

**SUNNY
HIGHPOWER
PEAK1**

SMA COMMERCIAL PRODUCTS

When maximum has no limit.



The easy scalable solution for highest
performance of large PV systems



SUNNY HIGHPOWER PEAK1

The best of two worlds perfectly combined in one solution.

Highest yield and ultimate flexibility

A lightweight at only 77 kg, the Sunny Highpower PEAK1 offers unmatched power density. Large PV plants can be planned in steps of 75 kW, thus optimally utilizing the available space. In addition, DC combiners with an individual number of string inputs allow absolute design flexibility. PV installations with a maximum DC/AC ratio of up to 150% are possible.

Central control with inverter manager

Up to 42 inverters (3.15 MW) are centrally controlled with a single Inverter Manager. As the central communications component and sole interface for the entire system control, it handles all the important inverter and system management functions, such as monitoring, status reports and analyses, rollout of product updates, support from the SMA service team, and many other benefits.

Maximum security

The PEAK1 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.





The scalable and efficient system for large-scale PV plants

Sunny Highpower PEAK1 is an innovative system solution which combines the advantages of decentralized PV system layouts with the beneficial features of centralized inverter designs. With Sunny Highpower PEAK1 as the inverter component, this system approach ensures high performance and maximum design flexibility for the entire PV system.



Fast commissioning and greatest efficiency

Thanks to an intelligent system structure, all inverters are installed centrally in one place, while the DC combiners are distributed in the field. The result: Less installation and service effort due to central handling, cost-optimized cabling and fast access for maintenance work.

Extensive monitoring and analysis

The Inverter Manager can be interconnected with any monitoring portal, e.g. the SMA Sunny Portal. This is the world's largest PV monitoring portal with upwards of 250,000 registered plants and more than 14 GW of controlled PV performance in over 160 countries. The SMA Sunny Portal offers comprehensive system monitoring and numerous analyses to increase the performance.

100% peace of mind with SMA

It stands for the typical SMA quality, based on 30 years of innovation, market experience and 55 GW of installed capacity worldwide. For maximum security all data servers are located in Germany. Whenever you need us—you can rely on our full support from the start.





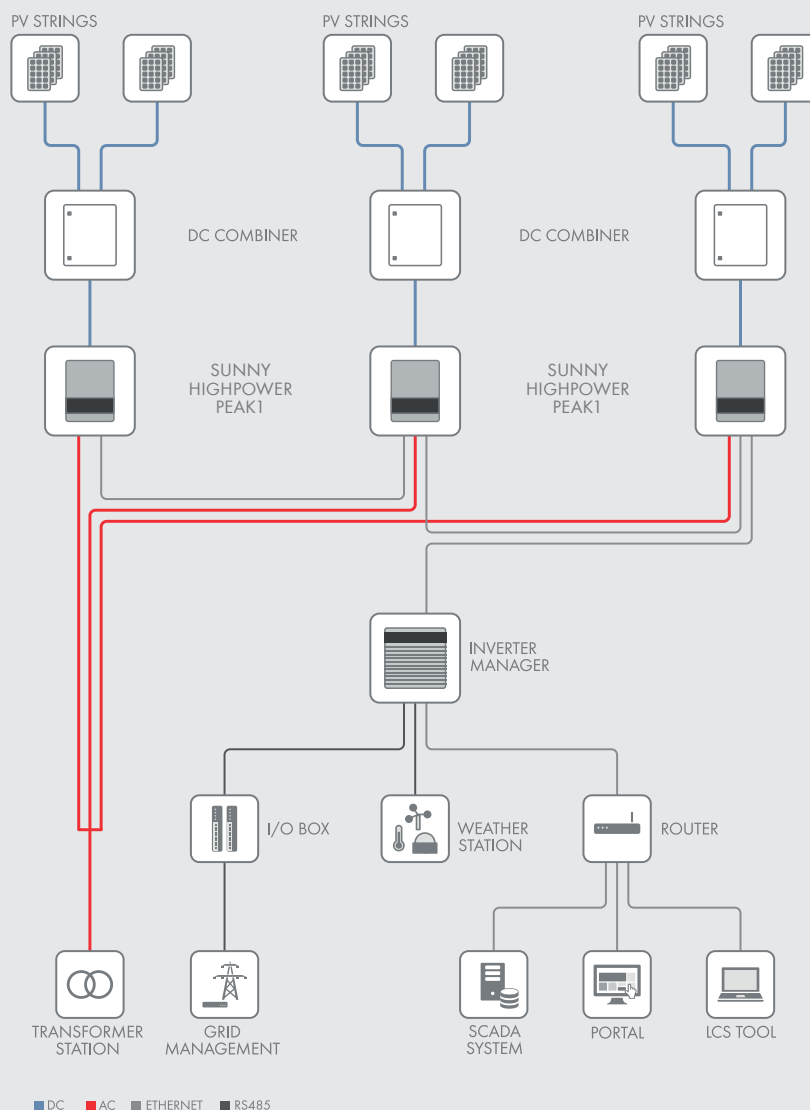
**SUNNY
HIGHPOWER
PEAK1**

An intelligent concept for reliable high performance.

The powerful decentralized inverter with intelligent
system structure for large-scale PV plants



System diagram



Sunny Highpower PEAK1 Four components comprise the SMA system solution:

- A highly efficient Sunny Highpower PEAK1 inverter
- Combiner boxes with an arbitrary number of string inputs for flexible use
- The central SMA Inverter Manager
- The LCS commissioning tool

Optional:

- Digital I/O box
- Medium voltage station

The result: high efficiency and maximum planning flexibility. Installers in particular will benefit from the easy installation, simple commissioning and reduced system costs.

SUNNY HIGHPOWER PEAK1

Technical Data

● Standard features ○ Optional – Not available

	SUNNY HIGHPOWER PEAK1
Input (DC)	
Max. generator power	112500 Wp
Rated power (DC)	76500 W
Max. input voltage	1000 V
MPP voltage range (at 400 Vac/ 480 Vac)	570 V to 800 V / 685 V to 800 V
Min. input voltage (at 400 Vac/ 480 Vac)	565 V / 680 V
Start input voltage (at 400 Vac/ 480 Vac)	600 V / 720 V
Max. input current / max. short circuit current	140 A / 210 A
Number of independent MPP inputs / strings per MPP input	1 / 1 (split up in external combiner box)
Rated DC input voltage (at 400 Vac/ 480 Vac)	630 V / 710 V
Output (AC)	
Rated power at nominal voltage	75000 W
Max. apparent AC power	75000 VA
Max. reactive power	75000 var
Nominal AC voltage	3 / PE, 400 V to 480 V, ±10%
AC voltage range	360 V to 530 V
AC power frequency / range	50 Hz / 44 Hz to 55 Hz 60 Hz / 54 Hz to 65 Hz
Rated power frequency / rated grid voltage	50 Hz / 400 V
Max. output current (at 400 Vac)	109 A
Power factor at rated power / displacement power factor adjustable	1 / 0 overexcited to 0 underexcited
THD	≤ 1 %
Feed-in phases / connection phases	3 / 3
Efficiency	
Max. efficiency / Euro-eta	> 98.5 % / > 98.0 %
Protective devices	
Input-side disconnection point	●
Ground fault monitoring / grid monitoring	● / ●
Integrable DC surge arrester / AC surge arrester	Type II / Type II + III (combined)
AC short-circuit current capability / galvanically isolated	● / –
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
General data	
Dimensions (W / H / D)	570 / 740 / 306 mm (22.4 / 29.1 / 12.0 in)
Weight	77 kg (170 lb)
Operating temperature range	–25°C to +60°C (–13°F to +140°F)
Noise emission, typical	58 dB (A)
Self-consumption (at night)	< 3 W
Topology / cooling concept	Transformerless / active
Degree of protection (as per IEC 60529 / UL 50E)	IP65 / NEMA 3R
Climatic category (as per IEC 60721-3-4)	4K4H / 4Z4 / 4B2 / 4S3 / 4M2 / 4C2
Max. permissible value for relative humidity (non-condensing)	95 %
Features / function / accessories	
DC connection / AC connection	Screw terminal / screw terminal
Display	Graphical
Data interface	SunSpec Modbus TCP (via external SMA Inverter Manager)
Off-grid capable / PV-diesel capable	– / ●
Warranty: 5 / 10 / 15 / 20 years	● / ○ / ○ / ○
Planned certificates and approvals	AS 4777, BDEW 2008, C10/11:2012*, CEI 0-16, DEWA 2015, EN 50438*, G59/3, IEC 60068-2-x, IEC 61727, IEC 62109-1/2, IEC 62116, LEY N° 20751, NEN EN 50438, NRS 0972-1, PEA 2015, R.D.661/2007, Res. n°7:2013, SI4777, TORD4**, UTE C15-712-1, VDE 0126-1-1, VDE-AR-N 4105**, VFR 2014
*Does not apply to all national appendices of EN 50438	
**Restricted (see Manufacturer's Declaration)	

Data at nominal conditions | Last revision: May 2017

SUNNY HIGHPOWER PEAK1

The scalable solution
for large PV plants



Technical Data

	SMA INVERTER MANAGER
Voltage supply	
Input voltage	9 to 36 Vdc
Power consumption	< 20 W
General data	
Dimensions (W/H/D)	160 / 125 / 49 mm (6.3 / 4.9 / 1.9 in)
Weight	940 g (2 lb)
Maximum allowed number of inverters	42
Degree of protection	IP21
Mounting	DIN top-hat rails or wall mounting
Operating temperature range	-40°C to +85°C (-40°F to +185°F)
Relative humidity (non-condensing)	5 % to 95 %
Interfaces	
PC user interface	LCS tool
Sensor interface / protocol	RS485 / Modbus RTU for Sunspec Alliance compatible weather station
Interface to inverter	1 Ethernet port (RJ45)
Interface for external network / protocol	1 Ethernet port (RJ45) / Modbus TCP, SunSpec Alliance
Interface to remote control	6 x DI via external SMA Digital I/O Box
Certificates and approvals (more available upon request)	UL 508, UL 60950-1, CSA C22.2 No. 60950-1-07, EN 55022 Class A, EN 60950-1, EN 61000-3-2 Class D, EN 61000-3-3, EN 61000-6-2, EN 61000-6-4, EN 55024, FCC Part 15, Sub-part B Class A
SMA Inverter Manager type designation	IM-20



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THAT
CHANGES

