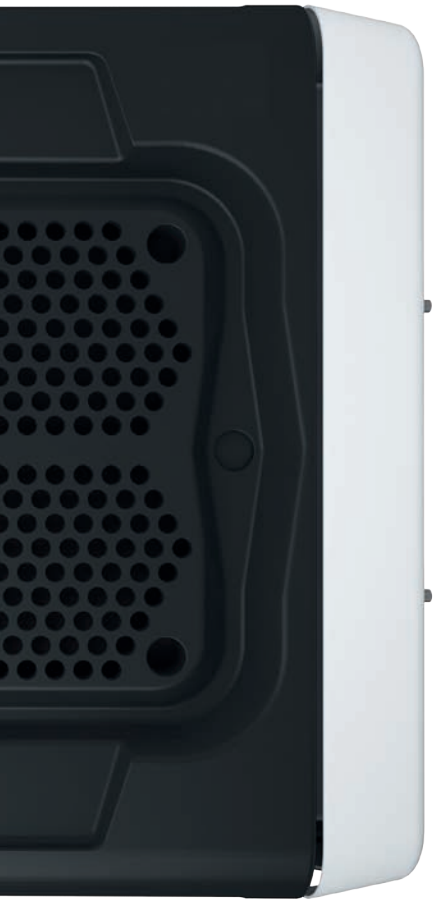

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